



Carrier Voice over IP Performance Management Operational Measurements Reference Volume 2

ATTENTION

The Carrier Voice over IP Performance Management Operation Measurements Reference document uses four volumes to describe operational measurements (listed alphabetically) that provide information on how to load various components of the DMS switch.

Introduction

Operational Measurements (OMs) provide information on how to load various Components of the DMS switch. Periodic scans of switch parts and activities allow you to gather OM information. Specified parameters define the collection, storage, and transmission of data. OMs provide the following types of data:

- Description
- Registers
 - event counts. Peg counts are registers that increase each time an event occurs.
 - usage counts. Usage counts scan or sample equipment at equal intervals. These counts increase registers when the scan detects equipment in a specific state.
- Associated OM groups

OM information can appear on a terminal or printer. The system can transmit the information to a recording device for additional processing. To request data display at a specified output device, you can enter user

commands. You can enter data in tables to schedule the output of the data in advance.

For more information on how to set up an OM system, refer to the *DMS-100 Family Basic Administration Procedures*, 297-1001-300.

In this document

The OMs in an office are dynamic and depend on the switch type(s). For comprehensiveness, this document describes OMs available in an office type of OFFCOMB. The document also describes OMs that are associated with specific components and OMs that are common in Carrier Voice over IP and DMS.

The following table lists the OM groups alphabetically (from F to M) and whether they are associated with a component or common in Carrier Voice over IP and DMS. For a description of an OM group, click on the OM group name.

OM groups available in Carrier Voice over IP (Sheet 1 of 6)

Name	Description	Device, Manager or Application
FBTRAFF	F-bus Platform Traffic	Common
FC	Flexible Calling	Common
FCDRALG2	Flexible Call Detail Record Algorithm (overflow for OM group FCDRALGR)	Common
FCDRALGR	Flexible Call Detail Record (FlexCDR) Algorithm	Common
FCDRTM1E	Flexible Call Detail Record Template (overflow from OM group FCDRTMP1)	Common
FCDRTM2E	Flexible Call Detail Record Template (overflow for OM group FCDRTMP2)	Common
FCDRTMP1	Flexible Call Detail Record Template (0 through 31)	Common
FCDRTMP2	Flexible Call Detail Record Template (32 through 63)	Common
FCNF	FBS Conference	Common

OM groups available in Carrier Voice over IP (Sheet 2 of 6)

Name	Description	Device, Manager or Application
FPDABM	File Processor Dual-access Buffer Memory Counts	Common
FPDEVICE	File Processor Storage Device Counts	Common
FPSCSI	FP SCSI Bus Counts	Common
FRSAGENT	Frame Relay Service Agent	Common
FRSPM	Frame Relay Service Peripheral Module	Common
FRT1	Frame Relay T1 Carrier	Common
FTAM	File Transfer Access and Management	Common
FTROM	Feature Data Block	Common
FTRQ	Feature Queue Software Resources	Common
FTS	FAX-Thru Service	Common
GIACGRP	Group Intercom All Call	Common
GTID	Generic Logical Terminal Identifier	Common
GWOVLOM	Gateway Overload OM	MG 9000
HDBOM	History Data Block OM	Common
HFPOM	HFP CPU Occupancy and Layer 2 OMs	Common
HPCBASIC	High Probability Completion - Basic	Common
HPCTRKCGP	High Probability Completion Trunk Group	Common
HTR	Hard to Reach codes	Common
HUNT	Hunt (group)	Common
IBNAC	Integrated Business Network Attendant Console	Common
IBNGRP	Integrated Business Network Group	Common
IBNSG	Integrated Business Network Subgroup	Common

OM groups available in Carrier Voice over IP (Sheet 3 of 6)

Name	Description	Device, Manager or Application
IBNSGLDN	Integrated Business Network Subgroup Listed Directory Number	Common
ILDDBD	ISDN Line Drawer BD Channels	Common
ILDBRA	ISDN Line Drawer Basic Rate Access	Common
ILDMSGCT	ISDN Line Drawer Message Counter	Common
ILDOVLD	ISDN Line Drawer Overload	Common
ILDSTAT	ISDN Line Drawer Status	Common
ILR	International Line Restriction	Common
ILRCLASS	International Line Restrictions Class	Common
ININTWRK	Intelligent Network Interworking	Common
INSCTP	AIN (IN) messages using the Stream Control Transmission Protocol (SCTP)	Common
IOC	Input/output Controller Maintenance Summary	Common
IOSYS	Input and Output System	Common
IS41TOPS	IS-41 TOPS	Common
ISA	In-Session Activation	Common
ISDD	Incoming start-to-dial delay	Common
ISDNPDOM	ISDN parameter download	Common
ISGBD	ISDN service group Bd D-channel performance summary	Common
ISGBRA	ISDN service group basic rate access channel performance summary	Common
ISGCPU	ISDN services group CPU occupancy	Common
ISGOVLD	ISDN Services Group Overload	Common

OM groups available in Carrier Voice over IP (Sheet 4 of 6)

Name	Description	Device, Manager or Application
ISUPCGRP	ISUP Circuit Group Availability	Common
ISUPCKTA	ISUP Circuit Availability	Common
ISUPCONG	ISUP Congestion	Common
ISUPCONN	Integrated Services User Part connection	Common
ISUPERRS	ISDN User Part Errors	Common
ISUPUSAG	Integrated Services User Part utilization	Common
IWBM	Interworking Bridge Management System	IW SPM ATM
KSHUNT	Key Short Hunt	Common
LIDBCCV	Line Information Database Calling Card Information	Common
LDS	Long Distance Signal	Common
LINAC	Line Access Measurements	Common
LINEHAZ	Line Hazards	Common
LM	Line Module Maintenance Summary	
LMD	Line Traffic	MG 9000
LMSCPUST	Local Message Switch Central Processing Unit Status	Common
LMSMEM	Local Message Switch Memory	Common
LNP	Local Number Portability	Common
LNREDIAL	Last Number Redial	Common
LOGS	Log Messages	Common
M20CARR1	M20 Carrier 1	Common
M20CARR2	M20 Handling 2	Common

OM groups available in Carrier Voice over IP (Sheet 5 of 6)

Name	Description	Device, Manager or Application
MACHCONG	Machine Congestion	Common
MDCWAKUP	Wake-up Call	Common
MDSACT	Message Delivery System Activity	Common
MDSSTATS	MDS Statistics	Common
MNATM	Maintenance ATM interface performance statistics	MG 4000 DPT SPM IW SPM ATM
MNATMA1	Maintenance interface performance statistics AAL1	DPT SPM IW SPM ATM MG 4000
MNATMA5	Maintenance interface performance statistics for ATM Permanent Virtual Connection (PVC) AAL5	MG 4000
MNATMVC	Maintenance ATM Virtual Circuits	MG 4000
MNGEMLNK	Manage Measurements - Gigabit Ethernet Link	MG 4000 IW SPM ATM
MNGEMTRF	Manage Measurements - Nodal Traffic	MG 4000 IW SPM ATM
MPB	Multi-party Bridge	Common
MPCBASE	Multiprotocol Controller Base Software	Common
MPCFASTA	Multi-protocol Controller Fast Applications	Common
MPCLINK2	Multiprotocol Controller Link 2	Common
MPCLINK3	Multiprotocol Controller Link 3	Common
MPHCON	Multiple Position Hunt Console	Common
MPHGRP	Multiple Position Hunt Console Group	Common
MS	Message Switch	Common

OM groups available in Carrier Voice over IP (Sheet 6 of 6)

Name	Description	Device, Manager or Application
MSCHAIN	Message Switch Chain	Common
MSCHNLK	Message Switch Channelized Link	Common
MSFBUS	Message Switch Frame Transport Bus	Common
MSFBUSTP	Message Switch Frame Transport Bus Taps	Common
MSGPSOC	P-Side Messaging Occupancy	Common
MTA	Metallic Test Access	Common
MTU	Magnetic Tape Unit Maintenance Summary	Common
MULTAUTH	Multiple Calls Per Authcode	Common
MWICTCAP	Message Waiting Indicator for Transaction Capabilities	Common
MWTCAR	Message waiting call request	Common
MWTCAR2	Message Waiting Call Request	Common

Supplementary OMs

The following documents reference OMs that do not appear in this document:

- *North American DMS-100 Operations Measurements Reference Manual, 297-8021-814*
- *Carrier Voice over IP SN07 OSS (ATM and IP) Advance Feature Guide, PLN-07AT-OSS*
- *Carrier Voice over IP Fault Management Logs Reference, NN10275-909*

FBTRAFF

Description

OM group F-bus Platform Traffic (FBTRAFF) monitors traffic OMs for the following F-bus platforms in a DMS office:

- link interface unit (LIU7)
- high-speed link interface unit (HLIU)
- high-speed link router (HSLR)
- Ethernet interface unit (EIU)
- X.25 link interface unit (XLIU)
- application processing unit (APU)
- voice processing unit (VPU)
- network interface unit (NIU)
- frame relay transport unit (FRIU)

FBTRAFF registers monitor:

- total number of packets sent from the ASU to the F-bus host. Data that travels from the ASU to the F-bus host travels in the transmit direction.
- total number of packets sent from the F-bus host to the ASU. Data that travels from the F-bus host to the ASU travels in the receive direction.
- total number of octets that travel in the transmit direction.
- total number of octets that travel in the receive direction.
- percentage of total F-bus bandwidth occupied by transmit throughput.
- percentage of total F-bus bandwidth occupied by receive throughput.
- percentage of total F-bus bandwidth occupied by the sum of transmit and receive throughput.

Each item is measured separately for F-bus 0 and F-bus 1.

The following table lists the key and info fields associated with OM group FBTRAFF.

Key field	Info field
FBUS_CONTROLLERS	HOST_INFO

Related functional groups

There are no functional groups associated with OM group FBTRAFF.

Registers

The following table lists the registers associated with OM group FBTRAFF and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FBTRAFF

Register name	Measures
TXPK1FB0	Transmit packets 1 F-bus 0
RXPK1FB0	Received packets 1 F-bus 0
TXPK1FB1	Transmit packets 1 F-bus 1
RXPK1FB1	Received packets 1 F-bus 1
TXOC1FB0	Transmit octets 1 F-bus 0
RXOC1FB0	Received octets 1 F-bus 0
TXOC1FB1	Transmit octets 1 F-bus 1
RXOC1FB1	Received octets 1 F-bus 1
TXPCFB0	Percentage transmit on F-bus 0
RXPCFB0	Percentage received on F-bus 0
TXPCFB1	Transmitted percentage on F-bus 1
RXPCFB1	Received percentage on F-bus 1
TXRPCFB0	Transmitted and received percentage of F-bus 0
TXRPCFB1	Transmitted and received percentage of F-bus 1

TXPK1FB0**Register type**

Peg

Description

TXPK1FB0 is the first register of the total number of transmit packets that travel over F-bus 0. The F-bus host is the message switch (MS) for the single shelf link peripheral processor (SSLPP) and for the DMS SuperNode SE (SNSE). The F-bus host is the local message switch (LMS) for the link peripheral processor (LPP) or enhanced link peripheral processor (ELPP). The value range of this register is 0 to 32 767.

Associated registers

None

Extension registers

TXPK2FB0, TXPK3FB0

Associated logs

None

RXPK1FB0**Register type**

Peg

Description

RXPK1FB0 is the first register of the total number of receive packets that travel over F-bus 0. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. The value range of this register is 0 to 32 767.

Associated registers

None

Extension registers

RXPK2FB0, RXPK3FB0

Associated logs

None

TXPK1FB1**Register type**

Peg

Description

TXPK1FB1 is the first register of the total number of transmit packets that travel over F-bus 1. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. The value range of this register is 0 to 32 767.

Associated registers

None

Extension registers

RXPk2FB1, RXPk3FB1

Associated logs

None

RXPk1FB1**Register type**

Peg

Description

RXPk1FB1 is the first register of the total number of receive packets that travel over F-bus 1. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. The value range of this register is 0 to 32 767.

Associated registers

None

Extension registers

RXPk2FB1, RXPk3FB1

Associated logs

None

TXOC1FB0**Register type**

Peg

Description

TXOC1FB0 is the first register of the total number of transmit octets that travel over F-bus 0. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. The value range of this register is 0 to 32 767.

Associated registers

None

Extension registers

TXOC2FB0, TXOC3FB0

Associated logs

None

RXOC1FB0**Register type**

Peg

Description

RXOC1FB0 is the first register of the total number of receive octets that travel over F-bus 0. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. The value range of this register is 0 to 32 767.

Associated registers

None

Extension registers

RXOC2FB0, RXOC3FB0

Associated logs

None

TXOC1FB1**Register type**

Peg

Description

TXOC1FB1 is the first register of the total number of transmit octets that travel over F-bus 1. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. The value range of this register is 0 to 32 767.

Associated registers

None

Extension registers

TXOC2FB1, TXOC3FB1

Associated logs

None

RXOC1FB1**Register type**

Peg

Description

RXOC1FB1 is the first register of the total number of receive octets that travel over F-bus 1. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. The value range of this register is 0 to 32 767.

Associated registers

None

Extension registers

RXOC2FB1, RXOC3FB1

Associated logs

None

TXPCFB0**Register type**

Peg

Description

TXPCFB0 monitors the percentage of total F-bus 0 bandwidth occupied by transmit traffic. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. Total bandwidth of an ELPP is up to three times the bandwidth of an LPP. The value range of this register is 0 to 100.

Associated registers

[TXOC1FB0](#), TXOC2FB0, TXOC3FB0

Extension registers

None

Associated logs

None

RXPCFB0**Register type**

Peg

Description

RXPCFB0 monitors the percentage of total F-bus 0 bandwidth occupied by receive traffic. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. Total bandwidth of an ELPP is up to three times the bandwidth of an LPP. The value range of this register is 0 to 100.

Associated registers

[RXOC1FB0](#), RXOC2FB0, RXOC3FB0

Extension registers

None

Associated logs

None

TXPCFB1**Register type**

Peg

Description

TXPCFB1 monitors the percentage of total F-bus 1 bandwidth occupied by transmit and receive traffic. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. Total bandwidth of an ELPP is up to three times the bandwidth of an LPP. The value range of this register is 0 to 100.

Associated registers

[TXOC1FB1](#), TXOC2FB1, TXOC3FB1

Extension registers

None

Associated logs

None

RXPCFB1**Register type**

Peg

Description

RXPCFB1 monitors the percentage of total F-bus 1 bandwidth occupied by transmit and receive traffic. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. Total bandwidth of an ELPP is up to three times the bandwidth of an LPP. The value range of this register is 0 to 100.

Associated registers

[RXOC1FB1](#), RXOC2FB1, RXOC3FB1

Extension registers

None

Associated logs

None

TXRPCFB0**Register type**

Peg

Description

TXRPCFB0 monitors the percentage of total F-bus 0 bandwidth occupied by transmit and receive traffic. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. Total bandwidth of an ELPP is up to three times the bandwidth of an LPP. The value range of this register is 0 to 100.

Associated registers

[TXOC1FB0](#), TXOC2FB0, TXOC3FB0, [RXOC1FB0](#), RXOC2FB0, RXOC3FB0

Extension registers

None

Associated logs

None

TXRPCFB1**Register type**

Peg

Description

TXRPCFB1 monitors the percentage of total F-bus 1 bandwidth occupied by transmit and receive traffic. The F-bus host is the MS for the SSLPP and for the SNSE. The F-bus host is the LMS for the LPP or ELPP. Total bandwidth of an ELPP is up to three times the bandwidth of an LPP. The value range of this register is 0 to 100.

Associated registers

[TXOC1FB1](#), TXOC2FB1, TXOC3FB1, [RXOC1FB1](#), RXOC2FB1, RXOC3FB1

Extension registers

None

Associated logs

None

FC

Description

OM group Flexible Calling (FC) counts the number of attempts to use Flexible Calling to transfer a conference call.

The following table lists the key and info fields associated with OM group FC.

Key field	Info field
customer group	None

Related functional groups

There are no functional groups associated with OM group FC.

Registers

The following table lists the registers associated with OM group FC and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FC

Register name	Measures
FCXCONAT	Flexible calling transfer attempts involving a conference
FCXCONSU	Flexible calling transfer successes involving a conference
FCXCONFL	Flexible calling transfer failures involving a conference
FCXC2CAT	Flexible calling call to call transfer attempts
FCXC2CSU	Flexible calling call to call transfer successes
FCXC2CFL	Flexible calling call to call transfer failures

FCXCONAT**Register type**

Peg

Description

FCXCONAT counts the number of attempts to use Flexible Calling to transfer a conference.

Associated registers

None

Extension registers

FCXCONA2

Associated logs

None

FCXCONSU**Register type**

Peg

Description

FCXCONSU counts the number of successful Flexible Calling transfers of two 2-party calls.

Associated registers

None

Extension registers

None

Associated logs

None

FCXCONFL**Register type**

Peg

Description

FCXCONFL counts the number of times a Flexible Calling Conference transfer fails for one of the following reasons:

- different call transfer requirements between the controlling station and the transferred station
- not enough supervision on the trunks
- reference a call type that is not permitted

Associated registers

None

Extension registers

None

Associated logs

None

FCXC2CAT**Register type**

Peg

Description

FCXC2CAT counts the number of attempts to use Flexible Calling to transfer two 2-party calls.

Associated registers

None

Extension registers

FCXC2CA2

Associated logs

None

FCXC2CSU**Register type**

Peg

Description

FCXC2CSU counts the number of successful Flexible Calling transfers of two 2-party calls.

Associated registers

None

Extension registers

None

Associated logs

None

FCXC2CFL**Register type**

Peg

Description

FCXC2CFL counts the number of times a Flexible Calling transfer of two 2-party calls fails. A Flexible Calling transfer of two 2-party calls fails for one of the following reasons:

- different call transfer requirements between the controlling station and the transferred station
- not enough supervision on the trunks
- reference to call type that is not permitted

Associated registers

None

Extension registers

None

Associated logs

None

FCDRALG2

Description

FCDRALG2 is used for an overflow extension registers for OM group Flexible Call Detail Record (FlexCDR) Algorithm (FCDRALGR). FCDRALG2 is pegged only when the UBFR0008 SOC is ON.

FCDRALG2 applies only to DMS.

FCDRALGR provides OMs for counting the CDR template method used to format the CDRs. For additional information on billing, refer to the *"UCS DMS-250 Billing Records Application Guide"*.

Each register in FCDRALG2 relates to a register in FCDRALGR. When the register in FCDRALGR reaches 65535, the associated extension register in FCDRALG2 increments. The register in FCDRALG2 resets to zero (0) when it overflows. For example:

```
FCDRALGR; Register FIXED
FCDRALG2; Register FIXED
```

The following table lists the key and info fields associated with OM group FCDRALG2. FCDRALG2 provides eight (8) pre-defined tuples. A value of one (1) in the FCDRALG2 overflow register indicates 65535 pegs. A value of one (1) in the FCDRALGR register indicates one (1) peg.

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group FCDRALG2.

Registers

FCDRALG2 provides eight (8) registers (INTERNAL through RTEATTR). *These registers only apply to DMS.*

FCDRALGR

Description

OM group Flexible Call Detail Record (FlexCDR) Algorithm (FCDRALGR) group provides OMs for counting the CDR template method used to format the CDRs. For additional information on billing, refer to the *UCS DMS-250 Billing Records Application Guide*.

FCDRALG2 is used for register overflows from OM group FCDRALGR.

The following table lists the key and info fields associated with OM group FCDRALGR.

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group FCDRALGR.

Registers

The following table lists the registers associated with OM group FCDRALGR and what they measure. For a description of a register, click on the register name.

Registers for OM group FCDRALGR

Register name	Measures
ICF	Internal CDR Format
CALLTYPE	Calltype Flexdial
SNV	Subscriber Number Validation
TRK	TRKGRP/TRKFEAT
AIN	AIN Indicator
FIXED	Fixed
BESTFIT	Best fit
RTEATTR	Table RTEATTR

ICF**Register type**

Peg

Description

ICF counts the number of times the internal formatting algorithm is used when selecting a formatting method.

Associated registers

None

Extension registers

None

Associated logs

None

CALLTYPE**Register type**

Peg

Description

CALLTYPE counts the number of times the CDR format is selected through call processing by a template provisioned using the CDRTMPLT option for the CALLTYPE collectible using the FlexDial framework.

Associated registers

None

Extension registers

None

Associated logs

None

SNV**Register type**

Peg

Description

SNV counts the number of times the CDR format is selected through call processing by a template provisioned using the CDRTMPLT option in tables AUTHCODU, AUTHCDU2, AUTHCDU3, AUTHCDU4, AUTHCDU5, or ANISCUSP.

Associated registers

None

Extension registers

None

Associated logs

None

TRK**Register type**

Peg

Description

TRK counts the number of times the CDR format is selected through call processing by a template provisioned using the CDRTMPLT option in tables TRKGRP or TRKFEAT.

Associated registers

None

Extension registers

None

Associated logs

None

AIN**Register type**

Peg

Description

This register is not pegged in the UCS06 release.

Associated registers

None

Extension registers

None

Associated logs

None

FIXED**Register type**

Peg

Description

FIXED counts the number of times a fixed CDR template is used to format the CDR.

Associated registers

None

Extension registers

None

Associated logs

None

BESTFIT**Register type**

Peg

Description

BESTFIT counts the number of times a best fit analysis is used to determine the CDR template used to format the CDR.

Associated registers

None

Extension registers

None

Associated logs

None

RTEATTR**Register type**

Peg

Description

RTEATTR counts the number of times the CDR format is selected through call processing by a template provisioned using the CDRTMPLT option in table RTEATTR.

Associated registers

None

Extension registers

None

Associated logs
None

FCDRTM1E

Description

OM group FCDRTM1E is used for register overflows from OM group Flexible Call Detail Record Template (FCDRTMP1). FCDRTM1E is pegged only when the UBFR0008 SOC is ON.

FCDRTM1E applies only to DMS.

FCDRTMP1 counts the number of times templates 0 through 31 are used to format a CDR. Each register in FCDRTM1E relates to a register in FCDRTMP1. When the register in FCDRTMP1 reaches 65535, the associated extension register in FCDRTM1E increments. The register in FCDRTMP1 resets to zero (0) when it overflows. For example:

```
FCDRTMP1; Register TMPLT_9
FCDRTM1E; Register TMPLT_9
```

The following table lists the key and info fields associated with OM group FCDRTM1E. FCDRTM1E provides 32 pre-defined tuples. A value of one (1) in the FCDRTM1E overflow register indicates 65535 pegs. A value of one (1) in the FCDRTMP1 register indicates one (1) peg.

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group FCDRTM1E.

Registers

FCDRTM1E provides 32 registers (TMPLT_0 through TMPLT_31). For details about the registers, refer to FCDRTMP1.

These registers only apply to DMS.

FCDRTM2E

Description

OM group FCDRTM2E is used for overflow registers from OM group Flexible Call Detail Record Template (FCDRTMP2). FCDRTM2E is pegged only when the UBFR0008 SOC is ON.

FCDRTM2E applies only to DMS.

FCDRTMP2 counts the number of times templates 32 through 63 are used to format a CDR. Each register in FCDRTM2E relates to a register in FCDRTMP2. When the register in FCDRTMP2 reaches 65535, the associated extension register in FCDRTM2E increments. The register in FCDRTMP2 resets to zero (0) when it overflows. For example:

```
FCDRTMP2; Register TMPLT_21
FCDRTM2E; Register TMPLT_21
```

The following table lists the key and info fields associated with OM group FCDRTM2E. FCDRTM2E provides 32 pre-defined tuples. A value of one (1) in the FCDRTM2E overflow register indicates 65535 pegs. A value of one (1) in the FCDRTMP2 register indicates one (1) peg.

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group FCDRTM2E.

Registers

FCDRTM2E provides 32 registers (TMPLT_32 through TMPLT_63). For details about the registers, refer to FCDRTMP2.

These registers only apply to DMS.

FCDRTMP1

Description

OM group Flexible Call Detail Record Template (FCDRTMP1) counts the number of times templates 0 through 31 are used to format a CDR. (Similarly, FCDRTMP2 provides counts for templates 32 through 63.) FCDRTM1E is used for register overflows from FCDRTMP1.

The following table lists the key and info fields associated with OM group FCDRTMP1.

Key field	Info field
None	FCDR_TMPLT1_FLDS

Related functional groups

There are no functional groups associated with FCDRTMP1.

Registers

The following table lists the registers associated with OM group FCDRTMP1 and what they measure. For a description of a register, click on the register name.

Registers for OM group FCDRTMP1 (Sheet 1 of 2)

Register name	Measures
TMPLT_0	Template 0
TMPLT_1	Template 1
TMPLT_2	Template 2
TMPLT_3	Template 3
TMPLT_4	Template 4
TMPLT_5	Template 5
TMPLT_6	Template 6
TMPLT_7	Template 7
TMPLT_8	Template 8
TMPLT_9	Template 9

Registers for OM group FCDRTMP1 (Sheet 2 of 2)

Register name	Measures
TMPLT_10	Template 10
TMPLT_11	Template 11
TMPLT_12	Template 12
TMPLT_13	Template 13
TMPLT_14	Template 14
TMPLT_15	Template 15
TMPLT_16	Template 16
TMPLT_17	Template 17
TMPLT_18	Template 18
TMPLT_19	Template 19
TMPLT_20	Template 20
TMPLT_21	Template 21
TMPLT_22	Template 22
TMPLT_23	Template 23
TMPLT_24	Template 24
TMPLT_25	Template 25
TMPLT_26	Template 26
TMPLT_27	Template 27
TMPLT_28	Template 28
TMPLT_29	Template 29
TMPLT_30	Template 30
TMPLT_31	Template 31

TMPLT_0**Register type**

Peg

Description

TMPLT_0 counts the number of times the template at index 0 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_1**Register type**

Peg

Description

TMPLT_1 counts the number of times the template at index 1 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_2**Register type**

Peg

Description

TMPLT_2 counts the number of times the template at index 2 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_3**Register type**

Peg

Description

TMPLT_3 counts the number of times the template at index 3 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_4**Register type**

Peg

Description

TMPLT_4 counts the number of times the template at index 4 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_5**Register type**

Peg

Description

TMPLT_5 counts the number of times the template at index 5 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_6**Register type**

Peg

Description

TMPLT_6 counts the number of times the template at index 6 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_7**Register type**

Peg

Description

TMPLT_7 counts the number of times the template at index 7 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_8**Register type**

Peg

Description

TMPLT_8 counts the number of times the template at index 8 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_9**Register type**

Peg

Description

TMPLT_9 counts the number of times the template at index 9 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_10**Register type**

Peg

Description

TMPLT_10 counts the number of times the template at index 10 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_11**Register type**

Peg

Description

TMPLT_11 counts the number of times the template at index 11 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_12**Register type**

Peg

Description

TMPLT_12 counts the number of times the template at index 12 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_13**Register type**

Peg

Description

TMPLT_13 counts the number of times the template at index 13 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_14**Register type**

Peg

Description

TMPLT_14 counts the number of times the template at index 14 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_15**Register type**

Peg

Description

TMPLT_15 counts the number of times the template at index 15 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_16**Register type**

Peg

Description

TMPLT_16 counts the number of times the template at index 16 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_17**Register type**

Peg

Description

TMPLT_17 counts the number of times the template at index 17 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_18**Register type**

Peg

Description

TMPLT_18 counts the number of times the template at index 18 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_19**Register type**

Peg

Description

TMPLT_19 counts the number of times the template at index 19 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_20**Register type**

Peg

Description

TMPLT_20 counts the number of times the template at index 20 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_21**Register type**

Peg

Description

TMPLT_21 counts the number of times the template at index 21 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_22**Register type**

Peg

Description

TMPLT_22 counts the number of times the template at index 22 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_23**Register type**

Peg

Description

TMPLT_23 counts the number of times the template at index 23 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_24**Register type**

Peg

Description

TMPLT_24 counts the number of times the template at index 24 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_25**Register type**

Peg

Description

TMPLT_25 counts the number of times the template at index 25 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_26**Register type**

Peg

Description

TMPLT_26 counts the number of times the template at index 26 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_27**Register type**

Peg

Description

TMPLT_27 counts the number of times the template at index 27 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_28**Register type**

Peg

Description

TMPLT_28 counts the number of times the template at index 28 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_29**Register type**

Peg

Description

TMPLT_29 counts the number of times the template at index 29 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_30**Register type**

Peg

Description

TMPLT_30 counts the number of times the template at index 30 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_31**Register type**

Peg

Description

TMPLT_31 counts the number of times the template at index 31 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

FCDRTMP2

Description

OM group Flexible Call Detail Record Template (FCDRTMP2) counts the number of times templates 32 through 63 are used to format a CDR. (Similarly, FCDRTMP2 provides counts for templates 0 through 31.) FCDRTM2E is used for register overflows from FCDRTMP2.

The following table lists the key and info fields associated with OM group FCDRTMP2.

Key field	Info field
None	FCDR_TMPLT1_FLDS

Related functional groups

There are no functional groups associated with OM group FCDRTMP2.

Registers

The following table lists the registers associated with OM group FCDRTMP2 and what they measure. For a description of a register, click on the register name.

Registers for OM group FCDRTMP1 (Sheet 1 of 2)

Register name	Measures
TMPLT_32	Template 32
TMPLT_33	Template 33
TMPLT_34	Template 34
TMPLT_35	Template 35
TMPLT_36	Template 36
TMPLT_37	Template 37
TMPLT_38	Template 38
TMPLT_39	Template 39
TMPLT_40	Template 40
TMPLT_41	Template 41

Registers for OM group FCDRTMP1 (Sheet 2 of 2)

Register name	Measures
TMPLT_42	Template 42
TMPLT_43	Template 43
TMPLT_44	Template 44
TMPLT_45	Template 45
TMPLT_46	Template 46
TMPLT_47	Template 47
TMPLT_48	Template 48
TMPLT_49	Template 49
TMPLT_50	Template 50
TMPLT_51	Template 51
TMPLT_52	Template 52
TMPLT_53	Template 53
TMPLT_54	Template 54
TMPLT_55	Template 55
TMPLT_56	Template 56
TMPLT_57	Template 57
TMPLT_58	Template 58
TMPLT_59	Template 59
TMPLT_60	Template 60
TMPLT_61	Template 61
TMPLT_62	Template 62
TMPLT_63	Template 63

TMPLT_32**Register type**

Peg

Description

TMPLT_32 counts the number of times the template at index 32 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_33**Register type**

Peg

Description

TMPLT_33 counts the number of times the template at index 33 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_34**Register type**

Peg

Description

TMPLT_34 counts the number of times the template at index 34 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_35**Register type**

Peg

Description

TMPLT_35 counts the number of times the template at index 35 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_36**Register type**

Peg

Description

TMPLT_36 counts the number of times the template at index 36 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_37**Register type**

Peg

Description

TMPLT_37 counts the number of times the template at index 37 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_38**Register type**

Peg

Description

TMPLT_38 counts the number of times the template at index 38 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_39**Register type**

Peg

Description

TMPLT_39 counts the number of times the template at index 39 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_40**Register type**

Peg

Description

TMPLT_40 counts the number of times the template at index 40 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_41**Register type**

Peg

Description

TMPLT_41 counts the number of times the template at index 41 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_42**Register type**

Peg

Description

TMPLT_42 counts the number of times the template at index 42 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_43**Register type**

Peg

Description

TMPLT_43 counts the number of times the template at index 43 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_44**Register type**

Peg

Description

TMPLT_44 counts the number of times the template at index 44 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_45**Register type**

Peg

Description

TMPLT_45 counts the number of times the template at index 45 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_46**Register type**

Peg

Description

TMPLT_46 counts the number of times the template at index 46 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_47**Register type**

Peg

Description

TMPLT_47 counts the number of times the template at index 47 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_48**Register type**

Peg

Description

TMPLT_48 counts the number of times the template at index 48 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_49**Register type**

Peg

Description

TMPLT_49 counts the number of times the template at index 49 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_50**Register type**

Peg

Description

TMPLT_50 counts the number of times the template at index 50 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_51**Register type**

Peg

Description

TMPLT_51 counts the number of times the template at index 51 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_52**Register type**

Peg

Description

TMPLT_52 counts the number of times the template at index 52 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_53**Register type**

Peg

Description

TMPLT_53 counts the number of times the template at index 53 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_54**Register type**

Peg

Description

TMPLT_54 counts the number of times the template at index 54 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_55**Register type**

Peg

Description

TMPLT_55 counts the number of times the template at index 55 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_56**Register type**

Peg

Description

TMPLT_56 counts the number of times the template at index 56 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_57**Register type**

Peg

Description

TMPLT_57 counts the number of times the template at index 57 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_58**Register type**

Peg

Description

TMPLT_58 counts the number of times the template at index 58 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_59**Register type**

Peg

Description

TMPLT_59 counts the number of times the template at index 59 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_60**Register type**

Peg

Description

TMPLT_60 counts the number of times the template at index 60 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_61**Register type**

Peg

Description

TMPLT_61 counts the number of times the template at index 61 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_62**Register type**

Peg

Description

TMPLT_62 counts the number of times the template at index 62 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

TMPLT_63**Register type**

Peg

Description

TMPLT_63 counts the number of times the template at index 63 is used to format a CDR.

Associated registers

None

Extension registers

None

Associated logs

None

FCNF

Description

FBS Conference (FCNF) is a separate requirement functionality that does not apply to this PCL release.

FPDABM

Description

OM group File Processor Dual-access Buffer Memory Counts (FPDABM) tracks the number of times that the dual-access buffer memory (DABM) changes state. The group counts changes of state to in-service trouble (ISTB) or system busy (SYSB). These states indicate the occurrence of errors related to the DABM and if the errors are part of normal maintenance activities.

The following table lists the key and info fields associated with OM group FPDABM.

Key field	Info field
FPD_SYMB_NUM	FPDABM_OM_INFO_T

Related functional groups

There are no functional groups associated with OM group FPDABM.

Registers

The following table lists the registers associated with OM group FPDABM and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FPDABM

Register name	Measures
FPDABMIT	FP DABM in-service trouble count
FPDABMRX	FP DABM system busy, caused by a routine exercise (REX) test
FPDABMSB	FP DABM system busy count

FPDABMIT

Register type

Peg

Description

FPDABMIT counts the number of times the DABM changes state to an ISTB.

Associated registers

None

Extension registers

None

Associated logs

FP552

FPDABMRX**Register type**

Peg

Description

FPDABMRX counts the number of times the DABM changes state to SYSB as a result of an REX test. This register is not active.

Associated registers

None

Extension registers

None

Associated logs

FP552

FPDABMSB**Register type**

Peg

Description

FPDABMSB counts the number of times the DABM changes state to SYSB.

Associated registers[FPDABMRX](#)**Extension registers**

None

Associated logs

FP552

FPDEVICE

Description

OM group File Processor Storage Device Counts (FPDEVICE) tracks the number of times each file processor (FP) storage device becomes:

- in-service trouble (ISTB)
- manual busy (ManB)
- not available (NA)
- resource busy (RBSY)
- system busy (SYSB)

FPDEVICE counts the number of times that use indicators specify the device activity. The following table lists the key and info fields associated with OM group FPDEVICE.

Key field	Info field
FPD_SYMB_NUM	FPDEVICE_OM_INFO_T

Related functional groups

There are no functional groups associated with OM group FBDEVICE.

Registers

The following table lists the registers associated with OM group FPDEVICE and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FPDEVICE (Sheet 1 of 2)

Register name	Measures
FPDEVBR	FP storage device blocks read count
FPDEVBW	FP storage device blocks written count
FPDEVIT	FP storage device ISTB state count
FPDEVITU	FP storage device ISTB state usage
FPDEVMB	FP storage device ManB state count
FPDEVMBU	FP storage device ManB state usage

Registers for OM group FPDEVICE (Sheet 2 of 2)

Register name	Measures
FPDEVNA	FP storage device NA state count
FPDEVNAU	FP storage device NA state usage
FPDEVNU	FP storage device number of usage intervals in the last transfer period
FPDEVRA	FP storage device unrecoverable block assignment count
FPDEVRAR	FP storage device recoverable block assignment count
FPDEVRB	FP storage device RBSY state count
FPDEVRB	FP storage device RBSY state usage
FPDEVVRBU	FP storage device RBSY state usage
FPDEVVRQ	FP storage device requests count
FPDEVRSB	FP storage device SYSB state count
FPDEVRSBU	FP storage device SYSB state usage
FPDIP0EU	FP device interface paddleboard for controller 0, enabled usage
FPDIP1EU	FP device interface paddleboard for controller 1, enabled usage

FPDEVBR**Register type**

Peg

Description

FPDEVBR counts the number of blocks that the system reads from the given storage device. The register is not active.

Associated registers[FPDEVNU](#)**Extension registers**

None

Associated logs

None

FPDEVBW**Register type**

Peg

Description

FPDEVBW counts the number of blocks that the system writes to the given storage device. The count takes into account the time interval during which the count accumulates to determine block write traffic. FPDEVBW is not active.

Associated registers

[FPDEVNU](#)

Extension registers

None

Associated logs

None

FPDEVIT**Register type**

Peg

Description

FPDEVIT increases each time the given storage device changes state to ISTB.

Associated registers

None

Extension registers

None

Associated logs

None

FPDEVITU**Register type**

Peg

Description

FPDEVITU increases every 10 seconds when the given storage device is ISTB.

Associated registers[FPDEVNU](#)**Extension registers**

None

Associated logs

None

FPDEVMB**Register type**

Peg

Description

FPDEVMB increases each time the given storage device changes state to ManB.

Associated registers

None

Extension registers

None

Associated logs

FP503

FPDEVMBU**Register type**

Peg

Description

FPDEVMBU increases every 10 seconds when the given storage device is ManB.

Associated registers[FPDEVNU](#)**Extension registers**

None

Associated logs

None

FPDEVNA**Register type**

Peg

Description

Register FPDEVNA increases each time the given storage device changes state to NA.

Associated registers

None

Extension registers

None

Associated logs

FP503

FPDEVNAU**Register type**

Peg

Description

FPDEVNAU increases every 10 seconds when the given storage device is in the NA state.

Associated registers

[FPDEVNU](#)

Extension registers

None

Associated logs

None

FPDEVNU**Register type**

Peg

Description

FPDEVNU increases every 10 seconds when the usage scan process checks usage conditions for registers in OM group FPDEVICE.

Associated registers

None

Extension registers

None

Associated logs

None

FPDEVRA**Register type**

Peg

Description

FPDEVRA counts the number of unrecoverable block reassignments. The register is not active.

Associated registers[FPDEVNU](#)**Extension registers**

None

Associated logs

None

FPDEVRAR**Register type**

Peg

Description

FPDEVRAR counts the number of recoverable block reassignments. The register is not active.

Associated registers[FPDEVNU](#)**Extension registers**

None

Associated logs

None

FPDEVRB**Register type**

Peg

Description

FPDEVRB increases each time the given storage device changes state to RBSY.

Associated registers

None

Extension registers

None

Associated logs

FP503

FPDEVRBU**Register type**

Peg

Description

FPDEVRBU increases every 10 seconds when the given storage device is in the RBSY state.

Associated registers[FPDEVNU](#)**Extension registers**

None

Associated logs

None

FPDEVRQ**Register type**

Peg

Description

FPDEVRQ counts the number of requests to the given storage device.

Associated registers[FPDEVNU](#)**Extension registers**

None

Associated logs

None

FPDEVSB**Register type**

Peg

Description

FPDEVSB increases each time the given storage device changes state to SYSB.

Associated registers

None

Extension registers

None

Associated logs

FP503

FPDEVSBU**Register type**

Peg

Description

FPDEVSBU increases every 10 seconds when the given storage device is in the SYSB state.

Associated registers[FPDEVNU](#)**Extension registers**

None

Associated logs

None

FPDIP0EU**Register type**

Peg

Description

FPDIP0EU increases every 10 seconds when the given SCSI device interface paddleboard (SDIP) on controller 0 is enabled.

Associated registers[FPDEVNU](#)**Extension registers**

None

Associated logs

None

FPDIP1EU**Register type**

Peg

Description

FPDIP1EU increases every 10 seconds when the given SCSI device interface paddleboard (SDIP) on controller 1 is enabled.

Associated registers[FPDEVNU](#)**Extension registers**

None

Associated logs

None

FPSCSI

Description

OM group FP SCSI Bus Counts (FPSCSI) tracks the number of times the SCSI changes state, and indicates bus activity.

The following table lists the key and info fields associated with OM group FPSCSI.

Key field	Info field
FPD_SYMB_NUM	FPSCSI_OM_INFO_T

Related functional groups

There are no functional groups associated with OM group FPSCSI.

Registers

The following table lists the registers associated with OM group FPSCSI and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FPSCSI (Sheet 1 of 2)

Register name	Measures
FPSCSIEU	FP SCSI bus enabled usage
FPSCSIIT	FP SCSI bus ISTB count
FPSCSIU	FP SCSI bus device usage
FPSCSIMB	FP SCSI bus ManB count
FPSCSINU	FP SCSI bus number of usage intervals in the last transfer period
FPSCSIRB	FP SCSI bus RBSY count
FPSCSIRS	FP SCSI bus SWEN caused by a REx test
FPSCSIRX	FP SCSI bus SYSB caused by an REx
FPSCSISB	FP SCSI bus SYSB count
FPSCSISW	FP SCSI bus SWEN count

Registers for OM group FPSCSI (Sheet 2 of 2)

Register name	Measures
FPSIPDO	FP SCSI paddleboard processor storage device access occupancy
FPSIPPIO	FP SCSI paddleboard processor idle occupancy
FPSIPPMO	FP SCSI paddleboard processor maintenance occupancy

FPSCSIEU**Register type**

Peg

Description

FPSCSIEU increases every 10 seconds when the SCSI bus is enabled.

Associated registers[FPSCSINU](#)**Extension registers**

None

Associated logs

FP504

FPSCSIIT**Register type**

Peg

Description

FPSCSIIT increases when the SCSI bus changes state to in-service trouble (ISTB).

Associated registers

None

Extension registers

None

Associated logs

FP504

FPSCSIU**Register type**

Peg

Description

FPSCSIU increases every 10 seconds when a storage device uses the SCSI. FPSCSIU is not active.

Associated registers[FPSCSINU](#)**Extension registers**

None

Associated logs

None

FPSCSIMB**Register type**

Peg

Description

FPSCSIMB increases when the SCSI bus changes state to manual busy (ManB).

Associated registers

None

Extension registers

None

Associated logs

FP504

FPSCSINU**Register type**

Peg

Description

FPSCSINU increases every 10 seconds when the usage scan process checks usage conditions for registers in OM group FPSCSI.

Associated registers

None

Extension registers

None

Associated logs

None

FPSCSIRB**Register type**

Peg

Description

FPSCSIRB increases when the SCSI bus changes state to resource busy (RBSY).

Associated registers

None

Extension registers

None

Associated logs

FP504

FPSCSIRS**Register type**

Peg

Description

FPSCSIRS counts the number of times the SCSI bus changes state to switch enable (SWEN). The SCSI bus changes state to SWEN to switch from one bus to the other because of a routine exercise (REx) test. FPSCSIRS not active.

Associated registers

None

Extension registers

None

Associated logs

FP504

FPSCSIRX**Register type**

Peg

Description

FPSCSIRX increases when the SCSI bus changes state to SYSB as a result of a REx test. FPSCSIRX is not active.

Associated registers

None

Extension registers

None

Associated logs

FP504

FPSCSISB**Register type**

Peg

Description

FPSCSISB increases when the SCSI bus changes state to the system busy (SYSB).

Associated registers[FPSCSIRX](#)**Extension registers**

None

Associated logs

FP504

FPSCSISW**Register type**

Peg

Description

FPSCSISW counts the number of times the SCSI bus changes state to switch enable (SWEN). The SCSI bus changes state to SWEN to switch from one bus to the other. FPSCSISW is not active.

Associated registers[FPSCSIRS](#)

Extension registers

None

Associated logs

FP504

FPSIPPDO**Register type**

Peg

Description

FPSIPPDO counts the amount of time that the SCSI processor performs device access activity. The register counts the amount in a percentage value. This value increases to the next percentage every 10 seconds. The device access processor occupancy represents the amount of time the processor does not perform maintenance activity and is not idle. FPSIPPDO is not active.

Associated registers[FPSIPPIO](#), [FPSIPPMO](#), [FPSCSINU](#)**Extension registers**

None

Associated logs

FP504

FPSIPPIO**Register type**

Peg

Description

FPSIPPIO counts the amount of time the SCSI processor is idle. The register counts the amount of time in a percentage value. This value increases to the next percentage value every 10 seconds. FPSIPPIO is not active.

Associated registers[FPSIPPMO](#), [FPSIPPDO](#), [FPSCSINU](#)**Extension registers**

None

Associated logs

FP504

FPSIPPMO**Register type**

Peg

Description

FPSIPPMO counts the amount of time the SCSI processor performs maintenance activity. The register counts the amount of time in a percentage value. This value increases to the next percentage value every 10 seconds. FPSIPPMO is not active.

Associated registers

[FPSIPPIO](#), [FPSIPPDO](#), [FPSCSINU](#)

Extension registers

None

Associated logs

FP504

FRSAGENT

Description

OM group Frame Relay Service Agent (FRSAGENT) monitors the frame relay service (FRS) on each logical channel. FRSAGENT monitors the quality of service the customer that uses a logical channel receives.

FRSAGENT contains registers that count:

- frames received from the frame transport bus (F-bus) that are sent to the T1 carrier
- frames that are received from the T1 carrier
- cyclic redundancy check (CRC) errors
- channel disconnects
- channel originations
- aborts received in the incoming frames
- frames that are too short or too long
- frames that have an invalid data-link connection identifier (DLCI)
- frames set to backward explicit correction notification (BECN) by the agent
- frames discarded at the UNI ingress channel
- frames that exceed the committed information rate for that agent
- frames discarded with the DE bit equal to zero
- frames discarded with the DE bit equal to one
- frames set to forward exact correction notification by the agent
- time-outs by the local management interface
- number of octets received
- number of octets transmitted

The following table lists the key and info fields associated with OM group FRSAGENT.

Key field	Info field
FRSAGENT	FRS_AGENT_INFO (contains the FRS device type, the device index, and the channel number associated with the FRS agent); frame relay interface unit (FRIU) number + channel number

Related functional groups

The DataSPAN operating group is associated with OM group FRSAGENT.

Registers

The following table lists the registers associated with OM group FRSAGENT and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FRSAGENT (Sheet 1 of 2)

Register name	Measures
ABORTS	Aborts
BECNORIG	Backward explicit correction notification (BECN) bit set on origination
CHANDISC	Channel disconnects
CHANORG	Channel originations
CIRDISC	Committed information rate discarded frames
CIREXCES	Committed information rate exceeded
DE0DISC	Discarded frames with DE = 0
DE1DISC	Discarded frames with DE = 1
FECNORIG	Forward explicit correction notification (FECN) bit origination
FRAREC	Frames received

Registers for OM group FRSAGENT (Sheet 2 of 2)

Register name	Measures
FRASENT	Frames sent
INVALEN	Invalid length
INVDLCI	Invalid data-link connection identifier
LMILOST	Local management interface timeouts
OCTREC	Number of octets received
OCTSENT	Number of octets transmitted
PTERR	Cyclic redundancy check (CRC) errors

ABORTS**Register type**

Peg

Description

ABORTS register counts aborts received in the incoming frame.

Associated registers

None

Extension registers

None

Associated logs

None

BECNORIG**Register type**

Peg

Description

BECNORIG counts the number of frames the agent sends to BECN.

Associated registers

None

Extension registers

None

Associated logs

None

CHANDISC**Register type**

Peg

Description

CHANDISC counts channel disconnects that the A/B bit signaling specifies. The register is valid for FRS agents that run at 56 kbit/s with A/B bit signaling or digital data service.

Associated registers

None

Extension registers

None

Associated logs

None

CHANORG**Register type**

Peg

Description

CHANORG counts channel originations that the A/B bit signaling specifies. The register is valid for FRS agents that run 56 kbit/s with A/B bit signaling or 56-kbit/s digital data service.

Associated registers

None

Extension registers

None

Associated logs

None

CIRDISC**Register type**

Peg

Description

CIRDISC counts the number of frames discarded at the UNI ingress channel because the number exceeds the total information rate. The

total information rate is the committed information rate (CIR) plus the total information rate (SIR = CIR + EIR). CIRDISC is uploaded to the computing module (CM) with other FRSAGENT registers every 30 minutes.

Associated registers

[CIREXCES](#)

Extension registers

None

Associated logs

None

CIREXCES**Register type**

Peg

Description

CIREXCES counts the number of frames that exceed the CIR for that agent. The register is uploaded with other registers every 30 minutes.

Associated registers

[CIRDISC](#)

Extension registers

None

Associated logs

None

DE0DISC**Register type**

Peg

Description

DE0DISC register counts the number of discarded frames, with the discard eligible (DE) bit cleared.

Associated registers

None

Extension registers

None

Associated logs

None

DE1DISC**Register type**

Peg

Description

DE1DISC counts the number of discarded frames, with the DE bit set.

Associated registers

None

Extension registers

None

Associated logs

None

FECNORIG**Register type**

Peg

Description

FECNORIG counts the number of frames the agent sends to FECN.

Associated registers

None

Extension registers

None

Associated logs

None

FRAREC**Register type**

Peg

Description

FRAREC register increments each time the FRIU receives a frame from the T1 carrier.

Associated registers

None

Extension registers

None

Associated logs

None

FRASENT**Register type**

Peg

Description

FRASENT register counts frames received from the F-bus that are sent to the T1 carrier.

Associated registers

None

Extension registers

FRASENTX

Associated logs

None

INVALEN**Register type**

Peg

Description

INVALEN increments each time the FRS agent receives a frame with an invalid length. The minimum length of the frame depends on two items. It depends if the frame is link access procedure on the D-channel (LAPD), or link access procedure balanced (LAPB). The maximum length is 2106 bytes. If the frame exceeds 2106 bytes, it cannot be routed.

The number of frames with an invalid length can be high. When the number of frames is high it indicates that the telephone operating company is not sending valid data frames to be routed. You must report the problem to the telephone operating company.

Associated registers

None

Extension registers

None

Associated logs

None

INVDLCI**Register type**

Peg

Description

INVDLCI register counts frames received from the T1 carrier that have an invalid data-link connection identifier (DLCI).

Associated registers

None

Extension registers

None

Associated logs

None

LMILOST**Register type**

Peg

Description

LMILOST increments each time the local management interface (LMI) times out. Each time a connection is lost because the number of LMI errors exceeds a preset threshold, the LMILOST register increments.

Associated registers

None

Extension registers

None

Associated logs

FRS121

OCTREC**Register type**

Peg

Description

OCTREC counts the number of octets that were received on the agent.

Associated registers

None

Extension registers

OCTRECX

Associated logs

None

OCTSENT**Register type**

Peg

Description

OCTSENT counts the number of octets transmitted on the agent.

Associated registers

None

Extension registers

OCTSENTX

Associated logs

None

PTERR**Register type**

Peg

Description

PTERR counts CRC errors. Each CRC error detected means that one frame was as a result of damage in the frame.

Associated registers

None

Extension registers

None

Associated logs

None

FRSPM

Description

OM group Frame Relay Service Peripheral Module (FRSPM) monitors traffic and faults on the frame relay service (FRS) device. FRSPM allows operating company personnel to determine the response of the FRS device to frame switching demands. To determine the quality of service that an FRS device provides, the operating company personnel use fault numbers reported by OM registers. If the device has a high number of faults, the operating company personnel can take action.

Registers in the FRSPM group count:

- faults on the FRS device
- errors on the message switch link
- cyclic redundancy check (CRC) errors
- frames sent to the T1 carrier from the frame relay interface unit (FRIU)
- frames received in the FRIU from the T1 carrier
- discarded frames received in the FRIU from the T1 carrier or the frame transport bus (F-bus)

The following table lists the key and info fields associated with OM group FRSPM.

Key field	Info field
None	FRS_PM_INFO is the FRS peripheral module (PM) type. The only valid FRS PM type is FRIU.

Related functional groups

The following functional groups are associated with OM group FRSPM:

- DMS-100
- DataSPAN

Registers

The following table lists the registers associated with OM group FRSPM and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FRSPM

Register name	Measures
FRMERR	Frame errors
FRREC	Frames received
FRSENT	Frames sent
MSLKERRP	Message switch link errors
PMFAULT	Frame relay device faults
PORTERR	Cyclic redundancy check errors

FRMERR

Register type

Peg

Description

FRMERR counts discarded frames received in the FRIU from the T1 carrier, for one of the following reasons:

- invalid frame length
- invalid data-link connection identifier (DLCI)

Associated registers

None

Extension registers

None

Associated logs

None

FRREC**Register type**

Peg

Description

FRREC counts frames received in the FRIU unit from the T1 carrier.

Associated registers

None

Extension registers

FRRECX

Associated logs

None

FRSENT**Register type**

Peg

Description

FRSENT counts frames sent to the T1 carrier from the FRIU.

Associated registers

None

Extension registers

FRSENTX

Associated logs

None

MSLKERRP**Register type**

Peg

Description

MSLKERRP counts errors on the message switch link. Message switch link errors include longitudinal redundancy check (LRC) errors and F-bus transmission buffer overflow errors. If the value of MSLKERRP is high, it indicates that the FRS device is overloaded and frames can be lost.

Associated registers

None

Extension registers

None

Associated logs

None

PMFAULT**Register type**

Peg

Description

PMFAULT counts faults on the FRS device. The FRS device faults include:

- the activity of the carrier is interrupted. The interruption causes a total loss of communication with customer devices.
- the activity of the channel is interrupted. The interruption causes a total loss of communication with the connected FRS device
- loss of signal. A signal that is not available causes a total loss of communication with the end device.
- a loss of synchronization between the clocks of the FRIU and the external device
- a user restarts while the FRS device is in service
- the FRS device becomes system busy (SysB)
- the FRIU overload occurs when the FRIU cannot provide service to the traffic load presented to it
- errors appear in the buffers that manage the FRS frames.

If the value of PMFAULT is high, it indicates that the level of service in the device is bad.

Associated registers

None

Extension registers

None

Associated logs

None

PORTERR**Register type**

Peg

Description

PORTERR counts cyclic redundancy check (CRC) errors across all channels in the frame relay interface unit. CRC errors are detected from the frames that enter the FRS device from the T1 carrier. If the value of PORTERR is high, a transmission problem can occur.

Associated registers

None

Extension registers

None

Associated logs

None

FRT1

Description

OM group Frame Relay T1 Carrier (FRT1) monitors the performance of a T1 carrier that the frame relay service (FRS) uses.

FRT1 registers count:

- local carrier group alarms (LCGAs) on the T1 carrier
- remote carrier group alarms (RCGAs) on the T1 carrier
- frame loss on the T1 carrier
- the number of times the bit error rate, out-of-service limit, has been reached
- errored seconds (ES) on the T1 carrier
- severely errored seconds (SES) on the T1 carrier
- unavailable seconds on the T1 carrier
- alarm indication signals on the T1 carrier

FRT1 usage registers record when a carrier is:

- system busy (SysB)
- manual busy (ManB)
- central-side (C-side) busy

The following table lists the key and info fields associated with OM group FRT1.

Key field	Info field
None	FRT1OMINF describes the T1 carrier. The FRT1OMINF field contains the frame relay interface unit (FRIU) and number.

Related functional groups

The following functional groups are associated with OM group FRT1:

- SuperNode
- DataSPAN

Registers

The following table lists the registers associated with OM group FRT1 and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FRT1

Register name	Measures
FRT1AIS	Frame relay T1 alarm indication signals
FRT1BER	Frame relay T1 bit error ratio
FRT1CBU	Frame relay T1 C-side busy usage
FRT1CRC	Frame relay T1 cyclic redundancy check
FRT1ES	Frame relay T1 errored seconds
FRT1LCGA	Frame relay T1 local carrier group alarm
FRT1LOF	Frame relay T1 loss of frame
FRT1MBU	Frame relay T1 manual busy usage
FRT1RCGA	Frame relay T1 remote carrier group alarm
FRT1SBU	Frame relay T1 system busy usage
FRT1SES	Frame relay T1 severely errored seconds
FRT1UAS	Frame relay T1 unavailable seconds

FRT1AIS

Register type

Peg

Description

FRT1AIS increments when an alarm indication signal (AIS) occurs on the T1 carrier. An AIS indicates to the downstream equipment that the local peripheral is not functioning correctly.

Associated registers

None

Extension registers

None

Associated logs

PM110

FRT1BER**Register type**

Peg

Description

FRT1BER increments each time the bit error ratio out-of-service limit is reached on the T1 carrier. The bit error ratio out-of-service limit is defined in field BEROL in table CARRMTC. If the value of FRT1BER is high, the carrier is operating at a low quality rate.

Associated registers

None

Extension registers

None

Associated logs

PM110

FRT1CBU**Register type**

Usage

Scan rate

100 seconds

Description

FRT1CBU increments every 100 seconds if the T1 carrier is C-side busy.

Associated registers

None

Extension registers

None

Associated logs

None

FRT1CRC**Register type**

Peg

Description

FRT1CRC counts the number of CRC errors that are received on the T1 carrier for an exact FRIU.

Associated registers

None

Extension registers

None

Associated logs

None

FRT1ES**Register type**

Peg

Description

FRT1ES counts ES on the T1 carrier. ES are seconds during which at least one coding violation or one out-of-frame condition occurs. ESs are counted when the T1 carrier is available. Refer to register FRTISES, that counts SES. The ES threshold is defined in field ES of table CARRMTC. When the carrier reaches this threshold, the carrier goes out-of-service.

Associated registers

None

Extension registers

None

Associated logs

PM110

FRT1LCGA**Register type**

Peg

Description

FRT1LCGA register counts LCGA that occur on the T1 carrier. An LCGA is a severe alarm that indicates when the carrier is down and service is interrupted.

Associated registers

None

Extension registers

None

Associated logs

PM110

FRT1LOF**Register type**

Peg

Description

FRT1LOF register counts the number of times a loss of frame is detected on the T1 carrier. A repeated loss of frames causes the predetermined threshold to be exceeded and raises an alarm. A loss of frame can affect service.

Associated registers

None

Extension registers

None

Associated logs

PM110

FRT1MBU**Register type**

Usage

Scan rate

100 seconds

Description

FRT1MBU increments every 100 seconds if the T1 carrier is ManB.

Associated registers

None

Extension registers

None

Associated logs

None

FRT1RCGA**Register type**

Peg

Description

FRT1RCGA counts RCGA that occur on the T1 carrier. An RCGA is sent by the upstream equipment when it detects a problem on the link between the local office and the remote office.

Associated registers

None

Extension registers

None

Associated logs

PM110

FRT1SBU**Register type**

Usage

Scan rate

100 seconds

Description

FRT1SBU increments every 100 seconds if the T1 carrier is SysB.

Associated registers

None

Extension registers

None

Associated logs

PM109

FRT1SES**Register type**

Peg

Description

FRT1SES counts SES on the T1 carrier. SES are the seconds during which a bit error ratio of 103 occurs. SES are counted while the T1 carrier is available or as specified by the field SESCOALC.

Use the SESCOALC register to identify the calculation base used. There are two calculation bases available: STD, and BEROS. The STD is an SES calculation that is based on a bit rate error value of 103. BEROS is an SES calculation based on the value of BEROS in table CARRMTC.

The SES threshold is defined in field SES in table CARRMTC. The carrier goes out of service when this threshold is reached.

Associated registers

None

Extension registers

None

Associated logs

PM110

FRT1UAS**Register type**

Peg

Description

FRT1UAS counts unavailable seconds on the T1 carrier. Unavailable seconds start after ten consecutive SES occur, and stop when ten non-severely errored seconds occur.

Associated registers

None

Extension registers

None

Associated logs

None

FTAM

Description

OM group File Transfer Access and Management (FTAM) provides operational measurements (OM) for file transfer, access and management activities that occur in the billing server open system interface (OSI) protocol stack.

The following table lists the key and info fields associated with OM group FTAM:

Key field	Info field
None	NCMNODE_INFO

Related functional groups

There are no functional groups associated with OM group FTAM.

Registers

The following table lists the registers associated with OM group FTAM and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FTAM

Register name	Measures
FASSFL	FTAM association failed
FASSOK	FTAM association successful
FDIRINF	FTAM directory information request
FFILOC	FTAM files successful
FKBOK	FTAM Kbytes successful
FRECAF	FTAM recovery attempt failed
FRECAS	FTAM recovery attempt successful
FRESTE	FTAM restart failed
FRESTS	FTAM restart successful
FRQDEL	Files requested for deletion

FASSFL**Register type**

Peg

Description

FASSFL increases after each FTAM association attempt failure.

Associated registers

None

Extension registers

FASSFL2

Associated logs

None

FASSOK**Register type**

Peg

Description

FASSOK increases each time an FTAM association attempt succeeds.

Associated registers

None

Extension registers

FASSOK2

Associated logs

None

FDIRINF**Register type**

Peg

Description

FDIRINF increases each time the FTAM receives a request for directory information.

Associated registers

None

Extension registers

FDIRINF2

Associated logs

None

FFILOK**Register type**

Peg

Description

FFILOK increases each time the FTAM transfers a file correctly from the DMS to a remote station.

Associated registers

None

Extension registers

FFILOK2

Associated logs

None

FKBOK**Register type**

Peg

Description

FKBOK records the number of Kbytes of data that the FTAM transfers correctly from the DMS to a remote station.

Associated registers

None

Extension registers

FKBOK2

Associated logs

None

FRECAF**Register type**

Peg

Description

FRECAF increases after each FTAM recovery attempt failure.

Associated registers

None

Extension registers

FRECAF2

Associated logs

None

FRECAS**Register type**

Peg

Description

FRECAS increases after each successful FTAM recovery.

Associated registers

None

Extension registers

FRECAS2

Associated logs

None

FRESTF**Register type**

Peg

Description

FRESTF increases after each FTAM restart failure.

Associated registers

None

Extension registers

FRESTF2

Associated logs

None

FRESTS**Register type**

Peg

Description

FRESTS increases each time the FTAM performs a successful restart.

Associated registers

None

Extension registers

FRETS2

Associated logs

None

FRQDEL**Register type**

Peg

Description

FRQDEL increases each time the FTAM handles a request to delete a file.

Associated registers

None

Extension registers

FRQDEL2

Associated logs

None

FTROM

Description

AIN OMs for Telco Engineering (AU2731) introduces OM group Feature Data Block (FTROM). FTROM provides information to assist in switch resource engineering. It is recommended that the OM group be used only for this purpose.

The following table lists the key and info fields associated with OM group FTROM.

Key field	Info field
FTR_NAME	SMALL, MEDIUM, LARGE, X_LARGE, or CRITICAL.

Total of all tuples with info field SMALL = EXTSEIZ for tuple SMALL_FEATURE_DATA

Total of all tuples with info field MEDIUM = EXTSEIZ for tuple MEDIUM_FEATURE_DATA

Total of all tuples with info field LARGE = EXTSEIZ for tuple LARGE_FEATURE_DATA

Total of all tuples with info field X_LARGE =EXTSEIZ for tuple X_LARGE_FEATURE_DATA

Total of all tuples with info field CRITICAL = EXTSEIZ for tuple CRITICAL_FEATURE_DATA

Related functional groups

There are no functional groups associated with OM group FTROM.

Registers

The following table lists the registers associated with OM group FTROM and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FTROM

Register name	Measures
FTRHI	Register maximum number of FDBs in simultaneous use
FTRSEIZ	Register number of successful FDB allocations

FTRHI

Register type

Peg

Description

FTRHI records the maximum number of simultaneously allocated FDBs of a specific type, during an OM transfer period.

Associated registers

EXTHI

Extension registers

None

Associated logs

None

FTRSEIZ

Register type

Peg

Description

FTRSEIZ records the number of successfully allocated FDBs of a specific type, during an OM transfer period.

Associated registers

EXTSEIZ, EXTSEIZ2

Extension registers

FTRSEIZ2

Associated logs

None

FTRQ

Description

OM group Feature Queue Software Resources (FTRQ) counts the number of successful and unsuccessful requests for feature queue blocks made in an OM transfer period. The high watermark (register FTRQH) records the maximum number of feature queue blocks to date that were in simultaneous use during a transfer period.

The data supplied by FTRQ is used to monitor the number of feature queue blocks used in an office and provides a measurement of the number of FTRQ features being used at a given time.

The following table lists the key and info fields associated with OM group FTRQ.

Key field	Info field
FTRQOM_TUPLE_KEY is the type of feature queue block. The possible types of feature queue blocks are FTRQAGENTS, FTRQ0WAREAS, FTRQ2WAREAS, FTRQ4WAREAS, FTRQ8WAREAS, FTRQ16WAREAS, FTRQ32WAREAS, FTRQ0WPERMS, FTRQ2WPERMS, FTRQ4WPERMS, FTRQ8WPERMS, FTRQ16WPERMS, FTRQ32WPERMS and FTRQTIMERS.	FTRQOM_INFO is the number of feature queue blocks of one type that are allocated. With the availability of dynamic memory the required number of each type of FTRQ blocks are dynamically allocated and provisioned by office parameter DYNAMIC_MEMORY_SIZE.

The following pools in table OFCENG parameter DYNAMIC_MEMORY_SIZE define the number of feature queue blocks for each block type: FTRQAGENTS, FTRQ0WAREAS, FTRQ2WAREAS, FTRQ4WAREAS, FTRQ8WAREAS, FTRQ16WAREAS, FTRQ32WAREAS, FTRQ0WPERMS, FTRQ2WPERMS, FTRQ4WPERMS, FTRQ8WPERMS, FTRQ16WPERMS, and FTRQ32WPERMS.

Related functional groups

The following functional groups are associated with OM group FTRQ:

- DMS-100 Local
- DMS-100 International
- DMS-250 Toll/Tandem
- DMS-300 Gateway
- DMS-MTX Mobile Telephone Exchange
- Meridian SL-100 PBX
- Datapath
- CCS7 Trunk Signaling

Registers

The following table lists the registers associated with OM group FTRQ and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FTRQ

Register name	Measures
FTRQHI	Feature queue high-water mark
FTRQOVFL	Feature queue overflow
FTRQSEIZ	Feature queue successful block requests

FTRQHI

Register type

Peg

Description

FTRQHI indicates the high watermark value for the highest number of successful FTRQ block requests made during a transfer period to date. When the FTRQHI peg count exceeds 65535, the register is reset to zero and extension register FTRQHI2 is incremented.

Associated registers

None

Extension registers

FTRQHI2

Associated logs

None

FTRQOVFL**Register type**

Peg

Description

FTRQOVFL counts the number of unsuccessful FTRQ block requests made during an OM transfer period. When the FTRQOVFL peg count exceeds 65535, it wraps back to zero and increments extension register FTRQOFL2. Register FTRQOVFL and its extension register FTRQOFL2 provide the total count of unsuccessful requests for FTRQ blocks made in a transfer period.

Associated registers

None

Extension registers

FTRQOFL2

Associated logs

None

FTRQSEIZ**Register type**

Peg

Description

FTRQSEIZ measures the number of successful FTRQ block requests during an OM transfer period. FTRQSEIZ is used with extension register FTRQSZ2 to provide the total number of successful FTRQ block requests. Each peg to FTRQSEIZ indicates one successful FTRQ block request in the current OM transfer period. FTRQSEIZ can peg up to 65535 successful FTRQ block requests before it wraps to zero and pegs extension register FTRQSZ2.

Associated registers

None

Extension registers

FTRQSZ2

Associated logs

None

FTS

Description

OM group FAX-Thru Service (FTS) measures the number of activations of the FTS service.

The following table lists the key and info fields associated with OM group FTS.

Key field	Info field
None	None

Related functional groups

The functional group MSA00001 is associated with OM group FTS.

Registers

The following table lists the registers associated with OM group FTS and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group FTS

Register name	Measures
FTSACTIV	Number of FTS activations
FTSACTI2	Number of FTS activations 2
FTSBSYAC	Number of FTS Busy Case activations
FTSRNAAC	Number of FTS Ringing No-Answer activations

FTSACTIV

Register type

Peg

Description

FTSACTIV counts the number of activations of the FTS service.

Associated registers

[FTSACTI2](#)

Extension registers

None

Associated logs

None

FTSACTI2**Register type**

Peg

Description

FTSACTI2 counts the number of activations of the FTS service.

Associated registers[FTSACTIV](#)**Extension registers**

None

Associated logs

None

FTSBSYAC**Register type**

Peg

Description

FTSBSYAC counts the number of Busy Case activations of the FTS service.

Associated registers

None

Extension registers

None

Associated logs

None

FTSRNAAC**Register type**

Peg

Description

FTSRNAAC counts the number of Ringing No-Answer activations of the FTS service.

Associated registers

None

Extension registers

None

Associated logs

None

GIACGRP

Description

OM group Group Intercom All Call (GIACGRP) monitors the use of the group intercom all call (GIAC) feature. The GIAC feature allows a member of a group intercom (GIC) group to page members of the GIC group. The member can page a maximum of 29 selected members of the GIC group at the same time. The pages occur over the internal speakers of the business set of the GIAC member.

The GIACGRP contains three registers that count:

- attempts to originate a group intercom all call conference
- attempts to originate a group intercom all call conference that fail because of not enough available conference circuits
- attempts to originate a group intercom all call conference that fail because of not enough software or hardware resources

The following table lists the key and info fields associated with OM group GIACGRP.

Key field	Info field
IBNG_INDEX (which is the customer group as defined in table CUSTHEAD)	OMIBNGINFO (which is the customer group name entered in table CUSTHEAD)

Related functional groups

The MDC functional group is associated with OM group GIACGRP.

Registers

The following table lists the registers associated with OM group GIACGRP and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group GIACGRP (Sheet 1 of 2)

Register name	Measures
GIACATT	Group intercom all call origination attempts

Registers for OM group GIACGRP (Sheet 2 of 2)

Register name	Measures
GIACCGRO	Group intercom all call failure-no resources
GIACNOSC	Group intercom all call failure-no conference circuits

GIACATT**Register type**

Peg

Description

GIACATT counts attempts to originate a group intercom all call conference.

Associated registers

IBNGRP_GICORIG

Extension registers

None

Associated logs

None

GIACCGRO**Register type**

Peg

Description

GIACCGRO counts attempts to originate a group intercom all call conference that fail because of not enough conference circuits. These conference circuits are assigned to the MDC customer group that contains the GIAC group. Field CONF6C in table CUSTENG contains the number of conference circuits assigned to an MDC customer group. The system routes the call to customer group resource overflow (CGRO) treatment.

Associated registers

None

Extension registers

None

Associated logs

None

GIACNOSC**Register type**

Peg

Description

GIACNOSC counts attempts to originate a group intercom all call conference that fail. The GIAC fails because not enough conference circuits are available in the office. The system routes the call to no service circuit (NOSC) treatment.

Associated registers

None

Extension registers

None

Associated logs

None

GTID

Description

OM group Generic Logical Terminal Identifier (GTID) monitors GLOGTID pools.

The following table lists the key and info fields associated with OM group GTID.

Key field	Info field
Number in the range 0-63 of the pool, followed by the name provided when the pool is registered.	Number of TIDs currently allocated to the pool.

Related functional groups

There are no functional groups associated with OM group GTID.

Registers

The following table lists the registers associated with OM group GTID and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group GTID

Register name	Measures
GTHIGH	High water
GTHIGH2	High water
GTOVFL	GLOGTID requests from a pool
GTSEIZ	Seizure of a GLOGTID from the pool
GTSEIZ2	Seizure of a GLOGTID from the pool

GTHIGH**Register type**

Peg

Description

GTHIGH is the least significant 16 bits of a 32-bit high water register.

Associated registers[GTHIGH2](#)**Extension registers**

None

Associated logs

None

GTHIGH2**Register type**

Peg

Description

GTHIGH2 is the most significant 16 bits of a 32-bit high water register.

Associated registers[GTHIGH](#)**Extension registers**

None

Associated logs

None

GTOVFL**Register type**

Usage

Scan rate

Not available

Description

GTOVFL is a usage register and records the number of times a GLOGTID is requested from a pool, but one is not available.

Associated registers

None

Extension registers

None

Associated logs

None

GTSEIZ**Register type**

Usage

Scan rate

Not available

Description

GTSEIZ is the least significant 16 bits of a 32-bit usage register. This register records the seizure of a GLOGTID from the pool.

Associated registers[GTSEIZ2](#)**Extension registers**

None

Associated logs

None

GTSEIZ2**Register type**

Usage

Scan rate

Not available

Description

GTSEIZ2 is the most significant 16 bits of a 32-bit usage register. This register records the seizure of a GLOGTID from the pool.

Associated registers[GTSEIZ](#)**Extension registers**

None

Associated logs

None

GWOVL0M

Description

OM Group Gateway Overload OM (GWOVL0M) measures the number of connections that were denied because the MG 9000 was in overload.

The following table lists the key and info fields associated with OM group GWOVL0M.

Key field	Info field
GWOVL_OM_PM_INFO1	GWOVL_OM_TUPLE_DATA1

Related functional groups

There are no functional groups associated with OM group GWOVL0M.

Registers

The following table lists the registers associated with OM group GWOVL0M and what they measure.

Registers for OM group GWOVL0M

Register name	Measures
OVERLOAD	Denied connections

OVERLOAD

Register type

Peg

Description

OVERLOAD counts the number of connection denials when an MG 9000 is in overload.

Associated registers

None

Extension registers

None

Associated logs

None

HDBOM

Description

OM group History Data Block OM (HDBOM) tracks the seizures for history data blocks (HDBs).

Note: This OM group was introduced in NA009, but is dormant.

The following table lists the key and info fields associated with OM group HDBOM.

Key field	Info field
HDB_type	Contains the size of the block of each HDB type.

Related functional groups

There are no functional groups associated with OM group HDBOM.

Registers

The following table lists the registers associated with OM group HDBOM and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group HDBOM

Register name	Measures
HDBSEIZ	Number of successful HDB allocations

HDBSEIZ

Register type

Peg

Description

HDBSEIZ records the number of successful HDB allocations.

Associated registers

None

Extension registers

HDBSEIZ2

Associated logs
None

HFPOM

Description

OM group HFP CPU Occupancy and Layer 2 OMs (HFPOM) monitors the HFP CPU use and frame traffic and indicate problems on XLIU channels.

The OM group HFPOM measures the CPU occupancy in the HFP for the following tasks:

- layer 1
- layer 2
- IPF interface
- maintenance
- utility
- tools
- idler
- other

The following table lists the key and info fields associated with OM group HFPOM.

Key field	Info field
Integer value, range 0 to total number of tuples subtract one.	Node name and number. Node name is always XLIU. Number ranges from 0 to 511.

Related functional groups

The DMS Packet Handler functional group is associated with OM group HFPOM.

Registers

The following table lists the registers associated with OM group HFPOM and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group HFPOM

Register name	Measures
HFPL1	Layer 1 occupancy
HFPL2	Layer 2 occupancy
HFPIPF	IPF interface occupancy
HFPMaint	Maintenance occupancy
HFPUTIL	Utility occupancy
HFPTOOL	Tools occupancy
HFPIDLE	Idler occupancy
HFPOther	Other occupancy
FRAMERX	Frames received by HFP
FRAMETX	Frames transmitted from HFP
BADFRAME	Bad frames received by HFP
LINKCGST	Link Congestion
RNRCGST	Severe XLIU Congestion

HFPL1**Register type**

Peg

Description

HFPL1 monitors HFP CPU time spent processing the frame receiver task. The frame receiver task determines if the system can pass the frame to the layer 2 processing task. The system can pass the frame to the layer 2 processing task if the frame is not a bad frame.

Associated registers

None

Extension registers

None

Associated logs

None

HFPL2**Register type**

Peg

Description

HFPL2 monitors HFP CPU time spent processing layer 2 frames.

Associated registers

None

Extension registers

None

Associated logs

None

HFPIPF**Register type**

Peg

Description

HFPIPF monitors HFP CPU time spent interfacing with Integrated Processor and F-bus messaging and passing frames for layer 3 processing.

Associated registers

None

Extension registers

None

Associated logs

None

HFPMAINT**Register type**

Peg

Description

HFPMAINT monitors HFP CPU time spent processing maintenance tasks, like loopbacks.

Associated registers

None

Extension registers

None

Associated logs

None

HFPUTIL**Register type**

Peg

Description

HFPUTIL monitors HFP CPU time spent processing the timer task and running audits.

Associated registers

None

Extension registers

None

Associated logs

None

HFPTOOL**Register type**

Peg

Description

HFPTOOL monitors HFP CPU time spent running tools, like the CPU utilization and frame measurement tools.

Associated registers

None

Extension registers

None

Associated logs

None

HFIDLE**Register type**

Peg

Description

HFIDLE monitors HFP CPU time that is idle.

Associated registers

None

Extension registers

None

Associated logs

None

HFOTHER**Register type**

Peg

Description

HFOTHER monitors HFP CPU time spent processing a task other than the following:

- HFPL1
- HFPL2
- HFPIPF
- HFPMaint

- HFPUTIL
- HFPTOOL
- HFPIDLE

Associated registers

None

Extension registers

None

Associated logs

None

FRAMERX**Register type**

Peg

Description

FRAMERX is the total number of frames that the HFP receives. These frames include I, RR, RNR, SABME, DM, DISC, UA, FRMR, and REJ frames. These frames also include incomplete, bad CRC, aborted, invalid length, and continuity test frames.

Associated registers

None

Extension registers

FRAMERX2. To determine the total number of frames received, multiple register FRAMERX2 by 65 536 and add FRAMERX register.

Associated logs

None

FRAMETX**Register type**

Peg

Description

FRAMETX is the total number of frames that the HFP transmits. These frames include I, RR, RNR, SABME, DM, DISC, UA, FRMR, REJ, and continuity test frames.

Associated registers

None

Extension registers

FRAMETX2. To determine the total number of frames transmitted, multiply by 65 536 and add register FRAMETX

Associated logs

None

BADFRAME**Register type**

Peg

Description

BADFRAME is the total number of incomplete, bad CRC, aborted, and incorrect length frames that the HFP receives.

Associated registers

None

Extension registers

BADFRAM2. To determine the total number of bad frames, multiply by 65 536 and add register BADFRAME.

Associated logs

None

LINKCGST**Register type**

Peg

Description

LINKCGST counts the number of times the build-up of data traffic congests a link. A build-up of data traffic occurs in the layer 2 processor output queue. The data terminal equipment (DTE) waits to receive the build-up of data traffic.

Associated registers

None

Extension registers

LINKCGS2

Associated logs

None

RNRCGST**Register type**

Peg

Description

RNRCGST counts the number of times the free buffer pools (layers 2 and 3) drop below the severe congestion threshold. This condition causes the system to send RNR messages to the DTE to stop the incoming traffic.

Associated registers

None

Extension registers

RNRCGST2

Associated logs

None

HPCBASIC

Description

OM group High Probability Completion - Basic (HPCBASIC) measures HPC call traffic. Registers in this OM group count the number of HPC call attempts on lines and trunks, and keep track of how these calls are handled.

Note: The use of HPC Network Capabilities is restricted in the United States and U.S. Territories (Puerto Rico and U.S. Virgin Islands) to National Security/Emergency Preparedness (NS/EP) users authorized by the Office of the Manager, National Communication System (OMNCS). Operating company deployment of these HPC Network Capabilities must be coordinated with the OMNCS at the following address:

Office of the Manager
National Communications System
Attn: GETS Program Office
701 South Courthouse Rd.
Arlington, VA 22204-2198
email: gets@ncs.gov

HPCBASIC measures HPC call traffic. Registers in this group count the number of HPC call attempts on lines and trunks, and keep track of how these calls are handled.

HPC is the term used to describe the Government Emergency Telecommunications Service (GETS) functionality in a DMS-100 call context. The equivalent functionality in the context of a DMS-250 call is referred to as Carrier GETS (CGETS). In a DMS-500 office that combines the functionality of the DMS-100 and DMS-250, the OMs in this group can be pegged by both HPC and Carrier GETS calls simultaneously.

HPC calls can peg all the registers in this group. Carrier GETS calls only peg selected OMs in this group as indicated in each OM description.

Note: Flowcharts indicating register hits, represent a single pass through an office. Calls can re-route within the office through call forward or AIN responses, and registers can be pegged multiple times during call processing.

The following table lists the key and info fields associated with OM group HPCBASIC.

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group HPCBASIC.

Registers

The following table lists the registers associated with OM group HPCBASIC and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group HPCBASIC (Sheet 1 of 2)

Register name	Measures
LINEATT	Line attempts
TRKATT	Trunk attempts
TERMLINE	Termination - line
TERMTRK	Termination - trunk
TERMNC	Termination - no circuit
TERMIEC	Termination - IEC
TERMIECN	Termination - IEC no circuit
EXNMCTRL	Exemption from network management control
TQQATT	Trunk queuing attempts
TQQOVFL	Trunk queuing overflow
TQQABDN	Trunk queuing abandon
TQQTMREX	Trunk queuing timer expired
ACGEXMPT	AIN queries of HPC calls exempted
ACGBLOCK	AIN queries of HPC calls blocked

Registers for OM group HPCBASIC (Sheet 2 of 2)

Register name	Measures
EQQABDN	Egress queuing queue abandons
EQQATT	Egress queuing queue attempts
EQQOVFL	Egress queuing queue overflow
EQQTMREX	Egress queuing queue timeout

LINEATT**Register type**

Peg

Description

LINEATT counts the number of line origination attempts (including PX, P2, and PRI), recognized as HPC calls on lines served by the measuring switch. LINEATT is not pegged for Carrier GETS.

Associated registers

None

Extension registers

None

Associated logs

None

TRKATT**Register type**

Peg

Description

TRKATT counts the number of calls recognized as HPC calls, on incoming trunks of the measuring switch.

Note: TRKATT is pegged when an incoming call is recognized as a Carrier GETS call. TRKATT is pegged based on the CPC and only applies to incoming ISUP trunk groups.

Associated registers

None

Extension registers

None

Associated logs

None

TERMLINE**Register type**

Peg

Description

The TERMLINE counts the number of calls recognized by the measuring switch as HPC calls, whose destination is a line served by the measuring switch, including calls that have been call forwarded.

Note: TERMLINE is pegged only if the HPC call successfully terminates on the line. TERMLINE is not pegged if the terminating line is busy or if the HPC call is rejected by a feature such as Selective Call Rejection. TERMLINE is not pegged for Carrier GETS.

Associated registers

None

Extension registers

None

Associated logs

None

TERMTRK**Register type**

Peg

Description

TERMTRK counts the number of calls that complete on trunks to points outside the measuring switch, that the switch recognizes as HPC calls. TERMTRK is pegged each time an IAM message is sent from an ISUP trunk, or when the inband signaling trunk is seized.

Note 1: TERMTRK register is unpegged in the case of yielding to glare and COT failure event, if the current value is greater than 0.

Note 2: TERMTRK can be pegged following the pegging of register TERMNC, when an HPC call routes to a busy route, with the AIN Network Busy event armed. In this case TERMNC is pegged, the NB event is hit, and AIN sends a query to the SCP and receives a response of Analyze Route, or AFR trigger.

Note 3: TERMTRK is pegged when a Carrier GETS call completes on a trunk.

Associated registers

None

Extension registers

None

Associated logs

None

TERMNC**Register type**

Peg

Description

TERMNC counts the number of outgoing HPC calls that cannot be routed on a trunk to a point outside the measuring switch, because no idle trunks are available.

Note 1: For the definition of TERMNC, a Virtual Facility Group (VFG) is considered as a trunk. Therefore, TERMNC is pegged when an HPC call routes to a VFG when it reaches maximum capacity.

Note 2: GETS HPC calls can interact with features that send the call to an alternate route, and therefore, affects the pegging of TERMNC.

Examples of these calls follow:

- HPC calls with ACR or E-ACR peg TERMNC once, after all routes to carriers in the response fail to route the call
- HPC calls with NEL Network Busy peg TERMNC before AIN takes control of the call
- HPC calls incoming on ISUP that send back a release with cause message due to network busy, peg TERMNC
- HPC calls that are forwarded and cannot be routed outside the measuring switch peg TERMNC (even when CFDA returns the call to the original terminating line)

Note 1: TERMTRK can be pegged following the pegging of register TERMNC, when an HPC call routes to a busy route, with the AIN Network Busy event armed. In this case TERMNC is pegged, the NB event is hit, and AIN sends a query to the SCP and receives a response of Analyze Route, or AFR trigger.

Note 2: For Carrier GETS, TERMNC is pegged when a call cannot be routed because no idle trunks are available. The register is pegged on the second scan when the call is sent to GNCT treatment because no idle trunk members are found.

Associated registers

None

Extension registers

None

Associated logs

None

TERMIEC**Register type**

Peg

Description

TERMIEC counts the number of HPC calls intended to complete on trunks to points outside the measuring switch, and that are intended for an IEC.

Note: TERMIEC is pegged only when the trunk group is of type ATC. TERMIEC is not pegged for Carrier GETS.

Associated registers

None

Extension registers

None

Associated logs

None

TERMIECN**Register type**

Peg

Description

TERMIECN counts the number of outgoing HPC calls that cannot be routed on a trunk to a point outside the measuring switch because no idle trunks are available, and that are intended for AIN IEC (interLATA call).

Note 1: For the definition of TERMIECN a Virtual Facility Group (VFG) is considered as a trunk. Therefore, TERMIECN is pegged when an HPC call is routed to a VFG when it reaches maximum capacity.

Note 2: GETS HPC calls can interact with features that send the call to an alternate route, and therefore, affects the pegging of TERMIECN. TERMIECN is not pegged for Carrier GETS.

Examples of these calls follow:

- HPC calls with ACR or E-ACR peg TERMIECN once, after all routes to carriers in the response fail to route the call
- HPC calls with NEL Network Busy peg TERMIECN before AIN takes control of the call
- HPC calls incoming on ISUP that send back a release with cause message due to network busy, peg TERMIECN
- HPC calls that are forwarded and cannot be routed outside the measuring switch peg TERMIECN (even when CFDA returns the call to the original terminating line)

Note: TERMTRK can be pegged following the pegging of register TERMNC, when an HPC call is routed to a busy route, with the AIN Network Busy event armed. In this case TERMIECN is pegged, the NB event is hit, and AIN sends a query to the SCP and receives a response of Analyze Route, or AFR trigger.

Associated registers

None

Extension registers

None

Associated logs

None

EXNMCTRL

Register type

Peg

Description

EXNMCTRL counts the number of times an HPC call is exempted from an active network management control, on the first idle trunk scan.

Note: EXNMCTRL is pegged when a Carrier GETS call bypasses an active network management control on the first idle scan.

Associated registers

None

Extension registers

None

Associated logs

None

TQQATT

Register type

Peg

Description

TQQATT counts the number of attempts to place HPC calls in all trunk group queues.

Note 1: TQQATT is only pegged when a call is placed on the trunk group queue. It is therefore assumed that the register is pegged only on the second idle trunk scan.

Note 2: TQQATT is pegged each time an attempt is made to place a GETS call in a trunk group queue.

For Carrier GETS, TQQATT is pegged for both trunk and office-wide queuing.

Associated registers

None

Extension registers

None

Associated logs

None

TQQOVFL

Register type

Peg

Description

TQQOVFL counts the number of attempts to place HPC calls in trunk group queues that fail because the queues are full.

Note 1: TQQOVFL is only pegged after a call is placed on the trunk group queue. It is therefore assumed that the register is pegged only on the second idle trunk scan.

Note 2: For Carrier GETS, TQQOVFL counts attempts to place a Carrier GETS call in a queue that fail because the queue for the trunk group is full.

Associated registers

None

Extension registers

None

Associated logs

None

TQQABDN**Register type**

Peg

Description

TQQABDN counts the number of HPC calls placed in trunk group queues, but abandoned while in the queue.

Note 1: TQQABDN is only pegged after a call is on the trunk group queue. It is therefore assumed that the register is pegged only on the second idle trunk scan.

Note 2: TQQABDN is pegged when a Carrier GETS call is in queue and the calling party abandons.

Associated registers

None

Extension registers

None

Associated logs

None

TQQTMREX**Register type**

Peg

Description

TQQTMREX counts the number of HPC calls removed from trunk group queues due to a timeout treatment.

Note 1: TQQTMREX is only pegged after a call is placed on the trunk group queue. It is therefore assumed that the register is pegged only on the second idle trunk scan.

Note 2: TQQTMREX is pegged when a Carrier GETS call is removed from queue because it timed-out waiting for an idle trunk to become available.

Associated registers

None

Extension registers

None

Associated logs

None

ACGEXMPT**Register type**

Peg

Description

ACGEXMPT counts the total number of AIN queries of all HPC calls exempted from AIN ACG controls. ACGEXMPT is not pegged for Carrier GETS.

Associated registers

None

Extension registers

None

Associated logs

None

ACGBLOCK**Register type**

Peg

Description

ACGBLOCK counts the total number of AIN queries of all HPC calls blocked by AIN ACG controls. ACBLOCK is not pegged for Carrier GETS.

Associated registers

None

Extension registers

None

Associated logs

None

EQQABDN**Register type**

Peg

Description

EQQABDN counts the number of calls placed in egress trunk group queues, but abandoned while in the queue. EQQABDN is not pegged for Carrier GETS.

Associated registers

None

Extension registers

None

Associated logs

None

EQQATT**Register type**

Peg

Description

EQQATT counts the number of attempts made to place HPC calls in egress trunk group queues. EQQATT is not pegged for Carrier GETS.

Associated registers

None

Extension registers

None

Associated logs

None

EQQOVFL**Register type**

Peg

Description

EQQOVFL counts the number of failed attempts to place HPC calls in egress trunk group queues because the queues are full. EQQOVFL is not pegged for Carrier GETS.

Associated registers

None

Extension registers

None

Associated logs

None

EQQTMREX**Register type**

Peg

Description

EQQTMREX counts the number of calls removed from egress trunk group queues due to timeout treatment. EQQTMREX is not pegged for Carrier GETS.

Associated registers

None

Extension registers

None

Associated logs

None

HPCTRKCGP

Description

OM group High Probability Completion Trunk Group (HPCTRKGP) measures HPC call traffic on a trunk group basis. Registers in this group count the number of:

- HPC call attempts on a trunk group
- HPC calls that overflowed because all members of a trunk group are busy
- trunk group queue overflows
- queued calls that encounter a timeout treatment

Note: The use of HPC Network Capabilities is restricted in the United States and U.S. Territories (Puerto Rico and U.S. Virgin Islands) to National Security/Emergency Preparedness (NS/EP) users authorized by the Office of the Manager, National Communication System (OMNCS). Operating company deployment of these HPC Network Capabilities must be coordinated with the OMNCS at the following address:

Office of the Manager
National Communications System
Attn: GETS Program Office
701 South Courthouse Rd.
Arlington, VA 22204-2198
email: gets@ncs.gov

HPC is the term used to describe the Government Emergency Telecommunications Service (GETS) functionality in a DMS-100 call context. The equivalent functionality in the context of a DMS-250 call is referred to as Carrier GETS (CGETS). In a DMS-500 office that combines the functionality of the DMS-100 and DMS-250, the OMs in this group can be pegged by both HPC and Carrier GETS calls simultaneously.

Note: Flowcharts indicating OM register hits, represent a single pass through an office. Calls can re-route within the office through call forward or AIN responses, and OM registers can be pegged multiple times during call processing.

The following table lists the key and info fields associated with OM group HPCTRKCGP.

Key field	Info field
COMMON_LANGUAGE_NAME	HPCTRKGPIINFO

Related functional groups

There are no functional groups associated with OM group HPCTRKCGP.

Registers

The following table lists the registers associated with OM group HPCTRKCGP and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group HPCTRKCGP

Register name	Measures
HPCATT	HP Call Attempts
HPCOVFL	HP Call Overflow
QUETMREX	Trunk Queuing Timer Expired
QUEOVFL	Trunk Queuing Overflow

HPCATT

Register type

Peg

Description

HPCATT counts the number of times the switch tries to access a trunk in the trunk group to serve an HPC call. The register is pegged only on the first idle trunk scan.

Note: For Carrier GETS, the HPCATT register is pegged each time a call attempts to access a trunk in the trunk group to serve a Carrier GETS call. HPCATT is pegged only on the first idle trunk scan.

Associated registers

None

Extension registers

None

Associated logs

None

HPCOVFL**Register type**

Peg

Description

HPCOVFL counts the number of times the switch tries to access a trunk in the trunk group to serve an HPC call, when all trunks are busy. This register is pegged only on the first idle trunk scan.

Note: For Carrier GETS, the HPCOVFL register is pegged when the DMS switch tries to access a trunk in the trunk group to serve a Carrier GETS call, when all trunks are busy. The register is only pegged on the first idle trunk scan.

Associated registers

None

Extension registers

None

Associated logs

None

QUETMREX**Register type**

Peg

Description

QUETMREX register counts the number of HPC calls removed from the trunk group queue due to timeout treatment. The register is only pegged when a call is put on the trunk group queue. It is therefore assumed that the register is pegged only on the second scan.

Note: For Carrier GETS, the QUETMREX register is pegged when a Carrier GETS call is removed from queue because it timed-out waiting for an idle trunk to become available.

Associated registers

None

Extension registers

None

Associated logs

None

QUEOVFL**Register type**

Peg

Description

QUEOVFL counts the number of attempts to place HPC calls in the trunk group queue that fail because the trunk group queue is full. The register is pegged only when a call is put on the trunk group queue. It is therefore assumed that the register is pegged only on the second scan.

Note: For Carrier GETS, the QUEOVFL register is pegged when a Carrier GETS call attempts to queue on the trunk group but fails because the queue is full. QUEOVFL is pegged on the second idle scan.

Associated registers

None

Extension registers

None

Associated logs

None

HTR

Description

OM group Hard To Reach (HTR) codes pegs the Answer and Bid counts for all Hard To Reach codes. A code is tagged Hard To Reach when the probability of call completion is extremely low. The Engineering and Administration Data Acquisition System (EADAS) machine uses these counts to calculate the Answer to Bid ratio.

The following table lists the key and info fields associated with OM group HTR.

Key field	Info field
None	HTR_INFO Identifies Hard To Reach call codes.

The information field contains:

- the code control type (CCODE/ACODE/NAC/PFX)
- the destination code on which the HTR code control is applied
- SNPA/STS/ALL

Related functional groups

There are no functional groups associated with OM group HTR.

Registers

The following table lists the registers associated with OM group HTR and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group HTR

Register name	Measures
CAONHTRC	Call attempts on hard to reach codes
CCONHTRC	Call completions on hard to reach codes

CAONHTRC**Register type**

Peg

Description

CAONHTRC keeps track of the number of call attempts on a destination code tagged Hard to Reach.

Associated registers

None

Extension registers

none

Associated logs

None

CCONHTRC**Register type**

Peg

Description

CCONHTRC keeps track of the number of call completions on a destination code tagged Hard to Reach.

Associated registers

None

Extension registers

none

Associated logs

None

HUNT

Description

OM group Hunt (HUNT) provides information on the performance of each hunt group in the DMS switch. HUNT counts:

- attempts to terminate calls on lines in the hunt group
- attempts that fail to find an available line and overflow
- calls attempted again that terminate on a line and fail

A hunt group is a group of lines where an office searches for an available line to terminate a call. The hunt groups on a DMS-100 switch are:

- directory number hunt (DNH)
- distributed line hunt (DLH)
- multiline hunt (MLH)
- bridged night number (BNN)

The following table lists the key and info fields associated with OM group HUNT.

Key field	Info field
None	HUNT_OM_INFO_TYPE - fields: SNPA, DN, GROUPTYPE, SIZE

The SNPA is the serving numbering plan area of the pilot line. The DN is the seven-digit directory number of the pilot line. The GROUPTYPE is the hunt group type, and SIZE is the maximum number of members.

Related functional groups

There are no functional groups associated with OM group HUNT.

Registers

The following table lists the registers associated with OM group HUNT and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group HUNT

Register name	Measures
HUNTATT	Hunt attempts
HUNTOVFL	Hunt overflow
HUNTRHNT	Hunt rehunt
HUNTRF	Hunt traffic
HUNTMNT	Hunt maintenance

HUNTATT

Register type

Peg

Description

HUNTATT counts attempts to terminate a call on a line that is a member of a hunt group.

Associated registers

None

Extension registers

None

Associated logs

None

HUNTOVFL

Register type

Peg

Description

HUNTOVFL counts failed attempts to terminate a call on a line that is a member of a hunt group. The attempts HUNTOVFL counts fail because no line is available. The lines can be in a call processing busy state or a maintenance busy state.

If the system directs the call at a line other than the pilot line and the hunt group is not circular, overflow can occur. In this case overflow occurs on a directory number hunt (DNH) group. Overflow can occur even if hunt group members are available.

Associated registers

None

Extension registers

None

Associated logs

None

HUNTRHNT**Register type**

Peg

Description

HUNTRHNT increases if the system selects an alternate line in a hunt group because of

- a connection failure on the first line
- a ringing failure on the first line
- other problems on the first line

Associated registers

None

Extension registers

None

Associated logs

None

HUNTTRF**Register type**

Peg

Description

HUNTTRF records call processing traffic on the hunt groups in the office. Each hunt group is scanned every 100 seconds to record the call processing usage for each member. The HUNTTRF register records the number of call processing busy members during the sample time. The register will accumulate between transfer periods.

Associated registers

None

Extension registers

None

Associated logs

None

HUNTMNT**Register type**

Peg

Description

HUNTMNT records maintenance traffic on the hunt groups in the office. Each hunt group is scanned every 100 seconds to record the maintenance usage for each member. The HUNTMNT register records the number of maintenance busy members during the sample time. The register will accumulate between transfer periods.

Associated registers

None

Extension registers

None

Associated logs

None

IBNAC

Description

OM group Integrated Business Network Attendant Console (IBNAC) provides information about the number and types of calls handled by individual attendant consoles.

The types of calls IBNAC counts include listed directory number, O type, intercepted, transferred, forwarded, recalled, and a miscellaneous category for any other calls. The group also counts the number of times attendants hold, originate, and extend calls.

Usage registers record when consoles are in use, in a talking state, and in a position busy state. Supervisory personnel can use information collected in IBNAC to manage work loads, monitor productivity, and identify training requirements.

This information can be used to determine if attendant console resources are able to handle the expected number of calls. IBNAC can be used to determine the types of calls that occur most often. IBNAC can also be used to determine the time the attendant needs to handle the calls.

You can schedule IBNAC with the same method as other OM group reports. You can view the counts on the MAP at the INACOM display level. INACOM provides real-time counts on an individual attendant console basis. The ACOM and ACDYMS MAP displays provide information on a sub-group basis.

Individual register descriptions contain information on relationships between the registers and MAP displays. The MAP does not display usage counts.

The following table lists the key and info fields associated with OM group IBNAC.

Key field	Info field
an integer (0-254) representing an individual attendant console	customer group name defined in table IBNGRP (maximum: 256).

For OM group IBNAC:

- The subgroup number is 0-7.
- The console CLLI is defined in table ATTCONS (maximum: 255).

- The CLLI for each attendant console must be defined in table ATTCONS.
- The customer group name and subgroup number for each attendant console must be entered in table IBNGRP.

Related functional groups

The IBN Attendant Console is associated with OM group IBNAC.

Registers

The following table lists the registers associated with OM group IBNAC and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group IBNAC (Sheet 1 of 2)

Register name	Measures
IACAUTH	Individual attendant console calls involving authorization codes
IACBSYDR	Individual attendant console position busy duration
IACCFW	Individual attendant console answered call forward calls
IACCTVTU	Individual attendant console activated usage
IACDIAL0	Individual attendant console answered dial 0
IACEXTD	Individual attendant console extended calls
IACHLD	Individual attendant console hold calls
IACINTRP	Individual attendant console answered intercept
IACLDN	Individual attendant console listed directory number
IACLDN1	Individual attendant console listed directory number one
IACLDN2	Individual attendant console listed directory number two
IACLDN3	Individual attendant console listed directory number three

Registers for OM group IBNAC (Sheet 2 of 2)

Register name	Measures
<u>IACLDN4</u>	Individual attendant console listed directory number four
<u>IACLDN5</u>	Individual attendant console listed directory number five
<u>IACLDN6</u>	Individual attendant console listed directory number six
<u>IACLDN7</u>	Individual attendant console listed directory number seven
<u>IACLDNR</u>	Individual attendant console routed listed directory number
<u>IACORGDR</u>	Individual attendant console duration of originated calls
<u>IACORIG</u>	Individual attendant console originated calls
<u>IACPOSBY</u>	Individual attendant console position busy
<u>IACQTOTL</u>	Individual attendant console
<u>IACRECAL</u>	Individual attendant console answered timed recalls
<u>IACSPCL</u>	Individual attendant console answered miscellaneous calls
<u>IACTOTDR</u>	Individual attendant console total duration of answered calls
<u>IACXFRAT</u>	Individual attendant console answered transfer to attendant

IACAUTH**Register type**

Peg

Description

IACAUTH increases when an attendant enters an authorization code and presses an AUTH code key.

Associated registers

IBNSG_AUTHCALL (counts the same information for a subgroup)

Extension registers

None

Associated logs

None

IACBSYDR**Register type**

Usage

Scan rate

10 seconds

Description

IACBSDYR records if an attendant console is in the position busy state. The count starts when an attendant presses the position busy key and stops when position busy deactivates. To deactivate position busy, press the position busy key again if night service is not active. Press the night service key if night service is active.

Associated registers

IBNSG_ACBSYSDR (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACCFW**Register type**

Peg

Description

IACCFW increases when an attendant answers a forwarded call.

Associated registers

IBNSG_ANSCFW (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACCTVTU**Register type**

Usage

Scan rate

100 seconds

Description

IACCTVTU records if an attendant occupies a console. An attendant console is occupied if the headset is plugged in, even if the console is in position busy or night service mode.

Associated registers

IBNSG_ACTVTU (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACDIAL0**Register type**

Peg

Description

IACDIAL0 increases when an attendant answers a dial 0 type call. Calls counted by IACDIAL0 include:

- all station dial 0 regardless of station type
- automatic station originations routed to the attendant
- incoming calls on attendant trunks

Associated registers

IBNSG_ANSDIAL0 (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACEXTD**Register type**

Peg

Description

IACEXTD counts calls that an attendant extends. The register increases after the attendant dials the destination number.

Associated registers

IBNSG_EXTCALL (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACHLD**Register type**

Peg

Description

IACHLD increases when an attendant presses the hold key or a loop key to place a call on hold while remaining active on another loop key.

Associated registers

IBNSG_HLDCALL (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACINTRP**Register type**

Peg

Description

IACINTRP increases when an attendant answers an intercept-type call. Intercept type calls include:

- station intercept
- incoming intercepted DID
- calls incoming on intercept trunks

Associated registers

INBSG_ANSINTRP (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACLDN**Register type**

Peg

Description

IACLDN increases when an attendant answers a call to its assigned listed directory number(s).

Associated registers

IBNSG_ANSLDN (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACLDN1**Register type**

Peg

Description

IACLDN1 counts call attempts for a listed directory number (LDN) designated as LDN1 for separate attendant consoles. The register counts call attempts for an LDN in table WRDN if the LDNREPRT field is set to Y (yes).

Associated registers

IBNSG_LDN1 (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACLDN2**Register type**

Peg

Description

IACLDN2 counts call attempts for a listed directory number (LDN) designated as LDN2 for separate attendant consoles. The register counts call attempts for an LDN in table WRDN if the LDNREPRT field is set to Y (yes).

Associated registers

IBNSG_LDN2 (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACLDN3**Register type**

Peg

Description

IACLDN3 counts call attempts for a listed directory number (LDN) designated as LDN3 for separate attendant consoles. The register counts call attempts for an LDN in table WRDN if the LDNREPRT field is set to Y (yes).

Associated registers

IBNSG_LDN3 (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACLDN4**Register type**

Peg

Description

IACLDN4 counts call attempts for a listed directory number (LDN) designated as LDN4 for separate attendant consoles. The register counts call attempts for an LDN in table WRDN if the LDNREPRT field is set to Y (yes).

Associated registers

IBNSG_LDN4 (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACLDN5**Register type**

Peg

Description

IACLDN5 counts call attempts for a listed directory number (LDN) designated as LDN5 for separate attendant consoles. The register counts call attempts for an LDN in table WRDN if the LDNREPRT field is set to Y (yes).

Associated registers

IBNSG_LDN5 (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACLDN6**Register type**

Peg

Description

IACLDN6 counts call attempts for a listed directory number (LDN) designated as LDN6 for separate attendant consoles. The register counts call attempts for an LDN in table WRDN if the LDNREPRT field is set to Y (yes).

Associated registers

IBNSG_LDN6 (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACLDN7**Register type**

Peg

Description

IACLDN7 counts call attempts for a listed directory number (LDN) designated as LDN7 for separate attendant consoles. The register counts call attempts for an LDN in table WRDN if the LDNREPRT field is set to Y (yes).

Associated registers

IBNSG_LDN7 (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACLDNR**Register type**

Peg

Description

IACLDNR counts call attempts to a routed listed directory number (LDN) that an attendant answers.

Associated registers

IBNSG_LDNR (provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACORGDR**Register type**

Usage

Scan rate

10 seconds

Description

IACORGDR records if an attendant-originated call is in the talking state. An attendant-originated call starts when an idle loop key is pressed, and stops when the hold key, release key, or other loop key is pressed while the attendant is active on a different loop.

Associated registers

IBNSG_ORIGDR (which provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACORIG**Register type**

Peg

Description

IACORIG counts calls that originate at an attendant console. The register increases each time the attendant presses an idle loop key and starts to dial.

Associated registers

IBNSG_ORIGCALL (which provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACPOSBY**Register type**

Peg

Description

IACPOSBY increases when an attendant presses the position busy key to place the attendant console in the position busy state.

Associated registers

IBNSG_ACPOSBY (which provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACQTOTL**Register type**

Peg

Description

IACQTOTL counts the calls an attendant answers. The register increases when the attendant presses a loop or incoming call identification (ICI) key. IACQTOTL increases each time one of the following registers increases:

- IACLDN
- IACINTRP
- IACDIAL0
- IACXFRAT
- IACCFW
- IACRECAL
- IACSPCL

Associated registers

IBNSG_QTOTAL (which provides the same information for a subgroup)

Validation formula
$$\text{IACQTOTAL} = \text{IACLDN} + \text{IACINTRP} + \text{IACDIAL0} + \text{IACXFRAT} + \text{IACCFW} + \text{IACRECAL} + \text{IACSPCL}$$
Extension registers

None

Associated logs

None

IACRECAL**Register type**

Peg

Description

IACRECAL increases when an attendant answers a recall that results from use of Call Waiting, Camp-on or No-Answer features.

Associated registers

IBNSG_RECALLS (which provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACSPCL**Register type**

Peg

Description

IACSPCL increases when an attendant answers a call type that any of the following registers do not count:

- IACLDN
- IACINTRP
- IACDIALO
- IACXRAT
- IACCFW
- IACRECAL

Associated registers

IBNSG_SPCLCCT (which provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACTOTDR**Register type**

Usage

Scan rate

10 seconds

Description

IACTOTDR records if an answered call is in the talking state. The call starts when the attendant presses a loop or ICI key. The call stops when the attendant presses the hold key, release key, or other loop key while the attendant is active on a different loop.

Associated registers

IBNSG_TOTDR (which provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IACXFRAT**Register type**

Peg

Description

IACXFRAT counts calls that a switch flash and dial 0 or 2 transfers from a station by switch flash and dial 0 or 2. IACXFRAT also counts calls that are recalled to the attendant over tie trunks.

Associated registers

IBNSG_ANSXERAT (which provides the same information for a subgroup)

Extension registers

None

Associated logs

None

IBNGRP

Description

OM group Integrated Business Network Group (IBNGRP) provides information about the use of Integrated Business Network (IBN) call processing by a customer group. A customer group is a set of lines that belong to a group of individuals that request special services.

Registers in this group are package dependent. The basic registers, NORIG0, NORIG1, DOD, STNSTN, NDIAL0, CXFRTOAT, CXFR, GINTRCPT, GINCATOT, and CODEBLK appear in feature package NTX100AA. The remaining registers appear only if the required feature package is present.

The group intercom feature in feature package NTX106AA allows a customer to use abbreviated dialing to call a part of a set group. Register GICORIG increases when the customer uses the group intercom feature.

The security code feature in package NTX573AA and NTX574AA allows the system to assign a code to an IBN station directory number (DN). The code allows the system to restrict feature activation for the DN. Register SECINVAL counts the invalid security codes dialed.

The ring again (RAG) feature in package NTX106AA allows a station to monitor a busy DN. The station can also notify the user when the DN becomes free. Registers SRGACMPL, RGADEACT, RGADELTN, and RGAOVWRT count successful and unsuccessful RAG completions, deactivations, deletions, and overwrites.

The permanent hold feature in package NTX106AA allows a business set to hold an active call against the DN of the business set. The business set can then retrieve the held call from the same station. Registers HLDRES, HLDSUCC, HLDRCLL, and HLDABAN, count the following calls:

- correctly held calls
- calls held without completion
- held calls that abandon
- held calls that recall

The inspect key feature in package NTXE40AA allows a business set user to display information about keys. These keys include feature keys, directory number keys, and calling numbers. Register INSPECT increases when the business set user uses the inspect key.

The following table lists the key and info fields associated with OM group IBNGRP.

Key field	Info field
None	OMIBNGINFO, the customer group as field CUSTNAME defines in table CUSTENG. One customer name for each customer group (max. 4095). The tuple number of IBNGRP functions as the key in the OMSHOW command.

Parameter CUSTOMER_GROUP_IBNGRP_OM_COUNT in table OFCENG specifies the data store for the customer group operational measurements.

Parameter NO_OF_FTR_DATA_BLKs in table OFCENG specifies the number of feature data blocks available.

Parameter NO_OF_FTR_CONTROL_BLKs in table OFCENG specifies the number of feature control blocks available.

Parameter FTRQ2WAREAS in table OFCENG specifies the maximum number of FTRQ two-word areas the engineering interval requires.

Parameter FTRQ8WAREAS in table OFCENG specifies the maximum number of FTRQ8WAREAS blocks the ring again feature requires.

Parameter FTRQAGENTS in table OFCENG specifies the number of agents that can have the ring again feature waiting or active.

The group intercom feature is assigned in the DF field of table IBNFEAT.

The security code feature is assigned in the DF field of table IBNFEAT and the FEAT field of table KSETFEAT.

The ring again feature is assigned in the OPTLIST field of table IBNLINES and the FEAT field of table KSETLINES.

The permanent hold feature is assigned in the OPTLIST field of table IBNLINES.

The inspect key feature is assigned in the DF field of table KSETFEAT.

Related functional groups

The following functional groups are associated with OM group IBNGRP:

- Integrated Business Network (IBN)
- 500/2500 set

Registers

The following table lists the registers associated with OM group IBNGRP and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group IBNGRP (Sheet 1 of 2)

Register name	Measures
CODEBLK	Code blocked
DOD	Direct outward dial
GICORIG	Group intercom originations
GINCATOT	Group incoming total
GINTRCPT	Given intercept
HLDABAN	Held abandons
HLDFRES	Held call failures resources
HLDRCLL	Held recalls
HLDSUCC	Held successful
INSPECT	IBN INSPECT key use
NDIAL0	Number of dial 0 attempts
NORIG0	Number of originations
RGADEACT	Ring again deactivation
RGADELTN	Ring again deletions
RGAOVWRT	Ring again overwrites
SECINVAL	Security code invalid

Registers for OM group IBNGRP (Sheet 2 of 2)

Register name	Measures
SRGACMPL	Successful ring again completions
STNSTN	Station to station

CODEBLK**Register type**

Peg

Description

CODEBLK increases when the system blocks a call because of integrated business networks (IBN) code restrictions.

Associated registers

None

Extension registers

None

Associated logs

None

DOD**Register type**

Peg

Description

DOD increases when a station or attendant places a direct outward dial (DOD) call. To dial a DOD call to the exchange network without attendant help, dial the DOD access code. After you receive a second dial tone, dial the external number. Access codes are assigned in table IBNXLA. Calls that are successful and not successful are counted.

Associated registers

None

Extension registers

None

Associated logs

None

GICORIG**Register type**

Peg

Description

GICORIG counts abbreviated dialing calls that originate from business sets and integrated business network (IBN) lines in the customer group. The group intercom (GIC) feature allows customers to use abbreviated dialing to call a member of a set group. The register increases when a station uses the GIC feature and the call is answered or not answered.

Associated registers

None

Extension registers

None

Associated logs

None

GINCATOT**Register type**

Peg

Description

GINCATOT counts incoming calls for a customer group. The register counts calls between customer groups in the same switch only when field INTRAGOUP in table IBNXLA is set to N.

Associated registers

None

Extension registers

None

Associated logs

None

GINTRCPT**Register type**

Peg

Description

GINTRCPT increases when a call is given intercept treatment. The register counts originating, terminating, and tandem class of service and code restriction problems. The register also counts attendant attempts to complete calls to denied incoming (DIN) stations.

GINTRCPT does not count calls that the system routes to announcements, tones, and attendant answers.

Associated registers

None

Extension registers

None

Associated logs

None

HLDABAN**Register type**

Peg

Description

HLDABAN counts held calls that abandon the line before the calls recall.

Associated registers[HLDSUCC](#)**Validation formula**

$HLDSUCC - HLDABAN =$ held calls that do not abandon the line before the calls recall

Extension registers

None

Associated logs

None

HLDGRES**Register type**

Peg

Description

HLDGRES counts calls that the system cannot place on hold because of not enough of feature data blocks. No software resource treatment is given. Parameter NO_OF_FTR_DATA_BLKs in table OFCENG specifies the number of data blocks available.

Associated registers

TRSNOSR in OM group TRMTRS increases when no software resource treatment is given.

Extension registers

None

Associated logs

None

HLDRCCL**Register type**

Peg

Description

HLDRCCL counts calls on hold that recall. When station A has the recall option, HLDRCCL increases when that recall is to occur. The recall can be in the form of receiver off-hook (ROH) tone or ringing.

Associated registers

None

Extension registers

None

Associated logs

None

HLDSUCC**Register type**

Peg

Description

HLDSUCC counts calls that are correctly placed on hold.

Associated registers[HLDABAN](#)**Validation formula**

HLDSUCC - HLDABAN = held calls that do not abandon the line before the calls recall

Extension registers

None

Associated logs

None

INSPECT**Register type**

Peg

Description

INSPECT increases when the you use the inspect key on a display electronic business set. You can use the inspect key to view associated information for feature or directory number (DN) key on a business set. The inspect key also displays call information on an incoming call. The information displays even if the call is not answered.

Associated registers

None

Extension registers

None

Associated logs

None

NDIAL0**Register type**

Peg

Description

NDIAL0 increases when a station or tie trunk user dials a code to reach an attendant instead of dialing the attendant's directory number.

NDIAL0 includes:

- station dial attendant
- automatic line originations if the route is to the attendant

Note: Attempts and seizures on incoming attendant trunks do not increase.

Associated registers

None

Extension registers

None

Associated logs

None

NORIG0**Register type**

Peg

Description

NORIG0 counts calls that originated at a station or with an attendant. The register counts permanent signal partial dial calls. The register does not attendant extended calls.

Associated registers

NORIG in OFZ counts originating calls that the central controller (CC) recognizes.

Extension registers

NORIG1

Associated logs

None

RGADEACT**Register type**

Peg

Description

RGADEACT counts ring again (RAG) attempts the user deletes when the user dials the release code. RAG release occurs when a user with a pending RAG request activates RAG for another directory number.

Associated registers

None

Extension registers

None

Associated logs

None

RGADELTN**Register type**

Peg

Description

RGADELTN counts ring again (RAG) attempts that the system deletes for any of the following reasons:

- no response to RAG ringing
- lines removed from service
- RAG feature deleted from caller
- call forwarding activated

Associated registers

None

Extension registers

None

Associated logs

None

RGAOVWRT**Register type**

Peg

Description

RGAOVWRT increases when a ring again (RAG) overwrite occurs. A RAG overwrite occurs when station A has a ring again request pending to a busy station B. If station A dials another busy station and activates RAG again, the new RAG request overwrites the previous RAG request.

Associated registers

None

Extension registers

None

Associated logs

None

SECINVAL**Register type**

Peg

Description

SECINVAL increases when a user dials an invalid security code number. A security code allows a code to be assigned to an integrated business network (IBN) station directory number. The code can restrict feature activation for the directory number.

Associated registers

None

Extension registers

None

Associated logs

None

SRGACMPL**Register type**

Peg

Description

SRGACMPL counts successful ring again (RAG) attempts. RAG allows a station to monitor a busy directory number in the same customer group. Rag also allows a station to notify the user when the directory number becomes free.

Associated registers

None

Extension registers

None

Associated logs

None

STNSTN**Register type**

Peg

Description

STNSTN increases when a station dials another station within a customer group. The register does not count call transfer attempts by stations or attendant-originated calls.

Associated registers

None

Extension registers

None

Associated logs

None

IBNSG

Description

OM group Integrated Business Network Subgroup (IBNSG) provides information about the activities of customer group attendant consoles by the subgroup.

A customer group is a set of lines which belong to a group of individuals that request special services. Subgroups allow customers to have attendant-type calls that the subgroups answer locally during the day or busy hours. Subgroups centralize this function. A customer group can have up to seven subgroups. A subgroup can have up to 32 consoles.

The following table lists the key and info fields associated with OM group IBNSG.

Key field	Info field
None	Contains the customer group name and subgroup name. This field has an integer range (0 to 2047) and represents the 256 customer groups that can have attendant consoles and the eight possible subgroups within each customer group (256x8=2048).

Related functional groups

The following functional groups are associated with OM group IBNSG:

- Integrated Business Network (IBN)
- Attendant Consoles

Registers

The following table lists the registers associated with OM group IBNSG and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group IBNSG (Sheet 1 of 3)

Register name	Measures
ABNDN	Abandoned calls to attendant
ACBSYSDR	Attendant console busy position duration

Registers for OM group IBNSG (Sheet 2 of 3)

Register name	Measures
<u>ACPOSBY</u>	Attendant console position busy
<u>ACTVTU</u>	Activated usage
<u>ANSCFW</u>	Answered call forward calls
<u>ANSDELAY</u>	Answer delay
<u>ANSDIALO</u>	Answered dial 0
<u>ANSINTRP</u>	Answer intercept
<u>ANSLDN</u>	Answered listed directory numbers
<u>ANSXFRAT</u>	Answered transfer attendant
<u>ATQDFL</u>	Attendant queue deflection
<u>AUTHCALL</u>	Authorization call
<u>CORECALL</u>	Camp-on recall
<u>CWINQU</u>	Calls waiting in queue
<u>CWRECALL</u>	Call waiting recall
<u>DARECALL</u>	Attendant answered recalls
<u>EXTDCALL</u>	Extended calls
<u>HLDCALL</u>	Held call
<u>LPHLDREC</u>	Loop held recalls
<u>LPOVFL</u>	Loop overflows
<u>LPU</u>	Loop usage
<u>NSCALLS</u>	Night service calls
<u>ORIGCALL</u>	Originated calls
<u>ORIGDR</u>	Originated duration
<u>QTOTAL</u>	Queue total

Registers for OM group IBNSG (Sheet 3 of 3)

Register name	Measures
RECALLS	Recalls
SERIALRC	Serial call recalls
SPCLCCT	Special calls accounted
TOTDR	Total duration
WRKTMU	Work time usage

ABNDN**Register type**

Peg

Description

ADNDN increases when a caller in the subgroup queue abandons the call before a console answers. The caller abandons the call as the caller listens to audible ringing.

Associated registers

None

Extension registers

None

Associated logs

None

ACBSYSDR**Register type**

Usage

Scan rate

10 seconds

Description

ACBSYSDR records if an attendant console is position busy.

Associated registers

IBNAC_IACBSYDR

Extension registers

None

Associated logs

None

ACPOSBY**Register type**

Peg

Description

ACPOSBY increases when the attendant presses the position busy key and makes the attendant console position busy.

Associated registers

IBNAC_IACPOSBY

Extension registers

None

Associated logs

None

ACTVTU**Register type**

Usage

Scan rate

100 seconds

Description

ACTVTU records if an attendant console in a customer subgroup is active. A console is active as long as a headset is plugged in. The register also counts consoles in the *position busy* or *night* state.

Associated registers

IBNAC_IACCTVTU

Extension registers

None

Associated logs

None

ANSCFW**Register type**

Peg

Description

ANSCFW increases when an attendant answers a call that comes in to a station. The register counts the call when the call forward feature is set to *forward to the attendant*. The numbers 5, 6, or 7 on the console display indicate that a call is call forwarded.

Associated registers

IBNAC_IACCFW

Extension registers

None

Associated logs

None

ANSDELAY**Register type**

Peg

Description

ANSDELAY increases when an attendant answers a call that waits in the queue longer than a specified time. The customer assigns the specified time (from four to 60 seconds) in field ANSTIME in table CUSTCONS.

Associated registers

[QTOTAL](#)

Validation formula

$IBNSG_ANSDELAY / IBNSG_QTOTAL \times 100 =$ percentage of answered calls delayed more than the specified time

Extension registers

None

Associated logs

None

ANSDIAL0**Register type**

Peg

Description

ANSDIAL0 increases when an attendant answers an incoming call indicator (ICI) with the number 1 (ICI-1). The ICI-1 is associated with station-dialed zero calls, automatic station originations to the attendant,

and incoming calls on attendant trunks. Table IBNXLA specifies the type of call assigned to field ICI-1.

Associated registers

None

Extension registers

None

Associated logs

None

ANSINTRP**Register type**

Peg

Description

ANSINTRP increases when an attendant answers an intercept call. The number 8 on the console display indicates an intercept call. The following intercept call categories are included:

- station intercept
- incoming intercepted DID
- extended private switched communication service (EPSCS) calls
- calls incoming on intercept trunks from other PBXs

Associated registers

IBNAC_IIACINTRP

Extension registers

None

Associated logs

None

ANSLDN**Register type**

Peg

Description

ANSLDN increases when an attendant answers a call to the listed directory number (LDN). If a customer has more than one LDN, all LDN-answered calls increases this register. LDNs are in field DNNM in table WRDN.

Associated registers

IBNAC_IACLDN

Extension registers

None

Associated logs

None

ANSXFRAT**Register type**

Peg

Description

ANSXFRAT increases when an attendant answers a call a station transferred to an attendant by switch-hook flash and dialing zero. This register also increases when a station does not answer for a specified amount of time and recalls the attendant. The specified time before the station recalls the attendant is in field CWNATO in table CUSTCONS.

Associated registers

IBNAC_IACXFRAT

Extension registers

None

Associated logs

None

ATQDFL**Register type**

Peg

Description

ATQDFL increases when a call deflects from the customer subgroup queue to a busy tone or announcement. The call deflects because the attendant queue size exceeds the threshold size. Deflections do not occur for do not answer recalls, camp-on recalls, or call waiting recalls. The attendant queue threshold is in field CQDIVTHR in table SUBGRP.

Associated registers

None

Extension registers

None

Associated logs

None

AUTHCALL**Register type**

Peg

Description

AUTHCALL increases when an attendant in a customer subgroup presses the authorization validation (AUTH) key. The register increases after the attendant enters an authorization code when the attendant originates or extends a call.

Associated registers

IBNAC_IACAUTH

Extension registers

None

Associated logs

None

CORECALL**Register type**

Peg

Description

CORECALL counts camp-on recalls that an attendant answers (The number 3 on the console display indicates a camped-on recall). An attendant directs a call to a busy station and the call is camped-on to the station. When the busy station goes on-hook, the call rings and connects. If the call is not answered within a specific time, the system routes the camped-on call back to the attendant. The specified time is in field ACORECTO in table CUSTCONS.

Associated registers

None

Extension registers

None

Associated logs

None

CWINQU**Register type**

Usage

Scan rate

10 seconds

Description

CWINQU records the number of calls in the customer subgroup that wait in the attendant queue for a free attendant console. The register also records calls that are abandoned while the call waits in the queue.

Associated registers

None

Extension registers

None

Associated logs

None

CWRECALL**Register type**

Peg

Description

CWRECALL counts attendant-answered recalls from attendant-extended calls to busy stations with the call waiting feature. The number 4 on the console display indicates a call waiting recall. The register increases when the attendant does not answer the calls within a specified time. The specified time is assigned in field CWNATO in table CUSTCONS.

Associated registers

None

Extension registers

None

Associated logs

None

DARECALL**Register type**

Peg

Description

DARECALL counts calls that an attendant directs to a station and receives no answer. The number 2 on the console display indicates a recall. The system redirects unanswered calls back to the attendant, and the attendant answers the call.

Associated registers

None

Extension registers

None

Associated logs

None

EXTDCALL**Register type**

Peg

Description

EXTDCALL counts calls that attendants in a customer subgroup extend.

Associated registers

IBNAC_IACEXTD

Extension registers

None

Associated logs

None

HLDCALL**Register type**

Peg

Description

HLDCALL increases when an attendant presses the hold key or another loop key while active on a loop.

Associated registers

IBNAC_IACHLD

Extension registers

None

Associated logs

None

LPHLDREC**Register type**

Peg

Description

LPHLDREC increases when an attendant answers a recall held on a loop.

Associated registers

None

Extension registers

None

Associated logs

None

LPOVFL**Register type**

Peg

Description

LPOVFL counts loops in a subgroup attendant consoles that are busy because the loop has held and queued calls. The calls wait for an attendant console to become free. The register does not count direct console-to-console calls, or night service calls the system redirects from another subgroup.

Associated registers

None

Extension registers

None

Associated logs

None

LPU**Register type**

Usage

Scan rate

10 seconds

Description

LPU records if the customer subgroup uses attendant loops. The register counts loops on which attendants are active and loops that have held calls. The register also counts consoles in the position busy or night state with plugged in headsets.

Associated registers

None

Extension registers

None

Associated logs

None

NSCALLS**Register type**

Peg

Description

NSCALLS increases when a call requires night service treatment.

Associated registers

None

Extension registers

None

Associated logs

None

ORIGCALL**Register type**

Peg

Description

ORIGCALL counts calls that an attendant in a customer subgroup originates. This register increases when an attendant presses an idle loop key and starts to dial.

Associated registers

None

Extension registers

None

Associated logs

IBNAC_IACORIG

ORIGDR**Register type**

Usage

Scan rate

10 seconds

Description

ORIGDR records when a call that an attendant originates is in the talking state.

Associated registers

IBNAC_IACORGDR

Extension registers

None

Associated logs

None

QTOTAL**Register type**

Peg

Description

QTOTAL counts calls the enqueue calls of attendant consoles in a subgroup.

Associated registers

[ANSCFW](#), [ANSDIAL0](#), [ANSINTRP](#), [ANSLDN](#), [ANSXFRAT](#), [RECALLS](#), [SERIALRC](#), [SPCLCCT](#)

Validation formula
$$\text{IBNSG_QTOTAL} = \text{IBNSG_ANSLDN} + \text{IBNSG_ANSINTRP} + \text{IBNSG_ANSDIAL0} + \text{IBNSG_ANSXFRAT} + \text{IBNSG_RECALLS} + \text{IBNSG_SPCLCCT} + \text{IBNSG_ANSCFW} + \text{IBNSG_SERIALRC}$$
Extension registers

None

Associated logs

None

RECALLS

Register type

Peg

Description

RECALLS counts recalls in a customer subgroup.

Associated registers

[CORECALL](#), [CWRECALL](#), [DARECALL](#), [SERIALRC](#),
IBNAC_IACRECAL

Validation formula
$$\text{IBNSG_QTOTAL} = \text{IBNSG_ANSLDN} + \text{IBNSG_ANSINTRP} + \text{IBNSG_ANSDIAL0} + \text{IBNSG_ANSXFRAT} + \text{IBNSG_RECALLS} + \text{IBNSG_SPCLCCT} + \text{IBNSG_ANSCFW} + \text{IBNSG_SERIALRC}$$
Extension registers

None

Associated logs

None

SERIALRC

Register type

Peg

Description

SERIALRC counts serial call recalls that an attendant consoles in a subgroup answers.

Associated registers

None

Extension registers

None

Associated logs

None

SPCLCCT

Register type

Peg

Description

SPCLCCT increases when an attendant answers a call.

This register does not count the following calls:

- transfer-to-attendant
- dial zero
- recall
- call forward
- intercepted
- listed directory number

SPCLCCT also counts attendant-answered station calls that other attendant-answered registers do not count because of data entry errors. This register also counts calls with an unassigned translation selector field (ATT).

Associated registers

None

Extension registers

None

Associated logs

IBNAC_IACSPCL

TOTDR

Register type

Usage

Scan rate

10 seconds

Description

TOTDR records if an attendant-answered call is in a talking state.

Associated registers

IBNAC_IACTOTDR

Extension registers

None

Associated logs

None

WRKTMU

Register type

Usage

Scan rate

10 seconds

Description

WRKTMU records if attendants in a customer subgroup are active on a loop. An attendant is active on a loop when:

- an attendant answers a loop key to answer a call, originate a call, or access a call held before
- an attendant presses a loop key or an incoming call identification indicator (ICI) key to answer an ICI lamp indication
- a console is in the position busy or night state with an attached headset

Associated registers

None

Extension registers

None

Associated logs

None

IBNSGLDN

Description

OM group Integrated Business Network Subgroup Listed Directory Number (IBNSGLDN) provides separate peg counts for each listed directory number (LDN) assigned to a subgroup in a console customer group. IBNSGLDN collects measurements for up to seven LDNs in a subgroup. An eighth register counts calls the system routes from other groups or subgroups.

The following table lists the key and info fields associated with OM group IBNSGLDN.

Key field	Info field
IBNSG_INDEX identifies IBN subgroup	OMIBNSGINFO identifies customer group and subgroup by name

You must enter LDNs in table WRDN (DN_SEL= 'M') to increase registers in IBNSGLDN.

Related functional groups

There are no functional groups associated with OM group IBNSGLDN.

Registers

The following table lists the registers associated with OM group IBNSGLDN and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group IBNSGLDN (Sheet 1 of 2)

Register name	Measures
LDN1	Listed directory number one calls
LDN2	Listed directory number two calls
LDN3	Listed directory number three calls
LDN4	Listed directory number four calls
LDN5	Listed directory number five calls
LDN6	Listed directory number six calls

Registers for OM group IBNSGLDN (Sheet 2 of 2)

Register name	Measures
LDN7	Listed directory number seven calls
LDNR	Routed listed directory number calls

LDN1**Register type**

Peg

Description

LDN1 counts calls that an attendant answers on LDN1.

Associated registers

IBNAC_IACLDN1

Extension registers

None

Associated logs

None

LDN2**Register type**

Peg

Description

LDN2 counts calls that an attendant answers on LDN2.

Associated registers

IBNAC_IACLDN2

Extension registers

None

Associated logs

None

LDN3**Register type**

Peg

Description

LDN3 counts calls that an attendant answers on LDN3.

Associated registers

IBNAC_IACLDN3

Extension registers

None

Associated logs

None

LDN4**Register type**

Peg

Description

LDN4 counts calls that an attendant answers on LDN4.

Associated registers

IBNAC_IACLDN4

Extension registers

None

Associated logs

None

LDN5**Register type**

Peg

Description

LDN5 counts calls that an attendant answers on LDN5.

Associated registers

IBNAC_IACLDN5

Extension registers

None

Associated logs

None

LDN6**Register type**

Peg

Description

LDN6 counts calls that an attendant answers on LDN6.

Associated registers

IBNAC_IACLDN6

Extension registers

None

Associated logs

None

LDN7**Register type**

Peg

Description

LDN7 counts calls that an attendant answers on LDN7.

Associated registers

IBNAC_IACLDN7

Extension registers

None

Associated logs

None

LDNR**Register type**

Peg

Description

LDNR counts calls that an attendant answers for routed listed directory numbers.

Associated registers

IBNAC_IACLDNR

Extension registers

None

Associated logs

None

ILDBD

Description

ATTENTION

The ISDN line drawer for remotes (ILDR) is first available for remote switching center-SONET (RSC-S) in the NA007/XPM08 timeframe. ISDN is available for remote switching center (RSC) configurations in the NA007/XPM08 timeframe. The ILDR is first available for the remote line concentrating module (RLCM), outside plant module (OPM), and outside plant access cabinet (OPAC) configurations in the NA008/XPM81 timeframe.

The first release of the ILDR product in NA007 also includes no more than two Bd-channels (used for 100% low speed packet data) for each line drawer. This engineering restriction for 100% packet data usage on the ISDN Delta channel will be removed in NA008. The delivery of feature AF6811, ILDR Overload Control will remove the restriction.

OM group Integrated Services Digital Network (ISDN) Line Drawer BD Channels (ILDBD) provides information for the ILDR Bd-channel. This information allows operating company personnel to verify normal transit of information (frames) on the links between the ILDR and the packet handler.

ILDBD contains registers that count the following ILDR Bd-channel events:

- frames that the system transmits, which the system discarded
- frames that the system received with cyclic redundancy check (CRC) errors
- frames that the system discards
- frames that the system receives or transmits from or to the packet handler

The following table lists the key and info fields associated with OM group ILDBD.

Key field	Info field
ILDBD_OMTYPE. This key field specifies the number of Bd-channels that can be defined in the switch (0 to MAX_ILD_BD_CHANNELS_ON_SWITCH).	ILDBD_OMINFO. This field comprises the following subfields: LINE_MODULE (specifies the location of the ILDR, for example, REM1 and the frame and unit numbers of the ILDR host) LINE_DRAWER (specifies the drawer number) BD_CHNL (specifies the Bd-channel number in the drawer [could be 1 or 2])
The maximum number of defined Bd-channels in the switch is MAX_ILD_BD_CHANNELS_ON_SWITCH.	

Related functional groups

There are no functional groups associated with OM group ILDBD.

Registers

The following table lists the registers associated with OM group ILDBD and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ILDBD

Register name	Measures
IBDXTDSC	Number of frames transmitted that were discarded
IBDCRC	Number of frames received with CRC errors
IBDRXDSC	Number of frames received that were discarded
IBDXTPH	Number of frames transmitted to the packet handler
IBDRXHP	Number of correct frames received from the packet handler

IBDXXDSC**Register type**

Peg

Description

IBDXXDSC counts the Bd-channel frames destined for a packet handler that the ILDR discards because of hardware problems.

Associated registers

None

Extension registers

None

Associated logs

None

IBDCRC**Register type**

Peg

Description

IBDCRC counts the Bd-channel frames that a packet handler receives and the ILDR discards because of CRC errors.

Associated registers

None

Extension registers

None

Associated logs

None

IBDRXDSC**Register type**

Peg

Description

IBDRXDSC counts the Bd-channel frames that a packet handler receives and the ILDR discards. These packets are handled and discarded for the following reasons:

- invalid logical terminal identifiers (LTID)
- messages that are decoded
- flow control problems

- the system aborts
- hardware errors

Associated registers

None

Extension registers

None

Associated logs

None

IBDTXPH**Register type**

Peg

Description

IBDTXPH counts the Bd-channel frames that are an ILDR transmits to a packet handler. Each unit in IBDTXPH represents 100 frames.

Associated registers

None

Extension registers

None

Associated logs

None

IBDRXHP**Register type**

Peg

Description

IBDRXHP counts the Bd-channel frames that an ILDR receives from a packet handler. Each unit in IBDRXHP represents 100 frames.

Associated registers

None

Extension registers

None

Associated logs

None

ILDBRA

Description

ATTENTION

The ISDN line drawer for remotes (ILDR) is first available for remote switching center-SONET (RSC-S) in the NA007/XPM08 timeframe. The ISDN is first available for remote switching center (RSC) configurations in the NA007/XPM08 timeframe. The ILDR is first available for remote line concentrating module (RLCM), outside plant module (OPM), and outside plant access cabinet (OPAC) configurations in the NA008/XPM81 timeframe.

OM group Integrated Services Digital Network (ISDN) Line Drawer Basic Rate Access (ILDBRA) provides information related to ILDR D-channels. This information allows operating company personnel to verify normal transit of information (frames) on links between the ILDR and the NT1.

ILDBRA contains registers that count the following basic rate access D-channel events:

- SAPI 0, SAPI 16, and SAPI 63 frames the system receives and transmits
- frames with cyclic redundancy check (CRC) errors the system receives
- frames the system discards
- frames transmitted the system discarded
- link resets by an ILDR/far-end device (peer)
- reject frames the system receives and transmits
- receiver not ready (RNR) frames the system receives and transmits

The following table lists the key and info fields associated with OM group ILDBRA.

Key field	Info field
ILDBRA_OMTYPE. This key field specifies the number of ILDRs defined in the CM (0 TO MAX_ILD_NO). The maximum number of ILDRs defined in the CM is MAX_ILD_NO.	ILDBRA_OMINFO. This field comprises the following subfields: <ul style="list-style-type: none"> • LINE_MODULE (specifies the location of the ILDR, for example, REM1 and the frame and unit numbers of the ILDR host) • LINE_DRAWER (specifies the drawer number)

Related functional groups

There are no functional groups associated with OM group ILDBRA.

Registers

The following table lists the registers associated with OM group ILDBRA and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ILDBRA (Sheet 1 of 2)

Register name	Measures
IBRTXDSC	Number of frames transmitted that were discarded
IBRCRC	Number of frames received and discarded with CRC errors
IBRRXDSC	Number of frames received that were discarded
IBRS0TX	Number of SAPI0 frames transmitted
IBRS16TX	Number of SAPI 16 frames transmitted
IBRSATX	Number of SAPI 163 frames transmitted
IBRS0RX	Number of SAPI zero frames received
IBRS16RX	Number of SAPI 16 frames received

Registers for OM group ILDBRA (Sheet 2 of 2)

Register name	Measures
IBRSARX	Number of SAPI 63 frames received
IBRLKREI	Number of link resets by the ILDR
IBRLKREP	Number of link resets by the peer
IBRRNRI	Number of RNR frames sent to the peer
IBRRNRP	Number of RNR frames received by the ILDR
IBRREJTX	Number of reject frames transmitted
IBRREJRX	Number of received reject frames

IBRTXDSC**Register type**

Peg

Description

IBRTXDSC counts the number of frames for a packet handler but the ILDR discards because of hardware problems.

Associated registers

None

Extension registers

None

Associated logs

ISDN 200, ISDN 201

IBRCRC**Register type**

Peg

Description

IBRCRC counts the ILDR BRA D-channel frames the system receives and discards because of CRC error.

Associated registers

None

Extension registers

None

Associated logs

ISDN 200, ISDN 201

IBRRXDSC**Register type**

Peg

Description

IBRRXDSC counts the BRA D-channel frames the ILDR discards by the because of the following problems:

- a non-registered terminal endpoint identifier (TEI)
- a message that cannot be decoded
- flow control problems
- part of a message received
- sequencing errors
- an unknown SAPI

Associated registers

None

Extension registers

None

Associated logs

ISDN 200, ISDN 201

IBRS0TX**Register type**

Peg

Description

IBRS0TX counts the BRA D-channel SAPI zero frames that an ILDR transmits. The SAPI zero frames indicate a request for call control. Each unit in IBRS0TX represents 100 frames.

Associated registers

None

Extension registers

None

Associated logs

ISDN 200, ISDN 201

IBRS16TX**Register type**

Peg

Description

IBRS16TX counts BRA D-channel SAPI 16 frames an ILDR transmits. The SAPI 16 frames indicate a request for packet-switched service. Each unit in IBRS16TX represents 100 frames.

Associated registers

None

Extension registers

None

Associated logs

ISDN 200, ISDN 201

IBRSATX**Register type**

Peg

Description

IBRSATX counts the BRA D-channel SAPI 63 frames an ILDR transmits. The SAPI 63 frames indicate a request for layer two management services, like TEI management, error reporting, or physical link control.

Associated registers

None.

Extension registers

None

Associated logs

ISDN 200, ISDN 201

IBRS0RX**Register type**

Peg

Description

IBRS0RX counts the BRA D-channel SAPI zero frames an ILDR receives. The SAPI zero frames indicate a request for call control.

Associated registers

None

Extension registers

None

Associated logs

ISDN 200, ISDN 201

IBRS16RX**Register type**

Peg

Description

IBRS16RX counts the BRA D-channel SAPI 16 frames an ILDR receives. The SAPI 16 frames indicate a request for packet-switched service.

Associated registers

None

Extension registers

None

Associated logs

ISDN 200, ISDN 201

IBRSARX**Register type**

Peg

Description

IBRSARX counts the BRA D-channel SAPI 63 frames an ILDR receives. The SAPI 63 frames indicate a request for layer two management services, like TEI management, error reporting, or link control.

Associated registers

None

Extension registers

None

Associated logs
ISDN 200, ISDN 201

IBRLKREI

Register type
Peg

Description
IBRLKREI counts the link resets by the ILDR.

Associated registers
None

Extension registers
None

Associated logs
None

IBRLKREP

Register type
Peg

Description
IBRLKREP counts the link resets by a far-end device (peer).

Associated registers
None

Extension registers
None

Associated logs
None

IBRRNRI

Register type
Peg

Description
IBRRNRI counts the RNR frames that an ILDR sent to a far-end device (peer).

Associated registers
None

Extension registers

None

Associated logs

None

IBRRNRP**Register type**

Peg

Description

IBRRNRP counts the RNR frames that an ILDR receives from a far-end device (peer).

Associated registers

None

Extension registers

None

Associated logs

None

IBRREJTX**Register type**

Peg

Description

IBRREJTX counts the number of reject frames an ILDR transmits. Reject frames indicate the far-end lost one of the sequenced frames.

Associated registers

None

Extension registers

None

Associated logs

None

IBRREJRX**Register type**

Peg

Description

IBRREJRX counts the number of reject frames an ILDR receives. Reject frames indicate one of the sequenced frames is missing.

Associated registers

None

Extension registers

None

Associated logs

None

ILDMSGCT

Description

ATTENTION

The ISDN line drawer for remotes (ILDR) is first available for remote switching center-SONET (RSC-S) in the NA007/XPM08 timeframe. The ISDN is first available for remote switching center (RSC) configurations in the NA007/XPM08 timeframe. The ILDR is first available for remote line concentrating module (RLCM), outside plant module (OPM), and outside plant access cabinet (OPAC) configurations in the NA008/XPM81 timeframe.

OM group Integrated Services Digital Network (ISDN) Line Drawer Message Counter (ILDMSGCT) provides information related to ILDR messages to and from the XMS-based peripheral module (XPM).

This information allows operating company personnel to:

- verify normal transit of messages on the DMSX data link between the ILDR and the XPM
- verify DMSX protocol performance on the DMSX data link between the ILDR and the XPM

ILDMSGCT contains registers that count the following data:

- wait-for-send times out on messages from the ILDR to the C-side XPM
- wait-for-acknowledgment times out on messages from the ILDR to the C-side XPM
- wait-for-link-idle messages the system receives after a negative acknowledgment on message transfer
- two registers for single and double negative acknowledgments the system receives from the C-side
- wait-for-end-of-messages times out on messages from the C-side XPM to the ILDR
- wait-for-idle messages from the C-side XPM to the ILDR after a message transfer
- messages the ILDR receives from the C-side XPM that have cyclic redundancy check (CRC) errors
- messages from the C-side XPM to the ILDR with more or fewer bytes than permitted

- null messages the system receives from the C-side XPM that are not reset messages
- spurious frame interrupts
- messages with a node number that is not correct that the ILDR receives from the C-side XPM
- two registers that count messages the ILDR correctly receives or transmits to the C-side XPM

The following table lists the key and info fields associated with OM group ILDMSGCT.

Key field	Info field
ILDMSGCT_OMTYPE. This key field specifies the number of ILDR DMSX links defined in the switch (0 to MAX_ILD_DMSX_CHANNELS_ON_SWITCH). The maximum number of ILDR DMSX channels defined in the switch is MAX_ILD_DMSX_CHANNELS_ON_SWITCH.	ILDMSGCT_OMINFO. This field comprises the following subfields: LINE_MODULE (specifies the location of the ILDR, for example, REM1 and the frame and unit numbers of the ILDR host) LINE_DRAWER (specifies the drawer number) LINK_NO (specifies the DMSX link number to the XPM)

Related functional groups

There are no functional groups associated with OM group ILDMSGCT.

Registers

The following table lists the registers associated with OM group ILDMSGCT and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ILDMSGCT (Sheet 1 of 2)

Register name	Measures
IWFSND	ISDN line drawer wait-for-send time-out
IWFAck	ISDN line drawer wait-for-acknowledgement time-out
IWFNX	ISDN line drawer wait-for-link-idle

Registers for OM group ILDMSGCT (Sheet 2 of 2)

Register name	Measures
NACK	Single negative acknowledgement
IDNACK	ISDN line drawer double negative acknowledgement
IWFMSG	ISDN line drawer wait-for-end-of-message time-out
IWFNR	ISDN line drawer wait-for-idle message
CRC	Incorrect CRC
OVFL	Message with byte overflow or underflow
INULLMSG	ISDN line drawer null messages
IILDSTATE	ISDN line drawer spurious frame interrupt
IINVNODE	ISDN line drawer invalid node
IRCVDSUCC	ISDN line drawer successfully received messages
IXMITSUCC	ISDN line drawer successfully transmitted messages

IWFSND**Register type**

Peg

Description

IWFSND counts wait-for-start-of-message time-outs on messages from the C-side XPM to the ILDR.

Associated registers

None

Extension registers

None

Associated logs

None

IWFACK**Register type**

Peg

Description

IWFACK counts wait-for-acknowledgment time-outs on messages from the ILDR to the C-side XPM.

Associated registers

None

Extension registers

None

Associated logs

None

IWFNX**Register type**

Peg

Description

IWFNX counts wait-for-link-idle messages the system receives after a negative acknowledgment of a message transfer from the C-side XPM.

Associated registers

None

Extension registers

None

Associated logs

None

NACK**Register type**

Peg

Description

NACK counts single negative acknowledgment messages an ILDR from the C-side XPM receives. The system sends single negative acknowledgement messages when an ILDR has problems receiving a message from the ILDR occurs.

Associated registers

None

Extension registers

None

Associated logs

None

IDNACK**Register type**

Peg

Description

IDNACK counts double negative acknowledgment messages an ILDR receives from the C-side XPM. The system sends double negative acknowledgment messages when a second attempt by the ILDR to send a message is not complete.

Associated registers

None

Extension registers

None

Associated logs

None

IWFMSG**Register type**

Peg

Description

IWFMSG counts wait-for-end-of-message time-outs on messages from the C-side XPM to the ILDR.

Associated registers

None.

Extension registers

None

Associated logs

None

IWFNR**Register type**

Peg

Description

IWFNR counts wait-for-idle messages from C-side XPM to the ILDR after a message transfer.

Associated registers

None

Extension registers

None

Associated logs

None

CRC**Register type**

Peg

Description

CRC counts messages with incorrect CRC the ILDR receives from the C-side XPM.

Associated registers

None

Extension registers

None

Associated logs

None

OVFL**Register type**

Peg

Description

OVFL counts messages with more or fewer than the permitted number of bytes the C-side XPM sends to the ILDR.

Associated registers**Extension registers**

None

Associated logs

None

INULLMSG**Register type**

Peg

Description

INULLMSG counts null messages the ILDR receives from the C-side XPM that are not reset messages.

Associated registers

None

Extension registers

None

Associated logs

None

IILDSTATE**Register type**

Peg

Description

IILDSTATE counts spurious frame interrupts, which can occur, for example, when noise is on the line.

Associated registers

None

Extension registers

None

Associated logs

None

IINVNODE**Register type**

Peg

Description

IINVNODE counts messages with an invalid node number that an ILDR receives from the C-side XPM.

Associated registers

None

Extension registers

None

Associated logs

None

IRCVDSUCC**Register type**

Peg

Description

IRCVDSUCC counts messages from the C-side XPM the ILDR successfully receives.

Associated registers

None

Extension registers

None

Associated logs

None

IXMITSUCC**Register type**

Peg

Description

IXMITSUCC counts messages from the ILDR successfully transmits to the C-side XPM.

Associated registers

None

Extension registers

None

Associated logs

None

ILDOVLD

Description

OM group Integrated Services Digital Network (ISDN) Line Drawer Overload (ILDOVLD) measures congestion and overload in the ISDN line drawer for remotes (ILDR). ILDOVLD provides measurements for each sampling time for congestion and overload.

The following table lists the key and info fields associated with OM group ILDOVLD.

Key field	Info field
ILDBRA_OMTYPE. This key field specifies the number of ILDRs defined in the CM (0 TO MAX_ILD_NO). The MAX_ILD_NO is the maximum number of ILDRs defined in the CM.	ILDBRA_OMINFO. This field comprises the following subfields: LINE_MODULE (specifies the location of the ILDR, for example, REM1, and the frame and unit numbers of the ILDR host) DRWRNO_CHARS (specifies the drawer number)

Related functional groups

There are no functional groups associated with OM group ILDOVLD.

Registers

The following table lists the registers associated with OM group ILDOVLD and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ILDOVLD (Sheet 1 of 2)

Register name	Measures
ILDCEXIT	ISDN line drawer congestion state exit
ILDCEXIT	ISDN line drawer congestion state exit
ILDCTIME	ISDN line drawer time in congested state
ILDOENTR	ISDN line drawer overload state entry

Registers for OM group ILDOVLD (Sheet 2 of 2)

Register name	Measures
ILDOEXIT	ISDN line drawer overload state exit
ILDOTIME	ISDN line drawer time in overload state

ILDCENTR**Register type**

Peg

Description

ILDCENTR counts the number of ILDR entries to the congestion state.

Associated registers

None

Extension registers

None

Associated logs

PM181

ILDCEXIT**Register type**

Peg

Description

ILDCEXIT counts the number of ILDR exits from the congestion state.

Associated registers

None

Extension registers

None

Associated logs

PM181

ILDCTIME**Register type**

Peg

Description

ILDCTIME counts the total time spent by ILDR in the congestion state.

Associated registers

None

Extension registers

None

Associated logs

None

ILDOENTR**Register type**

Peg

Description

ILDOENTR counts the number of ILDR entries to the overload state.

Associated registers

None

Extension registers

None

Associated logs

PM181

ILDOEXIT**Register type**

Peg

Description

ILDOEXIT counts the number of ILDR exits from the overload state.

Associated registers

None

Extension registers

None

Associated logs

PM181

ILDOTIME**Register type**

Peg

Description

ILDOTIME counts the total time spent by ILDR in the overload state.

Associated registers

None

Extension registers

None

Associated logs

None

ILDSTAT

Description

ATTENTION

ISDN line drawer for remotes (ILDR) is first available for remote switching center-SONET (RSC-S). The ILDR is also available for remote switching center (RSC) configurations in the NA007/XPM08 timeframe. The ILDR is first available for remote line concentrating module (RLCM), outside plant module (OPM), and outside plant access cabinet (OPAC) configurations in the NA008/XPM81 time frame.

OM group Integrated Services Digital Network (ISDN) Line Drawer Status (ILDSTAT) provides information for ILDR processor occupancy. This information allows the operating company personnel to measure ILDR processor performance.

ILDSTAT contains registers that count the following ILDR central processing unit (CPU) data:

- ILDR processor overhead (The system calculates this value every 24 hours for INSV/ISTB ILDRs.)
- average processor occupancy value, in percent, for the collection time interval. (The system fixes collection time interval by OMXFR and OMHISTORION office parameters. The time interval can be 5, 15, or 30 minutes.)
- average processor occupancy, in percent, that call processing uses during the collection time interval
- lowest and highest processor occupancy, in percent, over the last collection time interval
- average time, in percent, the microprocessor does not have work to do during collection time interval

The following table lists the key and info fields associated with OM group ILDSTAT.

Key field	Info field
ILD_BRA_STAT_OMTYPE. The system uses the key field to specify the number of ILDRs the switch (0 to MAX_ILD_NO) defines. MAX_ILD_NO is the maximum number of ILDRs the system can define in the switch.	ILDSTAT_OMINFO. This field comprises the following subfields: LINE_MODULE (specifies the location of the ILDR, for example, REM1 and the frame and unit numbers of the ILDR host) LINE_DRAWER (specifies the drawer number)

Related functional groups

There are no functional groups associated with OM group ILDSTAT.

Registers

The following table lists the registers associated with OM group ILDSTAT and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ILDSTAT

Register name	Measures
ILDOVHD	ILDR overhead
ILDAVOC	ILDR average processor occupancy
ILDAVCP	ILDR average call processing
ILDPKOC	ILDR peak occupancy
ILDLOWOC	ILDR low occupancy
ILDAVAIL	ILDR available time for processing

ILDOVHD

Register type

Peg

Description

ILDOVHD records the amount of processor use dedicated to overhead in each collection time interval. The system uses the overhead value as a constant to calculate the average call processing (ILDAVCP).

The system uses the overhead constant over a 24-hour period. The system checks the available time value in each collection time interval. The system checks the available time value to determine if the value is the highest recorded value.

Note: Highest availability equals lowest occupancy, that is, lowest ILDAVOC. If this value is higher than any of the previous records, the value is stored. The system uses this value to obtain the overhead constant for the following 24-hour period.

Associated registers

None

Validation formula

$ILDOVHD = 100 - \text{lowest ILDAVOC}$

Extension registers

None

Associated logs

None

ILDAVOC

Register type

Peg

Description

The system updates register ILDAVOC every 10 seconds. The system records the average processor occupancy, in percent, for each collection time interval.

Associated registers

[ILDAVAIL](#)

Validation formula

$ILDAVOC = 100 - ILDAVAIL$

Extension registers

None

Associated logs

None

ILDAVCP**Register type**

Peg

Description

The system updates register ILDAVCP every 10 seconds. The system records the average processor occupancy, in percent, used for call processing during each collection time interval.

Associated registers[ILDAVOC](#), [ILDOVHD](#)**Validation formula**
$$\text{ILDAVCP} = 100 - \text{ILDOVHD} - \text{ILDAVAIL}$$
Extension registers

None

Associated logs

None

ILDPKOC**Register type**

Peg

Description

ILDPKOC records the peak processor occupancy, in percent, over each collection time interval. The system takes samples every 10 seconds in each collection time interval to determine the lowest available time. The system uses the following formula to derive the peak occupancy:

$$\text{ILDPKOC} = 100 - \text{lowest available time}$$
Associated registers[ILDAVOC](#), [ILDOVHD](#)**Validation formula**
$$\text{ILDAVCP} = 100 - \text{ILDOVHD} - \text{ILDAVAIL}$$

Extension registers

None

Associated logs

None

ILDLOWOC**Register type**

Peg

Description

ILDLOWOC records the lowest processor occupancy value, in percent, over each collection time interval. The system takes samples every 10 seconds in each collection time interval to determine the highest available time. The system uses the following formula to derive the low occupancy value:

$$\text{ILDLOWOC} = 100 - \text{highest available time}$$

Associated registers

None

Extension registers

None

Associated logs

None

ILDAVAIL**Register type**

Peg

Description

The system updates register ILDAVAIL every second. The system records the average amount of time, in percent, the microprocessor does not have work to perform during each collection time interval. The availability of the ILDR is inversely proportional to the ILDR average processor occupancy of the ILDR (ILDAVOC) time.

Associated registers

None

Extension registers

None

Associated logs

None

ILR

Description

OM group International Line Restrictions (ILR) measures the performance of the International Line Restrictions feature. ILR counts customer errors and successful and unsuccessful attempts to deactivate and query of the ILR feature.

ATTENTION

Feature AOOOO1914 CEPT International Line Restriction Enhancements removes OM group ILR1 in SN07. All events formerly pegged by ILR1 are now pegged by ILR and new OM group ILRCLASS

The following table lists the key and info fields associated with OM group ILR. The group provides one tuple for each office.

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group ILR.

Registers

The following table lists the registers associated with OM group ILR and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ILR (Sheet 1 of 3)

Register name	Measures
DABEACT	Deny all but emergency activate
DABEDACT	Deny all but emergency deactivate
DABEUSGE	Deny all but emergency usage
DABLEACT	Deny all but local and emergency activate
DABLEDAC	Deny all but local and emergency deactivate

Registers for OM group ILR (Sheet 2 of 3)

Register name	Measures
<u>DABLEUSG</u>	Deny all but local and emergency usage
<u>DAIACT</u>	Deny all international activate
<u>DAIDACT</u>	Deny all international deactivate
<u>DAIUSGE</u>	Deny all international usage
<u>DANIDACT</u>	Deny all national and international direct dial activate
<u>DANIDDAC</u>	Deny all national and international direct dial deactivate
<u>DANIDUSG</u>	Deny all national and international direct dial usage
<u>DIDDACT</u>	Deny international direct dial activate
<u>DIDDDACT</u>	Deny international direct dial deactivate
<u>DIDDUSGE</u>	Deny international direct dial usage
<u>DNIACT</u>	Deny national and international activate
<u>DNIDACT</u>	Deny national and international direct dial activate
<u>DNIDDACT</u>	Deny national and international direct dial deactivate
<u>DNIDEACT</u>	Deny national and international deactivate
<u>DNIDUSGE</u>	Deny national and international direct dial usage
<u>DNIOUSGE</u>	Deny National And International usage
<u>DSSVACT</u>	Deny special service activate
<u>DSSVDACT</u>	Deny special service deactivate
<u>DSSVUSGE</u>	Deny special service use
<u>ILRCERR</u>	International line restriction customer error
<u>ILRINTG</u>	International line restriction interrogation

Registers for OM group ILR (Sheet 3 of 3)

Register name	Measures
ILRUSGE	International line restriction usage
TEMPDAC <i>DMS only</i>	Temporary deactivation of ILR feature
TEMPUDAC <i>DMS only</i>	Unsuccessful temporary deactivation of ILR

DABEACT**Register type**

Peg

Description

DABEACT counts the times a subscriber activates the deny all but emergency calls line restriction. The subscriber receives the confirmation tone to indicate the system accepts the request.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DABEDACT**Register type**

Peg

Description

DABEDACT counts the times a subscriber deactivates the deny all but emergency calls line restriction. The subscriber receives the confirmation tone to indicate the system accepts the request.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DABEUSGE**Register type**

Peg

Description

DABEUSGE counts the times a subscriber attempts to make a call that is not an emergency call. The system does not allow these calls. The deny all but emergency calls line restriction prevents the attempt.

Associated registers

None

Extension registers

None

Associated logs

None

DABLEACT**Register type**

Peg

Description

DABLEACT counts the times a subscriber activates the all but local and emergency calls line restriction. The subscriber receives the confirmation tone to indicate the system accepts the request.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DABLEDAC**Register type**

Peg

Description

DABLEDAC counts the times a subscriber deactivates the deny all but local and emergency calls line restriction. The subscriber receives the confirmation tone to indicate the system accepts the request.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DABLEUSG**Register type**

Peg

Description

DABLEUSG counts the times a subscriber attempts to make a call that is not a local or an emergency call. The system does not allow these calls. The deny all but local and emergency calls line restriction prevents the attempt.

Associated registers

None

Extension registers

None

Associated logs

None

DAIACT**Register type**

Peg

Description

DAIACT counts the times a subscriber activates the deny all international calls line restriction. The subscriber receives the confirmation tone.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DAIDACT**Register type**

Peg

Description

DAIDACT counts the times a subscriber correctly deactivates the deny all international calls line restriction. The subscriber receives the confirmation tone.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DAIUSGE**Register type**

Peg

Description

DAIUSGE counts the times a subscriber attempts to make an international call which the system does not allow. The system prevents the call because the deny all international calls feature is active.

Associated registers

None

Extension registers

None

Associated logs

None

DANIDACT**Register type**

Peg

Description

DANIDACT counts the times a subscriber activates the deny all national and international direct dial calls line restriction. The subscriber receives the confirmation tone to indicate the system accepts the request.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DANIDDAC**Register type**

Peg

Description

DANIDDAC counts the times a subscriber deactivates the deny all national and international direct dial calls line restriction. The subscriber receives the confirmation tone to indicate the system accepts the request.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DANIDUSG**Register type**

Peg

Description

DANIDUSG counts the times a subscriber attempts to make a national or international direct dial call. The system does not allow these calls. The deny all national and international direct dial calls line restriction prevents the attempt.

Associated registers

None

Extension registers

None

Associated logs

None

DIDDACT**Register type**

Peg

Description

DIDDACT counts the times a subscriber activates the deny international direct dial line restriction. The subscriber receives the confirmation tone.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DIDDDACT**Register type**

Peg

Description

DIDDDACT counts the times a subscriber deactivates the deny international direct dial line restriction. The subscriber receives the confirmation tone.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DIDDUSGE**Register type**

Peg

Description

DIDDUSGE counts the times a subscriber attempts to make an international direct dial call that the system does not allow. The deny international direct dial line restriction prevents the call.

Associated registers

None

Extension registers

None

Associated logs

None

DNIACT**Register type**

Peg

Description

DNIACT counts the times a subscriber activates the deny national and all international calls line restriction. The subscriber receives the confirmation tone.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DNIDACT**Register type**

Peg

Description

DNIDACT counts the times a subscriber activates the deny national and all international direct dial calls line restriction. The subscriber receives the confirmation tone.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DNIDDACT**Register type**

Peg

Description

DNIDDACT counts the times a subscriber deactivates the deny national and all international direct dial calls line restriction. The subscriber receives the confirmation tone.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DNIDEACT**Register type**

Peg

Description

DNIDEACT counts the times a subscriber deactivates the deny national and all international calls line restriction. The subscriber receives the confirmation tone.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DNIDUSGE**Register type**

Peg

Description

DNIDUSGE counts times a subscriber attempts to make a national or international direct dial call the system does not allow. The deny national and international direct dial calls line restriction prevents the restriction.

Associated registers

None

Extension registers

None

Associated logs

None

DNIUSGE**Register type**

Peg

Description

DNIUSGE counts the times a subscriber attempts to make a national or international call that the system does not allow. The deny national and international line restriction prevents the call.

Associated registers

None

Extension registers

None

Associated logs

None

DSSVACT**Register type**

Peg

Description

DSSVACT counts the times a subscriber activates the deny special service calls line restriction. The subscriber receives the confirmation tone to indicate the system accepts the request.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DSSVDACT**Register type**

Peg

Description

DSSVDACT counts the times a subscriber deactivates the deny special service calls line restriction. The subscriber receives the confirmation tone to indicate the system accepts the request.

Associated registers

None

Extension registers

None

Associated logs

FTR138

DSSVUSGE**Register type**

Peg

Description

DSSVUSGE counts the times a subscriber attempts to make a special service call the system does not allow. The deny special service calls line restriction prevents the attempt.

Associated registers

None

Extension registers

None

Associated logs

None

ILRCERR**Register type**

Peg

Description

ILRCERR counts the times a subscriber does not use the international line restriction feature correctly. The subscriber receives the reorder tone.

The following events cause this register to increase:

- the subscriber attempts to access ILR when the feature is not assigned (FNAL treatment)
- the subscriber does not dial correctly when the subscriber activates, deactivates, interrogates or programs ILR (NACK treatment)
- the subscriber uses wrong password on deactivation (NACK treatment)
- the subscriber attempts to access ILR when the system denies the feature (NACK treatment)

Associated registers

None

Extension registers

None

Associated logs

FTR138

ILRINTG**Register type**

Peg

Description

ILRINTG counts the times a subscriber queries if the system activated the ILR feature. The status determines if the subscriber receives the confirmation or negative acknowledgement tone.

Associated registers

None

Extension registers

None

Associated logs

FTR138

ILRUSGE**Register type**

Peg

Description

ILRUSGE counts the times a subscriber activates the ILR feature.

Associated registers

None

Extension registers

None

Associated logs**TEMPDAC****Register type**

Peg

DescriptionTEMPDAC counts the number of successful attempts to deactivate the ILR feature. *The register applies to DMS only.***Associated registers**

None

Extension registers

None

Associated logs

TEMPUDAC**Register type**

Peg

Description

TEMPUDAC counts the number of unsuccessful attempts to temporarily deactivate the ILR feature. *The register applies to DMS only.*

Associated registers

None

Extension registers

None

Associated logs

FTR138

ILRCLASS

Description

OM group International Line Restrictions Class (ILRCLASS) measures the performance of the International Line Restrictions (ILR) feature.

ILRCLASS counts usage, activation, and successful and unsuccessful attempts to deactivate the ILR feature.

ATTENTION

Feature A00001914 CEPT International Line Restriction Enhancements removes OM group ILR1 in SN07. All events formerly pegged by ILR1 are now pegged by OM groups ILRCLASS and (existing) ILR.

ILRCLASS has a flexible body that includes registers according to the ILR classes datafilled in table ILRCLASS. Each register increases for each of the following classes of restriction:

Restriction classes

Name	Description
DABE	Deny all but emergency
DABLE	Deny all but local and emergency
DAI	Deny all international
DANID	Deny all national and international direct dial
DIDD	Deny international direct dial
DNI	Deny national and international
DNID	Deny national and international direct dial
DSSV	Deny special service

The following table lists the key and info fields associated with OM group ILRCLASS. The group provides one tuple for each office.

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group ILRCLASS.

Registers

The following table lists the registers associated with OM group ILRCLASS and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ILRCLASS

Register name	Measures
ACT	Activation
DEACT	Deactivation
USAGE	Usage
UNDACT	Unsuccessful deactivation

ACT

Register type

Peg

Description

ACT counts the attempts to activate the ILR feature.

This register applies only to DMS.

Associated registers

None

Extension registers

None

Associated logs

None

DEACT**Register type**

Peg

Description

DEACT counts the number of successful attempts to deactivate the ILR feature.

This register applies only to DMS.

Associated registers

None

Extension registers

None

Associated logs

None

USAGE**Register type**

Peg

Description

USAGE measures usage of the ILR feature.

This register applies only to DMS.

Associated registers

None

Extension registers

None

Associated logs

None

UNDACT**Register type**

Peg

Description

UNDACT counts the number of unsuccessful attempts to deactivate the ILR feature.

This register applies only to DMS.

Associated registers

None

Extension registers

None

Associated logs

None

ININTWRK

Description

OM group Intelligent Network Interworking (ININTWRK) pegs the number of messages sent and received for intelligent (IN) operator backup calls. A tuple is added for every trunk group datafilled in table ISUPTRK.

To test a register, generate the appropriate ISUP message to peg the register and use OMSHOW to display the data.

The following table lists the key and info fields associated with OM group ININTWRK.

Key field	Info field
Trunk group CLLI	The number of call processing messages sent and received for IN operator backup calls on an ISUP trunk group basis.

Related functional groups

Enhanced Services (ENSV0001) is associated with OM group ININTWRK.

Registers

The following table lists the registers associated with OM group ININTWRK and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ININTWRK (Sheet 1 of 2)

Register name	Measures
FACINVK	Facility Message (FAC) Invoke
FACRERR	Facility (FAC) Return Error
FACRRSL	Facility (FAC) Return Result
FARINVK	Facility Request (FAR) Invoke
FARRERR	Facility Request (FAR) Return Error
FARRRSL	Facility Request (FAR) Return Result

Registers for OM group ININTWRK (Sheet 2 of 2)

Register name	Measures
IAMINVK	Initial Address Message (IAM) Invoke
IAMOPR	Initial Address Message (IAM) call to Operator
RELINC	Release Message (REL) Incoming without RO
RELOUT	Release Message (REL) Outgoing without RO
RELREJI	Release Message (REL) Reject Incoming
RELREJO	Release Message (REL) Reject Outgoing
RELRERR	Release Message (REL) Return Error
RELRRSL	Release Message (REL) Return Result

FACINVK**Register type**

Peg

Description

FACINVK is pegged when an ISUP FAC with an RO Invoke component is received.

Associated registers

None

Extension registers

None

Associated logs

None

FACRERR**Register type**

Peg

Description

FACRERR is pegged when an ISUP FAC with an RO ReturnError component is sent.

Associated registers

None

Extension registers

None

Associated logs

TOPS 607

FACRRSL**Register type**

Peg

Description

FACRRSL is pegged when an ISUP FAC with an RO ReturnResult component is sent.

Associated registers

None

Extension registers

None

Associated logs

None

FARINVK**Register type**

Peg

Description

FARINVK is pegged when an ISUP FAR with an RO Invoke component is received.

Associated registers

None

Extension registers

None

Associated logs

None

FARRERR**Register type**

Peg

Description

FARRERR is pegged when an ISUP FAR with an RO ReturnError component is sent.

Associated registers

None

Extension registers

None

Associated logs

TOPS 607

FARRRSL**Register type**

Peg

Description

FARRRSL is pegged when an ISUP FAR with an RO ReturnResult component is sent.

Associated registers

None.

Extension registers

None

Associated logs

None

IAMINVK**Register type**

Peg

Description

IAMINVK is pegged each time an ISUP IAM message with a remote operation (RO) Invoke component is received.

Associated registers

None

Extension registers

None

Associated logs

None

IAMOPR**Register type**

Peg

Description

IAMOPR is pegged when an ISUP IAM with an RO Invoke component is received and the call is sent to an operator terminal.

Associated registers

None

Extension registers

None

Associated logs

None

RELINC**Register type**

Peg

Description

RELINC is pegged when an ISUP REL without an RO component is received.

Associated registers**Extension registers**

None

Associated logs

None

RELOUT**Register type**

Peg

Description

RELOUT is pegged when an ISUP REL without an RO component is sent.

Associated registers

None

Extension registers

None

Associated logs

None

RELREJI**Register type**

Peg

Description

RELREJI is pegged when an ISUP REL with an RO Reject component is received.

Associated registers

None

Extension registers

None

Associated logs

TOPS 604

RELREJO**Register type**

Peg

Description

RELREJO is pegged when an ISUP REL with an RO Reject component is sent.

Associated registers

None

Extension registers

None

Associated logs

TOPS 603

RELRERR**Register type**

Peg

Description

RELRRERR is pegged when an ISUP REL with an RO ReturnError component is sent.

Associated registers

None

Extension registers

None

Associated logs

TOPS 606, 607

RELRRSL**Register type**

Peg

Description

RELRRSL is pegged when an REL with an RO ReturnResult component is sent.

Associated registers

None

Extension registers

None

Associated logs

None

INSCTP

Description

OM group INSCTP shows data for AIN (IN) messages using the Stream Control Transmission Protocol (SCTP).

The following table lists the key and info fields associated with OM group INSCTP. The group provides one tuple for each logical group.

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group INSCTP.

Registers

The following table lists the registers associated with OM group INSCTP and what they measure. For a description of a register, click on the register name.

Registers for OM group INSCTP

Register name	Measures
MSGOUT	Outgoing Intelligent Network (IN) messages using SCTP
MSGIN	Incoming IN messages using SCTP
SENDFAIL	IN messages using SCTP for which send failed
DATAERR	IN messages that encountered errors at application data
DATARCVD	Incoming IN message decoding
MSG2BIG	IN messages that fail because of message length
BMSFAIL	Buffer errors encountered while sending IN messages over SCTP
NOTREADY (not used)	SCTP layer is not ready to process the message

MSGOUT**Register type**

Peg

Description

MSGOUT (IN SCTP msg out) counts outgoing AIN messages that use the SCTP transport.

Associated registers

None

Extension registers

None

Associated logs

None

MSGIN**Register type**

Peg

Description

MSGIN (IN SCTP msg in) counts incoming AIN messages that use the SCTP transport.

Associated registers

None

Extension registers

None

Associated logs

None

SENDFAIL**Register type**

Peg

Description

SENDFAIL (IN SCTP send failure) counts outgoing AIN messages using the SCTP transport that fail.

Associated registers

None

Extension registers

None

Associated logs

None

DATAERR**Register type**

Peg

Description

DATAERR (IN SCTP data error) counts data errors that cause a messaging failure.

Associated registers

None

Extension registers

None

Associated logs

None

MSG2BIG**Register type**

Peg

Description

MSG2BIG (IN SCTP message too big) counts outgoing messages that are not sent because they exceed the maximum message sizes for SCTP (1496 bytes as supported by current SCTP implementation).

Associated registers

None

Extension registers

None

Associated logs

None

BMSFAIL**Register type**

Peg

Description

BMSFAIL (IN SCTP BMS buffer failure) counts buffer failures that cause send or receive failures.

Associated registers

None

Extension registers

None

Associated logs

None

DATARCVD**Register type**

Peg

Description

DATARCVD (data received) pegs when the IN message is received from the SCTP stack and can be decoded.

Associated registers

None

Extension registers

None

Associated logs

None

NOTREADY**Register type**

Peg

Description

NOTREADY indicates that the SCTP layer is not ready to send or receive a message. Although the OMSHOW command displays this register, *NOTREADY is not used with the current functionality.*

Associated registers

None

Extension registers

None

Associated logs

None

IOC

Description

OM group Input/output Controller Maintenance Summary (IOC) provides information about the performance of input/output controllers (IOC). Each IOC is an interface between a maximum of 36 input/output devices and the central message controller (CMC).

IOC peg registers count:

- errors and faults in the IOCs
- device errors the system detects on P-side links

IOC usage registers record:

- system busy links and IOCs
- manually busy links and IOCs

The data that the IOC supplies is used to monitor the performance of the IOCs and the output devices that the IOCs support.

The following table lists the key and info fields associated with OM group IOC.

Key field	Info field
None	None

Related functional groups

The following functional groups are associated with OM group IOC:

- DMS-100 Local
- DMS-100/200 Local/Toll
- DMS-200 Toll
- DMS-100 Meridian
- DMS-MTX
- DMS-250 Toll/Tandem
- DMS-300
- Meridian SL-100 PBX
- DMS SuperNode

Registers

The following table lists the registers associated with OM group IOC and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group IOC

Register name	Measures
IOCERR	Input/output controller (IOC) errors
IOCFLT	Input/output controller (IOC) faults
IOCLKERR	Input/output controller (IOC) link errors
IOCLKMBU	Input/output controller (IOC) link manually busy usage
IOCLKSBU	Input/output link system busy usage
IOCMBU	Input/output controller (IOC) manually busy usage
IOCSBU	Input/output controller (IOC) system busy usage

IOCERR

Register type

Peg

Description

IOCERR counts errors the system detects in-service IOCs. The register counts transient errors and errors that make an IOC system busy.

Associated registers

[IOCFLT](#)

Extension registers

None

Associated logs

IOD104, IOD115, IOD118, IOD119, IOD120, IOD123, IOD124, IOD125, IOD126, IOD127

IOCFLT

Register type

Peg

Description

IOCFLT counts faults that make an IOC system busy. The faults cause an IOC to remain system busy until manual or system intervention corrects the fault. Manual or system intervention returns the IOC to service.

Associated registers

[IOCERR](#)

Extension registers

None

Associated logs

IOD104, IOD109, IOD113, IOD116, IOD118, IOD119, IOD124, IOD125, IOD126, IOD127, IOD129

IOCLKERR

Register type

Peg

Description

IOCLKERR counts the following device errors the system detects on the P-side links of an IOC:

- checksum
- bus overrun
- device not ready

Associated registers

None

Extension registers

None

Associated logs

IOD117, IOD129

IOCLKMBU**Register type**

Usage

Scan rate

100 seconds

Description

IOCLKMBU records if P-side input/output controller (IOC) links are manually busy.

Associated registers

None

Extension registers

None

Associated logs

IOD108, IOD112

IOCLKSBU**Register type**

Usage

Scan rate

100 seconds

Description

IOCLKSBU records if P-side IOC links are system busy.

Associated registers

None

Extension registers

None

Associated logs

IOD109, IOD113

IOCMBU**Register type**

Usage

Scan rate

100 seconds

Description

IOCMBU records if IOCs are manually busy.

Associated registers

None

Extension registers

None

Associated logs

IOD103

IOCSBU**Register type**

Usage

Scan rate

100 seconds

Description

IOCSBU records if IOCs are system busy.

Associated registers

None

Extension registers

None

Associated logs

IOD104

IOSYS

Description

OM group Input and Output System (IOSYS) counts errors that the input/output (I/O) system detects in incoming or outgoing messages. Examples of problem conditions include errors or rebounded message interrupts that originate in the central message controller (CMC).

Diagnostics determine if the errors counted by IOSYS originate in the CMC or a network message controller (NMC). If the errors originate in the CMC or NMC, groups CMC or NMC count the errors. Data supplied by IOSYS is used to monitor the performance of the I/O system.

The following table lists the key and info fields associated with OM group IOSYS.

Key field	Info field
None	None

Related functional groups

The following functional groups are associated with OM group IOSYS:

- DMS-100 Local
- DMS-100/200 Local/Toll
- DMS-100/200 Local/Toll with TOPS
- DMS-200 Toll
- DMS-200 with TOPS
- DMS-100 Meridian
- DMS-MTX Mobile Telephone Exchange
- DMS-250 Toll/Tandem
- DMS-300 Gateway
- Meridian SL-100 PBX

Registers

The following table lists the registers associated with OM group IOSYS and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group IOSYS

Register name	Measures
IOSYSERR	Input and output system error

IOSYSERR

Register type

Peg

Description

IOSYSERR counts errors that the input/output (I/O) system detects on incoming or outgoing messages. Examples of problem conditions include errors or rebounded message interrupts that originate in the CMC.

Associated registers

None

Extension registers

None

Associated logs

None

IS41TOPS

Description

OM group IS-41 TOPS (IS41TOPS) measures application- and transport-level events for the IS-41 Automated Directory Assistance Call Completion (ADACC) with release call flow.

ATTENTION

Feature A00003687 TOPS Wireless Intelligent Network Integration removes OM group IS41TOPS in SN07. The feature creates new OM group SMSTOPS, TC7WRLSS and WINTOPS. All events formerly pegged by IS41TOPS are now pegged by TC7WRLSS and WINTOPS.

The following table briefly describes the new OM groups. For a detailed description of an OM group, refer to the respective section in this document.

OM groups that replace IS41TOPS

Name	What it measures
SMSTOPS	Application-level events for the TOPS Short Message Service (SMS)
TC7WRLSS	Transport-level events such as types of TCAP messages sent and received, and SS7 errors on TOPS wireless calls for SMS, Wireless Intelligent Network (WIN), IS-41, and Global System for Mobile Communications (GSM)
WINTOPS	Application-level events for wireless ADACC with release. This group uses WIN in the name since wireless intelligent network capabilities are used to provide ADACC with release for both IS-41 and GSM.

The number of registers to record application- and transport-level events for combinations of Release Link Trunking (RLT) and SMS, and protocol standards IS-41 and GSM exceeds the maximum of 32. SMSTOPS, TC7WRLSS and WINTOPS use a key field with values IS-41 and GSM, and are used for both wireless network standards.

Related functional groups

There are no functional groups associated with OM group IS41TOPS.

Registers

The following table shows the new representations of the registers that were formerly in IS41TOPS. For a detailed description of an OM group, refer to the respective section in this document.

IS41TOPS register (SN06)	New OM group: Key: IS41 or WIN_IS41	New register (SN07)
ANINFINV	WINTOPS	WINBEGIN
ANINFIN2	WINTOPS	WINBEGI2
CONNRES	WINTOPS	REQCONN
CONNRES2	WINTOPS	REQCONN2
ANINFRR	WINTOPS	CONNECT
ANINFRR2	WINTOPS	CONNECT2
ANINFRD	WINTOPS	DISCONN
ANINFRD2	WINTOPS	DISCONN2
RESTIMR	WINTOPS	RESTIMR
RESTIMR2	WINTOPS	RESTIMR2
TLDNTIME	WINTOPS	TLDNTIME
SANTIMR	WINTOPS	SANTIMR
CFRABAN	WINTOPS	ABANDON
CFRDISC	WINTOPS	ERRDISC
CFRFAIL	WINTOPS	ERRCONN
CFRSSFT	WINTOPS	ERRSSFT
RETERRS	TC7WRLSS	RETERRS
RETERRR	TC7WRLSS	RETERRR
REJECTS	TC7WRLSS	REJECTS
REJECTR	TC7WRLSS	REJECTR
NOTLDNS	WINTOPS	NOTLDNS

IS41TOPS register (SN06)	New OM group: Key: IS41 or WIN_IS41	New register (SN07)
NODATA	WINTOPS	NODATA
RXLAFAIL	WINTOPS	RXLAFAIL
MBFULL	TC7WRLSS	MBFULL
RTFNOXLA	TC7WRLSS	RTFNOXLA
RTFNOXLS	TC7WRLSS	RTFNOXLS
RTFSUBCG	TC7WRLSS	RTFSUBCG
RTFSUBFL	TC7WRLSS	RTFSUBFL
RTFUNEQ	TC7WRLSS	RTFUNEQ
RTFNETFL	TC7WRLSS	RTFNETFL
RTFNETCG	TC7WRLSS	RTFNETCG
RTFMISCE	TC7WRLSS	RTFMISCE

SS7 operational measurements

Existing OM groups for C7 and TCAP are defined for pegging events relating to SS7 and TCAP messaging. Existing OM groups TCAPUSAG and TCAPERRS have SS7 subsystem as their key. To track TOPS IS-41 events, use subsystem name IS41TOPS as the key. To track TOPS GSM events, use subsystem name GSMTOPS as the key.

TCAPUSAG contains registers that are pegged during a wireless TOPS call in addition to the pegs in OM groups SMSTOPS, WINTOPS and TC7WRLSS. The following table maps the OM registers in TCAPUSAG to messages sent and received during a wireless TOPS call.

TCAPUSAG mapping to TOPS IS-41 and GSM ADACC events (Sheet 1 of 3)

Register name	Measures	Pegged when
TCMSGOUT, TCMSGOU2	Total TCAP messages originating on this node	IS-41 and GSM TCAP messages sent by TOPS
TCMSGIN, TCMSGIN2	Total TCAP messages terminating at this node	IS-41 and GSM TCAP messages received by TOPS

TCAPUSAG mapping to TOPS IS-41 and GSM ADACC events (Sheet 2 of 3)

Register name	Measures	Pegged when
TCUNIDIR, TCUNIDI2	Total TCAP msgs sent/rcvd w/ package type UNIDIRECTIONAL	Not pegged
TCQWPERM, TCQWPER2	Total TCAP msgs sent/rcvd w/ package type QUERY W/ PERM	- TOPS receives IS-41 ANLYZD or GSM Initial DP - TOPS sends an SMS
TCQNPERM, TCQNPER2	Total TCAP msgs sent/rcvd w/ package type QUERY W/O PERM	Not pegged
TCCWPERM, TCCWPER2	Total TCAP msgs sent/rcvd w/ package type CONV W/ PERM	- TOPS receives IS-41 CONNFAILRPT - TOPS sends one of the following GSM messages: EstablishTemporaryConnection, ResetTimer, Connect, ReleaseCall, DisconnectForwardConnection
TCCNPERM, TCCNPER2	Total TCAP msgs sent/rcvd w/ package type CONV W/O PERM	TOPS sends IS-41 CONNRES or IS-41 RESETTIMER
TCRESPNS, TCRESPN2	Total TCAP msgs sent/rcvd w/ package type RESPONSE	TOPS sends ANLYZD or receives response from message center
TCINVKL, TCINVKL2	Total components sent/rcvd of type INVOKE LAST	- TOPS sends or receives any message listed in this table for TCCWPERM and TCCWPER2, or TCCNPERM and TCCNPER2 - TOPS sends an SMS
TCINVKNL, TCINVKN2	Total components sent/rcvd of type INVOKE NOT LAST	Not pegged
TCRSLTL, TCRSLTL2	Total components sent/rcvd of type RETURN RESULT LAST	- TOPS sends IS-41 ANLYZD Return Result - TOPS receives GSM Application End or SMS response

TCAPUSAG mapping to TOPS IS-41 and GSM ADACC events (Sheet 3 of 3)

Register name	Measures	Pegged when
TCRSLTNL, TCRSLTN2	Total components sent/rcvd of type RETURN RESULT NOT LAST	Not pegged
TCRTERR, TCRTERR2	Total components sent/rcvd of type RETURN ERROR	TOPS sends or receives a RETURN ERROR
TCREJECT, TCREJEC2	Total components sent/rcvd of type REJECT	TOPS sends or receives a REJECT
TCABORT, TCABORT2	Total TCAP msgs sent/rcvd w/ package type ABORT	TOPS sends or receives an ABORT

ISA

Description

OM group In-Session Activation (ISA) measures the number of offers, acceptances, and failures of the ISA service.

The following table lists the key and info fields associated with OM group ISA.

Key field	Info field
None	OMIBNGINFO

The entry in the Info field is the customer group as defined in field CUSTNAME in table CUSTENG. This field allows only one customer name for each customer group (maximum 4095).

Related functional groups

There are no functional groups associated with OM group ISA.

Registers

The following table lists the registers associated with OM group ISA and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ISA (Sheet 1 of 2)

Register name	Counts
ANNFAIL	ISA announcement fail
BSYACCPT	ISA on a busy condition
BSYKEY1	Key 1 busy condition
BSYKEY2	Key 2 busy condition
BSYKEY3	Key 3 busy condition
BSYOFFER	ISA on a busy condition
ISAABDN	ISA abandoned
ISAINTER	ISA interrupt
RCVRFail	Receiver fail

Registers for OM group ISA (Sheet 2 of 2)

Register name	Counts
RNAACCPT	RNA Accept
RNAOFFER	RNA Offers
RNAKEY1	RNA Key 1
RNAKEY2	RNA Key 2
RNAKEY3	RNA Key 3
RSCSHORT	Resources short
XLAFAIL	Translation failure

ANNFAIL**Register type**

Peg

Description

ANNFAIL counts the times the system cannot provide an ISA announcement.

Associated registers

None

Extension registers

None

Associated logs

None

BSYACCPT**Register type**

Peg

Description

BSYACCPT counts the times the caller accepts ISA on a busy condition.

Associated registers

None

Extension registers

None

Associated logs

None

BSYKEY1**Register type**

Peg

Description

BSYKEY1 counts the times a call completion service activates when the caller that uses key 1 encounters a busy condition.

Associated registers

None

Extension registers

None

Associated logs

None

BSYKEY2**Register type**

Peg

Description

BSYKEY2 counts the times a call completion service activates when the caller that uses key 2 encounters a busy condition.

Associated registers

None

Extension registers

None

Associated logs

None

BSYKEY3**Register type**

Peg

Description

BSYKEY3 counts the times a call completion service activates when the caller that uses key 3 encounters a busy condition.

Associated registers

None

Extension registers

None

Associated logs

None

BSYOFFER**Register type**

Peg

Description

BSYOFFER counts the times the system offers ISA to the caller that encounters a busy condition.

Associated registers

None

Extension registers

None

Associated logs

None

ISAABDN**Register type**

Peg

Description

ISAABDN counts the times the caller accepts ISA and disconnects before a call completion service activates.

Associated registers

None

Extension registers

None

Associated logs

None

ISAINTER**Register type**

Peg

Description

ISAINTER counts the times the caller uses a reject key to interrupt the ISA offer of service. The register counts interruptions that occur during the first level announcement. The operating company defines the first level of announcement, in a ring/no answer (RNA) condition.

Associated registers

None

Extension registers

None

Associated logs

None

RCVRFAIL**Register type**

Peg

Description

RCVRFAIL counts the times the system does not offer ISA because not enough or no tone receivers are available.

Associated registers

None

Extension registers

None

Associated logs

None

RNAACCPT**Register type**

Peg

Description

RNAACCPT counts the times the caller accepts ISA on an RNA condition.

Associated registers

None

Extension registers

None

Associated logs

None

RNAOFFER**Register type**

Peg

Description

RNAOFFER counts the times the system offers ISA to a caller that encounters an RNA condition.

Associated registers

None

Extension registers

None

Associated logs

None

RNAKEY1**Register type**

Peg

Description

RNAKEY1 counts the times a caller that uses key 1 encounters an RNA condition and activates a call completion service.

Associated registers

None

Extension registers

None

Associated logs

None

RNAKEY2**Register type**

Peg

Description

RNAKEY2 counts the times a caller that uses key 2 encounters an RNA condition and activates a call completion service.

Associated registers

None

Extension registers

None

Associated logs

None

RNAKEY3**Register type**

Peg

Description

RNAKEY3 counts the times a caller that uses key 3 encounters an RNA condition and activates a call completion service.

Associated registers

None

Extension registers

None

Associated logs

None

RSCSHORT**Register type**

Peg

Description

RSCSHORT counts the times the system does not offer ISA because not enough software resources are available. Extension blocks and FDBs are examples of software resources.

Associated registers

None

Extension registers

None

Associated logs

None

XLAFAIL**Register type**

Peg

Description

XLAFAIL counts the times a caller selects a call completion service the system cannot perform because of a translation failure. A caller selects a call completion service if the following conditions are met:

- a caller presses a key during the digit collection period for an ISA announcement
- the key the caller presses corresponds to a feature or a DN to which the system routes the call

When the access code of the feature is used or the DN to which the system routes the call cannot be translated, translation failure occurs.

Associated registers

None

Extension registers

None

Associated logs

None

Description

Incoming start-to-dial delay (ISDD)

The OM group ISDD provides information on the grade of service given to incoming trunk calls to a DMS switch. The incoming trunk calls to a DMS switch go through three types of XMS-based peripheral modules (XPM). When the length of time required to complete a call exceeds a defined threshold, the register for each XPM increases.

The system collects ISDD measurements separately for each of the following XPMs:

- digital trunk controllers (DTC)
- line trunk controllers (LTC)
- remote cluster controllers (RCC)

The system collects the information in a DTC, LTC and RCC. The system transmits data to the central control (CC) every 5 or 15 mins.

- The system collects a set of four measurements for three different signaling types (pulse types). The system also collects a grouping of all other signaling types. The four measurements are:
- trunk seizures (SEIZ) the system counts when an XPM detects an off-hook condition on an idle incoming trunk
- call attempts (ATMPT) the system counts when the XPM accepts a SEIZ for further processing. This action indicates that the XPM services the call
- trunk delays (TDLY) the system counts when the ISDD exceeds a preset threshold (the default is 3 s). The system also counts the elapsed time between call SEIZ and call abandon (ABDN) exceeds the same threshold
- abandons (ABDN) the system counts when an XPM detects an on-hook condition before the XPM returns the start-to-dial signal. The system counts if the number of abandons exceeds the threshold.

The signaling types are:

- dial pulse (DP), excluding DP immediate type trunks
- digitone (DT)

- multi-frequency (MF)
- all other (OTH) types combined, including DP immediate type trunks

The OM group ISDD provides one tuple for each XPM.

- Key field:
There is no key field
- Info field:
PM_NAME has three parts
 - site:
HOST or site_index number
 - pm_type:
DTC, LTC, or RCC
 - external XPM number:
integer

Key field	Info field
none	PM_NAME

The XPMs are entered in table LTCINV for DTCs and LTCs, and in table RCCINV for RCCs.

Office parameter ISDD_OM_THRESHOLD in table OFCSTD defines the ISDD threshold. The default value is 3 s. The default value can be set to 1 or 0.5 s.

Related functional groups

The following functional groups are associated with OM group ISDD:

- LTC
- DTC
- RCC

Registers

The following table lists the registers associated with OM group ISDD and what they measure. For a description of a register, click on the register name.

Registers for OM group ISDD

Register name	Measures
DPABDN	Dial pulse (DP) abandon
DPATMPT	Dial pulse (DP) attempt
DPSEIZ	Dial pulse (DP) seizure
DPTDLY	Dial pulse (DP) trunk delay
DTABDN	Digitone (DT) abandon
DTATMPT	Digitone (DT) attempt
DTSEIZ	Digitone (DT) seizure
DTTDLY	Digitone (DT) trunk delay
ISDDMSG	Incoming start-to-dial delay (ISDD) message
MFABDN	Multi-frequency (MF) abandon
MFATMPT	Multi-frequency (MF) attempt
MFSEIZ	Multi-frequency (MF) seizure
MFTDLY	Multi-frequency (MF) trunk delay
OTHABDN	Other (OTH) abandon
OTHATMPT	Other (OTH) attempt
OTHSEIZ	Other (OTH) seizure
OTHTDLY	Other (OTH) trunk delay

DPABDN

Register type

Peg

Description

Dial pulse (DP) abandon (DPABDN)

Register DPABDN increases when an XPM detects an on-hook condition on an incoming DP trunk. The XPM detects the condition before the XPM returns a start-to-dial signal. The system abandons the call.

Register DPABDN does not count DP immediate call ABDNs.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DPATMPT**Register type**

Peg

Description

Dial pulse (DP) attempt (DPATMPT)

Register DPATMPT increases when the XPM accepts a SEIZ of the DP trunk of an XPM for further processing.

Register DPATMPT does not call DP immediate call ATMPTs.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DPSEIZ**Register type**

Peg

Description

Dial pulse (DP) seizure (DPSEIZ)

Register DPSEIZ increases when the system seizes a DP trunk of an XPM for an incoming call. The system detects a SEIZ when an XPM detects an off-hook condition. The off-hook condition lasts 6 to 9ms on an idle incoming trunk.

Register DPSEIZ does not count DP immediate trunk SEIZs.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DPTDLY**Register type**

Peg

Description

Dial pulse (DP) trunk delay (DPTDLY)

Register DPTDLY increases when one of the following intervals exceeds a preset TDLY threshold:

- the interval between the SEIZ of an incoming DP call and the return of the start-to-dial signal
- the interval between call SEIZ and call ABDN

The default TDLY threshold is 3 s.

Register DPTDLY does not count DP immediate calls.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DTABDN**Register type**

Peg

Description

Digitone (DT) abandon (DTABDN)

Register DTABDN increases when an XPM detects an on-hook condition on an incoming DT trunk. The XPM detects the on-hook condition before the XPM returns a start-to-dial signal. The system abandons the call.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DTATMPT**Register type**

Peg

Description

Digitone (DT) attempt (DTATMPT)

Register DTATMPT increases when the XPM accepts an SEIZ of an incoming DT trunk of an XPM for further processing.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DTSEIZ**Register type**

Peg

Description

Digitone (DT) seizure (DTSEIZ)

Register DTSEIZ increases when the system seizes a DT trunk of an XPM for an incoming call. The system detects a SEIZ when an XPM

detects an off-hook condition. The off-hook condition that for 6 to 9 ms on an idle incoming trunk.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DTTDLY**Register type**

Peg

Description

Digitone (DT) trunk delay (DTTDLY)

Register DTTDLY increases when one of the following intervals exceeds a preset TDLY threshold:

- The default TDLY threshold is 3 s.
- the interval between the SEIZ of an incoming DT call and the return of a start-to-dial signal
- the interval between call SEIZ and call ABDN, exceeds a preset TDLY threshold

The default TDLY threshold is 3 s.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

ISDDMSG**Register type**

Peg

Description

Incoming start-to-dial delay (ISDD) message (ISDDMSG)

Register ISDDMSG increases when the CC receives an ISDD message from an XPM.

Register ISDDMSG determines if the system loses any ISDD data messages during transmission from the XPM to the CC. The number of messages that the CC should receive depends on the reporting interval. If the reporting interval is 15 min. and OMXFR is 30 min., there should be a count of 2 in ISDDMSG. If the reporting interval is 5 min. and OMXFR is 30 min., there should be a count of 6 in ISDDMSG.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

MFABDN**Register type**

Peg

Description

Multi-frequency (MF) abandon (MFABDN)

Register MFABDN increases when an XPM detects an on-hook condition on an incoming MF trunk. The XPM detects the on-hook condition before the XPM returns a start-to-dial signal. The system abandons the call.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

MFATMPT**Register type**

Peg

Description

Multi-frequency (MF) attempt (MFAMPT)

Register MFATMPT increases when the XPM accepts a SEIZ of an incoming MF trunk of an XPM for further processing.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

MFSEIZ**Register type**

Peg

Description

Multi-frequency (MF) seizure (MFSEIZ)

Register MFSEIZ increases when the system seizes an MF trunk of an XPM for an incoming call. The system detects a SEIZ when an XPM detects an off-hook condition lasting for 6 to 9 ms on an idle incoming trunk.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

MFTDLY**Register type**

Peg

Description

Multi-frequency (MF) trunk delay (MFTDLY) Register MFTDLY increases when one of the following intervals exceeds a preset TDLY threshold:

- the interval between the SEIZ of an incoming MF call and the return of a start-to-dial signal
- the interval between call SEIZ and call ABDN, exceeds a preset TDLY threshold

The default TDLY threshold is 3 s.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

OTHABDN**Register type**

Peg

Description

Other (OTH) abandon (OTHABDN)

Register OTHABDN increases when an XPM detects an on-hook condition on an incoming OTH trunk. The XPM detects the on-hook condition before the XPM returns a start-to-dial signal. The system abandons the call.

All trunk types are OTH trunks except for the following:

- DP
- DT
- MF
- Integrated Services Digital Network (ISDN)
- Common Channel Signaling No. 7 (CCS7)
- nailed up
- foreign exchange (FX)
- maintenance trunks

Register OTHABDN includes DP immediate ABDNs.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

OTHATMPT**Register type**

Peg

Description

Other (OTH) attempt

OTHATMPT increases when the XPM accepts a SEIZ of an incoming OTH trunk of an XPM for further processing. OTH trunks include all trunk types except DP, DT, MF, ISDN, CCS7, nailed up, FX, and maintenance trunks.

This register counts DP immediate call ATMPTs.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

OTHSEIZ**Register type**

Peg

Description

Other (OTH) seizure (OTHSEIZ)

Register OTHSEIZ increases when the system seizes an OTH trunk of an XPM for an incoming call. All trunk types except DP, DT, MF, ISDN, CCS7, nailed up, FX, and maintenance trunks. The system detects a SEIZ when an XPM detects an off-hook condition. The off-hook condition lasts 6 to 9 ms on an idle incoming trunk.

Register OTHSEIZ counts DP immediate trunk SEIZs.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

OTHTDLY**Register type**

Peg

Description

Other (OTH) trunk delay (OTHTDLY)

Register OTHTDLY increases when one of the following intervals exceeds a preset TDLY threshold:

- the interval between the SEIZ of an incoming OTH call and the return of a start-to-dial signal
- the interval between call SEIZ and call ABDN, exceeds a preset TDLY threshold

The default TDLY threshold is 3 s.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

ISDNPDOM

Description

ISDN parameter download

The register ISDNPDOM counts the number of download attempts, download failures, and download completions that occur on each switch. You can find these OMs in the PDATTMPT, PDFAILRE, and PDCOMPLT registers of the ISDNPDOM OM group.

The OM group ISDNPDOM is a single tuple OM group.

Key field	Info field
none	none

Related functional groups

The ISDN functional group associates with OM group ISDNPDOM.

Registers

The following table lists the registers associated with OM group ISDNPDOM and what they measure. For a description of a register, click on the register name.

Registers for OM group ISDNPDOM

Register name	Measures
PDATTMPT	ISDN Download Attempt Register
PDFAILRE	ISDN Download Failure Register
PDCOMPLT	ISDN Download Completion Register

PDATTMPT

Register type

Peg

Description

ISDN Download Attempt Register (PDATTMPT)

The ISDN Download Attempt Register measures the number of parameter download attempts on each switch. A PD Attempt occurs when the system receives a REGISTER message for which the system

can decode the APDU. The system decodes the APDU to identify a request to download.

$$\text{PDATTMPT} = \text{PDFAILRE} + \text{PDCOMPLT}$$

Associated registers

Register [PDFAILRE](#): Parameter Download Failures and register [PDCOMPLT](#): Parameter Download Completions are associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

PDFAILRE**Register type**

Peg

Description

ISDN Download Failure Register (PDFAILRE)

The ISDN Download Failure Register measures the number of failures of parameter download requests for each switch. A PD Failure occurs when the system receives an error that does not appear in the error event report. The system receives the error report from the XPM or the terminal.

$$\text{PDFAILRE} = \text{PDATTMPT} - \text{PDCOMPLT}$$

Associated registers

Register [PDATTMPT](#): Parameter Download Attempts, and register [PDCOMPLT](#): Parameter Download Completions are associated registers.

Extension registers

There are no extension registers.

Associated logs

Log ISDN302 is an associated log.

The system generates the ISDN302 log to communicate an error when the [PDFAILRE](#) OM increases.

PDCOMPLT**Register type**

Peg

Description

ISDN Download Completion Register

The ISDN Download Completion Register measures the number of parameter download completions on each switch. A PD Completion occurs when the system encounters the following conditions:

- the switch receives the end of a data indication (RELease COMplete)
- the switch receives a completion or error event report from the terminal

Associated registers

Register [PDATTMPT](#): Parameter Download Attempts, and register [PDFAILRE](#): Parameter Download Failures are associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

ISGBD**Description**

ISDN service group Bd D-channel performance summary (ISGBD)

The OM group ISGBD monitors traffic handling on Bd-type D-channels in offices that have peripheral module types:

- ISDN line group controller (LGCI)
- ISDN line trunk controller (LTCI)
- ISDN remote cluster controller (RCCI)A Bd-type D-channel carries packet data to a packet handler.

The D-channel handler (DCH) increases the five registers in ISGBD and transfers the counts to the central control (CC). The registers count frames:

- that the system receives from a packet handler
- that the system transmits to a packet handler
- that are destined for packet handlers, but the system discards because of hardware problems
- that the system receives from a packet handler with cyclic redundancy check (CRC) errors
- that the system receives from a packet handler, but discards for one of the following reasons:
 - invalid logical terminal identifiers (LTID)
 - messages that cannot be decoded
 - flow control problems
 - aborts

The OM group ISGBD provides one tuple for each Bd-type D-channel.

Key field	Info field
ISGBD_OMTYPE	ISGBD_OMINFO

- Key field:
The ISGBD_OMTYPE values range from 0 to the maximum number of ISDN service groups (ISG) in an office (255) multiplied by the maximum number of channels for each ISG (32).
- Info field:
Info field ISGBG_OMINFO consists of the extended multiprocessor

system (XMS)-based peripheral module (XPM) number, the DCH number, and the channel number.

Related functional groups

The ISDN offices with LGCI, LTCl, and RCCI peripherals functional groups associate with OM group ISGBD.

Registers

The following table lists the registers associated with OM group ISGBD and what they measure. For a description of a register, click on the register name.

Registers for OM group ISGBD

Register name	Measures
DBDCRC	Bd D-channel cyclic redundancy check (CRC) errors
DBDRXDSC	Bd D-channel received and discarded frames
DBDRXPH	Bd D-channel frames received from packet handler
DBDTXDSC	Bd D-channel transmitted and discarded frames
DBDTXPH	Bd D-channel frames transmitted to packet handler

DBDCRC

Register type

Peg

Description

Bd D-channel cyclic redundancy check (CRC) errors (DBDCRC)

Register DBDCRC counts the frames that the system receives from a packet handler and a DCH discards because of CRC errors.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBDRXDSC**Register type**

Peg

Description

Bd D-channel received and discarded frames (DBDRXDSC)

Register DBDRXDSC counts the frames that the system receives from a packet handler and a DCH discards for the following reasons:

- LTIDs that are not correct
- messages that cannot be decoded
- flow control problems
- aborts
- hardware errors

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBDRXPH**Register type**

Peg

Description

Bd D-channel frames received from packet handler (DBDRXPH)

Register DBDRXPH counts the frames that the system receives from a packet handler on a Bd-type D-channel. Each unit in DBDRXPH represents 100 frames.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBDTXDSC**Register type**

Peg

Description

Bd D-channel transmitted and discarded frames (DBDTXDSC)

Register DBDTXDSC counts the frames destined for a packet handler that a DCH discards because of hardware problems.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBDTXPH**Register type**

Peg

Description

Bd D-channel frames transmitted to packet handler (DBDTXPH)

Register DBDTXPH counts the frames that the system transmits to a packet handler on a Bd-type D-channel. Each unit in DBDTXPH represents 100 frames.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

ISGBRA

Description

ISDN service group basic rate access channel performance summary (ISGBRA)

The OM group ISGBRA monitors traffic on basic rate access (BRA) D-channels in offices with the following types of peripheral modules:

- ISDN line group controller (LGCI)
- ISDN line trunk controller (LTCl)
- ISDN remote cluster controller (RCCI)

The D-channel handler (DCH) increases the registers in ISGBRA and transfers the counts to the central control (CC).

Fifteen registers in ISGBRA count the following events and frame types:

- frames with cyclic redundancy check (CRC) errors
- service access point identifier (SAPI) frames that the system transmits and receives
- link resets by a DCH and far end
- reject frames that a DCH and far end transmit and receive
- receiver-not-ready (RNR) frames that a DCH transmits and receives

The system makes counts for each DCH. The system does not make counts for each BRA D-channel. A large number of BRA d-channels that can exist on a single DCH (124).

The OM group ISGBRA provides one tuple for each DCH with BRA D-channels.

Key field	Info field
ISGBRA_OMTYPE	ISGBRA_OMINFO

- Key field:
Key field ISGBRA_OMTYPE consists of the LTCl number and the ISDN service group (ISG) number for the LTCl. The maximum number for each office is 255.
- Info field:
Info field ISGBRA_OMINFO consists of the LTCl number and the ISG number.

Related functional groups

The ISDN offices with LGCI, LTCl, and RCl peripherals functional groups associate with OM group ISGBRA.

Registers

The following table lists the registers associated with OM group ISGBRA and what they measure. For a description of a register, click on the register name.

Registers for OM group ISGBRA

Register name	Measures
DBRCRC	BRA D-channel cyclic redundancy check errors
DBRLKRED	BRA D-channel link resets by D-channel handler
DBRLKREP	BRA D-channel link resets by far-end device
DBRREJRX	BRA D-channel reject frames received
DBRREJTX	BRA D-channel reject frames transmitted
DBRRNRD	BRA D-channel receiver-not-ready (RNR) frames sent
DBRRNRP	BRA D-channel receiver-not-ready (RNR) frames received
DBRRXDSC	BRA D-channel received and discarded frames
DBRS16RX	BRA D-channel received service access point identifier 16 frames
DBRS16TX	BRA D-channel transmitted service access point identifier 16 frames
DBRSARX	BRA D-channel received service access point identifier 17 and 63 frames
DBRSATX	BRA D-channel transmitted service access point identifier 17 and 63 frames
DBRS0RX	BRA D-channel received service access point identifier 0 frames

Registers for OM group ISGBRA

Register name	Measures
DBRS0TX	BRA D-channel transmitted service access point identifier 0 frames
DBRTXDSC	BRA D-channel transmitted and discarded frames

DBRCRC**Register type**

Peg

Description

BRA D-channel cyclic redundancy check errors (DBRCRC)

Register DBRCRC counts the frames a DCH discards because of CRC errors.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRLKRED**Register type**

Peg

Description

BRA D-channel link resets by D-channel handler (DBRLKRED)

Register DBRLKRED counts the link resets by a DCH.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRLKREP**Register type**

Peg

Description

BRA D-channel link resets by far-end device (DBRLKREP)

Register DBRLKREP counts the link resets by a far-end device.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRREJRX**Register type**

Peg

Description

BRA D-channel reject frames received (DBRREJRX)

Register DBRREJRX counts the reject frames that a DCH receives. Reject frames indicate that one of the sequenced frames is missing.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRREJTX**Register type**

Peg

Description

BRA D-channel reject frames transmitted (DBRREJTX)

Register DBRREJTX counts the reject frames that a DCH transmits. Reject frames indicate that the far end loses one of the sequenced frames.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRRNRD**Register type**

Peg

Description

BRA D-channel receiver-not-ready (RNR) frames sent (DBRRNRD)

Register DBRRNRD counts the RNR frames that a DCH sends to a far-end device.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRRNRP**Register type**

Peg

Description

BRA D-channel receiver-not-ready (RNR) frames received (DBRRNRP)

Register DBRRNRP counts the RNR frames that a DCH receives from a far-end device.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRRXDSC**Register type**

Peg

Description

BRA D-channel received and discarded frames (DBRRXDSC)

Register DBRRXDSC counts the frames that a DCH discards because of one of the following problems:

- a terminal endpoint identifier that is not registered
- a message that the system cannot decode
- flow control problems
- only a part of a message is received
- sequencing errors
- an SAPI that is not known

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRS16RX**Register type**

Peg

Description

BRA D-channel received service access point identifier 16 frames (DBRS16RX)

Register DBRS16RX counts the SAPI 16 frames that a DCH receives. The SAPI 16 frames indicate a request for packet-switched service.

Each unit in DBRS16RX represents 100 frames.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRS16TX**Register type**

Peg

Description

BRA D-channel transmitted service access point identifier 16 frames (DBRS16TX)

Register DBRS16TX counts the SAPI 16 frames that a DCH transmits. The SAPI 16 frames indicate a request for packet-switched service.

Each unit in DBRS16TX represents 100 frames.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRSARX**Register type**

Peg

Description

BRA D-channel received service access point identifier 17 and 63 frames (DBRRXDSC)

Register DBRSARX counts the SAPI 17 and SAPI 63 frames that a DCH receives.

The SAPI 17 frames indicate a request for intraloop signaling. The SAPI 17 allows terminals on the same BRA interface to communicate. It also allows terminal testing.

The SAPI 63 frames indicate a request for layer 2 management services. Layer 2 management services include terminal endpoint identifier management, error reporting, and physical link control.

Each unit in DBRSARX represents 100 frames.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRSATX**Register type**

Peg

Description

BRA D-channel transmitted service access point identifier 17 and 63 frames (DBRSATX)

Register DBRSATX counts the SAPI 17 and SAPI 63 frames that a DCH transmits.

The SAPI 17 frames indicate a request for intraloop signaling. The SAPI 17 allows terminals on the same frame to communicate. It also allows terminal testing.

The SAPI 63 frames indicate a request for layer 2 management services. Layer 2 management services include terminal endpoint identifier management, error reporting, and physical link control.

Each unit in DBRSATX represents 100 frames.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRS0RX**Register type**

Peg

Description

BRA D-channel received service access point identifier 0 frames (DBRSORX)

Register DBRS0RX counts the SAPI 0 frames that a DCH receives. The SAPI 0 frames indicate a request for call control.

Each unit in DBRS0RX represents 100 frames.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRS0TX**Register type**

Peg

Description

BRA D-channel transmitted service access point identifier 0 frames (DBRS0TX)

Register DBRS0TX counts the SAPI 0 frames that a DCH transmits. The SAPI 0 frames indicate a request for call control.

Each unit in DBRS0TX represents 100 frames.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DBRTXDSC**Register type**

Peg

Description

BRA D-channel transmitted and discarded frames (DBRTXDSC)

Register DBRTXDSC counts the frames destined for a packet handler that a DCH discards because of hardware problems.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

ISGCPU

Description

ISDN services group CPU occupancy (ISGCPU)

The OM group ISGCPU measures ISDN services group (ISG) occupancy of the D-channel handler (DCH) CPU. The ISGCPU includes a count of the CPU occupancy that lies in each of ten percentage ranges. For example, 0-10%, 10-20%, and so on.

The tuples for each office for OM group ISGCPU depend on the number of ISGs entered.

Key field	Info field
none	ISGPREF_OMINFO

The info field data that the OM report provides has three parts:

- the peripheral module (PM) type
- the PM number
- the ISG number

Correct PM types are as follows:

- ISDN line group controller (LGCI)
- ISDN line trunk controller (LTCI)
- ISDN remote cluster controller (RCCI)

Related functional groups

The ISDN LTC/LGC functional groups associate with OM group ISGCPU.

Registers

The following table lists the registers associated with OM group ISGCPU and what they measure. For a description of a register, click on the register name.

Registers for OM group ISGCPU

Register name	Measures
DCPU10	DCH CPU occupancy £ 10%
DCPU20	DCH CPU occupancy £ 20%
DCPU30	DCH CPU occupancy £ 30%
DCPU40	DCH CPU occupancy £ 40%
DCPU50	DCH CPU occupancy £ 50%
DCP60	DCH CPU occupancy £ 60%
DCPU70	DCH CPU occupancy £ 70%
DCPU80	DCH CPU occupancy £ 80%
DCPU90	DCH CPU occupancy £ 90%
DCPU100	DCH CPU occupancy £ 100%
DCPURTR	DCH CPU real time remaining
DCPUTOT	DCH CPU total count

DCPU10

Register type

Peg

Description

DCH CPU occupancy £ 10% (DCPU10)

Register DCPU10 counts the seconds that the DCH CPU is occupied for less than or equal to 10%. Register DCPU10 divided by DCPUTOT gives the percentage of time an ISG has an average CPU occupancy of 0% to 10%.

Associated registers

Registers DCPU10 to DCPU100 together provide the CPU application profile of an ISG.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DCPU20**Register type**

Peg

Description

DCH CPU occupancy \geq 20% (DCPU20)

Register DCPU20 counts the seconds that DCH CPU is occupied for more than 10% but less than or equal to 20%. Register DCPU20 divided by DCPUTOT gives the percentage of time an ISG has an average CPU occupancy of 10% to 20%.

Associated registers

Registers DCPU10 to DCPU100 together provide the CPU application profile of an ISG.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DCPU30**Register type**

Peg

Description

DCH CPU occupancy \geq 30% (DCPU30)

Register DCPU30 counts the seconds that the DCH CPU is occupied for more than 20% but less than or equal to 30%. Register DCPU30 divided by DCPUTOT count gives the percentage of time an ISG has an average CPU occupancy of 20% to 30%.

Associated registers

Registers DCPU10 to DCPU100 together provide the CPU application profile of an ISG.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DCPU40**Register type**

Peg

Description

DCH CPU occupancy £ 40% (DCPU40)

Register DCPU40 counts the seconds that the DCH CPU is occupied more than 30% but less than or equal to 40%. Register DCPU40 divided by the DCPUTOT gives the percentage of time an ISG has an average CPU occupancy of 30% to 40%.

Associated registers

Registers DCPU10 to DCPU100 together provide the CPU application profile of an ISG.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DCPU50**Register type**

Peg

Description

DCH CPU occupancy £ 50% (DCPU50)

Register DCPU50 counts the seconds that the DCH CPU is occupied for more than 40% but less than or equal to 50%. Register DCPU50 divided by DCPUTOT gives the percentage of time an ISG has an average CPU occupancy of 40% to 50%.

Associated registers

Registers DCPU10 to DCPU100 together provide the CPU application profile of an ISG.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DCP60**Register type**

Peg

Description

DCH CPU occupancy \geq 60% (DCPU60)

Register DCPU60 counts the seconds that the DCH CPU is occupied for more than 50% but less than or equal to 60%. Register DCPU60 divided by DCPUTOT gives the percentage of time an ISG has an average CPU occupancy of 50% to 60%.

Associated registers

Registers DCPU10 to DCPU100 together provide the CPU application profile of an ISG.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DCPU70**Register type**

Peg

Description

DCH CPU occupancy \geq 70% (DCPU70)

Register DCPU70 counts the seconds that the DCH CPU is occupied for more than 60% but less than or equal to 70%. Register DCPU70 divided by DCPUTOT gives the percentage of time an ISG has an average CPU occupancy of 60% to 70%.

Associated registers

Registers DCPU10 to DCPU100 together provide the CPU application profile of an ISG.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DCPU80**Register type**

Peg

Description

DCH CPU occupancy \geq 80% (DCPU80)

Register DCPU80 counts the seconds that the DCH CPU is occupied for more than 70% but less than or equal to 80%. Register DCPU80 divided by DCPUTOT gives the percentage of time an ISG has an average CPU occupancy of 70% to 80%.

Associated registers

Registers DCPU10 to DCPU100 together provide the CPU application profile of an ISG.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DCPU90**Register type**

Peg

Description

DCH CPU occupancy \geq 90% (DCPU90)

Register DCPU90 counts the seconds that the DCH CPU is occupied for more than 80% but less than or equal to 90%. Register DCPU90 divided by DCPUTOT gives the percentage of time an ISG has an average CPU occupancy of 80% to 90%.

Associated registers

Registers DCPU10 to DCPU100 together provide the CPU application profile of an ISG.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DCPU100**Register type**

Peg

DescriptionDCH CPU occupancy \geq 100% (DCPU100)

Register DCPU100 counts the seconds that the DCH CPU is occupied for more than 90% but less than or equal to 100%. Register DCPU100 count divided by DCPUTOT gives the percentage of time an ISG has an average CPU occupancy of 90% to 100%.

Associated registers

Registers DCPU10 to DCPU100 together provide the CPU application profile of an ISG.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DCPURTR**Register type**

Usage

Description

DCH CPU real time remaining (DCPURTR)

Register DCPURTR counts the seconds that the DCH CPU is available to process additional calls. Register DCPURTR divided by DCPUTOT gives the percentage of time an ISG CPU is available to process additional calls.

Associated registers

There are no associated registers.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

DCPUTOT**Register type**

Usage

Description

DCH CPU total count (DCPUTOT) Register DCPUTOT counts the seconds in the period during which the system counts DCH CPU occupancy.

Associated registers

Register DCPUTOT divided into any other register in this OM group, gives a percentage measurement of that register use.

Extension registers

There are no extension registers.

Associated logs

There are no associated logs.

ISGOVLD

Description

OM group ISDN Services Group Overload (ISGVOLD) measures the degree of overload of an ISDN services group (ISG). The OM group ISGVOLD provides information on the three levels of overload control for an ISG: congestion, overload, and frame discard.

The following table lists the key and info fields associated with OM group ISGOVLD:

Key field	Info field
None	ISGPINF_OMINFO

The info field information the OM report provides has three parts: peripheral module (PM) type, PM number, and ISG number. Correct PM types are as follows:

- ISDN line group controller (LGCI)
- ISDN line trunk controller (LTCI)
- ISDN remote cluster controller (RCCI)

Related functional groups

The following functional groups are associated with OM group ISGOVLD:

- LTCI
- LGCI
- RCCI

Registers

The following table lists the registers associated with OM group ISGVOLD and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ISGVOLD (Sheet 1 of 2)

Register name	Measures
CONGENTR	Number of times entering congestion
CONGEXIT	Number of times leaving congestion

Registers for OM group ISGVOLD (Sheet 2 of 2)

Register name	Measures
CONGTIME	Congestion Time
OV16DSC	SAPI 16 frames discarded
OVL DENTR	Number of times entering overload
OVL DEXIT	Number of times leaving overload
OVL DTIME	Period of time in overload

CONGENTR**Register type**

Peg

Description

CONGENTR counts the times an ISG enters a congested state.

Associated registers[CONGEXIT](#)**Extension registers**

None

Associated logs

None

CONGEXIT**Register type**

Peg

Description

CONGEXIT counts the number of times that an ISG leaves a congested state.

Associated registers[CONGENTR](#)**Extension registers**

None

Associated logs

None

CONGTIME**Register type**

Peg

Description

CONGTIME counts the seconds an ISG remains in a congested state.

Associated registers

None

Extension registers

None

Associated logs

None

OV16DSC**Register type**

Peg

Description

OV16DSC counts the services access point identifier 16 (SAPI 16) frames the system discards caused by overload controls.

Associated registers

None

Extension registers

OV16DSC2

Associated logs

None

OVLDENTR**Register type**

Peg

Description

OVLDENTR counts the number of times an ISG enters an overloaded state.

Associated registers[OVLDEXIT](#)**Extension registers**

None

Associated logs

None

OVLDEXIT**Register type**

Peg

Description

OVLDEXIT counts the times an ISG leaves an overloaded state.

Associated registers[OVLDEXIT](#)**Extension registers**

None

Associated logs

None

OVLDTIME**Register type**

Peg

Description

OVLDTIME counts the seconds an ISG is in an overloaded state.

Associated registers

None

Extension registers

None

Associated logs

None

ISUPCGRP

Description

OM group ISUP Circuit Group Availability (ISUPCGRP) provides information on circuit availability for the ISDN user part (ISUP). The system uses this information to determine circuit performance.

Register ISCKTRAC increases when a circuit fails a continuity check test.

Register ISCKTRAO increases when a message is received that is not appropriate. This condition indicates that the circuit is defective and is not available.

Register ISCKTRAE counts exit message (EXM) timeouts that occur on a trunk group. A timeout occurs when the end office expects and does not receive an EXM from a tandem office.

The following table lists the key and info fields associated with OM group ISUPCGRP:

Key field	Info field
None	None

Related functional groups

The following functional groups are associated with OM group ISUPCGRP:

- ISDN integrated services digital network
- CCS7 Common Channel Signaling 7

Registers

The following table lists the registers associated with OM group ISUPCGRP and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ISUPCGRP (Sheet 1 of 2)

Register name	Measures
ISCKTRAC	ISUP circuit reattempt continuity

Registers for OM group ISUPCGRP (Sheet 2 of 2)

Register name	Measures
ISCKTRAO	ISUP circuit reattempt other reasons
ISCKTRAE	ISUP trunk group exit messages

ISCKTRAC**Register type**

Peg

Description

ISCKTRAC increases when a circuit in a trunk group fails a continuity check test. The initial address message (IAM) requests the test for the circuit on which a call is made.

Associated registers

None

Extension registers

None

Associated logs

None

ISCKTRAO**Register type**

Peg

Description

ISCKTRAO counts automatic repeat call setup attempts that occur for each trunk group for reasons other than:

- two-seizure detections
- continuity check test failures

ISCKTRAO increases for the following reasons:

- a blocking message is received after the initial address message (IAM) is sent and before an acknowledgement is received
- a reset circuit message is received after an IAM is received before an acknowledgement is received

- any other messages that are not appropriate are received before the address complete message (ACM) is received
- an unequipped circuit identification code (UCIC) message is received on a first attempt

Associated registers

None

Extension registers

None

Associated logs

None

ISCKTRAE**Register type**

Peg

Description

ISCKTRAE counts exit message (EXM) timeouts that occur on a trunk group. A timeout occurs when the end office expects and does not receive an EXM from a tandem office.

Associated registers

None

Extension registers

None

Associated logs

C7UP102

ISUPCKTA

Description

OM group ISUP Circuit Availability (ISUPCKTA) counts circuit and circuit group blocking and unblocking messages sent between near- and far-end offices. The OM group ISUPCKTA counts determine overall circuit performance for the ISDN user part (ISUP).

Local or remote offices can block separate circuits. The system diverts traffic from blocked circuits for circuit testing and servicing. Two methods are used to unblock a circuit:

- Maintenance personnel originate an unblock (UBL) message or switching equipment at the near-end office returns a blocked circuit to service from the far-end office.
- An initial address message (IAM) received from a far-end office returns a remotely blocked circuit at the near-end office to service.

Registers that count available groups of circuits have also been created. These registers are activated when a future BCS group message sending procedure is implemented.

The following table lists the key and info fields associated with OM group ISUPCKTA:

Key field	Info field
None	None

Related functional groups

The ISDN integrated services digital network functional group is associated with OM group ISUPCKTA.

Registers

The following table lists the registers associated with OM group ISUPCKTA and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ISUPCKTA (Sheet 1 of 2)

Register name	Measures
ISCKTBLO	ISUP circuit blocked
ISCKTCGU	ISUP circuit group unblock

Registers for OM group ISUPCKTA (Sheet 2 of 2)

Register name	Measures
ISCKTGBF	ISUP circuit group blocked failure
ISCKTGBT	ISUP circuit group blocked this end
ISCKTLBT	ISUP circuit locally blocked
ISCKTRBT	ISUP circuit remote blocked
ISCKTUBL	ISUP circuit unblocked

ISCKTBLO**Register type**

Peg

Description

ISCKTBLO counts circuit blocking messages sent to remove traffic from a circuit. The register prevents the far-end office from originating outgoing calls on a blocked circuit.

Associated registers

None

Extension registers

None

Associated logs

C7UP103

ISCKTCGU**Register type**

Peg

Description

ISCKTCGU counts the following circuit group unblocking messages that an office sends:

- maintenance-oriented group unblocking
- hardware failure-oriented group unblocking
- software-generated group unblocking

Register ISCKTCGU counts for each trunk in the group.

Associated registers

None

Extension registers

None

Associated logs

C7UP104

ISCKTGBF**Register type**

Peg

Description

ISCKTGBF counts circuit group blocking messages that the system sends again after the first attempt to send messages fails. Failure occurs when the time allowed for acknowledgment elapses before the acknowledgment message is received.

Circuits are automatically released from all calls when the system receives a circuit group blocking message.

Associated registers

None

Extension registers

None

Associated logs

C7UP104

ISCKTGBT**Register type**

Peg

Description

ISCKTGBT counts circuit group blocking messages sent to block a circuit group at the far-end office for maintenance or software-generated reasons. This action does not affect calls on the circuits. Register ISCKTGBT counts circuit group blocking messages for each trunk in the group.

Associated registers

None

Extension registers

None

Associated logs

C7UP104

ISCKTLBT**Register type**

Peg

Description

ISCKTLBT counts circuits that are locally blocked for five min. This action blocks outgoing calls on this circuit at the far-end office. The system sends a blocking message to the far-end office.

ISCKTLBT is not increased for GL04.

Associated registers

None

Extension registers

None

Associated logs

C7UP103

ISCKTRBT**Register type**

Peg

Description

ISCKTRBT counts circuits that are blocked from a far-end office for 5 min. The register counts once for each blockage at the 5 min mark.

ISCKTRBT is not increased for GL04.

Associated registers

None

Extension registers

None

Associated logs

C7UP103

ISCKTUBL**Register type**

Peg

Description

ISCKTUBL counts circuit unblocking messages that an office sends to cancel the blocked condition of a circuit. Register ISCKTUBL increases when the system receives an initial address message (IAM) from a far-end office to attempt a call on a blocked circuit. The circuit is automatically unblocked when the system receives the IAM message.

Associated registers

None

Extension registers

None

Associated logs

C7UP103

ISUPCONG

Description

ISUP Congestion (ISUPCONG)

The following table lists the key and info fields associated with OM group ISUPCONG:

Key field	Info field
COMMON_LANGUAGE_NAME	None

Related functional groups

There are no functional groups associated with ISUPCONG.

Registers

The following table lists the registers associated with OM group ISUPCONG and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ISUPCONG

Register name	Measures
NUMBLOCK	Number of Blocked Calls
ACCDFIL	Automatic Congestion Control Datafill

NUMBLOCK

Register type

Peg

Description

NUMBLOCK counts the total number of blocked calls that transfer controlled (TFC) and transfer prohibited (TFP) cause. These blocked calls are caused when the BLOCK option in table TRKSGRP is on.

Associated registers

None

Extension registers

None

Associated logs

None

ACCDFIL**Register type**

Peg

Description

ACCDFIL is used to increase the number of times a trunk group detected ACL but could not apply network management (NWM) controls. The NWM controls could not be applied because of missing datafill in table CCS7PPLN.

The technician can take the trunk CLLI and reference table ISUPDEST to determine the point code name of the office experiencing congestion. Refer to table C7RTESET and use the point code name to determine the accurate CCS7 point code.

Refer to tables NWMPPPLN, PREPLANS, and CCS7PPLN to implement NWM controls.

Associated registers

None

Extension registers

None

Associated logs

None

ISUPCONN

Description

OM group ISUP connection (ISUPCONN) provides information on circuit availability and call attempts that are unsuccessful. This information determines how the surrounding network affects ISDN user part (ISUP) performance.

The following table lists the key and info fields associated with OM group ISUPCONN.

Key field	Info field
None	None

Related functional groups

The following functional groups are associated with OM group ISUPCONN:

- ISDN integrated services digital network
- CCS7 Common Channel Signaling 7

Registers

The following table lists the registers associated with OM group ISUPCONN and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ISUPCONN (Sheet 1 of 2)

Register name	Measures
ISCONBAD	ISUP bad
ISCONCOT	ISUP continuity
ISCONFAR	ISUP facility request
ISCONICC	ISUP continuity check
ISCONINR	ISUP information request
ISCONUCA	ISUP unsuccessful address
ISCONUCB	ISUP unsuccessful busy

Registers for OM group ISUPCONN (Sheet 2 of 2)

Register name	Measures
ISCONUCC	ISUP unsuccessful circuit
ISCONUCE	ISUP unsuccessful
ISCONUCF	ISUP unsuccessful faults
ISCONUCN	ISUP unsuccessful numbers
ISCONUCO	ISUP unsuccessful other
ISCONUCS	ISUP unsuccessful service

ISCONBAD**Register type**

Peg

Description

ISCONBAD counts call attempts that fail during call setup. When a call attempt fails during call setup, the originating office receives a release message instead of an address complete message.

Associated registers

None

Extension registers

ISCONBD2

Associated logs

None

ISCONCOT**Register type**

Peg

Description

ISCONCOT counts calls that fail the first continuity check test. The continuity check request (CCR) message initiates the first test. The CCR message performs an automatic recheck 10 seconds after the first continuity check failure.

Associated registers

None

Extension registers

None

Associated logs

C7UP107

ISCONFAR**Register type**

Peg

Description

ISCONFAR counts failures that occur when there is no response to the second attempt to send a facility request message.

Associated registers

None

Extension registers

None

Associated logs

C7UP108

ISCONICC**Register type**

Peg

Description

ISCONICC counts calls that receive the continuity check test. The count occurs at the office that performs the continuity check test that the initial address message requests. The register is set to zero (0).

Associated registers

None

Extension registers

ISCONIC2

Associated logs

None

ISCONINR**Register type**

Peg

Description

ISCONINR counts failures that occur when there is no response to a second attempt to send an information request message.

Associated registers

None

Extension registers

None

Associated logs

C7UP108

ISCONUCA**Register type**

Peg

Description

ISCONUCA counts call attempts that are unsuccessful because another office determines that the number either is not in a valid format or is incomplete.

Associated registers

None

Extension registers

None

Associated logs

C7UP105

ISCONUCB**Register type**

Peg

Description

ISCONUCB counts call attempts that are unsuccessful because the called party is busy.

Associated registers

None

Extension registers

ISCONUB2

Associated logs

None

ISCONUCC**Register type**

Usage

Description

ISCONUCC counts call attempts that are unsuccessful because there are no correct idle circuits in another office to handle the call.

Associated registers

None

Extension registers

ISCOUCC2

Associated logs

C7UP106

ISCONUCE**Register type**

Peg

Description

ISCONUCE counts call attempts that are unsuccessful because switching equipment in another office handles too many calls.

Associated registers

None

Extension registers

ISCOUCE2

Associated logs

C7UP106

ISCONUCF**Register type**

Peg

Description

ISCONUCF counts call attempts that are unsuccessful because of a temporary fault in the network at the far end.

Associated registers

None

Extension registers

ISCOUCF2

Associated logs

C7UP106

ISCONUCN**Register type**

Peg

Description

ISCONUCN counts call attempts that are unsuccessful because the dialed number is a blank directory number in the far-end office.

Associated registers

None

Extension registers

None

Associated logs

C7UP105

ISCONUCO**Register type**

Peg

Description

ISCONUCO counts call attempts that are not successful because of reasons other than the following:

- destination out-of-service faults
- called party busy condition
- numbers not allocated

- temporary faults
- address not complete
- circuit not available
- switching equipment congestion

The system records the reason the call attempt is not successful in the cause field of the release message to the office.

Associated registers

None

Extension registers

ISCONUO2

Associated logs

None

ISCONUCS**Register type**

Peg

Description

ISCONUCS counts call attempts that are unsuccessful because an equipment failure occurs at the far-end office. The call attempts also can fail because the directory number of the called party is either disconnected or out of service.

Associated registers

None

Extension registers

None

Associated logs

None

ISUPERRS

Description

OM group ISDN User Part Errors (ISUPERRS) counts abnormal conditions, unexpected messages, and the absence of acknowledgement messages during call setup and call takedown and during maintenance procedures. These counts are used by maintenance personnel to track ISDN user part (ISUP) stability.

If the far end has difficulty in routing a call during call setup, it sends a release (RLS) message to the originating office. The reason for the failure is included in the message. When the RLS message is received, the call is released from the far end. To take down a call, the first party that goes on-hook sends a RLS message. In response, a release complete (RLC) message is sent from the other end. Timers ensure that the call is not left in an inactive state. If the RLC message is not sent within one minute after receipt of an RLS message, the RLS message is sent again. If there is still no response, the far end sends a reset circuit (RSC) message.

The following table lists the key and info fields associated with OM group ISUPERRS:

Key field	Info field
None	None

Related functional groups

The following functional groups are associated with OM group ISUPERRS:

- ISDN
- Common Channel Signaling 7 (CCS7)

Registers

The following table lists the registers associated with OM group ISUPERRS and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ISUPERRS

Register name	Measures
ISERRBAD	ISDN error bad
ISERRBLO	ISUP error blocking message
ISERRGRS	ISUP error circuit group reset
ISERRHOP	ISDN HOP counter expiry
ISERRREL	ISDN error release (RLS) message

ISERRBAD

Register type

Peg

Description

ISERRBAD counts messages received in inappropriate situations, such as the following:

- RLS or RLC messages received on an idle circuit
- blocking messages received for a blocked circuit
- unblocking messages received for an unblocked circuit
- blocking acknowledgement messages received unexpectedly
- unblocking acknowledgement messages received unexpectedly
- other unreasonable messages received after the initial address message has been sent
- invalid messages

Associated registers

None

Extension registers

None

Associated logs

C7UP101

ISERRBLO**Register type**

Peg

Description

ISERRBLO register is incremented when an acknowledgement message is not received within one minute of sending blocking/unblocking messages at 4- to 15-second intervals. Message intervals during the 1-minute period are determined by the blocking/unblocking maintenance timer. The register is incremented at the end of the 1-minute period.

Associated registers

None

Extension registers

None

Associated logs

C7UP100

ISERRGRS**Register type**

Peg

Description

ISERRGRS register is incremented when a GRS acknowledgement (GRA) message is not received within one minute of sending a pair of GRS messages.

Associated registers

None

Extension registers

None

Associated logs

C7UP100

ISERRHOP**Register type**

Peg

Description

ISERRHOP is pegged every time a hop counter (HC) parameter in the incoming initial address message (IAM) expires.

Associated registers

None

Extension registers

None

Associated logs

C7UP130

ISERRREL**Register type**

Peg

Description

ISERRREL register counts circuits that are released in outgoing offices because of the following abnormal conditions:

- no address complete message (ACM) received within 20 to 30 seconds of an initial address message sent by this office
- RLS message received after an ACM and before an answer message

The register also counts circuits released in incoming offices because no continuity message (if applicable) is received at the incoming office after receipt of the initial address message.

All abnormal conditions listed above cause the release of circuits in transit offices because they are both incoming and outgoing offices.

Associated registers

None

Extension registers

None

Associated logs

C7UP102

ISUPUSAG

Description

OM group Integrated Services User Part Utilization (ISUPUSAG) counts incoming and outgoing messages that use ISDN user part (ISUP), based on message types defined in the following standards:

- American National Standard T1.113.2 - 1987- ISUP Message Acronyms
- ITU Q.763
- ETS 300 356-1

The system counts outgoing call processing messages in the digital trunk controller for SS7 (DTC7) and the NA100 Spectrum Peripheral Module (SPM) product. The system counts outgoing maintenance messages in the central control complex (CCC). The system counts incoming call processing and maintenance messages in the message switch and buffer SS7 (MSB7). The system also counts these messages in the link interface unit SS7 (LIU7).

The ISUPUSAG monitors message volume to determine ISUP performance, activity, and stability.

Note: In GL04, OM group ISUPUSAG increases for ISUP and TUP.

The following table lists the key and info fields associated with OM group ISUPUSAG:

Key field	Info field
ISUPOM_MSG_TYPE:	None

The following acronyms are counted in ISUPUSAG and are specified in the following standards:

- American National Standard T1.113.2 D 1987- ISUP Message Acronyms
- ETSI (ETS 300 356-1)
- International (ITU Q.763)

ACM

address complete

ALT

alerting message

ANM	answer
BLA	blocking acknowledgement
BLO	blocking
CCR	continuity check request
CFN	confusion
CGB	circuit group blocking
CGBA	circuit group blocking acknowledgement
CGU	circuit group blocking
CGUA	circuit group unblocking acknowledgement
CMC	call modification completed
CMRJ	call modification rejected
CMR	call modification request
CON	connect
COT	continuity
CPG	call progress message
CQM	circuit query
CQR	circuit query response
CRA	circuit reservation acknowledgement
CRG	charge information

CRM	circuit reservation
CSV	closed user group selection and validation request
CSV	closed user group selection and validation response
CVR	circuit validation response
CVT	circuit validation test
DRS	delayed release
EXM	exit
FAA	facility accepted
FAC	facility
FAD	facility deactivated
FAI	facility information
FAR	facility request
FRJ	facility reject
FOT	forward transfer
GRA	circuit group reset acknowledgment
GRS	circuit group reset
IAM	initial address message
IAMN1	initial address message not priority one
IDR	identification request

INF	information
INR	information request
IRS	identification response
LOP	loop prevention
LPA	loop back acknowledgement
NRM	network resource management
PAM	pass along message
PRG	progress
REL	release
RES	resume
RLC	release complete
RPM	reconfiguration progress message (also counts OLM:Overload)
RSC	reset circuit
SAM	subsequent address message
SGM	segmentation
SUS	suspend
UBA	unblocking acknowledgment
UBL	unblocking
UCIC	unequipped circuit identification code

UPA

user part available

UPT

user part available

USR

user-to-user information

The maximum number of keys is 62.

Note: For Succession Networks equipped with USPs, incoming ISUP OM messages are not pegged on the XA-Core. They are pegged on the USP. Outgoing OM messages are still displayed on the XA-Core.

Refer to the following documents for details:

- for Succession: *Succession Performance Management Operational Measurements Reference*, NN10264-709
- for DMS: *Operational Measurements Reference Manual*, 297-8021-814P3 in your SN07 (DMS) Helmsman collection
- for USP software: *Logs and Operational Measurement Descriptions*, included with the USP software on your SN07 CDs

Related functional groups

The following functional groups are associated with OM group ISUPUSAG:

- ISDN
- ISUP
- CCS7

Registers

The following table lists the registers associated with OM group ISUPUSAG and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group ISUPUSAG

Register name	Measures
ISMSGIN	integrated services digital network user part messages incoming
ISMSGOUT	integrated services digital network user part messages outgoing

ISMSGIN

Register type

Peg

Description

ISMSGIN counts ISUP messages the office receives. These messages include incoming messages that pass through a move (tandem) office. Count each type of incoming ISUP message separately.

These measurements collect in the link interface unit for SS7 (LIU7). The system sends these messages to the central control complex (CCC) when at least one count reaches the maximum value of 65535.

Measurements also collect in the message switch and buffer for SS7 (MSB7). The system sends messages to the central control complex (CCC) every 15 seconds. The system also sends messages to the CCC when at least one count reaches the maximum value of 255.

Associated registers

None

Extension registers

ISMSGIN2

Associated logs

None

ISMSGOUT

Register type

Peg

Description

ISMSGOUT counts ISUP messages sent from an office, including messages that pass through a move (tandem) office. Count each type of ISUP message separately. Count maintenance messages in the central control complex (CCC). Outgoing call processing messages are collected in the digital trunk controller (DTC) and sent to the CC. At least one count reaches the maximum value of 255.

Associated registers

None

Extension registers

ISMSGOT2

Associated logs
None

IWBM

Description

OM group Interworking Bridge Management (IWBM) counts events on the Interworking Bridge Management System. The Interworking Spectrum Peripheral Module (IW SPM) uses the IWBM system to interact with time-division multiplexed trunks and announcements.

The following table lists the key and info fields associated with OM group IWBM.

Key field	Info field
IW SPM bridge pools	BEARER_NETBRIDGE_CLLI

Related functional groups

The the IW SPM Bridges functional group is associated with the IWBM OM group.

Registers

The following table lists the registers associated with OM group IWBM and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group IWBM

Register name	Measures
IWGBATT	IW get_bridge attempts
IWGBFAIL	IW get_bridge attempts failed
IWGBABRT	IW get_bridge attempts aborted
IWFBATT	IW free_bridge attempts
IWFBFAIL	IW free_bridge attempts failed
IWFBABRT	IW free_bridge attempts aborted
IWBTLTST	IW bridge for trunk and line test
IWONSET1	IW onset 1
IWONSET2	IW onset 2

Registers for OM group IWBM

Register name	Measures
IWABATE1	IW bridge abate 1
IWABATE2	IW bridge abate 2
IWBCNFAN	IW bridge for conference or announcement usage

IWGBATT**Register type**

Peg

Description

IWGBATT counts the number of get_bridge attempts.

Associated registers

None

Extension registers

IWGBATT2

Associated logs

None

IWGBFAIL**Register type**

Peg

Description

IWGBFAIL counts the number of get_bridge attempts that fail as a result of queue failure. A queue failure commonly occurs when all bridges are busy on the associated node.

Associated registers

None

Extension registers

None

Associated logs

None

IWGBABRT**Register type**

Peg

Description

IWGBABRT counts the number of aborted get_bridge attempts as a result of incorrect data in the request.

Associated registers

None

Extension registers

None

Associated logs

None

IWFBATT**Register type**

Peg

Description

IWFBATT counts the number of attempts to free an IW SPM bridge from an associated call. A free bridge attempt occurs when an interworked call ends.

Associated registers

None

Extension registers

IWFBATT2

Associated logs

None

IWFBFAIL**Register type**

Peg

Description

IWFBFAIL counts the number of free bridge attempt failures.

Associated registers

None

Extension registers

None

Associated logs

None

IWFABART**Register type**

Peg

Description

IWFABART counts the number of aborted free_bridge attempts as a result of incorrect data.

Associated registers

None

Extension registers

None

Associated logs

None

IWBTLTST**Register type**

Peg

Description

IWBTLTST counts the number of times a packet agent uses an IW bridge for access to trunk or line test facilities present on the ENET. An example would be MTM test circuits.

Associated registers

None

Extension registers

None

Associated logs

None

IWONSET1**Register type**

Peg

Description

IWONSET1 counts the number of times that in-use IW bridges exceed 70 percent of the associated bridge pool. Register IWABATE1 always pegs before IWONSET1 pegs again.

Associated registers

[IWONSET2](#), [IWABATE1](#)

Extension registers

None

Associated logs

None

IWONSET2**Register type**

Peg

Description

IWONSET2 counts the number of times that in use IW bridges exceed 90 percent of the associated bridge pool. Register IWABATE2 pegs before IWONSET2 pegs again.

Associated registers

[IWONSET1](#), [IWABATE2](#)

Extension registers

None

Associated logs

None

IWABATE1**Register type**

Peg

Description

IWABATE1 counts the number of times the total number of in-use interworking bridges is less than 65 percent of the associated bridge pool. IWABATE1 pegs, after register IWONSET1 has pegged, when the number of in-use IW bridges cross the 65 percent threshold. IWONSET1 must peg again before IWABATE1 pegs a second time.

Associated registers

[IWABATE2](#), [IWONSET1](#)

Extension registers

None

Associated logs

None

IWABATE2**Register type**

Peg

Description

IWABATE2 counts the number of times the total number of in-use interworking bridges is less than 85 percent of the associated bridge pool. IWABATE2 pegs, after register IWONSET2 has pegged, when the number of in-use IW bridges cross the 85 percent threshold. IWONSET2 must peg again before IWABATE2 pegs a second time.

Associated registers[IWABATE1](#), [IWONSET2](#)**Extension registers**

None

Associated logs

None

IWBCNFAN**Register type**

Peg

Description

IWBCNFAN counts the number of times a packet agent uses an IW bridge for access to conference or announcement facilities present on the ENET. An example would be MTM service circuits.

Associated registers

None

Extension registers

None

Associated logs

None

KSHUNT

Description

OM group Key Short Hunt (KSHUNT) provides information to operating companies on the use of the Business Set Key Short Hunt feature. This feature allows incoming calls to hunt through a set of directory numbers for an idle directory number on which to terminate. The set of directory numbers can be a standard directory number appearance or a multiple-appearance directory number (MADN). The set of directory numbers can include all or a part of the directory numbers on a Meridian Business Set.

Five registers count:

- attempts to terminate on a short hunt group directory number
- attempts to follow the overflow route
- attempts to terminate on the overflow directory number
- when all of the group is busy and the system provides no overflow option
- failures caused by not enough software resources

Option OVERFLOW in table KSETFEAT specifies the overflow directory number and overflow route.

The following table lists the key and info fields associated with OM group KSHUNT:

Key field	Info field
IBNG_INDEX. This key field identifies up to 4096 customer groups.	<p>OMIBNGINFO. Customer name as defined in field CUSTNAME in table CUSTHEAD.</p> <p>Parameter KSHUNT_EXT_BLOCKS in table OFCENG specifies the number of KSHUNT extension blocks available in a DMS office.</p> <p>Parameter option OVERFLOW in table KSETFEAT specifies the overflow directory number and overflow route.</p>

Related functional groups

The following functional groups are associated with OM group KSHUNT:

- IBN Integrated Business System
- MBS Meridian Business Set

Registers

The following table lists the registers associated with OM group KSHUNT and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group KSHUNT

Register name	Measures
KSHATT	Key short hunt attempts
KSHBLKD	Key short hunt blocked
KSHBUSY	Key short hunt busy
KSHDFLCT	Key short hunt deflect
KSHOVFL	Key short hunt overflow

KSHATT

Register type

Peg

Description

KSHATT increases when a call attempts to terminate on a key short hunt group directory number.

If the short hunt directory number dialed is busy and has the Call Forward Busy feature assigned, then the system forwards the call. Hunting does not occur. In this condition, KSHATT does not increase.

Associated registers

None

Extension registers

None

Associated logs

None

KSHBLKD**Register type**

Peg

Description

KSHBLKD increases when the system blocks a call because of an attempt to hunt over more than 56 busy members. This condition can occur when the overflow directory number specified for a short hunt group refers to a member of another short hunt group.

Parameter OVEFLOW in table KSETFEAT specifies the overflow directory number.

Associated registers

None

Extension registers

None

Associated logs

LINE138, TRK138

KSHBUSY**Register type**

Peg

Description

Register KSHBUSY increases when:

- a call attempts to terminate on a business set key short hunt group where all directory numbers are busy
- no overflow option associate with the key short hunt group in table KSETFEAT

Associated registers

None

Extension registers

None

Associated logs

LINE138, TRK138

KSHDFLCT**Register type**

Peg

Description

KSHDFLCT increases when:

- a call attempts to terminate on a business set key short hunt group where all directory numbers are busy
- the call deflects either to an overflow directory number or an overflow route

Parameter OVERFLOW in table KSETFEAT specify the overflow directory number and overflow route.

Associated registers

None

Extension registers

None

Associated logs

LINE138, TRK138

KSHOVFL**Register type**

Peg

Description

KSHOVFL increases when:

- a call attempts to terminate on a business set key short hunt group
- a call attempt to terminate fails because of not enough software resources

When KSHOVFL increases, the system does not hunt and the call terminates on the party dialed if that party is idle. The system can also route the call to busy treatment if that member is busy.

Parameter KSHUNT_EXT_BLOCKS in table OFCENG specifies the number of KSHUNT extension blocks available in a DMS office.

Associated registers

None

Extension registers

None

Associated logs

LINE138, TRK138

LDS

Description

OM group Long Distance Signal (LDS) provides the following measurements:

- toll call terminations on busy lines of end users qualified for LDS
- data for end users with LDS which receive toll calls. Toll calls trigger LDS distinctive call waiting (CWT) tones when office parameter LDS_ENABLED is set to Y. The OM group LDS provides measurements for the following data:
 - call completion and non-completion rates for end users without option CWT
 - call completion and non-completion rates for end users with option CWT
- call completion and non-completion rates for end users. End users receive both LDS and CWT. End users receive calls that trigger standard CWT tones when office parameter LDS_ENABLED is set to N.

TRMTFR2 contains one register for each call treatment. The system names the registers TFRnnnn, where nnnn is the external treatment abbreviation. The system increases the register when the system routes a call to treatment.

The following table lists the key and info fields associated with OM group LDS:

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group LDS.

Registers

The following table lists the registers associated with OM group LDS and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group LDS

Register name	Measures
LDSCWA	Long Distance Signal Toll Call Answer on Busy Line
LDSCWNA	Long Distance Signal Toll Call No Answer on Busy Line
LDSRCWA	Long Distance Signal Regular Call Waiting Tones Applied - Call Answered
LDSRCWNA	Long Distance Signal Regular Call Waiting Tones Applied - Call Not Answered
LDSNCWA	Long Distance Signal Toll Call Answered on Busy Line
LDSNCWNA	Long Distance Signal Toll Call Not Answered on Busy Line
LDSBUSY	Long Distance Signal Total Toll Call Terminations on Busy Line

LDSCWA

Register type

Peg

Description

Under the conditions that follow, the system increments LDSCWA when the system answers a toll call on a busy line:

- The end user has a line with options CWT, Long Distance Signal Option (LDSO), and Long Distance Signal Activate (LDSA).
- The line option LDSV of the end user is set to ACT.
- Office parameter LDS_ENABLED is set to Y.

Associated registers

None

Extension registers

None

Associated logs

None

LDSCWNA**Register type**

Peg

Description

Under the conditions that follow, the system increments LDSCWNA when a toll call is not answered on a busy line:

- The end user has a line equipped with options CWT, LDSO, and LDSA.
- The line option LDSV of the end user is set to ACT.
- Office parameter LDS_ENABLED is set to Y.

The system considers a call not answered under the following conditions:

- An LDS time-out occurs.
- The calling or called party goes on-hook and the calling party did not receive a call answer.

Associated registers

None

Extension registers

None

Associated logs

None

LDSRCWA**Register type**

Peg

Description

LDSRCWA increases when a user answers a call that triggers standard CWT tones. Register LDSRCWA increases for the following call types:

- local calls that terminate on a busy line provisioned with
 - options CWT, LDSO, and LDSA
 - option LDSV activated
 - office parameter LDS_ENABLED set to Y or N
- toll calls that terminate on a busy line provisioned with
 - options CWT, LDSO, and LDSA
 - option LDSV activated
 - office parameter LDS_ENABLED set to N

Associated registers

None

Extension registers

None

Associated logs

None

LDSRCWNA**Register type**

Peg

Description

LDSRCWNA increases when a call that triggers standard CWT tones is not answered. Register LDSRCWNA increases for the following call types:

- local calls that terminate on a busy line provisioned with
 - options CWT, LDSO, and LDSA
 - option LDSV activated
 - office parameter LDS_ENABLED set to Y or N
- toll calls that terminate on a busy line provisioned with
 - options CWT, LDSO, and LDSA
 - option LDSV activated
 - office parameter LDS_ENABLED set to N

Note: The system considers a call not answered when an LDS time-out occurs. The system considers a call not answered when the calling or called party goes on-hook and the calling party did not receive a call answer.

Associated registers

None

Extension registers

None

Associated logs

None

LDSNCWA**Register type**

Peg

Description

LDSNCWA increases when a toll call is answered on a busy line under the following conditions:

- The called line has options CWT, LDSO, and LDSA.
- The option LDSV of the called line is set to ACT.
- Office parameter LDS_ENABLED is set to Y.

LDSNCWA does not increase when office parameter LDS_ENABLED is set to N.

Associated registers

None

Extension registers

None

Associated logs

None

LDSNCWNA**Register type**

Peg

Description

LDSNCWNA increases when the user answers a toll call on a busy line under the following conditions:

- The called line has options CWT, LDSO, and LDSA.
- The LDSV option of the called line is set to ACT.
- Office parameter LDS_ENABLED is set to Y.

The register LDSNCWNA does not increase when office parameter LDS_ENABLED is set to N.

The system considers a call not answered under the following conditions:

- An LDS time-out occurs
- The calling or called party goes on-hook and the calling party did not receive a call answer.

Associated registers

None

Extension registers

None

Associated logs

None

LDSBUSY**Register type**

Peg

Description

LDSBUSY increases when a toll call terminates on a busy line. The line option LDSV of the busy line is set to ACT or INACT.

Register LDSBUSY pegs all toll calls qualified for LDA that terminate on busy lines. The value of register LDSBUSY can appear as follows:

$$\text{LDSBUSY} = \text{LDSCWA} + \text{LDSCWNA} + \text{LDSNCWA} + \text{LDSNCWNA}$$

Associated registers

None

Extension registers

None

Associated logs

None

LIDBCCV

Description

OM group Line Information Database Calling Card Information (LIDBCCV) provides access to verify calling card numbers. The registers track the performance of the access by counting the number of queries and responses and classifying responses as valid access or invalid access.

LIDBCCV contains 21 registers that count the following activities:

- the number of LEC calls and/or LEC validation attempts being processed, regardless of the outcome of the call or validation
- the number of queries sent to LIDB to validate the calling card number
- the number of responses received from the CCS7 network with respect to a launched query
- the number of positive responses from the LIDB to validate the calling card number
- the number of queries that were abandoned
- the number of responses that reply with the reason "no PINS" assigned
- the number of responses that reply with the reason "calling card denial"
- the number of responses that reply with a valid response with an unrestricted PIN
- the number of responses that reply with a valid response with restricted PIN
- the number of responses that reply with a response of "threshold exceeded on PIN"
- the number of responses that reply with a response of nonpayment
- the number of messages that are returned due to unexpected component sequence
- the number of responses that indicate an unexpected data value was found (no PIN match)
- the number of messages that were returned due to unavailable network resources
- the number of responses that were returned due to a missing customer record

- the number of responses that were returned due to data unavailable
- the number of times the process waiting for the response times out
- the number of errors not specifically mentioned
- the number of times that the query could not be processed due to a database failure or congestion
- the number of times a query was returned due to an SCCP Global Title Translation failure
- the number of times a query could not be sent due to Automatic Code Gapping

The following table lists the key and info fields associated with OM group LIDBCCV:

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group LIDBCCV.

Registers

The following table lists the registers associated with OM group LIDBCCV and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group LIDBCCV (Sheet 1 of 2)

Register name	Measures
LIDBTOT	LIDB Total Calls
LIDBTOTQ	LIDB Total Queries
LIDBTOTR	LIDB Total Responses
LIDBRPOS	LIDB Responses Positive
LIDBANQY	LIDB Abandon Query
LIDBNOPN	LIDB No PIN Found
LIDBCCDN	LIDB Calling Card Denial
LIDBPUN	LIDB PIN Unrestricted

Registers for OM group LIDBCCV (Sheet 2 of 2)

Register name	Measures
LIDBPRES	LIDB PIN Restricted
LIDBTHR	LIDB Threshold Exceeded
LIDBNPAY	LIDB No Payment
LIDBCOMP	LIDB Invalid Component
LIDBDATA	LIDB Unexpected Data (No PIN match)
LIDBNETR	LIDB Unavailable Network Resources
LIDBMREC	LIDB Missing Record
LIDBUNAV	LIDB Data Unavailable
LIDBTMO	LIDB Time Out
LIDBMISC	LIDB Miscellaneous
LIDBDBFC	LIDB Database Failure
LIDBSPTR	LIDB SCCP Translation Failure
LIDBACGF	LIDB Automatic Code Gap Failure

LIDBTOT**Register type**

Peg

Description

LIDBTOT counts the number of LEC calls and/or LEC validation attempts being processed by the office, regardless of the outcome of the call or validation.

Associated registers

[LIDBTOTQ](#), [LIDBACGF](#)

Validation formula

$LIDBTOT = LIDBTOTQ + LIDBACGF$

Extension registers

None

Associated logs

None

LIDBTOTQ**Register type**

Peg

Description

LIDBTOTQ counts the number of queries launched to LIDB to validate the calling card number.

Associated registers[LIDBTOT](#), [LIDBACGF](#)**Validation formula**
$$\text{LIDBTOT} = \text{LIDBTOTQ} + \text{LIDBACGF}$$
Extension registers

None

Associated logs

None

LIDBTOTR**Register type**

Peg

Description

LIDBTOTR counts the number of responses received from the CCS7 network with respect to the launched query.

Associated registers[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHR](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)**Validation formula**
$$\begin{aligned} \text{LIDBTOTR} = & \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHR} + \\ & \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \\ & \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \\ & \text{LIDBTMO} \end{aligned}$$
Extension registers

None

Associated logs

None

LIDBRPOS**Register type**

Peg

Description

LIDBRPOS counts the number of positive responses from the LIDB to validate the calling card number.

Associated registers

[LIDBTOTR](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHRX](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHRX} + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$
Extension registers

None

Associated logs

None

LIDBANQY**Register type**

Peg

Description

LIDBANQY counts the number of queries that were abandoned.

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHRX](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBTOTR](#), [LIDBTMO](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHRX} + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$

Extension registers

None

Associated logs

None

LIDBNOPN**Register type**

Peg

Description

LIDBNOPN counts the number of responses that reply with the reason "no PINs assigned."

Associated registers

[LIDBRPOS](#), [LIDBTOTR](#), [LIDBCCDN](#), [LIDBTHR](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHR} + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$
Extension registers

None

Associated logs

None

LIDBCCDN**Register type**

Peg

Description

LIDBCCDN counts the number of responses that reply with the reason "calling card denial."

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBTOTR](#), [LIDBTHR](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHR X} + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$
Extension registers

None

Associated logs

None

LIDBPUN**Register type**

Peg

Description

LIDBPUN counts the number of responses that reply with a valid response with an unrestricted PIN.

Associated registers

[LIDBTOTR](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHR X](#), [LIDBNPAY](#), [LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#), [LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHR X} + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$
Extension registers

None

Associated logs

None

LIDBPRES**Register type**

Peg

Description

LIDBPRES counts the number of responses that reply with a valid response with a restricted PIN.

Associated registers

[LIDBTOTR](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHR](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Extension registers

None

Associated logs

None

LIDBTHR**Register type**

Peg

Description

LIDBTHR counts the number of responses that reply with a response of "threshold exceeded on PIN."

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTOTR](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHR} + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$
Extension registers

None

Associated logs

None

LIDBNPAY**Register type**

Peg

Description

LIDBNPAY counts the number of responses that reply with a response of "nonpayment."

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHR](#)X, [LIDBTOTR](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula

$LIDBTOTR = LIDBRPOS + LIDBNOPN + LIDBCCDN + LIDBTHR$ X +
 $LIDBNPAY + LIDBCOMP + LIDBDATA + LIDBNETR + LIDBMREC +$
 $LIDBUNAN + LIDBMISC + LIDBDBFC + LIDBSPTR - LIDBANQY -$
 $LIDBTMO$

Extension registers

None

Associated logs

None

LIDBCOMP**Register type**

Peg

Description

LIDBCOMP counts the number of messages that are returned due to an unexpected component sequence.

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHR](#)X, [LIDBNPAY](#),
[LIDBTOTR](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula

$LIDBTOTR = LIDBRPOS + LIDBNOPN + LIDBCCDN + LIDBTHR$ X +
 $LIDBNPAY + LIDBCOMP + LIDBDATA + LIDBNETR + LIDBMREC +$
 $LIDBUNAN + LIDBMISC + LIDBDBFC + LIDBSPTR - LIDBANQY -$
 $LIDBTMO$

Extension registers

None

Associated logs

None

LIDBDATA**Register type**

Peg

Description

LIDBDATA counts the number of responses that indicate an unexpected data value was found (no PIN match).

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHRX](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBTOTR](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHRX} + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$
Extension registers

None

Associated logs

None

LIDBNETR**Register type**

Peg

Description

LIDBNETR counts the number of messages that were returned due to unavailable network resources.

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHRX](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBTOTR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHRX} + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$
Extension registers

None

Associated logs

None

LIDBMREC

Register type

Peg

Description

LIDBMREC counts the number of responses that were returned due to a missing customer record.

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHR](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBTOTR](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula

$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHR} + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$

Extension registers

None

Associated logs

None

LIDBUNAV

Register type

Peg

Description

LIDBUNAV counts the number of responses that were returned due to data unavailable.

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHR](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBTOTR](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula

$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHR} + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$

Extension registers

None

Associated logs

None

LIDBTMO**Register type**

Peg

Description

LIDBTMO counts the number of times the process waiting for the response timed out.

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHR](#)X, [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTOTR](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHR}X + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$
Extension registers

None

Associated logs

None

LIDBMISC**Register type**

Peg

Description

LIDBMISC accumulates all the errors not specifically mentioned.

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHR](#)X, [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBTOTR](#), [LIDBDBFC](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHR}X + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$

Extension registers

None

Associated logs

None

LIDBDBFC**Register type**

Peg

Description

LIDBDBFC counts the number of times that the query could not be processed due to a database failure or congestion.

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHRX](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBTOTR](#), [LIDBSPTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHRX} + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$
Extension registers

None

Associated logs

None

LIDBSPTR**Register type**

Peg

Description

LIDBSPTR counts the number of times a query was returned due to an SCCP Global Title Translation failure.

Associated registers

[LIDBRPOS](#), [LIDBNOPN](#), [LIDBCCDN](#), [LIDBTHRX](#), [LIDBNPAY](#),
[LIDBCOMP](#), [LIDBDATA](#), [LIDBNETR](#), [LIDBMREC](#), [LIDBUNAV](#),
[LIDBMISC](#), [LIDBDBFC](#), [LIDBTOTR](#), [LIDBANQY](#), [LIDBTMO](#)

Validation formula
$$\text{LIDBTOTR} = \text{LIDBRPOS} + \text{LIDBNOPN} + \text{LIDBCCDN} + \text{LIDBTHR}X + \text{LIDBNPAY} + \text{LIDBCOMP} + \text{LIDBDATA} + \text{LIDBNETR} + \text{LIDBMREC} + \text{LIDBUNAN} + \text{LIDBMISC} + \text{LIDBDBFC} + \text{LIDBSPTR} - \text{LIDBANQY} - \text{LIDBTMO}$$
Extension registers

None

Associated logs

None

LIDBACGF**Register type**

Peg

Description

LIDBACGF counts the number of times a query could not be sent due to Automatic Code Gapping.

Associated registers[LIDBTOTQ](#), [LIDBTOT](#)**Validation formula**
$$\text{LIDBTOT} = \text{LIDBTOTQ} + \text{LIDBACGF}$$
Extension registers

None

Associated logs

None

LINAC

Description

OM group Line Access Measurements (LINAC) monitors grade of service for line access. The LINAC indicates the problems which customers experience in an attempt to access a telephone network through an XMS-based peripheral module (XPM). Counts are made for each line concentrating module (LCM).

Four registers count the following:

- call attempts
- call failures
- call abandons
- dial tone delays

Register counts for the LCMs are collected in the XPMs and transferred to the central control (CC). The default transfer period is 15 minutes.

The following table lists the key and info fields associated with OM group LINAC:

Key field	Info field
None	Contains the following parts: <ul style="list-style-type: none"> • LCM_NUMBER is the line module index number • SITE_INDEX is the site number • LCD_TYPE is the module type • EXT_LINE_MOD_NUMBER is the module number

Related functional groups

The following functional groups are associated with OM group LINAC:

- XMS-based peripheral modules (XPM)
- Line concentrating modules (LCM)

Registers

The following table lists the registers associated with OM group LINAC and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group LINAC

Register name	Measures
LINABAN	Line call abandons
LINCAT	Line call attempts
LINCATEF	Line call attempt failures
LINTDEL	Line access dial tone delay

LINABAN

Register type

Peg

Description

LINABAN counts calls in a line concentrating module (LCM) that abandon before the dial tone receives.

Associated registers

None

Extension registers

None

Associated logs

None

LINCAT

Register type

Peg

Description

LINCAT counts call attempts in an LCM.

Associated registers

LMD_NORIGATT, which counts line origination attempts for line modules.

Extension registers

None

Associated logs

None

LINCATF**Register type**

Peg

Description

LINCATF counts call attempts from an LCM that fail to receive a response from the central control (CC).

Associated registers

None

Extension registers

None

Associated logs

None

LINTDEL**Register type**

Peg

Description

LINTDEL records the total dial tone delay time for all calls from an LCM that receive a dial tone during the XPM OM transfer period.

Dial tone delay is the time between a subscriber going off-hook and hearing dial tone. The system reports the value in LINTDEL in tenths of a second.

Associated registers

The following registers are associated with LINTDEL:

- DTSR_DELAY, which counts dial tone delays greater than three seconds for XPMs.
- DTSRPM_DPLDLY, DTSRPM_DGTDLY, and DTSRPM_KSDLY, all of which count dial tone delays in peripheral modules

Average dial tone delay for a call during the transfer period in tenths of a second = LINTDEL divided by LINCAT-LINCATF-LINABAN.

Extension registers

None

Associated logs

None

LINEHAZ

Description

OM group Line Hazards (LINEHAZ) measures the number of line hazard conditions on the loop of the subscriber.

The following table lists the key and info fields associated with OM group LINEHAZ:

Key field	Info field
None	None

Related functional groups

Type A and B line card (North American) functional groups are associated with OM group LINEHAZ.

Registers

The following table lists the registers associated with OM group LINEHAZ and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group LINEHAZ

Register name	Measures
HAZCLR	Hazard cleared
HAZDET	Hazard detected
HAZSCAN	Hazard scan

HAZCLR

Register type

Peg

Description

HAZCLR increases when the system clears the line hazard condition. This register also increases when the cut-off relay manually releases on a line that was in a line hazard condition.

Associated registers

[HAZDET](#)

Extension registers

None

Associated logs

LINE133

HAZDET**Register type**

Peg

Description

HAZDET increases when the Line Card Monitor feature detects a line hazard condition and isolates the line from the facility hazard.

Operation of the cut-off relay in the line card isolates the line from the facility hazard.

Associated registers

[HAZCLR](#)

Extension registers

None

Associated logs

LINE132

HAZSCAN**Register type**

Peg

Description

HAZSCAN counts the number of lines with a line hazard condition in effect every 100 s.

Associated registers

[HAZDET](#), [HAZCLR](#)

Extension registers

None

Associated logs

None

LM

Description

OM group Line Module Maintenance Summary (LM) provides maintenance measurements for line modules and remote line modules.

Nine registers count the following:

- errors detected in in-service LMs
- line card diagnostic tests
- the number of times LMs are made manual busy and system busy
- terminals that are cut off as a result of LMs that are made manual busy and system busy
- outside plant circuit failures

Two usage registers record the number of line modules in the system busy and manual-busy states.

The following table lists the key and info fields associated with OM group LM:

Key field	Info field
None	None

Related functional groups

There are no associated functional groups associated with OM group LM.

Registers

The following table lists the registers associated with OM group LM and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group LM (Sheet 1 of 2)

Register name	Measures
LMCCTDG	Line module circuit diagnostics run
LMCCTFL	Line module circuit diagnostics failed
LMCCTOP	Line module circuit diagnostics outside plant

Registers for OM group LM (Sheet 2 of 2)

Register name	Measures
LMERR	Line module errors
LMFLT	Line module faults
LMMBP	Line module changes to man-busy
LMMBTCO	Line module man busy terminals cut off
LMMBU	Line module manual busy usage
LMSBP	Line module changes to system busy
LMSBTCO	Line module system busy terminals cut off
LMSBU	Line module system busy usage

LMCCTDG**Register type**

Peg

Description

LMCCTDG counts line card diagnostic test sequences that run because call processing refers a trouble to the maintenance system.

Register LMCCTDG increases after the diagnostic is complete.

Associated registers

The following registers are associated with LMCCTDG:

- PM_PMCCTDG, which counts line card diagnostic test sequences that run because call processing refers a trouble to the maintenance system. Register PMCCTDG increases after the diagnostic runs.
- PMTYP_PMTCCTDG, which is the amount of the register PM_PMCCTDG for a peripheral module type.

Extension registers

None

Associated logs

None

LMCCTFL**Register type**

Peg

Description

LMCCTFL increases when the line card diagnostic can find one of the following faults:

- a peripheral module fault
- a card fault
- a facility fault
- no card
- the wrong card

Associated registers

PM_PMCCTFL, which increases when the line card diagnostic finds one of the following faults:

- a peripheral module fault
- a card fault
- a facility fault
- no card
- the wrong card

Extension registers

None

Associated logs

None

LMCCTOP**Register type**

Peg

Description

LMCCTOP counts outside plant circuit failures that one of the conditions that follow detects:

- system diagnostics
- automatic line tests (ALT)
- line insulation tests (LIT)
- long tests

Associated registers

PM_PMCCTOP, which counts outside plant circuit failures that are detected by one of the conditions that follow:

- system diagnostics
- automatic line tests (ALT)
- line insulation tests (LIT)
- long tests

PMTYP_PMTCCTOP is the amount of the register PM_PMCCTOP for a peripheral module type.

Extension registers

None

Associated logs

None

LMERR**Register type**

Peg

Description

LMERR counts errors in an in-service line module (LM). LMERR increases when an in-service LM does one of the following:

- reports a software error, RAM parity failure, LM firmware error, or LM controller message congestion
- experiences an accuracy failure
- fails a test during a routine or initializing audit
- puts up a WAI (who-am-I) flag, indicating that processing in the LM completely fails
- fails to respond to messages over either plane

Associated registers

The following registers are associated with LMERR:

- PM_PMERR, which counts errors in an in-service peripheral module.
- PMTYP_PMTERR, which is the amount of the register PM_PMERR for a peripheral module type.

Extension registers

None

Associated logs

None

LMFLT**Register type**

Peg

Description

LMFLT counts line module (LM) errors that leave the LM system busy. The system performs the count pending manual interruption or a successful system-initiated recovery attempt.

Errors that are counted in LMFLT are also counted in LMERR.

Associated registers

The following registers are associated with LMFLT:

- PM_PMFLT, which counts PM errors that leave the PM system busy, pending manual interruption or a successful system-initiated recovery attempt.
- TYP_PMTFLT, which is the amount of the register PM_PMFLT for a peripheral module type.

Extension registers

None

Associated logs

None

LMMBP**Register type**

Peg

Description

LMMBP counts line modules (LM) in an in-service or an in-service trouble state that are made manual busy.

Associated registers

The following registers are associated with LMMBP:

- PM_PMMBP, which counts PMs within an in-service or an in-service trouble state that is made manual busy.
- PMTYP_PMTMBP, which is the amount of the register PM_PMMBP for a peripheral module type.

Extension registers

None

Associated logs

None

LMMBTCO**Register type**

Peg

Description

LMMBTCO counts terminals that are call processing busy, or in the call processing busy deload state, when the line module (LM) is manual busy.

If a warm restart occurs, two-port calls are not cut off. If a restart does not occur, LMMBTCO increases only once for the two terminals that are involved in a two-port call.

When a warm restart occurs from a manual busy state, LMMBTCO counts the terminals that are cut off.

Associated registers

The following registers are associated with LMMBTCO:

- PM_PMMBTCO, which counts terminals that are cut off when the peripheral module (PM) is put in the manual-busy state from an in-service state.
- PMTYP_PMTMBTCO, which is the amount of the register PM_PMMBTCO for a peripheral module type.

Extension registers

None

Associated logs

None

LMMBU**Register type**

Usage

Scan rate

100 seconds

Description

LMMBU records if a line module (LM) is manual busy.

Associated registers

The following registers are associated with LMMBU:

- PM_PMMMBU, which records if a peripheral module is manual busy. PMMMBU is a use register. The scan rate is slow: 100 seconds.
- PMTYP_PMTMMBU, which is the amount of the register PM_PMMMBU for a peripheral module type.

Extension registers

None

Associated logs

None

LMSBP**Register type**

Peg

Description

LMSBP counts line modules (LM) in an in-service or an in-service trouble state that are made system busy.

Associated registers

The following registers are associated with LMSBP:

- PM_PMSBP, which counts peripheral modules (PM) in an in-service or in-service trouble state that are made system busy.
- PMTYP_PMTSBP, which is the amount of the register PM_PMSBP for a peripheral module type.

Extension registers

None

Associated logs

None

LMSBTCO**Register type**

Peg

Description

LMSBTCO counter terminals that are call processing busy, or in the call processing busy deload state, when the line module (LM) is system busy.

Occasionally the LM becomes C-side busy before it becomes system busy. In this occurrence, if the LM can recover but the mate is busy, LMSBTCO counts only the terminals taken over from the mate.

If a take-over occurs, two-port calls cut off. If a take-over does not occur, then LMSBTCO increases once for the two terminals involved in a two-port call.

When a warm restart occurs from a system busy state, LMSBTCO counts the terminals that cut off.

Associated registers

The following registers are associated with LMSBTCO:

- PM_PMSBTCO, which counts terminals that are call processing busy, or in the call processing busy deload state, when the LM is system busy.
- PMTYP_PMTSBTCO, which is the amount of the register PM_PMSBTCO for a peripheral module type.

Extension registers

None

Associated logs

None

LMSBU

Register type

Usage

Scan rate

100 seconds

Description

LMSBU records if a line module (LM) is system busy.

A line module is system busy if it fails an audit of its common control functions, if inaccessible, or if more than 200 controller or line errors are reported within one 10-minute audit period.

Associated registers

The following registers are associated with LMSBU:

- PM_PMMSBU, which records if an LM is system busy. PMMSBU is a use register. The scan rate is slow: 100 seconds.
- PMTYP_PMTMSBU, which is the amount of the register PM_PMMSBU for a peripheral module type.

Extension registers

None

Associated logs

None

LMD

Description

OM group Line Traffic (LMD) is in all types of DMS offices, and provides traffic information for the following peripheral modules (PM):

- remote line modules (RLM)
- line concentrating modules (LCM)
- virtual line concentrating modules (VLCM)
- remote concentrator terminals (RCT)
- remote concentrator subscribers (RCS)
- integrated services line modules (ISLM)
- digital line modules (DLM)
- very small remote (VSR)
- enhanced line concentrating modules (ELCM)
- integrated services digital network (ISDN) line concentrating modules (LCMI)
- intelligent peripheral equipment (IPE)
- line modules (LM)

The following table lists the key and info fields that are associated with OM group LMD.

Key field	Info field
None	LMD_OMINFO (PM identifier)

The PM identifier contains the site identifier (four alphanumeric characters), and frame and unit numbers. For ISLM, the site identifier must be HOST. The frame number is a number from 0 to 511. Unit numbers appear according to the PM types in the following table.

PM types and unit numbers (Sheet 1 of 2)

PM type	Unit number
ALCM	0 - 1
DLM	0 - 1
ELCM	0 - 1

PM types and unit numbers (Sheet 2 of 2)

PM type	Unit number
FRU	0 - 1
IPE	0 - 3
ISLM	0 - 3
LCM	0 - 1
LCME	0 - 1
LCMI	0 - 1
LDT	0
LM	0 - 1
LRU	0 - 9
RCS	0 - 9
RCT	0 - 9
RCU	0 - 9
RDT	0 - 9
VLCM	0 - 1

Related functional groups

There are no functional groups associated with OM group LMD.

Registers

The following table lists the registers associated with OM group LMD and what they measure. For a description of a register, click on the register name.

Registers for OM group LMD

Register name	Measures
LMTRU	Traffic busy use
MADNTATT	MADN secondary member terminating attempts

Registers for OM group LMD

Register name	Measures
NORIGATT	Originating call attempts that the LM reports to the central control, including three-way call (3WC) attempts
NTERMATT	Terminating attempts
ORIGABN	Originating abandons before connection
ORIGBLK	Originating failures
ORIGFAIL	Originating attempt failures
PERCLFL	Terminating call attempt failures
REVERT	Revertive call attempts
STKCOINS	Stuck coins
TERMBLK	Terminating failures

LMTRU**Register type**

Usage

Scan rate

100 seconds

Description

LMTRU records the number of lines that are call processing busy or call processing busy deluding.

Associated registers

None

Extension registers

None

Associated logs

None

MADNTATT**Register type**

Peg

Description

MADNTATT:

- counts secondary units of MADN groups in the PM that notify the system of an incoming call
- increases for each electronic business (EBS) or ringing 500/2500 set that the system notifies. The primary termination increases in register NTERMATT
- does not count recalls of re-rings of a group unit

Note: In GL04, MADNTATT does not increase

Associated registers

None

Extension registers

None

Associated logs

None

NORIGATT**Register type**

Peg

Description

NORIGATT counts the originating call attempts, including three-way calls, that a line module (LM) reports to central control.

The register increases at the start of call processing before the system performs checks for line load control or congestion on the speech link to the networks module. If congestion is present and the originator remains off hook, the switch automatically makes several attempts at origination. Registers NORIGATT and ORIGBLK_ increase for each origination attempt.

Associated registers

The following registers are associated with NORIGATT:

- [ORIGBLK](#)
- ORG_NORIG counts start call attempts that central control recognizes
- OTS_NORG counts start call attempts that central control recognizes.

Validation formulas

The following formulas relate to NORIGATT and its associated registers:

- $\Sigma \text{LMD_ORIGATT} = (65536 * \text{OFZ_NORIG2}) + \text{OFZ_NORIG}$ line modules
- $\Sigma \text{LMD_ORIGATT} = (65536 * \text{OTS_NORG2}) + \text{OTS_NORG}$ line modules

Extension registers

None

Associated logs

None

NTERMATT**Register type**

Peg

Description

NTERMATT counts the attempts to find and available speech link from the networks module to a terminating line. This attempt occurs after call processing determines that the terminating line is available. The count includes:

- the call waited calls that ring through when the previous conversation ends
- the calls that the secondary unit of a multiple appearance directory number (MADN) group answer

Associated registers

The following registers are associated with NTERMATT:

- OFZ_TRMNWAT counts start call attempts to find a speech path to a terminating line.
- SOTS_STRMNWT counts attempts to find a speech path to a terminating line.

Validation formulas

The following formulas relate to NTERMATT and its associated registers:

- $\Sigma \text{LMD_NTERMATT} = (65536 * \text{OFZ_TRMNWAT2}) + \text{OFZ_TRMNWAT}$ line modules
- $\Sigma \text{LMD_NTERMATT} = (65536 * \text{SOTS_STRMNWT2}) + \text{SOTS_STRMNWT}$ line modules

Extension registers

None

Associated logs

None

ORIGABN**Register type**

Peg

Description

ORIGABN counts originating call attempts that the subscriber abandons before call setup completes. Large counts in ORIGABN indicate line problems in PMs.

Associated registers

The following registers are associated with ORIGABN:

- [NORIGATT](#)
- OFZ_ORIGABDN counts originating call attempts that the subscriber abandons before the system routes the call.
- OTS_ORIGABDN counts originating call attempts that the subscriber abandons before the call routes.

Validation formulas

The following formulas relate to ORIGABN and its associated registers:

- $\Sigma \text{LMD_ORIGABN} = \text{OFZ_ORIGABDN line modules}$
- $\Sigma \text{LMD_ORIGABN} = \text{OFZ_ORIGABDN line modules}$

Extension registers

None

Associated logs

LINE106, LINE108

ORIGBLK**Register type**

Peg

Description

ORIGBLK counts originating call attempts that fail because the idle speech path from the original LM to the networks module is not present. The PM originates the call for as long as the caller stays off hook.

A high count in ORIGBLK can indicate a fault condition such as RLM links that are either manually or system busy. Lower counts indicate a need either to supply more links or to reduce load.

Associated registers

The following registers are associated with ORIGBLK:

- [NORIGATT](#)
- OFZ_ORIGLKT counts originating call attempts that fail and route to lockout.
- OTS_ORIGLKT counts originating call attempts that fail and route to lockout. These calls do not connect or route to treatment.

Validation formulas

The following formulas relate to ORIGBLK and its associated registers:

- $\Sigma \text{LMD_ORIGBLK} = \text{OFZ_ORIGLKT}$ line modules
- $\Sigma \text{LMD_ORIGBLK} = \text{OFZ_ORIGLKT}$ line modules

Extension registers

None

Associated logs

NET130

ORIGFAIL

Register type

Peg

Description

ORIGFAIL counts originating call attempts that fail if the system:

- does not send enough digits before a time-out occurs (partial dial)
- sends no digits before a time-out occurs (permanent signal)
- sends additional pulses or bad tones

- generates two Digitone (DT) frequencies that have more than a 6dB spread between both of the frequencies.

Note: In GL04, ORIGFAIL does not increase when the system receives two DT frequencies that have more than a 6dB spread between the frequencies.

- receives a message type that was not planned from a PM during automatic number identification (ANI) tests on recordable calls. For example, a test failure is an unplanned message type.

Note: In GL04, ORIGFAIL does not increase when this occurs.

Associated registers

The following registers are associated with ORIGFAIL:

- TRMTCM_TCMPSIG counts calls that the system routes to permanent signal time-out treatment. The system routes the call to treatment because it does not receive digits before a time-out.
- TRMTCM_TCMPDIL counts calls the system routes to partial dial time-out treatment. The system routes the call to treatment when it receives a minimum of one digit, but not all the digits required to complete the call.
- TRMTER_TERRODR counts calls that the system routes to reorder treatment when it receives distorted signals during dialing or impulsing.

Extension registers

None

Associated logs

AMAB151, LINE108, LINE109, LINE104, LINE105, LINE106, LINE138

PERCLFL

Register type

Peg

Description

PERCLFL counts calls that cannot terminate on a line because of problems with ringing the terminating line. A ringing failure on an emergency service line does not cause the call to fail and does not increase PERCLFL. The system attempts ringing until the system is successful.

When the value for office parameter PER_CALL_GND_LOOP_TEST in table OFCVAR is Y, PERCLFL includes loop faults. The system detects loop faults in attempted terminations on ground start lines.

Associated registers

TRMTER_TERSYFL counts calls that the system routes to system failure treatment because of a software or hardware failure in the switching unit.

Extension registers

None

Associated logs

LINE107, LINE110, LINE113, LINE138

REVERT**Register type**

Peg

Description

REVERT counts revertive calls initiated on an LM. The register increases when ringing starts after the caller goes on hook for the first time. REVERT does not increase in GL04.

Associated registers

None

Extension registers

None

Associated logs

LINE138

STKCOINS**Register type**

Peg

Description

STKCOINS counts attempts to collect or return coins that fail because the coins are stuck. The register increases when call processing stops an attempt to collect or return the coins. The call proceeds as if the attempt to collect or return the coin was successful. This register does not increase in GL04.

Associated registers

None

Extension registers

None

Associated logs

LINE112

TERMBLK**Register type**

Peg

Description

TERMBLK counts attempts that fail to find a speech link from the network module to a terminating line for one of the following reasons:

- no speech links are available from the network to a terminating line
- no match is present between an idle channel on the links to the network and an idle channel on the link shelf that serves the terminating line.

Associated registers

The following registers are associated with TERMBLK:

- OFZ_TRMBLK counts attempts to find a voice path from the network module to a terminating line that fail for one of the following reasons:
 - all LM channels to the network are busy
 - no match is present between an idle channel on the links to the network and an idle channel on the line shelf that serves the terminating line
- SOTS_STRMBLK counts attempts to find a voice path from the network to a terminating line that fail for one of the following reasons:
 - all LM channels to the networks are busy
 - no match is present between and idle channel on the links to the network and idle channel on the line shelf that serves the terminating line
- SOTS_STRMRBLK counts calls that the system routes to networks blockage normal (NBLN) traffic treatment because the calls fail to find a voice path from a network module to a terminating line.
- SOTS_STRMMFL counts calls that fail to find a voice path to a terminating line because a network connection is not available.

- TRMTRS_TRSNBLN counts calls that route to NBLN traffic treatment when the call aborts. The system routes these calls to treatment because of failure to get a channel in the terminating PM.
- TRMTRS_TRSNBLH counts calls that route to the network blockage heavy (NBLH) traffic treatment when the call aborts. The system routes the call to treatment because of failure to get a path through the network.

Validation formulas

The following formulas relate to TERMBLK and its associated registers:

- $\Sigma \text{LMD_TERMBLK} = \text{OFZ_TRMBLK}$ line modules
- $\Sigma \text{LMD_TERMBLK} = \text{SOTS_SRMBLK}$ line modules

Extension registers

None

Associated logs

NET130

LMSCPUST

Description

OM group Local Message Switch Central Processing Unit Status (LMSCPUST) displays the central processing unit (CPU) occupancy data of a local message switch (LMS) unit.

The LMSCPUST contains seven registers that perform the following procedures:

- accumulate call processing class occupancy
- accumulate scheduler class CPU occupancy
- accumulate foreground class CPU occupancy
- accumulate maintenance class CPU occupancy
- accumulate CPU occupancy of the processes that run in the idle schedule class
- accumulate input and output interrupt CPU occupancy
- accumulate background class CPU occupancy

The following table lists the key and info fields associated with OM group LMSCPUST:

Key field	Info field
None	Duplex_ncmnode_info STRUCT namePM_TYPE,%LIM idunsignedint,%LIM number unitunsignedint,%LIM unit number ENDSTRUCT;

Related functional groups

The local message switch (LMS) is associated with OM group LMSCPUST.

Registers

The following table lists the registers associated with OM group LMSPUST and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group LMSPUST

Register name	Measures
LMSCP	Local message switch call processing class occupancy
LMSSCHED	Local message switch scheduler class occupancy
LMSSYS	Local message switch system class occupancy.
LMMAINT	Local message switch maintenance class occupancy
LMSBKG	Local message switch background class occupancy
LMSIDLE	Local message switch idle class occupancy
LMSIO	Local message switch input and output interrupt occupancy

LMSCP

Register type

Peg

Description

LMSCP reports the percentage that CPU uses to maintain call processing. In the LMS, the messaging system is the main user of the call processing CPU class. The call processing CPU class provides real-time performance. The messaging system uses the call processing class time to maintain message routes and to program mapper card. The messaging system allows payload traffic to switch through the LPP. The system can use the LMS switch hardware to switch payload traffic through the LPP.

Associated registers

None

Extension registers

None

Associated logs

None

LMSSCHED**Register type**

Peg

Description

LMSSCHED accumulates the scheduler class central processing unit occupancy.

Associated registers

None

Extension registers

None

Associated logs

None

LMSSYS**Register type**

Peg

Description

LMSSYS accumulates foreground class CPU occupancy.

Associated registers

None

Extension registers

None

Associated logs

None

LMSMAINT**Register type**

Peg

Description

LMSMAINT accumulates maintenance class CPU occupancy.

Associated registers

None

Extension registers

None

Associated logs

None

LMSBKG**Register type**

Peg

Description

LMSBKG accumulates background class CPU occupancy.

Associated registers

None

Extension registers

None

Associated logs

None

LMSIDLE**Register type**

Peg

Description

LMSIDLE accumulates CPU occupancy of the processes that run in the idle schedule class.

Associated registers

None

Extension registers

None

Associated logs

None

LMSIO**Register type**

Peg

Description

LMSIO accumulates input and output interrupt CPU occupancy.

Associated registers

None

Extension registers

None

Associated logs

None

LMSMEM

Description

OM group Local Message Switch Memory (LMSMEM) displays the memory usage over the OM transfer period.

LMSMEM contains six registers that:

- display the number of available program store (PS) vast areas. A vast area is 32K-1 words in size.
- displays the number of available data store (DS) vast areas
- displays the amount of total DS memory
- displays the amount of available DS memory
- displays the amount of total PS memory
- displays the amount of available PS memory

The following table lists the key and info fields associated with OM group LMSMEM:

Key field	Info field
None	Duplex_ncmnode_info <ul style="list-style-type: none"> • STRUCT <ul style="list-style-type: none"> — name pm_type, %LIM — id unsignedint, %LIM number — unit unsignedint, %LIM unit number • ENDSTRUCT;

Related functional groups

The local message switch is associated with LMSMEM.

Registers

The following table lists the registers associated with OM group LMSMEM and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group LMSMEM

Register name	Measures
PSVTAVL	Program store vast areas available
DSVTAVL	Data store vast areas available
LMSDSTOT	Local message switch data store total
LMSDSAVL	Local message switch program store available
LMSPSTOT	Local message switch program store total
LMSPSAVL	Local message switch program store available

PSVTAVL

Register type

Peg

Description

PSVTAVL displays the number of available program store (PS) vast areas.

Associated registers

None

Extension registers

None

Associated logs

None

DSVTAVL

Register type

Peg

Description

DSVTAVL displays the number of available data store (DS) vast areas.

Associated registers

None

Extension registers

None

Associated logs

None

LMSDSTOT**Register type**

Peg

Description

LMSDSTOT displays the amount of total DS memory.

Associated registers

None

Extension registers

None

Associated logs

None

LMSDSAVL**Register type**

Peg

Description

LMSDSAVL displays the amount of available DS memory.

Associated registers

None

Extension registers

None

Associated logs

None

LMSPSTOT**Register type**

Peg

Description

LMSPSTOT displays the amount of total PS memory.

Associated registers

None

Extension registers

None

Associated logs

None

LMSPSAVL**Register type**

Peg

Description

LMSPSAVL displays the amount of available PS memory.

Associated registers

None

Extension registers

None

Associated logs

None

LNP

Description

OM group Local Number Portability (LNP) allows subscribers to change service providers. The OM group LNP also allows subscribers to retain a directory number (DN). To access a ported DN, the DMS switch sends a query to a database at a Service Control Point (SCP). If the dialled DN ports, the SCP returns a location routing number (LRN) that identifies the DN switch. If the dialled DN does not port, the SCP returns the dialled DN.

The OM group LNP counts the number of LNP:

- queries launched
- queries escaped
- queries failures
- response failures
- calls routed to numbers that are not allocated
- queries by the service command QLRN

The following table lists the key and info fields associated with OM group LNP:

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group LNP.

Registers

The following table lists the registers associated with OM group LNP and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group LNP (Sheet 1 of 2)

Register name	Measures
LNPQRY	LNP Query
LNPQRY1	LNP Query extension

Registers for OM group LNP (Sheet 2 of 2)

Register name	Measures
LNPQFT1	LNP Query Failure - T1 timer expiration
LNPRFERR	LNP Query blocked by Automatic Call Gapping
LNPQFRTE	LNP Query Failure - SS7 error
LNPQFACG	LNP Query blocked by Automatic Call Gapping
LNPQFSCP	LNP Fatal protocol/application error in the query message
LNPQFSSP	LNP Query cannot be built
LNPRFCNT	LNP Continue response received
LNPRFDSC	LNP disconnect response received
LNPRFSTR	LNP Send_To_Resource received
LNPQESC	LNP Query escaped
LNPQESC1	LNP Query escaped extension
LNPPORT	LNP Ported number
LNPPORT1	LNP Ported number extension
LNPREL	LNP ISUP Release - cause 26
LNPUADNR	LNP unallocated number on donor
LNPUAHOM	LNP unallocated number on recipient
LNPQLRNQ	Query LRN tool - count of queries.
LNPQLRNR	Query LRN tool - count of responses
LNPQLRNV	Query LRN tool - correct count
LNPQLRNA	Query LRN tool - ACG count

LNPQRY**Register type**

Peg

Description

LNPQRY counts the calls that meet an LNP trigger and that result in an LNP SCP query.

Associated registers

None

Extension registers

LNPQRY1

Associated logs

None

LNPQRY1**Register type**

Peg

Description

LNPQRY1 counts overflows from the LNPQRY register.

Associated registers

[LNPQRY](#)

Extension registers

None

Associated logs

None

LNPQFT1**Register type**

Peg

Description

LNPQFT1 counts the number of calls that fail because of a T1 timer time-out. A T1 timer starts when the switch makes query to an LNP SCP. The switch queries the LNP SCP for a call that meets LNP trigger.

Associated registers

None

Extension registers

None

Associated logs

None

LNPRFERR**Register type**

Peg

Description

LNPRFERR counts the number of calls that result in a failed LNP SCP query. The query fails because the response generates a fatal protocol error or because of an application error.

Associated registers

None

Extension registers

None

Associated logs

None

LNPQFRTE**Register type**

Peg

Description

LNPQFRTE counts the number of SCP queries that the system cannot launch. The system cannot launch SCP queries because of problems with Signaling System 7 (SS7).

Associated registers

None

Extension registers

None

Associated logs

None

LNPQFACG**Register type**

Peg

Description

LNPQFACG counts the number of queries the ACG blocks.

Associated registers

None.

Extension registers

None

Associated logs

None

LNPQFSCP**Register type**

Peg

Description

LNPQFSCP counts the number of calls that meet an LNP trigger that result in a failed LNP SCP query. The query fails because the SCP query message reports a fatal protocol error or application error.

Associated registers

None

Extension registers

None

Associated logs

None

LNPQFSSP**Register type**

Peg

Description

LNPQFSSP counts the number of queries the system cannot build.

Associated registers

None

Extension registers

None

Associated logs

None

LNPRFCNT**Register type**

Peg

Description

LNPRFCNT counts the number of continue responses the system receives from the SCP.

Associated registers

None

Extension registers

None

Associated logs

None

LNPRFCNT**Register type**

Peg

Description

LNPRFCNT counts the number of continue responses the system receives from the SCP.

Associated registers

None

Extension registers

None

Associated logs

None

LNPRFDSC**Register type**

Peg

Description

LNPRFDSC counts the number of disconnect responses that the system received.

Associated registers

None

Extension registers

None

Associated logs

None

LNPRFSTR**Register type**

Peg

Description

LNPRFSTR counts the number of send to resource responses that the system received.

Associated registers

None

Extension registers

None

Associated logs

None

LNPQESC**Register type**

Peg

Description

LNPQESC counts the number of calls that encounter an LNP trigger that does not launch a query to the LNP SCP.

Associated registers

None

Extension registers

LNPQESC1

Associated logs

None

LNPQESC1**Register type**

Peg

Description

LNPQESC1 counts the overflow from register LNPQESC.

Associated registers[LNPQESC](#)**Extension registers**

None

Associated logs

None

LNPPORT**Register type**

Peg

Description

LNPPORT counts the number of SCP responses to LNP SCP queries that contain a Location Routing Number (LRN).

Associated registers

None

Extension registers

LNPPORT1

Associated logs

None

LNPPORT1**Register type**

Peg

Description

LNPPORT1 counts the overflow from register LNPPORT.

Associated registers[LNPPORT](#)**Extension registers**

LNPPORT1

Associated logs

None

LNPREL**Register type**

Peg

Description

LNPREL counts the number of LNP calls that cause a ISUP REL message with an ISUP cause value of 26.

Associated registers

None

Extension registers

None

Associated logs

None

LNPUADNR**Register type**

Peg

Description

LNPUADNR counts the number of LNP calls that meet an indication in the donor switch that is not allocated. This register also counts the number of LPN calls that meet an empty number indication in the donor switch. This indication follows an LNP query in this switch or another switch.

Associated registers

None

Extension registers

None

Associated logs

None

LNPUAHOM**Register type**

Peg

Description

LNPUAHOM counts the number of LNP calls that encounter an indication in the recipient switch that is not allocated. This register also counts the number of LPN calls that encounter an empty number indication in the recipient switch. This indication follows an LNP query in this switch or another switch.

Associated registers

None

Extension registers

None

Associated logs

None

LNPQLRNQ**Register type**

Peg

Description

LNPQLRNQ counts the number of queries the query-LRN command QLRN sent.

Associated registers

TCMSGOUT, TCINVKL of group TCAPUSAG for TCAP messages.

Extension registers

None

Associated logs

None

LNPQLRNR**Register type**

Peg

Description

LNPQLRNR counts the number of responses for the query-LRN command QLRN.

Associated registers

TCMSGIN, TCQWPERM, TCRESPNS of group TCAPUSAG.

Extension registers

None

Associated logs

None

LNPQLRNV**Register type**

Peg

Description

LNPQLRNV counts the correct responses the query-LRN command QLRN receives.

Associated registers

None

Extension registers

None

Associated logs

None

LNPQLRNA**Register type**

Peg

Description

LNPQLRNA counts the number of times a user of the query-LRN command QLRN selected to override ACG controls.

Associated registers

BLKCASCP, BLKCASMS, SCPOVLDO, SMSOVLDO of group AINACG, which maintain different information about ACG queries.

Extension registers

None

Associated logs

None

LNREDIAL

Description

OM group Last Number Redial (LNR) is an Meridian Digital Centrex (MDC) feature that permits the last number the subscriber dialed to dial again. The subscriber enters a keystroke sequence or access code to dial the number again. When the subscriber dials a number, the system stores the number as the LNR number.

The OM group LNREDIAL provides information on LNR feature activity. Register LNRATT counts attempts to use LNR. Register LNRFAIL increases if the system cannot retrieve the last number dialed. Register LNRPOVFL increases when the system cannot store the last number dialed because there are not enough software resources. The system does not count attempts to store the last number the subscriber dials.

The following table lists the key and info fields associated with OM group LNREDIAL:

Key field	Info field
IBNG_INDEX. The tuple number of LNREDIAL serves as the key in the OMSHOW command. The maximum number of key fields is 4096	OMIBNGINFO is the name of the customer group. The field CUSTNAME in table CUSTENG defines the customer name.

Office parameter FTRQ2WAREAS specifies the number of FTRQ2WAREAS software resources an engineering interval requires. Each directory number (DN) assigned the LNR feature requires one FTRQ2WAREAS block. A DN requires one FTRQ2WAREAS block to store the last call dialed that involves a 1- to 7-digit number.

Office parameter FTRQ4WAREAS specifies the number of FTRQ4WAREAS software resources that an engineering interval requires. The following require one FTRQ4WAREAS block:

- a DN appearance with the LNR feature in which the last call involves an 8- to 15-digit number
- a DN appearance with the LNR feature in which the last call involves a 1- to 7-digit number. This call occurs when an FTRQ2WAREAS block is not available

Office parameter FTRQ8WAREAS specifies the number of FTRQ8WAREAS software resources that an engineering interval requires. The following require one FTRQ8WAREAS block:

- a DN appearance with the LNR feature in which the last call involves a number of more than fifteen digits
- a DN appearance with the LNR feature in which the last call involved an 8- to 15-digit number. This call occurs when no FTRQ4WAREAS block is available
- a DN appearance with the LNR feature in which the last call involves a 1- to 7-digit number. This call occurs when no FTRQ2WAREA block is available

Office parameter FTRQAGENTS specifies the number of agents that can have different features, which include LNR. The LNR can be waiting or active at any time.

Office parameter FTRQSIZE specifies the size of the head table for office parameter FTRQAGENTS.

Table CUSTENG lists the values for the engineering parameters and options for each of the customer groups.

Related functional groups

The following functional groups are associated with OM group LNREDIAL:

- Meridian Digital Centrex
- Meridian SL-100

Registers

The following table lists the registers associated with OM group LNREDIAL and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group LNREDIAL

Register name	Measures
LNRCATT	LNR attempts
LNRCFAIL	LNR call failures
LNRPOVFL	LNR overflow

LNRCACT**Register type**

Peg

Description

LNRCACT counts attempts to use the LNR feature.

Associated registers

None

Extension registers

None

Associated logs

AMAB105

LNRFAIL**Register type**

Peg

Description

LNRFAIL counts attempts to use the LNR feature that fail because the system cannot retrieve the last number stored. Negative acknowledgement treatment receives the call.

Associated registers

The TRMT3_NACK, which increases when acknowledgement (NACK) treatment receives a call.

Extension registers

None

Associated logs

AUD395, AUD398

LNRPOVFL**Register type**

Peg

Description

LNRPOVFL increases when the system does not store the last number dialed because not enough software resources are present. The FTRQ2WAREAS, FTRQ4WAREAS, and FTRQ8WAREAS office parameters allocate these resources.

Associated registers

FTRQ_FTRQOVFL counts requests for a feature queue block that fail because no feature queue blocks are available.

Extension registers

None

Associated logs

SWER

LOGS

Description

OM group Log Messages (LOGS) counts:

- lost log reports
- software error reports from the central control complex (CCC)
- software error reports from peripheral modules (PM)
- trap reports from PMs

The following table lists the key and info fields associated with OM group LOGS:

Key field	Info field
None	None

Office parameter LOG_CENTRAL_BUFFER_SIZE in table OFCVAR defines the length of the central log buffer.

Related functional groups

The following functional groups are associated with OM group LOGS:

- DMS-100 Local
- DMS-100/200 Local/Toll
- DMS-100/200 TOPS
- DMS-200 Toll
- DMS-200 TOPS
- DMS-100 Meridian
- DMS-MTX
- DMS-250 Toll/Tandem
- DMS-300
- Meridian SL-100 PBX

Registers

The following table lists the registers associated with OM group LOGS and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group LOGS

Register name	Measures
LOSTREC	Lost records
PMSWERCT	Module software error
PMTRAPCT	Peripheral module trap
SWERRCT	Software error count

LOSTREC

Register type

Peg

Description

LOSTREC counts log reports lost because the central log buffer or the output device buffers overflows.

Associated registers

None

Extension registers

None

Associated logs

None

PMSWERCT

Register type

Peg

Description

PMSWERCT counts software error reports that peripheral modules (PM) generate and hardware errors that affect software execution.

The value in PMSWERCT can be larger than the number of log reports because of log suppression or buffer overflows.

Associated registers

Register PM_PMERR, which counts errors detected in an in-service PM. Register PM_PMERR counts errors even if the errors result in additional maintenance action.

Extension registers

None

Associated logs

PM122, PM124, PM126, PM180, PM290

PMTRAPCT**Register type**

Peg

Description

PMTRAPCT counts trap reports that peripheral modules (PM) generate.

The value in PMTRAPCT can be larger than the number of log reports because of log suppression or buffer overflows.

Collect and bring trap log reports and all associated logs to the attention of the technical support group.

Associated registers

PM_PMERR, which counts errors that an in-service PM detects. Register PM_PMERR counts errors even if the errors result in additional maintenance action.

Extension registers

None

Associated logs

PM125, PM179, PM180, PM300

SWERRCT**Register type**

Peg

Description

SWERRCT counts software error reports that the central control complex (CCC) generates.

Software error reports are output as SWER log reports. The value in SWERRCT can be larger than the number of SWER log reports because of log suppression or buffer overflows.

The following cause software error reports:

- software errors
- data corruption
- data errors made by the user

Collect and bring SWER log reports and all associated logs to the attention of the technical support group.

Associated registers

None

Extension registers

None

Associated logs

SWER

M20CARR1

Description

OM group M20 Carrier 1 (M20CARR1) provides information about alarms and state changes that occur on M20 carriers. These 30-channel carriers with 32 time slots support communication at a rate of 2048 Kbits/s between the DMS system and the Japanese network.

The following table lists the key and info fields associated with OM group M20CARR1:

Key field	Info field
None	M20OMINF

Related functional groups

There are no functional groups associated with OM group M20CARR1.

Registers

The following table lists the registers associated with OM group M20CARR1 and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group M20CARR1 (Sheet 1 of 2)

Register name	Measures
AISSERR	Alarm indication signal error
AISSFLT	Alarm indication signal fault
ALERR	Alarm error
ALFLT	Alarm fault
CARCBSY	Carrier C-side peripheral busy
CARMANB	Carrier manually busy
CARSYSB	Carrier system busied
FAERR	Frame alignment error
FAFLT	Frame alignment fault

Registers for OM group M20CARR1 (Sheet 2 of 2)

Register name	Measures
SLIPPERR	Slip error
SLIPPFLT	Slip fault

AISSERR**Register type**

Peg

Description

AISSERR increases when the central control (CC) generates an alarm because of a fault on an M20 signaling link. The CC detects the fault when a continuous stream of 1's is found on the incoming link. A continuous stream of 1's on the incoming link indicates the link is in a manually busy state. A minimum of one frame of 1's must be received before an alarm indication signal (AIS) is raised.

Associated registers

When the CC detects an AIS fault on an incoming M20 signaling link, AISSERR increases.

Extension registers

None

Associated logs

None

AISSFLT**Register type**

Peg

Description

AISSFLT increases when the CC detects an AIS fault on an incoming M20 signaling link. This fault occurs when the CC detects a continuous stream of 1's on the incoming link. A continuous stream of 1's on the incoming link indicates the link is in a manually busy state. At least one frame of 1's must be received before an AIS is raised.

Associated registers

When the CC generates an alarm because of an AIS fault the CC detects on an M20 signaling link, AISSFLT increases.

Extension registers

None

Associated logs

None

ALERR**Register type**

Peg

Description

ALERR increases when the CC detects a fault on an M20 signaling link and generates an alarm. The CC detects a fault when a binary 1 is found in bit 2 of timeslot 0. This fault indicates that the incoming 2048 kbits/s signal on the M20 link cannot be received.

Associated registers

When the CC detects a fault on an incoming M20 signaling link, ALERR increases.

Extension registers

None

Associated logs

None

ALFLT**Register type**

Peg

Description

ALFLT increases when the CC detects a fault on an incoming M20 signaling link. This fault occurs when a binary 1 is found in bit 2 of timeslot 0. This fault indicates that the incoming 2048 kbits/s signal on the M20 link cannot be received.

Associated registers

When the CC detects a fault on an M20 signaling link and generates an alarm, ALFLT increases.

Extension registers

None

Associated logs

None

CARCBSY**Register type**

Peg

Description

Register CARCBSY updates every 100 seconds. Register CARCBSY records the amount of time the M20 carrier is in a Core side (C-side) peripheral busy (CBSY) state. The system places the carrier in this state when the C-side peripheral module goes out of service.

Associated registers

None

Extension registers

None

Associated logs

None

CARMANB**Register type**

Peg

Description

CARMANB updates every 100 seconds. Register CARMANB records the amount of time that the M20 carrier is in a manual-busy (ManB) state. Maintenance personnel place a carrier in a ManB state.

Associated registers

None

Extension registers

None

Associated logs

None

CARSYSB**Register type**

Peg

Description

CARSYSB updates every 100 seconds. Register CARSYSB records the amount of time that the M20 carrier is in a system busy (SysB) state. The M20 carrier is in a SysB state because of system alarms or faults.

Associated registers

None

Extension registers

None

Associated logs

None

FAERR**Register type**

Peg

Description

FAERR increases when the CC generates an alarm because of a frame alignment (FA) fault the CC detects on an M20 signaling link. This fault occurs when a code violation bit is missing or when two bits are not positioned alarm indicates a loss of the incoming signal or a loss of incoming frame alignment.

Associated registers[FAFLT](#)**Extension registers**

None

Associated logs

None

FAFLT**Register type**

Peg

Description

FAFLT increases when the CC detects an FA fault on an incoming M20 signaling link. This fault occurs when a code violation bit is missing or when two bits are not positioned correctly on the link. The two bits are less or more than 125 us apart. The result is a loss of the incoming signal.

Associated registers[FAERR](#)**Extension registers**

None

Associated logs

None

SLIPPERR**Register type**

Peg

Description

SLIPPERR increases when the CC generates an alarm because of a slip fault on an M20 signaling link. This fault occurs when a frame of data on the link repeats or slips over.

Associated registers[SLIPPFLT](#)**Extension registers**

None

Associated logs

None

SLIPPFLT**Register type**

Peg

Description

SLIPPFLT increases when the CC detects a slip fault on an incoming M20 signaling link. This fault occurs when a frame of data on the link repeats or slips over.

Associated registers[SLIPPERR](#)**Extension registers**

None

Associated logs

None

M20CARR2

Description

OM group M20 Handling 2 (M20CARR2) provides information about alarms and state changes that occur on M20 handling groups. A handling group consists of six of the 30 voice/data channels on an M20 carrier. The M20 carrier supports communication at a rate of 2048 kbits/s between the DMS system and the Japanese network.

The following table lists the key and info fields associated with OM group M20CARR2:

Key field	Info field
None	M200MINF

Related functional groups

There are no functional groups associated with OM group M20CARR2.

Registers

The following table lists the registers associated with OM group M20CARR2 and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group M20CARR2 (Sheet 1 of 2)

Register name	Measures
H1MANB	Handling group 1 manually busied
H1SYSB	Handling group 1 system busied
H2MANB	Handling group 2 manually busied.
H2SYSB	Handling group 2 system busied
H3MANB	Handling group 3 manually busied
H3SYSB	Handling group 3 system busied
H4MANB	Handling group 4 manually busied
H4SYSB	Handling group 4 system busied
H5MANB	Handling group 5 manually busied

Registers for OM group M20CARR2 (Sheet 2 of 2)

Register name	Measures
H5SYSB	Handling group 5 system busied
HGCFL	Handling group carrier failed
TNR11ERR	Error count for TNR1 alarm for handling group 1
TNR11FLT	Fault count for TNR1 alarm for handling group 1
TNR12ERR	Error count for TNR1 alarm for handling group 2
TNR12FLT	Fault count for TNR1 alarm for handling group 2
TNR13ERR	Error count for TNR1 alarm for handling group 3
TNR13FLT	Fault count for TNR1 alarm for handling group 3
TNR14ERR	Error count for TNR1 alarm for handling group 4
TNR14FLT	Fault count for TNR1 alarm for handling group 4
TNR15ERR	Error count for TNR1 alarm for handling group 5
TNR15FLT	Fault count for TNR1 alarm for handling group 5
TNR21ERR	Error count for TNR2 alarm for handling group 1
TNR21FLT	Fault count for TNR2 alarm for handling group 1
TNR22ERR	Error count for TNR2 alarm for handling group 2
TNR22FLT	Fault count for TNR2 alarm for handling group 2
TNR23ERR	Error count for TNR2 alarm for handling group 3
TNR23FLT	Fault count for TNR2 alarm for handling group 3
TNR24ERR	Error count for TNR2 alarm for handling group 4
TNR24FLT	Fault count for TNR2 alarm for handling group 4
TNR25ERR	Error count for TNR2 alarm for handling group 5
TNR25FLT	Fault count for TNR2 alarm for handling group 5

H1MANB**Register type**

Peg

Description

H1MANB updates every 100 seconds. Register H1MANB records the amount of time handling group 1 of an M20 carrier is in a manual-busy state. Handling group 1 is in a manual busy state so that telephone company personnel can perform maintenance tasks on the handling group. An M20 carrier is in an in-service trouble (ISTb) state when a minimum of one of the handling groups is manual busy.

Associated registers

None

Extension registers

None

Associated logs

None

H1SYSB**Register type**

Peg

Description

H1SYSB updates every 100s. Register H1SYSB records the amount of time handling group 1 of an M20 carrier is in a system busy state. Handling group 1 can be in a system busy state. An unsolicited message from the extended peripheral module (XPM) also places handling group 1 in a system busy state. An M20 carrier is in an ISTb state when a minimum of one of the handling groups is system busy

Associated registers

None

Extension registers

None

Associated logs

None

H2MANB**Register type**

Peg

Description

H2MANB updates every 100s. Register H2MANB records the amount of time handling group 2 of an M20 carrier is in a manual busy state. Handling group 2 is in a manual busy state so that telephone company personnel can perform maintenance tasks. Telephone company personnel perform maintenance tasks on the handling group. An M20 carrier is in an ISTb state when a minimum of one of the handling groups manual busies.

Associated registers

None

Extension registers

None

Associated logs

None

H2SYSB**Register type**

Peg

Description

H2SYSB updates every 100 seconds. Register H2SYSB records the amount of time handling group 2 of an M20 carrier is in a system busy state. A carrier fault that the CC detects during an audit places handling group 2 in a system busy state. An unsolicited message from the XPM also places handling group 2 in a system busy state. An M20 carrier is in an ISTb state when a minimum of one of the handling groups is system busy.

Associated registers

None

Extension registers

None

Associated logs

None

H3MANB**Register type**

Peg

Description

H3MANB updates every 100 seconds. Register H3MANB records the amount of time handling group 3 of an M20 carrier is in a manual busy state. Handling group 3 is in a manually busy state so that telephone company personnel can perform maintenance tasks on the handling group. An M20 carrier is in an ISTb state when a minimum of one of the handling groups is manually busy.

Associated registers

None

Extension registers

None

Associated logs

None

H3SYSB**Register type**

Peg

Description

H3SYSB updates every 100 seconds. Register H3SYSB records the amount of time handling group 3 of an M20 carrier is in a system busy state. A carrier fault that the CC detects during an audit places handling group 3 in a system busy state. An unsolicited message from the XPM also places handling group 3 in a system busy state. An M20 carrier is in an ISTb state when a minimum of one of the handling groups is system busy.

Associated registers

None

Extension registers

None

Associated logs

None

H4MANB**Register type**

Peg

Description

H4MANB updates every 100 seconds. Register H4MANB records the amount of time handling group 4 of an M20 carrier is in a manual busy state.

Handling group 4 is in a manually busy state so that telephone company personnel can perform maintenance tasks on the handling group. An M20 carrier is in an ISTb state when a minimum of one of the handling groups is manually busy.

Associated registers

None

Extension registers

None

Associated logs

None

H4SYSB**Register type**

Peg

Description

H4SYSB updates every 100 seconds. Register H4SYSB records the amount of time handling group 4 of an M20 carrier is in a system busy state. A carrier fault that CC detects during an audit places handling group 4 in a system busy state. An unsolicited message from the XPM. An M20 carrier is in an ISTb state when a minimum of one of the handling groups is system busy.

Associated registers

None

Extension registers

None

Associated logs

None

H5MANB**Register type**

Peg

Description

H5MANB updates every 100 seconds. Register H5MANB records the amount of time handling group 5 of an M20 carrier is in a manual busy state. Handling group 5 is in a manual busy state so that telephone company personnel can perform maintenance tasks on the handling group. An M20 carrier is in an ISTb state when a minimum of one of the handling groups is manually busy.

Associated registers

None

Extension registers

None

Associated logs

None

H5SYSB**Register type**

Peg

Description

H5SYSB updates every 100 seconds. Register H5SYSB records the amount of time handling group 5 of an M20 carrier is in a system busy state. Handling group 5 can be in a system busy state. An unsolicited message from the XPM also places handling group 5 in a system busy state. An M20 carrier is in an ISTb state when a minimum of one of the handling groups system busy.

Associated registers

None

Extension registers

None

Associated logs

None

HGCFL**Register type**

Peg

Description

HGCFL updates every 100 seconds. Register HGCFL records the amount of time that an M20 carrier is in a carrier failed (CFL) state. An

M20 carrier is in a CFL state because of the failure of the handling groups.

Associated registers

None

Extension registers

None

Associated logs

None

TNR11ERR**Register type**

Peg

Description

TNR11ERR increases when the CC generates a TNR1 frame alignment alarm. The CC generates a TNR1 frame alignment alarm when the CC detects a TNR1 fault on handling group 1 of an M20 carrier. The TNR1 faults occur when the correct sequence of framing bits in a handling group is lost.

Associated registers

[TNR11FLT](#)

Extension registers

None

Associated logs

None

TNR11FLT**Register type**

Peg

Description

TNR11FLT increases when the CC detects a TNR1 fault on handling group 1 of an M20 carrier. A TNR1 fault occurs when the correct sequence of framing bits in a handling group is lost. The group is in a system busy state when the correct sequence of framing bits is lost.

Associated registers

[TNR11ERR](#)

Extension registers

None

Associated logs

None

TNR12ERR**Register type**

Peg

Description

TNR12ERR increases when the CC generates a TNR1 frame alignment alarm. The CC generates a TRN1 frame alignment alarm when the CC detects a TNR1 fault on handling group 2 of an M20 carrier. TNR1 faults occur when the correct sequence of framing bits in a handling group is lost.

Associated registers[TNR12FLT](#)**Extension registers**

None

Associated logs

None

TNR12FLT**Register type**

Peg

Description

TNR12FLT increases when the CC detects a TNR1 fault on handling group 2 of an M20 carrier. A TNR1 fault occurs when the correct sequence of framing bits in a handling group is lost. The group is in a system busy state when the correct sequence of framing bits is lost.

Associated registers[TNR12ERR](#)**Extension registers**

None

Associated logs

None

TNR13ERR**Register type**

Peg

Description

TNR13ERR increases when the CC generates a TNR1 frame alignment alarm. The CC generates a TNR1 frame alignment alarm when the CC detects TNR1 fault on handling group 3 of an M20 carrier. TNR1 faults occur when the correct sequence of framing bits in a handling group is lost.

Associated registers[TNR13FLT](#)**Extension registers**

None

Associated logs

None

TNR13FLT**Register type**

Peg

Description

TNR13FLT increases when the CC detects a TNR1 fault on handling group 3 of an M20 carrier. A TNR1 fault occurs when the correct sequence of framing bits in a handling group is lost. The group is in a system busy state when the correct sequence of framing bits in a handling group is lost.

Associated registers[TNR13ERR](#)**Extension registers**

None

Associated logs

None

TNR14ERR**Register type**

Peg

Description

TNR14ERR increases when the CC generates a TNR1 frame alignment alarm. The CC generates a TNR1 frame alignment alarm when detecting a TNR1 fault on handling group 4 of an M20 carrier. TNR1 faults occur when the correct sequence of framing bits in a handling group is lost.

Associated registers

[TNR14FLT](#)

Extension registers

None

Associated logs

None

TNR14FLT**Register type**

Peg

Description

TNR14FLT increases when the CC detects a TNR1 fault on handling group 4 of an M20 carrier. A TNR1 fault occurs when the correct sequence of framing bits in a handling group is lost. The group is in a system busy state when the correct sequence of framing bits is lost.

Associated registers

[TNR14ERR](#)

Extension registers

None

Associated logs

None

TNR15ERR**Register type**

Peg

Description

TNR15ERR increases when the CC generates a TNR1 frame alignment alarm. The CC generates a TRN1 frame alignment alarm when the CC detects a TNR1 fault on handling group 5 of an M20 carrier. TNR1 faults occur when the correct sequence of framing bits in a handling group is lost.

Associated registers[TNR15FLT](#)**Extension registers**

None

Associated logs

None

TNR15FLT**Register type**

Peg

Description

TNR15FLT increases when a the CC detects a TNR1 fault is detected on handling group 5 of an M20 carrier. A TNR1 fault occurs when the correct sequence of framing bits in a handling group is lost. The group is in a system busy state when the correct sequence of framing bits is lost.

Associated registers[TNR15ERR](#)**Extension registers**

None

Associated logs

None

TNR21ERR**Register type**

Peg

Description

TNR21ERR increases when the CC generates a TNR2 alarm. The CC generates a TNR2 alarm when the CC detects a TNR2 fault on handling group 1 of an M20 carrier. The CC uses the signaling processor (SP) alarm bits on the handling group bit streams to detect TNR2 faults. These faults occur when the remote M20 multiplexer cannot receive signaling information from the local M20 multiplexer.

Associated registers[TNR21FLT](#)**Extension registers**

None

Associated logs

None

TNR21FLT**Register type**

Peg

Description

TNR21FLT increases when the CC detects a TNR2 fault on handling group 1 of an M20 carrier. The SP alarm bits on the handling group bit streams detect TNR2 faults. These faults occur when the remote M20 multiplexer cannot receive signalling information from the local M20 multiplexer.

Associated registers[TNR21ERR](#)**Extension registers**

None

Associated logs

None

TNR22ERR**Register type**

Peg

Description

TNR22ERR increases when the CC generates a TNR2 alarm. The CC generates a TNR2 alarm when the CC detects a TNR2 fault on handling group 2 of an M20 carrier. The CC uses the SP alarm bits on the handling group bit streams to detect TNR2 faults. These faults occur when the remote M20 multiplexer cannot receive signaling information from the local M20 multiplexer.

Associated registers[TNR22FLT](#)**Extension registers**

None

Associated logs

None

TNR22FLT**Register type**

Peg

Description

TNR22FLT increases when the CC detects a TNR2 fault on handling group 2 of an M20 carrier. The CC uses the SP alarm bits on the handling group bit streams to detect TNR2 faults. These faults occur when the remote M20 multiplexer cannot receive signaling information from the local M20 multiplexer.

Associated registers[TNR22ERR](#)**Extension registers**

None

Associated logs

None

TNR23ERR**Register type**

Peg

Description

TNR23ERR increases when the CC generates a TNR2 alarm. The CC generates a TNR2 alarm when the CC detects a TNR2 fault on handling group 3 of an M20 carrier. The CC uses the SP alarm bits on the handling group bit streams to detect TNR2 faults. These faults occur when the remote M20 multiplexer cannot receive signaling information from the local M20 multiplexer.

Associated registers[TNR23FLT](#)**Extension registers**

None

Associated logs

None

TNR23FLT**Register type**

Peg

Description

TNR23FLT increases when the CC detects a TNR2 fault on handling group 3 of an M20 carrier. The CC uses the SP alarm bits on the handling group bit streams to detect TNR2 faults. These faults occur when the remote M20 multiplexer cannot receive signaling information from the local M20 multiplexer.

Associated registers

[TNR23ERR](#)

Extension registers

None

Associated logs

None

TNR24ERR**Register type**

Peg

Description

TNR24ERR increases when the CC generates a TNR2 alarm. The CC generates a TNR2 alarm when the CC detects a TNR2 fault on handling group 4 of an M20 carrier. The CC uses the SP alarm bits on the handling group bit streams to detect TNR2 faults. These faults occur when the remote M20 multiplexer cannot receive signaling information from the local M20 multiplexer.

Associated registers

[TNR24FLT](#)

Extension registers

None

Associated logs

None

TNR24FLT**Register type**

Peg

Description

TNR24FLT increases when the CC detects a TNR2 fault on handling group 4 of an M20 carrier. The CC uses the SP alarm bits on the handling group bit streams to detect TNR2 faults. These faults occur

when the remote M20 multiplexer cannot receive signaling information from the local M20 multiplexer.

Associated registers

[TNR24ERR](#)

Extension registers

None

Associated logs

None

TNR25ERR**Register type**

Peg

Description

TNR25ERR increases when the CC generates a TNR2 alarm. The CC generates a TNR2 alarm when the CC detects a TNR2 fault on handling group 5 of an M20 carrier. The SP alarm bits on the handling group bit streams detect TNR2 faults. These faults occur when the remote M20 multiplexer cannot receive signaling information from the local M20 multiplexer.

Associated registers

[TNR25FLT](#)

Extension registers

None

Associated logs

None

TNR25FLT**Register type**

Peg

Description

TNR25FLT increases when the CC detects a TNR2 fault on handling group 5 of an M20 carrier. The CC uses the SP alarm bits on the handling group bit streams to detect TNR2 faults. These faults occur when the remote M20 multiplexer cannot receive signaling information from the local M20 multiplexer.

Associated registers

[TNR25ERR](#)

Extension registers

None

Associated logs

None

MACHCONG

Description

OM group Machine Congestion (MACHCONG) provides information on MC1 and MC2 machine congestion levels in the central control complex (CCC). MC1 and MC2 congestion levels occur in the CCC when predetermined threshold values are exceeded. MC1 and MC2 are defined by the same threshold values that determine when the first- and second-level internal dynamic overload controls (IDOC) are activated.

IDOC is a network management (NWM) feature that generates control signals when internal overload is detected in a switch. The NWM system provides supervision and control of switching office networks to ensure the maximum flow of traffic during overload conditions.

MACHCONG has three registers:

- one usage register that records whether the MC1 and MC2 congestion levels are reached for call processing or the multifrequency queue
- two peg registers that are incremented if the MC1 and MC2 congestion levels are reached for call processing or the multifrequency (MF) queue

The data supplied by MACHCONG is used to assess how well the CCC is processing calls.

The following table lists the key and info fields associated with OM group MACHCONG:

Key field	Info field
nwm_mc_level is a value (MC1, MC2, or MC3) that represents the level of machine congestion. MC1 represents a lower level of machine congestion than MC2, but both levels are triggered by the same causes. MC3 represents the level of machine congestion that results when an office cannot perform call processing because of a dead system or a system restart. The registers in MACHCONG do not count level MC3. The threshold values must be datafilled in table NWMIDOC to specify when MC1 and MC2 levels are reached and IDOC levels one and two are activated.	None

Related functional groups

The following functional groups are associated with OM group MACHCONG:

- DMS-100 Local
- DMS-200 Toll
- DMS-250 Toll/Tandem
- DMS-300 Gateway
- DMS-100 International
- DMS-MTX Mobile Telephone Exchange
- Network Management Internal Dynamic Overload Control

Registers

The following table lists the registers associated with OM group LOGS and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group LOGS

Register name	Measures
MCCPUCT	Machine congestion CPU count
MCMFCT	Machine congestion multifrequency count
MCU	Machine congestion usage

MCCPUCT

Register type

Peg

Description

MCCPUCT is incremented if the MC1 and MC2 congestion levels are reached for CPU call processing. CPU congestion occurs when the percentage of time the CPU spends on call processing exceeds the predetermined threshold values in table NWMIDOC. At maximum speed, MCCPUCT is incremented at one-minute intervals.

Threshold values must be datafilled in table NWMIDOC to specify the percentage of time that the CPU can devote to call processing before the MC1 and MC2 congestion levels are reached and IDOC levels one and two are activated.

Associated registers

None

Extension registers

None

Associated logs

None

MCMFCT

Register type

Peg

Description

MCMFCT is incremented if the MC1 and MC2 congestion levels are reached for incoming multifrequency (MF) calls that are queued while the CCC sets up a connection to a tone receiver. At maximum speed, MCMFCT is incremented at one-minute intervals.

Threshold values must be datafilled in table NWMIDOC to specify when MC1 and MC2 congestion levels are reached and IDOC levels one and two are activated.

Associated registers

None

Extension registers

None

Associated logs

None

MCU**Register type**

Peg

Scan rate

10 seconds

Description

MCU records whether the MC1 and MC2 congestion levels have been reached for:

- incoming multifrequency calls that are queued until the CCC sets up a connection to a tone receiver
- CPU call processing

Congestion occurs during CPU call processing when the percentage of time the CPU spends on call processing exceeds the predetermined threshold values in table NWMIDOC.

Threshold values must be datafilled in table NWMIDOC to specify when MC1 and MC2 congestion levels are reached and IDOC levels one and two are activated.

Associated registers

None

Extension registers

None

Associated logs
None

MDCWAKUP

Description

OM group Wake-up Call (MDCWAKUP) maintains counts for aspects of the Wake-Up Call feature.

The following table lists the key and info fields associated with OM group MDCWAKUP:

Key field	Info field
None	None

The user must enter the activation and termination codes for the Wake-Up Call feature in table IBNXLA.

Related functional groups

The Meridian Digital Centrex operating group is associated with OM group MDCWAKUP.

Registers

The following table lists the registers associated with OM group MDCWAKUP and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MDCWAKUP

Register name	Measures
WUCBLCK	Wake-up call ringing blocked
WUCCOMP	Wake-up call completions
WUCDCT	Wake-up call deactivations
WUCDNY	Wake-up call deny activation
WUCDSCRD	Wake-up call request discarded
WUCOVRDU	Wake-up call request overdue
WUCRTRY1	Wake-up call first retry
WUCRTRY2	Wake-up call second retry
WUCSACT	Wake-up call successful activations

WUCBLCK**Register type**

Peg

Description

WUCBLCK counts the number of wake-up calls that the system blocks because of ringing limitations.

Associated registers

When the CC detects an AIS fault on an incoming M20 signaling link, AISSERR increases.

Extension registers

None

Associated logs

WUCR101

WUCCOMP**Register type**

Peg

Description

WUCCOMP counts the number of wake-up calls that are terminated and answered.

Associated registers

None

Extension registers

None

Associated logs

None

WUCDCT**Register type**

Peg

Description

WUCDCT counts the number of complete terminations of the Wake-Up Call feature.

Associated registers

None

Extension registers

None

Associated logs

None

WUCDNY**Register type**

Peg

Description

WUCDNY counts the number of Wake-Up Call feature activations that the system denies. Denial occurs because the requested time slot is full or the total number of requests exceeds the allowed limit. Denial of Wake-Up Call feature can also occur because the system gives an invalid time or an invalid ringing time out value.

Associated registers

None

Extension registers

None

Associated logs

None

WUCDSCRD**Register type**

Peg

Description

WUCDSCRD counts the number of wake-up calls that the system discards. The system discards the calls when the system makes three wake-up calls but can not complete them.

Associated registers

None

Extension registers

None

Associated logs

WUCR102

WUCOVRDU**Register type**

Peg

Description

WUCOVRDU counts the number of wake-up calls that the system discards. The system discards the calls because the request was overdue, as a result of a change in the time or date.

Associated registers

None

Extension registers

None

Associated logs

WUCR102

WUCRTRY1**Register type**

Peg

Description

WUCRTRY1 counts the number of wake-up calls that require a retry. A retry is required because the first call attempt is busy or is not answered. WUCRTRY1 increases when the system attempts the first retry.

Associated registers

None

Extension registers

None

Associated logs

None

WUCRTRY2**Register type**

Peg

Description

WUCRTRY2) counts the number of wake-up calls that require both first and second retries. The calls require retries because the first retry was busy or was not answered. WUCRTRY2 increases when the system attempts a second retry.

Associated registers

None

Extension registers

None

Associated logs

None

WUCSACT**Register type**

Peg

Description

WUCSACT counts the number of successful activations of the Wake-Up Call feature.

Associated registers

None

Extension registers

None

Associated logs

None

MDSACT

Description

OM group Message Delivery System Activity (MDSACT) records events occurring in the DMS switch portion of the Message Delivery System (MDS). The group measures the number of calls

- eligible for MDS
- monitored for MDS
- in which the subscriber chose to use MDS

The following table lists the key and info fields associated with OM group MDSACT:

Key field	Info field
None	None

Related functional groups

The following functional groups are associated with OM group MDSACT:

- Automated Alternate Billing System (AABS)
- Traffic Operator Position System (TOPS)

Registers

The following table lists the registers associated with OM group MDSACT and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MDSACT (Sheet 1 of 2)

Register name	Measures
ACC3RD	Third number call accepted service
ACCCC	Calling card call accepted service
ACCCOL	Collect call accepted service
ELIG3RD	Third number call eligible
ELIGCC	Calling card call eligible
ELIGCOL	Collect calls eligible

Registers for OM group MDSACT (Sheet 2 of 2)

Register name	Measures
INELG3RD	Third number call ineligible
INELGCC	Calling card call ineligible
INELGCOL	Collect call ineligible
MON3RDFA	Monitor third number call failure
MON3RDSU	Monitor third number call success
MONCCSU	Monitor calling card call failure
MONCOLFA	Monitor calling card call success
MONCOLSU	Monitor collect call failure
NOACC3RD	Monitor collect call success
NOACCCC	Third number call did not accept service
NOACCCOL	Calling card call did not accept service

ACC3RD**Register type**

Peg

Description

ACC3RD is incremented when a caller on an AABS third number call that has been floated chooses to select MDS.

Associated registers

None

Extension registers

None

Associated logs

None

ACCCC**Register type**

Peg

Description

ACCCC is incremented when a subscriber on an AABS calling card call that has been floated chooses to select MDS.

Associated registers

None

Extension registers

None

Associated logs

None

ACCCOL**Register type**

Peg

Description

ACCCOL is incremented when a subscriber on an AABS collect call that has been floated selects MDS.

Associated registers

None

Extension registers

None

Associated logs

None

ELIG3RD**Register type**

Peg

Description

ELIG3RD is incremented when an AABS third number call is sent from the voice services node to the switch with a language present in table MDSLANG with MONITOR = Y.

Associated registers

None

Extension registers

None

Associated logs

None

ELIGCC**Register type**

Peg

Description

ELIGCC is incremented when an AABS calling card call is sent from the voice services node to the switch with a language present in table MDSLANG with MONITOR = Y.

Associated registers

None

Extension registers

None

Associated logs

None

ELIGCOL**Register type**

Peg

Description

ELIGCOL is incremented when an AABS collect call is sent from the voice services node to the switch with a language present in table MDSLANG with MONITOR = Y.

Associated registers

None.

Extension registers

None

Associated logs

None

INELG3RD**Register type**

Peg

Description

INELG3RD is incremented when an AABS third number call is sent from the voice services node to the switch with a language to which one of the following conditions applies:

- the language is not present in table MDSLANG
- the language is present in table MDSLANG and MONITOR = N

Associated registers

None

Extension registers

INELG3R2

Associated logs

None

INELGCC**Register type**

Peg

Description

INELGCC is incremented when an AABS calling card call is sent from the voice services node to the switch with a language to which one of the following conditions applies:

- the language is not present in table MDSLANG
- the language is present in table MDSLANG and MONITOR = N

Associated registers

None

Extension registers

INELGCC2

Associated logs

None

INELGCOL**Register type**

Peg

Description

INELGCOL is incremented when an AABS collect call is sent from the voice services node to the switch with a language to which one of the following conditions applies:

- the language is not present in table MDSLANG
- the language is present in table MDSLANG and MONITOR = N

Associated registers

None

Extension registers

None

Associated logs

None

MON3RDFA**Register type**

Peg

Description

MON3RDFA is incremented when monitoring an AABS third-number call for MDS selection fails, that is, no receiver was obtained or the call could not be connected to the receiver.

Associated registers

None

Extension registers

None

Associated logs

None

MON3RDSU**Register type**

Peg

Description

MON3RDSU is incremented when an AABS third number call is successfully monitored for MDS selection, that is, a receiver was obtained and a connection was made to it.

Associated registers

None

Extension registers

MON3RDS2

Associated logs

None

MONCCFA**Register type**

Peg

Description

MONCCFA is incremented when monitoring an AABS calling card call for MDS selection fails because a receiver was not obtained or the call could not be connected to the receiver.

Associated registers

None

Extension registers

None

Associated logs

None

MONCCSU**Register type**

Peg

Description

MONCCSU is incremented when an AABS calling card call is successfully monitored for MDS selection, that is, a receiver was obtained and a connection was made to it.

Associated registers

None

Extension registers

MONCCSU2

Associated logs

None

MONCOLFA**Register type**

Peg

Description

MONCOLFA is incremented when monitoring an AABS collect call, which has been sent from the voice services node to the switch, for MDS selection fails. Failures occur because a receiver is not obtained or the call could not be connected to the receiver.

Associated registers

None

Extension registers

None

Associated logs

None

MONCOLSU**Register type**

Peg

Description

MONCOLSU is incremented when an AABS collect call is successfully monitored for MDS selection, that is, a receiver is obtained and a connection is made to it.

Associated registers

None

Extension registers

None

Associated logs

None

NOACC3RD**Register type**

Peg

Description

NOACC3RD is incremented whenever a subscriber on an AABS third number call is offered MDS and does not choose to select MDS.

Associated registers

None

Extension registers

NOACC3R2

Associated logs

None

NOACCCC**Register type**

Peg

Description

NOACCCC is incremented when a subscriber on an AABS calling card call that was offered MDS does not select MDS.

Associated registers

None

Extension registers

None

Associated logs

NOACCCC2

NOACCCOL**Register type**

Peg

Description

NOACCCOL is incremented when a subscriber on an AABS collect call that was offered MDS does not select MDS.

Associated registers

None

Extension registers

None

Associated logs

None

MDSSTATS

Description

MDS Statistics

This OM group provides the Modular Documentation System (MDS) provider with information about:

- how many times each offer of service prompt has been played
- the total number of times offer of service prompts have been played
- how the subscribers have accepted the service
- the total number of times the service has been accepted
- how many time the subscribers have interrupted the playing of the offer of service prompts
- how many times the subscribers have hung-up during the playing of the offer of service prompts.

These statistics can be used to determine the percentage of calls that chose MDS with respect to how many have been offered the service. The statistics can also indicate why the service is being offered (for example; due to CLD Busy, RNA, and so forth) and how the subscribers are accepting it. Also useful is to see the percentage of calls that are being offered the Generic prompt due to the switch's inability to determine the exact network condition.

OM group MDSSTATS provides one tuple for each office.

Key field	Info field
none	none

Related functional groups

The TOPS MDS Enhancements functional group is associated with the OM group MDSSTATS.

Registers

The following table lists the registers associated with OM group MDSSTATS and what they measure. For a description of a register, click on the register name.

Registers for OM group MDSSTATS

Register name	Measures
BSYOOSP	Busy Offer of Service Prompt Played
GENOOSP	Generic Offer of Service Prompt Played
HOOKACC	Detection of `Hookflash' For Acceptance of MDS
NETOOSP	Network Busy Offer of Service Prompt Played
PRMTABD	Number of Subscriber Hang-ups During Prompt
PRMTSTP	Detection of `#' to Stop Playing of a Prompt
RNAOOSP	Ring-No-Answer Offer of Service Prompt Played
TOTLACC	Total Number of Subscriber Acceptances for MDS
TOTOOSP	Total Number of Offer of Service Prompts Played
STARACC	Detection of `*' For Acceptance of MDS
ZEROACC	Detection of `0' For Acceptance of MDS

BSYOOSP

Register type

Peg

Description

Busy Offer of Service Prompt Played

This register is pegged whenever the BUSY Offer Of Service Prompt (OOSP) is played.

Associated registers

The [TOTOOSP](#) register is pegged every time this register is pegged.

Extension registers

BSYOOSP2

Associated logs

There are no associated logs.

GENOOSP**Register type**

Peg

Description

Generic Offer of Service Prompt Played

This register is pegged whenever the GENERIC OOSP is played.

Associated registers

The [TOTOOSP](#) register is pegged every time this register is pegged.

Extension registers

GENOOSP2

Associated logs

There are no associated logs.

HOOKACC**Register type**

Peg

Description

Detection of `Hookflash' For Acceptance of MDS

This register is pegged whenever the TOPS subsystem detects that the subscriber keyed `hookflash' to choose MDS and was therefore routed to MDS. It is assumed that the hookflash enable office wide parms in the DMS and in the VSN are enabled or disabled consistently with respect to each other (that is, if one is enabled the other is also be enabled).

Associated registers

The [TOTLACC](#) register is pegged every time this register is pegged.

Extension registers

HOOKACC2

Associated logs

There are no associated logs.

NETOOSP**Register type**

Peg

Description

Network Busy Offer of Service Prompt Played

This register is pegged whenever the NETWORK BUSY OOSP is played.

Associated registers

The [TOTOOSP](#) register is pegged every time this register is pegged.

Extension registers

NETOOSP2

Associated logs

There are no associated logs.

PRMTABD**Register type**

Peg

Description

Number of Subscriber Hang-ups During Prompt

This register is pegged every time a subscriber hangs up during the playing of a prompt.

Associated registers

There are no associated registers.

Extension registers

PRMTABD2

Associated logs

There are no associated logs.

PRMTSTP**Register type**

Peg

Description

Detection of '#' to Stop Playing of a Prompt

This register is pegged every time a subscriber keys '#' to stop the playing of a prompt. A prompt must be playing when the subscriber keys '#' in order to peg this register.

Associated registers

There are no associated registers.

Extension registers

PRMTSTP2

Associated logs

There are no associated logs.

RNAOOSP**Register type**

Peg

Description

Ring-No-Answer Offer of Service Prompt Played

This register is pegged whenever the RNA OOSP is played.

Associated registers

There are no associated registers.

Extension registers

RNAOOSP2

Associated logs

There are no associated logs.

TOTLACC**Register type**

Peg

Description

Total Number of Subscriber Acceptances for MDS

This register is pegged every time a subscriber chooses and is routed to MDS.

Associated registers

The TOTLACC register is pegged every time registers [STARACC](#), [ZEROACC](#), or [HOOKACC](#) are pegged.

Extension registers

TOTLACC2

Associated logs

There are no associated logs.

TOTOOSP**Register type**

Peg

Description

Total Number of Offer of Service Prompts Played

This register is pegged whenever any xxxOOSP register is played.

Associated registers

The TOTOOSP register is pegged every time registers [BSYOOSP](#), [NETOOSP](#), [RNAOOSP](#), or [GENOOSP](#) are pegged.

Extension registers

TOTOOSP2

Associated logs

There are no associated logs.

STARACC**Register type**

Peg

Description

Detection of '*' For Acceptance of MDS

This register is pegged whenever the TOPS subsystem detects that the subscriber keyed '*' to choose MDS and was therefore routed to MDS.

Associated registers

The [TOTLACC](#) register is pegged every time this register is pegged.

Extension registers

STARACC2

Associated logs

There are no associated logs.

ZEROACC**Register type**

Peg

Description

Detection of `0' For Acceptance of MDS

This register is pegged whenever the TOPS subsystem detects that the subscriber keyed `0' to choose MDS and was therefore routed to MDS.

Associated registers

The [TOTLACC](#) register is pegged every time this register is pegged.

Extension registers

ZEROACC2

Associated logs

There are no associated logs.

MNATM

Description

OM group MNATM provides ATM interface performance data for the Multi-service Gateway (MG) 4000, the Interworking Spectrum Peripheral Module (IW SPM) ATM, and the Dynamic Packet Trunk (DPT) SPM.

Use the following formula to calculate the number of incoming ATM cells in an OM collection period for *one* IW SPM ATM.

Formula for *one* IW SPM ATM:

$$\begin{aligned} \text{Incoming ATM cells} = \\ \text{Register ICTOTAL} + (\text{Extension register ICTOTAL2} \times 65,535) \end{aligned}$$

Use the following formula to calculate the number of incoming ATM cells in an OM collection period for *n* IW SPM ATM.

Formula for *n* IW SPM ATM:

$$\begin{aligned} \text{Total incoming ATM cells} = \\ \text{Incoming ATM cells IW SPM1} + \dots + \text{Incoming ATM cells IW SPM}n \end{aligned}$$

For 64-kbyte voice streams that are carried over AAL-1 circuit emulation service, use the following formula to calculate the total carried traffic load across *all* IW SPM ATM. The formula assumes 47 bytes of voice payload for each cell and 60 minutes of OM data collection.

Formula for *all* IW SPM ATM:

$$\begin{aligned} \text{Total carried traffic in erlang} = \\ \frac{(\text{Total incoming ATM cells} \times 47 \text{ bytes/cell} \times 8 \text{ bits/byte})}{(64,000 \text{ bits/sec} \times 3600 \text{ sec/collection period})} \\ = \text{Total incoming ATM cells} \times 1.63 \times 10^{-6} \end{aligned}$$

With the total load, an Erlang B calculator can be used to calculate the number of channels required to carry the load at the specified grade of service. This can be compared to the number of channels calculated by

the IW SPM ATM planning tool. Based on the result, the accuracy of the planning tool can be determined.

The following table lists the key and info fields associated with OM group MNATM.

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group MNATM.

Registers

The following table lists the registers associated with OM group MNATM and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MNATM (Sheet 1 of 2)

Register name	Measures
ICTOTAL	Incoming ATM cells
ICLP0TO	Incoming ATM cells with cell loss priority (CLP)=0
ICLP1TO <i>(not available)</i>	Incoming ATM cells with CLP=1
ICNC <i>(not available)</i>	Incoming non-compliant ATM cells
ICCLP0NC <i>(not available)</i>	Incoming non-compliant ATM cells with CLP=0
ICCLP1NC <i>(not available)</i>	Incoming non-compliant ATM cells with CLP=1
ICDISC <i>(not available)</i>	Incoming ATM cells discarded
ICCLP0DC <i>(not available)</i>	Incoming ATM cells with CLP=0 discarded
ICCLP1DC <i>(not available)</i>	Incoming ATM cells with CLP=1 discarded

Registers for OM group MNATM (Sheet 2 of 2)

Register name	Measures
ITAGGED (not available)	Incoming tagged ATM cells
OGTOTAL	Outgoing ATM cell
OCLP0TO	Outgoing ATM cells with CLP=0
OCLP1TO (not available)	Outgoing ATM cells with CLP=1

ICTOTAL**Register type**

Peg

Description

ICTOTAL counts incoming ATM cells.

Associated registers[OGTOTAL](#), [ICDISC](#)**Extension registers**

ICTOTAL2

Associated logs

None

ICLP0TO**Register type**

Peg

Description

ICLP0TO counts incoming ATM cells with cell loss priority (CLP)=0.

Associated registers[OCLP0TO](#), [ICCLP0DC](#)**Extension registers**

ICLP0TO2

Associated logs

None

ICLP1TO**Register type**

Peg

Description

ICLP1TO counts incoming ATM cells with CLP=1. Currently, ICLP1TO and its extension register are *not available*.

Associated registers

[OCLP1TO](#), [ICCLP1DC](#)

Extension registers

ICLP1TO2

Associated logs

None

ICNC**Register type**

Peg

Description

ICNC counts incoming non-compliant ATM cells. Non-compliant cells are those that do not meet the traffic policing requirement. Currently, ICNC and its extension register are *not available*.

Associated registers

None

Extension registers

ICNC2

Associated logs

None

ICCLP0NC**Register type**

Peg

Description

ICCLP0NC counts incoming non-compliant ATM cells with CLP=0. Currently, ICCLP0NC and its extension register are *not available*.

Associated registers

None

Extension registers

ICCLP0NC2

Associated logs

None

ICCLP1NC**Register type**

Peg

Description

ICCLP1NC counts incoming non-compliant ATM cells with CLP=1. Currently, ICCLP1NC and its extension register are *not available*.

Associated registers

None

Extension registers

ICCLP1NC2

Associated logs

None

ICDISC**Register type**

Peg

Description

ICDISC counts incoming ATM cells that are discarded. The policing hardware can discard cells that do not meet the traffic contract for a connection. Currently, ICDISC and its extension register are *not available*.

Associated registers[OGTOTAL](#), [ICTOTAL](#)**Extension registers**

ICDISC2

Associated logs

None

ICCLP0DC**Register type**

Peg

Description

ICCLP0DC counts incoming ATM cells with CLP=0 that are discarded. Currently, ICCLP0DC and its extension register are *not available*.

Associated registers

[OCLP0TO](#), [ICLP0TO](#)

Extension registers

ICCLP0DC2

Associated logs

None

ICCLP1DC**Register type**

Peg

Description

ICCLP1DC counts incoming ATM cells with CLP=1 that are discarded. Currently, ICCLP1DC and its extension register are *not available*.

Associated registers

[OCLP1TO](#), [ICLP1TO](#)

Extension registers

ICCLP1DC2

Associated logs

None

ITAGGED**Register type**

Peg

Description

ITAGGED counts incoming tagged ATM cells. Tagging occurs when the policing algorithm changes CLP from 0 to 1, which reduces the priority of the outgoing cell. Currently, ITAGGED and its extension register are *not available*.

Associated registers

None

Extension registers

ITAGGED2

Associated logs

None

OGTOTAL**Register type**

Peg

Description

OGTOTAL counts outgoing ATM cells.

Associated registers[ICTOTAL](#), [ICDISC](#)**Validation formula**

OGTOTAL = ICTOTAL - ICDISC

Extension registers

OGTOTAL2

Associated logs

None

OCLP0TO**Register type**

Peg

Description

OCLP0TO counts outgoing ATM cells with CLP=0.

Associated registers[ICLP0TO](#), [ICCLP0DC](#)**Validation formula**

OCLP0TO = ICLP0TO - ICCLP0DC

Extension registers

OCLP0TO2

Associated logs

None

OCLP1TO**Register type**

Peg

Description

OCLP1TO counts outgoing ATM cells with CLP=1.

Currently, OCLP1TO and its extension register are *not available*.

Associated registers

[ICLP1TO](#), [ICCLP1DC](#)

Validation formula

$OCLP1TO = ICLP1TO - ICCLP1DC$

Extension registers

OCLP1TO2

Associated logs

None

MNATMA1

Description

OM group MNATMA1 measures asynchronous transfer mode (ATM) AAL1 interface performance statistics for the Multi-service Gateway (MG) 4000, the Interworking Spectrum Peripheral ATM (IW SPM ATM), and the Dynamic Packet Trunk (DPT) SPM.

MNATMA1 provides AAL1 layer performance peg counts on an aggregate basis for each ATM interface according to the datafill in table MNATMIF (one tuple for each ATM interface on an SPM). The actual peg counts are accumulated on the peripheral and then uploaded to the OM group using the Spectrum OM Transfer System (SOTS).

The following table lists the key and info fields associated with OM group MNATMA1.

Key field	Info field
<spm_no> <i>where:</i> <spm_no> = an integer from 0 to 85	<class_type><spm_no><alias> <i>where:</i> <class_type> = DMSCP, IW, or SMG4 <spm_no> = an integer from 0 to 85, as datafilled in tables MNNODE and MNATMIF <alias> = the string name alias of the SPM as datafilled in table MNNODE

Related functional groups

There are no functional groups associated with OM group MNATMA1.

Registers

The following table lists the registers associated with OM group MNATMA1 and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MNATMA1 (Sheet 1 of 2)

Register name	Measures
ICTOTAL	Incoming ATM cells
ICDISC	Incoming ATM cells discarded

Registers for OM group MNATMA1 (Sheet 2 of 2)

Register name	Measures
OGTOTAL	Outgoing total cells
HERRCEL	Head errored cells
LATECEL	Late cells
MSINCEL	Mis-inserted cells
LOSTCEL	Lost cells
SLIPS	Slip events
OOSYNC	Out-of-sync events

ICTOTAL**Register type**

Peg

Description

ICTOTAL counts incoming ATM cells.

Associated registers[OGTOTAL](#), [ICDISC](#)**Extension registers**

ICTOTAL2

Associated logs

None

ICDISC**Register type**

Peg

Description

ICDISC counts incoming ATM cells that are discarded. The policing hardware can discard cells that do not meet the traffic contract for a connection.

Associated registers[OGTOTAL](#), [ICTOTAL](#)

Extension registers

ICDISC2

Associated logs

None

OGTOTAL**Register type**

Peg

Description

OGTOTAL counts outgoing ATM cells.

Associated registers[ICTOTAL](#), [ICDISC](#)**Validation formula** $OGTOTAL = ICTOTAL - ICDISC$ **Extension registers**

OGTOTAL2

Associated logs

None

HERRCEL**Register type**

Peg

Description

HERRCEL counts cells that are discarded because of errors in the AAL1 payload data unit (PDU) header.

Associated registers

None

Extension registers

HERRCEL2

Associated logs

None

LATECEL**Register type**

Peg

Description

LATECEL counts cells that are received late. A cell is late when the receiving buffer becomes empty.

Associated registers

None

Extension registers

LATECEL2

Associated logs

None

MSINCEL**Register type**

Peg

Description

MSINCEL counts cells that are mis-inserted and received out of sequence. A cell is mis-inserted when the sequence number of that cell is less than the sequence number of a cell that was received previously.

Associated registers

None

Extension registers

MISINCEL2

Associated logs

None

LOSTCEL**Register type**

Peg

Description

LOSTCEL counts cells that are not received. Lost cells are detected when the sequence number of an upcoming cell increases by more than 1 from the sequence number of a cell that was received previously.

Associated registers

None

Extension registers

LOSTCEL2

Associated logs

None

SLIPS**Register type**

Peg

Description

SLIPS counts slip events (also known as buffer overflow).

Associated registers

None

Extension registers

SLIPS2

Associated logs

None

OOSYNC**Register type**

Peg

DescriptionOOSYNC counts out-of-sync events. An out-of-sync event can be either *transient* (lasting <1 second) or *persistent* (lasting >1 second).**Associated registers**

None

Extension registers

OOSYNC2

Associated logs

None

MNATMA5

Description

OM group MNATMA5 measures interface performance statistics for the Multi-service Gateway (MG) 4000 asynchronous transfer mode (ATM) permanent virtual connection (PVC) AAL5. AAL5 PVC connections are datafilled in table ATMCONN. Peg counts are accumulated on the peripheral and then uploaded to the OM group using the Spectrum OM Transfer System (SOTS).

The following table lists the key and info fields associated with OM group MNATMA5.

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group MNATMA5.

Registers

The following table lists the registers associated with OM group MNATMA5 and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MNATMA5

Register name	Measures
CRC32ERR	Protocol data units (PDU) that contain cyclic redundancy check-32 (CRC-32) errors
OVERSDU	PDU's discarded because of an oversized service data units (SDU)
LENViol	PDU's discarded because of length violations

CRC32ERR

Register type

Peg

Description

CRC32ERR counts the PDU's that contain CRC-32 errors.

Associated registers

None

Extension registers

None

Associated logs

ATM800

OVERSDU**Register type**

Peg

Description

OVERSDU counts the PDUs that are discarded because of oversized service data unit (SDU). An oversized SDU > 2048 bytes.

Associated registers

None

Extension registers

None

Associated logs

ATM800

LENVIOL**Register type**

Peg

Description

LENVIOL counts the PDUs discarded because of length violations.

Associated registers

None

Extension registers

None

Associated logs

ATM800

MNATMVC

Description

OM group Maintenance ATM Virtual Circuits (MNATMVC) measures interface performance statistics for the Multi-service Gateway (MG) 4000 asynchronous transfer mode (ATM) permanent virtual connection (PVC) AAL5. AAL5 PVC connections are datafilled in table ATMCONN.

The following table lists the key and info fields associated with OM group MNATMVC.

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group MNATMVC.

Registers

The following table lists the registers associated with OM group MNATMVC and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MNATMVC (Sheet 1 of 2)

Register name	Measures
ICTOTAL	Incoming ATM cells
ICLP0TO	Incoming ATM cells with cell loss priority (CLP)=0
ICLP1TO	Incoming ATM cells with CLP=1
ICNC	Incoming non-compliant ATM cells
ICCLP0NC	Incoming non-compliant ATM cells with CLP=0
ICCLP1NC	Incoming non-compliant ATM cells with CLP=1
ICDISC	Incoming ATM cells discarded
ICCLP0DC	Incoming ATM cells with CLP=0 discarded
ICCLP1DC	Incoming ATM cells with CLP=1 discarded

Registers for OM group MNATMVC (Sheet 2 of 2)

Register name	Measures
ITAGGED	Incoming tagged ATM cells
OGTOTAL	Outgoing ATM cell
OCLP0TO	Outgoing ATM cells with CLP=0
OCLP1TO	Outgoing ATM cells with CLP=1

ICTOTAL**Register type**

Peg

Description

ICTOTAL counts incoming ATM cells.

Associated registers[OGTOTAL](#), [ICDISC](#)**Extension registers**

ICTOTAL2

Associated logs

None

ICLP0TO**Register type**

Peg

Description

ICLP0TO counts incoming ATM cells with cell loss priority (CLP)=0.

Associated registers[OCLP0TO](#), [ICCLP0DC](#)**Extension registers**

ICLP0TO2

Associated logs

None

ICLP1TO**Register type**

Peg

Description

ICLP1TO counts incoming ATM cells with CLP=1.

Associated registers

[OCLP1TO](#), [ICCLP1DC](#)

Extension registers

ICLP1TO2

Associated logs

None

ICNC**Register type**

Peg

Description

ICNC counts incoming non-compliant ATM cells. Non-compliant cells are those that do not meet the traffic policing requirement.

Associated registers

None

Extension registers

ICNC2

Associated logs

None

ICCLP0NC**Register type**

Peg

Description

ICCLP0NC counts incoming non-compliant ATM cells with CLP=0.

Associated registers

None

Extension registers

ICCLP0NC2

Associated logs

None

ICCLP1NC**Register type**

Peg

Description

ICCLP1NC counts incoming non-compliant ATM cells with CLP=1.

Associated registers

None

Extension registers

ICCLP1NC2

Associated logs

None

ICDISC**Register type**

Peg

Description

ICDISC counts incoming ATM cells that are discarded. The policing hardware can discard cells that do not meet the traffic contract for a connection.

Associated registers[OGTOTAL](#), [ICTOTAL](#)**Extension registers**

ICDISC2

Associated logs

None

ICCLP0DC**Register type**

Peg

Description

ICCLP0DC counts incoming ATM cells with CLP=0 that are discarded.

Associated registers[OCLP0TO](#), [ICLP0TO](#)**Extension registers**

ICCLP0DC2

Associated logs

None

ICCLP1DC**Register type**

Peg

Description

ICCLP0DC counts incoming ATM cells with CLP=1 that are discarded.

Associated registers[OCLP1TO](#), [ICLP1TO](#)**Extension registers**

ICCLP1DC2

Associated logs

None

ITAGGED**Register type**

Peg

Description

ITAGGED counts incoming tagged ATM cells. Tagging occurs when the policing algorithm changes CLP from 0 to 1, which reduces the priority of the outgoing cell.

Associated registers

None

Extension registers

ITAGGED2

Associated logs

None

OGTOTAL**Register type**

Peg

Description

OGTOTAL counts outgoing ATM cells. The formula for OGTOTAL is:

Associated registers[ICTOTAL](#), [ICDISC](#)

Validation formula
$$\text{OGTOTAL} = \text{ICTOTAL} - \text{ICDISC}$$
Extension registers

OGTOTAL2

Associated logs

None

OCLP0TO**Register type**

Peg

Description

OCLP0TO counts outgoing ATM cells with CLP=0.

Associated registers[ICLP0TO](#), [ICCLP0DC](#)**Validation formula**
$$\text{OCLP0TO} = \text{ICLP0TO} - \text{ICCLP0DC}$$
Extension registers

OCLP0TO2

Associated logs

None

OCLP1TO**Register type**

Peg

Description

OCLP1TO counts outgoing cells with CLP=1.

Associated registers[ICLP1TO](#), [ICCLP1DC](#)**Validation formula**
$$\text{OCLP1TO} = \text{ICLP1TO} - \text{ICCLP1DC}$$
Extension registers

OCLP1TO2

Associated logs

None

MNGEMLNK

Description

OM group Multiservice Node Gigabit Ethernet Module Link (MNGEMLNK) provides Gigabit Ethernet Link usage statistics to assist with network bandwidth Engineering.

In this OM group, the pegs include:

- The number of packets/octets transmitted/received on the Gigabit Ethernet Link connected to a MG4K-IP/IW-IP node.
- The number of packets/octets transmitted/received with different types of error.

The Gigabit Ethernet Module (GEM) hardware is a Resource Module of MG4K-IP/IW-IP node. The GEM provides a 1 Gigabit/sec Ethernet network interface that will support up to 2016 DS0 voice channels over an IP based packet network

The following table lists the key and info fields associated with OM group MNGEMLNK.

Key field	Info field
SPM_PM _NUMBER	Number value from 1 to 85

Related functional groups

There are no functional groups associated with OM group MNGEMLNK.

Registers

The following table lists the registers associated with OM group MNGEMLNK and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group DPTOFC

Register name	Measures
TXOCT	Number of bytes transmitted on a node.
RXOCT	Number of bytes received on a node.
TXPKT	Number of packets transmitted on a node.

Registers for OM group DPTOFC

Register name	Measures
RXPKT	Number of packets received on a node.
TXEROCT	Number of bytes transmitted in errored packets on a node.
RXEROCT	Number of bytes received in errored packets on a node.
TXERPKT	Number of errored packets transmitted on a node.
RXERPKT	Number of errored packets received on a node.
CRCERPKT	Number of packets received with CRC errors on a node.
UNDERPKT	Number of undersized packets received on a node.
OVERPKT	Number of oversized packets received on a node.
SHORTPKT	Number of short packets received on a node.
LONGPKT	Number of long packets received on a node.

TXOCT**Register type**

Peg

Description

TXOCT (Transmitted Octets) counts the total number of kilobytes transmitted on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

TXOCT2

Associated logs

None

RXOCT**Register type**

Peg

Description

RXOCT (Received Octets) counts the total number of kilobytes received on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

RXOCT2

Associated logs

None

TXPKT**Register type**

Peg

Description

TXPKT (Transmitted Packets) counts the total number of packets transmitted (measured in kilo packets) on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

TXPKT2

Associated logs

None

RXPKT**Register type**

Peg

Description

RXPKT (Received Packets) counts the total number of packets received (measured in kilo packets) on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

RXPKT2

Associated logs

None

TXEROCT**Register type**

Peg

Description

TXEROCT (Transmitted Error Octets) counts the total number of bytes transmitted in errored packets on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

TXEROCT2

Associated logs

None

RXEROCT**Register type**

Peg

Description

RXEROCT (Received Error Octets) counts the total number of bytes received in errored packets on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

RXEROCT2

Associated logs

None

TXERPKT**Register type**

Peg

Description

TXERPKT (Transmitted Error Packets) counts the total number of errored packets transmitted on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

RXERPKT**Register type**

Peg

Description

RXERPKT (Received Error Packets) counts the total number of errored packets received on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

CRCERPKT**Register type**

Peg

Description

CRCERPKT (Cyclic Redundancy Check Error Packets) provides count for total number of packets received with CRC errors on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

UNDERPKT**Register type**

Peg

Description

UNDERPKT (Undersize Packets) counts the total number of undersize packets received on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Undersize packet is one with less than 64 bytes.

Associated registers

None

Extension registers

None

Associated logs

None

OVERPKT**Register type**

Peg

Description

OVERPKT (Oversize Packets) counts the total number of oversize packets received on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Oversize Packet is one with more than 1518 bytes.

Associated registers

None

Extension registers

None

Associated logs

None

SHORTPKT**Register type**

Peg

Description

SHORTPKT (Short Packets) counts the total number of short packets (a.k.a. fragments) received on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

A Short Packet is one with less than 64 bytes and CRC error or alignment error.

Associated registers

None

Extension registers

None

Associated logs

None

LONGPKT**Register type**

Peg

Description

LONGPKT (Long Packets) provides count for total number of long packets (a.k.a. jabber) received on a Gigabit Ethernet Link connected to a particular MG4K-IP/IW-IP node.

Long Packet is one with more than 1518 bytes and CRC error or alignment error.

Associated registers

None

Extension registers

None

Associated logs

None

MNGEMTRF

Description

The OM group Multiservice Node Gigabit Ethernet Module Traffic (MNGEMTRF) provides statistics of nodal traffic usage.

In this OM group, the pegs include:

- The number of RTP packets/octets transmitted/received for bearer traffic.
- The number packets/octets transmitted/received for different types connections.

The following table lists the key and info fields associated with OM group MNGEMTRF.

Key field	Info field
SPM_PM _NUMBER	Number value from 1 to 85

Related functional groups

There are no functional groups associated with OM group MNGEMTRF.

Registers

The following table lists the registers associated with OM group MNGEMTRF and what they measure at an MG4K-IP or IW-IPO node. For a detailed description of a register, click on the register name.

Registers for OM group DPTOFC

Register name	Measures
TOTCONN	Number of connections handled by a node
TXRTPPK	Number of RTP bytes transmitted from a node
RXRTPPK	Number of RTP bytes received by a node
G711MUCN	Number of G.711 MuLaw codec connections handled by a node
G711ACN	Number of G.711 A-Law codec connections handled by a node

Registers for OM group DPTOFC

Register name	Measures
TXG711PK	Number of RTP packets transmitted for G.711 connections handled by a node
RXG711PK	Number of RTP packets received for G.711 connections handled by a node
G729CN	Number of G.729 connections handled by a node
TXG729PK	Number of RTP packets transmitted for G.729 connections handled by a node
RXG729PK	Number of RTP packets received for G.729 connections handled by a node
CCDCN	Number of 64 Kbyte CCD connections handled by a node
TXCCDPK	Number of RTP packets transmitted for CCD connections handled by a node
RXCCDPK	Number of RTP packets received for CCD connections handled by a node
VBDCN	Number of VBD connections handled by a node
TXVBDPK	Number of VBD packets transmitted by a node
RXVBDPK	Number of VBD packets received by a node
T38CN	Number of T.38 connections handled by a node
TXT38PK	Number of packets transmitted for T.38 connections handled by a node
RXT38PK	Number of packets received for T.38 connections handled by a node
RF2833CN	Number of RF2833CN connections handled by a node
SLSUPCN	Number of SLSUPCN connections handled by a node

TOTCONN**Register type**

Peg

Description

TOTCONN (Total Connections) counts the total number connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

TXRTPPK**Register type**

Peg

Description

TXRTPOCT (Transmitted RTP Octets) counts the total number of RTP bytes transmitted from a MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

TXRTPPK2

Associated logs

None

RXRTPPK**Register type**

Peg

Description

RXRTPPOCT (Received RTP Octets) counts the total number of RTP bytes received for a MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

RXRTPPK2

Associated logs

None

G711MUCN**Register type**

Peg

Description

G711MUCN (G.711 MuLaw Connections) counts the total number of G.711 MuLaw codec connections handled by a particular MG4K-IP/IW-IP node.

The MG4K-IP/IW-IP uses industry standard G.711 codec as a default codec for Mu-law and A-law at 10 and 20 milliseconds, to encode and decode TDM to and from packets transmitted via RTP over UDP over IP.

ITU-T G.711 is a standard to represent 8 bit compressed pulse code modulation (PCM) samples for signals of voice frequencies, sampled at the rate of 8000 samples/second. G.711 encoder will create a 64 Kbps bitstream. This standard has two forms, A-Law and μ -Law.

Associated registers

None

Extension registers

None

Associated logs

None

G711ACN**Register type**

Peg

Description

G711ACN (G.711 A-Law Connections) provides count for total number of G.711 A-Law codec connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

TXG711PK**Register type**

Peg

Description

TXG711PK (Transmitted G.711 Connection Packets) counts the total number of RTP packets transmitted for G.711 connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

TXG711PK2

Associated logs

None

RXG711PK**Register type**

Peg

Description

RXG711PK (Received G.711 Connection Packets) counts the total number of RTP packets received for G.711 connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

RXG711P2

Associated logs

None

G729CN**Register type**

Peg

Description

G729CN (G.729 Connections) provides count for total number of G.729 connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

TXG729PK**Register type**

Peg

Description

TXG729PK (Transmitted G.729 Connection Packets) counts the total number of RTP packets transmitted for G.729 connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

TXG729P2

Associated logs

None

RXG729PK**Register type**

Peg

Description

RXG729PK (Received G.729 Connection Packets) counts the total number of RTP packets received for G.729 connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

RXG729P2

Associated logs

None

CCDCN**Register type**

Peg

Description

CCDCN (Clear Channel Data Connections) counts the total number of 64K Clear Channel Data (CCD) Connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

TXCCDPK**Register type**

Peg

Description

TXCCDPK (Transmitted Clear Channel Data Connection Packets) count the total number of RTP packets transmitted for Clear Channel Data connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

RXCCDPK**Register type**

Peg

Description

RXCCDPK (Received Clear Channel Data Connection Packets) counts the total number of RTP packets received for Clear Channel Data connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

VBDCN**Register type**

Peg

Description

VBDCN (Voice Band Data Connections) counts for total number of Voice Band Data (VBD) Connections handled by a particular MG4K-IP/IW-IP node.

VBD will allow pass-through of inband data over established voice channels for packet networks.

Associated registers

None

Extension registers

None

Associated logs

None

TXVBDPK**Register type**

Peg

Description

TXVBDPK (Transmitted Voice Band Data Connection Packets) counts the total number of packets transmitted for Voice Band Data connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

RXVBDPK**Register type**

Peg

Description

RXVBDPK (Received VBD Connection Packets) counts the total number of packets received for Voice Band Data connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

T38CN**Register type**

Peg

Description

T38CN (T.38 Connections) counts the total number of T.38 connections handled by a particular MG4K-IP/IW-IP node.

The T.38 Protocol is used to transmit fax calls over the IP network.

Associated registers

None

Extension registers

None

Associated logs

None

TXT38PK**Register type**

Peg

Description

TXT38PK (Transmitted T38 Connection packets) counts the total number of packets transmitted for T.38 connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

RXT38PK**Register type**

Peg

Description

RXT38PK (Received T.38 Connection Packets) provides count for total number of packets received for T.38 connections handled by a particular MG4K-IP/IW-IP node.

Associated registers

None

Extension registers

None

Associated logs

None

RF2833CN**Register type**

Peg

Description

RF2833CN (RFC2833 Connections) provides count for total number of RFC2833 connections handled by a particular MG4K-IP/IW-IP node.

The RFC2833 is used for tone transmission in all codec types. The speech compression can greatly impair the ability of downstream systems to recognize in-band DTMF tones. RFC2833 provides a solution to this problem. The special RTP data packets will be transmitted instead of generating the tones at the ingress gateway.

These RTP packets will instruct the downstream gateway to generate the appropriate tones.

Associated registers

None

Extension registers

None

Associated logs

None

SLSUPCN**Register type**

Peg

Description

SLSUPCN (Silence Suppression Connections) counts the total number of Silence Suppression connections handled by a particular MG4K-IP/IW-IP node.

As much as 50% of human speech consists of silence resulting from pauses between words or breaks in the conversation. Many codecs, such as G.723, recognize silence using a Voice Activity Detector (VAD) and transmit Silence Descriptor (SID) packets instead of empty voice packets.

Associated registers

None

Extension registers

None

Associated logs

None

MPB

Description

OM group Multi-party Bridge (MPB) counts all of the attempts to allocate conference circuits for multi-party bridge calls. The multi-party bridge consists of up to four single-party lines on a DMS-100 switch. Lines associate through the conference circuits located in a maintenance trunk module (MTM). The members of the multi-party bridge group appear as separate parties on a multi-party line.

Operating company personnel use the data the MPB provides to determine if there are enough conference circuits on a switch.

The following table lists the key and info fields associated with OM group MBP:

Key field	Info field
None	None

Related functional groups

The following functional groups are associated with OM group MBP:

- DMS-100 local
- DMS-100/200 local/toll
- DMS-100/200 local/toll with TOPS

Registers

The following table lists the registers associated with OM group MBP and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MPB

Register name	Measures
MPBCONF	Multi-party bridge conference
MPBFAIL	Multi-party bridge failure

MPBCONF

Register type

Peg

Description

MPBCONF counts the successful attempts to allocate a conference circuit for a multi-party bridge call.

Associated registers

[MPBFAIL](#)

Extension registers

None

Associated logs

None

MPBFAIL**Register type**

Peg

Description

MPBFAIL counts attempts that fail to allocate a conference circuit for a multi-party bridge call. Register MPBFAIL cannot count a second failed attempt in the same bridge group until all bridge group members go on-hook. The system places the bridge group members on hold until all bridge group members go on-hook.

Associated registers

[MPBCONF](#)

Extension registers

None

Associated logs

None

MPCBASE

Description

OM group Multiprotocol Controller Base Software (MPCBASE) collects data within multiprotocol controller (MPC) central control software. The data collected includes measurements of the use and availability of MPC cards and nodes, and data transfer through an MPC.

Registers L2UDSIN, L3DUSIN, L2UDSOUT, L3UDSOUT count incoming and outgoing messages an MPC handles. Register CONVESTB counts successful conversations an MPC handles.

The following registers provide information about maintenance problems:

- MPCNSBBU and MPCNSSBU for busy time
- RESETL2 and RESETL3 for link reliability
- CONVERR for protocol problems
- LOSTMSGs for messages that cannot be delivered
- BDAPPERR for MPC card problems

The following registers provide information about available MPC:

- MPCNSOK for MPC node availability
- CONVIREF for conversations not allowed because of high traffic volume
- LOSTMSGs for messages not delivered because there are not enough resources
- FCTRLDEL for messages delayed because of high traffic volume

The following table lists the key and info fields associated with OM group MPCBASE:

Key field	Info field
None. The maximum number of tuples cannot be greater than the index range in table MPC.	MPCOMINFOTYPE

The system creates the Info field with the following information:

- MPCNO refers to the MPC number to which the tuple data applies.
- IOCNO refers to the input/output controller (IOC) where the system locates the MPC.
- CARDNO indicates the card of the MPC for the IOCNO.

The L2 L3, L2_L3 and LNONE links are the entered links. The L2 means that link 2 is entered. The L3 means that link 3 is entered. The L2_L3 means that both link 2 and link 3 are entered. The LNONE means that no links are entered.

The DLDFILE is the download file for the MPC entered in table MPC.

The MPC numbers, IOC information and download file information are entered in table MPC. The MPC links are entered in table X25LINK.

Related functional groups

Functional group MPC is associated with OM group MPCBASE.

Registers

The following table lists the registers associated with OM group MPCBASE and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MPCBASE (Sheet 1 of 2)

Register name	Measures
BDAPPERR	Multiprotocol controller (MPC) board application error
CONVERR	Conversation error
CONVESTB	Conversation established
CONVIREF	Incoming conversation refused
FCTRLDEL	Flow control delay
L2UDSIN	Link 2 user data segment in
L2UDSOUT	Link 2 user data segment out
L3UDSIN	Link 3 user data segment in
L3UDSOUT	Link 3 user data segment out

Registers for OM group MPCBASE (Sheet 2 of 2)

Register name	Measures
LOSTMSGs	Lost messages
MPCNSMBU	Multiprotocol controller (MPC) node status manual busy
MPCNSOK	Multiprotocol controller (MPC) node status okay
MPCNSSBU	Multiprotocol controller (MPC) node status system busy
RESETL2	Reset on link 2
RESETL3	Reset on link 3

BDAPPERR**Register type**

Peg

Description

The system increases BDAPPERR when the MPC board cannot process application data. This condition is a peripheral trap.

A peripheral trap indicates problems with the MPC board, the IOC, or the peripheral software.

Associated registers

None

Extension registers

None

Associated logs

MPC103

CONVERR**Register type**

Peg

Description

The system increases CONVERR when a conversation reset occurs on links 2 or 3 of the MPC.

Conversation resets are normally caused by protocol problems. Other conversations on the link are not affected.

Associated registers

None

Extension registers

None

Associated logs

MPC102

CONVESTB**Register type**

Peg

Description

The system increases CONVESTB when the system establishes a conversation between a DMS switch and a remote.

The system establishes a conversation between a DMS switch and a remote implies that data can be transferred. CONVESTB includes counts for links 2 and 3. Link resets, which re-establish conversations, are also included in this count.

Associated registers

None

Extension registers

None

Associated logs

None

CONVIREF**Register type**

Peg

Description

The system increases CONVIREF when the DMS switch refuses an incoming data call from the network.

This count should be zero or very low. A high count can indicate one of the following:

- data entry for the link in table X25LINK is not compatible with the parameters of the remote
- facilities or data entry are not enough to handle the number of calls made
- A user is attempting to make a non authorized attempt to establish a conversation with the DMS switch

Associated registers

None

Extension registers

None

Associated logs

MPC101

FCTRLDEL**Register type**

Peg

Description

The system increases FCTRLDEL when flow control delays a message to the MPC. The message is delayed because there is not enough buffer space available.

Retries are done automatically and the system counts each attempt in FCTRLDEL. The system counts the second successful attempt in L2UDSOUT or L3UDSOUT, depending on the link type.

Not enough equipment or the remote not ready to receive messages can cause message delay. The registers reads zero unless the system is sending the data in large bursts. The system sends the data by applications such as the Engineering and Administrative Data Acquisition System (EADAS).

Associated registers

[L2UDSOUT](#), [L3UDSOUT](#)

Extension registers

None

Associated logs

None

L2UDSIN**Register type**

Peg

Description

L2UDSIN counts incoming data messages that arrive on link 2 of an MPC from a remote user.

Associated registers[LOSTMSGs](#)**Extension registers**

None

Associated logs

None

L2UDSOUT**Register type**

Peg

Description

L2UDSOUT counts outgoing user data segments on link 2 of an MPC. This count depends on the volume of messages output by a local user of link 2.

Associated registers

None

Extension registers

None

Associated logs

None

L3UDSIN**Register type**

Peg

Description

L3UDSIN counts incoming data messages that arrive on link 3 of an MPC from a remote user.

Associated registers[LOSTMSGs](#)

Extension registers

None

Associated logs

None

L3UDSOUT**Register type**

Peg

Description

L3UDSOUT counts outgoing user data segments on link 3 of an MPC. This count depends on the volume of messages output by a local user of link 3.

Associated registers

None

Extension registers

None

Associated logs

None

LOSTMSGs**Register type**

Peg

Description

LOSTMSGs counts data messages that the system can not deliver to their intended application after the system has established a conversation.

The system can lose messages because of errors or because there is not enough application resources. The count in LOSTMSGs should be zero or very low. A high count indicates that a process no longer reads incoming data.

Associated registers

None

Extension registers

None

Associated logs

MPC102

MPCNSMBU**Register type**

Peg

Description

The system increases MPCNSMBU when MPC node status changes to manual busy for maintenance purposes.

The system changes MPC node status to manual busy at the MAP.

Associated registers

MPCLINK2 and MPCLINK3 registers, which are not increased when MPC node status is manual busy.

Extension registers

None

Associated logs

MPC903

MPCNSOK**Register type**

Usage

Scan rate

100 seconds

Description

MPCNSOK records if an MPC node is available for use.

MPCNSOK does not record if MPC node status is manual busy, system busy, or offline.

Associated registers

None

Extension registers

None

Associated logs

MPC905

MPCNSSBU**Register type**

Peg

Description

The system increases MPCNSSBU when MPC node status changes to system busy.

A problem in the hardware or peripheral software can cause a count other than zero in MPCNSSBU.

Associated registers

None

Extension registers

None

Associated logs

MPC904

RESETL2**Register type**

Peg

Description

The system increases RESETL2 when the protocol software executes a reset on link 2.

When a link is reset, all conversations in progress on the link are disabled and communications are re-initiated. MPC data links must be reset each time the MPC is made manual busy for maintenance or system busy. The MPC would be made manual or system busy because of link problems.

This count indicates the reliability of a link and it should be low.

Associated registers

None

Extension registers

None

Associated logs

MPC102

RESETL3**Register type**

Peg

Description

The system increases RESETL3 when the protocol software executes a reset on link 3.

When a link is reset, all conversations in progress on the link are disabled and communications are reinitiated. MPC data links must be reset each time the MPC is made manual busy for maintenance or system busy. The MPC is made manual or system busy because of link problems.

This count indicates the reliability of a link and it should be low.

Associated registers

None

Extension registers

None

Associated logs

MPC102

MPCFASTA

Description

OM group Multi-protocol Controller Fast Applications (MPCFASTA) provides information on outgoing traffic and exception conditions for multi-protocol controller (MPC) multilink management.

MPC is a peripheral device that controls data communication between a DMS-100 and a remote system. It can use different data communications protocols.

Four registers count indications of traffic the application generates and record the availability of the data links involved. Table MPCFASTA identifies applications that use the MPC fast utility, a fast input/output interface through the MPC. Each application has an associated logical link, which is a data communications channel through the MPC.

Separate registers for each application show the traffic each application generates (FAMSGOUT), the availability and stability of the data links the applications uses (LLNKAVBL and LLNKXFRD). A register also shows the quantity and quality of internal resources (FAOUTFLD).

The following table lists the key and info fields associated with OM group MPCFASTA:

Key field	Info field
mpcfastapplnid. Application name datafilled in table MPCFASTA. The maximum number of applications allowed is 15.	mpcfastaominfo type

NUMLINKS - Number of logical links datafilled in MLCLIST in table MPCFASTA.

APPLQ - Number of application queue items.

LMKIN - Suggested minimum number of logical links for the application in table MPCFASTA.

Related functional groups

The functional group IBN Attendant Console is associated with OM group MPCFASTA.

Registers

The following table lists the registers associated with OM group MPC-FASTA and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MPCFASTA

Register name	Measures
FAMSGOUT	Fast application message output
FAOUTFLD	Fast application output operation failed
LLNKAVBL	Logical link availability
LLNKXFRD	Logical link data transferred

FAMSGOUT

Register type

Peg

Description

FAMSGOUT counts outgoing messages that the application sends over data links.

Associated registers

None

Extension registers

None

Associated logs

None

FAOUTFLD

Register type

Peg

Description

The system increases FAOUTFLD when an application output attempt fails. Failure occurs because there is not enough internal resources to queue the output attempts.

High counts in FAOUTFLD may show there is not enough of internal resources to queue the output attempts. Application parameters and traffic level estimates allocate internal queue resources. High counts in

FAOUTFLD can also occur because messages are backed up at the multi-protocol controller (MPC). Messages can be backed up because of application or protocol software problems.

FAOUTFLD does not count application output failures caused by invalid application identification, invalid message size, or the links are not availability.

Associated registers

None

Extension registers

None

Associated logs

None

LLNKAVBL**Register type**

Usage

Scan rate

100 seconds

Description

The system increases LLNKAVBL when at least one logical link is available for use by an MPC FAST application.

Associated registers

None

Extension registers

None

Associated logs

MPC201

LLNKXFRD**Register type**

Peg

Description

The system increases LLNKXFRD when the system sends data to an alternate logical link. The alternate link is used because the logical link that the system first targeted is not available.

The system makes a logical link not available when an output attempt fails or when the system resets the link by software,. A link can also be made unavailable when the system detects no response. The system can use LLNKXFRD as an indicator of link stability.

Associated registers

None

Extension registers

None

Associated logs

MPC201

MPCLINK2

Description

Multiprotocol Controller Link 2 (MPCLINK2) provides information on traffic and faults. These are traffic and faults that occur in the link and network level of the open system interconnect (OSI) model. The OSI model is for link 2 on a multiprotocol controller (MPC). The system collects data at the MPC card level in the peripheral processor software.

The following registers count at the physical level:

- L2PABORT counts frames aborted because of line, modem, or card problems
- L2PSYNCU counts link synchronization errors
- L2PDOWN incremented when the peripheral module processor attempts to enable the physical layer of a link
- L2PHWERR counts hardware errors

The following registers count at the link level:

- L2LSETUP counts link restarts
- L2LDISC counts link disconnects
- L2LDOWN counts links that are out of service (OOS)
- L2LACKTO counts acknowledgement timeouts
- L2LRXMIT counts retransmissions
- L2LLVIO counts invalid messages
- L2LLRVIO counts invalid messages
- L2LRCV counts messages received
- L2LXMIT counts messages transmitted
- L2MSGLST counts incoming messages lost

The following registers count at the network level:

- L2NURVC counts data received
- L2NUXMIT counts data transmitted

The following table lists the key and info fields associated with OM group MPCLINK2:

Key field	Info field
None	The MCPLOMINFOTYPE information field is MPCNO, RF_CONVS, and RXMIT_TIME.

MPCNO is the MPC number in table MPC. DF_CONVS is the number of conversations datafilled on the link. If the user can not enter conversations, the system considers DF_CONVS to be 1.

DF_CONVS must be non-zero. RXMIT_TIME is the value in seconds of the protocol retransmission timer.

The user enters MPC information in table MPC.

Related functional groups

The functional group MPC is associated with OM group MPCLINK2.

Registers

The following table lists the registers associated with OM group MPCLINK2 and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MPCLINK2 (Sheet 1 of 2)

Register name	Measures
L2LACKTO	Link 2 link acknowledgement timeout
L2LDISC	Link 2 link disconnect
L2LDOWN	Link 2 link down
L2LLVIO	Link 2 link local problems
L2LRVCV	Link 2 messages received
L2LRVIO	Link 2 link remote violations
L2LRXMIT	Link 2 link retransmission
L2LSETUP	Link 2 link set-up

Registers for OM group MPCLINK2 (Sheet 2 of 2)

Register name	Measures
L2LXMIT	Link 2 messages sent
L2MSGST	Link 2 messages lost
L2NURCV	Link 2 user data received
L2NUXMIT	Layer 2 link user data transmitted
L2PABORT	Abort on link 2
L2PDOWN	Link 2 time down
L2PHWERR	Link 2 hardware errors
L2PSYNC	Link 2 synchronization error

L2LACKTO**Register type**

Peg

Description

The system increases L2LACKTO when acknowledgement for a message sent is not received from the remote within a specified time.

Field T2, or T2_MS in table X25LINK specifies the time. The default is 3 seconds.

If the count in L2LACKTO is high, the link will go OOS and the system increases L2LDOWN. The other option is that the system initiates a link restart and increases the L2LSETUP.

Associated registers[L2LDOWN](#), [L2LSETUP](#)**Extension registers**

None

Associated logs

None

L2LDISC**Register type**

Peg

Description

The system will increase L2LDISC when the system sends a link disconnect from either end of the link.

A link disconnect terminates communication on a link. A link restart is necessary to prepare the link again for active communication.

Associated registers

None

Extension registers

None

Associated logs

None

L2LDOWN**Register type**

Peg

Description

The system increases L2LDOWN once for every second that a link 2 is not in service. A link 2 is not in service because there is not a response from the remote level two software.

The link must be restarted.

Associated registers

None

Extension registers

None

Associated logs

MPC201

L2LLVIO**Register type**

Peg

Description

L2LLVIO counts messages from the MPC that are considered invalid by the remote.

Associated registers

None

Extension registers

None

Associated logs

None

L2LRV**Register type**

Peg

Description

The system increases L2LRV when an incoming message arrives on the link.

Associated registers

None

Extension registers

None

Associated logs

None

L2LRVIO**Register type**

Peg

Description

L2LRVIO counts invalid messages received from the remote at the MPC.

Associated registers

None

Extension registers

None

Associated logs

None

L2LRXMIT**Register type**

Peg

Description

L2LRXMIT counts messages that are transmitted again because of a request from the remote or because the message was not acknowledged.

Associated registers

None

Extension registers

None

Associated logs

None

L2LSETUP**Register type**

Peg

Description

The system increases L2LSETUP when a link restart sequence occurs.

The system initiates a link restart by the local MPC or remote to ensure that communication is possible over a link. During a restart, the system loses the MPC output data and data in transit on the link.

A high count indicates a problem in the line, modem, or card. A high count occurs because of a protocol incompatibility.

Associated registers

None

Extension registers

None

Associated logs

None

L2LXMIT**Register type**

Peg

Description

The system increases L2LXMIT when the system sends a message on the link.

Messages can be data related or protocol related.

Associated registers

None

Extension registers

None

Associated logs

None

L2MSGLST**Register type**

Peg

Description

L2MSGLST counts incoming messages lost on link 2 of the MPC.

L2MSGLST is correct only for the asynchronous protocol implementation of the MPC subsystem.

Associated registers

None

Extension registers

None

Associated logs

None

L2NURCV**Register type**

Peg

Description

The system increases L2NURCV when 1 Kbyte of user data is received at the MPC on the link.

Associated registers

None

Extension registers

None

Associated logs

None

L2NUXMIT**Register type**

Peg

Description

The system increases L2NUXMIT when the system transmits 1 Kbyte of user data on the link from the MPC.

Associated registers

None

Extension registers

None

Associated logs

None

L2PABORT**Register type**

Peg

Description

L2PABORT counts outgoing frames on link 2 that are aborted because of line, modem or card problems. L2PABORT also increases when frames are sent with an abort indication at the logical level.

A count in this register may indicate line noise, a common cause of link and network exceptions.

Associated registers

None

Extension registers

None

Associated logs

None

L2PDOWN**Register type**

Peg

Description

The system increases L2PDOWN once for every second the peripheral processor tries to enable the physical layer of link 2.

Associated registers

None

Extension registers

None

Associated logs

None

L2PHWERR**Register type**

Peg

Description

Hardware errors include:

- direct memory access
- incoming byte overruns
- incoming frame overruns

A non-zero count can be a problem. A count greater than 40 in a 30-minute period indicates the need to replace the MPC card. The need to replace the MPC card is more important in the absence of high L2PABORT or L2PSYNC counts.

Associated registers

None

Extension registers

None

Associated logs

None

L2PSYNC**Register type**

Peg

Description

The system increases L2PSYNC when the system detects a loss of carrier or a clear-to-send signal.

Associated registers

None

Extension registers

None

Associated logs

None

MPCLINK3

Description

OM group Multiprotocol Controller Link 3 (MPCLINK3) provides information on traffic and faults that occur in the link, and network level of the open system interconnect (OSI) model. The OSI model is for link 3 on a multiprotocol controller (MPC). The system collects data at the MPC card level in the peripheral processor software.

The following registers count at the physical level:

- L3PABORT counts frames aborted because of line, modem, or card problems
- L3PSYNC counts link synchronization errors
- L3PDOWN increases when the peripheral module processor attempts to enable the layer of a link
- L3PHWERR counts hardware errors

The following registers count at the link level:

- L3LDISC counts link disconnects
- L3LSETUP counts link restarts
- L3LDOWN counts links that are out of service (OOS)
- L3LACKTO counts acknowledgement timeouts
- L3LRXMIT counts retransmissions
- L3LLVIO counts invalid messages
- L3LRVIO counts invalid messages
- L3LRCV counts messages received
- L3LXMIT counts messages transmitted
- L3MSGLST counts incoming messages lost

The following registers count at the network level:

- L3NURCV counts data received
- L3NUXMIT counts data transmitted

The following table lists the key and info fields associated with OM group MPCLINK3:

Key field	Info field
None	The MPCLOMINFOTYPE information field contains MPCNO,DF_CONVS, and RXMIT_TIME. The MPCNO is the MPC number in table MPC. The DF_CONVS is the number of conversations that the user entered on the link. If the user cannot enter conversations, DF_CONVS is 1. The DF_CONVS must be a value that is not zero. The RXMIT_TIME is the value in seconds of the protocol retransmission timer.

Table MPC contains entries for MPC information.

Related functional groups

The functional group MPC is associated with OM group MPCLINK3.

Registers

The following table lists the registers associated with OM group MPCLINK3 and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MPCLINK3 (Sheet 1 of 2)

Register name	Measures
L3LACKTO	Link 3 link acknowledgement timeout
L3LDISC	Link 3 link disconnect
L3LDOWN	Link 3 link down
L3LLVIO	Link 3 link local violations
L3LRVCV	Link 3 messages received
L3LRVIO	Link 3 link remote violations
L3LRXMIT	Link 3 link retransmission

Registers for OM group MPCLINK3 (Sheet 2 of 2)

Register name	Measures
L3LSETUP	Link 3 link setup
L3LXMIT	Link 3 messages sent
L3MSGST	Link 3 messages lost
L3NURCV	Link 3 user data received
L3NUXMIT	Layer 3 link user data transmitted
L3PABORT	Physical abort on link 3
L3PDOWN	Link 3 physical time down
L3PHWERR	Link 3 physical hardware errors
L3PSYNC	Link 3 physical synchronization error

L3LACKTO**Register type**

Peg

Description

The system increases L3LACKTO when the system does not receive acknowledgement for a sent message from the remote in a specified time.

Field T2, or T2_MS in table X25LINK specifies the time. The default is 3 seconds.

If the count in L3LACKTO is high, the link will go OOS and L3LDOWN increases. If the count is high, the system can also initiate a link restart and L3LSETUP increases.

Associated registers[L3LDOWN](#), [L3LSETUP](#)**Extension registers**

None

Associated logs

None

L3LDISC**Register type**

Peg

Description

L3LDISC increases when either end of a link sends a link disconnect.

A link disconnect terminates communication on a link. A link restart is necessary to prepare the link again for active communication.

Associated registers

None

Extension registers

None

Associated logs

None

L3LDOWN**Register type**

Peg

Description

L3LDOWN increases once for every second that a link 3 link is not in service because of a lack of response from the remote level 2 software.

The link must be restarted.

Associated registers

None

Extension registers

None

Associated logs

None

L3LLVIO**Register type**

Peg

Description

L3LLVIO counts messages from the MPC that the remote considers not correct.

Associated registers

None

Extension registers

None

Associated logs

None

L3LRVCV**Register type**

Peg

Description

L3LRVCV increases when an incoming message arrives on the link.

Associated registers

None

Extension registers

None

Associated logs

None

L3LRVIO**Register type**

Peg

Description

L3LRVIO counts messages the system receives from the remote at the MPC that are not correct.

Associated registers

None

Extension registers

None

Associated logs

None

L3LRXMIT**Register type**

Peg

Description

L3LRXMIT counts messages the system transmits again because of a request from the remote. The system will also transmit messages again because the message was not acknowledged.

Associated registers

None

Extension registers

None

Associated logs

None

L3LSETUP**Register type**

Peg

Description

L3LSETUP increases when a link restart sequence occurs.

The local MPC or remote can initiate a link restart to make sure that communication is possible over a link. A restart causes the loss of MPC output data and data in transit on the link.

A high count indicates a problem in the line, modem, or card. Protocol incompatibility can also cause a high count.

Associated registers

None

Extension registers

None

Associated logs

None

L3LXMIT**Register type**

Peg

Description

L3LXMIT increases when the system sends a message on the link.

Messages can be data related or protocol related.

Associated registers

None

Extension registers

None

Associated logs

None

L3MSGLST**Register type**

Peg

Description

L3MSGLST counts incoming messages lost on link 3 of the MPC.

L3MSGLST is correct only for the asynchronous protocol implementation of the MPC subsystem.

Associated registers

None

Extension registers

None

Associated logs

None

L3NURCV**Register type**

Peg

Description

L3NURCV increases when the MPC on the link receives 1 Kbyte of user data.

Associated registers

None

Extension registers

None

Associated logs

None

L3NUXMIT**Register type**

Peg

Description

L3NUXMIT increases when the system transmits 1 kbyte of user data on the link from the MPC.

Associated registers

None

Extension registers

None

Associated logs

None

L3PABORT**Register type**

Peg

Description

L3PABORT counts outgoing frames on link 3 that the system aborts because of line, modem, or card problems. The system also aborts outgoing frames because frames are sent with an abort indication at the logical level.

A count in this register may indicate line noise, a common cause of link and network exceptions.

Associated registers

None

Extension registers

None

Associated logs

None

L3PDOWN**Register type**

Peg

Description

L3PDOWN increases for every second that peripheral processor tries to enable the physical layer of link three.

Associated registers

None

Extension registers

None

Associated logs

None

L3PHWERR**Register type**

Peg

Description

L3PHWERR increases when the system detects hardware errors during hardware maintenance operations on link 3.

Hardware errors include:

- direct memory access
- incoming byte overruns
- incoming frame overruns

A count that is not zero can indicate a problem. A count greater than 40 in a 30-min period indicates the need to replace the MPC card. The situation is more important in the absence of high L3PABORT or L3PSYNC counts.

Associated registers

None

Extension registers

None

Associated logs

None

L3PSYNC**Register type**

Peg

Description

L3PSYNC increases when the system detects a loss of carrier or a clear-to-send signal.

A loss of carrier or a clear-to-send signal indicates a line, cable, or modem failure. A high corresponding count in L3PHWERR can indicate a card that has faults.

Associated registers

None

Extension registers

None

Associated logs

None

MPHCON

Description

OM group Multiple Position Hunt Console (MPHCON) monitors the performance of multiple position hunt (MPH) consoles.

The OM group MPHCON contains two registers that count the following:

- calls offered to a multiple position hunt console
- calls that a multiple position hunt console answers

The following table lists the key and info fields associated with OM group MPHCON:

Key field	Info field
a number that identifies the multiple position hunt console as defined in field MPHCONUM in table MPHCON	defines the console group and the console number in the group. Fields MPHGRP and MPHCON in table MPHCON define the console group and number

Related functional groups

The functional group MDC is associated with OM group MPHCON.

Registers

The following table lists the registers associated with OM group MPHCON and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MPHCON

Register name	Measures
MPHCANS	Calls answered
MPHCOFRD	Calls offered

MPHCANS

Register type

Peg

Description

MPHCANS counts calls that a multiple position hunt (MPH) console answers.

Associated registers

None

Extension registers

None

Associated logs

None

MPHCOFRD**Register type**

Peg

Description

MPHCOFRD counts calls offered to a multiple position hunt (MPH) console.

Associated registers

None

Extension registers

None

Associated logs

None

MPHGRP

Description

OM group Multiple Position Hunt Console Group (MPHGRP) monitors the performance of multiple position hunt (MPH) console groups.

MPHGRP contains five registers that count:

- calls offered to the MPH console group
- calls placed in the central office queue of the MPH console group
- calls abandoned while in the central office queue of the console group
- calls that the system could not place in a queue for an MPH console group
- calls to the MPH console group that the system routes to night service

The following table lists the key and info fields associated with OM group MPHGRP:

Key field	Info field
the number of the multiple position hunt console group as defined in field MPHGRP in table MPHGRP	None

Table MPC contains entries for MPC information.

Related functional groups

The functional group MDC is associated with OM group MPHGRP.

Registers

The following table lists the registers associated with OM group MPHGRP and what they measure. For a detailed description of a register,

click on the register name.

Registers for OM group MPGGRP

Register name	Measures
MPHGABDN	Call abandoned
MPHGENQ	Calls enqueued
MPHGNSER	Calls routed to night service
MPHGOFRD	Calls offered
MPHGOVFL	Calls overflowed

MPHGABDN

Register type

Peg

Description

MPHGABDN counts calls the user abandons while in the multiple central office queue of the position hunt (MPH) console group. Register MPHGABDN also counts calls abandoned while the system offers the calls to the console.

Associated registers

None

Extension registers

None

Associated logs

None

MPHGENQ

Register type

Peg

Description

MPHGENQ counts calls the system places in the central office queue of the multiple position hunt (MPH) console group.

Associated registers

None

Extension registers

None

Associated logs

None

MPHGNSER**Register type**

Peg

Description

MPHGNSER counts calls to the multiple position hunt (MPH) console group that the system routes to night service. The system assigns the calls a night service directory number (DN).

Associated registers

None

Extension registers

None

Associated logs

None

MPHGOFRD**Register type**

Peg

Description

MPHGOFRD counts calls offered to the multiple position hunt (MPH) console group.

Associated registers

None

Extension registers

None

Associated logs

None

MPHGOVFL**Register type**

Peg

Description

MPHGOVFL counts calls for a multiple position hunt (MPH) console group that the system cannot place in a queue. The system reroutes calls that overflow the MPH group central office queue to the route specified in field CQOVRTE in table MPHGRP.

Associated registers

None

Extension registers

None

Associated logs

None

MS

Description

OM group Message Switch (MS) monitors the quality of the performance of the message switch (MS). You can use the MS to evaluate maintenance efforts.

The OM group MS resources are in three categories: node, card, and link. The MS node resource has system cards the system requires for the operation of the MS. These system cards include the:

- processor card
- clock card
- memory card
- mapper card
- P-bus termination card
- T-bus termination card

The MS card resource has interface cards that contain the MS ports. The MS link resource has ports that receive messages from peripheral side (P-side) peripheral modules (PM). The system sends messages to the T-bus. The T-bus sends the message to the system.

Seven OM registers are present for each of the three resource categories. Registers count errors, faults, tests, test failures, and MSs that are manually busy. Usage registers record if the MS is manually busy or system busy.

The operating company uses MS to measure the reliability and availability of MS resources.

The following table lists the key and info fields associated with OM group MS:

Key field	Info field
MESSAGE_SWITCH_NUMBER is 0 or 1	None

Related functional groups

There are no functional groups related to OM group MS.

Registers

The following table lists the registers associated with OM group MS and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MS (Sheet 1 of 2)

Register name	Measures
MSCDDIA	Interface card diagnostic
MSCDDIAF	Interface card diagnostic failure
MSCDERR	Interface card errors
MSCDFLT	Interface card fault
MSCDMBP	Interface card manual busy
MSCDMBU	Interface card manual busy use
MSCDSBU	Interface card system busy usage
MSDIA	System card diagnostic
MSDIAF	System card diagnostic failure
MSERR	System card errors
MSFLT	System card faults
MSMBU	Message switch (MS) manual busy usage
MSPTDIA	Port diagnostics
MSPTDIAF	Port diagnostic failures
MSPTERR	Port error
MSPTFLT	Port fault
MSPTMBP	Port manual busy
MSPTMBU	Port manual busy use
MSPTSBU	Port system busy (system busy) usage

Registers for OM group MS (Sheet 2 of 2)

Register name	Measures
MSMBP	Message switch (MS) manual busy
MSSBU	Message switch (MS) system busy usage

MSCDDIA**Register type**

Peg

Description

MSCDDIA counts tests on interface cards. Register MSCDDIA includes:

- test commands from the MS shelf and card levels of a MAP display
- return-to-service commands from the MS shelf and card levels of a MAP display

Associated registers

None

Extension registers

None

Associated logs

None

MSCDDIAF**Register type**

Peg

Description

MSCDDIAF counts diagnostic tests that fail. If the interface card is in service before the diagnostic test, the system removes the card from service.

Register MSCDDIA also counts the same tests.

Associated registers[MSCDDIA](#)**Extension registers**

None

Associated logs

None

MSCDERR**Register type**

Peg

Description

MSCDERR counts errors in an in-service interface card. Register MSCDERR includes:

- error reports from the MS maintenance software
- failures in the in-service audit or routine exercise tests

Associated registers

None

Extension registers

None

Associated logs

MS263

MSCDFLT**Register type**

Peg

Description

MSCDFLT counts errors that require the removal of the interface card from service. Register MSCDFLT includes:

- fault reports from the MS maintenance software
- critical failures in the in-service audit or routine exercise tests

MSCDERR also counts these errors.

Associated registers

[MSCDERR](#)

Extension registers

None

Associated logs

MS263

MSCDMBP**Register type**

Peg

Description

MSCDMBP counts changes of the interface cards from:

- in-service to manually busy
- system busy to manually busy
- from central side (C-side) busy to manually busy
- from offline to manually busy

Associated registers

None

Extension registers

None

Associated logs

MS261, MS262

MSCDMBU**Register type**

Usage

Scan rate

100 s

Description

MSCDMBU records if the MS interface cards are manually busy.

Associated registers

None

Extension registers

None

Associated logs

None

MSCDSBU**Register type**

Usage

Scan rate

100 seconds

Description

MSCDSBU records if the MS interface cards are system busy.

Associated registers

None

Extension registers

None

Associated logs

None

MSDIA**Register type**

Peg

Description

MSDIA counts diagnostic tests the system initiates on the system cards. These tests include:

- test commands from the MS level of a MAP display
- in-service or out-of-service audits
- routine exercise tests

Associated registers

None

Extension registers

None

Associated logs

None

MSDIAF**Register type**

Peg

Description

MSDIAF counts diagnostic tests that fail. If the MS is in service before a the diagnostic test, the system removes the MS from service.

Associated registers

[MSDIA](#)

Extension registers

None

Associated logs

None

MSERR**Register type**

Peg

Description

MSERR counts errors the system detects on the system cards of an in-service MS. Register MSERR includes:

- error reports from computing module maintenance software
- error reports from MS maintenance software
- failures in the in-service audit or routine exercise tests

Associated registers

None

Extension registers

None

Associated logs

MS103

MSFLT**Register type**

Peg

Description

MSFLT counts errors, counted earlier in register MSERR, that requires the removal from service of the MS from service. MSFLT includes:

- fault reports from computing module maintenance software
- fault reports from MS maintenance software
- critical failures in the in-service audit or routine exercise tests

Associated registers[MSERR](#)**Extension registers**

None

Associated logs

MS103

MSMBU**Register type**

Usage

Scan rate

100 seconds

Description

MSMBU records if the MS is manual busy.

Associated registers

None

Extension registers

None

Associated logs

None

MSPTDIA**Register type**

Peg

Description

MSPTDIA counts diagnostic tests the system initiates on MS ports.

Register MSPTDIA includes:

- test port commands from the MS card level of the MAP terminal
- return to service port commands from the MS card level of the MAP terminal
- periodic in-service audits
- return to service attempts on system busy ports

Associated registers

None

Extension registers

None

Associated logs

None

MSPTDIAF**Register type**

Peg

Description

MSPTDIAF counts diagnostic tests that fail. If the port is in service before the diagnostic test, the system removes the port from service.

MSPTDIA also counts the same diagnostic tests.

Associated registers[MSPTDIA](#)**Extension registers**

None

Associated logs

None

MSPTERR**Register type**

Peg

Description

MSPTERR counts errors on an in-service port. Register MSPTERR includes:

- error reports from P-side PM maintenance software
- error reports from MS maintenance software
- failures in the in-service audit or routine exercise tests

Associated registers

None

Extension registers

None

Associated logs

MS303

MSPTFLT**Register type**

Peg

Description

MSPTFLT counts errors, counted earlier in MSPTERR, that require the removal of the MS port from service. Register MSPTFLT includes:

- fault reports from MS maintenance software
- fault reports from computing module, input/output controller, and network maintenance software
- critical failures in the in-service audit or routine exercise tests

Associated registers

[MSPTERR](#)

Extension registers

None

Associated logs

MS303

MSPTMBP**Register type**

Peg

Description

MSPTMBP counts changes of the MS ports from:

- in service to manual busy
- system busy to manual busy
- C-side busy to manual busy
- P-side busy to manual busy

Associated registers

None

Extension registers

None

Associated logs

MS301, MS302

MSPTMBU**Register type**

Usage

Scan rate

100 seconds

Description

MSPTMBU records if the MS ports are manually busy.

Associated registers

None

Extension registers

None

Associated logs

None

MSPTSBU**Register type**

Usage

Scan rate

100 seconds

Description

MSPTSBU records if the MS ports are system busy.

Associated registers

None

Extension registers

None

Associated logs

None

MSMBP**Register type**

Peg

Description

MSMBP counts changes of the MS from in service to manually busy and from system busy to manually busy.

Associated registers

None

Extension registers

None

Associated logs

MS101, MS102

MSSBU

Register type

Usage

Scan rate

100 seconds

Description

MSSBU records if the MS is system busy.

Associated registers

None

Extension registers

None

Associated logs

None

MSCHAIN

Description

OM group Message Switch Chain (MSCHAIN) monitors the performance and maintenance quality of the chains on a message switch (MS). The MS chains are interface cards connected by a bus.

MSCHAIN contains five peg registers that count:

- errors in operation
- critical or continuous faults that make MS chains system busy
- self tests that the system applies
- self tests that fail
- MS chains made manual busy

Register MSCHAIN also contains two-usage registers that record system busy and manually busy time.

The following table lists the key and info fields associated with OM group MSCHAIN:

Key field	Info field
MESSAGE_SWITCH_NUMBER is 0 or 1	None

Related functional groups

There are no functional groups associated with OM group MSCHAIN.

Registers

The following table lists the registers associated with OM group MSCHAIN and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MSCHAIN (Sheet 1 of 2)

Register name	Measures
MSCHDIA	Message switch chain diagnostic
MSCHDIAF	Message switch chain diagnostic failure
MSCHERR	Message switch chain error

Registers for OM group MSCHAIN (Sheet 2 of 2)

Register name	Measures
MSCHFLT	Message switch chain fault
MSCHMBP	Message switch chain manual busy
MSCHMBU	Message switch chain manual busy usage
MSCHSBU	Message switch chain system busy usage

MSCHDIA**Register type**

Peg

Description

MSCHDIA counts tests performed on a chain or on an interface card in a chain.

MSCHDIA includes:

- test commands from the MS shelf, chain, and card levels
- test requests from the chain in-service audit
- return-to-service commands from the MS shelf and chain levels
- return-to-service attempts by the audit on a system busy chain

A test on an interface card on a chain causes Register MSCHDIA to increase one time for the interface card. The following conditions cause MSCHDIA to increase one time for each chain and one time for each interface card in the chain:

- a test on an in-service chain
- an out-of-service chain
- a return to service chain

Associated registers[MSCHDIAF](#)**Extension registers**

None

Associated logs

MS150

MSCHDIAF

Register type

Peg

Description

MSCHDIAF counts failed self tests that the system performs on a chain or on an interface card in a chain. If the chain is in service before the diagnostic test, the system takes the chain out of service.

A test on an interface card on a chain causes Register MSCHDIAF to increase one time for the interface card if the test fails. A test on an in-service chain causes register MSCHDIAF to increase one time for the chain if the test fails. A test on an out-of-service chain or a return to service on the chain causes MSCHDIAF to increase one time for the chain and one time for each interface card in the chain if the test fails.

Register MSCHDIA also counts the self tests.

Associated registers

[MSCHDIA](#)

Extension registers

None

Associated logs

MS153

MSCHERR

Register type

Peg

Description

Register MSCHERR increases when:

- the system detects errors for an in-service chain or chain interface card
- the system adds errors for an out-of-service chain or chain interface card that the system returns to service

Register MSCHERR includes:

- failure of an in-service self test
- error reports from the message switch maintenance software
- in-service trouble faults the system finds during a successful return-to-service from a system or manual action

Register MSCHERR increases one time for each fault on a chain or a chain interface card.

Associated registers

[MSCHFLT](#)

Extension registers

None

Associated logs

MS150, MS153, MS154, MS157, MS277

MSCHFLT**Register type**

Peg

Description

MSCHFLT counts errors that require the system to take the chain out of service.

Register MSCHFLT includes:

- fault reports from the message switch maintenance software
- critical failures of an in-service test

MSCHFLT increases one time for each fault on the chain or on a chain interface card, if the fault causes the chain to go to system busy.

The errors are also counted by Register MSCHERR.

Associated registers

[MSCHERR](#)

Extension registers

None

Associated logs

MS153

MSCHMBP**Register type**

Peg

Description

MSCHMBP increases when commands entered from the MS level of a MAP make the chain manually busy.

Register MSCHMBP includes changes from:

- in-service (OK) to manually busy
- system busy to manually busy
- central-side (C-side) busy to manually busy
- offline to manually busy

Register MSCHMBP increases one time for the chain and one for each interface card in the chain.

Associated registers

None

Extension registers

None

Associated logs

MS151, MS152

MSCHMBU

Register type

Usage

Scan rate

100 seconds

Description

MSCHMBU records if the chain is manual busy.

MSCHMBU increases one time for the chain and one time for every interface card in the chain.

Associated registers

None

Extension registers

None

Associated logs

None

MSCHSBU

Register type

Usage

Scan rate

100 seconds

Description

MSCHMBU records if a chain is system busy.

MSCHSBU increases once for the chain and once for every interface card in the chain.

Associated registers

None

Extension registers

None

Associated logs

None

MSCHNLK

Description

OM group Message Switch Channelized Link (MSCHNLK) monitors the performance and maintenance quality of the channelized links on a message switch (MS). The MS channelized links are the channelized wire links that connect MS chains to peripheral side (P-side) nodes.

MSCHNLK contains five peg registers that count:

- errors in operation
- critical or continuous faults that makes MS channelized links system busy
- diagnostics (self tests) that the system applies
- diagnostics that fail
- MS channelized links made manual busy

The OM group MSCHNLK also contains two-usage registers that record system busy and manual busy time.

The following table lists the key and info fields associated with OM group MSCHNLK:

Key field	Info field
MESSAGE_SWITCH_NUMBER is 0 or 1	None

Related functional groups

There are no functional groups associated with OM group MSCHNLK.

Registers

The following table lists the registers associated with OM group MSCHNLK and what they measure. For a detailed description of a

register, click on the register name.

Registers for OM group MSCHNLK

Register name	Measures
MSCLDIA	Message switch channelized link diagnostic (self test)
MSCLDIAF	Message switch channelized link diagnostic (self test) failure
MSCLERR	Message switch channelized link error
MSCLFLT	Message switch channelized link fault
MSCLMBP	Message switch channelized link manual busy
MSCLMBU	Message switch channelized link manual busy usage
MSCLSBU	Message switch channelized link system busy usage

MSCLDIA

Register type

Peg

Description

MSCLDIA counts self tests performed on a channelized link or a port on a channelized link.

MSCLDIA includes the following:

- tests for a port on a channelized link entered at the MS chain card level of a MAP terminal
- return-to-service of a port on a channelized link entered at the MS chain card level
- test of a channelized link entered at the MS chain level
- return-to-service of a channelized link entered at the MS chain level
- periodic in-service audits
- return-to-service attempts on the system-busied link

A test or a return to service on a port on a channelized link causes MSCLDIA to increase one time for that port. A return to service on a channelized causes MSCLDIA to increases one time for the

channelized link and one time for each port on the channelized link that is not P-side or C-side busy. A test on an out-of-service channelized link causes MSCLDIA to increase once for the link and one time for the ENET port on the link. A test on an in-service channelized link causes MSCLDIA to increase one time for the channelized link. A test on ports stop after the first successful test of a port on the channelized link.

Associated registers

[MSCLDIAF](#)

Extension registers

None

Associated logs

MS310, MS280

MSCLDIAF**Register type**

Peg

Description

MSCLDIAF counts failed self tests on a channelized link or a port on a channelized link. If the port on the channelized link is in service before the self test, the system takes the link out of service.

A test or a return to service on a port on a channelized link causes MSCLDIAF to increase one time for that port, if the operation fails. A test an out-of-service channelized link causes MSCLDIAF to increase one time for the link and one time for the ENET port, if the test fails. A test on an in-service channelized link causes MSCLDIAF to increase. Register MSCLDIA increases one time for the link and one time for each port on the channelized link that fails.

Register MSCLDIA also counts the self tests.

Associated registers

[MSCLDIA](#)

Extension registers

None

Associated logs

MS283, MS313

MSCLERR

Register type

Peg

Description

MSCLERR increases when:

- the system detects errors for an in-service channelized link or a port on a channelized link
- the system detects errors for an out-of-service channelized link. The system detects errors for a port on a channelized link that the system brings back to service

Register MSCLERR includes the following:

- failure of an in-service test
- error reports from the P-side peripherals
- error reports from the C-side
- in-service trouble faults found during a successful return-to-service, from a system or manual action

MSCLERR increases one time for the channelized link, when the system reports the fault on the whole link. Register MSCLERR increases one time if the system reports the fault on a port on the channelized link.

Associated registers

[MSCLFLT](#)

Extension registers

None

Associated logs

MS280, MS283, MS284, MS310, MS313, MS314, MS317

MSCLFLT

Register type

Peg

Description

MSCLFLT counts errors that require the system to take the channelized link or a port on the channelized link out of service.

Register MSCLFLT includes:

- fault reports from the peripherals
- failures of an in-service test

MSCLFLT increases one time for the channelized link. The register increases if the system reports the fault on the whole link and makes the link system busy. Register MSCLFLT increases one time. The register increases if the system reports fault on a port on a channelized link, and makes the port system busy.

MSCLERR also counts the errors.

Associated registers

[MSCLERR](#)

Extension registers

None

Associated logs

MS283, MS313

MSCLMBP

Register type

Peg

Description

MSCLMBP increases when the chain is made busy when the system enters commands at the MS level of a MAP.

Register MSCLMBP includes changes from the following:

- in-service (OK) to manually busy
- system busy to manually busy
- central-side (C-side) busy to manually busy
- P-side busy to manually busy

MSCLMBP increases one time if commands make a port on a channelized link busy. Register MSCLMBP increases one time for the channelized link and one time for each port on the link, if commands make the channelized link busy.

Associated registers

None

Extension registers

None

Associated logs

MS281, MS282, MS311, MS312

MSCLMBU**Register type**

Usage

Scan rate

100 seconds

Description

MSCLMBU records if the channelized link is manually busy.

MSCLMBU increases one time for the channelized link and one time for every port on the channelized link, when a command makes the link manually-busy. Register MSCLMBU increases when a port on the channelized link is made manual busy separate from the link.

Associated registers

None

Extension registers

None

Associated logs

None

MSCLSBU**Register type**

Usage

Scan rate

100 seconds

Description

MSCLSBU records if a channelized link is system busy.

MSCLSBU increases one time for the channelized link and one time for every port on the channelized link, when the system makes the link system busy. Register MSCLSBU increases when a port on the channelized link is made manually busy. Register MSCLSBU increases when a port on the channelized links made manually busy separate from the link.

Associated registers

None

Extension registers

None

Associated logs

None

MSFBUS

Description

OM group Message Switch Frame Transport Bus (MSFBUS) provides an accurate indication of the performance of the frame transport bus (F-bus) on the message switch (MS).

The following table lists the key and info fields associated with OM group MSFBUS:

Key field	Info field
MESSAGE_SWITCH_NUMBER	None

Related functional groups

There are no functional groups associated with OM group MSFBUS.

Registers

The following table lists the registers associated with OM group MSFBUS and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MSFBUS

Register name	Measures
MSFBDIA	MS F-bus diagnostic count
MSFBDIAF	MS F-bus diagnostic failure count
MSFBERR	MS F-bus error count
MSFBFLT	MS F-bus fault peg count
MSFBMBP	MS F-bus manual busy peg count
MSFBMBU	MS F-bus manual busy usage count
MSFBSBU	MS F-bus system busy usage count

MSFBDIA

Register type

Peg

Description

MSFBDDIA increases for each MS when the system performs a diagnostic on an MS F-bus. Register MSFBDDIA increases if the diagnostic test passes or fails. These diagnostic tests include the test and the return-to-service (RTS) commands on the F-bus. This register increases one time for each test on the F-bus.

Associated registers

[MSFBDDIAF](#)

Extension registers

None

Associated logs

MS400

MSFBDDIAF**Register type**

Peg

Description

MSFBDDIAF increases for each MS when a diagnostic test counted in MSFBDDIA fails. If the F-bus is in service before the test, the system puts the F-bus out of service.

This register increases one time for each diagnostic test failure on the F-bus.

Associated registers

[MSFBDDIA](#)

Extension registers

None

Associated logs

MS403

MSFBERR**Register type**

Peg

Description

MSFBERR increases for each MS when the system detects errors for an in-service F-bus. Additional maintenance action does not affect the register count. These errors include the failure of an in-service test and the receipt of error reports from the MS. This register increases one time for each fault on the F-bus.

Associated registers[MSFBFLT](#)**Extension registers**

None

Associated logs

MS403, MS404, MS407

MSFBFLT**Register type**

Peg

Description

MSFBFLT counts the number of errors for each MS (counted in MSFBERR) that require the system to take the MS F-bus out of service. These errors include all events that result in the change to system busy (SYSB). The events include the critical failure of an in-service test, and error reports from the MS.

This register increases one time for each fault on the F-bus if the fault causes the F-bus to become SYSB.

Associated registers[MSFBERR](#)**Extension registers**

None

Associated logs

MS403, MS404

MSFBMBP**Register type**

Peg

Description

MSFBMBP increases for each MS when the F-bus is manually busy (ManB) as a result of commands from the MAP terminal. This register increases one time for each time the F-bus goes from:

- OK to ManB
- system busy to ManB
- C-side busy to ManB
- offline to ManB

MSCLMBP increases one time if commands make a port on a channelized link busy. Register MSCLMBP increases one time for the channelized link and one time for each port on the link, if commands make the channelized link busy.

Associated registers

None

Extension registers

None

Associated logs

MS401, MS404

MSFBMBU**Register type**

Peg

Description

MSFBMBU counts the length of time the MS F-bus is in the manual busy (ManB) state. This register increases one time for each ManB state of the F-bus.

Associated registers

None

Extension registers

None

Associated logs

None

MSFBSBU**Register type**

Peg

Description

MSFBSBU counts the amount of time the MS F-bus is in the system busy state.

Associated registers

None

Extension registers

None

Associated logs

None

MSFBUSTP

Description

OM group Message Switch Frame Transport Bus Taps (MSFBUSTP) provides an accurate indication of the performance of the frame transport bus (F-bus) taps on the message switch (MS).

The following table lists the key and info fields associated with OM group MSFBUSTP:

Key field	Info field
MESSAGE_SWITCH_NUMBER	None

Related functional groups

There are no functional groups associated with OM group MSFBUSTP.

Registers

The following table lists the registers associated with OM group MSFBUSTP and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MSFBUSTP

Register name	Measures
MSTPDIA	MS F-bus tap diagnostic count
MSTPDIAF	MS F-bus tap diagnostic failure count
MSTPERR	MS F-bus tap error count
MSTPFLT	MS F-bus tap fault count
MSTPMBP	MS F-bus tap manual busy peg count
MSTPMBU	MS F-bus tap manual busy usage count
MSTPSBU	MS F-bus tap system busy usage count

MSTPDIA

Register type

Peg

Description

MSTPDIA increases for each MS when the system performs a diagnostic test on an MS F-bus tap. Register MSTPDIA increases even if the diagnostic test passes or fails. These diagnostic tests include the test and return-to-service (RTS) commands on an F-bus tap. This register increases one time for each test on the F-bus tap.

Associated registers

[MSTPDIAF](#)

Extension registers

None

Associated logs

MS410

MSTPDIAF**Register type**

Peg

Description

MSTPDIAF increases for each MS when a diagnostic test counted in MSTPDIA fails. If the F-bus tap is in service before the test, the system puts the F-bus tap out of service.

This register increases one time for each diagnostic test failure on the F-bus tap.

Associated registers

[MSTPDIA](#)

Extension registers

None

Associated logs

MS413

MSTPERR**Register type**

Peg

Description

MSTPERR increases for each MS when the system detects errors at an in-service F-bus tap. Additional maintenance action does not affect the register count. These errors include the failure of an in-service test, and error reports from the MS. This register increases one time for each fault on an F-bus tap.

Associated registers[MSTPFLT](#)**Extension registers**

None

Associated logs

MS413, MS414, MS417

MSTPFLT**Register type**

Peg

Description

MSTPFLT counts the number of errors (counted in MSTPERR) that take the MS F-bus tap out of service. These errors include all events that result in the change to system busy (SYSB). These events include the critical failure of an in-service test, and error reports from the MS.

This register increases one time for each fault on the F-bus if the fault causes the F-bus to become SYSB.

Associated registers[MSTPERR](#)**Extension registers**

None

Associated logs

MS413

MSTPMBP**Register type**

Peg

Description

MSTPMBP increases for each MS when the F-bus tap is manually busy (ManB) as a result of commands from the MAP terminal. This register increases one time when the F-bus goes from:

- OK to ManB
- system busy to ManB
- C-side busy to ManB
- offline to ManB

Associated registers

None

Extension registers

None

Associated logs

MS411, MS412

MSTPMBU**Register type**

Peg

Description

MSTPMBU counts the amount of time the MS F-bus tap is in the manually busy state. This register increases one time for each manually busy state of the F-bus tap.

Associated registers

None

Extension registers

None

Associated logs

None

MSTPSBU**Register type**

Peg

Description

MSTPSBU counts the amount of time the MS F-bus tap is in the system busy state.

Associated registers

None

Extension registers

None

Associated logs

None

MSGPSOC

Description

OM group P-Side Messaging Occupancy (MSGPSOC) provides data to measure overload conditions on the P-side of a host XPM. Only SX05-based peripherals support this feature.

This OM records the number of incoming and outgoing messages every 10 seconds on each P-side data link. The XPM performs a check once a minute to determine whether the average number of messages on any data link exceeds the threshold value. If an overload condition occurs, the XPM sends a message to the CM. The switch generates a PM420 log any time the average message rate on any data link exceeds 60% of the threshold value.

To view data collection from this OM, use either the OMSHOW command at the command interpreter level or the PMDEBUG monitor interface. To turn off the data collection generated by this OM, change the value of office parameter MSGPSOC_OM_CONTROL in table OFCVAR from Y(es) to N(o).

The following table lists the key and info fields associated with OM group MSGPSOC:

Key field	Info field
None	MSGPSOC_OM_KEY

Related functional groups

There are no functional groups associated with OM group MSGPSOC.

Registers

The following table lists the registers associated with OM group MSGPSOC and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MSGPSOC (Sheet 1 of 2)

Register name	Measures
AM O 20	Average messages 0% to 20%
AM 20 40	Average messages 20% to 40%

Registers for OM group MSGPSOC (Sheet 2 of 2)

Register name	Measures
AM_40_60	Average messages 40% to 60%
AM_60_80	Average messages 60% to 80%
AM_80_95	Average messages 80% to 95%
AM_OVLD	Average messages greater than 95%
AV_MSGS	Average messages per second over 15 min

AM_O_20**Register type**

Peg

Description

The average number of messages received from the corresponding P-side node is less than or equal to 20% of link capacity.

Associated registers

None

Extension registers

None

Associated logs

None

AM_20_40**Register type**

Peg

Description

The average number of messages received from the corresponding P-side node is greater than 40% and less than or equal to 60% of link capacity.

Associated registers

None

Extension registers

None

Associated logs

None

AM_40_60**Register type**

Peg

Description

The average number of messages received from the corresponding P-side node is greater than 40% and less than or equal to 60% of link capacity.

Associated registers

None

Extension registers

None

Associated logs

None

AM_60_80**Register type**

Peg

Description

The average number of messages received from the corresponding P-side node is greater than 60% and less than or equal to 80% of link capacity.

Associated registers

None

Extension registers

None

Associated logs

None

AM_80_95**Register type**

Peg

Description

The average number of messages received from the corresponding P-side node is greater than 80% and less than or equal to 95% of link capacity.

Associated registers

None

Extension registers

None

Associated logs

None

AM_OVLD**Register type**

Peg

Description

The average number of messages received from the corresponding P-side node is greater than 95% of link capacity.

Associated registers

None

Extension registers

None

Associated logs

None

AV_MSGS**Register type**

Peg

Description

The average number of messages received per second is tracked over a 15-minute OM period.

Associated registers

None

Extension registers

None

Associated logs

None

MTA

Description

OM group Metallic Test Access (MTA) counts seizures and failures of seizures of metallic test access (MTA) drivers. Usage registers record if MTA drivers are traffic busy or manually busy.

The OM group MTA refers to a single minibar switch of 16 horizontals and 20 verticals. The MTA card connects test equipment to line cards in a line concentrating device (LCD). Minibar drivers have a fixed CLLI, MTADRIVER, in table CLLI MTI. Measurements can be used for office provisioning and for monitoring components to determine if the components require maintenance action.

The following table lists the key and info fields associated with OM group MTA:

Key field	Info field
COMMON_LANGUAGE_NAME. This field contains a fixed CLLI, MTADRIVER	MTA_OM_INFO. This field contains the number of drivers assigned in table MTAMDRIVE

Related functional groups

There are no functional groups associated with OM group MTA.

Registers

The following table lists the registers associated with OM group MTA and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MTA

Register name	Measures
MTAMBU	Metallic test access (MTA) manual busy usage
MTASZFL	Metallic test access (MTA) seizure failures
MTASZRS	Metallic test access (MTA) seizure attempts
MTATRU	Metallic test access (MTA) traffic busy usage

MTAMBU**Register type**

Usage

Scan rate

10 seconds

Description

MTAMBU records if MTA drivers are manually busy. This count includes call processing busy or lockout states.

If you set the office parameter OMINERLANGS to Y, counts are in deci-erlangs.

Associated registers

None

Extension registers

None

Associated logs

None

MTASZFL**Register type**

Peg

Description

MTASZFL increases when the system abandons a set operation because the driver is in use or is out of service.

Associated registers

None

Extension registers

None

Associated logs

None

MTASZRS**Register type**

Peg

Description

MTASZRS increases when the MTA drive performs a set operation on an MTA.

Associated registers

None

Extension registers

None

Associated logs

None

MTATRU**Register type**

Usage

Scan rate

10 seconds

Description

MTAMBU records if MTA drivers are manually busy. This count includes call processing busy or lockout states.

If you set the office parameter OMINERLANGS to Y, counts are in deci-erlangs.

Associated registers

None

Extension registers

None

Associated logs

None

MTU

Description

OM group Magnetic Tape Unit Maintenance Summary (MTU) counts errors on in-service magnetic tape units (MTU). The OM group MTU also counts failures of a tape unit to recover from an error. Usage registers in MTU record if magnetic tape units are manually or system busy.

The following table lists the key and info fields associated with OM group MTU:

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group MTU.

Registers

The following table lists the registers associated with OM group MTU and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MTU

Register name	Measures
MTUERR	Magnetic tape unit (MTU) errors
MTUFLT	Magnetic tape unit (MTU) faults
MTUMBU	Magnetic tape unit (MTU) manual busy usage
MTUSBU	Magnetic tape unit (MTU) system busy usage

MTUERR

Register type

Peg

Description

MTUERR counts errors on an in-service magnetic tape unit.

The count includes read errors, write errors, negative results from self-test during initialization, and no response.

Associated registers

None

Extension registers

None

Associated logs

IOD208, IOD207, IOD209, IOGA101, MTD101

MTUFLT**Register type**

Peg

Description

MTUFLT increases when a tape unit fails to recover from an error counted in MTUERR. The tape unit must remain system busy until manual interruption or a successful system-initiated recovery attempt.

Associated registers

None

Extension registers

None

Associated logs

IOD208, IOD210, IOD212, IOD213, IOD214, IOD215, SOS100, MTD103

MTUMBU**Register type**

Usage

Scan rate

100 seconds

Description

MTUMBU records if magnetic tape units are manually busy.

Associated registers

None

Extension registers

None

Associated logs

IOD203

MTUSBU**Register type**

Usage

Scan rate

100 seconds

Description

MTUSBU records if magnetic tape units are system busy.

Associated registers

None

Extension registers

None

Associated logs

IOD204, MTD103

MULTAUTH

Description

Multiple Calls Per Authcode (MULTAUTH) is an OM group.

The AUTHCODX tables have an option called CPACTVAL. If the option is set for a particular authcode, and if that authcode is in use simultaneously for a number of calls greater than the maximum allowed for a given node, then:

- a treatment is set
- the event is logged
- the failure action is taken for the call

For legacy agents, the MULTAUTH OM group provides the ability to determine the number of times that an authcode is used above the maximum number of times set in table AUTHCODX option CPACTVAL field LIMIT.

The following table lists the key and info fields associated with OM group MULTAUTH:

Key field	Info field
None	None

Related functional groups

There are no functional groups associated with OM group MULTAUTH.

Registers

The following table lists the registers associated with OM group MULTAUTH and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MULTAUTH

Register name	Measures
MULTAUTH	Multiple calls per authcode

MULTAUTH

Register type

Peg

Description

MULTAUTH counts the number of calls with authcodes in use above the maximum number of calls allowed.

Associated registers

None

Extension registers

None

Associated logs

MAUC101

MWICTCAP

Description

OM group Message Waiting Indicator for Transaction Capabilities Application Part (MWICTCAP) collects and displays counts for transaction capabilities application part (TCAP) messages for each integrated services digital network (ISDN) primary rate interface (PRI) access interface. MWICTCAP is maintained on a 30-minute basis.

The following table lists the key and info fields associated with OM group MWICTCAP:

Key field	Info field
Logical terminal identifier (LTID) for PRI interface	None

Related functional groups

NI0-PRI Message Services (Functional Group NI-00037) is associated with OM group MWICTCAP.

Registers

The following table lists the registers associated with OM group MWICTCAP and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MWICTCAP

Register name	Measures
ACTATT	MWI activation TCAP attempts
DEACTATT	MWI deactivation TCAP attempts
ACTPROB	Problems with MWI activation on TCAP attempts
DEACTPRB	problems with MWI deactivation TCAP attempts
UNIDIREC	unidirectional TCAP responses to MWI control attempts
UNIDATS	unitdata service TCAP responses to MWI control attempts

ACTATT**Register type**

Peg

Description

ACTATT is the total number of transactions capabilities application part (TCAP) queries sent in an attempt to activate message waiting indicator (MWI) for remote client use.

Associated registers

None

Extension registers

None

Associated logs

None

DEACTATT**Register type**

Peg

Description

DEACTATT is the total number of TCAP queries sent in an attempt to deactivate MWI for remote client use.

Associated registers

None

Extension registers

None

Associated logs

None

ACTPROB**Register type**

Peg

Description

ACTPROB is pegged when it receives TCAP responses with a reject or return error component indicating that an attempt to activate MWI is unsuccessful.

Associated registers

None

Extension registers

None

Associated logs

None

DEACTPRB**Register type**

Peg

Description

DEACTPRB is pegged when it receives TCAP Responses with a reject or return error component.

Associated registers

None

Extension registers

None

Associated logs

None

UNIDIREC**Register type**

Peg

Description

UNIDIREC is pegged when it receives TCAP messages with a package type of unidirectional and a reject component.

Associated registers

None

Extension registers

None

Associated logs

None

UNIDATS**Register type**

Peg

Description

UNITDATS is pegged when it receives unitdata services messages.

Associated registers

None

Extension registers

None

Associated logs

None

MWTCAR

Description

OM group Message waiting call request (MWTCAR) provides information on feature use and traffic measurements. MWTCAR also provides information on failures that result from a lack of software and hardware resources for the following features:

- Integrated Business Network (IBN)
- Message Waiting (MWT)
- Call Request (CAR)
- Call Memory (CM)
- Call Covering (CCV)
- CLASS Message Waiting Indicator (CMWI)

The MWT feature allows a station to receive and retrieve messages from a message center. To receive and retrieve messages the station dials the message center directory number (MCDN). A lit MWT lamp or stuttering dial tone notifies the station that a message/call request waits for retrieval.

The CMWI feature allows an MWT subscriber to know if messages wait for retrieval. The subscriber must have a CLASS set with a MWT lamp and/or display device. A CLASS set is a 500- or 2500- type set that can receive and understand CLASS modem transmissions. The CLASS modem resource (CMR) card transmits the lamp/display control information to the set.

The CAR feature allows the user to make call requests against another station. The user makes the call requests when the terminating station is busy or does not answer. The system can only place one call request against a terminating station.

The Call Request Exempt (CRX) feature exempts the user from call requests against the station.

Several access codes associate with this feature:

- Call request activate (CRA) - The subscriber can encounter a busy line or a line that does not answer. To place a call request against the line, the subscriber dials the CRA access code.
- Call request retrieve (CRR) - To retrieve message waiting and call requests, the subscriber dials the CRR access code.

- Call request delete specific (CRDS) -To delete the call request for a line the requestor can dial the CRDS access code. The requestor dials the directory number (DN) of the line against which the user made the call request. A confirmation tone returns to the requestor.
- Call request delete all (CRDA) - To delete all the messages waiting and call requests for a line, the requestor dials the CRDA access code. A confirmation tone returns to the requestor.

There are two ways to receive a message or call request:

- dial the MCDN - If a message waits, the attendant relays the message. You do not retrieve messages in the order that they queue. The call request retrieve (CRR) access code, defined in table IBNXLA dials if no message is present.
- dial the CRR access code and retrieve the messages or call requests in the order they queue - If the highest message in the queue is a message from the center, the retrieving station connects to the center. If the highest message in the queue is not from the center, the system rings the call request. When the station that made the request is busy or does not answer, the call request remains in the queue.

The MWT lamp or stuttered dial tone remains on until the queue does not contain message or call requests.

The CM feature allows the called party to store the identity of the calling party as a message against the line. The called party can return the call to the calling party without dialing the directory number.

The CCV feature allows a third party (covering station) to answer a call intended for the base station. CCV allows the third party to leave a message for the base station on behalf of the calling party.

The following table lists the key and info fields associated with OM group MWTCAR:

Key field	Info field
None	OMIBNGINFO. The info field identifies the CUSTNAME of the customer group, defined in table CUSTENG. The tuple number of MWTCAR functions as the key in the OMSHOW command.

Parameter FTRQAGENTS in table OFCENG specifies the number of agents that can have the message waiting/call request feature.

Parameter FTRQSIZE in table OFCENG specifies the size of the feature.

Parameter FTRQ2WAREAS in table OFCENG specifies the number of FTRQ 2 word areas required for the engineering interval.

Parameter FTRQ8WPERMS in table OFCENG specifies the number of FTRQ 8 word permanent blocks needed for the call memory and call covering features.

Parameter NO_OF_FTR_CONTROL_BLKs in table OFCENG specifies the number of control blocks required for this feature.

Parameter NO_OF_FTR_DATA_BLKs in table OFCENG specifies the number of control blocks required for this feature.

The system implements MWT when the data feature field is assigned MWT in table IBNFEAT.

The system implements CAR when you enter Y in field CAR in table IBNFEAY.

The system implements CRx when you enter Y in field CRX in table IBNFEAY.

Field NOTICE in table IBNFEAT allows the operating company to assign the CWMI message waiting notice to each line.

Field ENABLED in table RESOFC allows the operating company to turn on or off delivery of the message waiting indicator information. The system delivers this information to all CMWI subscribers in the office.

Field RETRSMIT in table RESOFC indicates the maximum number of attempts permitted to transmit the message waiting information. The system transmits the information to the set of the subscriber.

Field FEATURE in table IBNXLA indicates the access codes for activation and deactivation of the CMWI feature.

Related functional groups

Integrated business network (IBN) is associated with functional group MWTCAR.

Registers

The following table lists the registers associated with OM group MWT-CAR and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MWT-CAR (Sheet 1 of 2)

Register name	Measures
CARATT	Call request attempts
CARDVFL	Call request delete specific overflows
CARFAIL	Call request failures
CARODACT	Call request delete activation
CAROVFL	Call request overflow
CARRETRV	Call request retrieval
CARRFAIL	Call request retrieval failures
CARROVFL	Call request retrieval overflow
CARDTACT	Call request delete all
CCVATT	Call covering activation attempts
CCVFAIL	Call covering activation failures
CCVOVFL	Call covering software overflow
CMATT	Call memory activation attempts
CMFAIL	Call memory activation failures
CMOVFL	Call memory software resources overflow
CMWIACT	CMWI negative acknowledgements
CMWIDACT	CMWI deactivations
CMWINACK	CMWI no software resources
CMWISW	CMWI retransmissions
CMWITRMS	CMWI unavailable

Registers for OM group MWTCAR (Sheet 2 of 2)

Register name	Measures
CMWIUNAV	CMWI unavailable
CMWRACT	CMWIRING activations
CMWRDACT	CMWIRING deactivations
CMWRDNAC	CMWIRING activation failures
CMWRDNDA	CMWIRING deactivations failures
MWTACT	Message waiting activations
MWTATT	Message waiting attempts
MWTDEACT	Message waiting deactivations
MWTOVFL	Message waiting overflow
MWTQUERY	Message waiting queries

CARATT**Register type**

Peg

Description

CARATT counts the attempts to activate message waiting (MWT). The subscriber dials the call request access (CRA) code to activate message waiting.

Associated registers

None

Extension registers

None

Associated logs

None

CARDOVFL**Register type**

Peg

Description

CARDOVFL counts attempts to deactivate a call request that fail. To deactivate a call request, the called party dials the call request delete specific access code.

Parameter NO_OF_FTR_DATA_BLKs in table OFCENG specifies a lack of software resources which cause failures.

Associated registers

TRMT3_NOSR, which indicates no software resources, increases when register CARDOVFL increases

Extension registers

None

Associated logs

LINE138

CARFAIL**Register type**

Peg

Description

CARFAIL counts attempts to activate the call request feature that fail because of feature restrictions. This count includes attempts to activate call request against a station that has the call request exempt (CRX) option.

Associated registers

None

Extension registers

None

Associated logs

LINE138

CARODACT**Register type**

Peg

Description

CARODACT increases when a called party dials the call request delete specific (CRDS) access code. The called party dials the code in an attempt to remove a call request.

Associated registers

None

Extension registers

None

Associated logs

None

CAROVFL**Register type**

Peg

Description

CAROVFL counts call request attempts (code CRA) that fail because of a lack of feature data blocks.

Parameter NO_OF_FTR_DATA_BLKs in table OFCENG specifies feature data blocks.

Associated registers

TRMT3_NOSR, which indicates the absence of software resources, increases when CAROVFL is increases.

Extension registers

None

Associated logs

LINE138

CARRETRV**Register type**

Peg

Description

CARRETRV counts attempts to retrieve a call request.

Associated registers

None

Extension registers

None

Associated logs

None

CARRFAIL**Register type**

Peg

Description

CARRFAIL counts attempts to retrieve a call request that fail because of feature restrictions.

Associated registers

The following registers are associated with register CARRFAIL:

- TRMT3_FINAL, which increases when CARRFAIL increases if the reason for failure is that the system does not allow the feature
- TRMT1_BUSY, which increases when CARRFAIL increases if the reason for failure is that the directory number of the requestor is busy.

Extension registers

None

Associated logs

LINE138

CARROVFL**Register type**

Peg

Description

CARROVFL counts attempts to retrieve a call request that fail because of a lack of feature data blocks.

Parameter NO_OF_FTR_DATA_BLKs in table OFCENG specifies feature data blocks.

Associated registers

TRMT3_NOSR, which indicates the absence of software resources, increases when CARROVFL increases.

Extension registers

None

Associated logs

LINE138

CARDTACT**Register type**

Peg

Description

CARDTACT counts calls that a caller removes from a station. To remove calls from a station, the caller dials the call request delete all (CRDA) access code.

Associated registers

None

Extension registers

None

Associated logs

None

CCVATT**Register type**

Peg

Description

CCVATT counts attempts to activate call covering. The subscriber presses the CCV key to activate call covering. If call covering activates, the following occur:

- the answering party receives a confirmation tone
- the EMW lamp on the set of the called party turns on
- the system saves the directory number of the calling party in a message against the line of the called party.

Associated registers

None

Extension registers

None

Associated logs

None

CCVFAIL**Register type**

Peg

Description

CCVFAIL counts attempts to activate call covering that fail because of feature restrictions. This count includes attempts to activate call covering when the following occurs:

- the answering party presses the CCV key when the incoming call is not a direct call
- the primary part of the MADN group does not have EMW assigned
- the calling party and the MADN group are not in the same customer group family
- the answering party is not a secondary member of the MADN group

Associated registers

None

Extension registers

None

Associated logs

None

CCVOVFL**Register type**

Peg

Description

CCVOVFL counts call covering attempts that fail because of a lack of FTRQ 8 word permanent (FTRQ8WPERMS) blocks.

Parameter FTRQ8WPERMS in table OFCENG specifies the number number of FTRQ 8 word permanent blocks.

Associated registers

None

Extension registers

None

Associated logs

None

CMATT**Register type**

Peg

Description

CMATT counts attempts to activate call memory. To activate call memory, the subscriber presses the LVM key or the EMW key. If call memory activates, the called party receives a confirmation tone. The system connects the called party and the calling party. The EMW lamp on the set of the called party turns on. The system saves the directory number of the caller in a message against the line of the called party.

Associated registers

None

Extension registers

None

Associated logs

None

CMFAIL**Register type**

Peg

Description

CMFAIL counts attempts to activate call memory that fail because of feature restrictions. This count includes attempts to activate call memory when:

- the called party presses the LVM key or the EMW key when the incoming call is not a direct call
- the base station does not have EMW assigned
- the calling party and the base station are not in the same customer group family

Associated registers

None

Extension registers

None

Associated logs

None

CMOVFL**Register type**

Peg

Description

CMOVFL counts call memory attempts that fail because of a lack of FTRQ 8 word permanent (FTRQ8WPERMS) blocks.

Parameter FTRQ8WPERMS in table OFCENG specifies the number of FTRQ 8 word permanent blocks.

Associated registers

None

Extension registers

None

Associated logs

MS303

CMWIACT**Register type**

Peg

Description

CMWIACT counts attempts to activate CLASS message waiting indicator (CMWI) on the set.

Associated registers

None

Extension registers

None

Associated logs

None

CMWIDACT**Register type**

Peg

Description

CMWIDACT counts attempts to deactivate CLASS message waiting indicator (CMWI) on the set.

Associated registers

None

Extension registers

None

Associated logs

None

CMWINACK**Register type**

Peg

Description

CMWINACK counts CLASS message waiting indicator (CMWI) messages that the system cannot transmit correctly. The system cannot transmit the messages correctly because of a timeout of failure message from the peripheral module.

Associated registers

None

Extension registers

None

Associated logs

None

CMWISW**Register type**

Peg

Description

CMWISW counts CLASS-message waiting indicator (CMWI) requests that are discarded. CMWI requests are discarded because there are not enough software resources in the central control (CC).

Associated registers

None

Extension registers

None

Associated logs

None

CMWITRMS**Register type**

Peg

Description

CMWITRMS counts CLASS message waiting indicator (CMWI) the system discards. The system discards the messages because the number of retransmissions reaches the maximum.

Associated registers

None

Extension registers

None

Associated logs

None

CMWIUNAV**Register type**

Peg

Description

CMWIUNAV counts CLASS message waiting indicator (CMWI) requests the system discards because the CLASS modem resource card is not available.

Associated registers

None

Extension registers

None

Associated logs

None

CMWRACT**Register type**

Peg

Description

CMWRACT counts attempts to ENABLE the ringing aspect of the CLASS message waiting indicator (CMWI) feature. To activate the ringing aspect of the CLASS message waiting indicator (CMWI) feature, the subscriber dials the CMWRING feature activation codes.

Associated registers

None

Extension registers

None

Associated logs

None

CMWRDACT**Register type**

Peg

Description

CMWRDACT counts attempts to disable the ringing aspect of the CLASS message waiting indicator (CMWI) feature. To disable the ringing aspect, the subscriber dials the CMWIRING feature deactivation code.

Associated registers

None

Extension registers

None

Associated logs

None

CMWRDNAC**Register type**

Peg

Description

CMWRDNAC counts attempts that did not enable the ringing aspect of the CLASS-message waiting indicator (CMWI) feature. To enable the ringing aspect, the subscriber dials the CMWIRING feature activation code.

Associated registers

None

Extension registers

None

Associated logs

None

CMWRDND**Register type**

Peg

Description

CMWRDND counts attempts that did not disable the ringing aspect of the CLASS-message waiting indicator (CMWI) feature. To disable the ringing aspect, the subscriber dials the CMWIRING feature release code.

Associated registers

None

Extension registers

None

Associated logs

None

MWTACT**Register type**

Peg

Description

MWTACT increases when the message center activates the message waiting lamp.

An activated message waiting lamp indicates that a call request or a message is waiting at the message center.

Associated registers

None

Extension registers

None

Associated logs

None

MWTATT**Register type**

Peg

Description

MWTATT counts attempts to activate message waiting. To activate message waiting the subscriber terminates at a message center.

To reach the message center a subscriber calls a line that the system forwards to the message center. To reach the message center, the subscriber can also dial the message center directory number (MCDN).

Associated registers

None

Extension registers

None

Associated logs

None

MWTDEACT**Register type**

Usage

Description

MWTDEACT increases when the message center deactivates the message center waiting lamp.

A deactivated message waiting lamp indicates the number of times the subscriber retrieves messages from the message center.

Associated registers

None

Extension registers

None

Associated logs

None

MWTOVFL**Register type**

Peg

Description

MWTOVFL increases when the message center attendant cannot activate the message waiting lamp. The attendant cannot activate the message waiting lamp because of a lack of feature data blocks.

Parameters NO_OF_FTR_DATA_BLKs and FTRQ2WAREAS in table OFCENG specific feature data blocks.

The display of the message center attendant will show "TRY AGAIN".

Associated registers

TRMT3_NOSR, which indicates a lack of software resources, when MWTOVFL increases

Extension registers

None

Associated logs

LINE138

MWTQUERY**Register type**

Peg

Description

MWTQUERY increases when a message center attendant queries the status of a station for messages in the queue.

Associated registers

None

Extension registers

None

Associated logs

None

MWTCAR2

Description

OM group Message Waiting Call Request (MWTCAR2) increases when a message is in the queue against a line that has the message waiting line option. The notice does not affect the OM group count. Registers in this group record the use of periodic ring notification (PRN).

The following table lists the key and info fields associated with OM group MWTCAR2:

Key field	Info field
None	OMIBNGINFO

Related functional groups

There are no functional groups associated with OM group MWTCAR2.

Registers

The following table lists the registers associated with OM group MWTCAR2 and what they measure. For a detailed description of a register, click on the register name.

Registers for OM group MWTCAR2

Register name	Measures
PRNACT	PRN activation
PRNRACT	PRN ringing activation
PRNRDACT	PRN ringing deactivation

PRNACT

Register type

Peg

Description

PRNACT increases each time a messages is in the queue against a line that has PRN.

Associated registers

None

Extension registers

None

Associated logs

None

PRNRACT**Register type**

Peg

Description

PRNRACT increases each time the user attempts to activate the ringing for the PRN notice. To activate the ringing, the user dials the activation code.

Associated registers

None

Extension registers

None

Associated logs

None

PRNRDACT**Register type**

Peg

Description

PRNRDACT increases each time the user attempts to deactivate the ringing for the PRN notice. To deactivate ringing, the user dials the deactivation code.

Associated registers

None

Extension registers

None

Associated logs

None