Lucent Technologies
Bell Labs Innovations

DACS II
Release 9.1.3, PDS
Feature Guide

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Release 9.1.3 Features

1

Contents

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Background

Introduction

This section describes the DACS II Alarm Inhibit Feature incorporated into Release 9.1.3.

Objectives

This section provides information to perform the following:

1. Change System Start-up Time Interval
2. Change NPC Start-up Time Interval
3. Change NPC In-service Substate
4. Retrieve a report on System Start-up Time Interval on an NPC, range of NPCs or all NPCs and elapsed time.

Related tasks

For related tasks, refer to the following tasks in this guide:

- Change System Start-up Time Interval GT 1.1
- Change NPC Start-up Time Interval GT 1.2
- Change NPC In-service Substate GT 1.3
- Querying Alarm Inhibit Summary GT 1.4

Related information

For related information, refer to the:

- *DACS II Operation and Maintenance Manual Release 9.0*
- *DACS II Command and Message Manual Release 9.1.3*

Alarm Inhibit Feature

Overview

The Alarm Inhibit Feature provides the option to inhibit the reporting of alarms and Threshold Crossing Alerts on provisioned DACS II ports where the customer signal is not yet present.

This feature will reduce maintenance costs and improve the operation and maintenance of the system. In doing so, the technicians and OS systems will not be flooded with unnecessary work items during service activation and turn-up activities.

NPC Types

The following NPC types that can be put in the inhibit state are as follows:

- DA
- DE
- PA
- PB
- PC
- TA
- TE
- TH

Alarm Inhibit Feature (Continued)

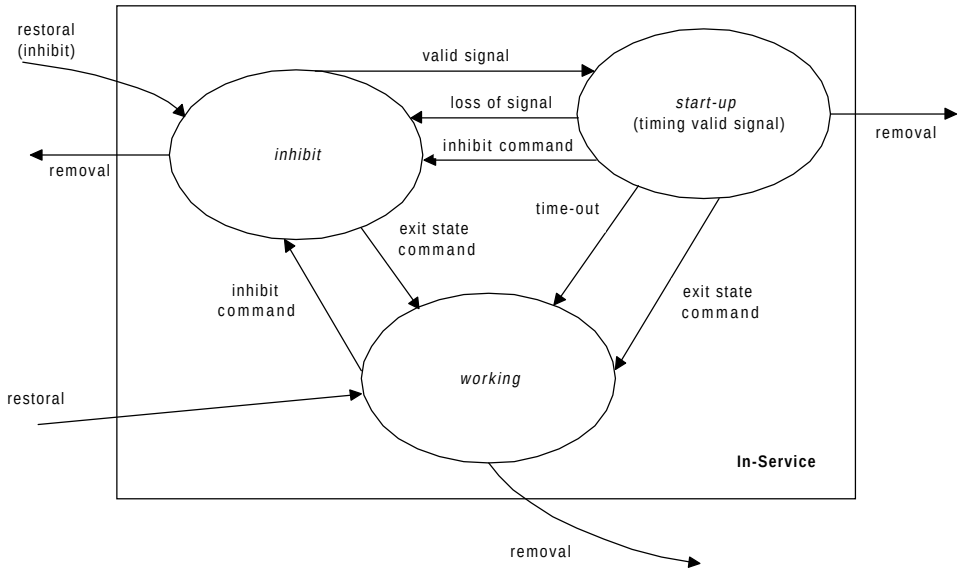

Figure -1. Port State Transitions

Port In-service States

When a DACS II port is restored, it is put in-service. There are three states that an NPC can be in while in-service.

- Inhibit
- Start-up
- Working

Inhibit State

When set in the Inhibit State, ports are placed in service with reporting of alarms and TCAs turned off. The DACS II monitors the incoming signal for the presence of a valid customer signal and if necessary, will send consequent actions and clear LOS, LOF, and AIS alarms internally, but will not send alarm messages to the OS.

The DACS II will calculate and store PM data for all applicable PM parameters, but will not send TCAs to the OS. This state will allow the technician to perform cross-office and end-to-end acceptance testing on the provisioned circuit before the customer is notified of the circuit availability. The inhibit feature is automatically off unless TCA and alarm inhibition option is selected during the use of the restoral command.

Alarm Inhibit Feature (Continued)

Start-up State

The start-up state is provisioned by the customer to start a system timer which records the duration of the valid customer signal. The customer sends the signal but may still be conducting various start-up activities. A retrieve message allows the user to retrieve the amount of time that the port has been in start-up state.

The DACS II monitors the input signal for a continuous period with the autonomous reporting of alarms and TCAs still turned off. If the customer signal is interrupted or lost before reaching the provisioned or default start-up interval, the timer automatically resets to zero and the process starts over again in the inhibit state. The port start-up interval can range from 1 minute to 48 hours and is provisioned on a per port basis on a range of ports. The system start-up interval which default value is 8 hours can range from 1 to 48 hours and is defined on a system basis.

NOTE:
If the inhibit option is selected but no port start-up time interval is selected, the system start-up time interval is chosen.

Working State

The port is in working state when the presence of a contiguous customer signal for a time interval equal to the provisionable start-up interval transitions to the start of an autonomous reporting of alarms and TCAs for the receiving port.

When an NPC is restored, it will be in the working state if inhibit keyword is not stated while using the NPC Restore command [I.34351].

GT 1.1: Change System Start-up Time Interval

When to use

Use this task to change the system start-up time interval.

Task

To change the system start-up time interval, enter the following command [I.38371]:

```
CHG:[FRM xy][,SEQ ww]:SYSINHTIM hr!
```

Where:

hr	Number of hours for system start-up timer. The 2-digit hour (hr) field is mandatory and shall be in the range of 01 to 48.

Stop! End of Task.

GT 1.2: Change NPC Start-up Time Interval

When to use

Use this task to change the port/range of ports start-up time interval.

NOTE:
The option INHTIM is incompatible with DSPU NPCs because AISP does not apply for DSPU NPCs. Consequently, the presence of an NPC number belonging to a DSPU will not allow the INHTIM option.

Before you begin

The port/range of ports must be equipped prior to the use of this task.

Task

To Change NPC start-up time interval, enter the following command [I.38381]:

```
CHG:[FRM xy][,SEQ ww]:NPC [s]abc[-[t]def],INHTIM hrmn!
```

Where:

NPC	Network processing circuit
[t]def	The 3- or 4-digit nonhierarchical NPC number (end of the range).
INHTIM	Inhibit timer keyword
hrmn	Time (hour, minute)

Stop! End of Task.

GT 1.3: Change NPC In-service Substate

When to use

Use this task to force an NPC in a specific in service substate: Inhibit state, startup state or working state.

NOTE:
The options FORCEINH and FORCEWKG are incompatible with DSPU NPCs because AISP does not apply for DSPU NPCs. Consequently, the presence of NPC number belonging to DSPU will not allow the FORCEINH and FORCEWKG options.

Related Tasks

For related tasks, refer to:

- GT 1.4: Querying Alarm Inhibit Summary

Task

To change an NPC in service substate by exiting from Inhibit/Start-up state or exiting from Working state, enter the following command [I.38391]:

```
CHG:[FRM xy][,SEQ ww]:NPC [s]abc[-[t]def,{FORCEINH|FORCEWKG}!
```

Where:

NPC	Network processing circuit
[t]def	The 3- or 4-digit nonhierarchical NPC number (end of the range).
FORCEINH	Force to Inhibit state keyword
FORCEWKG	Force to Working state keyword

Stop! End of Task.

GT 1.4: Querying Alarm Inhibit Summary

When to use

Use this task to query an alarm inhibit summary on an NPC, range of NPCs, or all NPCs. The query will provide system start-up and for each port will provide the port number, service state, and port start-up time interval along with elapsed time.

Related Tasks

For related tasks, refer to:

- GT 1.2: Change NPC Start-up Time Interval.

Task

To query an alarm inhibit summary, enter the following command [53341]:

`UTL:[FRM xy][,SEQ ww]:QRY,INH,{NPC [s]abc[-[t]def]|ALL}!`

Where:

`UTL::QRY`	Query
[s]abc	The 3- or 4-digit nonhierarchical NPC number, start of NPC range
[t]def	The 3- or 4-digit nonhierarchical NPC number, end of NPC range

Stop! End of Task.

Glossary

A

AIS
Alarm Indication Signal (also known as all 1s signal).

Alarm Indication Signal (AIS)
A signal transmitted downstream to indicate that network transmission line failures were detected upstream.

All Ones Signal
Another name for DS1 Alarm Indication Signal (AIS). It is defined to contain all ones in the terminal-to-terminal mode.

B

BER
Bit Error Rate.

Byte
Usually refers to a group of eight consecutive binary digits, but sometimes used for bit groups of other sizes.

C

CEF
Capacity Expansion Frame.

CEPT
Conference of European Postal Telecommunications (standard E1signal: 2.048 Mb/s).

CGA
Carrier Group Alarm.

Cross-Connect
A piece of hardware used to interconnect line-terminating equipment, multiplexers, and other equipment.

Cross-Connection
An interconnection between two specified NPC channels.

D

DACS
Digital Access and Cross-Connect System.

Default
A value the system automatically uses for a parameter if you do not specify a value.

Demultiplexer
A device used with a multiplexed signal for recovering signals contained within it and restoring the distinct individual channels of these signals.

DS0
Digital Signal Level 0 (64-kb/s).

DS1
Digital Signal Level 1 (1.544-Mb/s).

DS1 Data Rate
The DS1 Data Rate is calculated as follows: DS1 = (24 Channels x 8 bit/sample + 1 frame bit) x 8000 samples/sec DS1 = 193 x 8000 = 1.544 Mb/s.

DS1 Port
A DS1 port in either a DS1 interface module or a DS3 interface module.

DS3
Digital Signal Level 3.

DS3U
DS3 Unit.

E

E1 Data Rate
The E1 Data Rate is calculated as follows:
E1 = (32 Channels x 8 bit/sample) x 8000 samples/sec
E1 = 256 x 8000 = 2.048 Mb/s

With this data rate, 30 channels carry traffic and two channels are reserved; one channel contains framing information and the other channel contains signaling information.

H

HDS3
Hybrid DS3.

HDS3U
Hybrid DS3 Unit.

HMXR
Hybrid Multiplexer.

I

IDLD
Idled.

Idle
An output port is idle if it is not cross-connected to an input port.

Idle Channel
A channel on an NPC that has not been cross-connected.

K

kb/s or kbit/s
Kilobit Per Second.

L

LOF
Loss of Frame.

Loopback
A circuit arrangement that causes a received signal to be returned to its source.

LOS
Loss of Signal.

M

Mb
Megabit

Mb/s or Mbit/s
Megabit Per Second.

MIU
Multipoint Interface Unit.

MMFG
Multiplexer-MIU Functional Group or HMXR-MIU Functional Group.

MML
HuMan-Machine Language (a language used by the DACS II).

MXR
Mutliplexer.

N

NPC
Network Processing Circuit.

P

PBA
Primary Block Alarm.

PDS
Program Documentation Standards (a language used by the DACS II).

R

R16
Remote Alarm Indication in TS16.

RAI
Remote Alarm Indication.

RAIS
Remote Alarm Indication Signal.