

Monitoring and Troubleshooting Flows IWD

Interwork Description

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1 Introduction

ENM Monitoring and Troubleshooting Flows provides a solution to gather KPIs, for network elements and their associated cells, for a specified duration. This feature is deployed in ENM Flow Automation.

This IWD documents the file and name format of the Flow Configuration and KPI Results Report files for ENM Monitoring and Troubleshooting Flows.

For Monitoring and Troubleshooting Flows the file input must be structured as outlined in the *Execution Paths* section of the Flow Automation: Flow Package Use Description document, [Reference \[1\]](#).



2 Flow Configuration File Format

The Flow Configuration file contains the configuration for the flow to be executed. The Flow Configuration can be imported and exported.

File Type

The Flow Configuration file is a JSON/ZIP file.

File Name Format

flow-input.json

File Format

These are the mandatory fields that need to be filled in the flow-input.json file:

flow-input.json

```
{
  "activationPhaseConfiguration": {
    "activationSchedule": {
      "selectActivationScheduleMode": {
        "immediately": true,
        "scheduled": {
          "scheduleTime": "1970-01-01T00:00:00.000Z"
        }
      },
      "durationInput": 7
    },
    "sendEmailNotification": {
      "emailaddress": [
        "emailone@email.com"
      ],
      "emailReportAs": {
        "attachReportLink": false,
        "attachReport": false
      }
    }
  },
  "networkElementConfiguration": {
    "neNames": "LTE01dg2ERBS00001",
    "collectionNames": "Collection01",
    "savedSearchNames": "SavedSearch01"
  },
  "activities": {
    "kpiActivity": {
      "selectedKpis": [
        {
          "kpi": "Abnormal Releases ENB"
        },
        {
          "kpi": "Active Downlink Users"
        },
        {
          "kpi": "Active Uplink Users"
        },
        {
          "kpi": "Average DL PDCP UE DRB Throughput per QCI"
        }
      ]
    }
  }
}
```



```
}
}
```

The details of the fields are described in the following table:

Field	Values	Description
activationPhaseConfiguration.activationSchedule.selectActivationScheduleMode	Object	Selection between immediate or scheduled activation of the flow. Note: Note: Only one of the activation modes should be chosen. If scheduled mode is chosen, the "immediately" field is not needed. The opposite is also true. Example: "immediately": true OR "scheduled": { "scheduleTime": "1970-01-01T00:00:00.000Z" }
activationPhaseConfiguration.activationSchedule.selectActivationScheduleMode.immediately	Boolean	True for immediate execution of the flow. If False, activationPhaseConfiguration.activationSchedule.selectActivationScheduleMode.scheduled.scheduleTime must be set. Default: true Example: "immediately": true
activationPhaseConfiguration.activationSchedule.selectActivationScheduleMode.scheduled.scheduleTime	yyyy-MM-dd'T'HH:mm:ss.SSS'Z'	Starting date and time to the flow to initialize. Example: 1970-01-01T00:00:00.000Z
activationPhaseConfiguration.durationInput	Integer	The number of days for the flow to keep collecting KPIs. In a range from 1 to 7 days maximum.
sendEmailNotification.emailaddresses	List	List of emails, comma-separated, for the flow to send the report when it finishes. Example: ["emailone@email.com", "emailtwo@email.com"]
sendEmailNotification.emailReportAs	Object	List of methods by which the user can have the report emailed, either by link or attachment.
sendEmailNotification.emailReportAs.attachReportLink	Boolean	True if user selects to email the report as a link. Default: false
sendEmailNotification.emailReportAs.attachReport	Boolean	True if user selects to email the report as an attachment. Default: false
networkElementConfiguration.nodeNames	String	Node names, comma-separated, in one string. Up to 50 nodes Example: "LTE01dg2ERBS00001,LTE01dg2ERBS00002"
networkElementConfiguration.collectionNames	String	Collection names, comma-separated, in one string. Example: "Collection01,Collection02"
networkElementConfiguration.savedSearchNames	String	Saved Search names, comma-separated, in one string.



Field	Values	Description
		Example: "SavedSearch01,SavedSearch02"
activities.kpiActivity	Object	KPI Activity to which the selected nodes are added.
activities.kpiActivity.selectedKpis	Object	List of the KPI names to which the selected nodes are added.
activities.kpiActivity.selectedKpis. kpi	String	KPI name, as defined in the KPI Management tool.



3 KPI Results Report File Format

The KPI Results Report shows the collected value for every KPI per cell, per Node, per ROP, which is retrieved every 15 minutes.

File Type

The KPI Results Report file is a csv file.

File Name Format

npa_flow_kpi_report.csv

File Format

Details of the fields:

Field	Values	Description
Node Name	String	The name of the node.
Cell Name	String	The name of the cell.
KPI Name	String	The name of the KPI.
YYYY-MM-DDThh:mm:ss.SSS	Double	This column will contain the value of the KPI for the ROP collection time. There will be one column per ROP and each column will be named with the date and time of the collection.

Here is an example of the KPI Results Report:

Node Name	Cell Name	KPI Name	2020-03-05 13:15:09.08 6	2020-03-05 13:30:06.34 3	2020-03-05 13:45:08.40 4	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	DL Packet Error Loss Rate	125.77	214.1	288.06	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Average UE PDCP DL Throughput	-400	-400	148.15	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Initial E-RAB Establishme nt Success Rate	-30.84	-46.28	-330.52	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Handover Success Rate	0.82	1.30	0.30	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Average UL TTI Utilization	0.81	1.05	0.48	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Average DL TTI Utilization	2.53	0.23	0.82	...



Node Name	Cell Name	KPI Name	2020-03-05 13:15:09.08 6	2020-03-05 13:30:06.34 3	2020-03-05 13:45:08.40 4	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Downlink PRB Utilization	88	60	40	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	UL Packet Error Loss Rate	60.38	74.07	30.63	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Average DL UE Latency	0.37	1.11	2.57	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	E-RAB Retainability - Session Time Normalized Loss Rate	2.92	1.77	8.06	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Uplink PRB Utilization	55	6	17	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	E-RAB Retainability - Percentage Lost	26.76	100.77	137.5	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Average DL PDCP Cell Throughput	46000	2800	5000	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Average PDCCH Utilization	52	5	4	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Average UL PDCP UE Throughput	412.70	854.84	60.60	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-1	Average UL PDCP Cell Throughput	216.66	1615.38	463.41	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-2	DL Packet Error Loss Rate	52.78	60.78	69.72	...
LTE01dg2ER BS00001	LTE01dg2ER BS00001-2	Average UE PDCP DL Throughput	-8.82	13.11	0.85	...
...
LTE01dg2ER BS00002	LTE01dg2ER BS00002-1	DL Packet Error Loss Rate	55.75	61.77	70.51	...
...
LTE01dg2ER BS00002	LTE01dg2ER BS00002-2	DL Packet Error Loss Rate	61.56	67.58	75.52	...



Referenced Documents

References	
[1]	Flow Automation: Flow Package Use Description 198 10-CNA 403 3544