IBM Tivoli Netcool

Mobilink Impact Policies

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1. Document Control

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2. Introduction

This document has been produced to Record the process of the development of the Impact Policies that are part of the Mobilink OSS. The aim of the document is to cover the all aspects of the development of the policies including a Schedule/Plan, Testing including Test Scripts, Data Loading and the Impact Policy Requirement Questions. The design requirements are help in the High Level Design Document

3. General Policies

Standard Enrichment

StdEnrich

Data Loading

From CMDB

Fields required for enrichment including

Domain
Region
ManCity
CovCity
Site
OMC
ManagedObject
NE Priority

Questions

Many of these policies require Enrichment of events from CMDB.
What fields are enriched?
What is the Key field from the event to the enrichment – NE?
Where is the information for this coming from?

Maintenance Policies

Maintanence

Data Loading

From CMDB

Parent Child

Questions

MaintainenceEnd

Data Loading

None

Questions

Incident Record Policies

CreateTT

This policy Creates a TT within TSRM when the MaximoStatus flag is set to 1,2 or 3

Data Loading

None

Questions

ParentTT

This Policy updates the child event with TT details from the Parent Event. This is required as the TT Details are not available on creation of the parent (may take up to 30 seconds)

Data Loading

None

Questions

UpdateTT

Data Loading

None

Questions

ClearTT

This policy closes a TT when MaximoStatus is set to

Data Loading

None

Questions

When an event with an associated TT clears should this Resolve/Clear the TT

ClearEventFromTT

This Policy will set an event to clear when certain TT are closed within CMDB

Data Loading

Questions

Synthetic Events

ClearSyntheticEvents

Data Loading

Questions

What clears the Synthetic Events?

4. Correlation Policies

DRI out of service alarms

Data Loading

From CMDB

DRI Density

Questions

We need to check DRI Density from CMDB,

Where will this data be?

What will its key field in the event be?

Where is the information coming from including details of where to run the command and credentials?

How can we Check DRI Status?

How can we reset a DRI?

After resetting DRI(s) how long should we wait before checking DRI Status?

How can Lock/Unlock a DRI

BSS Environmental Alarms

Data Loading

From CMDB

Site Type

Site Priority

Area

Address

SleepTime

Questions

We need to look up Sleep time in event table

Where is this table?

What is the schema of the table?

What is the Key field from the event?

Who is supplying this information?

Is there a default value should we be unable to find the sleep time in the table

Please list the subsets of alarms

Please define the required severity for alarms for each site type/ site priority

Site down Alarm - Cell Alarms

Data Loading

From CMDB

Number of cells at Site

Questions

How would we know if all cells are down?

When a partial site down goes to a full site down should we generate an additional event or Update the existing Partial Event down to be a Full Site down Event

If we have to generate a additional Full site down event what should we do with the Partial Site down

We need to look up Sleep time in event table

Where is this table?

What is the schema of the table?

What is the Key field from the event?
Who is supplying this information?
Is there a default value should we be unable to find the sleep time in the table

Site Down Alarm – Site Down

Data Loading

Questions

We need to look up Sleep time in event table
Where is this table?
What is the schema of the table?
What is the Key field from the event?
Who is supplying this information?
Is there a default value should we be unable to find the sleep time in the table

Multiple BTS down alarms

Data Loading

From CMDB

Connectivity Information

Questions

We need to look up wait time in event table
Where is this table?
What is the schema of the table?
What is the Key field from the event?
Who is supplying this information?
Is there a default value should we be unable to find the sleep time in the table

RSL/GSL/MSL alarms

Data Loading

Questions

What command do we need to issue to Motorola EMS to gather number of associated links and how do we issue this onto the EMS
How do we know if all the links on a GPROC are down?
If this goes to the state of this goes from some links down to all links down what should we do?

X25 failures caused by TxN problems

Data Loading

Cross-connect info from a Mobilink external DB

Questions

How can we tell that all OMLs down for a given BSC

Cell performance related alarms

Data Loading

Questions

We need to look up Wait time in event table

- Where is this table?
- What is the schema of the table?
- What is the Key field from the event?
- Who is supplying this information?
- Is there a default value should we be unable to find the wait time in the table

If the alarms are coming in from the same BSC, this should also be mentioned in the TT. Does this mean that we should count the number of these alerts and that we should mention it in the TT if it is greater than a threshold? If so what should this threshold be?

RSL link disconnect alarms

Data Loading

From CMDB

- Site data

Questions

Lack of events detection for each OMC

Data Loading

Questions

Please list all OMC's to be checked

Please List the wait time associated with each OMC

Is the period between checks the same for all OMC's?

- What should this period be?

TxN environmental Events

Data Loading

From CMDB

- Site information
- Site co-ordinates

Questions

Just to clarify, these events 'share' the same parent events as the BSC Power Events

What Co-ordinate information should be enriched into this?

TxN Input power low/high/abnormal

Data Loading

Questions

TxN External Customer Alarms

Data Loading

From CMDB

Customer

Questions

How do we associate given alarms to given external Customers

R-LOS Fibre break alarm

Data Loading

From CMDB

Details of the NEs and DWDM elements positions on the fibre rings

Wait Time

Questions

We need to look up Wait time in event table

Where is this table?

What is the schema of the table?

What is the Key field from the event?

Who is supplying this information?

Is there a default value should we be unable to find the sleep time in the table

APS Alarm

Data Loading

From CMDB

List of potential traffic that may have lost redundancy

Questions

We check 'list of potential traffic that has lost redundancy'

Where is this list held?

How do we check for lost redundancy?

Cable break policy

Data Loading

Questions

How will an event be marked as requiring Processing through this policy?

How can we determine the ends of the break?

Where will the information for the internal impact table to locate the location of the break be coming from and when?

ETH_LOS alarm

Data Loading

Lost traffic

Domain

Region

Lost connectivity

Questions

How do we know what traffic is being carried on the alerting ethernet

Microwave error alarm

Data Loading

Effected channels
Capacity of Trunk
Type of Trunk

Questions

Microwave environmental alarm

Data Loading

From CMDB

Site Type
Site Priority
SleepTime

Questions

We need to look up Sleep time in event table

Where is this table?
What is the schema of the table?
What is the Key field from the event?
Who is supplying this information?
Is there a default value should we be unable to find the sleep time in the table

Please define the required severity for alarms for each site type/ site priority

Microwave Equipment power supply alarm

Data Loading

Questions

We need to look up Sleep time in event table

Where is this table?
What is the schema of the table?
What is the Key field from the event?
Who is supplying this information?
Is there a default value should we be unable to find the sleep time in the table

Cross domain GPRS alarm

Data Loading

From CMDB

GPRS
BSC Name
BSC Rack
BSC Shelf
DLCI

Questions

Cell GPRS failure alarm

Data Loading

Questions

Core signalling down C7 alarm

Data Loading

Questions

- We need to look up Sleep time in event table
  - Where is this table?
  - What is the schema of the table?
  - What is the Key field from the event?
  - Who is supplying this information?
  - Is there a default value should we be unable to find the sleep time in the table
- How do we find out the Alt end of the link?
- Where do we find
  - SLC numbers
  - A&Z Nodes
  - Percentage of effected links

CORE Media outage alarm

Data Loading

Questions

- We need to look up Sleep time in event table
  - Where is this table?
  - What is the schema of the table?
  - What is the Key field from the event?
  - Who is supplying this information?
  - Is there a default value should we be unable to find the sleep time in the table
- How do we find 'Signal Percentage Down'?

CORE hardware alarm

Data Loading

Questions

- We need to look up Sleep time in event table
  - Where is this table?
  - What is the schema of the table?
  - What is the Key field from the event?
  - Who is supplying this information?
  - Is there a default value should we be unable to find the sleep time in the table

CORE STP Linkset down alarm

Data Loading

Questions

How do we find 'Percentage of effected links'?
How do we know if it's a high speed link?

CORE STP card isolation alarm

Data Loading

Questions

CORE STP DIU down alarm

Data Loading

Data Loading

Questions

Where do we lookup MSC Equip?

Communication alarm

Data Loading

Questions

Where do we find Point code?

In node down alarm

IN processing error alarm

Data Loading

Questions

TT should be generated within 10 – 15 minutes after alarm – We will raise the TT after 10 minutes

IN call gaping alarm

Data Loading

Questions

Alarm should generate a TT within 3-5 minutes – We will raise a TT after 3 minutes

QoS alarm

Data Loading

Questions

Equipment alarm

Data Loading

Questions

We need to look up Sleep time in event table
- Where is this table?
- What is the schema of the table?
- What is the Key field from the event?
- Who is supplying this information?
- Is there a default value should we be unable to find the sleep time in the table

IN DPC alarm

Data Loading

Questions

We need to look up Sleep time in event table
- Where is this table?
- What is the schema of the table?
- What is the Key field from the event?
- Who is supplying this information?
- Is there a default value should we be unable to find the sleep time in the table

How do we find out the Alt end of the link?

Where do we find
- SLC numbers
- A&Z Nodes
- Percentage of effected links

IN environmental alarm

Data Loading

Questions

We need to look up Sleep time in event table
- Where is this table?

What is the schema of the table?
What is the Key field from the event?
Who is supplying this information?
Is there a default value should we be unable to find the sleep time in the table

IN valista issue on IN alarm

Data Loading

Questions

We are required to check for historical events for last 'x' minutes –
What is 'x'
We are required to generate a synthetic event if a threshold is breached,
What is this threshold?
We need to look up Sleep time in event table
Where is this table?
What is the schema of the table?
What is the Key field from the event?
Who is supplying this information?
Is there a default value should we be unable to find the sleep time in the table

IN VOMS alarm

Data Loading

Questions

We need to look up Sleep time in event table
Where is this table?
What is the schema of the table?
What is the Key field from the event?
Who is supplying this information?
Is there a default value should we be unable to find the sleep time in the table

SMSC Service impacting alarms

Data Loading

Questions

We need to look up Sleep time in event table
Where is this table?
What is the schema of the table?
What is the Key field from the event?
Who is supplying this information?
Is there a default value should we be unable to find the sleep time in the table

SGSN hardware alarm

Data Loading

Questions

We need to look up Sleep time in event table

Where is this table?
What is the schema of the table?
What is the Key field from the event?
Who is supplying this information?
Is there a default value should we be unable to find the sleep time in the table

SGSN multiple C7 link down

Data Loading

Questions

We need to look up Sleep time in event table
Where is this table?
What is the schema of the table?
What is the Key field from the event?
Who is supplying this information?
Is there a default value should we be unable to find the sleep time in the table
How do we find out the Alt end of the link?
Where do we find
SLC numbers
A&Z Nodes
Percentage of effected links

APS impact correlation

Data Loading

Questions

Topology Table
Where is it?
What is its schema?
What is the key field from the event?
What field should be enriched?
How do we know which trails are associated with which customer?

C7 signaling correlation and multi fails in city

Data Loading

Questions

What is the schema of this table?

XBL down alarm

Data Loading

Questions

DPC/multiple C7 link alarm

Data Loading

Questions

Call Gapping alarm

Data Loading

Questions

Critical hardware alarm

Data Loading

Questions

Which are the critical hardware alarms?

IN node down alarm

Data Loading

Questions

Valista issue alarm

Data Loading

Questions

Critical Threshold crossed alarm

Data Loading

Questions

Appendix 1 – Test Plans.

Alarm suppression during maintenance windows

Requirement:

The requirement requires that all new events are checked against a table held in CMDB. If it or its parent is found to be in a maintenance period then the event should be flagged to show that it is in Maintenance, the reason for this and the time that this maintenance period ends

Tool is required to insert emergency change windows into CMDB

Tool to take the event out of its maintenance period early

Policy(s)

Maintenance

This policy checks all new Events and if the Node or the parent Node are within a maintenance window sets the OS field MaintFlag to show the reason and OS field MaintEnd to show the end of the maintenance window. If the Event is not in a maintenance window then MaintFlag is set to 1, allowing further policies to run against this event

Maintenance End

This policy runs every 15 seconds checking events that have MaintFlag set to show that it is in a maintenance window and checks if it is has reached the end of the maintenance window. If it has reached the end of the maintenance window it resets the MaintFlag to 0 causing it to be checked again by the Maintenance Policy in case there are any further maintenance windows affecting this event.

Test Event source:

Any Event can be used to check these policies

Test 1 – check basic operation of the maintenance policies

1. Enter an record into the maintenance table for the Node of the test event for a 5 minute period
2. Insert the test event
3. Using an AEL that shows suppressed events see the event arrives and that it is placed in maintenance, checking the correct value is displayed for MaintFlag and that the end of the maintenance window appears in MaintEnd
4. After 5 minutes check that the event comes out of maintenance (MaintFlag = 1) and that any further required policies run

Test 2 – check sequential maintenance windows

1. Enter a record into the maintenance table for the Node of the test event for a 5 minute period
2. Enter a record into the maintenance table for the Node of the test event for a 5 minute period that starts just before the first window ends.

3. Insert a test event
4. Check the correct values are displayed for MaintFlag and MaintEnd(End of first maintenance window)
5. After 5 minutes check that the correct values are displayed for MaintFlag and MaintEnd(End of second maintenance window)
6. After a further 5 minutes check that the event comes out of maintenance (MaintFlag = 1) and that any further required policies run

Test 3 – Test use of tool to take event out of maintenance

1. Enter an record into the maintenance table for the Node of the test event for a 5 minute period
2. Insert the test event
3. Check the correct values are displayed for MaintFlag and MaintEnd
4. Right Click the event and select the end maintenance tool
5. Check that the event comes out of maintenance (MaintFlag = 2) and that any further required policies run

TxN Input Power Low/High/Abnormal

Requirement:

Input power alarms should have TTs raised for them after a specific, 5 minute, wait period, to allow the events to clear automatically. If a power abnormal alarm is received it should be treated as a parent event for the low and high power alarms.

Policy(s)

TxnInputPower

This policy checks all TxN power events. If the event has not cleared after 5 minutes generates a new TT if there isn't already one raised for a TxN power event from the same node. If there is a TT for a TxN power event it will use the same TT

Test Event source:

TxN Power High Event
TxN Power Abnormal event
Note: if these events cannot be generated by ML then it may be necessary to use synthetic events. If this is the case the ML should certify that the synthetic events are suitable for this testing

Test 1 – Check Basic operation

5. Insert TxN Power High Event
6. Check Event appears in a suitable AEL
7. After 5 minutes check that a TT is raise

Following this test clear the alert and it's associated TT

Test 2 – Check that no TT is raised if the event is cleared within the 5 minute window

1. Insert TxN Power High Event
2. Check Event appears in a suitable AEL
3. Clear the Event
4. After 5 minutes check that no TT has been raised

Test 3 - check that multiple power events for a given Node only generate 1 TT

1. Insert TxN Power Abnormal Event
2. Check Event appears in a suitable AEL
3. After 5 minutes check that a TT is raised – make a note of its reference
4. Insert TxN Power High Event
5. Check Event appears in a suitable AEL
6. Check the event has the same TT reference as the TxN Power Abnormal Event
7. Check the TT has been updated to show the additional event

Core Hardware

Requirement:

Multiple environmental alarms associated with the same CORE NE, for example GenSet alarms and Low Voltage alarms, should be handled in as a single incident, and not raise individual TTs.
The severity of the alarm should be associated with the site type and priority which is to be provided by Mobilink for environmental alarms.
When all environmental alarms have cleared for the site, the incident is deemed to be closed.
Wapda and GenSet failure alarms should be correlated to create a single TT in TSRM.
Power alarms appear in the category of Trunk System alarms and Msoft alarms for Suth NEs.

Policy(s)

CoreHardware

This policy initially identifies the sub group of core hardware alerting before enriching the event. I then checks to see if there is an existing TT for that sub group, if there is it, it update the TT.
If event has not cleared after a delay then a synthetic event with an associated TT is raised with details of the parent event and of the TT being put in the child events

CoreHardwareClear

This policy checks any Core Hardware events when they are set to clear. If they are last child event of a sub group it sets the parent event to clear

Test Event source:

Test 1 – Test description