

*Service Management Delivery Services*

**ZTE Integration**

**Partial Site Down Policy**

**Low Level Design Documentation (LLD)**

**Prepared for:**

****

**V1.0**

**Final**

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Version History

|  |  |  |  |
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|  |  |  |  |
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# Introduction

## Document Objective

This LLD intends to describe the requirements for the “ZTE Partial Site Down” policy.

# High Level Algorithm

## Processing A “Cell Down” Problem Event

* A problem network cell down is received
* Raise a “ZTE Partial Site Down” (PSD) event based on the cell down network event if one or more cells are down, but at least one is up.
* Downgrade SD to PSD when site was down and became partial down
* Raise “ZTE Site Down” or upgrade existing PSD to SD when all cells are down.
* Get the PSD/SD event delay based on the SiteCode and raise a TT if the event is still active after that time has elapsed.
* Look for a network environmental alarm from the same site and if found add their details to the SE’s Information field.

## Processing A “Cleared Site/Cell Down” Problem Event

* A cleared problem network site or cell down event is received.
* Check that there are no more active CD/SD network events.
* If there are any other active network SD or CD (cell down) events, add the current events details to the SD’s journal and force CD to recalculate if there is no network SD active.
* If there is no CD or SD network event active clear the SD event and add the current event details to its journal.

# Pre-requisites

## Rules File

The EventId is based on the event Summary, as shown in the table below.

|  |  |
| --- | --- |
| **EventId** | **Summary** |
| NET\_BSS\_ZTE\_CD\_001 | Cell interruption alarm |

## TSRM Classification

The following classification should be added in TSRM

|  |  |
| --- | --- |
| **EventId** | **Classification** |
| SYN\_BSS\_ZTE\_PSD\_001 | ZTE Partial Site Down |

## Data Sources

The following Netcool/Impact data types are required for this policy:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Impact Data Source** | **Impact Data Type** | **Data Base Name** | **Table Name** | **Fields** |
| defaultobjectserver | OS\_Status | Object Server | Alerts.status | **Not required** |
|  |  |  |  |  |

## Customized Functions

This policy used 2 customized functions:

* MobiLib.AddGenericJournal()
* MobiLib.getSleepTime()

# Policy Details

## Event Reader

**EventReader Name:** To be added after completion.

**Policy name:** ML\_ZTE\_PartialSiteDown and ML\_ZTE\_ClearSE

**Filter:** To be added after completion.

## Synthetic Event

The synthetic event to be raised should be populated with data as shown in the table below

|  |  |
| --- | --- |
| **Field Name** | **Value** |
| Node | @SiteCode |
| Summary | “ZTE Partial Site Down :: x Of The y Cells :: <Node\_List>” or “ZTE Site Down” |
| Severity | 5 |
| Type | 1 |
| Class | To be defined |
| Region | @Region |
| FirstOccurrence | @FirstOccurrence |
| LastOccurrence | @LastOccurrence |
| Domain | @Domain |
| ManCity | @ ManCity |
| ImpactFlag | 6 |
| OutsourceContractor | @ OutsourceContractor |
| BusImportance | @ BusImportance |
| Vendor | @ Vendor |
| OmcEms | @ OmcEms |
| MaintFlag | @MaintFlag |
| AdvCorrServerSerial | @ServerSerial |
| EventId | SYN\_BSS\_ZTE\_PSD\_001 or SYN\_BSS\_ZTE\_SD\_001 |
| OwnerUID | 65534 |
| Agent | Netcool Impact |
| TTHibernate | Calculate base on SiteCode |
| SiteCode | @SiteCode |

## Low Level Algorithm

### Processing A “Cell Down” Problem Event

* A problem network cell down event is received.
* Set the ImpactFlag to 5 and return the event so it can’t be re-processed.
* Look for all cd events from the same site in the OS.
* If none found set the ImpactFlag to “6”, return event and exit.
* Get the total number of cells for the current site and initialize is\_sd to is\_psd “false”.
* If total number of cells down is equal to the total number of cells then set is\_sd to “true”, otherwise set is\_psd to “true”.
* Check if there is already an SD SE in the OS.
* If a SD SE is found:
  + Look for network SD in the OS.
  + If found, add a journal entry for the current event into the SD SE, set the ImpactFlag to “6”, return event and exit.
  + If not found and is\_sd=true then set ImpactFlag = 6, return event and exit.
  + If not found and is\_sd=false then downgrade SD SE to PSD SE, and add journal entry for the current event into PSD SE. Set ImpactFlag = 6, return event and exit.
* If a SD SE is not found, check if PSD SE is already in the OS.
* If a PSD SE is not found:
  + If is\_sd= true, set SD SE’s Summary, EventId and Class. Otherwise set them using values from the PSD SE.
  + Get the sleeptime (hibernation or TT delay time) for the current site
  + Raise a SE, which can be a SD or PSD depending on the is\_sd variable.
  + Get the ServerSerial of the SE just created and add current event journal entry.
  + Look up the environmental events from the same site and add their details to the SE’s Information field for all found. The Information field should be filled using each found event’s LastOccurrence and Summary, separated by semi colon and a space (“; “).
* If a PSD SE is found:
  + If is\_sd=true then upgrade PSD SE to SD SE, otherwise just update Summary
  + Add current event details into PSD/SD SE’s journal.
* Set ImpactFlag = 6 and return event.

### Processing A “Cleared Site/Cell Down” Problem Event

This clear logic/policy will process both cleared problem cell and site down network events.

* A cleared problem network site or cell down event is received.
* Set ImpactFlag to “99” and return event to prevent re-processing.
* Check for other events which have same SyntheticServerSerial and Severity > 3.
* If any of the returned events are SD network than just add the current event details to the SD SE’s journal and exit.
* Check that all the returned events are PSD network events. If yes, force their recalculation by setting each event’s ImpactFlag to “4”. Add current event details to the SD SE’s journal and set the ImpactFlag to “100”. Return event and exit.
* If there are no PSD/SD events active then clear the SD SE and add the current event’s details into the SE SD’s journal. Set ImpactFlag to “100” and return event.

## Low Level Flow Chart

### ML\_ZTE\_PartialSiteDown



### ML\_ZTE\_ClearSE



### ML\_ZTE\_PartialSiteDown Policy Code

To be added after completion.

### ML\_ZTE\_ClearSE Policy Code

To be added after completion.