

**Mobilink SOW – Statement of Work**



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# Document Control

## Document Review

The following Innovise ESM personnel have contributed and reviewed this document.

|  |  |
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| **Name** | **Title** |
|  |  |

## Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Reason** | **Author** |
| 1.0 | 17th March 2010 | First Draft | Prev Datta |
| 1.2 | 18th March 2010 | Cleaned up | Prev Datta |

## Document signoff

This document is to be approved by:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Role** | **Company** | **Date** | **Ver** | **Signature** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

# Introduction

This document has been produced to define the Statement of Work for Mobilink of the IBM Tivoli product family to perform fault, performance and security management. The aim of the document is to cover the overall aspects of a phased delivery approach of the solution.

# Background

Innovise have been selected to implement an IBM Tivoli solution for Mobilink. The solution also includes Service Desk. Mobilink have chosen to deploy an IBM Tivoli solution to replace the existing TeMip solution that is currently in place.

# Purpose of Document

This document provides details of how the various networks will be monitored using the Tivoli Netcool Solution and details the tasks required to deliver the project. This document provides details of the tasks to be carried out during implementation. Completion of the tasks shown in this document will determine the completion of the project and any additional configuration that will be required will need to be taken through the change request process.

## 

## System Hardware

The table below shows the hardware in place for the Netcool system install.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Server Name** | **Hardware Platform** | **Processor** | **Memory** | **Hard Disk** | **Qty** |
| Server 1 (Omnibus AND Impact Server) | AIX | AIX 6 for POWER V6.1 | 16 GB | 4 x 146 GB 15K RPM SAS Disk Drive | 1 |
| Server 2 and 4 (WebTop / Portal AND Omnibus Server) | AIX | AIX 6 for POWER V6.1 | 16 GB | 4 x 146 GB 15K RPM SAS Disk Drive | 2 |
| Server 3 (Impact AND Omnibus Server) | AIX | AIX 6 for POWER V6.1 | 16 GB | 4 x 146 GB 15K RPM SAS Disk Drive | 1 |
| Server 5 and 6 (ITNM/IP AND CCMDB Server) | AIX | AIX 6 for POWER V6.1 | 24 GB | 4 x 146 GB 15K RPM SAS Disk Drive | 2 |
| Server 7 and 8 ( Omnibus Probe AND Reporter Server) | AIX | AIX 6 for POWER V6.1 | 8 GB | 4 x 146 GB 15K RPM SAS Disk Drive | 2 |
| Server 9 ( TADDM AND TAMIT/ITIC Server) | AIX | AIX 6 for POWER V6.1 | 8 GB | 4 x 146 GB 15K RPM SAS Disk Drive | 2 |
| Server 10 ( Tivoli Request Manager AND TADDM Server) | AIX | AIX 6 for POWER V6.1 | 8 GB | 4 x 146 GB 15K RPM SAS Disk Drive | 1 |
| Server 11 ( Tivoli Request Manager AND TAMIT/ITIC Server) | AIX | AIX 6 for POWER V6.1 | 8 GB | 4 x 146 GB 15K RPM SAS Disk Drive | 1 |
| Server 12 (Application Manager Server) | AIX | AIX 6 for POWER V6.1 | 4 GB | 2 x 146 GB 15K RPM SAS Disk Drive | 1 |

Table 1: Netcool System Hardware

The diagram below shows the hardware architecture for the components to be deployed as part of the OSS Expansion project.

## Solution HA version 3.jpg

Figure 3: Netcool Hardware Architecture

[[1]](#footnote-1)The table below shows the product that will be installed on each platform.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Server** | **Hostname** | **IP Address** | **Products** | **Components** |
| Server 1 | omnibus1 | 10.231.105.11 | OMNIbus and Impact | Primary Display Objectserver. Failover Impact Server |
| Server 2 | portal1 | 10.231.105.14 | Webtop Portal and OMNIbus |  |
| Server 3 | impact2 | 10.231.105.16 | OMNIbus and Impact | Primary Impact server and Failover Display Objectserver |
| Server 4 | portal2 | 10.231.105.18 | Webtop Portal and OMNIbus |  |
| Server 5 |  |  | ITNMIP and CCMDB |  |
| Server 6 |  |  | ITNMIP and CCMDB |  |
| Server 7 |  |  | OMNIbus and Reporter | OMNibus probe and Reporter |
| Server 8 |  |  | OMNIbus and Reporter | OMNibus probe and Reporter |
| Server 9 |  |  | TADDM TAMIT and ITIC |  |
| Server 10 |  |  | TSRM and TADDM |  |
| Server 11 |  |  | TSRM and TADDM |  |
| Server 11 |  |  | Application Manager |  |

Table 2: Products that will be installed on Servers

## Solution Components

The table below shows the components that will be installed and configured as part of the Solution

|  |  |  |
| --- | --- | --- |
| **Part Number** | **Solution Component** | **Quantity** |
| D04YNLL | Tivoli Business service Manager resource value unit lic + sw s&s 12 mo | 500 |
| D0B8ILL | tiv omnibus and ntwk mgr entry tier per rvu lic + sw s&s 12 mo | 550 |
| D0B9LLL | tiv omnibus and ntwk mgr event ems tier per rvu lic + sw s&s 12 mo | 10 |
| D0BN9LL | tiv omnibus and ntwk mgr event q3 tier per rvu lic + sw s&s 12 mo | 3 |
| D0BTRLL | ibm tivoli omnibus and ntwk mgr base per instl lic + sw s&s 12 mo | 2 |
| D0BU9LL | tnomni base per install lic + sw s&s 12 mo | 4 |
| D561YLL | ibm tivoli monitoring 10 value units lic + sw s&s 12 mo | 1700 |
| D575LLL | ibm tivoli application dependency discov mgr inst lic + sw s&s 12 mo | 1 |
| D575NLL | ibm tivoli application dependency discov mgr rvu lic + sw s&s 12 mo | 500 |
| D583VLL | ibm tivoli change and config mgmt db install lic + sw s&s 12 mo | 2 |
| D583XLL | ibm tivoli change and config mgmt db rvu lic + sw s&s 12 mo | 500 |
| D60WSLL | tivoli netcool/reporter tier 1 resource value unit lic + sw s&s 12 mo | 5 |
| D60WULL | tivoli netcool/reporter base per install lic + sw s&s 12 mo | 2 |
| D60YFLL | tivoli nc/omnibus gateway tier 1 per connection lic + sw s&s 12 mo | 6 |
| D612CLL | ibm tivoli netcool/impact base install lic + sw s&s 12 mo | 2 |
| D612GLL | ibm tivoli netcool/impact tier 1 resource vu lic + sw s&s 12 mo | 5 |
| D612ILL | ibm tivoli bsm base install lic + sw s&s 12 months | 1 |
| D61DRLL | ibm tivoli service request manager concurrent user lic + sw s&s 12 mo | 25 |
| D61DTLL | ibm tivoli service request manager authorized user lic + sw s&s 12 mo | 15 |
| D61JBLL | ibm tivoli asset management for it concurrent user lic + sw s&s 12 mo | 25 |
| D61SHLL | ibm tivoli change management concurrent user lic + sw s&s 12 mo | 25 |
| D61SJLL | ibm tivoli change management authorized user lic + sw s&s 12 mo | 15 |

Table 3: Netcool Solution Components

# Pre-Requisites

To ensure that the project is completed successfully the following pre-requisites must be fulfilled by Mobilink

* Access to all virtual and physical Tivoli/Netcool servers
* Administrator level account access must be available on all Tivoli/Netcool servers
* All network devices and NMS platforms that will send data to the
* All information requested by Innovise to enable the implementation of the project is to be provided by Mobilink in a timely manner to avoid project delays.

# Project Implementation Plan

This section details the tasks that will be carried out during implementation. Each task shows the function, effort and dependencies. These tasks are shown in order they should be implemented for each product. At the end of each the description of additional configuration that will be carried out during the implementation phase is also given











# Project Scope - Build

## Tivoli Netcool OMNIbus

This section shows the OMNIbus components that will be installed and configured as part of the solution.

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.3.2 | **Title** | Install 3 layer failover ObjectServer architecture |
| **Effort (Man Days)** | 20 | **Status** | In Plan |
| **Description** | 1. Install Primary Collection Layer ObjectServer. 2. Install Backup Collection Layer ObjectServer. 3. Install Bi-Directional ObjectServer Gateway connecting Primary and Secondary Collection Layer ObjectServers, on same server as Backup Collection Layer ObjectServer. 4. Install Primary Correlation Layer ObjectServer. 5. Install Backup Correlation Layer ObjectServer. 6. Install Bi-Directional ObjectServer Gateway connecting Primary and Secondary Correlation Layer ObjectServers, on same server as Backup Correlation Layer ObjectServer. 7. Install Uni-Directional ObjectServer connecting Virtual Collection Layer ObjectServer to Virtual Correlation Layer ObjectServer, on same server as Backup Collection Layer ObjectServer. 8. Install Primary Display Layer ObjectServer. 9. Install Uni-Directional ObjectServer connecting Primary Display Layer ObjectServer to Virtual Correlation Layer ObjectServer, on same server as Primary Display Layer ObjectServer. 10. Install Backup Display Layer ObjectServer. 11. Install Uni-Directional ObjectServer connecting Backup Display Layer ObjectServer to Virtual Correlation Layer ObjectServer, on same server as Backup Display Layer ObjectServer. 12. Configure Process Control agent on all ObjectServer servers. | | |
| **Success Criteria** | 1. All ObjectServers and Gateways running. 2. Startup and shutdown scripts in place for all ObjectServers and Gateways. 3. Bi- Directional Gateways transferring events between primary and backup server instances at the Collection and Correlation layers. 4. Uni-Directional Gateways transferring events from Collection layer to Correlation layer, and from the Correlation layer to the Display layer. | | |
| **Dependencies & Assumptions** | 1. Servers are available with operating system installed and running 2. Appropriate user accounts to access the servers, including root level access | | |
| **Risks** | 1. The readiness of the environment. 2. Availability of the Tivoli software. | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.3.3 | **Title** | Install probes and connect to instances of element managers and devices |
| **Effort (Man Days)** | 25 | **Status** | In Plan |
| **Description** | * 1. Install and configure the nco\_p\_huawei\_m2000\_corba probes. One for BSS and one for CORE.   2. Install and configure the nco\_p\_huawei\_t2000\_corba probe.   3. Install and configure the nco\_p\_mttrapd probe.   4. Install and configure the nco\_p\_tellabs\_8000 probe.   5. Install and configure the nco\_p\_seimens\_sc\_scr12 probe.   6. Install and configure the nco\_p\_motorola\_3gpp probe.   7. Install and configure the nco\_p\_alcatel\_omcr1353ra\_b10 probe.   8. Install and configure the nco\_p\_nokia\_netact\_3gpp probe.   9. Install and configure the nco\_p\_eaglestp probe.   10. Install and configure the nco\_p\_eif probe. | | |
| **Success Criteria** | 1. Probes are installed and running. 2. Startup and shutdown scripts in place for all probes. | | |
| **Dependencies & Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. 3. Where probe needs to installed on the same server as the monitored element manager, access to that server is available. 4. Where TeMIP is already collecting events via an access module, the element manager supports multiple connections for alarm collection. 5. Where the alarm collection method is SNMP traps, and traps are already being sent to a TeMIP access module, the device sending the traps supports multiple trap destinations. | | |
| **Risks** | 1. If SNMP trap sources, that are currently forwarding alarms via traps to TeMIP, do not support multiple trap destinations, an intermediate mechanism for forwarding traps to multiple destinations will have to be deployed. | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.3.4 | **Title** | Configure event resynchronisation mechanisms |
| **Effort (Man Days)** | 50 | **Status** | In Plan |
| **Description** | 1. Configuration of Event resynchronisation within Netcool for bulk retrieval of the messages from the network devices and synchronize with outstanding event list. | | |
| **Success Criteria** | 1. Events can be resynchronised from event sources. | | |
| **Dependencies & Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. | | |
| **Risks** | 1. Solution for event synchronisation yet to be fully established | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.3.5 | **Title** | Configure custom event handling in probes |
| **Effort (Man Days)** | 30 | **Status** | In Plan |
| **Description** | 1. Create custom probe rules for event handling. These include: 2. Event grouping - probe rules will be configured to group events with ‘special ID’ in the summary field of the alert. Mobilink will identify these events for probe rules configuration. Grouping will also be configured for Huawei alarms of specific E1/T1 alarm to represent power alarms. 3. Severity changes - The Severity will be configured for STP alarms as Mobilink require a different severity for these alarms instead of the Vendor given severity 4. Summary details changes – Mobilink need to identify the events and summary details they want to change. 5. Problem/resolution configuration – Mobilink need to identify the alarms that appear as problem but are a resolution in order to configure the probe rules to resolve this. 6. Unwanted event discarding - these alarms will need to be identified by Mobilink to configure the rules to discard these alarms. Probe rules will be configured to discard alarms if a burst of alarms appear from the EMS's of a particular type, these alarms will be identified by Mobilink. | | |
| **Success Criteria** | 1. Probe rules handling events as detailed in the HLD | | |
| **Dependencies & Assumptions** | 1. Events being received/generated to test probe rules during development. | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.3.6 | **Title** | Configure x in y filter in OMNibus |
| **Effort (Man Days)** | 20 | **Status** | In Plan |
| **Description** | 1. Configure probe rules to discard alarms that occur ‘x’ many times and group ‘y’ type of alarms 2. Create filter to show ‘y’ type of events. | | |
| **Success Criteria** | 1. Probe rules handling events as per design 2. Filter created in OMNIbus | | |
| **Dependencies & Assumptions** | 1. Events being received/generated to test probe rules during development. | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.3.7 | **Title** | Configure ObjectServer Active Directory Authentication |
| **Effort (Man Days)** | 20 | **Status** | In Plan |
| **Description** | 1. Configure Active Directory Integration with OMNIbus | | |
| **Success Criteria** | 1. Active Directory Authentication to the ObjectServer | | |
| **Dependencies & Assumptions** | 1. LDAP server details provided by Mobilink | | |
| **Risks** |  | | |

## IBM Tivoli Netcool Impact

This section details the install and configuration of Netcool Impact as part of the OSS Expansion project. The correlation flows are also described in detail an Impact policy will be configured for each correlation mentioned in the HLD.

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.4.1 | **Title** | Install Impact cluster |
| **Effort (Man Days)** | 20 | **Status** | Not started |
| **Description** | 1. Install Primary Impact Server instance 2. Install Backup Impact Server instance 3. Configure cluster failover 4. Configure startup and shutdown scripts 5. Configure event reader to connect to Correlation Layer ObjectServer pair | | |
| **Success Criteria** | 1. Impact server are installed and running 2. Startup and shutdown scripts in place 3. Event reader interacting with events in ObjectServer Correlation Layer. | | |
| **Dependancies**  **& Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. 3. Correlation layer ObjectServers are installed and running, with events from probes being received. | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.4.2 | **Title** | Configure Alcatel BTS Impact Policy |
| **Effort (Man Days)** | 15 | **Status** | In Plan |
| **Description** | 1. Create Impact policy to raise a synthetic alarm when Alcatel alarms that are based on cell level are received. This event should show that BTS is down. | | |
| **Success Criteria** | 1. Basic event enrichment and fault handling policies running | | |
| **Dependancies**  **& Assumptions** | 1. Basic event enrichment data is available in CMDB or other source | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.4.3 | **Title** | Configure advanced correlation functions in Impact |
| **Effort (Man Days)** | 100 | **Status** | In Plan |
| **Description** | 1. Create Impact policies/OMNIbus triggers for event correlation as per logic flow shown in Appendix ???    1. DRI Out of Service alarms    2. BSS Environmental alarm Handling    3. Site Down alarm handling    4. Multiple BTS down alarms    5. RSL/GSL/MSL alarm handling    6. X25 failures caused by TxN problems    7. Cell performance related alarm handling    8. RSL link disconnected alarms    9. Lack of events detection for each OMC    10. TxN environmental alarm handling    11. TxN Input power low/high/abnormal    12. TxN External Customer alarms    13. R-LOS Fibre break alarm handling    14. Microwave error alarm handling    15. Microwave environmental alarm handling    16. Microwave Equipment Power Supply alarm handling    17. Cross Domain GPRS alarm handling    18. Cell GPRS Failure alarm handling    19. CORE Signalling Down C7 alarm handling    20. CORE Media Outage alarm handling    21. CORE Hardware alarm handling    22. CORE STP Linkset down alarm handling    23. CORE STP Card Isolation alarm handling    24. CORE STP DIU Down alarm handling    25. CORE STP DPC Down alarm handling    26. IN Node Down alarm handling    27. IN Process Error alarm handling    28. IN Call Gaping alarm handling    29. IN Critical C7 Signalling alarm handling    30. IN Critical Threshold Crossed alarm handling    31. IN Critical Hardware alarm handling    32. IN DPC alarm handling    33. IN Environmental alarm handling    34. IN Valista Issue on IN alarm handling    35. IN VOMS alarm handling    36. SMSC Service Impacting alarm handling    37. SGSN Hardware alarm handling    38. SGSN Multiple C7 Link Down alarm handling    39. APS impact correlation    40. C7 signalling correlation and multi fails in city    41. Alarm suppression during maintenance windows | | |
| **Success Criteria** | 1. Policies correlating events as expected. | | |
| **Dependencies & Assumptions** | 1. Target applications of external actions are available and accessible from the Impact and OMNIbus servers. 2. Expected events are being received for correlations 3. Database tables used for enrichments, upon which correlations are dependent, are available. 4. Access to staff understanding exact parent/child event relationships, and how such events can be related together. | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.4.4 | **Title** | Create Impact policies/OMNIbus triggers for external MML actions |
| **Effort (Man Days)** | 100 | **Status** | In Plan |
| **Description** | 1. Create Impact policies/OMNIbus triggers for external MML actions. 2. Activity Comparator 3. Motorola BSS – batch\_rlogin, Create policy to build command file in temp file and delete after use. 4. Login to BSC - tty\_rlogin FTJ009M\_BSC15\_MSG5\_NA\_3 5. Reset/lock/unlock - eset\_dev siteid devicename deviceid    * + reset\_dev 1 dri 1 1      + lock siteid devicename deviceid      + unlock siteid devicename deviceid 6. Alcatel BSS  * ssh to sever with login (may be password less login) or rlogin * start command prompt via profile script * TRE\_reste BSSid, BTSid, TREid data from event   + TRE\_restart     - Omcdo –cmd ‘TRE\_reset(9,12,10)’  1. CORE STP  * telnet to STP node (details from event) * The response will list free terminals ie (17,18,19) * Commands and variables to follow from Mobilink  1. Huawei MSC  * telnet to MSC / NE - Commands and variables will be provided by Mobilink  1. Alcatel MSC - Mobilink to provide the webservice definition file (WSDL) and expected commands to run 2. Tellabs, NEC and Huawei tools | | |
| **Success Criteria** | 1. External actions operating as expected. | | |
| **Dependencies & Assumptions** | 1. Target applications of external actions are available and accessible from the Impact and OMNIbus servers. 2. Database tables used for enrichments, upon which correlations are dependent, are available. | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.4.5 | **Title** | Impact policy/OMNIbus trigger for TelAlert integration |
| **Effort (Man Days)** | 100 | **Status** | Not started |
| **Description** | 1. Create Impact policy/OMNIbus trigger for TelAlert integration. | | |
| **Success Criteria** | 1. Event information being passed to TelAlert for external notification. | | |
| **Dependencies & Assumptions** | 1. Expected events are being received for correlations 2. Database tables used for enrichments, upon which correlations are dependent, are available. | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.4.6 | **Title** | Configure ObjectServer to TSRM interface using Impact |
| **Effort (Man Days)** | 4 | **Status** | In Plan |
| **Description** | 1. Configure the staging tables within TSRM database. 2. Configure Impact data source to connect to the TSRM staging table. 3. Create workflow and triggers in TSRM to interact with entries in the staging table and create trouble tickets (TT). 4. Configure Impact policy to populate information in the TSRM staging table with appropriate event data. 5. Configure Impact policy to poll TSRM staging table for changes to TT status and pass information back to related events in the ObjectServer. 6. Create tool in WebTop to set flag for Impact to trigger TT generation on. | | |
| **Success Criteria** | 1. TTs being created for flagged events in TSRM, containing relevant information from the OMNIbus event that they were flagged to be generated against 2. Alarms can be associated to existing TT via right click tool | | |
| **Dependencies & Assumptions** | 1. Impact is installed and running. 2. TSRM is installed and running. | | |
| **Risks** |  | | |

## IBM Tivoli Business Service Manager

This section details the Installation and configuration of TBSM that will be carried out as part of the solution.

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.5.1 | **Title** | Install TBSM Application in fail over mode |
| **Effort (Man Days)** | 20 | **Status** | In Plan |
| **Description** | 1. Install Primary TBSM instance, on the same server as the Primary Display Layer ObjectServer. 2. Install Backup TBSM instance, on the same server as the Backup Display Layer ObjectServer. 3. Configure TBSM failover 4. Configure startup and shutdown scripts | | |
| **Success Criteria** | 1. TBSM server are installed and running 2. Startup and shutdown scripts in place | | |
| **Dependencies & Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. 3. Correlation layer ObjectServers and are installed and running, with events from probes being received. | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.5.2 | **Title** | Configure GIS views in TBSM |
| **Effort (Man Days)** | 40 | **Status** | In plan |
| **Description** | 1. Create GIS integration to place devices on geographic maps 2. Create custom event filter to show alarms not covered in GIS map. | | |
| **Success Criteria** | 1. GIS integration displaying devices/sites correctly on geographic map. 2. Custom event filter created to show events not covered in GIS map | | |
| **Dependencies & Assumptions** | 1. Device/site co-ordinate information to be provided by Mobilink 2. Co-ordinate information has been uploaded into a database/CMDB for access via Impact. 3. Access to appropriate geographic maps for GIS integration. | | |
| **Risks** | 1. Customer has not seen this capability in depth – risk that GIS does not meet their requirements. | | |

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| --- | --- | --- | --- |
| **Task ID** | 1.5.3 | **Title** | Configure custom view in TBSM |
| **Effort (Man Days)** | 17 | **Status** | In plan |
| **Description** | 1. Create BSC Cell level service view in TBSM. | | |
| **Success Criteria** | 1. BSC Cell level service mapping available for users within TBSM (refer to HLD for an artists impression of the service view.) | | |
| **Dependencies & Assumptions** | 1. Dependencies and alarm information to be provided by Mobilink to create hierarchical TBSM service view. 2. BSC Cell level service mapping available for users within TBSM | | |
| **Risks** |  | | |

## IBM Tivoli Netcool WebTop

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.6.1 | **Title** | Install WebTop instances |
| **Effort (Man Days)** | 20 | **Status** | In Plan |
| **Description** | 1. Install Primary WebTop instance, in dual server desktop configuration, on the same server as the Primary Display Layer ObjectServer 2. Install Backup WebTop instance, in dual server desktop configuration, on the same server as the Backup Display Layer ObjectServer 3. Configure startup and shutdown scripts | | |
| **Success Criteria** | 1. WebTop applications are installed and running 2. WebTop GUI is available from remote browsers 3. Startup and shutdown scripts in place | | |
| **Dependencies & Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. 3. Correlation and Display layer ObjectServers and are installed and running, with events from probes being received. | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.6.2 | **Title** | Configure event filters within WebTop |
| **Effort (Man Days)** | 13 | **Status** | In plan |
| **Description** | 1. Create custom event filters within WebTop.    1. Alcatel BSS filter – showing Alcatel events from five omcr’s (omcr’s and event type needs to be defined by Mobilink) and the alarms will need to be filtered by region    2. Huawei filter - showing Huawei events from five omcr’s (omcr’s and event type needs to be defined by Mobilink) and the alarms will need to be filtered by region    3. Motorola - showing Motorola events from five omcr’s (omcr’s and event type needs to be defined by Mobilink) and the alarms will need to be filtered by region    4. TXN - showing Motorola events from five omcr’s (omcr’s and event type needs to be defined by Mobilink) and the alarms will need to be filtered by region.    5. Critical Events Filter – Showing critical events only    6. IN/VAS filter - to filter @com events Uncleared Alarms filter - to display alarms that have not cleared within a period of time so users can delete these alarms and exclude them from reports if a resolution event is not received .    7. Transient filter – show alarms for links that are constantly fluctuating. These alarms must be identified by Mobilink. | | |
| **Success Criteria** | 1. Custom event filters available for users within WebTop. | | |
| **Dependencies & Assumptions** | 1. WebTop GUI is available from remote browsers. 2. Mobilink to provide event details to filter events. | | |
| **Risks** |  | | |
|  |  | | |
| **Task ID** | 1.6.3 | **Title** | Configure TIP Active Directory Authentication |
| **Effort (Man Days)** | 10 | **Status** | In Plan |
| **Description** | 1. Configure Active Directory Integration with Tivoli Integrated Portal | | |
| **Success Criteria** | 1. Active Directory Authentication to the TIP | | |
| **Dependencies & Assumptions** | 1. LDAP server details provided by Mobilink | | |
| **Risks** |  | | |

## IBM Tivoli Netcool Reporter

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.7.1 | **Title** | Install Reporter and associated historical gateway |
| **Effort (Man Days)** | 5 | **Status** | In Plan |
| **Description** | 1. Configure tables and triggers for Reporter database instance in the existing database instance to be used for this. 2. Configure uni-directional Reporter Gateway to run on the same server as the Reporter application, and to collect events from the Virtual Correlation Layer ObjectServer. 3. Install Reporter application instance on the Reporter server 4. Configure startup and shutdown scripts | | |
| **Success Criteria** | 1. Reporter application is installed and running 2. Reporter GUI is available from remote browsers 3. Startup and shutdown scripts in place 4. Events are being passed into the Reporter database instance | | |
| **Dependencies & Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. 3. Correlation layer ObjectServers and are installed and running. 4. Database to be used for historical event archive is installed and running. 5. Appropriate access to allow the creation of tables and triggers within the database to be used for historical event archive are available. | | |
| **Risks** |  | | |

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| --- | --- | --- | --- |
| **Task ID** | 1.7.2 | **Title** | Configure custom reports in Reporter |
| **Effort (Man Days)** | 20 | **Status** | In Plan |
| **Description** | 1. Create sub-set of custom reports (10 days effort). 2. Power Issue Reporting 3. Core site IU level outage report 4. Signaling Link Alarm 5. RSL alarm report 6. Down DRI reports 7. Down TRX Reports 8. BSS Network Report 9. Nationwide Cell Level GPRS Report 10. Secondary Path Report 11. GPRS Report 12. Nationwide Cell Level Report 13. Down Site Report 14. Work with Mobilink staff to create further custom reports (a maximum of 10 days effort) | | |
| **Success Criteria** | 1. Custom reports created 2. Mobilink able to create custom reports | | |
| **Dependencies & Assumptions** | 1. Access to Mobilink staff that will be producing custom reports | | |
| **Risks** | 1. Timely availability of appropriately skilled Mobilink resource | | |

## IBM Tivoli Network Manager /IP Edition

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.8.1 | **Title** | Install ITNM/IP |
| **Effort (Man Days)** | 3 | **Status** | In Plan |
| **Description** | 1. Install Primary ITNM/IP instance. 2. Install Backup ITNM/IP instance. 3. Configure startup and shutdown scripts 4. Configure ITNM/IP failover. | | |
| **Success Criteria** | 1. ITNM/IP applications are installed and running 2. ITNM/IP GUI is available from remote browsers 3. Startup and shutdown scripts in place | | |
| **Dependancies**  **& Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. 3. Correlation layer ObjectServers and are installed and running. | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 1.8.2 | **Title** | Configure Network Disovery |
| **Effort (Man Days)** | 30 | **Status** | In Plan |
| **Description** | 1. Configure Network Discovery for the followin g NE’s 2. Alcatel BSS Network Discovery 3. Huawei BSS Network Discovery 4. Motorola Network Discovery 5. TXN Network Discovery 6. Huawei T2000 Network Discovery 7. SDH Network Discovery 8. NEC Network Discovery 9. Siemens MSC Network Discovery 10. Huawei MSC Network Discovery 11. NSN MSC Discovery 12. Tekelec STP Discovery | | |
| **Success Criteria** | 1. Devices are Discovered. | | |
| **Dependancies**  **& Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. 3. Devices are snmp enabled to enable discovery | | |
| **Risks** | 1. Mobilink network can not be discovered because the devices are not snmp enabled. A solution for the discovery is yet to be established. | | |

## IBM Tivoli Monitoring

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 19.1 | **Title** | Install ITM |
| **Effort (Man Days)** | 20 | **Status** | In Plan |
| **Description** | 1. Install ITM instance 2. Configure startup and shutdown scripts 3. Configure event forwarding to the OMNIbus EIF probe | | |
| **Success Criteria** | 1. ITM applications are installed and running 2. ITM GUI is available from remote browser 3. Startup and shutdown scripts in place 4. Events are being forwarded to the Collection Layer ObjectServers | | |
| **Dependancies**  **& Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. 3. Appropriate access to server that are to have agents deployed in them, in order to install the agent application. 4. Network connectivity between the servers with agents deployed on them and the ITM application server. | | |
| **Risks** |  | | |

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| --- | --- | --- | --- |
| **Task ID** | 1.9.2 | **Title** | Configure ITM Server Monitoring |
| **Effort (Man Days)** | 20 | **Status** | In Plan |
| **Description** | 1. Install monitoring agent on required servers. This includes a total of 413 servers to monitor 2. Configure agents to monitor server health metrics    1. CPU utilisation    2. Memory utilisation    3. Disk space usage    4. Process/service status    5. Event log entries | | |
| **Success Criteria** | 1. Servers with monitoring agents installed collecting relevant server health metrics 2. Servers with monitoring agents installed generating events with regard to monitored values | | |
| **Dependancies**  **& Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. 3. Appropriate access to server that are to have agents deployed in them, in order to install the agent application. | | |
| **Risks** | Mobilink may not have security access to install probes, policies, monitors etc on all servers – this will delay the wp in the best case, in the worse case it could stall the monitoring of all impacted servers.. | | |

## Abilisoft Monitor The Monitor

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| --- | --- | --- | --- |
| **Task ID** | 2..0.1 | **Title** | Abilisoft MTM Installation and Configuration |
| **Duration (Days)** | 5 | **Status** | In Plan |
| **Description** | 1. Download and install core MTM software 2. Install MTM Agent on each server that will be running Netcool components 3. Centrally configure Agents to monitor host hardware and operating systems 4. Centrally configure Agents to monitor availability, performance and configuration of Netcool processes 5. Configure MTM client | | |
| **Success Criteria** | 1. MTM core components running 2. MTM Agents running on each server 3. MTM client available to configured users 4. Host hardware and operating system metrics available in the MTM client 5. Netcool availability, performance and configuration metrics available in the MTM client | | |
| **Dependencies** | 1. Hardware available with required operating system installed 2. Access to the required software binaries that will be used for the production installation | | |

## IBM Tivoli Change and Configuration Management Database

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 2.1.1 | **Title** | Install CCMDB and configure collection architecture |
| **Effort (Man Days)** | 30 | **Status** | In Plan |
| **Description** | 1. Installation and Configuration of Middleware 2. TADDM Installation and Configuration 3. Base Service Installation and Configuration 4. CCMDB Installation and Configuration 5. Initial Data Configuration 6. Tivoli Integration Composer Installation 7. Configuration of Tivoli Integration Composer | | |
| **Success Criteria** | 1. DB2 Instances up and running 2. LDAP Instances up and running 3. Websphere Instances up and running 4. Websphere admin Web Interface available from remote browser 5. CCMDB Web Interface available from remote browser 6. CCMDB Administrator user id successfully login 7. CCMDB Web Interface successfully access maximo applications 8. TADDM database up and running 9. TADDM application access from its console 10. Tivoli Integration Composer access from its console | | |
| **Dependancies**  **& Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. 3. CCMDB software is availabel on servers 4. Servers are communicating on TCP/IP | | |
| **Risks** |  | | |

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| --- | --- | --- | --- |
| **Task ID** | 2.1.2 | **Title** | Database architecture knowledge transfer |
| **Effort (Man Days)** | 5 | **Status** | In Plan |
| **Description** | 1. Create database architecture document 2. Hold sessions with Mobilink on database architecture | | |
| **Success Criteria** | 1. Database architecture document handed over to Mobilink 2. Sessions held on database architecture with Mobilink | | |
| **Dependancies**  **& Assumptions** | 1. Appropriate Mobilink staff available to attend sessions on database architecture. | | |
| **Risks** |  | | |

## IBM Tivoli Service Request Manager

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 2.2.1 | **Title** | Install TSRM instances and provide basic configuration |
| **Effort (Man Days)** | 20 | **Status** | In Plan |
| **Description** | 1. Installation and configuring the middleware 2. Installing base services 3. Installing Service Request Manager 4. Initial Data Configuration | | |
| **Success Criteria** | 1. DB2 Instances up and running 2. LDAP Instances up and running 3. Websphere Instances up and running 4. Websphere admin Web Interface available from remote browser 5. TSRM Web Interface available from remote browser 6. TSRM Administrator user id successfully login 7. TSRM Web Interface successfully access maximo applications | | |
| **Dependancies**  **& Assumptions** | 1. Servers are available with operating system installed and running. 2. Appropriate user accounts to access the servers, including root level access. 3. TSRM software is availabel on servers 4. Servers are communication on TCP/IP | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 2.2.2 | **Title** | Configure custom incident management workflows in TSRM |
| **Effort (Man Days)** | 30 | **Status** | In Plan |
| **Description** | 1. Creating roles, person and group record for Work flow 2. Creating Communication Templates 3. Creating Actions and escalations 4. Build Work Flow 5. Testing Work Flow | | |
| **Success Criteria** | 1. Configuration of custom incident management workflows created as shown in HLD. | | |
| **Dependancies**  **& Assumptions** | 1. Work flow application operating successfully 2. Mail server is configured by Mobilink 3. All email accounts are created by mobilink 4. Work flow process documentation is available from Mobilink | | |
| **Risks** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 2.2.3 | **Title** | TSRM Active Directory Integration |
| **Effort (Man Days)** | 20 | **Status** | In Plan |
| **Description** | 1. Configure TSRM for user authenticaton via Active Directory. | | |
| **Success Criteria** | 1. Users to be able to authenticate via LDAP | | |
| **Dependancies**  **& Assumptions** | 1. LDap settings provided by Mobilink. | | |
| **Risks** |  | | |

### Out of Scope

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 3.1 | **Title** | Send SMS from TSRM and give functionality to change STATUS of TICKETS by SMS |
| **Effort (Man Days)** |  | **Status** | Out of Scope |
| **Description** | Mobilink want to send SMS from TSRM. Further they want to make changes to the Incident/Ticket via SMS | | |
| **Success Criteria** |  | | |
| **Dependancies**  **& Assumptions** | 1. SMS is not supported in TSRM 7.2 2. Will need Integration to extermal system/aspplication to give this functionality. 3. Further releases of TSRM may include this functionality | | |
| **Risks** |  | | |

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| --- | --- | --- | --- |
| **Task ID** | 3.2 | **Title** | Re-format Communication Templates as HTML |
| **Effort (Man Days)** | 3.3 | **Status** | Out of Scope |
| **Description** |  | | |
| **Success Criteria** |  | | |
| **Dependancies**  **& Assumptions** | Requires JAVA coding. | | |
| **Risks** | Finding Resources and Timeline to Project | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Task ID** | 3.4 | **Title** | Report Data |
| **Effort (Man Days)** |  | **Status** | Out of Scope |
| **Description** | Reports would be available for any alarms in Netcool, Incidents in  TSRM . If any report requires data not present in TSRM Mobilink would provide it in Table as required by Innovise. | | |
| **Success Criteria** |  | | |
| **Dependancies**  **& Assumptions** |  | | |
| **Risks** |  | | |

# Integration

Active directory integration. – with OMNIbus, TSRM and TIP.

TSRM – Netcool Inegration.

GIS Integration with google maps

## Appendix A (Flow Charts)

BSS Environmental Alarm Handling



Figure : BSS Environmental Alarm Handling Flow Chart

Site Down Alarm handling



Figure 6: Site Down Alarm Handling Flow Chart



Figure : Site Down Alarm Handling Flow Chart

##### 

Parent / Child Event Handling Flow Chart

Figure 8: Parent / Child Event Handling Flow Chart

RSL/GSL/MSL alarm handling



Figure 9: RSL, GLS, MSL Alarm Handling Flow Chart

X25 failures caused by TxN problems



Figure 10: X25 failures caused by TxN problems Flow Chart

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Cell performance related alarm handling

Figure 11:Cell performance related alarm handling Flow Chart

RSL link disconnected alarms



Figure : RSL link disconnected alarms Flow Chart

Lack of events detection for each OMC



Figure 13: Lack of events detection for each OMC Flow Chart

TxN environmental alarm handling



Figure 14: TxN environmental alarm handling Flow Chart

TxN Input power low/high/abnormal



Figure 15: TxN Input power low/high/abnormal Flow Chart

TxN External Customer Alarms



Figure 16: TxN External Customer Alarms Flow Chart

R-LOS Fibre break alarm handling



Figure 17: R-LOS Fibre break alarm handling Flow Chart



Figure 18: R-LOS Fibre break alarm handling Flow Chart



Cable Break Policy

Microwave error alarm handling policy



Figure 20: Microwave error alarm handling Flow Chart

Microwave environmental alarm handling

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Figure 21: Microwave environmental alarm handling Flow Chart

Microwave Equipment Power Supply alarm handling

Figure 22: Microwave Equipment Power Supply alarm handling Flow Chart

Cross Domain GPRS alarm handling



Figure 23: Cross Domain GPRS alarm handling Flow Chart

Cell GPRS Failure alarm handling



Figure 24: Cell GPRS Failure alarm handling Flow Chart

CORE Signaling down C7 alarm handling



Figure 25: CORE Signaling down C7 alarm handling Flow Chart

CORE Media Outage alarm handling



Figure 26: CORE Media Outage alarm handling Flow Chart

CORE Hardware alarm handling



Figure 27: CORE Hardware alarm handling Flow Chart



Figure : CORE Hardware alarm handling Flow Chart

CORE STP Linkset down alarm handling



Figure 29: CORE STP Linkset down alarm handling Flow Chart

CORE STP Card Isolation alarm handling



CORE STP DIU Down alarm handling



Figure 30: CORE STP Card Isolation alarm handling Flow Chart

Communication alarm handling

Figure : CORE STP Card Isolation alarm handling Flow Chart

STP DPC down alarms received

Enrich it with Point Code

information

Correlate alarms With other relatedNEs linkset alarms

Generate TT

##### 

IN Processing Error alarm handling



Figure 32: IN Processing Error alarm handling Flow Chart

IN Call Gaping alarm handling



Figure 33: IN Call Gaping alarm handling Flow Chart

QoS alarm handling



Figure 34: QoS alarm handling Flow Chart

Equipment alarm handling



Figure 35: Equipment alarm handling Flow Chart

IN DPC alarm handling



Figure 36: IN DPC alarm handling Flow Chart

IN Environmental alarm handling



Figure 37: IN Environmental alarm handling Flow Chart

IN Valista Issue on IN alarm handling

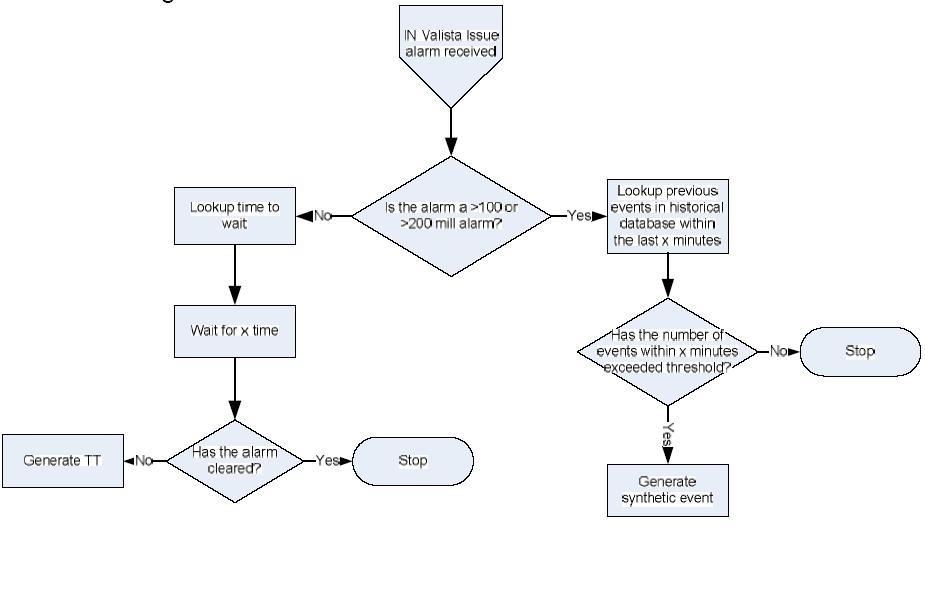


Figure 38: IN Valista Issue on IN alarm handling Flow Chart

IN VOMS alarm handling



Figure 39: IN VOMS alarm handling Flow Chart

SMSC Service Impacting alarm handling



Figure 40: SMSC Service Impacting alarm handling Flow Chart

SGSN Hardware alarm handling



Figure 41: SGSN Hardware alarm handling Flow Chart

SGSN Multiple C7 Link Down alarm handling



Figure 42: SGSN Multiple C7 Link Down alarm handling Flow Chart

APS impact correlation



Figure 43: APS impact correlation Flow Chart

C7 signaling correlation and multi fails in city



Figure 44: C7 signaling correlation and multi fails in city Flow Chart

Alarm suppression during maintenance windows



Figure 45: Alarm suppression during maintenance windows Flow Chart

XBL Down Alarm Handling

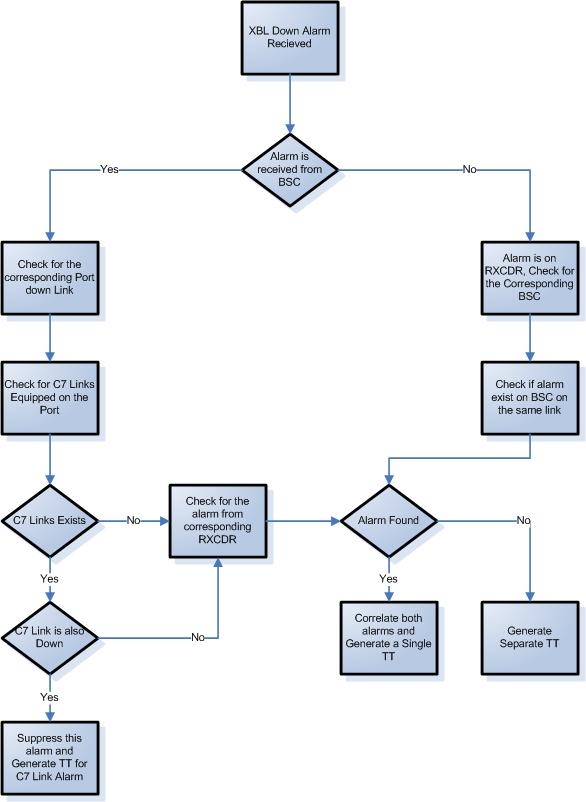


Figure 46: XBL Down Alarm Handling Flow Chart

DPC/ Multiple C7 Links Alarm Handling



Figure 47: DPC/ Multiple C7 Links Alarm Handling Flow Chart

Call Gapping Alarm Handling



Figure 48: Call Gapping Alarm Handling Flow Chart

Critical Hardware Alarm Handling

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Figure : Critical Hardware Alarm Handling Flow Chart



IN Node Down Alarm Handling



Figure : IN Node Down Alarm Handling Flow Chart

##### 

Valista Issue Alarm Handling



Figure : Valista Issue Alarm Handling Flow Chart

Critical Threshold Crossed alarm Handling



Figure : Critical Threshold alarm handling flow chart

1. At the time of writing Mobilink have not provided complete server IP’s and Hostnames [↑](#footnote-ref-1)