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| NMS |
| CCPL |

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| Codescape Consultants PL  [5/3/2011] |

# Product Name: NMS

Feature: NMS Monitoring

Requested By: Vivek Bansal

Reviewed By: Prateek Goel

Implemented By: Peeyush Raj

Verified By: Utkarsh Jain

SW release version in which Feature included:

## Revision history (in case multiple revisions)

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| --- | --- | --- | --- |
| Revision | Date | By | Description |
| 0.01 | 5/3/2011 | Peeyush Raj | NMS Monitoring |
| 0.02 | 6/3/2011 | Amit K. Sharma | Comment: 3.1.2  Added: Alarm Acknowledgement and Alarm History Logs |
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# Feature Description: NMS Monitoring

*To monitor all the devices and the standard services enabled/in-process over the devices, plus the agent based performance monitoring of the devices, example OS monitoring with the device level agent.*

## Supported System Requirements

* Linux System, preferably Ubuntu/Debian

## System Use Cases

## Alarm Management

## Dashboard

## Generic device monitoring

## Graphical/Geographical View

### Alarm Management

Primary motive of the functionality is to get the device related information as soon as some defined faults occur and could be handled on priority basis.

### Dashboard

The primary purpose of the functionality is to provide the user graphical information regarding the devices in the networks, the data usage by the end user, the downtime of the system and more. Dashboard has to be configurable and be personalized, so that the users can always add/delete/modify the favorite and high priority network resources.

### Generic Device Monitoring

The NMS must support addition/discovery/monitoring/configuration of any IP-based device, on the network. The primary purpose of the feature is to help network admin configure the devices and optimize the network.

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### Graphical/Geographical View

The NMS must be able to give a clear idea about the position of the network element, should clearly show the device type and neighbor device type. This feature would facilitate the admin to plan a better efficient network.

# Feature Design Description

## Alarm Management

Alarm Management would handle the following issues

* Configure alarms
* Alarm categorization
* Alarm acknowledgement
* Alarm history logs

### Configure Alarms

Configure alarm would achieve

* Device based alarm configuration
* Action [to be taken]-alarm[raised] mapping [Notifications]
* The hierarchical action/events on the alarm generation and scheduling

### Alarm Categorization

Alarm Categorization would achieve

* Grouping of devices for particular type of alarm

[Comment: Amit

>>We will have two categories of alarms in NMS.

* Raised by NMS

NMS will raise alarms on loss of connectivity with network element, Issues in general services offered by network elements, loss of internet connectivity at NMS, security breach etc.

* Raised by managed element

Managed element will raise SNMP trap based upon internal configuration.

>>Operator will be able to decide severity of alarms raised by NMS.

>> Operator will not be allowed to change severity of traps.

>> NMS will maintain color code based upon severity and will display alarms accordingly.

>> Should NMS capture traps of network devices of other vendors??

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### Alarm Acknowledgement

NMS should support acknowledgement of alarms through email and WUI. Operator will be able to configure whether alarm requires acknowledgement or not.

### Alarm History Logs

NMS will maintain history of cleared alarms.

## Dashboard

Dashboard should meet the following requirements

* Device Dashboard
* User Dashboard
* Configurable dashboard

### Device Dashboard

Device dashboard should provide

* Device specific graphical and tabular information
* Information about connected end users/systems
* Device error logs
* Uptime/downtime information
* Data in/out information
* Bandwidth usage of per device and per connected client
* Usage protocol information of device
* Services/processes information of a device

### User Dashboard

### Configurable Dashboard

Dashboard configuration

* User can add favorite resources, such as favorite devices [high priority]

## Generic Device Monitoring

Generic Device Monitoring would handle the following issues

* Auto-discovery of the IP based devices in the network
* Manual addition of IP based devices
* Addition of parent-child host groups or parent-child hosts
* Third party device addition, if applicable

## Graphical/Geographical View

Graphical/geographical view would provide

* Network map
* Geographical location of the devices

# Implementation Design Description

*<System Architecture be discussed here>*

# Test Report

*<Describe what “development” / Integration unit test has been done – and what the test results here are>*