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| NMS |
| CCPL |

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

# Product Name: NMS

Feature: NMS Configuratio-Device Level

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 Configuration Device Level |
| 0.02 | 6/3/2011 | Amit K. Sharma | Added: Profile templates and Auto Provisioning |
| 0.03 | 13/5/2011 | Peeyush Raj | Improved feature description and Use Cases |
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# 

# Feature Description: NMS Configuration Device Level

*NMS must provide a direct interface to set the device configuration; interface must be able to set the configurations of multiple devices at the same time. This would allow network admin to setup an optimized network in a favorable way.*

## Supported System Requirements

* Linux System, preferably Ubuntu/Debian

## System Use Cases

## Auto-Discovery

## Factory Reset

## Firmware Management

## Route Management

## Individual Device Management

## Scheduling

## Profile Templates

## Auto-Provisioning

### Auto Discovery

 Auto Discovery functionality would help admin to search for the variety of devices in the network. It would provide plug-n-play functionality, where a recently put in device would be automatically detected and would be added to a network as desired.

The proprietary device discovery to be implemented, such that device discovery should be unicast. The discovery has to be introduced in the NMS and the Shyam Devices.

### Factory Reset

Factory reset would allow a network admin to put a particular device or a group of devices to factory default settings based on following events –

* if some device configuration makes the network unstable
* if any of the set device configuration makes the network element unstable
* If the network element’s firmware is upgraded and that makes the element unstable
* According to the preset schedule.

The user roles, allowed to perform this action, have to be discussed.

### Firmware Management

NMS should have track of all the released firmware of associated devices and according to desired feature on the device, thw admin could upload firmware capable of executing the same.

The user roles, allowed to perform this action, have to be discussed.

### Route Management

*<Needs to be discussed>*

### Individual Device Management

NMS should be capable of providing a panel to manage an individual device.

### Scheduling

NMS should provide a way to schedule actions to be taken automatically according to schedule set by the admin, example daily, monthly or weekly.

### Profile Templates

NMS should provide option to create and save profile templates of managed elements based upon configuration. NMS will support individual and bulk apply of profile on device(s).

### Auto Provisioning

NMS should apply default profile on newly plugged in device and should apply IP/UID based profile template on recovered/replaced. Operator will mark a profile as default profile and will mark device IP/UID as faulty.

# Feature Design Description

## Auto Discovery

Auto Discovery should support the following -

* Be able to identify newly plugged in devices and type, on an established network
* Auto discovery should be MUTEX
* Various type of Auto Discovery should be supported, i.e SNMP based, Ping Based, UPNP based and Proprietary Auto Discovery
* Multiple Concurrent instances of Auto Discovery should be supported.

## Factory Reset

Factory Reset should support -

* The factory reset of a device
* Factory reset of a group of devices
* Automatic factory reset with the Scheduler.

## Firmware Management

Firmware management should support-

* Automatic firmware upgrade/downgrade, according to the scheduler
* List of all the firmware, and supported feature description
* Ability to upgrade/downgrade device/group of devices firmware as desired.

## Route Management

*<AMIT>*

*<Needs to be discussed>*

## Individual Device Management

Individual Device Management would –

* Provide user direct HTTP, frame based, UI of the particular device.

## Scheduling

Scheduling would support –

* Daily Scheduler
* Weekly Scheduler
* Monthly Scheduler
* Day based Scheduler
* Hourly Scheduler
* Action mapping over a particular schedule.

## Profile Templates

*<AMIT>*

NMS should support to save and create –

* Profile templates based upon IP/UID.
* Operator customizable profile templates.

## Auto Provisioning

*<AMIT>*

Auto provisioning should support:

* Apply of IP/UID based profile template on recovered/replaced device.
* Apply of default profile template on newly plugged in device.

# 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>*