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| Network  Management System |
| CCPL |

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

# Product Name: NMS

Feature: NMS Reporting

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 Architecture |
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# Feature Description: NMS Architecture

*NMS Architecture description.*

## Supported System Requirements

* Linux System, preferably Ubuntu/Debian

## System Use Cases

## Nagios Plugin for monitoring Shyam Devices

* SNMP Manager at NMS core
* NMS Database design
* Seamless integration of any Device Type
* User Trail Log
* Session based user login

### Nagios Plugin for monitoring Shyam Devices

Proprietary Nagios plugins to fetch device data through CGI commands and SNMP commands [if applicable] for all the devices. Nagios would automatically execute the plugins and fetch the desired data.

### SNMP manager at NMS core

SNMP manager implementation for automatically detecting the MIB of a device and provide user with set and get commands for device’s configuration and monitoring.

### NMS DB design

Implementation and integration of proprietary DB.

### Seamless integration of any Device type

For a new device type in the network, the NMS should be able to fetch the information of the new device type added and integrate it using profile templates defined.

### User Trail Log

The allowed settings modified by the user would be saved in user trail DB. Described in SFD-CMS-Admin, section 2.2.1

### Session based user login

# Feature Description: NMS Architecture

**Nagios**

**Plugins**

**Proprietary Plugins CGI Get**

Nagios  
Core

Get Device Data

DEVICES

DEVICES

DEVICES

Get Device Data

Nagios would automatically schedule the plugin execution

**DATABASE**

**Client**

Role Based Access

ON-SUBMIT  
Of Set Commands Logs would be captured. [User Trail]

SNMP/ CGI Command Based Set Values

Nagios Tweaking to fill DB

Client is defined as the end user of the NMS system.

Predefined roles of the system are Admin, Operator and Guest.

NAGIOS core is designed to run plugin scripts at a pre-defined time by the Admin, the plugins fetch the desired data from the devices, example a simple ping plugin gets the status of device every 3 minutes if previous ping packet response is packet drop, and every 5 minutes if previous response is ok. The data then is stored NagiosQL, for the PNP graphs. The Nagios Core would be hacked to store the response data in database schema for NMS.

The proprietary plugins for Nagios would be developed to fetch the data through GET commands of the device’s CGI otherwise if the device is SNMP enabled, then plugins would be modified so as to fetch the desired feature information or data.

The client would be provided with role based access to the system, only the devices, granted permission on, would be accessible to the user, to monitor or to configure.

All the configurations saved by the user, would be captured by the NMS and would be stored in User Trail database.

If some configuration fails to load in any particular device, that would be captured in next data fetch cycle of the NMS, and be displayed to the user as Device Configuration Alert.