Infinity labs

MAKE IN INDIA

InfiworxNMS
NETWORK MANAGEMENT SYSTEM WITH AUTOMATION CAPABILITIES

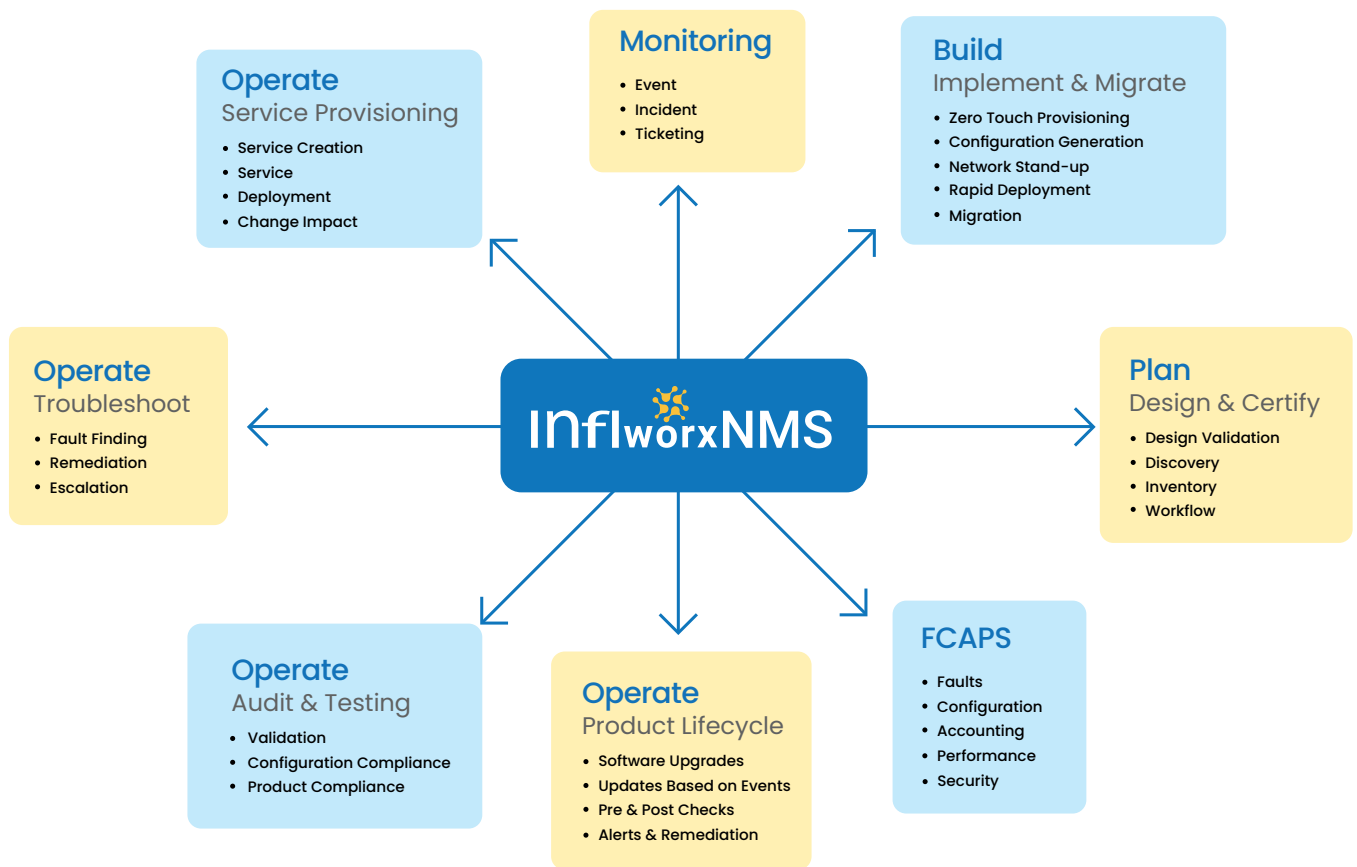## Network Management System →

1. Overview

Infiworx NMS is a one-stop shop for network management, discovering devices, upgrading IOS, pushing infra configuration on mass scale devices & verifying the configuration as the compliance, Service Configuration, Fault Management, Configuration Management, Performance Management, Firewall Policy Management & many more.

InfiworxNMS is a Network Management System tool that uses SNMP monitoring to regularly discover the SNMP-enabled devices on your network to create a detailed network inventory. Very beneficial in large and dynamic networks with equipment from multiple vendors. Simply provide the list of IP addresses, range, or subnet along with SNMP credentials and let InfiworxNMS automatically discover the devices on your network. You can run a discovery one time or via scheduler to identify newly added devices at any point in time, saving engineer value time & single source of truth for all network data.

With every new device getting added to the network, manually updating the network topology is a challenge. Once you've discovered the devices in your network with InfiworxNMS, network visualization is easy with custom dynamic network mapping.
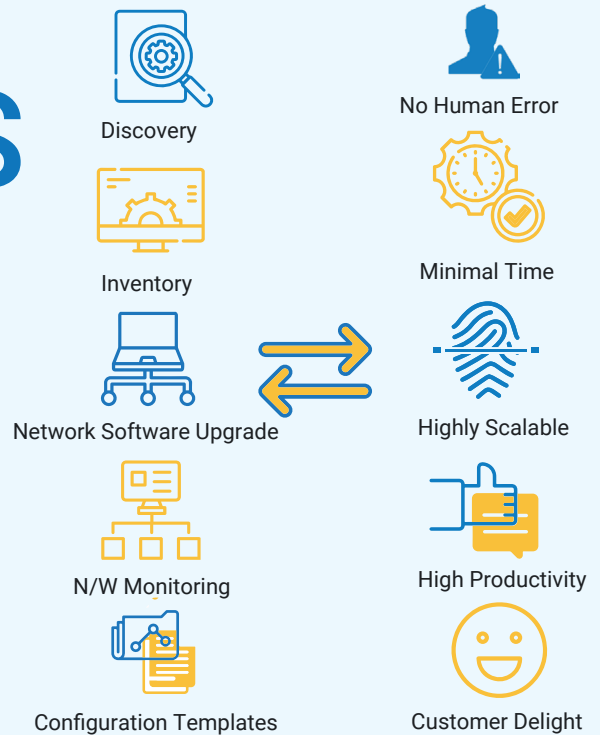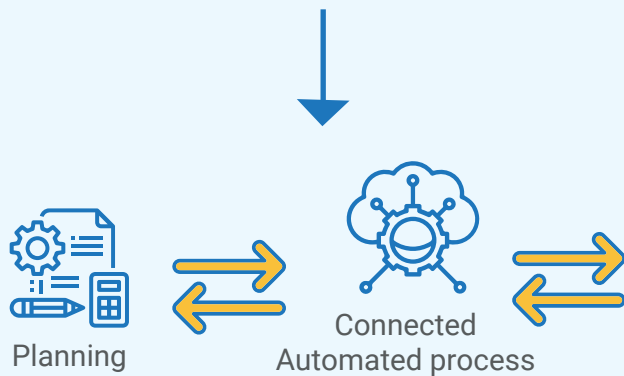
Infiworx-NMS provide a wide range of comprehensive functionalities such as :

- Network Discovery Module
- Network Inventory Module
- Network Topology Module
- Network Service Management Module
- ARMS (Audit & Remediation Management System) Module
- OS Upgrade & Compliance System Module
- Firewall Management Module
- Fault Management Module
- Configuration and Service Management Module

- Event/Alarm Management Module
- Event Correlation Module
- Performance Management Module
- Operational KPI Monitoring Module
- SLA Monitoring Module
- Network Planning Module
- Network Design Document Module
- Network Integration Module
- Ticketing tool

* InfiworxNMS complied with Telecom Engineering Centre (TEC) Generic Requirements (GR).

Monitoring

- Event
- Incident
- Ticketing

Operate
Service Provisioning

- Service Creation
- Service
- Deployment
- Change Impact

Build
Implement & Migrate

- Zero Touch Provisioning
- Configuration Generation
- Network Stand-up
- Rapid Deployment
- Migration

Operate
Troubleshoot

- Fault Finding
- Remediation
- Escalation

InflworxNMS

Plan
Design & Certify

- Design Validation
- Discovery
- Inventory
- Workflow

Operate
Audit & Testing

- Validation
- Configuration Compliance
- Product Compliance

Operate
Product Lifecycle

- Software Upgrades
- Updates Based on Events
- Pre & Post Checks
- Alerts & Remediation

FCAPS

- Faults
- Configuration
- Accounting
- Performance
- Security

2. Advantages

InflworxNMS

Planning → Connected Automated process

Discovery

Inventory

Network Software Upgrade

N/W Monitoring

Configuration Templates

No Human Error

Minimal Time

Highly Scalable

High Productivity

Customer Delight

3. Features

▌ 3.1 Network Discovery Module

Device discovery at pre-defined internal without human intervention with initial inputs like IP pool and subnet. The system will automatically discover new devices on the network.

▌ 3.2 Network Inventory Module

A very important aspect of any organization is to keep its inventory up to date. Collection of interfaces, IP access list, supporting servers, protocol etc. from all reachable devices at predefined intervals. Users can add a new set of collection commands.

▌ 3.3 Network Topology Module

With every new device getting added to the network, manually updating the network topology is a challenge. Once you've discovered the devices in your network with InfiworxNMS software, network visualization is easy with custom dynamic network mapping. One-stop shop for the NOC team engineer to view the state of the device, current path, alternate path, service details, login into the device using SSH, Telnet, SNMP.

▌ 3.4 Network Service Management Module

Ease to create a Service template by creating or using existing variables, and global resources. Quick & easy Services deployment, The System should perform Service Management and discover the service present on the device based on the service template

▌ 3.5 ARMS (Audit & Remediation Management System) Module

Designed for bulk config push & audit remediation of infrastructure changes. Push Infra configuration onto the devices on a high scale. Complex rule logic i.e. The output of one rule can be used for input of the next one. Validation of configuration with the defined policies for a device and generating configuration audit report. Pre-post comparison of configuration. Implementation of remediation for the non-compliant configuration present on the device.

- Compliance Audits
- Remediation Plans
- Policy Enforcement
- Audit Trails
- Automated Remediation

▌ 3.6 OS Upgrade & Compliance System Module

OS needs upgrades regularly to comply with the latest networking standards. Minimizes human error & reduces service impact time. Cognitive platforms capable of upgrading large clusters of devices/routers. Users can define the slots for upgrades and specify the number of devices to be upgraded. The user defined a 2-stage Approval process. Pre-post health checks of the device before and after the upgrade. Dashboard with Real-time visibility for upgrade progress. Smart comparison of pre-and-post checks – enables more with less manpower.

- OS Version Management
- Upgrade Scheduling
- Compliance Monitoring
- Rollback Mechanism
- Patch Management

▌ 3.7 Firewall Management Module

Users can apply security policies on Panorama & Cisco devices. By providing source & destination determine the firewalls in the path, perform analysis & apply the policies across the firewalls irrespective of the vendor. Integration with ticketing system & self-service portal.

3.8 Fault Management Module

- Fault Detection
- Alarm Generation
- Root Cause Analysis
- Incident Management
- Historical Fault Analysis
- State Change Notification
- Fault Exclusion
- Configuration Analysis
- Parameter Verification
- Software Downloads
- GUI Support
- File Management
- Recovery Features
- Change Audits
- Modification Records
- Command Buffering

3.9 Configuration and Service Management Module

- Configuration Management
- Service Activation
- Change Management
- Template-Based Configuration
- Backup and Restore

3.10 Event/Alarm Management Module

- Event Log Collection
- Alarm Correlation
- Alarm Filtering
- Real-Time Monitoring
- Alarm Notification

3.11 Performance Management Module

Performance Management evaluates and reports on the behaviour of telecom equipment and network effectiveness. It gathers and analyses statistical data to monitor and improve network performance.

3.12 Operational KPI Monitoring Module

- KPI Definition
- Real-Time Tracking
- Threshold Alerts
- Dashboard Views
- KPI Reports

3.13 SLA Management

SLA (Service Level Agreement) management involves monitoring, measuring, and ensuring that network services meet predefined performance and reliability standards as agreed upon with customers or stakeholders. Here is a brief overview:

3.14 Network Planning Module

- Capacity Planning
- Traffic Forecasting
- Resource Allocation
- Expansion Planning
- Scenario Analysis

3.15 Network Design Document Module

- Design Documentation
- Version Control
- Template Library
- Design Approval Workflow
- Integration with Planning Tools

3. 16 Network Integration Module

- Multi-Vendor Support
- API Integration
- Data Exchange
- Process Automation
- Interoperability
- Integration Reports

3.17 Ticketing Tool Module

A ticketing tool module designed to manage and streamline the process of tracking and resolving customer service issues and requests.

API Integration

InfiworxNMS Can Import user data from third-party systems via API calls.

4. InfiworxNMS Supports the Following

Network Protocols

- Syslog
- SSH
- FTP
- Telnet
- SNMP v1, v2, and v3
- REST API
- CDP
- IPV4 and IPV6 support.
- Trace Route
- PING
- LLDP
- Any SNMP supported devices

5. Key Performance Statistics

CPU Utilization	Memory Utilization	Temperature	Disk Usage
Network Throughput	Rx Optical Power	Tx Optical Power	CRC Errors

User Friendly Tools

PING	SSH	SNMP	TELNET	TRACE ROUTE

6. Licensing

BASE PACKAGE

MODULE NAME

Module	
Topology Discovery	✓
Monitoring	✓
Performance	✓
Alarms &Notifications	✓
Reports & Dashboards	✓
Network Diagram	✓
Basic Inventory Management	✓
SSH, TELNET, Ping,	✓

BASE PACKAGE + ADD-ON LICENSE

ADD-ON MODULE NAME

Module	
SLA Management	✓
Network sofware upgrade	✓
Configuration Management	✓

7. Minimum System Requirements (for VM as well as Physical Server)

CPU	**Quad Core 2 GHz or 2vCPU**
Memory	**8 GB**
Hard Drive	**250 GB**
OS	**Linux**

Please contact our Pre-Sales team to get the exact specifications for your POC / Deployment

8. InfiworxNMS User Interface(UI)
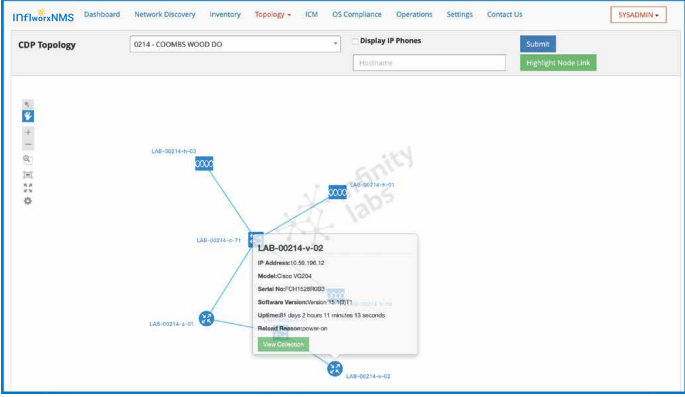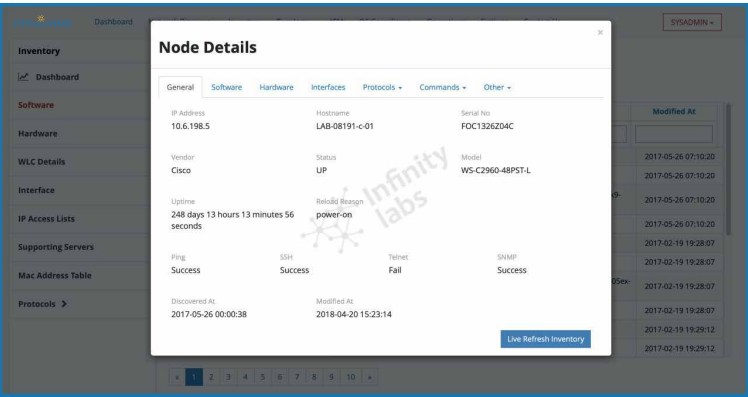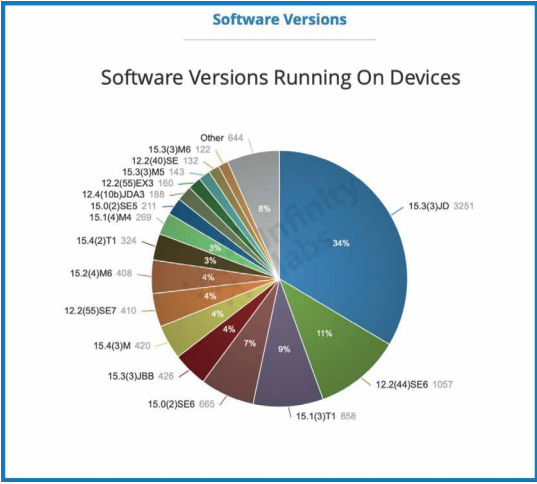
9. InfiworxNMS Key Capabilities

- **Beyond Basic Monitoring:** Monitors devices and links, with advanced capabilities such as **path computation** and **network simulation** to support **end-to-end network orchestration** and optimization.

- Integration with multiple SDN Controllers

- **Scalable & Multi-Vendor Support:** Designed to support **over 10 leading OEMs** and **70+ device models,** enabling seamless management in multi-vendor environments.

- **Advanced Network Discovery:**
  - Supports **auto-discovery** and **manual discovery**
  - Protocols supported: **SNMP, SSH, CDP, LLDP**
  - Discovery via **Seed IPs, Subnet Masks,** and **NETCONF/YANG**

- **Graphical Inventory & Geo-Mapping:**
  - Visual representation of both physical and logical components
  - Integrated **geo-tagging** for device location tracking on geographical maps
  - Integration with GIS

- **Network Management & Automation:**
  - Features include **software upgrades, configuration management, network compliance, inventory,** and **topology visualization**
  - Integration support with **Element Management Systems (EMS)**

- **Synthetic Network Testing:**
  - Probes available as **initiator and responder**
  - Supports **Windows, Linux, and macOS**
  - Enables **bi-directional path testing** (source to target and vice versa)

- **Real-Time Telemetry Dashboard:**
  - Live metrics for **packet loss, latency, jitter, path MTU,** and enhanced **bandwidth visualization**

- **Mobile App for Field Operations:**
  - Real-time visibility of **device and link status**
  - Field dashboard for **network health and alarms** (e.g., UP/Down, routers/link status)
  - Access to **topology, live TT assignments, staff locations,** and **task updates**
  - **Field support team live location for better tracking of field team.**

- **Comprehensive Site Deployment Workflow:**
  - Enables **centralized management** with live field updates
  - Mobile app ensures **faster response** and **improved field coordination**

- **Operational Efficiency:**
  - Unified dashboard gives **end-to-end visibility**
  - Empowers customers to manage their networks with **greater flexibility and confidence**

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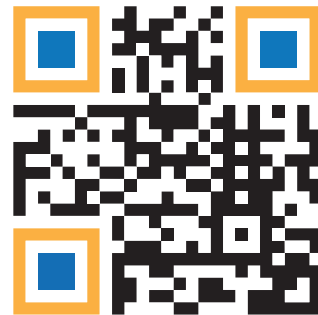
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