



NMX Digital Service ManagerTM

Product Description

Harmonic's NMX Digital Service Manager™ (NMX) is a definitive video network management solution. NMX encompasses a powerful set of tools for monitoring and managing compressed digital video and audio services as well as the systems through which these services flow. As a result, operators can run their technical infrastructure in a way that parallels their business – as a series of revenue-generating services, rather than as a set of discrete hardware components.

NMX offers a simple and intuitive interface for creating and modifying channel lineups in addition to setting their parameters, whether encoding or rate-shaping. The underlying equipment is automatically reconfigured to accommodate the new operating parameters. Status for both services and hardware, including alarms, is passed through to the top level ensuring that problems are quickly detected and resolved. Redundancy is automated.

Adding, reconfiguring, or removing services and/or equipment is fast, easy, and error-free with NMX. Templating, wizards, consolidated data views and powerful cut-and-paste functions are available for both service and system modifications.

NMX is designed for 24x7 operation and can run on a single computer or be distributed across multiple servers for maximum availability. Service and configuration data are stored in a reliable, industrial-strength database. NMX provides multi-level security, ensuring full control of operational privileges. In addition, a comprehensive audit trail and consolidated alarm log pinpoint hardware or operational problems.

NMX is highly scalable and extensible, enabling it to grow in tandem with the environment it supports. NMX's client/server architecture supports both the centralized management of even the most geographically distributed environments, as well as the remote management of a

centralized environment, all using standard TCP/IP LAN/WAN technologies. The use of standards-based interfaces enables NMX to interconnect with other sub-systems, including Conditional Access, Automation and Scheduling. As the managed environment grows in scope and scale, NMX can distribute its processes across multiple PC platforms, as necessary, providing inexpensive raw processing power.

Moreover, through historical analysis, NMX offers detailed analysis of bandwidth usage and alarm behaviors used to identify system-wide trends and improve overall stability.

Features

- Service-oriented to work the way operators work
- "Input to output" GUI and functionality
- Template and wizard-based system setup
- Scalable to any size system
- Centralized management of geographically distributed systems
- Distributed processing for high availability
- Flexible redundancy
- Powerful automation interface
- Internal EIS
- Internal DPI server supports SCTE standard digital program insertion cue message injection
- User administration/security/audit trail tools
- Extensible third-party device monitoring using GPI closures and SNMP
- Historical and statistical analysis of bandwidth and alarm behaviors
- Advanced automation and scheduling engine

NMX is available in three different editions:

- **NMX Desktop**- Basic package for a single client
- **NMX Standard**- Standard feature set included
- **NMX Enterprise**- Comprehensive package with additional features available

NMX Edition Comparison

Feature	NMX Edition		
	Enterprise	Standard	Desktop
Network Control & Provisioning	√	√	√
Redundancy Support (1:1, N:1, N:M)	√	√	√
Basic Alarm Package (Pending alarms, history alarms, status colors on icons)	√	√	√
PSI/SI Package (PSI/SI table support, private descriptors)	√	√	√
CAS Package (Conditional Access support)	√	√	√
Advanced Alarm Package (Advanced alarm configuration, alarm forwarding, consolidated alarm viewer)	√	√	
Security Management Package (Full user administration tools, audit trail)	√	√	
Automation Server Package (Access the automation server and scheduling engine)	√	√	
NMX Third-Party Package (Monitoring of third-party platforms using GPI contacts or SNMP)	√	√	
Statistics Package (VOD utilization statistics, alarm statistics, inventory reports)	√		
Distributed Management Package (Monitoring and control of geographically distributed systems)	√		
NMX PC Fail-Safe Package (NMX 1:1 redundancy, auto-restart)	√		
Maximum number of clients	25	3	1

Applications

Satellite

Centralized or distributed cable

VOD

Terrestrial

Telco

Network distribution

Backhaul

Network PVR

User-friendly

Templates at device and system level

Cut, copy, and paste functions

Wizard-based setup

Batch driven automation tools

Spreadsheet tool

Service Management

Simple template-based service setup

Extraction of service information

Service level or PID level manipulation

Service tracking across topology

Dynamic PSI/SI table generation

Completely flexible private descriptor generation

Virtual service management

Service-oriented alarms and analysis

Program suspend/resume

Topology Management

Graphical view of network and devices

Geographical background maps

Multi-level maps

Component backplane views

Cut, copy and paste replication

Template-based topologies

Online and offline operation

Configuration Management

Device, module and port level configuration

Consolidated views for easy setup

Template-based configuration

Fault Management

Manual or automatic redundancy switching

Router-based, path-based, or IP-based redundancy mechanisms

GPI (contact closure) device monitoring tool

SNMP-based monitoring of third-party hardware

Alarm configuration

Monitoring and alarm logging, highlights affected services and hardware

Standard PERL scripting tool for automatic emails, pages or SMS messaging on fault conditions

SNMP-based alarm forwarding agent with alarm filtering

Security Management

Full user administration tools for multi-user environments

Multi-level access privilege

Access can be geographically limited

Lockouts to manage secure modifications in multi-user operations

Comprehensive audit trail

Table Support

MPEG-2, DVB, ATSC compliant

PSI/SI generation

Flexible descriptor generation

Accepts PSI/SI from external sources

Conditional Access Support

DVB Simulcrypt V3

OpenCAS

Full CAS redundancy support

Internal EIS

Traffic/Automation/EIS Interfaces

Advanced scheduler with time line user interface

Easy external triggering of user-defined service/configuration states

DVB EIS-Muxconfig support

DVB SIMPCOMP-MUXNOTIFY support

Internal EIS

Full XML-based service API

Internal DPI server supports SCTE standard DPI cue message injection

Software Management

Storage and distribution of software for easy update across distributed networks

Background download

NMX Fail-Safe Management

Automatic 1:1 NMX server redundancy

Auto-Restart capability

Monitoring Solutions

Integrated with multiple monitoring solution vendors for an integrated headend

Real-time correlation with multiple MPEG-2 analyzers

Control and integration with a wide array of decoders

Statistical Analysis

Statistical analysis of bandwidth utilization for VOD systems

Statistical analysis of alarm behavior

Inventory and device status reports

Standards-Based

SNMP

XML

TCP/IP

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