

# Smart Services

Develop a scalable solution that proactively resolves complexities through health monitoring, automatic updates and image backups



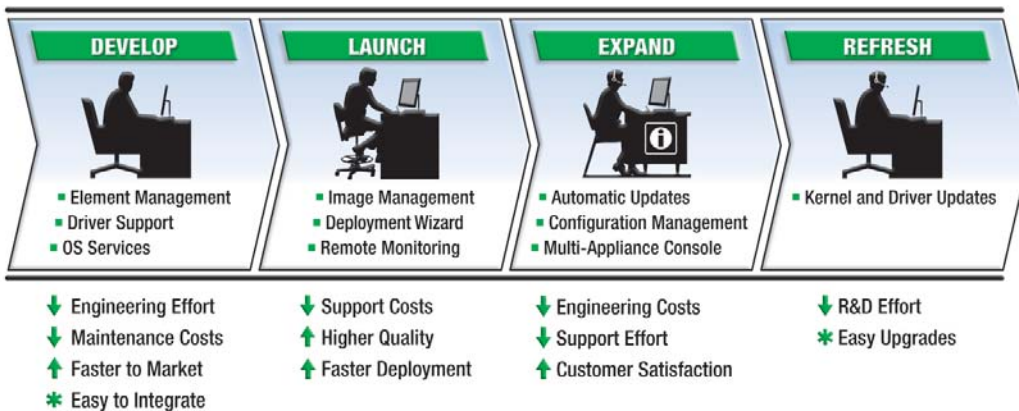
NEI's Smart Services is an integral part of our mission to deliver network-ready, lifecycle-managed appliance platforms. It allows independent software vendors (ISVs) and OEMs to develop and deploy secure, hardened solutions for either physical or virtual application environments. NEI's clients use Smart Services to centralize application, OS and patch management; consolidate support processes; accelerate deployments and create distinct competitive advantages. End-users benefit from its award-winning health, update and backup capabilities – all of which make appliances easier to maintain and support. Smart Services solves the security, reliability and management problems that ISVs experience when attempting to update, monitor, track and backup appliances in the field. When Smart Services are bundled with NEI's Windows Hardening or Linux Packaging Service, both the system and the application enjoy greater integrity, longevity and performance.

## Key Features

- Complete management console
- Secure delivery of patches and updates
- Full image back-up and restore controls
- Tools to automate routine maintenance
- Multi-appliance management tools
- Virtualization capabilities

## Full Lifecycle Management

NEI's Smart Services will simplify all phases of your application's lifecycle – from image design and development to system integration, maintenance and customer support.



Award-winning innovation

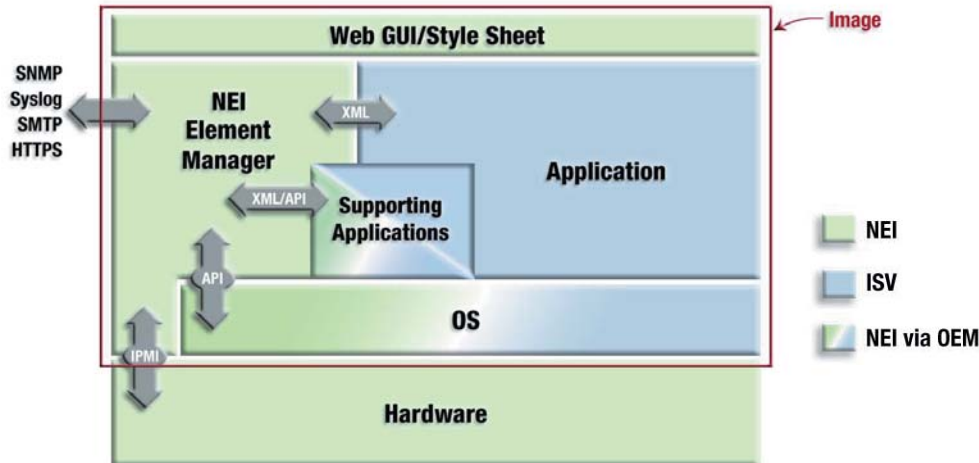
Smart Services will accelerate deployments with greater management controls and more marketable features. When deploying enterprise-class software as a secure appliance, no other lifecycle management system delivers all these benefits:

- Solves critical go-to-market challenges
- Creates new product and service opportunities with marketable differentiation
- Extends application and appliance lifecycles
- Improves scalability for specific market demands
- Increases ROI, reduces engineering and support costs

NEI combines expertise in storage, security and carrier-grade communications and enterprise communications with the broadest range of hardware platforms and services to meet the exact needs of your application. Lower your total cost of ownership, accelerate your time to market, manage investments in the field and focus on your core competencies by partnering with NEI.

## NEI Element Manager

The cornerstone of Smart Services is NEI's Element Manager, an all-inclusive supervisory and alarming console used to monitor system health, automate OS updates, deploy patches, upgrade applications, schedule back-ups and restore field-deployed units. NEI's Element Manager is well-equipped to manage both physical and virtual appliances and accelerate the deployment of highly scaled appliance platforms. Our best-practice deployment model assimilates all core hardware and software components of the appliance.



### Features and Benefits:

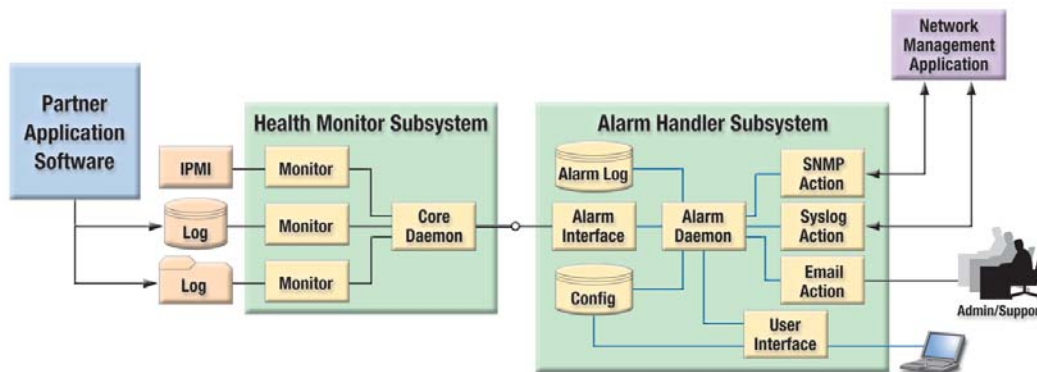
- Enables health monitoring and alarming
- Simplifies application and OS updates
- Provides image backup and restore capabilities

Figure 1

Based on Gartner's appliance model, NEI's Element Manager locks-down key system components to ensure security, ease field manageability and allow safe access via web interface.

## Health Monitoring & Alarm Manager

Appliances that deliver today's critical business services must audit and report the operational condition of hardware and software components, including CPUs, power supplies, storage arrays and disk drives, as well as the OS and application itself. In the event of a hardware or software malfunction, over-temperature condition, out-of-tolerance power, disk crash or runtime error, NEI Element Manager automatically generates an alarm event, supports failsafe operations and increases uptime.



### Features and Benefits:

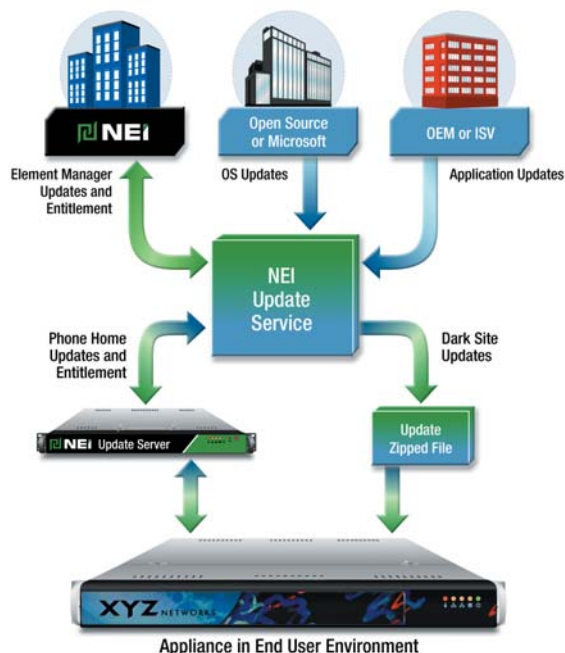
- Accurate monitoring and reporting of critical hardware and software components
- Straightforward configuration and management tools
- Automated error reporting and FRU notification
- Enables more highly managed deployments
- Worry-free user experience
- Greater reliability and uptime

Figure 2

Data centers and IT operations need appliances with remote health monitoring and alarming that interoperate with network management applications.

## NEI Update Service

NEI's Update Service automates the process and management of delivering software upgrades and other OS, application and configuration updates. It acts as a secure, efficient broker for administering encrypted updates to all networked appliances, as well as unconnected dark sites. In addition, customers can distribute pre-tested software updates that allow users to experience worry-free operation. NEI's Update Service also allows software vendors to reduce support costs and yield greater savings in maintenance costs.



### Features and Benefits:

- Secure HTTPS phone home with encryption
- Automates delivery of updates
- Supports both phone home and dark site updates
- Pretesting updates improves the value chain
- Reduces technical support and service/maintenance expenses
- Creates product differentiation

Figure 3

Updates to the OS, application and other software support components are applied remotely and securely.

## Image Backup and Restore

Appliances must be simple to backup and provide disaster recovery capabilities. NEI's Element Manager features full image backup and restore functionality that enables higher availability. The image backup and restore tool is integrated with the Update Manager to provide restore-to-known-good-state for update recovery.

## Configuration Manager

Configuration Manager enables you to rapidly backup and restore appliance configuration properties using a highly portable format. It captures image, alarm, update and schedule settings and is easily extended to include application settings via script interface. The flexibility of a portable configuration file delivers value to end users by simplifying the installation of profiles and accelerating the deployment of multiple appliance deployments. Configuration Manager can be coupled with our new Multi-Appliance Console to quickly deploy configuration changes across an entire network of appliances. It can also be coupled with Smart Task Scheduler to archive key settings on a periodic basis for compliance and disaster recovery.

### Features and benefits:

- Full-partition image backup with easy restore capability
- Automatic rollback points prior to updates installing
- Scheduler for automatic backups
- Emergency boot directly to recovery partition

## Virtual Appliances

NEI's virtual appliances provide a solution for software vendors to address virtual data center and cloud deployments. We offer the expertise and tools needed to build the base images such that appliances can be deployed on hardware or as a virtual machine file compatible with VMware, Amazon Elastic Compute Cloud (EC2), and other formats. Similar to hardware deployments, virtual deployments enjoy the same rich features and capabilities afforded by NEI Smart Services—they are easy to deploy, manage, support and update. In mixed deployments, using both virtual and physical appliances, virtual appliances provide additional load balancing to increase availability and, in most cases, enhance performance. Many NEI clients use hybrid deployments to satisfy various market demands and to perform application demonstrations and evaluations.

### Advantages:

- Physical appliance image can be packaged as a virtual appliance
- Common, secured solution simplifies support and maintenance
- Greater provisioning, availability, and disaster recovery

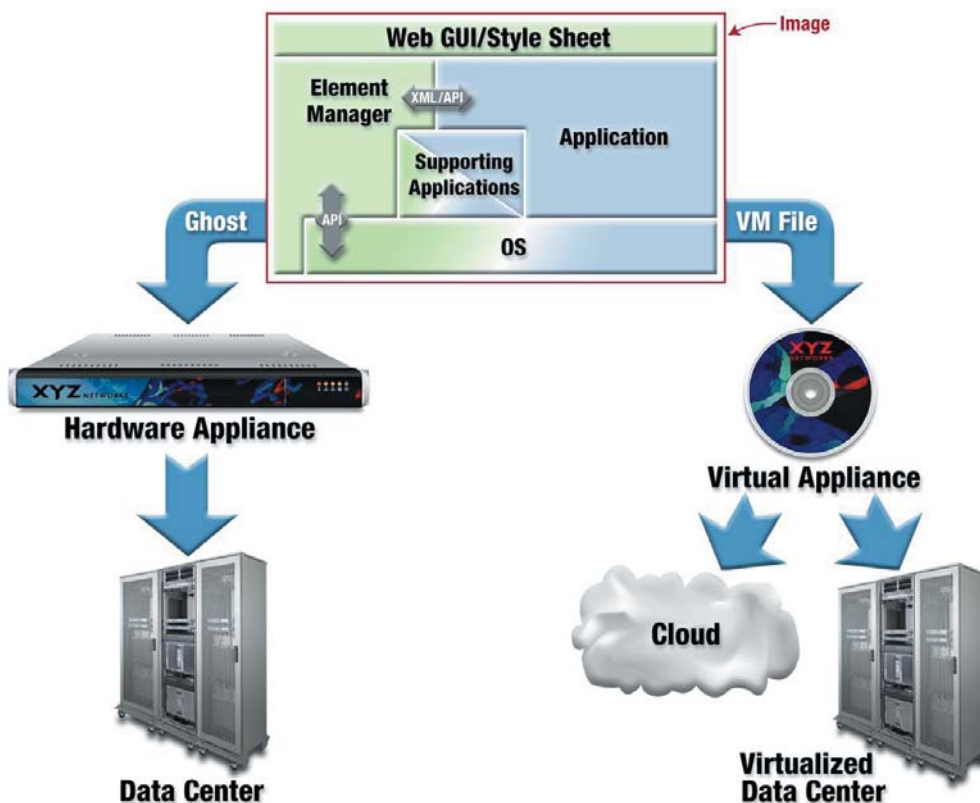
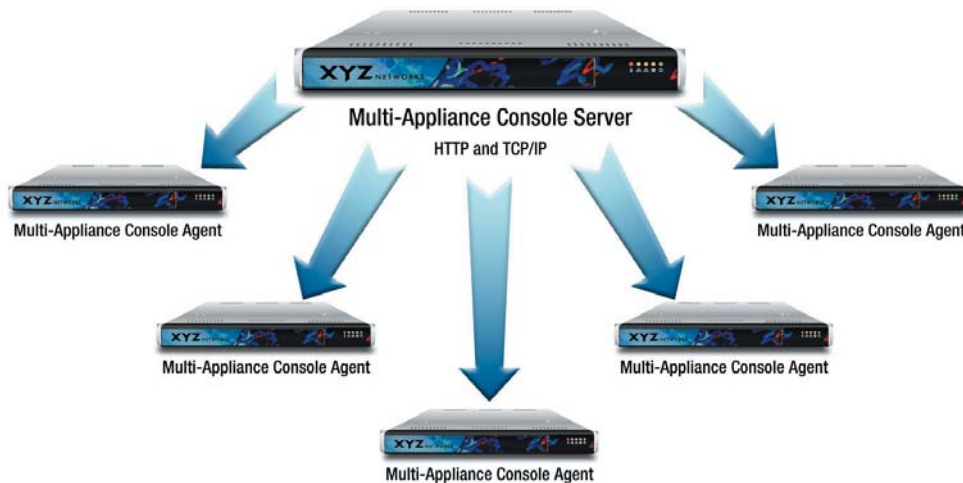


Figure 5

Both physical and virtual appliances are used to address new market demands in blended deployment environments

## New Multi-Appliance Console

For next-generation platform deployments and highly distributed networks, NEI's multi-appliance console makes it easy to scale out and manage multiple platform deployments. As a full-featured appliance management controller, NEI's multi-appliance console streamlines the execution of updates, reconfiguration, image backups and other network management functions.



### Features and Benefits:

- Master console centralizes multi-appliance control
- Architecture and I/O configuration tools for scaling deployments
- Immediate master control capability
- Streamlines management configuration and reconfiguration
- Reduces steps to update multiple appliances

Figure 4

NEI's multi-appliance console makes it easy to build, scale and manage multiple platform deployments in a distributed network.

## New Smart Task Manager

NEI's Smart Task Manager allows customers to predefine and schedule monitoring, cleanup, archive and backup tasks. The Smart Task Manager helps users plan, activate and archive events such as datalogs, alarms, configuration backups and image backups.

## Additional Element Manager Features

### 1) Network Management

- Browser based network adapter configuration
- Advanced troubleshooting tools

### 2) File Management

- Move files on/off the appliance through single interface
- Extensible through customization tool for access to application files

### 3) Users and Groups with access control list

### 4) Remote Server Management shuts down and reboots system

### 5) Change Log records major events

### Features and Benefits:

- Automates scheduling of repetitive activities
- Automates the creation, management and archive of logs and configurations
- Customers can create, duplicate, copy, archive and apply changes through a scripting interface
- Reduces end-user maintenance time and effort

## Smart Services Offering

Customers purchase Smart Services as an NEI Element Manager license and subscribe to annual Update Services for the industry's most comprehensive lifecycle control. NEI's Element Manager license is offered in three editions; each of which can be bundled with our Linux Packaging Service:

- **Basic Edition** – includes health monitoring, alarm management, update capabilities and OS abstraction
- **Premium Edition** – features all Basic Edition capabilities as well as image backup and restoration, configuration management and multi-appliance controls
- **Virtual Edition** – includes health monitoring and alarm management for software only, update capabilities, OS abstraction, configuration management and multi-appliance controls

### Update Service Available in Two Options:

- **Quarterly** – four updates per year, including quarterly OS updates
- **Monthly** – 12 updates per year, including quarterly OS updates with an option for monthly critical patches



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