

NetBoss Service Assurance Overview

- *Convergent service management*
- *Robust integrated Service Assurance for NGNs*
- *Comprehensive element and technology support*
- *Flexible, scalable, proven solution*
- *Low life-cycle cost*
- *Solid project management and integration*
- *Best-in-class partners*

Move to integrated Service Assurance to lower operational costs while improving quality of service. NetBoss manages everything from legacy equipment to next-generation, IP-based network infrastructure and services, offering a scalable, future-proof solution for convergent service providers.



The move to IP-based NGN services in the communications industry is accelerating rapidly. To support this transformation, the industry's network management paradigm is shifting from traditional infrastructure management towards service assurance—the management of next generation, converged infrastructure and the revenue-generating component of the network: services.

While network element and domain monitoring remain critically important, today's quality of service commitments require a clear, real-time view of traffic and performance to ensure end-to-end services are delivered to the customer—at the quality promised in the SLA. Service Assurance combines fault and performance management with probes and service management to enable operators to manage service quality and proactively correct problems before they significantly impact the customer.

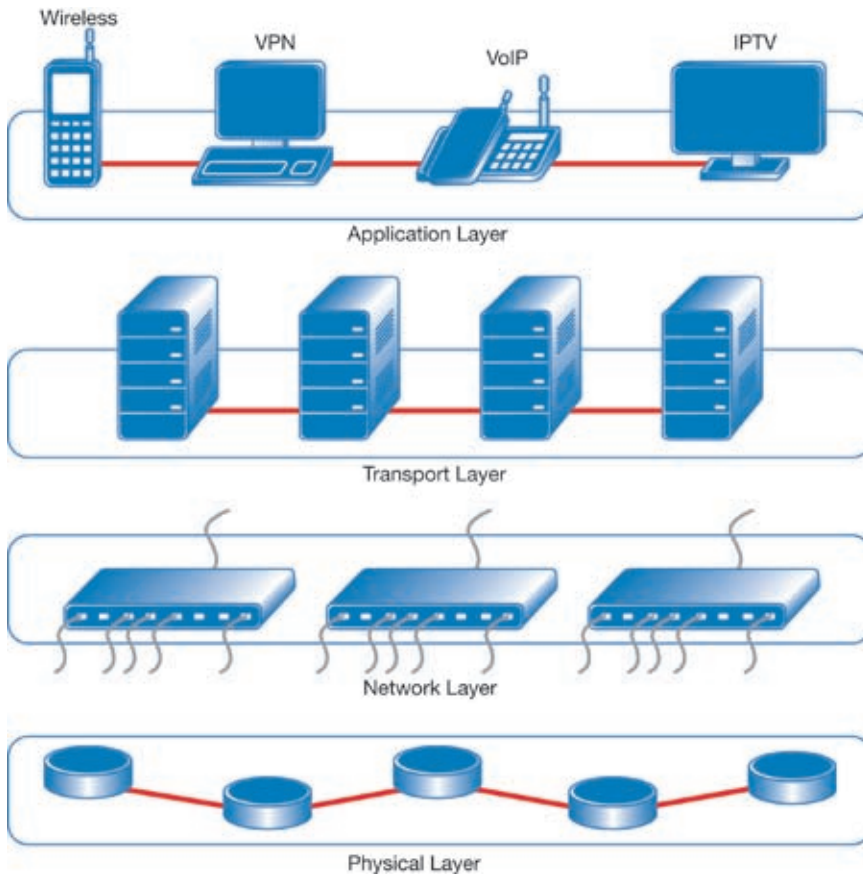
How do you manage today's network complexity to take advantage of new technologies, optimize performance, make customers happy, reduce costs and keep your business ahead of the competition?



The Harris Stratex Networks Service Assurance OSS solution is delivered by NetBoss®, a proven industry workhorse that has delivered reliable, flexible network management systems to commercial, government, defense, and utility communications providers globally for over a decade.

Our combination of superior software products, best-in-class solution partners and rock-solid project management and professional services ensures your investment is protected and flexible.

Harris Stratex Networks is an international communications and information technology company serving government and commercial markets in more than 150 countries. With annual sales of over \$600M, you can rely on Harris Stratex Networks for your most crucial communications solutions.



- Service quality
- Infrastructure health and status
- Network and applications performance and probes
- Inventory
- Configuration
- Security
- Usage

Managing Critical Path of Service

Over the last decade, network operator requirements have changed dramatically. It is not enough today to simply monitor and manage the network. Enhanced services such as broadband data, Voice over Internet Protocol (VoIP), video and on-demand services require network engineers to plan, predict and proactively manage services. So the fundamental objective of network management—to predict, prevent and repair service affecting conditions—is more critical than ever.

In the past, network or fault management has been managed by element or domain, with each one monitored individually as disparate or individual contributors to the service. At the same time, performance management independently provided traffic performance measures or throughput information at scheduled intervals.

These basic fault and performance functions are still required today, and will be required going forward. But the ability to correlate this data provided into meaningful decision-support intelligence is the new goal today, and this correlation is the capability that sets NetBoss apart from other management solutions. With the addition of network probes and real-time performance visibility, we are now able to effectively plan, manage and repair the end-to-end services.

To effectively manage complex NGNs this way, you must first consider how management of the converged NGN differs from that of legacy networks. In the NGN, from the physical layer all the way to the application layer, network operations must be able to view the health and status of all layers and infrastructure involved in the end-to-end service offering. Additionally, you must add management of customer policy contracts

or SLAs. In doing so, the economic impact and the moment-to-moment accountability of network operations and engineering increases dramatically.

Addressing Service Assurance from this total, layered perspective, as Harris Stratex Networks does with NetBoss, is the only way to provide true service quality management (SQM). With more than 200 customers worldwide, NetBoss has the widely-based, time-tested experience and technology required to provide a total service assurance OSS solution for service-oriented NGNs. In addition to our core NetBoss architecture and application-specific modules, we work with best-in-class technology and solution vendors, where necessary, to deliver an industry-leading, optimized Service Assurance OSS solution that is tailored to meet your specific needs.

Strong Values, Strong Economics

Flexible, Scalable, Proven Solution

NetBoss is an end-to-end software solution for managing multi-vendor, multi-service, multi-protocol communications networks that are comprised of a broad array of both next generation products and legacy infrastructure. With the advanced Manage.IT™ application and a library of more than 600 smart agents we have built to manage your devices, NetBoss is the most powerful, scalable and flexible solution on the market. Hundreds of service providers around the globe provide daily proof of its value.

Regardless of the equipment and service mix in your network, NetBoss offers powerful element, shelf, rack, segment, and full network and service views; as well as fault management; proactive network control; database and application monitoring, automated processes; and more—all visible from a single graphical user interface at any location you choose.

Manage legacy switches, access and transport elements in one segment, and mobile switching centers and wireless radio links in another—all from a single system. When you decide it's time to migrate to packet networking, NetBoss has all the flexibility you need to manage emerging technologies and services, such as VoIP and other IP-based services, including routers, communication servers, gateways and codecs. With NetBoss, you don't have to worry about the next wave of technology—you're ready.

Future-Proof, Low Life-Cycle Cost

If you are a service provider, you appreciate the challenge of planning, implementing, managing and maintaining a reliable and profitable network. You want today's investment to demonstrate a significant return while providing for a low life-cycle cost.

NetBoss has the lowest cost of ownership in the industry over the life of a system. From legacy to next-generation and beyond, our customers can feel assured that their NetBoss investment will support the infrastructure and services of today and tomorrow. Harris Stratex Networks is an active member and participant of key industry and standards organizations, ensuring ease of integration and interoperability with other network elements and management systems.

NetBoss includes an innovative, customer-focused licensing agreement designed to expand and evolve your network at no additional management cost.

Need new interfaces for new equipment? NetBoss Build.IT™ is an optional software module that lets operators develop new management interfaces quickly and easily. No engineering degree or software development credentials required. Any agent or interface you build is yours to begin using without additional licensing fees, so long-term operations and maintenance costs are reduced, and return on investment is dramatically improved.

Our industry-leading customer service and support consistently scores among the highest in the industry. Customers realize the significant life-cycle cost benefits with new releases provided at no additional cost while under service agreement—in addition to a full 24 x 7 x 365 customer support program.

Comprehensive NetBoss Service Assurance Portfolio:

- NetBoss service management
 - Infrastructure health and status monitoring
 - Network and application performance management
 - Service monitoring
 - Customer impact and service level management
 - Executive Dashboard
- Turnkey project management and services
- Operations consulting and re-engineering services
- Interface development toolkit
- Global customer service and support





NetBoss Professional Services personnel install and integrate NetBoss solutions, ensuring top proficiency, competency and quality. Harris Stratex Networks feels strongly about accountability and ownership. We design, scope, implement, integrate and support our solutions.

Professional Services

Not Just a Solution

At Harris Stratex Networks we support our technology solutions with world-class expertise and years of experience in:

- Planning, deploying and managing networks just like yours
- Transforming network complexity and networks in transition into simplified, more easily manageable revenue generating resources
- Tailoring solutions to your specific environment

NetBoss is not just a solution. It is a turnkey approach to telecommunications service management that includes the solution, consulting services, outsourcing services and support. Our approach is very different from vendors whose goal is to merely sell you a product. Our NetBoss team is configured to become part of your team, focusing on your concerns and your success.

With Harris Stratex Networks as the project lead, you are assured a single point of contact, a single point of responsibility and a tightly integrated approach that brings you the best value and performance possible.

Project Management and Integration

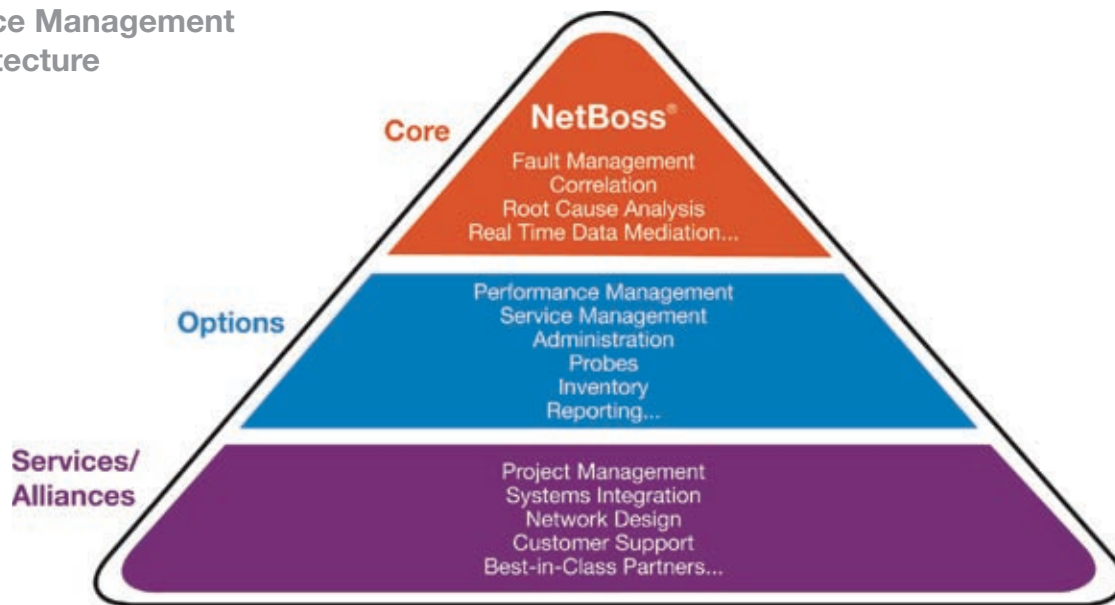
Harris Stratex Networks is a key technology and services supplier to U.S. and allied governments worldwide. From the exacting demands of this sector, we have built a solid background and track record in project management and systems integration.

Unlike other vendors, our project managers have gone through rigorous and comprehensive formal project leadership training. This ensures a strong management approach with sound fiscal performance. Our track record in on-time delivery and performance is unparalleled in the industry.

Only NetBoss Professional Services personnel install and integrate NetBoss solutions, ensuring top proficiency, competency and quality. Our team feels strongly about accountability and ownership. We design, scope, implement, integrate and support our solutions.

Finally, our best-in-class technology partners provide the core technologies and competence needed to complete and enhance our service management portfolio and customized solutions. Our partners add proven value and ensure our customers are investing in the best possible solutions.

Service Management Architecture



Manage.IT™

Core module of NetBoss Service Assurance solution—everything you need to manage your network elements, element managers, systems, and applications. Provides fully integrated, real-time management and control from a single workstation. Functions as a manager of managers, overseeing element management and other applications integrated into your network. Includes all administrative and utility modules necessary for carrier-class management, such as scene and view builders, administration and security, event correlation, reporting, root cause and service impact analysis, alarm review, external data import, knowledge base and expert system interface. Provides customized views of any regional, technology or service view desired. Modular design offers flexible, scalable operation, so providers can start at an affordable cost and grow cost-efficiently.

Build.IT™

NetBoss optional application for building additional bi-directional interfaces (smart agents) to network elements, element managers, applications, and Operation Support Systems. With NetBoss ProBuilder (included with Build.IT), system administrators use a graphical drag-and-drop interface to quickly and

easily create interfaces that offer the same visibility into network operations as the ready-made smart agents that come with NetBoss. The new interfaces enable you to grow cost efficiently—with no additional licensing fees.

Executive Dashboard

Quickly and clearly conveys critical measures—such as KQIs, KPIs, network status and usage—to managers and executives. Information displays dynamically in easy-to-understand graphical dashboard formats that put this time-critical data at your finger tips. Its concise, clear, and compact format enables you to quickly make the critical decisions needed to keep your service operations running smoothly. Because the dashboard is customizable, you decide what information is most important, how it is displayed and what critical thresholds are used to generate alerts. These two factors—dynamic update and customization to your needs, especially the key KQIs and KPIs so vital in a service oriented, SLA-driven environment—make NetBoss Executive Dashboard an exceptionally valuable part of your service assurance solution. It reflects your dedication and commitment to customer service and extends your awareness of network quality beyond the Network Operations Center, and into the offices of managers and executives.

NetBoss Service Manager

No service assurance solution is complete without robust service management. NetBoss Service Manager is an optional NetBoss product that bundles five key service management applications within a single product package, saving substantial integration, training, and operational costs. Its Service Catalog, Service Inventory, Service Quality Management, and Service Performance Management applications are crowned by a flexible, easy-to-use Service Impact Analysis that is key to meeting the time-critical management needs of an SLA-driven NGN. NetBoss Service Manager enables network operators and customer care representatives to see in near-real-time how network events impact critical business services. NetBoss Service Manager also correlates network events to impacted services across multi-vendor network elements and element managers, and then provides a unified alarm interface that shows how those alarms correlate to the affected services and customers. Your system administrator can easily define services and customize service views, using the latest Java-based, drag-and-drop service creation and rule generation tools.

Beyond Network Management

Proactive Management

Today, service providers are offering more services than at any time in the past. At the same time, they are challenged with growing their subscriber base and revenues in difficult economic times. Proactively managing services to maximize customer satisfaction, maintain customer loyalty and enhance revenue potential is becoming an increasingly critical element in a provider's business plan.

To meet these goals, service providers use service level agreements (SLAs) to guarantee the level of service quality to customers. Service quality management (SQM) is the process of monitoring service quality to ensure that service quality conforms to the SLA.

Harris Stratex Networks has responded to this challenge by taking service providers beyond just network management to the higher level of Service Assurance. With the rich set of standard and optional service management resources that NetBoss brings to your business, you can improve service quality and customer support and enjoy a new level of visibility into your ongoing conformance to service level goals.



Manage.IT: The NetBoss Manage.IT family of products provides everything you need to manage network elements, element managers, systems, applications, and services with customized views of any region, technology or service.

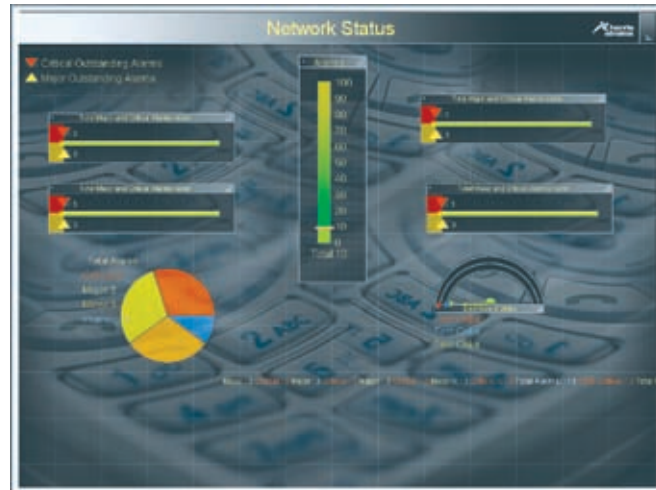
Performance Management

NetBoss performance management complements NetBoss service monitoring functions. The optional performance management module provides daily, weekly or monthly analysis of data from any number of network components, enabling you to view detailed reports on grade of service, dropped and blocked calls, traffic levels and facility utilization. Use this information to forecast network growth and usage patterns and enhance quality of service.

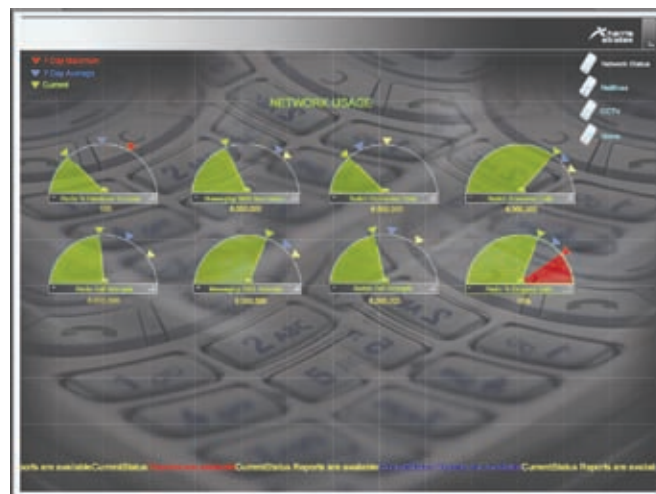
The Performance Reporting and Management (PRM) utility, an optional component of Manage.IT, provides an additional tool for identifying potential network problems that affect performance. PRM monitors selected counters, operational measurements, and other network and element data to provide a performance feedback loop, control network elements and provide the data needed for more effective network capacity planning.

Service Level Management

NetBoss provides a framework for implementing Service Level Management (SLM) and SLA reporting. NetBoss SLM enables the monitoring and the tracking of key SLA metrics including availability, time-to-repair (TTR), time-to-provision (TTP), and quality of service (QoS). NetBoss SLM provides Customer and SLA impact analysis by integrating NetBoss modules with external OSS components such as a trouble ticketing systems, service inventory databases and Customer/SLA databases.



NetBoss Executive Dashboard delivers top-tier service quality management by quickly and clearly conveying critical information—such as network status and usage—to the busy managers and executives in your organization.



NetBoss Executive Dashboard. You decide what information is most important, how it is displayed, and at what critical thresholds to alert management.

Features and Benefits

Strategic Benefits

- Lower life cycle costs
- Maximizes your existing investment
- Reduced IT and administration costs
- Bundled solution pricing
- Faster delivery of new services, faster time to revenue

Operational Benefits

- Rapid deployment
- Improved network and service reliability
- Redundant, scalable solution
- Multi-vendor, multi-service, multi-protocol solution
- Open architecture
- Single vendor for faster response, true accountability

Network/Service Management Features

- Service Catalog and Service Repository
- Service Performance

Operation

- End-to-end network and service monitoring
- Centralized Web-enabled GUIs, with user-customized graphical and text views
- Command and control capabilities for network elements and element managers

Architecture

- Open architecture enables rapid integration with industry-standard or home-grown OSS systems
- Openly documented database structure allows for custom reporting utilities and easily extends Harris Stratex Networks-provided reports
- Robust tool set extends graphics and monitoring as network expands

Automation

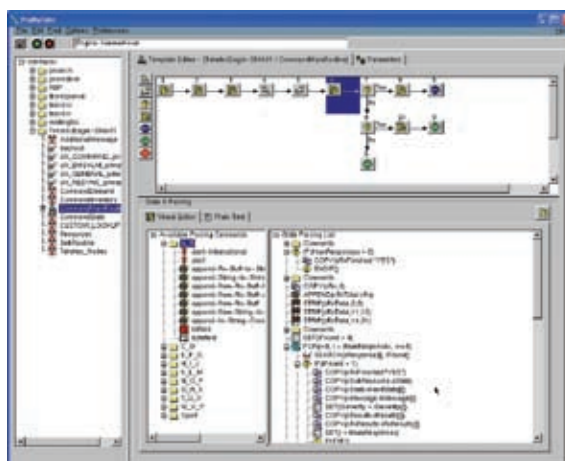
- Extensible default knowledge base and expert system interface—both can be enhanced by customer's trained staff
- Automatic notification and escalation of critical service-affecting events via SMS, e-mail, and trouble ticketing
- Repair or further diagnose problems by automatically sending commands after a predetermined event

Security

- Easily add new users into your operations environment
- Configurable user access levels on a per user/group basis
- Configurable user access to network views by technology, region, or domain

Interface Development Features

- Creates bidirectional interfaces to network elements, element managers and applications
- Supports multiple data sources and protocols
- Easy-to-use graphical user interface
- Template feature provides easy replication
- Includes a rules-based processor for transaction-driven interfaces
- User extendable dynamic CORBA gateway interface
- Provides graphical monitoring and troubleshooting applications
- Automatically integrated with all NetBoss modules



Build.IT: NetBoss ProBuilder allows system administrators to use a graphical drag-and-drop interface to quickly and easily create interfaces.