

PRODUCT FAMILY BRIEF: CA SPECTRUM NETWORK FAULT MANAGER

CA SPECTRUM[®] Network Fault Manager

Redefining Network Service Management

CA SPECTRUM® Network Fault Manager Family

CA SPECTRUM® Network Fault Manager (CA SPECTRUM NFM)

CA SPECTRUM® NFM Service Manager

CA SPECTRUM® NFM Network Configuration Manager

CA SPECTRUM® NFM Report Manager

CA SPECTRUM® NFM MPLS VPN Manager

CA SPECTRUM® NFM Multicast Manager

CA SPECTRUM® NFM QoS Manager

CA SPECTRUM® NFM Secure Domain Manager

CA SPECTRUM® NFM Secure Domain Connector

CA SPECTRUM® NFM Service Performance Manager

CA SPECTRUM® NFM Level 1 Toolkit

CA SPECTRUM® NFM Southbound Gateway Toolkit

CA SPECTRUM® NFM Report Gateway Toolkit

CA SPECTRUM® NFM Modeling Gateway Toolkit

CA SPECTRUM® NFM TL1 Gateway Toolkit

CA SPECTRUM® NFM CORBA Toolkit

CA SPECTRUM® NFM Nortel Preside MDM Integration Gateway

CA SPECTRUM® NFM Microsoft MOM Connector

CA SPECTRUM® Network Fault Manager software delivers automated service, fault and configuration management across diverse, multi-technology networks to assure the availability of critical network services that are essential for your business applications. Patented root cause and impact analysis technology immediately pinpoints the degraded or failed network component, indicates who and what are impacted, and offers a fix. Reporting capabilities deliver at-a-glance, actionable information regarding IT asset, availability, event and alarm, and performance metrics.

Overview

In today's highly competitive global economy, a robust and reliable network is fundamental to business success.

CA SPECTRUM NFM ensures the availability of critical network services, employing intelligent root cause and impact analysis to identify, prioritize and correct problems before they affect your business.

CA SPECTRUM NFM delivers a highly intuitive interface, configuration management tools, and out-of-the-box support for more than 800 device types.

Benefits

CA SPECTRUM NFM approaches service, fault and configuration management from a business perspective, ensuring that your most important business services and customers get priority response.

The automation of labor-intensive troubleshooting improves service levels and availability while lowering operational costs. Capital expenditure is significantly reduced through better utilization of your network assets, as you identify which assets can be consolidated, redeployed or decommissioned.

The CA Advantage

Platform independent and vendor neutral, CA SPECTRUM NFM is a core component of the CA Network & Voice Management (CA NVM) solution, a complete and integrated solution set for network service, fault, configuration, performance and voice application management. CA NVM is part of CA's broader Enterprise IT Management (EITM) approach, which is to manage all IT resources from a single view and simplify the management of complex computing environments across the enterprise.

CA SPECTRUM NFM Redefines Network Service Management

Your enterprise, service provider business or government agency depends on your network. Downtime and performance problems have an immediate and increasingly severe impact on productivity, revenue and profitability.

CA understands that today's IT organizations are responsible for delivering key network and IP services, and that network fault management in today's infrastructures means assuring both the health and availability of these services.

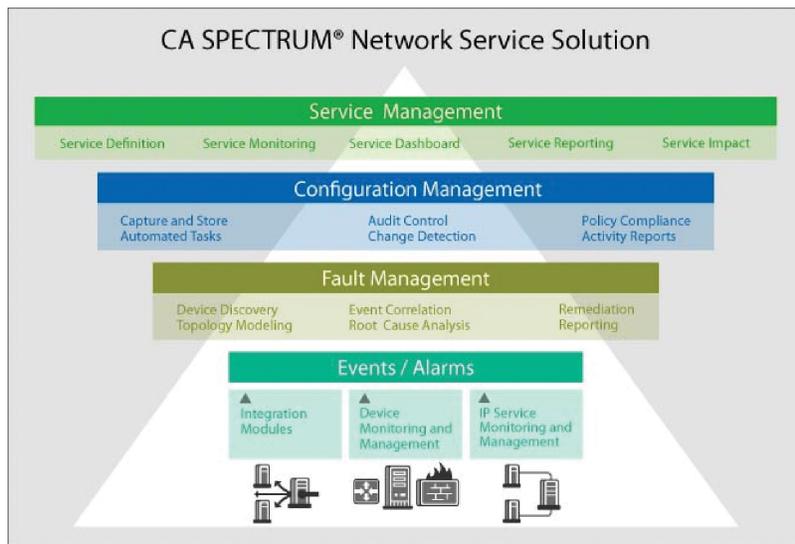
At CA, we define network service management as the unification of service, fault and configuration management. We deliver a highly integrated network service management solution that understands the crucial relationship between your business assets, services and users.

CA SPECTRUM NFM software automates fault management across multivendor and multitechnology infrastructures, tailoring information views and management capabilities to meet the needs of a broad range of technical and nontechnical users. Traditional fault management is enhanced by intuitive dashboards, configurable alerts and analytical tools that business managers can use.

FIGURE A

CA SPECTRUM NFM is a best-in-class, integrated solution for network service, configuration and fault management.

BEST-IN-CLASS, INTEGRATED FUNCTIONALITY



Ensuring Service Quality with Policy-Based Automation

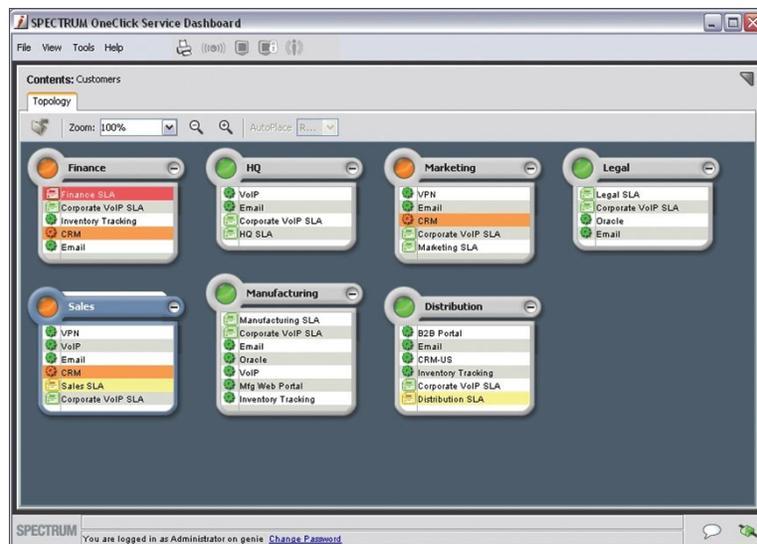
The sun never sets on enterprises, service providers and government agencies that are participating in our global economy, and this reality is making proactive service management an imperative. Your IT organization must predict and proactively prevent problems in order to ensure appropriate service quality across all classes of service.

CA SPECTRUM NFM software enables you to maintain the required quality of service (QoS) by seamlessly managing service level agreements (SLAs) associated with your services and users (including both employees and customers) requiring those services. The CA SPECTRUM Network Fault Manager Service Manager (CA SPECTRUM NFM Service Manager) module conveys the status of critical network services in a non-technical manner, easily accessible to all relevant stakeholders. Information on the status of services can be organized by service, department (for internal customers), or customer (for service level management communication to external customers).

FIGURE B

CA SPECTRUM NFM Service Manager provides a role-appropriate service dashboard, enabling at-a-glance understanding of network service health.

NETWORK SERVICE DASHBOARD



CA SPECTRUM NFM Service Manager includes a variety of flexible configuration options that improve your ability to apply management policies and automate the ongoing maintenance of those policies. Service and SLA templates aid up-front configuration and ease the burden of frequent adds, moves and changes. A change to a template can be globally applied to all services created from that template. Similarly, CA SPECTRUM NFM Service Manager uses dynamic service policies to automatically update services and SLA metrics as devices, systems or applications are added, deleted or changed within a service.

Addressing Network Issues Quickly and Pragmatically

At the core of CA SPECTRUM NFM network service management is functionality to model, monitor and manage relationships between the IT infrastructure, users and business services.

Furthermore, by understanding the relationships between assets, configurations and events that affect a service, CA SPECTRUM NFM Service Manager is able to pinpoint the root cause of service problems for faster resolution. A powerful event correlation engine correlates events across technology domains, such as network, systems and applications, to detect the root cause of problems — even in cases where the root cause is not directly monitored by CA SPECTRUM NFM or was not part of the service definition.

CA SPECTRUM NFM Service Manager conducts impact analysis on all faults that affect a service, including performance, response time, network device outages and application problems, and shows exactly which services, SLAs and customers are affected by each fault. Actionable information enables you to address issues in a prioritized manner and resolve them quickly.

CA SPECTRUM NFM Service Manager also includes a service dashboard that provides role-appropriate information to executives, business managers, call center operators and customers, allowing them to view information relevant to their specific needs. An integral part of the CA SPECTRUM NFM OneClick interface, the dashboard provides at-a-glance information about services, customers and SLAs, and also fault metrics, such as mean time between failures (MTBF), mean time to repair (MTTR), the time since last outage, etc. When a service or customer is in a problem state, the dashboard shows the assigned troubleshooter, duration of outage, affected users and other details. The service dashboard also provides direct links to detailed historical reports.

CA SPECTRUM NFM Service Manager also delivers active SLA monitoring, generating real-time alarms to warn of service outages and impending SLA violations. The alarms include root cause information so you can address problems before your business is impacted. Additionally, the CA SPECTRUM NFM Service Manager module provides historical reports, enabling you to continuously improve services.

Verifying Performance Through Comprehensive Reporting

SLA reports are a major component of the CA SPECTRUM NFM service management capabilities, complementing the service and SLA modeling process and verifying the performance of service components over a variety of time periods. These SLA reports can be categorized into two groupings: customer-facing reports that provide SLA status information, and internal reports that provide a rich set of detailed data.

Customer-facing SLA reports

- SLA Detail by Customer shows which SLA guarantees are compliant or violated within a given period.
- SLA Inventory by Customer lets customers compare actual service configurations with the specifications in the SLA document.

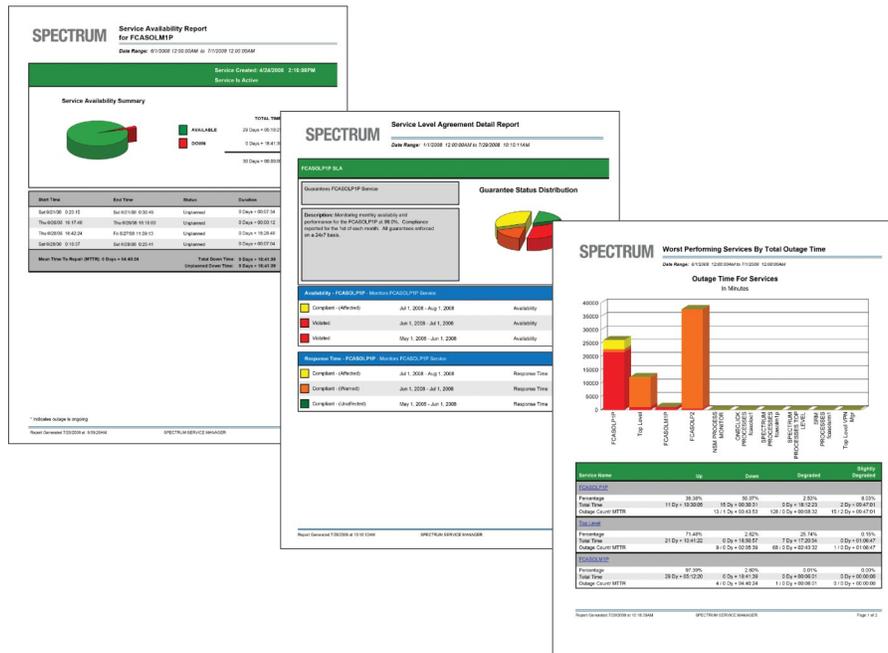
Internal SLA reports

- SLA Status Current and Recent by Customer provides a quick summary of SLA status, such as unaffected, compliant, warned and violated for current and recent periods.
- SLA Summary by Name, Customer, Status produces a table of summarized SLA status information for one or more periods.
- SLA Summary Warned or Violated produces a table of all SLAs currently in the warned or violated state, along with access to a subreport that shows detailed guarantee outage information for the current period.
- SLA Detail by Name displays all SLA status values including unaffected, compliant, warned and violated states and offers more detailed information in a subreport.
- SLA Detail with Resource Outages brings together SLA status and the associated resource outages that ultimately impacted the SLA in a given period, and reveals the impact of a particular resource at a very high level.
- Customer SLA Summary shows SLA status during the last six periods for all customers' SLAs.

FIGURE C

CA SPECTRUM NFM Service Manager delivers historical service quality and SLA reports.

SERVICE AND SLA REPORTS



Fault Management Begins by Modeling the Network Infrastructure

Network fault management is a core, fundamental capability for CA SPECTRUM NFM. The functionality includes the ability to: discover network devices and map the network topology, detect and correlate events to suppress unnecessary alarms, automate root cause and impact analysis, and manage IP service technologies.

The CA SPECTRUM NFM software's patented AutoDiscovery technology is a compelling example of cost-saving automation capabilities. Using its auto discovery technology its auto discovery functionality, CA SPECTRUM NFM automatically identifies all network assets and builds a database and network topology map. The map includes Layer 2 and Layer 3 IP services and displays network elements down to the physical and logical port and circuit level for LANs, WANs, and wired and wireless environments. Patented root cause analysis can then pinpoint specific network faults down to the individual port or circuit.

You can extend this automated topology mapping to network service modeling by simply identifying the critical resources for each service, rather than for each individual network component. Tools and templates in CA SPECTRUM NFM help you configure and schedule response tests for ongoing measurement of service availability and performance.

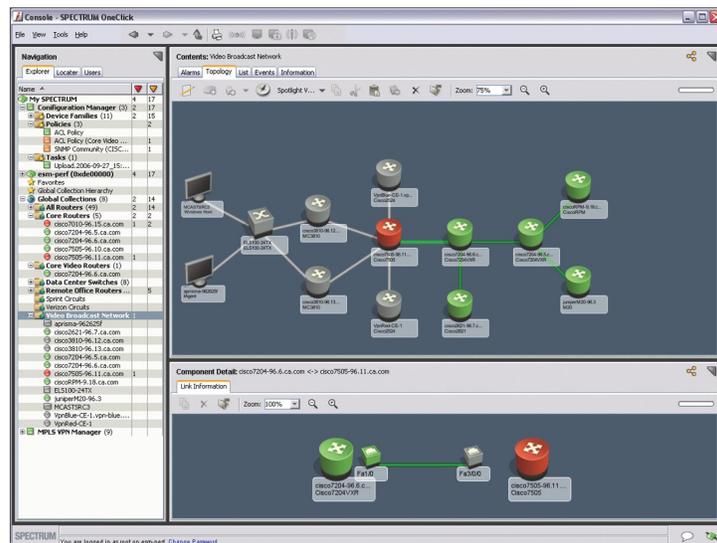
Root Cause Analysis Automates Troubleshooting

CA SPECTRUM NFM delivers unique root cause analysis (RCA) capabilities, which automate troubleshooting by correlating and interpreting a set of symptoms and or events, pinpointing the underlying cause, and generating an actionable alarm. This RCA functionality takes advantage of CA's patented inductive modeling technology, using a sophisticated system of models, relationships and behaviors to create a software representation of the infrastructure. The relationships among the models provide a context for collaboration, enabling CA SPECTRUM NFM to correlate symptoms and events, suppress unnecessary alarms, and analyze the impact on users, customers and services. This collaboration includes the ability to initiate cross-model requests and exchange information.

FIGURE D

CA SPECTRUM NFM deduces the root cause of the problem and visually pinpoints the single impacting device (in red) and other impacted devices (in gray).

ROOT CAUSE ANALYSIS VISUALLY DEPICTED



For example, consider the event of a network router port status transitioning from UP to DOWN. If a port model receives a LINK DOWN trap, it can perform a status query to determine if the port is actually down. If the DOWN status is confirmed, the port model consults the broader system of models to see if the port is a virtual port and has lower layer port. If it is a virtual port and the lower layer port is down, CA SPECTRUM NFM will only generate an alarm for the lower layer port, eliminating time-consuming and unnecessary manual investigation.

Root cause and impact are determined through the CA SPECTRUM NFM software's ability to both listen and talk to the infrastructure. Models are in direct communication with their real-world counterparts, enabling CA SPECTRUM NFM to proactively query for health status or additional diagnostic information.

Multivendor, Multitechnology, Multiprotocol Support

Today's networks are constructed using a heterogeneous set of vendors and product lines. Visibility into the health and performance of this diverse constellation of devices is important; CA SPECTRUM NFM provides out-of-the-box multivendor, multitechnology support and also offers multiprotocol support (for example, IPv4, IPv6 and IPv4/IPv6 dual stack, SNMPv1, v2 and v3, TL1, etc). CA SPECTRUM NFM also supports FIPS 140-2 compatibility to meet today's leading encryption standard. In addition, a universal SNMP management module enables comprehensive fault management of any SNMP-compliant network device by incorporating dozens of IETF RFCs and IEEE standard MIBs. CA SPECTRUM NFM also includes utilities to extend the out-of-the-box device management capabilities to support additional MIBs and implement specialized processing.

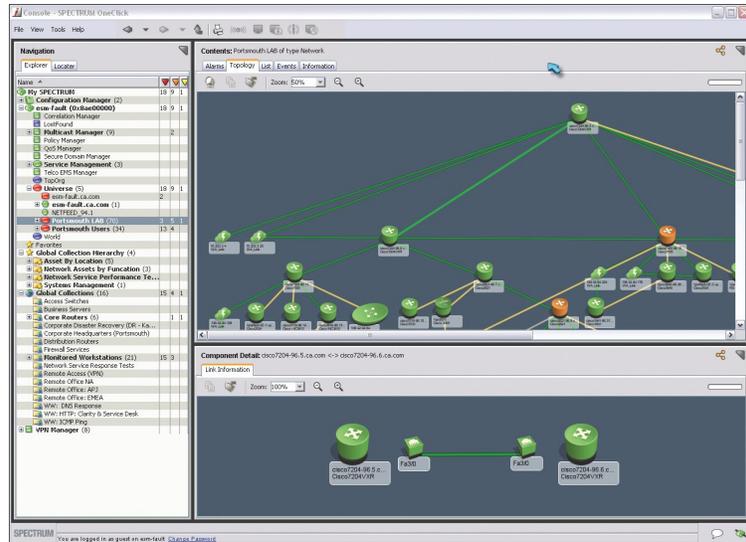
Intuitive Console Streamlines Management

CA SPECTRUM NFM presents clear and actionable information through its unique graphical user interface, the CA SPECTRUM NFM OneClick network operations console. Its three-tier, web-based architecture provides anywhere, anytime access, and enables cost-effective deployment to a wide variety of geographically dispersed users. A CA SPECTRUM NFM OneClick web server automatically downloads, installs and updates feature-rich Java clients, and delivers appropriate CA SPECTRUM NFM information to each of them. The CA SPECTRUM NFM OneClick interface effectively expands the audience for actionable information, while its ease of deployment significantly reduces maintenance costs and ensures that everyone in your organization is viewing accurate and current information.

FIGURE E

CA SPECTRUM NFM OneClick is a graphical user interface that is included in CA SPECTRUM NFM. It is secure and role-based and enables anywhere, anytime access to network management.

NETWORK OPERATIONS CONSOLE



Highly acclaimed and production-proven, the CA SPECTRUM NFM OneClick interface supports a natural workflow for operators and troubleshooters, generating comprehensive topology maps and offering a full suite of troubleshooting tools. These include Ping, SSH, Telnet and traceroute. CA SPECTRUM NFM OneClick is scalable and secure and uses a contextual workflow and role-based web interface to deliver the right information to the right people at the right time.

Ensuring Scalability and Continuous Management

Geographically dispersed businesses today require management software that is highly scalable and flexible in its distributed architecture, and also fault tolerant. Whether the need for distributing the management workload is driven by localized polling, local administration, user community location, or other factors, leveraging distributed CA SPECTRUM NFM capabilities offer the power and flexibility required to address those needs.

CA SPECTRUM NFM effectively distributes the management traffic load and allows you to delegate network management functions to remote workstations using a common interface and integrated applications. Also, each management server can be geographically closer to the devices it manages, reducing traffic on wide area links and avoiding congestion on the local network.

A major advantage of using this distributed approach is the ability to set up redundancy between management servers, creating a fault tolerant environment. A secondary CA SPECTRUM NFM server can be provided as a redundant backup or standby; Network management would continue even if the workstation running the primary server fails. If a failure occurs that disables the primary server, the secondary automatically takes its place.

Intelligent Automated Configuration Management

Today's complex network infrastructures can contain hundreds or thousands of business-critical devices. Creating configuration policies, tracking changes, and ensuring configuration compliance for even a critical set of network elements is an enormous task. Unauthorized or incorrect changes to even a single device can have a rippling effect on the health and availability of the network infrastructure. Industry analysts agree that erroneous network configuration changes, manually entered, cause a significant portion of network downtime and performance degradation. With that kind of impact, getting network change and configuration under control is critical.

CA SPECTRUM NFM Network Configuration Manager is an intelligent, integrated CA SPECTRUM NFM component that eases the complexity of managing change to network device configurations, giving you the tools to administer captures, modifications, loads and verifications of configurations for thousands of network devices from virtually any vendor. Each configuration is time-stamped and identified by the revision number, and automatically scheduled configuration comparisons deliver immediate notification of unauthorized changes.

A summary of capabilities follows:

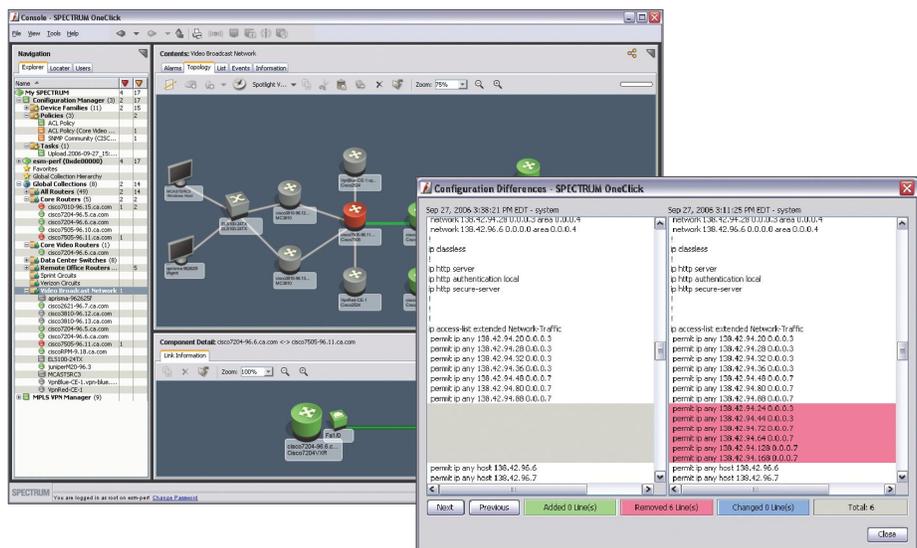
- Capture and store host configurations
- Ability to perform firmware uploads
- Ability to alarm on policy violations
- Policy compliance
- Activity reports

Integration of fault management and network configuration management enables correlation of network events to configuration change activity, and it can also provide a configuration audit trail of any selected network device through the history typically retained by fault management tools. As a result, the CA SPECTRUM NFM software's root cause analysis is change aware.

FIGURE F

CA SPECTRUM NFM Configuration Manager detects and highlights device configuration changes, making CA SPECTRUM NFM change aware.

UNDERSTANDING DEVICE CONFIGURATION CHANGES



With CA SPECTRUM NFM Network Configuration Manager, configurations can be uploaded to multiple devices simultaneously, and any changes are automatically tracked. Automatically scheduled configuration captures deliver immediate notification of change activity, any unauthorized changes and any out-of-policy changes to appropriate individuals.

Several benefits result from incorporating network configuration change capabilities into the CA SPECTRUM NFM integrated network service and fault management solution. These include:

- Uniform configurations can become routine and will lead to less human error, which will result in less downtime and degradation.
- Regular automated capture of configurations and comparison against an organization configuration policy can pinpoint changes that may lead to availability or performance issues before users are impacted.
- Associating device configurations and configuration changes as part of automated root cause of any fault will result in faster mean time to determine probable cause and mean time to repair.
- Integrated network service, fault and configuration management can improve administrative efficiencies and costs by reducing rote manual tasks that prevent IT staff from tackling more interesting and strategic projects.

Additional Core Functionality

THE CA SPECTRUM NFM solution incorporates additional functionality to provide a comprehensive, proactive approach to network management.

POLICY-BASED ALARM FORWARDING AND NOTIFICATION CA SPECTRUM NFM Alarm Notification Manager enables policy-based alarm forwarding to alarm processing and help desk applications such as: Attention! Notification System and CA Service Desk. These complementary applications respond in various ways (email, pager, cell phone, trouble tickets, etc.) to alarms generated by CA SPECTRUM NFM. A policy administrator UI enables you to specify and associate alarm notification policies with these applications. A policy enables you to specify the types of alarms you want to receive and to filter out the alarms that you consider unimportant. The point-and-click user interface can also control alarm behavior based on time, day, week or monthly scheduling parameters. The CA SPECTRUM NFM Alarm Notification Manager facilitates lights-out operation where specific IT staff members, based on their working hours, can be notified of problems wherever they are and have root cause information at their fingertips.

CUSTOM THRESHOLDING The CA SPECTRUM NFM Watch Editor provides a simple way of monitoring key performance indicators across the network infrastructure. By enabling additional polling and thresholding, it can automate notification and launch scripts when thresholds are violated or abnormal behaviors occur. Watches can monitor statistics, complex calculations, values that should remain static, and MIB attributes. What's more, the result of a watch can be used to trigger other actions, such as running a script to initiate a task. Watches can be configured to analyze a single device, a specific device type or all devices without requiring one-by-one manual intervention. The CA SPECTRUM NFM Watch Editor function can be leveraged to monitor CPU, memory, storage and bandwidth utilization across multiple vendors and technologies. It all adds up to a cost-effective and sustainable way to intelligently watch thresholds and identify network problems without requiring complex programming techniques.

ATM MANAGEMENT The CA SPECTRUM NFM ATM Circuit Manager delivers precise monitoring and performance thresholding of ATM throughput with detailed information on bandwidth utilization and circuit congestion. Intelligent AutoDiscovery techniques leverage remote IP address information and traffic statistics to map Virtual Path Identifier and Virtual Channel Identifier (VPI/VCI) connectivity and present an integrated topology view. Alternatively, a list of PVPs and PVCs can be imported from external data stores to accurately model all ATM WAN links. Root cause analysis and fault isolation is provided per Virtual Path/Virtual Channel with impact analysis to prioritize response and corrective action.

FRAME RELAY MANAGEMENT Frame Relay is an economical and efficient method of connecting remote offices and/or retail locations to corporate headquarters. As the Frame Relay market continues to mature, so too does the requirement for SLA validation and real-time service, fault and configuration management. CA SPECTRUM NFM Frame Relay Manager delivers precise monitoring and performance thresholding of Frame Relay committed information rates (CIR), with detailed information on bandwidth utilization and circuit congestion. Root cause analysis and fault isolation is provided per data link connection identifier (DLCI) with impact analysis to prioritize response and corrective action. Intelligent AutoDiscovery techniques leverage remote IP address information and traffic statistics to map DLCI connectivity and present an integrated topology view. CA SPECTRUM NFM Frame Relay Manager can also be used to verify SLA compliance with third-party network service providers.

OPTIONAL ADD-ON SOLUTION MODULES

- **CA SPECTRUM NFM Service Manager** This module allows you to model, monitor and manage your business processes, SLAs and customers. By understanding the physical and logical relationships between the availability and performance of IT infrastructure components, you can now prioritize faults according to the importance of the services that are affected. The result is horizontal, cross-silo management aligned with business process reliability.
- **CA SPECTRUM NFM Report Manager** This module takes the data collected by CA SPECTRUM NFM, including availability, response time, asset and service quality metrics, and communicates it using the Web or through a variety of formats.
- **CA SPECTRUM NFM Service Performance Manager** This module takes a multivendor, multiagent approach to response time monitoring, using intelligent automated discovery and configuration of response time test points within your network and server infrastructure. You can proactively measure performance and detect problems by leveraging response time measurement capabilities that are already deployed.
- **CA SPECTRUM NFM Secure Domain Manager** This module extends network service, fault and configuration management capabilities securely into remote network domains. The software uses an SSL connection to tunnel SNMP and ICMP traffic through the enterprise firewall instead of traditional management protocols that typically require access that may violate your network security policies.

- **CA SPECTRUM NFM Remote Operations** This new solution for CA SPECTRUM NM is designed to deliver a complete mobile or remote IT management solution for supporting land, sea, air and space remote tactical environments required by defense agencies worldwide. In addition to all the standard CA SPECTRUM NFM capabilities, this solution is designed to support local personnel who may at times be disconnected from the primary network and it operates with low-impact on the communication links between the remote and central site, including satellite links. CA SPECTRUM NFM Remote Operations can connect to a global NOC or central command to deliver real-time topology and operation status of a remote network.

OPTIONAL INTEGRATED TECHNOLOGY MODULES

- **CA SPECTRUM NFM MPLS VPN Manager** This module is for cost-effective management of MPLS-based VPN connections. It automatically discovers and manages the performance and reliability of site-to-site Layer 3 VPN tunnels, providing proactive notification of potential problems so that you can take corrective action before services are impacted. The module also automatically polls path information to generate alerts based on significant or persistent path change activity and logs and maintains a history of site-to-site LSP paths, enabling you to easily identify changes that could affect service delivery.
- **CA SPECTRUM NFM Multicast Manager** This module gives you multivendor visibility into logical multicast network sessions and proactively monitors key performance indicators while highlighting the impact of infrastructure outages on multicast services. All logical multicast overlay services are automatically discovered and modeled. This allows you to view the multicast topology and the routers and ports that comprise each IP multicast group.
- **CA SPECTRUM NFM QoS Manager** This module is for verifying and validating the configuration and effectiveness of QoS policies and traffic classes throughout your IT infrastructure. You get a unified view of your QoS-enabled infrastructure through an intuitive interface that you can use to drill down to device-level and port-level information associated with each traffic class.

OPTIONAL INTEGRATED TOOLKIT MODULES

- **CA SPECTRUM NFM Level 1 Toolkit** This toolkit is used for customizing and extending the CA SPECTRUM NFM data model and packaging those extensions (along with extensions created by other available toolkits) for distribution and installation in other CA SPECTRUM NFM deployments. This Toolkit includes a Developer ID file that provides a protected name space for creating CA SPECTRUM NFM objects that won't clash with extensions provided by others. It also includes the Model Type Editor, a GUI-based utility for customizing and extending the CA SPECTRUM NFM data model, and the CA SPECTRUM NFM Extensions Integration (SEI) Toolkit, which is a collection of utilities and documentation for creating installable packages.
- **CA SPECTRUM NFM Southbound Gateway Toolkit** This toolkit consolidates event information from multiple element management systems into a single console. These events are then available for customized root cause analysis and service management from the CA SPECTRUM NFM solution.
- **CA SPECTRUM NFM Modeling Gateway Toolkit** This toolkit provides a standard interface for importing provisioning data into CA SPECTRUM NFM so that you can correlate subscriber and service data with managed network resources.

- **CA SPECTRUM NFM TL1 Gateway Toolkit** This toolkit adds support for Transaction Language 1, giving CA SPECTRUM NFM visibility into legacy transport devices.
- **CA SPECTRUM NFM Data Manager with Report Gateway** This module integrates CA SPECTRUM NFM information with external databases, providing a cost-effective way to communicate IT infrastructure availability, performance and utilization analysis.
- **CA SPECTRUM NFM CORBA Toolkit** This toolkit allows you to develop C++ or Java based extensions to CA SPECTRUM NFM. It is used to create programs that integrate with the management server through an object oriented remote method invocation interface.
- **CA Event Integration** This new add-on module for CA SPECTRUM NFM integrates event info from a wider range of sources, enriches these events and alarms with external data often located in multiple databases, and provides the forwarding functionality for alarm information to multiple sources.

OPTIONAL INTEGRATED THIRD-PARTY MODULES

- **CA SPECTRUM NFM Microsoft MOM Connector** This module integrates CA SPECTRUM NFM with Microsoft MOM 2000/2005 environments, correlating automated root cause analysis and integrated impact prioritization with detailed knowledge of system and application infrastructures. Once alerted by SCOM, CA SPECTRUM NFM can request more information from the SCOM knowledge base and deliver granular visibility into Active Directory, Exchange, SQL Server and Windows Server 2000/2003.
- **CA SPECTRUM NFM Nortel Preside MDM Integration Gateway** This module integrates devices managed directly by the Nortel Preside Multiservice Data Manager (MDM). This integration enables CA SPECTRUM NFM to leverage faults, configuration, accounting, performance, and security provided by Nortel's telecommunications element management system.

CA SPECTRUM NFM Proactively Reduces Downtime and Improves Service Levels While Reducing Costs

With its advanced automation, CA SPECTRUM NFM goes way beyond fault detection. In addition to alerting you to network problems, the software discovers root causes, determines which users and services are impacted, and pinpoints exactly where a problem is and how to fix it. Actionable information is never more than one click away so you can manage your network proactively and prevent costly downtime and productivity-sapping service degradation.

Integration of configuration management within your fault management helps to bring network service to a new level of reliability. Standard configurations can be automatically distributed and tracked, triggering automated notification of problems and policy violations.

IT staff productivity gets an immediate boost with the CA SPECTRUM NFM software's out-of-the-box capabilities, flexible role-based monitoring and highly intuitive graphical user interface. Patented root cause and impact analysis automate labor-intensive troubleshooting, enabling your IT team to see through the noise and rapidly get to the true source of problems. Expensive downtime is avoided and staff resources are freed up to work on value-generating projects that can increase revenue.

The CA Advantage

The CA SPECTRUM NFM product family is an integral part of the CA Network & Voice Management solution set and an important component of CA's overall approach to transforming Enterprise IT Management (EITM) and helping customers to Unify and Simplify™ the management of today's complex computing environments across the enterprise for greater business results.

CA Services and CA partners can help you assess your current IT situation, define your goals and implement solutions to gain measurable results. To keep your CA solutions operating at peak performance, CA Support delivers unparalleled technical and customer support worldwide. CA also offers training and certification through CA Education

Like other CA Network & Voice Management solutions, the CA SPECTRUM NFM family integrates with other CA and third-party products to provide comprehensive, end-to-end management of diverse network infrastructures.

REALIZING THE EITM VISION

- **Performance Management Integration** CA SPECTRUM NFM and CA eHealth® Network Performance Manager are a particularly powerful solution duo, combining best-in-class network service, fault and configuration management with best-in-class network performance management to create a single, unified management platform.
- **Application Performance Management Integration** CA SPECTRUM NFM and CA Wily Introscope® is also a combination of best-in-class solutions in which CA SPECTRUM NFM discovers CA Wily agents, creates models for monitoring application performance, and receives alarms for application performance issues detected by CA Wily Introscope.
- **Database Performance Management Integration** CA SPECTRUM NFM integrated with CA Insight™ Database Performance Monitor for Distributed Databases allows IT organizations to gather availability and performance information from databases across the enterprise, including Microsoft SQL Server, Oracle, Sybase and DB2 for Linux, UNIX and Windows, and deliver that data to CA SPECTRUM NFM for integrated network service, fault and database performance management.
- **Systems Management Integration** CA SPECTRUM NFM integrated with various systems management and agent systems, including CA Systems and Network Management and CA eHealth® SystemEDGE™ (and also numerous third-party system management tools) allows IT to detect and correct issues that could affect system performance before users are impacted.
- **Voice Systems Management Integration** CA SPECTRUM NFM integrates with CA eHealth® for Voice solutions to combine the collection and analysis of voice system statistics, call quality metrics, and usage patterns from a variety of IP and legacy telephony equipment with the CA SPECTRUM NFM event correlation, root cause analysis and fault management capabilities.
- **Service Desk Integration** CA SPECTRUM NFM and CA Service Desk (and also numerous third-party help desk trouble-ticket systems) integration ensures that events and alarms originating in CA SPECTRUM NFM can populate the ticketing system with relevant device information, and in many cases, close the ticket and alarm once remediation is completed.

- **CMDB Integration** CA SPECTRUM NFM can export its extensive auto discovery information about network assets to populate the CA CMDB with key Configuration Item details.

Next Steps

The CA SPECTRUM NFM network service, fault and configuration management solution can help you when:

- Your IT staff is spending too much time chasing down the root cause of problems
- Your IT staff struggles to meet internal or external service level guarantees
- You need to reduce the time it takes your staff to repair network problems
- Configuration changes are having too many unexpected consequences
- Your existing management solution requires too much maintenance to efficiently and cost-effectively deal with changes
- Your line-of-business managers need a way to check the status of critical business services

To learn more about the CA SPECTRUM Network Fault Manager solution and see how CA software solutions enable organizations to Unify and Simplify™ the management of complex computing environments across the enterprise for better business results, visit www.ca.com/solutions/nvm.

CA (NSD: CA), one of the world's leading independent, enterprise management software companies, unifies and simplifies complex information technology (IT) management across the enterprise for greater business results. With our Enterprise IT Management vision, solutions and expertise, we help customers effectively govern, manage and secure IT.

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