

NETCOOL[®]/Precision[™] RCA Solution

ENSURE BUSINESS CONTINUITY WITH ROOT CAUSE ANALYSIS

IS POOR NETWORK VISUALIZATION ROBBING YOU OF BUSINESS REVENUE?

Until now, the ability to visualize, or map the entire network as a cohesive unit, and more importantly map the actual services, such as MPLS, VPN, ATM and Frame Relay, has been a virtually unattainable goal. This was due in great part to the lack of a scalable, adaptable and intelligent, network management systems (NMS) that could accommodate the management challenge presented by next generation networks.

Micromuse's Netcool/Precision application provides accurate network visibility and network intelligence required to effectively turn up, manage and troubleshoot next generation networks. Implementing advanced root cause analysis (RCA) capabilities, in combination with integrations with best-of-breed management tools, Netcool/Precision dramatically improves mean-time-to-resolution (MTTR) and enhances management efficiencies. Businesses can finally align network management requirements with business revenue objectives assuring maximum revenue retention and profits through improved service assurance.

CENTRAL MANAGEMENT CONSOLE

The Netcool/Precision application provides a highly flexible user interface for simplified event management and visualizing network topology. Information gathered through discovery and polling is displayed and managed through its console in a variety of customizable business views.

BUSINESS VIEWS

Where traditional network management systems allow you to manually configure views of events based on rudimentary business criteria, none provides the granular management capabilities required to accurately model and create topological views of the actual business services. The Netcool/Precision provides advanced functionality required to manage network assets in a way that coincides with the revenue objectives of your business.

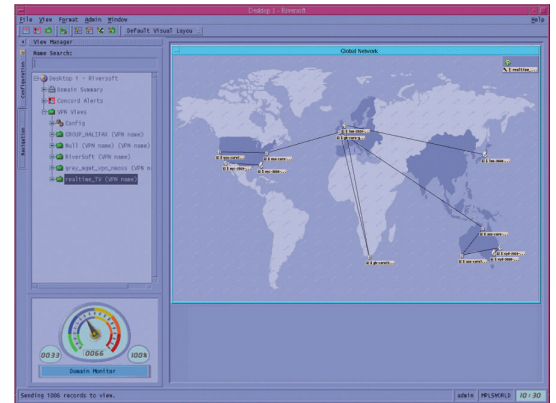
Business views allow administrators to tailor event and topology views according to the specific business criteria and revenue streams they support. This allows for the prioritization of management and resolution of problems by customer, department, impact to revenue or virtually any operator-defined criteria.

NETWORK OPERATIONS CENTER (NOC) VIEWS

The Netcool/Precision application provides consolidated NOC views, for referencing network, customer and service status. NOC views provide one-click access to any standard or custom Topology View and Event View and show the amount of events and alerts, as well as the severity for each managed View in a simple dashboard console. Several NOC views can be presented on a central window to allow for quick referencing by NOC operators of the most vital business services.

TOPOLOGY VIEWS

This information can include configuration information such as logical paths (MPLS, VPN, ATM, Frame Relay) corresponding to a specific customer or service, device families based on device types, ports and devices belonging to a customer, or other device data available through discovery.



Business Views enable administrators to manage network devices by business relationship and impact. Views include Customer, Service, Logical and Technology.

This means that vital revenue streams can now be seen, as they exist, in an actual network map, without extraneous topology information.

EVENT VIEWS

Much like the custom Topology Views created using the Partition Editor, the Netcool/Precision Event Filter allows for the management and creation of custom Event Views and Alert Views. Only those events or alerts that apply to the specific Business View will be included by default. These views are fully customizable to manage by customer, service, or any other logical grouping of events or alerts.

Event Views provide administrators with the ability to manage a particular aspect or a logical segment of the business. Unlike Topology Views, Event Views provide a list of all relevant events in place of a map of managed elements. Administrators may right-click on the event and use the Find in Map feature, to quickly find the affected network element in the topology map.

DEVICE CONNECTIVITY VIEWS

Visualizing devices, their connectivity, configuration, availability and other vital information is critical to effective network management and rapid network troubleshooting. The Netcool/Precision Path Tool empowers NOC operators with the network intelligence needed to see and effectively manage network devices and their connectivity, including cards, ports, services, and other configuration data captured during discovery. All active ports and inactive ports that have not yet been provisioned are visible, making it easy for administrators to evaluate their inventory and determine if a device is over- or under-utilized. Even valuable information detailing provisioned services per port, including ATM, Frame Relay, MPLS, VPN and VLAN is available by just selecting the desired port.

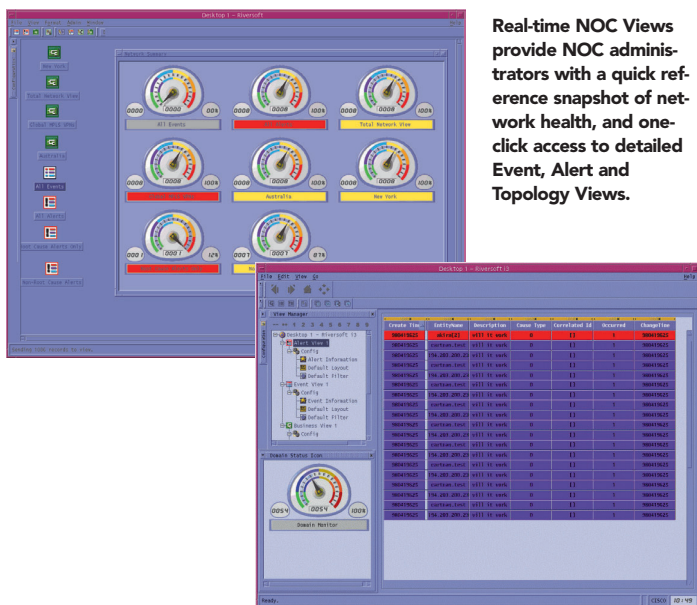
Netcool/Precision maps the shortest path between any two devices in the network, including each device along the path, and the port-to-port connectivity between them. The Path Tool also allows for dynamic visualization of alternate paths through the network. Selecting any port on a device will display the exact device and port to which it is connected. If an event occurs affecting any device, the path tool will also display the exact port or card affected, as well as the status of any devices directly connected to, or impacted by, the failure.

EVENT MANAGEMENT

Events, in a general sense, are occurrences that happen on the network. Not every type of event will interest every network operator; therefore, the Netcool/Precision application enables network administrators to control which events are reported.

With so many events occurring at any given time, administrators could be swamped with extraneous information and the daunting task of making sense of it. Using its logic engine, the Netcool/Precision application processes event data and determines what information is valuable and how it is related to other data being collected and generated by the network. Any redundant instances of events are automatically eliminated, reducing the overall number of events to be managed.

Alerts are events that have been correlated and deemed significant according to the management policies. Alerts highlight a potentially serious threat to network integrity and, as such, are occurrences that require attention by a network operator. Whenever a significant event occurs, it is automatically upgraded to alert status and appropriate action is taken.



Real-time NOC Views provide NOC administrators with a quick reference snapshot of network health, and one-click access to detailed Event, Alert and Topology Views.

Alert Views enable administrators to pinpoint the root cause of an outage. Right-clicking on that item brings it up in the network map for a more precise device-to-device connectivity view.

ROOT CAUSE ANALYSIS

A central feature of the Netcool/Precision application is its ability to isolate root cause alerts rather than simply report the symptoms of problems. It uses active and passive monitoring techniques to keep tabs on the health of network devices. When an event or failure occurs, it references accurate device and connectivity information stored in its topology database to derive the true root cause – that is, it pinpoints the exact interface on the device that has failed. All downstream events are automatically suppressed, since they are typically only a symptom of the actual problem. Administrators can then use either the various event and topology views to drill down and see all the devices impacted by that root cause alert. This assures that operators can focus their troubleshooting efforts on the exact device that requires immediate attention.

NETWORK MONITORING

The Netcool/Precision monitoring process is completely customizable to accommodate exact business requirements. Polling can be configured to collect usage, performance and availability data. For businesses with multiple applications polling the network, Netcool/Precision can act as the central polling engine for collection of network intelligence. As this solution goes beyond sin-

gle purpose proprietary polling engines serving as a trusted source for network intelligence for a variety of point management applications, establishing greater workflow efficiencies and minimizing unnecessary network and device traffic.

Multi-threaded polling makes this solution highly reliable and efficient. The use of Tibco publish and subscribe technology for communication between processes further adds to the reliability and resiliency of the polling engine. The polling process, and any other process, can be distributed independently across the WAN, eliminating the need for various instances of costly new hardware needed to support traditional NMS installations. Further, shadow processes are always listening in the event that one process becomes unavailable, a secondary process will pick up where it left off.

POLICY MANAGEMENT

All monitoring requirements are defined through the Policy Manager, a powerful web GUI that allows for class-based object modeling. The unique Active Object Class (AOC) technology, defines the management policies for a device or a logical group of devices. The Netcool/Precision application comes complete with out-of-the-box fault policies for the management and escalation of events to alert status. AOCs provide a simple way to propagate management policy changes without the need to manually configure the requirements of each device to be monitored. Through the practice of inheritance, the management policies for a class are passed down to sub-classes which can also be modified according to exact business requirements

A simple management option to any AOC gives NOC staff immediate access to third-party diagnostic tools directly from the Event and Topology Views. Right-clicking on an affected device gives access to a menu of diagnostic tools that apply to that specific class of device, including selections for: open trouble ticket, launch performance report, and access element manager, provisioning tool, and inventory application.

OUT-OF-THE-BOX INTEGRATION

This solution integrates with traditional management frameworks such as those from CA, Tivoli and HP, and provides for tight integration with other OSS management applications, including, Concord, InfoVista, Remedy, Cisco WAN Manager, Oracle and a long list of others. All discovery, monitoring, root cause and event information can be forwarded to external applications quickly and easily. Also available is a set of fully documented APIs that provide direct access to the real-time network intelligence captured by the Netcool/Precision solution.

Many organizations are seeing dramatic improvement in the efficiency of network operations and workflow processes through heightened network visibility and realizing significant improvements in service delivery and MTTR through accurate and automated RCA.

	Corporate Headquarters
	139 Townsend Street
	San Francisco, CA 94107
	415.538.9090
www.micromuse.com	

About Micromuse

Micromuse Inc. (Nasdaq: MUSE) is the leading provider of service and business assurance software. The Netcool® suite is used by Telco, Internet, Broadband, and Wireless service providers, and corporate enterprises worldwide. The company is headquartered in San Francisco, with regional offices across the Americas, Europe, and Asia-Pacific.

Micromuse acquired Riversoft and its NMOS management solutions in July 2002. Product names and specifications are subject to change. Early releases of the Netcool/Precision v3.1 software may be packaged under the product name "Riversoft NMOS".

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