

# IBM Tivoli Network Manager software

## Highlights

- Help increase the availability and performance of critical business services by leveraging advanced correlation, automated diagnostics and root-cause analysis
- Drive operations efficiency by rapidly isolating the root causes of network downtime — right down to the node and port levels — and addressing problems before they become outages that hamper business
- Help minimize unnecessary hardware investments and network overbuild by obtaining visibility into unused ports and recovering lost capacity and physical assets
- Help optimize customer service and satisfaction by proactively identifying issues that could affect services

Gaining visibility into your network is a key factor in helping achieve profitability and operational efficiency for two main reasons:

- Often, time is spent chasing alarms that are merely symptomatic of deeper, underlying problems. Troubleshooting network faults is a major challenge for organizations that are trying to manage “more with less.”
- Discovering known and hidden network assets can help you get more out of those assets and increase efficiency.

IBM Tivoli® Network Manager software is designed to help organizations improve network visibility and drive reliability and performance. You can use the software to collect and distribute layers 1 through 3 network data — and thereby build and maintain knowledge about physical and logical network connectivity. With accurate network visibility, you can efficiently and effectively visualize and manage complex networks — and, more importantly, the

services delivered across them. Tivoli Network Manager software easily integrates with operational support systems (OSS) and other mission-critical workflow applications.

Tivoli Network Manager software also provides valuable advanced fault correlation and diagnosis capabilities. Real-time root-cause analysis helps operations personnel quickly identify the source of network faults and speed problem resolution.

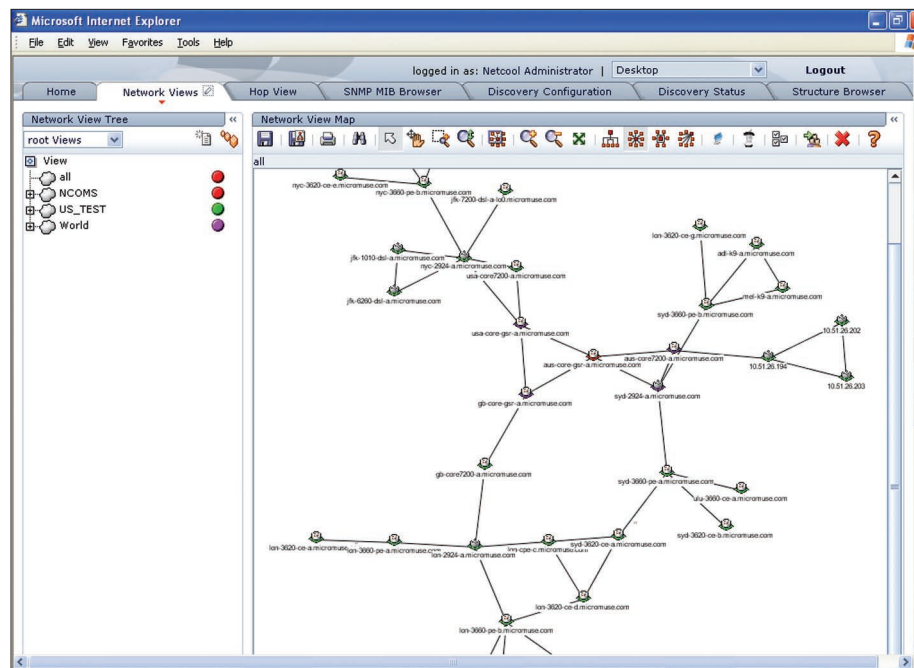
Furthermore, the software’s asset control capabilities help organizations optimize utilization to realize greater return from network resources. Tivoli Network Manager software delivers highly accurate, real-time information — about network connectivity, availability, performance, usage and inventory — that is vital to achieving flow-through provisioning and maximum return on network assets.

Tivoli Network Manager software features a common visualization layer that draws on a consolidated database, which collects information from two data discovery engines: IBM Tivoli Network Manager IP Edition and IBM Tivoli Network Manager Transmission Edition.

### Obtain an accurate picture of layer 2 and layer 3 network devices and their connectivity

Tivoli Network Manager IP Edition automatically discovers IP networks and gathers and maps topology data to deliver a complete picture of layer 2 and layer 3 devices. It captures not only the overall inventory, but also the physical, port-to-port connectivity between devices. Tivoli Network Manager IP Edition captures logical connectivity information, including virtual private network (VPN), virtual local area network (VLAN), asynchronous transfer mode (ATM) and frame relay. Furthermore, it offers out-of-the-box support for capturing information from multiprotocol label switching (MPLS) services, including layer 2 and layer 3 VPNs from leading vendors.

This discovery engine monitors network resources for real-time status and continually updates its database with new information as the network



Tivoli Network Manager software discovers, models and maps device-to-device network relationships. It also builds and maintains a knowledgebase of network connectivity that enables advanced fault correlation diagnosis and asset control.

changes. Automatic network discovery provides an ideal alternative to manual processes because it helps minimize the time and cost associated with maintaining accurate asset knowledge.

### Accurately discover and map layer 1 network topology

The other Tivoli Network Manager discovery engine, Tivoli Network Manager Transmission Edition, automatically discovers layer 1 transmission networks — deepening the visibility into layers 2 and 3 that the software

provides. Your organization can use the accurate network picture to help reconcile offline systems — such as inventory, billing and provisioning systems — and reduce capital expenditures and operating expenses.

Tivoli Network Manager Transmission Edition collects inventory information, physical connectivity and logical connectivity for Synchronous Optical Network (SONET) and Dense Wavelength Division Multiplexing (DWDM).

### **Facilitate real-time root-cause analysis and speed problem resolution**

Tivoli Network Manager software can also help your staff identify the root causes of network downtime, and thereby can significantly reduce the time it takes to resolve network faults. When problems occur, the software automatically navigates the operator through the appropriate network topology map to the root problematic device. Once there, the network operator can immediately view data about other impacted devices and end-user systems.

Tivoli Network Manager software also proactively detects progressive service degradation and, when a complex set of symptoms is identified, communicates potential problems. The software analyzes Simple Network Management Protocol (SNMP) Management Information Base (MIB) information from industry-standard SNMP devices to pinpoint the underlying cause of device problems. It also provides real-time, device-specific diagnoses — explaining why a device deviates from normal behavior and recommending a solution.

### **Leverage a highly scalable and flexible solution**

Tivoli Network Manager software offers the scalability required to handle large,

complex, fast-growing networks. Its adaptive design and functionality enable organizations to quickly assimilate new technologies — and thereby support large incremental subnets or network build-outs.

Furthermore, the software offers great flexibility by supporting a variety of polling and data-gathering techniques. Its modular design means that you can add custom polling methods to support additional protocols and technologies.

### **Automate topology maintenance**

Network maps are automatically generated and maintained by Tivoli Network Manager software. As the network changes, the software dynamically updates the topology database and maps, without manual intervention. By automating map maintenance, you help dramatically reduce administrative costs — and can save substantial time and effort.

### **Manage network assets**

Tivoli Network Manager software stores all discovered asset data in the open, accessible Netcool® Common Information Model database to facilitate asset reporting and reconciliation. You can leverage the database to provide critical asset information —

including device capacity and utilization, customer information, port and circuit provisioning states, active services, connectivity and more — to your employees and to the processes you use to reconcile with offline OSS databases, such as those for inventory, provisioning, billing and more. By automating these information exchanges, you help eliminate substantial manual efforts.

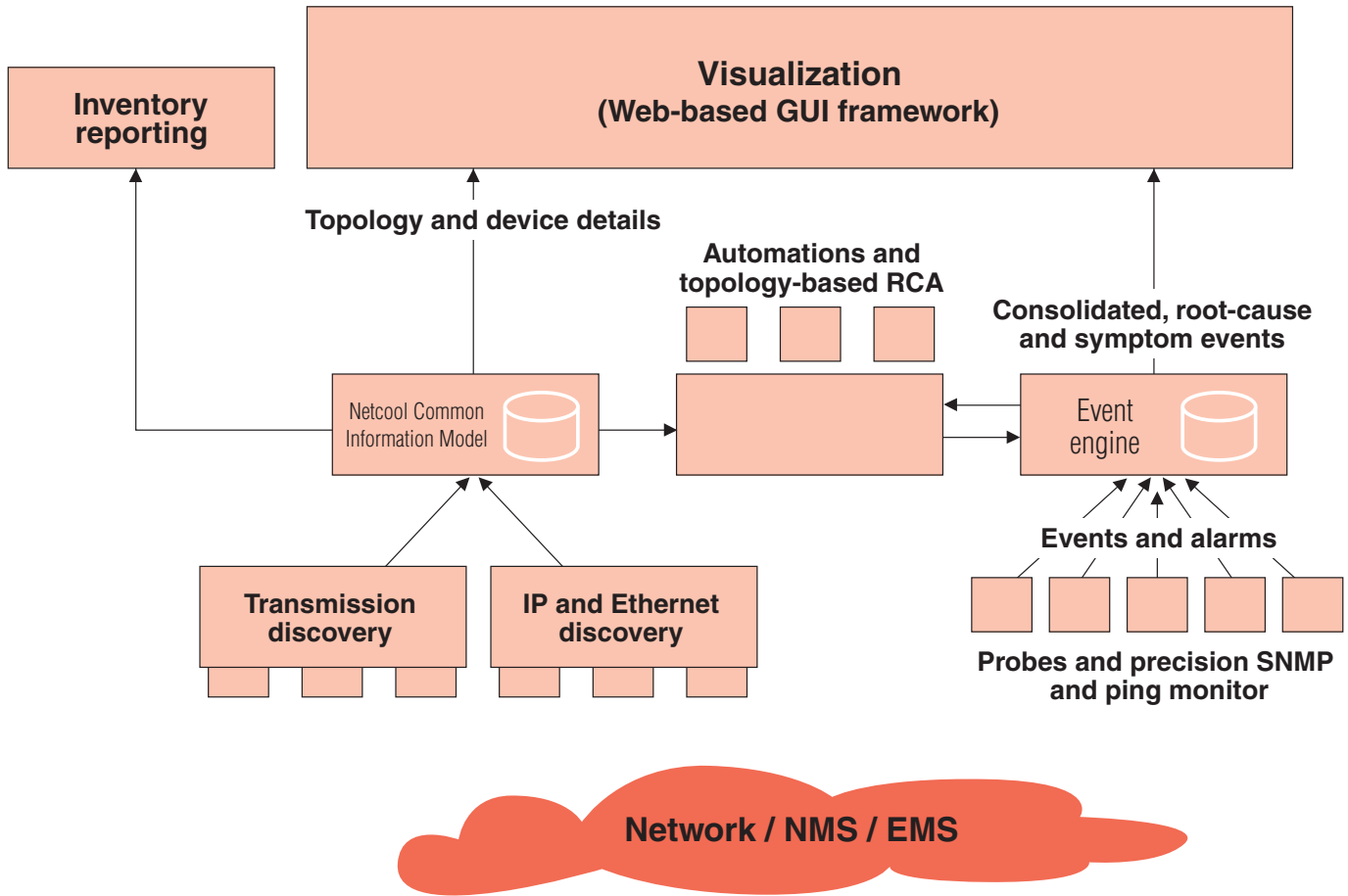
By drawing on information from the Netcool Common Information Model database, your organization can:

- Determine the viability of new services and available capacity for service deployment — helping minimize time to market and deferred capital expenditures.
- Facilitate efficient, error-free “order-to-cash” service delivery operations.
- Discover hidden and existing assets to help optimize asset utilization and return on invested capital (ROIC).
- Understand how many network devices are being used — and leverage that information to help reduce the annual maintenance bill.

### **Deliver network management views to customers**

Service providers can leverage Tivoli Network Manager software to offer a packaged customer network management solution to their customers.

**Tivoli Network Manager software high-level architecture**



Deliver views such as:

- End-to-end view of the customer's circuits.
- Status of all nodes supporting these circuits.
- Filtered alarm views for circuit and node performance, which help service providers demonstrate compliance with service level agreements (SLAs).

Tivoli Network Manager software supports the IBM Tivoli Netcool software portfolio, which many of the world's leading service providers use to consolidate and manage events, network performance, service quality and the customer experience across some of the largest, most complex, heterogeneous environments.

**For more information**

To learn more about how Tivoli Network Manager software helps you perform real-time network discovery, topology and root-cause analysis, contact your IBM representative or IBM Business Partner, or visit [ibm.com/tivoli](http://ibm.com/tivoli)

## About Tivoli software from IBM

Tivoli software provides a comprehensive set of offerings and capabilities in support of IBM Service Management, a scalable, modular approach used to deliver more efficient and effective services to your business. Meeting the needs of any size business, Tivoli software enables you to deliver service excellence in support of your business objectives through integration and automation of processes, workflows and tasks. The security-rich, open standards-based Tivoli service management platform is complemented by proactive operational management solutions that provide end-to-end visibility and control. It is also backed by world-class IBM Services, IBM Support and an active ecosystem of IBM Business Partners. Tivoli customers and partners can also leverage each other's best practices by participating in independently run IBM Tivoli User Groups around the world — visit [www.tivoli-ug.org](http://www.tivoli-ug.org)

## Tivoli Network Manager software at a glance

### Supported platforms:

- Sun Solaris 8, 9 and 10 on Sun Microsystems UltraSPARC
- Red Hat Enterprise Linux® ES/AS 2.1 and ES/AS 3.0 on Intel® Pentium® 32-bit
- Microsoft® Windows® 2003 server and XP on Intel x86 32-bit
- IBM AIX® 5L 5.3 on IBM System p™



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Produced in the United States of America  
4-07

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