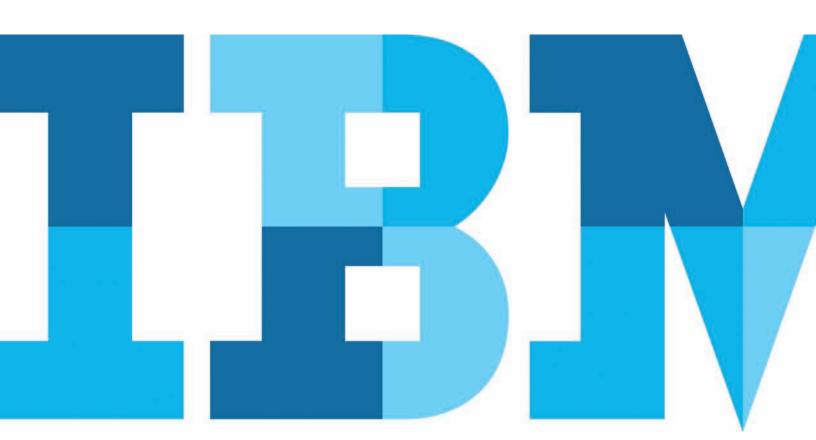# The manager of managers for today's instrumented business and technology world

*Managing interconnected business, IT and network infrastructures with IBM Tivoli Netcool/OMNIbus*

## Contents

## Introduction

What do an air conditioner running in the winter, a bottleneck in an IT storage network, an overdue trucking delivery and an outage at a cellular communications tower have in common? Each is a problem that needs to be located. Each needs to be resolved as quickly as possible. Each can cause unnecessary expense and potentially lost revenue. These have always been true. But today there's something else.

On today's smarter planet, the air conditioner, the storage network, the truck and the cell tower likely include sophisticated instrumentation that sends alerts to a central control center. With the information it receives, an organization can identify problems faster, deploy online fixes where possible or dispatch repair technicians when necessary. The instrumentation of business and IT devices has given the enterprise powerful tools to gain new efficiencies, enhance effectiveness and build customer satisfaction.

And instrumentation can be even smarter. Most event management and systems management platforms control only their specified area—buildings, IT infrastructure, business functions or communications, for example. Integrating the management of instrumented systems can give the organization a holistic view of operations and insight into events that can contribute significantly to smarter business.

IBM® Tivoli® Netcool®/OMNIbus is a "manager of managers" designed to collect and correlate events from a broad spectrum of infrastructures. It provides a "single pane of glass" view into the health and performance of the entire IT and business infrastructure, integrating and consolidating tools and events across business, data center and network operations.

## Bringing together myriad instrumented solutions

Whether it's smart meters in an electric grid, escalators and security cameras in office buildings, signals and switches from railroad networks or Wi-Fi in airplanes, today's smarter planet is filled with devices that are instrumented, interconnected and intelligent. Specialized programs gather information and provide management capabilities for each of these operations.

But consider the variety, the capabilities and the requirements of these devices:

- **Instrumented systems** range from distribution networks for electricity, water and gas to building management systems, traffic and transit sensors, and public safety systems.
- **Interconnected systems** include not only the fiber and wireless networking that are apparent to users but also their underlying components such as networked sensors, sensor platforms and concentrators.
- **Intelligent systems** make possible the real-time analysis of sensor data streams, broad visibility into the monitored environment, behavioral modeling of physical systems, and cross-silo optimization of resources.

Now consider the range of events these systems manage:

- **Triggers**, sending notification of events such as activation of a smoke alarm, a component failure in an IT system, detection of an intrusion at a building's perimeter, or a natural event such as an earth tremor.
- **Thresholds**, alerting operators of measurements that are outside the normal range for factors such as temperature, water level, air quality or power consumption.
- **Manually entered events**, notifying businesses of dangers such as severe weather warnings, crime reports or potential interruptions such as road traffic, special events such as road races, or planned events such as city utility work.

These types of devices and the events they monitor can be combined in a seemingly endless number of ways. Gaining advantages from them, however, requires attention to a few well-defined areas. Organizations need visibility to see events that occur in their environments and the impact those events have on business services. They need control to manage the risk and compliance issues that can follow as a result of events. They need automation to proactively manage infrastructures to reduce the likelihood of an event—or quickly mitigate the impact when an event occurs.

IBM Tivoli Netcool/OMNIbus provides a gauge-style view that can be configured for system administrators and business managers to show the status of key performance indicators.

## Supporting today's smart business initiatives

There was a time when a person walking through a building and checking meters individually was enough. Manual checks of the IT infrastructure also could be sufficient when the infrastructure was simple. But as complexity has grown, monitoring has required more powerful and sophisticated tools. And as distance between systems has grown, those tools have had to be far reaching. An unstaffed cell phone tower miles from headquarters requires not only remote monitoring but rapid reporting. When a problem occurs, a technician has to be dispatched immediately.

The organization also has to rank the importance of events. Some indicate an immediate problem. Some indicate that a problem is likely to occur, or that a device is about to reach end of life. Still others may not require action on the first occurrence, but do require action when their numbers reach a threshold or when they indicate a trend the organization must reverse.

Event management, as a result, remains a key function for supporting service management and other business initiatives. The organization must have visibility into the events that occur in its environment, it must know how and when to deal with those events, and it must be able to act proactively and quickly. Without the ability to manage the IT components that support business initiatives, faults and failures may occur that bring the business to a halt.
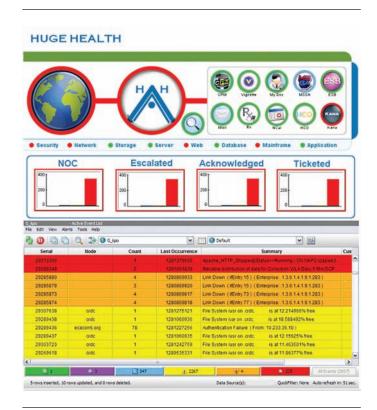
## Collecting, integrating and making use of events

An event is an event is an event. It may be an automatic notification of a component failure, a breach in a key performance indicator, the achievement of a milestone or the manual entry of a potential problem, such as severe weather. But regardless of the source, an event is a simple data packet that can be easily shared between systems and used to enhance insight and processes. All that's needed is a solution that can collect and integrate events into a common view.

For more than 15 years, thousands of enterprises, governments and service providers have relied on Tivoli Netcool/OMNIbus to provide this view, and deliver insight and support management that creates a more integrated organization. Systems that are now instrumented but that traditionally have not been part of IT—any system with an "electronic pulse" such as building controls—can be monitored, integrated with IT and with each other, and consolidated for more effective and efficient operations.

Existing users of Tivoli Netcool/OMNIbus who may have been using the solution for monitoring only IT can extend their capabilities to monitoring the entire enterprise. New users can bring together disparate management solutions to leverage capabilities as they streamline operations. The solution can be utilized in a variety of environments and operations, from cloud-based computing to virtualization to business analytics.

And Tivoli Netcool/OMNIbus can play a significant role in helping organizations move from reactive to proactive management. From delivering messages that prompt action to providing alerts that enable operators to fix issues before they become problems, the world of event management is changing rapidly. IBM is constantly updating Tivoli Netcool/OMNIbus—protocol refreshes typically occur multiple times in a year—giving users a foundation that positions them to take advantage of proactive capabilities as they become available.



Tivoli Netcool/OMNIbus can provide service level views customized in the user's corporate style with drill down capabilities to reveal underlying causal events.

## Benefitting from IBM solutions in the real world

Tivoli Netcool/OMNIbus can collect and correlate events from a broad spectrum of business infrastructures. Consider these examples of organizations that utilize Tivoli Netcool/OMNIbus to manage events throughout the enterprise environment:

- A railroad in Europe deployed Tivoli Netcool/OMNIbus to monitor both IT and physical assets in an intelligent rail system, including switches and sensors across 800 train stations and rail lines.
- A major U.S. corporation operating a green data center uses Tivoli Netcool/OMNIbus to help monitor, measure and visualize environmental conditions and energy consumption, achieving visibility into hot and cold spots, revealing issues that had previously gone unnoticed and helping reduce power consumption for cooling racks by 50 percent.
- A large U.S. city uses Tivoli Netcool/OMNIbus to provide real-time visibility into the health of critical services, enabling staff to drill down into problems, quickly pinpoint the root cause and proactively identify and resolve performance degradations. The result: 50 percent reduction in mean time to repair and a 60 to 90 percent improvement in availability for services under management.

- A telecommunications company and service provider in the U.K. deployed Tivoli Netcool/OMNIbus as part of a solution that would provide end-to-end visibility and a single customizable workspace portal for its customers' IT infrastructure. The solution reduced operational administration through automated processes and enabled growth from 1,000 servers to 10,000 without increasing the supporting infrastructure.

## Driving problem resolution with better insight

Virtually any smart device, system or application that produces an electronic message or stores data can be instrumented using Tivoli Netcool/OMNIbus. The solution automatically collects enterprisewide event information, correlating events across domains and providing immediate insight into infrastructure and service health and problems.

By consolidating data from operational silos into real-time web dashboard views, the solution creates a central point of real-time management that enables organizations to speed the identification of the root cause of problems, enabling more rapid resolution and helping reduce financial impacts.

Customizable displays of events, service views and operational indicators deliver automated event correlation, isolation and resolution capabilities for business applications, network devices, Internet protocols, security devices and the myriad other instrumented technologies in the modern enterprise.

As a manager of managers, Tivoli Netcool/OMNIbus offers hundreds of out-of-the-box integrations with existing tools. Utilizing customizable lightweight agents to collect business and technology events from more than 1,000 sources in real time, it can reduce event volumes by 10,000 to 1 or greater, scaling to support environments with more than 50 million events per day.

Tivoli Netcool/OMNIbus also helps with ongoing management of events and infrastructure. Events can be archived and combined with other events in sophisticated analyses that can support additional management functions. The comprehensive view that the solution provides supports long-term planning based on information from switches, meters, databases and other instrumented systems, supporting intelligent use of key information and intelligent disposal of information that is not necessary to retain.

## Why IBM?

Tivoli Netcool/OMNIbus provides the event-based, open standards, intersystems communications architecture that is necessary to support the growing number of instrumented systems in today's enterprise environments. It provides tight integration with the IBM Tivoli family of monitoring solutions as well as with the broader family of IBM Tivoli management software for a single view of operations, including cross-domain correlation, and common visualization, navigation, security and reporting capabilities.

## For more information

To learn more about IBM Tivoli Netcool/OMNIbus, contact your IBM representative or IBM Business Partner, or visit **ibm.com**/tivoli/products/netcool-omnibus

## About Tivoli software from IBM

Tivoli software from IBM helps organizations efficiently and effectively manage IT resources, tasks and processes to meet ever-shifting business requirements and deliver flexible and responsive IT service management, while helping to reduce costs. The Tivoli portfolio spans software for security, compliance, storage, performance, availability, configuration, operations and IT lifecycle management, and is backed by world-class IBM services, support and research.