DEPLOY PARTNERS

Overview

Business Challenge
To meet its service charter, nbn™, the company tasked with designing, building and operating Australia's national broadband network, needed crystal clarity over faults.

Solution
IBM® Business Partner* DeployPartners designed and implemented a network assurance system based on the IBM Tivoli® Netcool® suite of management tools.

National broadband network assurance

Real-time monitoring of fibre, wireless and satellite communications across a continent

Established by the Australian Federal Government in April 2009, nbn co ltd is a wholly-owned Government Business Enterprise set up to design, build and operate a new national broadband network.

More and more Australians are using the internet as a part of their daily lives – with a year-on-year trend of approximately 50% annual growth in traffic. Increased demand for internet service stems from new devices and applications that increase usage and the need for bandwidth.

The nbn infrastructure project is a future-proof solution that will enable superfast broadband regardless of user location, and the ability to readily adopt future technologies. Currently under construction, the nbn is establishing a fibre network with an operating life of several decades. It is complemented by wireless and satellite networks at locations where it is unfeasible to deploy fibre.

At completion the fibre network will connect 93% of Australian premises. By mid-2015, the network had passed in excess of 1.1 million premises with an additional 38,000+ satellite connections activated.

Living in interesting times

In its role as network operator, nbn requires operational diagnostics to maximise visibility and understanding of its vast and rapidly expanding network. It also needs to enrich network topology information in order to gain a better understanding of fault instances and their resolution. Consequently, IBM Business Partner* DeployPartners was engaged to deliver a service assurance solution for the Network Service Operations Centre (NSOC) based on IBM Tivoli Netcool.

DeployPartners designed and implemented a monitoring solution to meet nbn's requirements, and performed this within a constantly changing project environment that demanded rapid response and high

Business Benefits

- Centralised, highly specific monitoring for rapid fault resolution
- Advanced event processing and identification of probable cause
- Service centre aware of faults before customers call to report problems
- Timely delivery of mission-critical monitoring in a changing and uncertain environment
- Flexible for future modification to the needs of a rapidly expanding network rollout

flexibility. While the network is a 'greenfields' project with no existing monitoring systems, nbn and DeployPartners still faced some significant challenges in implementing network assurance:

- The network – and therefore the requirement – was continuously evolving throughout implementation
- There was a high degree of organisational change at nbn, with teams forming and learning
- Evolving customer processes needed to integrate with the solution, for example under the security policy
- A short delivery time was essential, so any changes to the solution design required rapid turnaround

At the same time, external political influences also frequently impacted on the entire nbn project rollout, adding to the environmental fluidity.

Three-pronged attack

Developed under a three-phase design and release program, the DeployPartners assurance alarm and event management platform uses customised capabilities based on the IBM Tivoli Netcool suite. As the top-level monitor of networks, it amalgamates all alarm information within a single platform.

To visualise how it works, consider a break in fibre cable – the most common fault occurrence to cause alarm events. The network uses extensive cabling (up to 60kms long in some instances) between exchange and customer end-points. Alarms can be initiated from either of these two points, and reported centrally. The Event Management System uses probes to search for raw events at several network domains; events are processed to de-duplicate, enrich and enable operator interaction – setting up a truly 'informed' environment for fast event resolution. Operators can isolate faults originating from specific domains, quickly understand the 'trouble-to-resolve' then take the appropriate action.

A second and crucial characteristic of the monitoring solution is its High Availability. A peer-to-peer failover system of dual probes running simultaneously, should the 'master' probe fail or shut down the 'slave' probe begins to forward events – resulting in continuous real-time monitoring.

During the third phase, DeployPartners implemented a specially built tool which performs impact analysis to enrich service information after alarms are received. This presentation of event occurrences gives operators an even better understanding of how the entire network is performing and drives trouble-ticketing by automating the identification of impacted services and customers.

Solutions Components

Software

- IBM Tivoli Netcool OMNIbus
- IBM Tivoli Impact
- IBM Tivoli Network Manager
- IBM Tivoli Integrated Portal
- IBM Tivoli Common Reporting

IBM Business Partner

- DeployPartners

""Network events captured by...probes are processed to de-duplicate, enrich, and allow operator interaction. This sets up a truly 'informed' environment for fast event resolution"

Meeting the charter

Created to deliver on the dream of connecting up the entire vast continent of Australia, nbn engages with a wide range of stakeholders in order to meet its objectives. These stakeholders include Government (local, state and federal), retail and wholesale service providers, local communities, industry and peak bodies, vendors, and construction contractors. Meeting its charter with these stakeholders is mission critical.

Despite the immensity and complexity of its rapidly growing broadband network, nbn now has the ability to actively monitor it, understand it and enact quick fault repair. Rapid isolation and identification of faults and outages means that nbn is aware of potential issues well before its customers call to report a problem. This helps the company meet its responsibilities to provide the Australian people with a very fast, resilient and reliable internet service.

About DeployPartners

DeployPartners is a global company specialising in sales, design, delivery, training and support of IBM Tivoli service management products and solutions to meet the specific business objectives and technology standards of your enterprise. Our seamless alignment of people and processes ensures your needs come first through the consistent delivery of outstanding solutions and great customer experiences. DeployPartners is headquartered in Sydney, with over 10 offices across Australia, New Zealand, Ireland, Singapore, the Philippines, Indonesia, Malaysia, India, USA and Japan.

About IBM Tivoli Netcool

Reduce outages, automate, gain visibility and control of your network. IBM Netcool Network Management helps CSP and enterprise data center and networking staff to discover, visualise, detect, configure, activate, integrate and remediate your network. The single solution combines IBM Tivoli Netcool/OMNIbus, IBM Tivoli Network Manager and IBM Tivoli Netcool Configuration Manager.

For further information from IBM

If you would like to speak with an IBM Sales representative please call 132 426 (in Australia) or 0800 801 800 (in New Zealand) or visit www-03.ibm.com/software/products/en/netcool-operations-insight

For further information from DeployPartners

Phone DeployPartners on (02) 99 400 288 in Australia or (09) 950 5123 in New Zealand, or visit www.deploypartners.com

IBM Australia
55 Coonara Avenue
West Pennant Hills
NSW 2125

Printed in Australia