Opportunity is in the cloud.

A checklist for cloud-ready networking.
It’s no surprise that enterprises are aggressively moving to the cloud. The promises of agility and cost savings are accelerating adoption to the point that IDC estimates that by 2012, 85 percent of net-new enterprise applications will be designed for cloud access.\(^1\)

The impact of cloud adoption on the network promises to be great. According to the U.S. National Institute of Standards and Technology, “Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction.”\(^2\)

So what does this mean to network bandwidth and management? And how can you be more proactive rather than reactive as cloud applications and business services depend increasingly on the network? You can start by validating your readiness for the cloud with the checklist below.

**Hot spot #1: measurement**

As is often said, you can’t manage what you can’t measure. In hybrid environments that span traditional, virtualized, and cloud technologies, management becomes increasingly challenging. In order to better manage network infrastructure, start by providing key metrics by audience and around utilization. Key areas to consider:

• Are you able to provide overview reports by specific business units, customers, departments, or sites?
• Can you provide business visibility with high-level executive reports?
• Do you have visibility into traffic-flow utilization by application type and availability?
• Do you have the forecasting and trending data needed to proactively identify problems?
• Can you measure utilization of your network infrastructure across your users to drive efficiency?

**Hot spot #2: relationships**

The relationship between applications and their underlying components, such as networks, is critical for understanding the impact of changes and prioritizing incidents. Unfortunately, with the cloud, these relationships become even more complex. One way to improve visibility is to use topology technology to automatically update these relationships so that you can more rapidly prioritize and diagnose incidents. Questions to consider:

• Can you maintain an up-to-date network topology?
• Can you view the impact of the cloud on your existing network topology maps?
• Can you capture and report historical topology and event changes for forensics?

**Hot spot #3: multiple vendors**

The average organization has three or more network vendors represented and even more products in use. Unfortunately, most vendors provide a set of proprietary reporting tools that cover only their products and frequently do not provide visibility into the network connectivity of Software-as-a-Service (SaaS) applications.

• Can you manage physical and virtual network devices using one console?
• Can you manage multiple vendors using one console?
• Do you have visibility into the network of your SaaS provider?

**Hot spot #4: availability**

The business services of today and tomorrow are typically made up of cloud (such as credit scoring) and non-cloud applications (such as financial applications). To ensure the availability of end-to-end business services, network administrators must not only manage their own networks but also be able to diagnose external problems.

• Can you guarantee network reachability, availability, and performance?
• Are you able to proactively simulate and model effects on network reachability, availability, and performance due to network problems such as device outages?
• Can you guarantee network performance? Are you able to monitor application traffic to and from consumers of cloud services, even as devices are dynamically provisioned or retired?
• Can you guarantee service delivery levels by proactively managing and fixing network performance degradation?

“Terremark is on the leading edge in providing world-class cloud computing to our clients through The Enterprise Cloud™ platform. We couldn’t do what we’re doing with the Cloud, specifically with firewall provisioning and rule set management, without HP Network Automation.”

David Newton, Vice President of Operational Support Systems and Development, Terremark Worldwide

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Gaining visibility into the network elements within cloud environments for health assessment, availability monitoring, and troubleshooting is the most important step for understanding health and quality of cloud services.

Top five things for maintaining control over network aspects of cloud services.

• Closed-loop corrective actions or rollbacks
• Automated recognition of unplanned/unexpected changes
• Workflow for reviewing/approving/scheduling changes
• Configuration compliance auditing
• Configuration backup and restore


Hot spot #5: compliance

Compliance is important in any setting. But with the cloud, the pace of provisioning and change is accelerated, making compliance reporting and audit preparation much more difficult. Automation can help with tracking, saving valuable time that would be wasted by manually aggregating data for internal compliance requirements and external audits.

• Can you automate configuration updates and patching?
• Are you able to enforce network policies? Can you automate change detection?
• Do your security processes support traditional and cloud environments?

Hot spot #6: manual processes

As stated above, manual processes simply cannot scale for the cloud where agility reigns supreme. Furthermore, manual processes introduce human error and force reliance on often-undocumented tribal knowledge.

• Can you automatically simulate and model effects on network reachability, availability, and performance due to network problems such as device outages?
• Can you automate the provisioning and decommissioning of on-demand physical or virtual infrastructure and reallocate it to the resource pool?

Are you ready yet?

Moving to the cloud will dramatically impact the importance of the network. And preparation, as always, is key.

To prepare for the cloud, join the ongoing conversation about all things network, including network management in the cloud, and visit the HP Network Management Center blog at hp.com/go/nmcblog.

Try the latest versions of HP Network Node Manager and HP Network Automation today and prepare for managing in the cloud. Download your free 60-day evaluation software at hp.com/go/nnm and hp.com/go/nasoftware.