

Automating Network Services

It seems the only people who really understand 'core network services' such as DHCP, DNS, RADIUS and TFTP are the ones who are up to their eyebrows in it every day. What strategic-level CIOs and IT directors need to understand is that it's essential, it's complicated and it's ripe for automation.

AUTOMATED IT RATING: 4.3

This advisory describes the process and impact of automating these network services.

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Situation Analysis

Before Automation

- Keeping the 'network glue' of DNS, DHCP and other core network services in tact is as a result of thousands of onerous, time-consuming, repetitive tasks
- IP address management is time-consuming, complex, insecure and unreliable; typically administered via a range of spreadsheet records held by IT dept
- Large number of general purpose servers used to host network services wastes computing resources as well as space/power overheads

After Automation

- The IT team collectively spends hundreds of man-hours less per month on admin task drudgery; individually they are each liberated to concentrate efforts upon more strategically valuable work
- IP address management is fully controlled, secured, and rapidly administered
- Hardware resources and operating overheads are rationalized to a minimum, even though specialized appliances are now deployed

The Business Criticality of Network Services

Managing these services (and their related IP address management requirements) is absolutely critical to maintaining business uptime. If your organisation continues to function in any capacity, then it is because these core network services are being diligently and continually managed, tweaked and controlled.

Automation Impacts

Running Costs

HIGH 😊

Operating costs can be drastically reduced through network services automation. The principal contributors to these cost savings are in terms of labour and space/power.

Time/Labour

HIGH 😊

Core network services consume massive amounts of personnel resources in repetitive, manual tasks that are often replicated among IT teams.

We estimate that a typical 1,000 employee organization with 5,000 IP addresses will conduct (per month):

- 300 x Static IP address assignments = 30 mins each = 150 man-hours
- 500 x DNS host additions = 20 mins each = 167 man-hours
- 100 x IP address reclaims = 60 mins each = 100 man-hours
- 50 x new network provisioning = 60 mins each = 50 man-hours
- 5 x unauthorized device troubleshooting = 7.5 hours each = 37.5 man-hours

The total in this example is just over 500 man-hours per month; the equivalent of three people working non-stop for the entire period. By automating the management of core network services, this burden is reduced to less than 25 hours; about the same as one person spending one hour per day each month.

Space/Power

HIGH 😊

Core network services are typically hosted on general purpose servers located at each site. This incurs a high cost for server management which is inefficient and unable to discharge effective IP address management. The automated approach involves replacing these with dedicated appliances which are cheaper to run and which support centralized management.

The effect upon space/power is minimal, though the result will net an estimated \$168,755 three year overall saving (based upon replacing an architecture of five servers).

If space/power reduction is a key priority then automation can take place via a virtualized agent, thereby removing the need for dedicated appliance/server replacement. Infoblox vNIOs Virtual Appliance software can be run on

existing Riverbed and Cisco network equipment. This process reduces TCO further, and makes ROI even more compelling.

Decision Making

MED 😐

The automation of network services enables the IT department to be far more knowledgeable and responsive in decision making. This is due to the overwhelming management, visibility and reporting capabilities brought about the automation process and its underlying technology.

Uptime

MED 😐

In any set-up, continual 'housekeeping' of core network services is required in order to maintain the foundations of a fully operational enterprise network. Therefore, an automated network services approach directly enhances the business continuity objectives of a business, adding resilience and accuracy to a hitherto piecemeal methodology.

Implementing Automation

Automating network services is a comparatively straightforward undertaking, although given the criticality of the data and processes involved it requires a great deal of sensitive and intelligent planning.

There are various deployment paths one could follow, so there is certainly scope for flexibility. Migrating to a system of full network services automation could take place very quickly, and any initial outlay on new capital equipment would be recouped within the six months of operation.

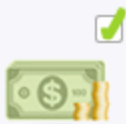
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This advisory has been produced with support from Infoblox, pioneers of an appliance-based approach that controls and automates the core services that drive all networks and applications. For more information on how Infoblox successfully automates network services for businesses of all sizes, visit www.infoblox.com

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[Click here](#) to download the Infoblox white paper on IPAM

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SLASH COSTS

- Lower hardware TCO
- Better use of existing hardware
- Slash opex by 50%
- Less hardware need



SAVE MAN-HOURS

- Free up skills for innovation
- Typical 1,000 user organization can save 40 man-days per month



CUT SPACE/POWER

- Maximise virtualisation opportunities
- Use less infrastructure to manage network infrastructure



BETTER DECISION-MAKING

- Dramatically increase efficiency of IP address management
- Dedicate less resources to fire-fighting
- Platform for better business decision making



BOOST UPTIME

- Underwrite critical network services
- Mitigate unnecessary human error/intervention
- Improve security