Lucent Technologies
Bell Labs Innovations

QIP® Integration with Windows® 2000

Case Studies

The purpose of this paper is to describe and discuss:

- Show case studies of how companies are planning to implement QIP and Windows 2000,
- present what is being planned and is by no means meant to be a recommendation.

These are proposed plans and are currently being evaluated in a lab environment. The proposed designs may change as requirements are redefined.

Case 1: Large Environment with an existing DNS infrastructure

Existing Environment

The existing DNS and DHCP environment for this large company consists of Solaris servers located around the US in hub sites. These servers are running Bind 8.x and QDHCP.

The DNS domain design is a geographical namespace under the top-level domain. All statically addressed objects reside in the top-level domain and all dynamic objects reside in the geographic level domain. Dynamic DNS is implemented. The DDNS updates are restricted to the DHCP servers and the QIP Enterprise Server.

The client desktop environment consists primarily of Microsoft platforms (NT, 95, 98) as well as UNIX workstations. There are no Bootp clients in the environment and printers are statically defined.

QIP is used to manage not only the DHCP and DNS servers, but also the subnet and network definitions. Object management is managed by a central help desk. There are approximately 250,000 objects defined in QIP.

W2K Design

As Windows 2000 systems are introduced into the environment, the existing DNS and DHCP environment will remain the same. The servers will remain centrally located and will remain on UNIX. The DHCP servers will not honor option 81. Clients will not be allowed to dynamically update their own A records. In addition, any domain requested by the client will be ignored.

The Active Directory (AD) design will consist of a single forest with multiple trees. The root level domain for the AD will be the same as the existing top level DNS domain. The AD domain tree will be of a different geographically design from the existing geographic namespace. The AD domains will consist of five regional domains. The AD domains will contain the SRV records for the Windows 2000 servers only. The SRV records will be captured by the qip-miniddma utility and stored in QIP.

QIP will continued to be used for IP Management and for managing the DNS and DHCP servers.

Case 2 – Medium Environment with an existing DNS infrastructure

Existing Environment

The existing DNS and DHCP environment consists of Solaris servers located regionally. QDDNS and QDHCP are running on these servers. The servers are centrally supported. Currently, there is a project in the works to reduce the number of servers in the environment.

The DNS domain structure consists of one top level domain and several sub domains. The namespace is primarily geographic in nature. Dynamic DNS updates are allowed in the environment. The dynamic DNS updates are restricted to the DHCP servers.

QIP is used to manage the DNS and DHCP server configuration as well as the subnet and network definitions. Object management is managed by a central area. There are approximately 30,000 objects defined in QIP.

Windows 2000 Design

The existing DNS and DHCP structure will remain as a central design and on a Solaris platform. There are no plans for the DHCP servers to allow option 81. The DHCP server will continue to provide the DDNS updates to DNS for the clients. Any domain requests by the clients will be ignored. The Windows 2000 servers will be allowed to update DNS with the SRV information.

The Windows 2000 environment will consist of one forest and one tree. The Active Directory domains will have the same name as the DNS domain. The SRV records will be captured and stored in QIP. This will be done by using the qip-miniddma utility.

QIP will continue to be used for IP Management and for managing the DNS and DHCP servers.

Case 3 – Large environment with an existing DNS infrastructure

Existing Environment

The current environment for DNS and DHCP has both of these technologies on the same server. The server platform is primarily Solaris. The servers are located at medium and large sites and are supported by a central area. Dynamic DNS is enabled in the environment. DDNS updates are restricted to the DHCP servers and the Enterprise server.

The client desktop environment consists primarily of Microsoft platforms (NT, 95, 98) as well as UNIX workstations.

QIP is used to managed the DNS and DHCP environment. Object management is managed by each site. There are approximately 150,000 objects defined in QIP.

Windows 2000 Design

The existing server environment will be kept for DNS and DHCP. With acquisitions and divestitures, additional servers will be added as need.

The DHCP servers will provide the DDNS updates for the clients. The DHCP servers will not honor option 81. Clients will not be allowed to dynamically update their own A records. In addition, any domain requested by the client will be ignored.

With the addition of Windows 2000, the top level domain will continue to be restricted for DDNS updates. Rather, the domains specific to Windows 2000 servers, such as _ldap._tcp.domain.com, will allow the Windows 2000 servers to update the SRV records. The SRV records will be stored in QIP. The goal is to have one forest and multiple trees.

QIP will continue to be used to manage the DNS and DHCP servers.

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For additional information on QIP please visit our web site, ***http://www.qip.lucent.com*** or call 1-800-408-2747.

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April 2000