

# PR1 Update to VitalQIP® 7.2PR1 DNS/DHCP & IP Address Management Solution Product Description

Next Generation Platform

**VitalQIP® Software**  
**IP Management**

Alcatel·Lucent 

User ID:  
  
Password:



## VitalQIP® 7.2 PR1 Update

## Purpose of this document

This document provides an overview of new and enhanced features of the VitalQIP® software release 7.2PR1. This document's audience is the current user base and potential new users and can be distributed prior to the VitalQIP® 7.2PR1 software general availability date.

The VitalQIP release 7.2PR1 is the first patch release of 7.2. This release enhances our next generation architecture that continues to evolve and exploit the new technologies in the market today as well as features to benefit the overall user experience. The market continues to move at a rapid pace with focus that remains on leveraging IP in every way possible, which continues to push the VitalQIP product and its capabilities and operation in our customers' environments on the critical path.

VitalQIP release 7.2PR1 introduces continued advancement in the most feature rich and flexible product on the market today and will allow new and existing customers to leverage the extensive web UI allowing for more flexibility and mobility in the work space.

Alcatel-Lucent VitalQIP® DNS/DHCP & IP Address Management Software (VitalQIP) helps organizations efficiently configure, automate, integrate and administer IP services across their entire network - locally or globally. Compatible with multi-vendor technologies, this solution helps organizations centralize the planning and administration of IP addresses thereby delivering significant reductions in infrastructure support costs and improved network availability. VitalQIP® is widely regarded by industry trade groups and publishers as the leading IP Management product in the industry and has deployments in over 1000 networks including some of the largest telecommunications companies, financial service institutions, universities, and civilian & non-civilian government agencies.

This document intends to provide Alcatel-Lucent customer teams and business partners with a brief update on the new features introduced for the VitalQIP 7.2PR1 release. It provides a high-level overview of the new features and functionalities for each of the software components. It does not however intend to replace any of the VitalQIP user documentations. For technical details associated with the described features, please refer to the VitalQIP administrator / user documentation.

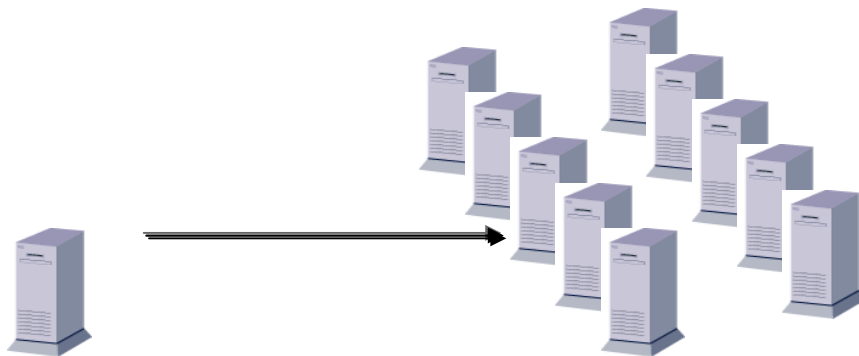
## What's New in VitalQIP 7.2PR1

VitalQIP release 7.2PR1 continues to enhance the next generation web services architecture, enriching the user experience through state-of-the-art web GUI and additional features to better fit the expanding network.

### Clone Servers:

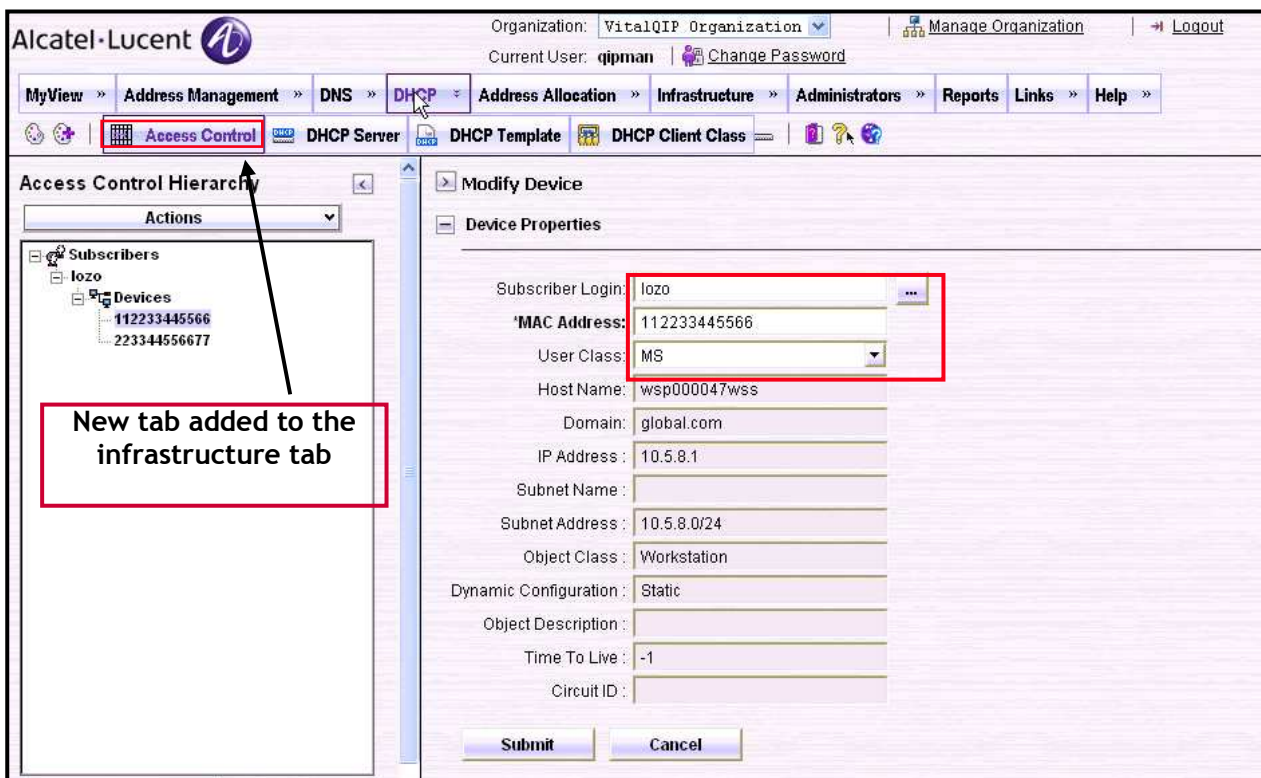
**Clone DNS or DHCP Servers** - Customers who are adding a new server to their network or creating a backup data center need to be able to do so easily by cloning an existing server.

- Supported in the and the soap interface.
- The Server Type cannot be changed while cloning.
- All Server level parameters and UDAs will be copied to the new Server if selected.
- The Zones will be copied on to the new Server if the user request so. If the Zones are to be copied, the following will apply:
  - All the data related to zones will be copied (Zones Extensions, Zone - Server options, DNSViews etc.)
  - There will be an option to retain the Zone-Server primary/secondary relationship or make the newly created Server as the secondary DNS server for all the included zones.



## Access Control (AC) Support:

Access Control (AC) is a feature that allows a network administrator to control which machines are allowed access to which subnets, based on subscriber and device information. This is implemented by mapping a User Class to these devices (via MAC address) and subscribers. Subscribers and devices can either be added by an administrator (Administrator registration), or automatically added by the system when a subscriber comes online and authenticates him- or herself (Automatic registration). For Administrator device registration, the administrator logs onto the AC GUI and creates the subscriber and then creates the device, associates them both, and assigns a User Class. At this point, QIP will update the DHCP cache with the MAC-User Class mapping. When the device comes onto the network, it already exists in the DHCP server cache, and thus automatically gets service. AC will be a new tab under the DHCP menu. It will be visible only if the administrator has AC privileges defined in the Global Privileges section of the administrator profile.



The screenshot displays the Alcatel-Lucent DHCP management interface. The top navigation bar includes 'MyView', 'Address Management', 'DNS', 'DHCP', 'Address Allocation', 'Infrastructure', 'Administrators', 'Reports', 'Links', and 'Help'. The 'DHCP' menu is expanded, showing 'Access Control', 'DHCP Server', 'DHCP Template', and 'DHCP Client Class'. The 'Access Control' tab is highlighted. On the left, the 'Access Control Hierarchy' shows a tree structure with 'Subscribers' and 'Devices' under 'lozo'. The 'Device Properties' form is visible, with fields for Subscriber Login, MAC Address, User Class, Host Name, Domain, IP Address, Subnet Name, Subnet Address, Object Class, Dynamic Configuration, Object Description, Time To Live, and Circuit ID. A red box highlights the 'Subscriber Login' and 'MAC Address' fields, and another red box highlights the 'User Class' dropdown. A text box with an arrow points to the 'Access Control' tab in the navigation menu, stating 'New tab added to the infrastructure tab'.

Phase 1 will allow Mac address to client class mapping. This basically allows the end user to get a DHCP lease based on the User Class associated with the client. Those devices not pre-defined in VitalQIP are denied leases currently in this solution and will end up in a captive portal. DHCP Cache has been added so Mac updates will be dynamically updated (no need to restart DHCP). This feature will be used to secure device logins for NAC and to create service classes in WIMAX. This will allow customers to enforce a base level of NAC without a full NAC third party solution. Future development will include more Registration manager functionality such as more policies and user self registration.

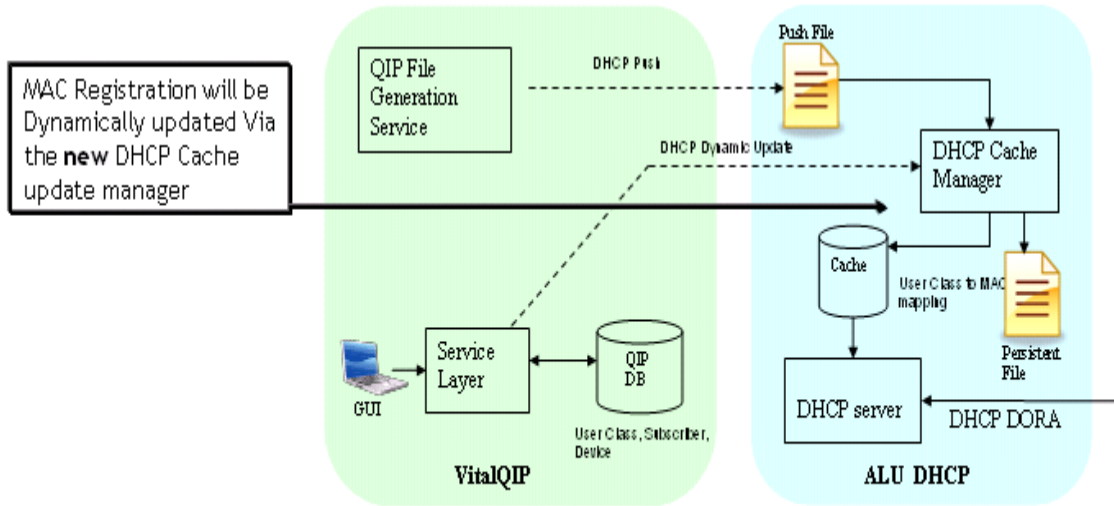
## Access Control

- Secure device logins for standalone NAC
- Manage service classes in WIMAX.



Is my MAC Address set to active in the server?

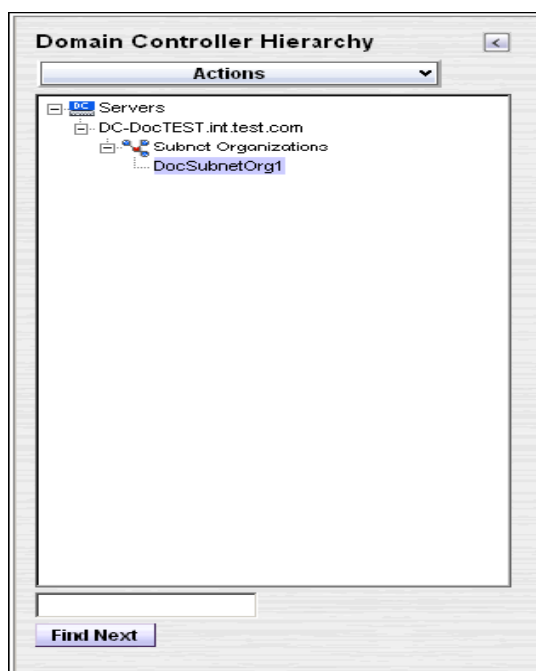
- Yes then I receive an IP address based on my user class
- No then I am placed in a captive portal



## Windows domain controller Management in the GUI:

This feature will bring the Windows Domain controller administration into the Web GUI that currently resides in the Thick client. The data will be collected in one area in the new Web GUI unlike the way it was spread out in the Thick Client. The basic functionality of Add delete and modify of Sites and subnets by editing the LDAP Data Interchange Format file (LDIF) and pushing the file from QIP. The QIP GUI will also maintain parameters such as the user domain name of the DC and login ID and the Password for communication. Because a Windows site and VitalQIP manage much the same information on subnets and subnet organizations, you can set up a server to act as a Windows Domain Controller and add, modify, and even delete sites and subnets in the server's Active Directory (AD) from within VitalQIP. Use the global policy **Delete Sites/Subnets** from Active Directory to control whether a push deletes site and subnet information. Once a Domain Controller is defined, you can associate that server with a subnet organization, using the Windows Site section in the Subnet Organization page. Information on the subnets and subnet organizations can be pushed to Windows 2003 Active Directory (identified by the Active Directory Domain Name parameter in the Domain Controller server profile), using Perform DC Generation on the Domain Controller Server Properties page.

**Note:** Remote server does not need to be installed on the Domain Controller to support the functionality described above. When a push is performed, VitalQIP connects directly to the directory server via the LDAP port to perform the generation.



## UDA support for CLI's

This feature will allow for CLI/Soap management for UDA's.

- UDA management will no longer be confined to the QIP web based GUI
- Additional methods are added to the QIP soap API to allow add modify and delete of UDA attributes. Users will also be able to associate UDA's as well.
- A Call will be made to legacy CLI's for some associations.

## DNS user exit to verify data during push

DNS user exits allow the user to validate the DNS data during a push before the push completes. This will avoid any DNS outages/push failures that may result from bad data contained within the configuration file and/or data files. The two user exits are for "fixzone" and "checkconf".

fixzone is a program to fix bad DNS forward zone files. If it detects an error which will cause the zone to be rejected by a BIND 9 based name server , that specific line

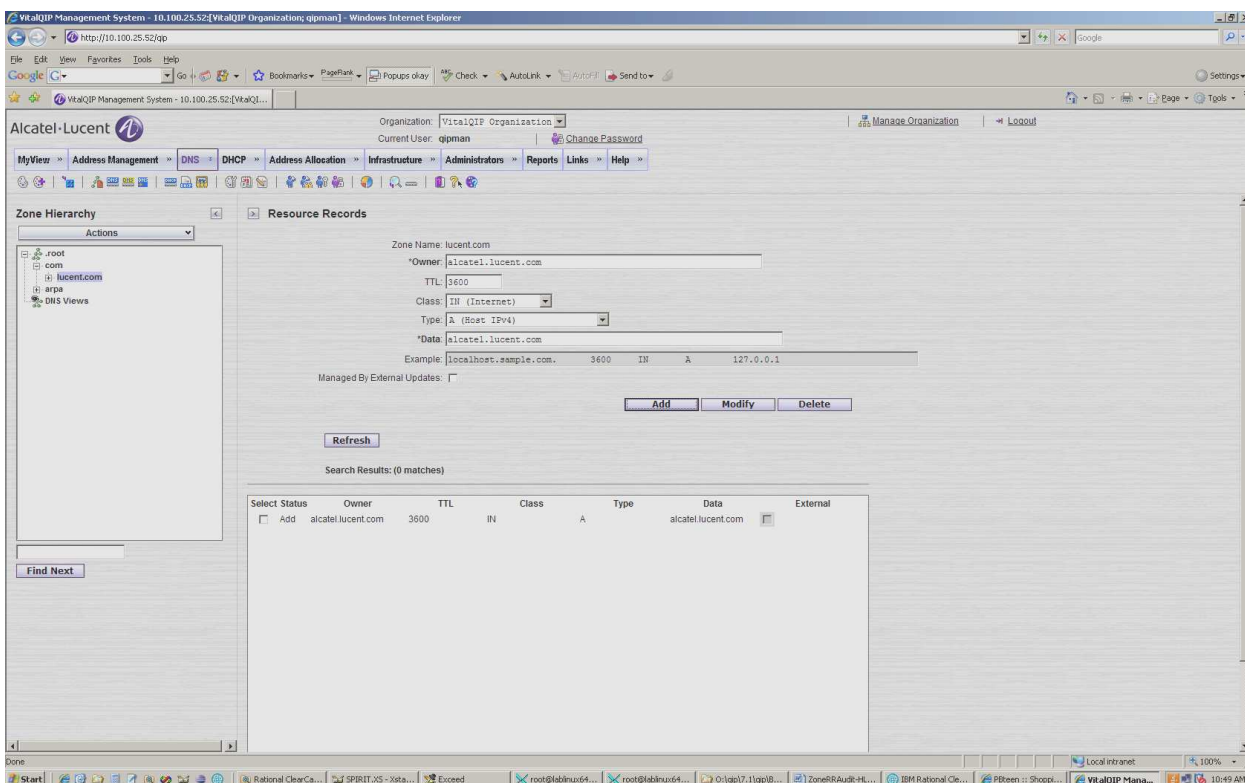
in the zone file will be commented out. This program can be called from a QIP userexit script in Remote or File Generation Service (FGS).

It is recommended that fixzone will be run from qipdnsuserexit2 on a Remote and qipdnsuserexitfgs on FGS.

checkconf is a program to check syntax of a named configuration file. It uses the program named-checkconf from qddns 4.2+. It is intended to run from QIP userexit script to make sure that there is no error in the named.conf file. The program should be run before the fixzone program in qipdnsuserexit2 and if an error in named.conf is detected, the DNS push should be forced to fail immediately.

## Audit of Zone Level RR

If an admin adds, modifies or deletes a zone resource record on the zone profile, then an audit record will be generated and placed into the resource record audit table. In addition, if zone resource records are added via the QIP EDUP process, then those resource records will also be audited.



The screenshot displays the Alcatel-Lucent VitalQIP Management System interface. The main content area shows the configuration for the 'lucent.com' zone. The 'Resource Records' section includes the following details:

- Zone Name: lucent.com
- \*Owner: alcatel.lucent.com
- TTL: 3600
- Class: IN (Internet)
- Type: A (Host IPv4)
- \*Data: alcatel.lucent.com
- Example: localhost.sample.com. 3600 IN A 127.0.0.1
- Managed By External Updates:

Below the form, there is a table of existing resource records:

Select	Status	Owner	TTL	Class	Type	Data	External
<input type="checkbox"/>	Add	alcatel.lucent.com	3600	IN	A	alcatel.lucent.com	<input type="checkbox"/>

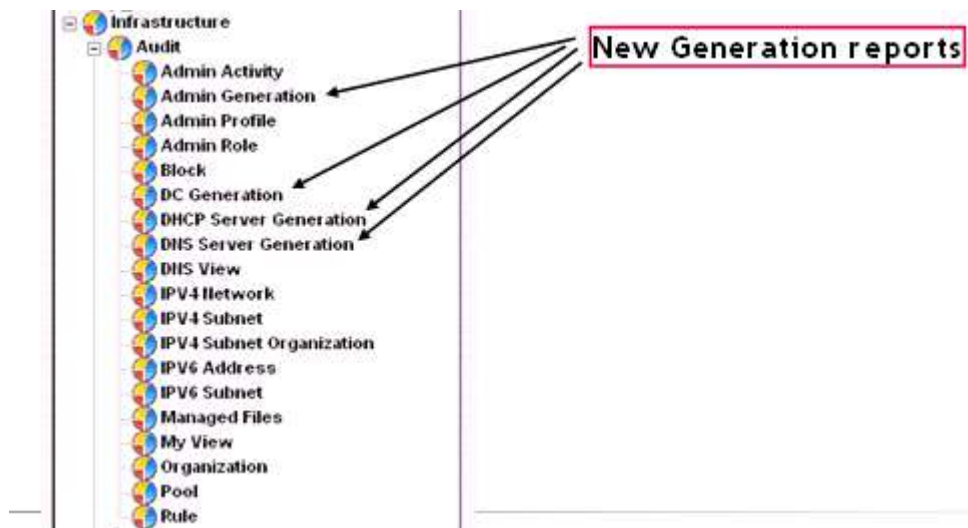
Always consult support for performance tuning hints when used with EDUP.

## Server Generation Auditing

To execute Administrator Generation Audit report, there are two invocation points:

1. Administrator Properties page.
2. Reports Hierarchy: Infrastructure → Audit → Admin Generation

Configured Reports	
Reports	
Name	Description
<a href="#">Audit Admin Profile</a>	Administrator Profile Audit Report
<a href="#">Audit Admin Generations</a>	Administrator Generation Audit Report
<a href="#">Audit Admin Activity</a>	Administrator Activity Audit Report



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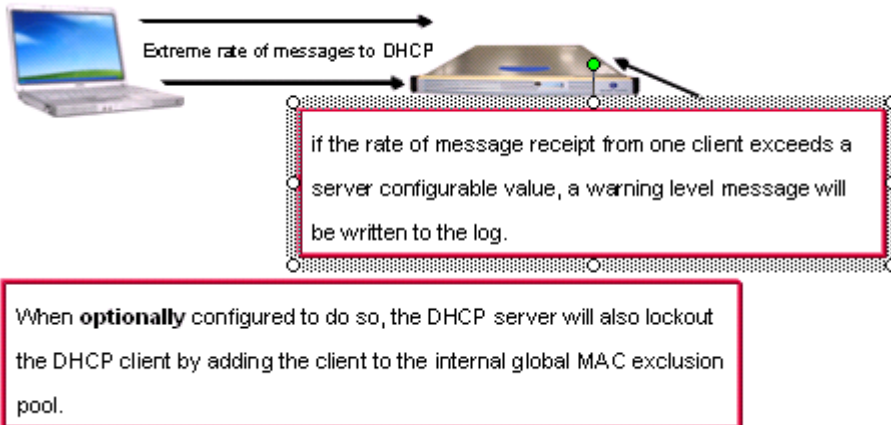
## DHCP 5.6

### Abusive DHCP Client Detection and Lockout Feature

A new policy enabled feature to detect and neutralize abusive DHCP clients that may be conducting denial of service type attacks upon the DHCP server has been provided. The DHCP server will count the number of messages received from each client that is registered internally with the DHCP server, and if the rate of message receipt exceeds a server configurable value, a warning level message will be written to the log. When optionally configured to do so, the server will also lockout the DHCP client by adding the client to the internal global MAC exclusion pool. This exclusion is temporary

because when the server is HUP'd or restarted, the client will not be retained in the exclusion pool. In

- A HUP or restart of the DHCP server will only retain those MAC exclusions that have been added to the global MAC exclusion pool in VitalQIP.
- Permanent exclusion of the client's MAC address must be added to the global MAC exclusion pool in VitalQIP by an administrator.



## What is new in AM 1.5

### Model 500 Platform

Ideal for Retail and/or Small Office applications. Powered by the 64-bit Intel® Atom 230 Processor on a compact, quiet Desktop platform. 1GB memory and a 120 GB hard drive.



The 500 Platform provides the base for the following appliances:

- *AMS 500* - VitalQIP Appliance Management Software (AMS) Appliance
- *AMM 500* - VitalQIP Appliance Management Module (AMM) Appliance

The 500 Platform provides an economical way for customers to deploy Alcatel-Lucent DNS/DHCP software – and other packages such as TFTP and NTP - to remote or small locations. Coupled with the 1000 and 5000 Platform appliances, the 500 Platform enables VitalQIP IP Address Management (IPAM) to uniformly manage services across the entire enterprise in a consistent and secure manner.



AMM 500 Rear view

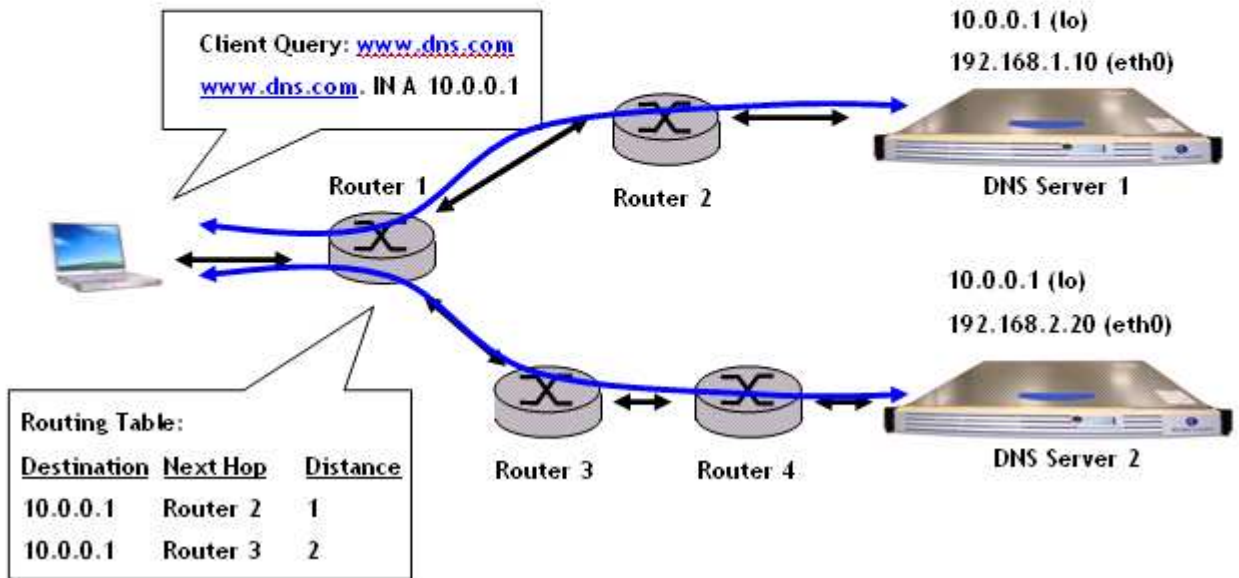
## Anycast Daemons

This feature uses Quagga Routing suite and rncd to perform Route injections to insure shortest path to device and load balancing. OSPF is supported in PR1. We will work with Select customers on BGP and VRRP is a candidate for future release depending on customer demand. In each poll iteration, the “rncd” utility will be used to query named’s current status. The output is pattern matched for “server is up and running. A new AMS package has been created called qddns-anycast.

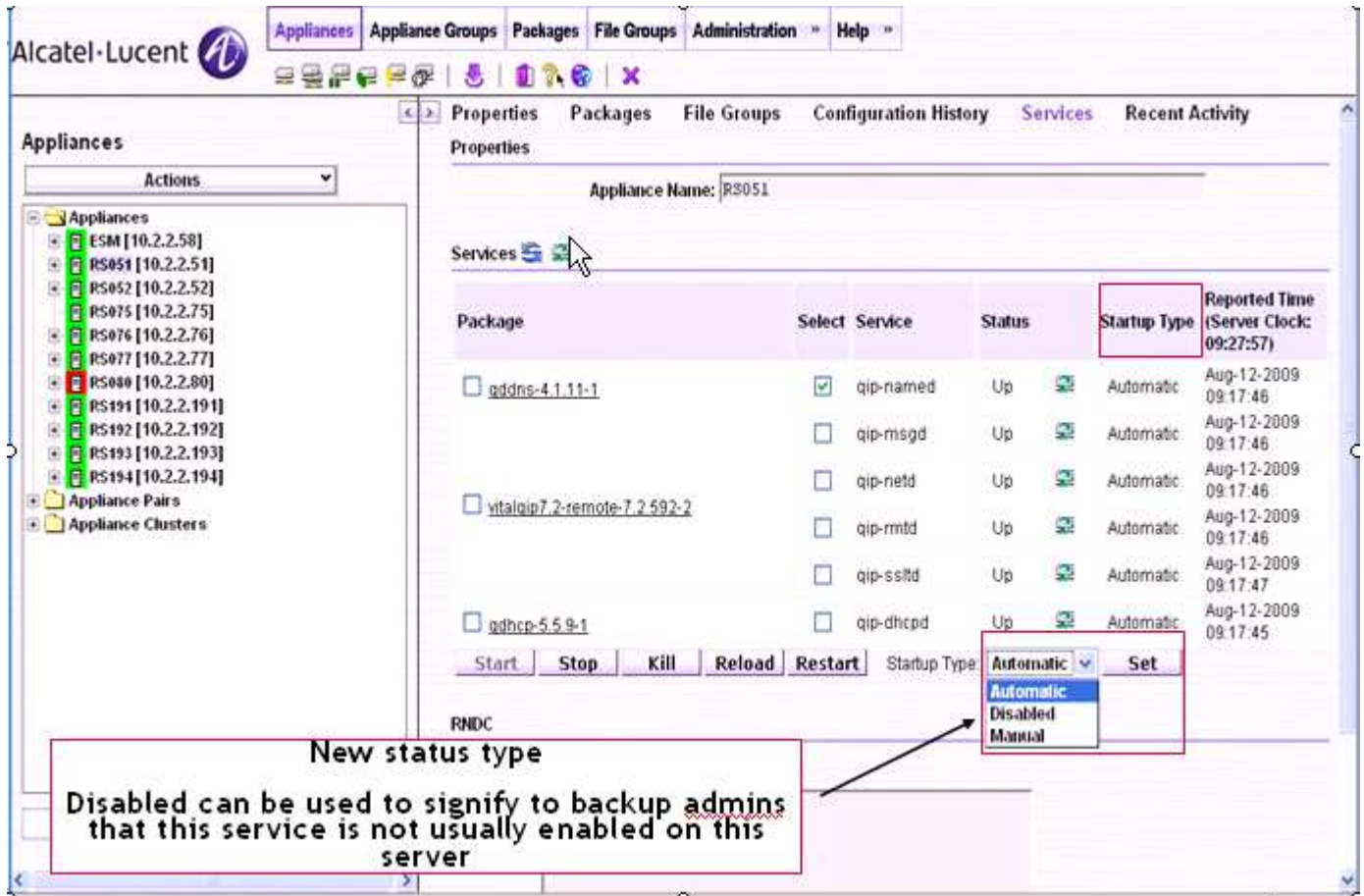
Why Anycast?


- Multiple Servers share same IP Address
- DNS Server Reliability (Failover)
- DNS Service Load Balancing

- Client Transparency
- Distributed Response to Dos attacks



## NEW GUI look and feel (Sync with QIP)



Alcatel-Lucent  Appliances Appliance Groups Packages File Groups Administration Help

Properties Packages File Groups Configuration History Services Recent Activity

Properties

Appliance Name: RS051

Services

Package	Select	Service	Status	Startup Type	Reported Time (Server Clock: 09:27:57)
<input type="checkbox"/> addns-4.1.11-1	<input checked="" type="checkbox"/>	qip-named	Up	Automatic	Aug-12-2009 09:17:46
<input type="checkbox"/> vitalqip-7.2-remote-7.2.592-2	<input type="checkbox"/>	qip-msgd	Up	Automatic	Aug-12-2009 09:17:46
	<input type="checkbox"/>	qip-netd	Up	Automatic	Aug-12-2009 09:17:46
	<input type="checkbox"/>	qip-rmtd	Up	Automatic	Aug-12-2009 09:17:46
	<input type="checkbox"/>	qip-ssitd	Up	Automatic	Aug-12-2009 09:17:47
<input type="checkbox"/> qdhcp-5.5.9-1	<input type="checkbox"/>	qip-dhcpd	Up	Automatic	Aug-12-2009 09:17:45

Start Stop Kill Reload Restart Startup Type Automatic Disabled Manual Set

RNDC

**New status type**  
Disabled can be used to signify to backup admins that this service is not usually enabled on this server

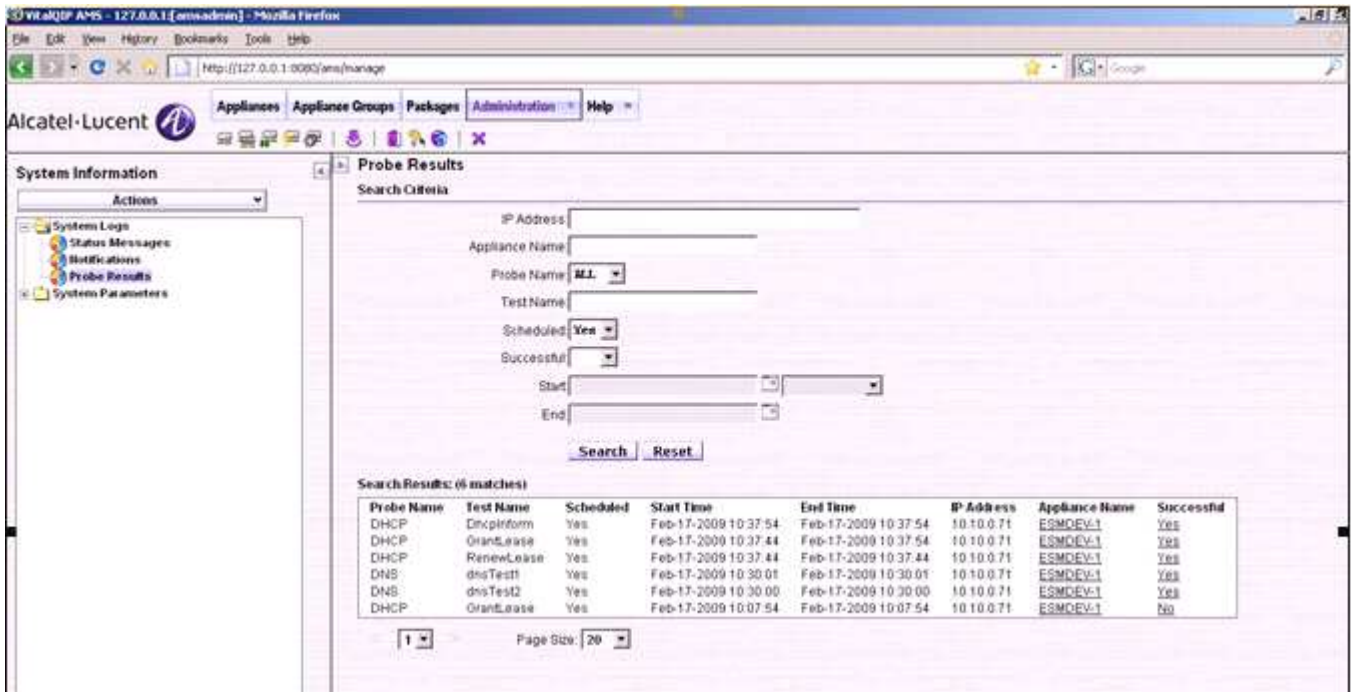
## DNS and DHCP Test Probes

The VitalQIP DNS and DHCP Test probes are appliance packages that provide the ability to test and monitor the health of the DNS and DHCP servers running on that appliance. Based on the probe's configuration, it regularly performs several tests to ensure that services are up and functioning. DHCP Probe includes several tests to ensure leases are given out, leases are renewed and servers are responding.

DHCP Probe supports following tests:

- Grant lease test
- Renew lease test
- Verify servers test

DNS Probe tests DNS service by requesting known resolutions to ensure it is responding correctly. The probes results are stored in AMS database which AMS user is able to view at later time.



**Probe Results**

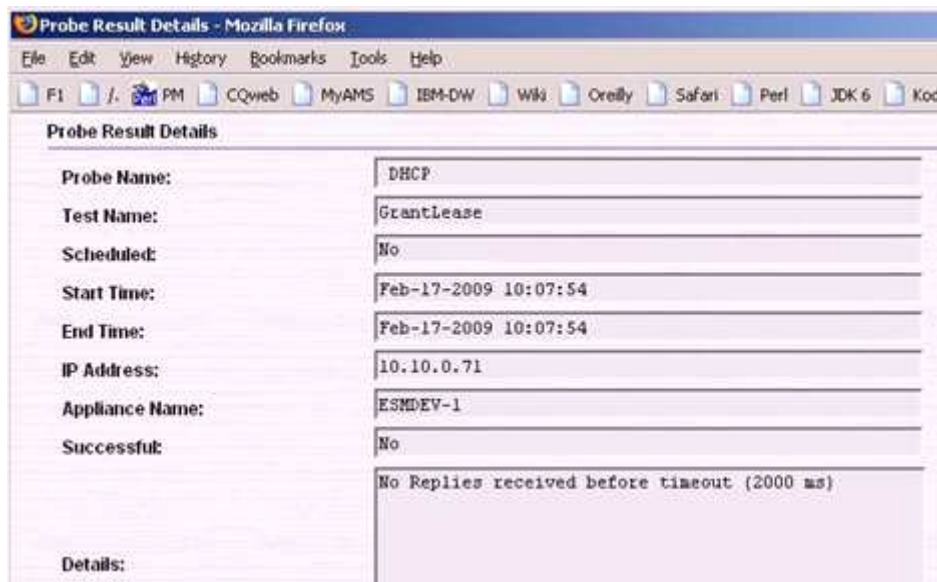
Search Criteria

IP Address: \_\_\_\_\_  
 Appliance Name: \_\_\_\_\_  
 Probe Name: **ML**   
 Test Name: \_\_\_\_\_  
 Scheduled: **Yes**   
 Successful:   
 Start: \_\_\_\_\_   
 End: \_\_\_\_\_

Search Results: (6 matches)

Probe Name	Test Name	Scheduled	Start Time	End Time	IP Address	Appliance Name	Successful
DHCP	DhcpInform	Yes	Feb-17-2009 10:37:54	Feb-17-2009 10:37:54	10.10.0.71	ESMDEV-1	Yes
DHCP	GrantLease	Yes	Feb-17-2009 10:37:44	Feb-17-2009 10:37:54	10.10.0.71	ESMDEV-1	Yes
DHCP	RenewLease	Yes	Feb-17-2009 10:37:44	Feb-17-2009 10:37:44	10.10.0.71	ESMDEV-1	Yes
DNS	dnsTest1	Yes	Feb-17-2009 10:30:01	Feb-17-2009 10:30:01	10.10.0.71	ESMDEV-1	Yes
DNS	dnsTest2	Yes	Feb-17-2009 10:30:00	Feb-17-2009 10:30:00	10.10.0.71	ESMDEV-1	Yes
DHCP	GrantLease	Yes	Feb-17-2009 10:07:54	Feb-17-2009 10:07:54	10.10.0.71	ESMDEV-1	No

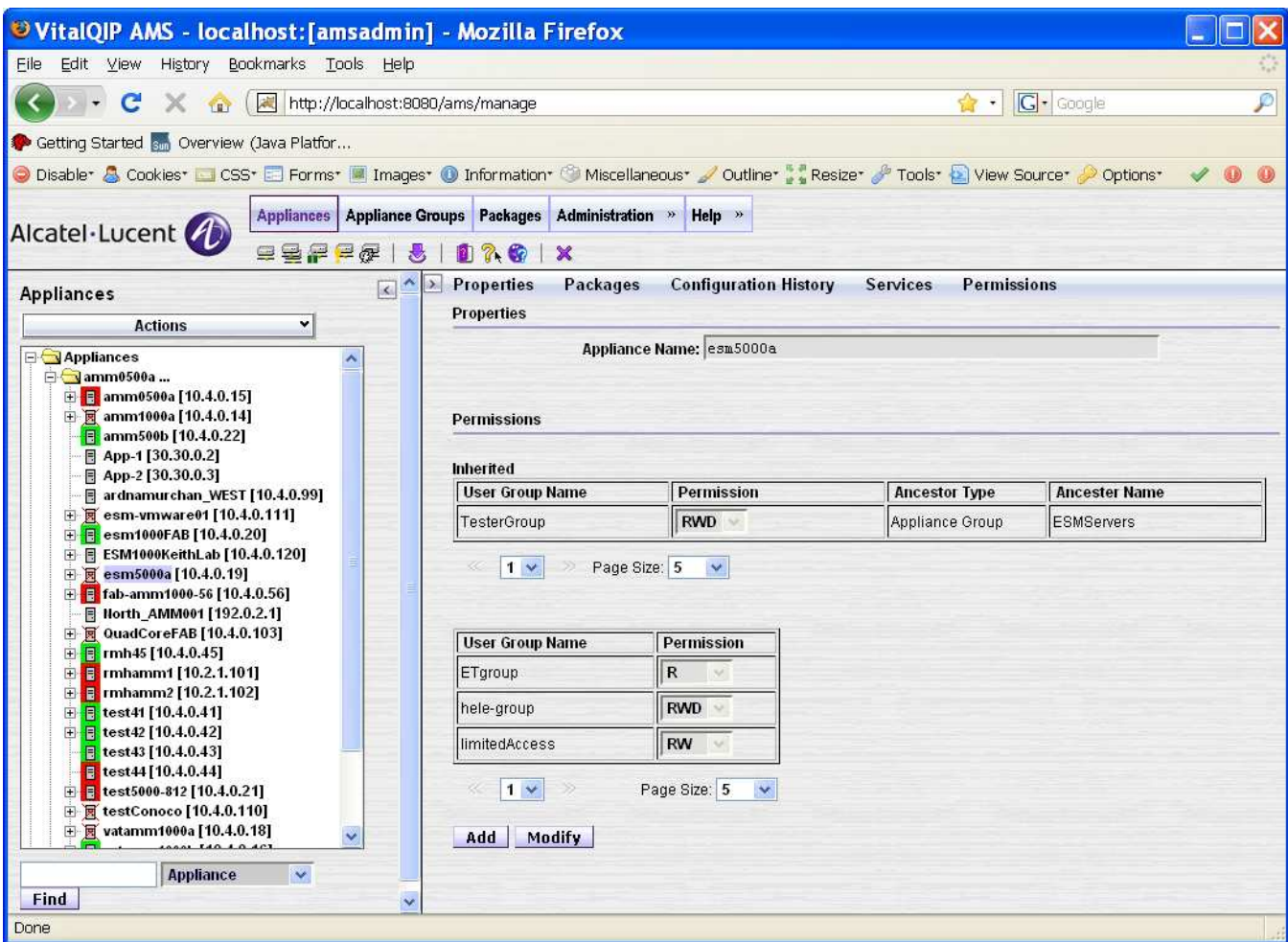
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**Probe Result Details**


Probe Name: DHCP  
 Test Name: GrantLease  
 Scheduled: No  
 Start Time: Feb-17-2009 10:07:54  
 End Time: Feb-17-2009 10:07:54  
 IP Address: 10.10.0.71  
 Appliance Name: ESMDEV-1  
 Successful: No

Details:  
 No Replies received before timeout (2000 ms)



## AMS Management of data files

This feature allows the AMS user to define a file group, add files to it, delete files from it, update the file content and properties, update the file group properties, and delete file group. AMS User can associate and deploy the file groups to the appliance and appliance group. AMS Users can set the permissions, and location for the files in the file group.

Alcatel-Lucent  Appliances Appliance Groups Packages File Groups Administration » Help »

Appliances

Actions

- Appliances
  - RaffiAMM1 [10.10.0.41]
  - RaffiAMM2 [10.10.0.42]
  - ESMDEV-2 [10.10.0.72]
- Appliance Pairs
- Appliance Clusters

File Groups

Properties

Appliance Name: RaffiAMM1

Inherited File Group(s) from group: AG1

Associated	File Group Name
<input checked="" type="checkbox"/>	FG1
<input checked="" type="checkbox"/>	FG2

Associated File Groups

Select	File Group Name
All   None	
<input checked="" type="checkbox"/>	1
<input checked="" type="checkbox"/>	FG3
<input checked="" type="checkbox"/>	File Group 1
<input checked="" type="checkbox"/>	chil

Available File Groups

Select	File Group Name
All   None	
<input type="checkbox"/>	1
<input type="checkbox"/>	FG 5
<input type="checkbox"/>	FG1
<input type="checkbox"/>	FG2
<input type="checkbox"/>	FG3
<input type="checkbox"/>	File Group 1
<input type="checkbox"/>	chil
<input type="checkbox"/>	sdfs
<input type="checkbox"/>	ssdfs

Legend

- Not associated
- Associated
- Deployment is in progress
- Successfully deployed
- Out of sync with appliance

Page Size: 20

Appliance Find Save Cancel

For Further details please review the QIP user documentation found on the Business partner web site at <https://ebuy.businesspartner.alcatel-lucent.com/>