

DNS Administration

DNS Administration

The screenshot shows the ProVision DNSv3 interface. At the top is a navigation bar with tabs for Dashboard, Resources, DNS, DHCP, IPAM, Peering, Log, and Reporting. Below the navigation bar are three sub-tabs: DNSv3, DNS Groups, and DNS Servers. The main content area is titled 'DNS Server List' and includes an 'Add Server' button. Below this is a table with the following columns: Server Name, Server Backend, Server Type, Server Status, and Actions. The table lists five servers: 6c BIND QA Server (ISCBIND, master), 6c Infoblox test VM1 (INFOBLOX, master), 6c PowerDNS QA (PDNSMYSQL, master), 6c S64 Auth Server QA 2 (SECURE64, master), and 6c S64 Server1 (SECURE64, master). Each server has 'Delete' and 'Push' buttons in the Actions column.

Server Name	Server Backend	Server Type	Server Status	Actions
6c BIND QA Server	ISCBIND	master		Delete Push
6c Infoblox test VM1	INFOBLOX	master		Delete Push
6c PowerDNS QA	PDNSMYSQL	master		Delete Push
6c S64 Auth Server QA 2	SECURE64	master		Delete Push
6c S64 Server1	SECURE64	master		Delete Push

DNS Administration in DNSv3 is primarily handled under the **DNS** tab **DNS Servers** sub-tab.

The **DNS Servers** tab is only accessible to Admin users, and contains functions for adding, updating, and managing DNS servers as well as scheduling server tasks.

Additional DNS Admin tasks occur in other ProVision areas, and not all management tasks require Admin-level permissions - some only require appropriate resource permissions on the DNS Groups, Zones, and servers involved. See additional sections on this page for more detailed information:

- DNS Administration
 - DNSv3 Overview
 - DNSv3 Permissions
 - DNSv3 Administrative Tasks
 - Manage DNS Servers
 - ACLs / Views
 - DNS Zone Transfers (Pushes)
 - Manual DNS Pushes:
 - Scheduled DNS Pushes:
 - DNS Record Types
 - Global DNS Settings (Local Installation Only)
 - DNS Export Functions
 - Exporting Zones
 - Importing DNS Zones:
 - Additional Information:
 - System Information for Local Installations
 - Additional Sections:

DNSv3 Overview

DNSv3 reorganizes ProVision's DNS system into a more unified and accessible interface, combining both admin and non-admin DNS tasks together under the **DNS** tab.

In DNSv3, zones are gathered under DNS Groups, servers are attached to those Groups, and Nameservers, Default SOA values, and ACLs are managed at a per-Group level.

Users can then view and manage Groups, individual zones, default SOA values, ACLs, attach servers, and perform pushes all on the same page.



DNSv3 Zone Name Response Change

Note: In DNSv3, zone name responses will enforce and return a trailing period (i.e., "example.com" will be converted and returned as "example.com.").

DNSv3 is designed to reflect [RFC 1035 standards](#) for valid data formats and will return error messaging for data not meeting those formats.

DNSv3 Permissions

DNSv3 (6.0.0 release), restructures DNS to incorporate DNS zones and Groups into ProVision's Resource System. Zones and Groups are Resources just like Customers, Servers, Routers, or Contacts (See [The Resource System](#) for a more detailed explanation of Resources in ProVision).

This allows for DNS zones and Group permissions to be managed similarly to other ProVision resources, where users with Resource permissions (Create / Read / Update / Delete) on the parent resource of the DNS Group can create groups and zones, manage those groups and zones, push (if a server is attached), and delete.

A user with full Resource permissions on a DNS Server, as well as the parent resource of a Group, may view and attach that server to a Group.

Users with Admin permissions can access the **DNS Servers** area under the **DNS** tab manage DNS server creation, edits, and deletion.

For more information on setting up permissions groups in ProVision, see [Users & Permissions](#).

DNSv3 Administrative Tasks

Admin-only tasks in DNSv3 include setting DNS Globals, importing zones, scheduling pushes, and managing DNS Servers.

These tasks may be accessed in the following areas:

- DNS Global Settings (Local Installs): [Admin Preferences](#) page.
- Importing DNS Zones: the [Data Import](#) tab, see [Import DNS Zones](#).
- Scheduling DNS Pushes:
 - May be set up from the [Scheduler Tab](#) or,
 - Set by server from the [DNS Servers](#) page, or
 - Set by DNS Group from the [DNS Groups](#) page, or
 - Set by individual zone from the [View Zone](#) page
- Managing DNS Servers: The [DNS Servers](#) page

Tasks such as working with zones, DNS Groups, adding ACLs, attaching servers to Groups, and manually pushing zones do not require ProVision Admin permissions.

Instead, these tasks simply require that the user be included in a [User Group](#) that has appropriate permissions (either direct, or inherited) on the DNS zones, Groups, and servers involved.

Manage DNS Servers

Adding, configuring, and managing DNS Servers occurs in the Admin-only **DNS Servers** page under the **DNS** Tab.

Supported DNSv3 server types include:

- ISC BIND
- Secure 64 (Authority, x86 Authority, KNOT Authority, Cache, Signer)
- PowerDNS (BIND and MySQL)
- InfoBlox
- Knot DNS
- NS ONE
- DynDNS
- DNSMadeEasy
- Dummy (a fake server entry used for servers outside of ProVision access, in order to manage master / slave configurations)

For detailed information on adding, editing, and deleting DNS Servers, see [Working with DNS Servers](#).

ACLs / Views

In DNSv3, Views may be created by selecting the "Export Groups as Views" toggle and selecting a DNS Group under the server details sections "DNS Group Settings".

DNS Group Settings

Export Groups as Views:

ON

Check this option if you want to enable the support of different DNS Groups to be exported as Views.

Default Group for Direct Zones:

Default Group

The zones that are directly connected to the server are going to added to this group.

Attach to Groups:

× Default Grou

× Chrome Gro

× FirefoxGroup

× GoogleDNS

The server will be attached to the list of the groups and the zones from the groups are going to be exported automatically.

ACLs are managed on a per-DNS Group level, and may be added, edited, or removed by any user with appropriate resource permissions on the DNS Group.

Applied ACLs

Add or Edit ACL

ACL Name	ACL Networks	Actions
Example List	10.10.3.0/24	<div>Detach</div>
Example List234	10.10.3.0/24	<div>Detach</div>

For details on working with ACLs, see [Configuring Split Horizon/Views](#).

DNS Zone Transfers (Pushes)

In DNSv3, zones may be pushed manually or scheduled for a future time, and may be performed for a single zone, all zones in a DNS Group, or all zones on a server.

Scheduling DNS pushes requires administrative access, but manual pushes only require permissions on the DNS Group / DNS Zone, and the server(s) attached.

Manual DNS Pushes:

Manual pushes may be performed from the following locations in ProVision:

- Single Zone: From the DNS Groups Zone list "Push" button. See [Working with DNS Zones - Pushing Zones](#)
- Single Zone: From the DNS View Zone page "Push Zone Now" button. See [Working with DNS Zones - Pushing Zones](#)
- Group: From the DNS Groups Zone list "Push Group" button. See [Working with DNS Groups - Pushing a Group](#)
- Server: From the DNS Servers list "Push" button. See [Working with DNS Servers - Pushing a server](#)
- Server: From the DNS Server Settings page "Push Zones" button. See [Working with DNS Servers - Pushing a server](#)

Scheduled DNS Pushes:

Scheduled pushes may be performed from the following locations in ProVision:

- May be set up from the [Scheduler Tab](#) for single zones, all zones in a Group, or all zones on a server.
- Set by server from the [DNS Servers page](#), or
- Set by DNS Group from the [DNS Groups page](#), or
- Set by individual zone from the [View Zone page](#)

DNS Record Types

DNSv3 Record Types are a static list comprised of:

- A, AAAA, CNAME, DNAME, DNSKEY, DS, MX, NAPTR, NS, PTR, SOA, SRV, SPF, HINFO, TXT.

Any user with appropriate resource permissions on the DNS Zone / DNS Group may add, edit, or delete DNS Records.

See [Working with DNS Zones - Common Tasks](#) for detailed information on managing DNS Records.

Global DNS Settings (Local Installation Only)

DNS Global Settings is accessible from the [Admin Preferences](#) page by users with Admin level permissions.

DNS Global Settings

DNS Tools

checkzone path	<input type="text" value="/usr/sbin/named-checkzone"/>	✓
File permissions: 0755		
rndc path	<input type="text" value="/usr/sbin/rndc"/>	✓
dig path	<input type="text" value="/usr/bin/dig"/>	✓

DNSSEC Tools

zonesigner path	<input type="text" value="/usr/local/bin/zonesigner"/>	✓
dnssec-dsfromkey path	<input type="text" value="/usr/sbin/dnssec-dsfromkey"/>	✓
DNSSEC validation server	<input type="text" value="ad.6connect.com"/>	

Nonauthoritative nameserver required.

[Update](#)

Checkzone path: Path to checkzone

rndc path: Path to rndc

dig path: Path to dig

zonesigner path: Path to zonesigner

dnssec-dsfromkey path: Path to dnssec-dsfromkey

DNSSEC validation server: Address of DNSSEC validation server, required to be a non-authoritative name server.

DNS Export Functions

Exporting Zones

Individual Zones:

DNS zones may be exported individually from the zone's View Zone page "Export Zone" button, by any user with appropriate zone permissions (see: [Editing DNS Zones](#)).

Zones in a DNS Group:

All zones under a DNS Group may be exported from the DNS Group "Export Zones" button, by any user with the appropriate group permissions (see: [Working with DNS Groups](#)).

Zones directly connected to a server:

Zones directly connected to a server may be exported by Admin users from the DNS Server Details page, under the section "Zones connected directly to the server".

Expand the module by clicking the (>) arrow, and then click the "Export Zones" button.

The screenshot shows a web interface titled "Zones directly connected to the server". At the top left is an "Export Zones" button. Below it are tabs for "Forward Zones" and "Reverse Zones". The main area contains a table with the following data:

Zone Name	Last Pushed	Last Modified	Records	Zone Status	Actions
ibmZoneUpdateTest2.com.	05/10/2017 12:53:39	06/05/2017 14:42:32	0	Contains Errors	Check

Importing DNS Zones:

ProVision offers six DNS zone import options, available under the [Data Import](#) tab in the Admin section. For more information on importing DNS zones, see [Importing your Data](#) and [Import DNS Zones](#).

BIND Zone Upload / Import: Imports DNS zones using the named.conf configuration file tied to the zones you are uploading, a .zip or .tar file of the zones themselves, and an optional .csv file mapping zones to customers and DNS Servers. This is the simplest and most commonly used import method. Refer to [Import DNS Zones](#) for more information.

PowerDNS Zone Import: This tool is available after [configuring a PowerDNS server](#) with a MySQL backend. The PowerDNS Import connects to the selected server and imports all zones.

InfoBlox Zone Import: Imports DNS zones using a provided Host, Username, and Password. The InfoBlox import pulls all zones on the InfoBlox LOCAL grid and adds them to a designated Group. It is advised to [create a DNS Group](#) prior to the import with default parameters and NS records to be inherited by the imported records.

NS ONE Zone Import: Imports DNS zones using a NS One API Key. It is advised to [create a DNS Group](#) prior to the import with default parameters and NS records to be inherited by the imported records.

Dyn DNS Zone Import: Imports DNS zones using a Dyn DNS Customer Name, Username, and Password. It is advised to [create a DNS Group](#) prior to the import with default parameters and NS records to be inherited by the imported records.

DNSMadeEasy Zone Import: Imports DNS zones using a DNSMadeEasy API Key and API Secret. It is advised to [create a DNS Group](#) prior to the import with default parameters and NS records to be inherited by the imported records.

Additional Information:

System Information for Local Installations

Zones are stored in the 6connect web root under /zones.

DS keys are stored in the 6connect web root under /keys.

Global DNS Settings may be set from the [Admin Preferences](#) page.

Additional Sections:

For more information on DNS and configurations, see the following sections:

- [Working with DNS Zones - List Management](#)
- [Configuring ISC BIND Support](#)
- [Configuring DynECT Support](#)
- [Configuring PowerDNS Support](#)
- [Configuring Secure64 Support](#)
- [Configuring Split Horizon/Views](#)
- [Configuring DNS Templates](#)
- [Configuring DNSSEC](#)
- [DNS Audit Tools \(Alpha\)](#)