

ProVision 6.0.0

ProVision 6.0 is a major release with new features.

New Features

(CFR denotes customer requested)

DNSv3

IM -2552: Updated and replaced the DNS Admin and DNS Tabs with DNSv3 - featuring a more efficient backend, new user interface, and a DNS "Group" system.

The screenshot displays the ProVision 6.0.0 user interface. At the top is a navigation bar with tabs: Dashboard, Resources, DNS (selected), DHCP, IPAM, Peering, Log, and Reporting. A search bar is on the right. Below the navigation bar, there are tabs for DNSv3, DNS Groups, and DNS Servers. The main content area is titled "DNS Groups List" with an "Add Group" button. A descriptive text box states: "DNS Groups help you to organize all of your Zones and Servers together into a single place. With Groups, you are able to push whole group configurations." Below this is a section for the "Default Group" (indicated by a close icon and a dropdown arrow). Inside this section, there are buttons for "DNS Zones", "Add Zone", "Push Group", "Schedule Push", and "Export Zones". Under "DNS Zones", there are tabs for "Forward Zones" (selected) and "Reverse Zones". A table lists the zones:

Zone Name	Last Pushed	Last Modified	Records	Zone Status	Actions
someZone.com.	06/12/2017 14:35:12	06/12/2017 14:35:12	5	Contains Errors	Delete Push Move Check
examplezone.com.		07/10/2017 13:56:37	1		Delete Push Move Check
anotherzone.com.		07/10/2017 13:56:56	1		Delete Push Move Check

Below the table are three expandable sections: "Attached Servers", "Group Default Parameters", and "Applied ACLs", each with a right-pointing arrow.

DNSv3 restructures ProVision's DNS tab to organize DNS zones into "DNS Groups". Zones are gathered under Groups, default parameters and servers are set per Group, and pushes may be done on a per Group level. A "Default Group" is automatically provided in ProVision, but other Groups may be desired to organize zones and default values. See the updated workflow for DNSv3 at [DNSv3 Workflow Concepts](#).

DNSv3 changes ProVision's approach to Admin-level DNS tasks, integrating them under the [DNS](#) tab rather than a separate "Admin" tab. Server management has been integrated into the DNS Tab, under "DNS Servers" (accessible only to admin-level users), default parameters, SOA, ACLs, and exports are incorporated into each DNS Group.

Permissions for interacting with DNS elements in DNSv3 have been adjusted, incorporating DNS items under the "Resource" system when setting User Group Permissions. This allows for fine-tuned settings on individual DNS Groups, servers, and zones within the Permissions Group.

For an overview flowchart of working in DNSv3, see the updated workflow for DNSv3 at [DNSv3 Workflow Concepts](#).

DNSv3 Related changes include:

- Access DNS Servers, Groups, and Zones from the same ProVision [DNS](#) tab.
 - See: [DNS Tab](#)

- Removed the [DNS-Admin](#) tab. Functionality previously in [DNS-Admin](#) is now contained under the [DNS](#) tab "DNS Servers" area (Admin only), with SOA and Nameserver defaults set per-Group.
 - See: [DNS Administration](#) and [Working with DNS Servers](#)
- Introducing "DNS Groups" - Organize your Zones and Servers together into a single place. With Groups, you are able to organize groups and push whole group configurations at the same time.
 - See: [Working with DNS Groups](#)
- Updated Zone list interface and View Zone pages.
 - See: [Working with DNS Zones](#) and [Editing DNS Zones](#)
- Zone Error Monitoring - Check zones for errors, and receive detailed feedback.
 - See: [Working with DNS Zones](#)
- Schedule Pushes at the server, group, or individual zone level.
 - See: [Working with DNS Groups](#), [Working with DNS Zones](#), [DNS Administration](#)
- DNS Templates have been removed and replaced with an option to "Clone Existing Zone" when creating a new zone.
 - "Template" Zones may be created under a "Template" DNS Group, and given an appropriate name (templateABC.com.) to reference when cloning. Any existing DNS Templates will automatically be migrated to a new "Template" DNS Group during the 6.0 upgrade.
 - See [Working with DNS Groups](#) and [Working with DNS Zones](#) for more information on creating new Groups and zones, respectively.
- Incorporated ACLs / Views into a DNS Group module.
 - See [Configuring Split Horizon and Views](#)
- Enabling and configuring DNSSEC has been revised to work within the DNSv3 server / Groups system.
 - See [Configuring DNSSEC](#)
- The Users tab Group Permissions have been updated to remove "DNS" as a separate permissions area, as DNS entities (servers, groups, zones) are now considered "Resource" items.
 - In order to push a DNS Group or zone, Users without global or admin permissions will need to have resources permissions specifically added for that server, DNS Group, or zone.
 - See [Users & Permissions](#)
- Revised the Data Import -> BIND DNS Zone Upload / Import tool to be compatible with DNSv3 and ProVision-exported DNS Group export .zip files. Imports may now associate a DNS Group to import zones under, and server mapping has been removed (as servers are now associated at the DNS Group level).
 - See [BIND DNS Zone Upload and Import](#)

Peering "View By Peer" tab

IM-1551: Added "View by Exchange" and "View by Peer" options for the [Peering](#) Tab.

The screenshot shows the Peering Tab interface. At the top, there is a navigation bar with links to Dashboard, Resources, DNS, DHCP, IPAM, Peering, Log, and Reporting. A search bar is also present. Below the navigation bar, there are two tabs: "View by Exchange" and "View by Peer". The "View by Peer" tab is selected. On the left, there is a sidebar titled "Peers" with a search filter "Filter by name...". A list of peers is shown, with "BlinkMind, Inc." selected. The main content area displays the details for "BlinkMind, Inc." under the "Info" tab. The details are organized into two columns: "General Information" and "Peering Policy Information".

General Information		Peering Policy Information	
Primary ASN	40739	Peering Policy	
IRR Record	AS-BLINKMIND	General Policy	Open
Organization	BlinkMind, Inc.	Multiple Locations	Preferred
Company Website	http://www.blinkmind.com	Ratio Requirement	Yes
PeeringDB Profile	https://peeringdb.com/net/3339	Contract Requirement	Not Required

"View by Peer" allows you to select a peer, and view Peering DB information and all ProVision sessions for that Peer.

"View by Exchange" returns you to the standard Peering Tab view, with Peer sessions organized under each exchange.

To see "View by Peer", navigate to the ProVision Peering Tab. At the top left of the page, click the "View by Peer" button.

Dashboard
Resources
DNS
DHCP
IPAM
Peering
Log
Reporting

View by Exchange

View by Peer

Stats

General Info		Technical	
PeeringDB ID	2335	Exchanges	1
PeeringDB Name	6connect, Inc.	Total Peers	120
Source ASNs	8038	Qualified Peers	118
		Not Qualified Peers	2

On the "View by Peer" page, click on a Peer from the list on the left. You may also filter the list by typing a few characters from the Peer name into the filter box.

Once a Peer is selected, View information and sessions for that peer by clicking on the "Info" and "Sessions" tabs at the top of the center information panel.

View by Exchange

View by Peer

Peers

BlinkMind, Inc.
bluVentures Corporation

Info

Sessions

BlinkMind, Inc.

General Information		Peering Policy Information	
Primary ASN	40739	Peering Policy	
IRR Record	AS-BLINKMIND	General Policy	Open
Organization	BlinkMind, Inc.	Multiple Locations	Preferred
Company Website	http://www.blinkmind.com	Ratio Requirement	Yes
PeeringDB Profile	https://peeringdb.com/net/3339	Contract Requirement	Not Required

When done, return to the main Peering Tab by clicking on the "View by Exchange" toggle at the top of the page.

DNS Autogenerator Gadget

The DNS Autogenerator Gadget uses the Hostname field (6c-hostname-fqdn) of the Resource to generate a list of DNS forward and reverse zone entries based on the blocks assigned to the Resource in the IPAM Gadget. It will generate a list of potential zone records - just select the ones you want to create, save the changes and you are ready to push the zones. See [Gadgets - DNS Autogenerator](#) for more details.

DNS Autogenerator

Records

The system found 1 ip netblock(s).

Selected blocks (highlighted green) will be used. Click on blocks to deselect.

198.167.176.12/30 (198.167.176.12,198.167.176.15)
IP Addresses 4
Forward zone: test1.com.
Reverse zone: 176.167.198.in-addr.arpa.
A Record: 198.167.176.\$1.test1.com. points to 198.167.176.{12-15}
PTR Record: {12-15}.176.167.198.in-addr.arpa. points to 198.167.176.\$1.test1.com.

Save

Enabling the DNS Autogenerator

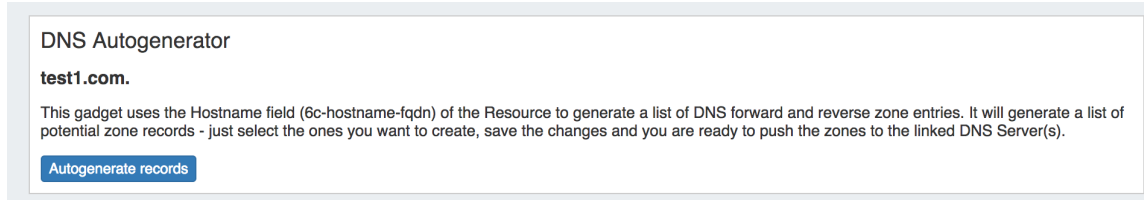
To set up this Gadget, ensure that the Section of the Resource (typically, "Resource Holder"), has the "Hostname" field (6c-hostname-fqdn) and the DNS Autogenerator Gadget added to the Section. (See: [Customizing Sections](#) and [Customizing Fields](#)).

Then, check that the Resource itself has information entered into the "Hostname" field. If the field is already filled out, it will show in the "Fields" information area at the bottom of the Resource Entry page. To add or edit the hostname, click "Edit" at the bottom of the resource entry page, add the information to the Hostname field, and click "Save".

Once a hostname has been associated with a Resource, and the page refreshed, the DNS Autogenerator Gadget will be visible.

Working with the DNS Autogenerator

One enabled and visible, the DNS Autogenerator Gadget will initially show a short description, the hostname, and a button to "Autogenerate Records".



DNS Autogenerator

test1.com.

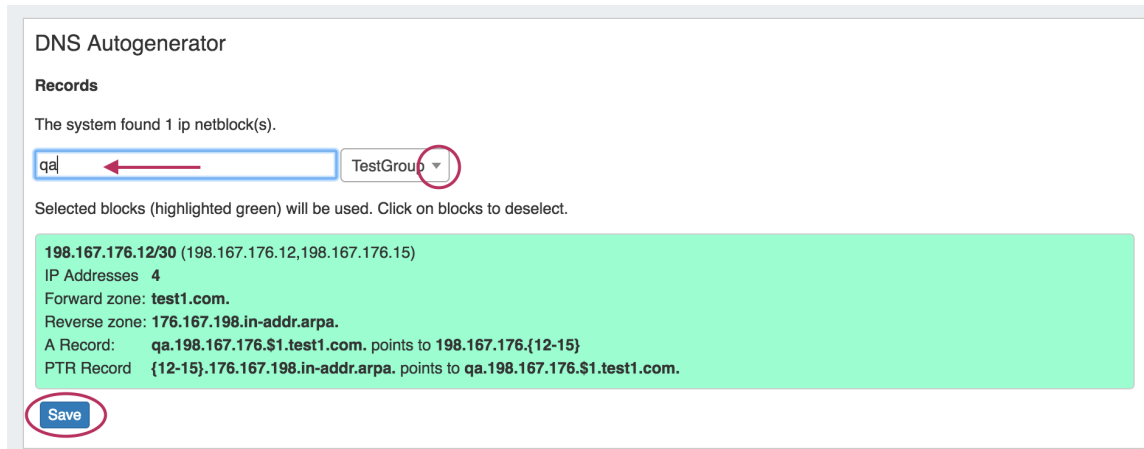
This gadget uses the Hostname field (6c-hostname-fqdn) of the Resource to generate a list of DNS forward and reverse zone entries. It will generate a list of potential zone records - just select the ones you want to create, save the changes and you are ready to push the zones to the linked DNS Server(s).

Autogenerate records

Before starting, check that the blocks assigned to the Resource in the IPAM Gadget are correct and up-to-date - the Autogenerator uses these blocks to create the records. If using a DNS Group other than "Default" to hold zones, ensure that the desired DNS Group to hold the generated records has been set up. (See: [Working with DNS Groups](#)).

When ready, click the "Autogenerate Records" button. The Gadget will search through the blocks in the IPAM gadget and provide a list of found blocks.

Next, add in a subdomain if desired (optional), and select the DNS Group to hold the records (required). Click on the listed blocks to select (highlighted green) or deselect (grey) for DNS zone / record creation.



DNS Autogenerator

Records

The system found 1 ip netblock(s).

qa TestGroup

Selected blocks (highlighted green) will be used. Click on blocks to deselect.

198.167.176.12/30 (198.167.176.12,198.167.176.15)
IP Addresses 4
Forward zone: test1.com.
Reverse zone: 176.167.198.in-addr.arpa.
A Record: qa.198.167.176.\$1.test1.com. points to 198.167.176.{12-15}
PTR Record {12-15}.176.167.198.in-addr.arpa. points to qa.198.167.176.\$1.test1.com.

Save

Finally, hit the "Save" button at the bottom of the gadget - the selected forward and reverse DNS records will be created and added into the DNS Group, viewable in the [DNS Tab](#). From there, you can choose to push / schedule push the newly generated zones, or re-run the generation if desired.

DHCP Customer Configuration Gadget

DHCP Customer configuration

Configuration
Assign IP

Direct Assign
Assign

Smart Assign

IPv4
1918
Atlanta, GA
Choose tags

Select domain
Vlan

Tag selection mode:
☒ Standard – match all selected tags
☐ Strict – match exactly the selected tags
☐ Exclude – match blocks not tagged with any selected tags

Smart Assign
Smart Browse

Linked IP Blocks

Block	Resource	Tags
3.50.50.0/32	123 Department LAB	DHCP Unassign
3.50.50.1/32	123 Department LAB B	DHCP Unassign
3.50.50.8/29	123 Department LAB C	DHCP Unassign

The DHCP Customer Configuration Gadget allows users to assign IP aggregates to the DHCP server pools and generate DHCP Server Configuration changes.

These configurations are then sent to the associated DHCP server Management Gadget as "Unpushed Configurations", where they may be held until a manual or schedule push occurs.

Before using the DHCP Customer Configuration Gadget, the following should be set up in ProVision:

- The associated DHCP server should be created in ProVision and set up in the DHCP Management Gadget (See: [DHCP Tab](#)).
- Add the DHCP Customer Configuration Gadget to the desired Section. You may want to create a specific "DHCP Customer" Section for DHCP customer entries (See: [Customizing Sections](#)).
- Have, or set up DHCP Aggregates from the [IPAM](#) Tab with the desired IP space type, RIR, Region(s), Tags, and any desired VLAN criteria. Regions are a required field when assigning IPs from the DHCP Customer Configuration Gadget.

Using the DHCP Customer Configuration Gadget

- Step 1) Link the Gadget with the desired DHCP Server

DHCP Customer configuration

The customer resource is not assigned to a DHCP Module

Linkage with DHCP Server

DHCP Server

Continue

- Step 2) Assign IP's for Pools from DHCP Aggregates

DHCP Customer configuration

Configuration
Assign IP

Direct Assign
Assign

Smart Assign

IPv4
1918
Atlanta, GA
Choose tags

Select domain
Vlan

Tag selection mode:
☒ Standard – match all selected tags
☐ Strict – match exactly the selected tags
☐ Exclude – match blocks not tagged with any selected tags

Smart Assign
Smart Browse

Linked IP Blocks

Block	Resource	Tags
3.50.50.0/32	123 Department LAB	DHCP Unassign
3.50.50.1/32	123 Department LAB B	DHCP Unassign
3.50.50.8/29	123 Department LAB C	DHCP Unassign

- Step 3) Set up configuration information - add Option 82 Elements, Circuit ID, and notes. Use the "Preview" field to confirm the accuracy of the data, and select the status as "Activate" or "Terminate". Once saved, the updated configuration will be sent to the DHCP Management Gadget.

DHCP Customer configuration

Configuration
Assign IP

Premium DNS

☐ test-diego
(1-dev.6connect.com)
☒ 6c BIND QA Server
(208.39.106.184)
☐ 6c S64 Auth Server QA 2
(s64-dns1.6connect.com)
☐ ssh-test
(217.18.247.197)
☐ 6c PowerDNS QA
(208.39.104.106)
☐ S64 Server 2
(s64-dns1.6connect.com)
☐ Cache Server
(216.17.194.76)
☐ 6c S64 Server1
(s64-dns1.6connect.com)
☐ NSONE Server
(dns1.p04.nsone.net.)
☐ nikov
(217.18.247.197)
☐ 6c Infoblox test VM1
(infoblox1.6connect.com)

Option 82 Elements 1: abc1234
Option 82 Elements 2: MXK-ES01-1-1-305 or LSM-ES01-1-1-305
Option 82 Elements 3: MXK-ES01-1-1-305 or LSM-ES01-1-1-305
Circuit ID:
Preview:

```
host 123_Department_LAB {
  host-identifier option agent.circuit-id "abc1234";
  fixed-address 3.50.50.0;
  option domain-name-servers 208.39.106.184;
}
```

Status: Activate
Notes: Some Note Here

Update configuration

Shrink

- Step 4) an admin user may manually push the updated configuration from the DHCP Management Gadget, or use a [scheduled DHCP push task](#) to automate the pushes.

See [Gadgets - DHCP Customer Configuration](#) for more details.

Additional Features / Improvements

New DNS Import Options

IPAM Admin
VLAN Admin
Data Import
Users
API
Scheduler
Exit Admin

Search or type help

Resource Import:

- Simple Upload/Import from CSV
- Resource Import Tool *Beta*

Import Templates:

- All Import Samples
- IP Import Sample File
- Customer Import Sample File

Peering Import

- Import BGP Sessions

IP Import:

- Upload/Import from CSV
- Import from RIR

DNS Import:

- BIND Zone Upload/Import
- PowerDNS Zone Import
- InfoBlox Zone Import
- NS One Zone Import
- Dyn DNS Zone Import
- DNSMadeEasy Zone Import

Provision DNSv3 supports the addition of four new [DNS Zone Import](#) options to the Admin [Data Import](#) Tab:

- **InfoBlox DNS Zone Import**

To import zones from an Infoblox server, navigate to the Admin area [Data Import](#) Tab, and click on "InfoBlox Zone Import".

From there, fill out information for the Infoblox server host, username, and password. Select the Import options for zone type, view, and

This operation will pull all zones on the InfoBlox LOCAL grid.
This operation may take quite some time.

In order to import the zones it is highly advised to create a group with default parameters and NS records to be inherited by the imported records.

InfoBlox GRID Auth Options:

Server Host:

Server Username:

Server Password:

Import Options:

Authoritative zones type: ☒ Forward ☐ Reverse

InfoBlox view:

Add to Group:

Import

DNS Group.

When done, click the "Import" button.

For more information, see [InfoBlox Zone Import](#).

- **NS One DNS Zone Import**

To import zones from a NS One server, navigate to the Admin area [Data Import](#) Tab, and click on "NS One Zone Import".

From there, enter the NS One API Key and select the desired DNS Group to add the zones under.

This operation will pull all zones from the NS One API.
This operation may take quite some time.

In order to import the zones it is highly advised to create a group with default parameters and NS records to be inherited by the imported records.

NS One Auth Options:

API Key:

Import Options:

Add to Group:

Import

When done, click the "Import" button.

For more information, see [NS One Zone Import](#).

- **DynDNS Zone Import**

To import zones from a Dyn DNS server, navigate to the Admin area [Data Import](#) Tab, and click on "Dyn DNS Zone Import".

From there, enter the DynDNS Customer Name, UserName, and Password, then select the desired DNS Group to add the zones under.

This operation will pull all zones from the DynDNS API.
This operation may take quite some time.

In order to import the zones it is highly advised to create a group with default parameters and NS records to be inherited by the imported records.

DynDNS Auth Options:

Customer Name:

UserName:

Password:

Import Options:

Add to Group:

Import

When done, click the "Import" button.

For more information, see [Dyn DNS Zone Import](#).

- **DNSMadeEasy Zone Import**

To import zones from a DNSMadeEasy server, navigate to the Admin area [Data Import](#) Tab, and click on "DNSMadeEasy Zone Import".

From there, enter the DNSMadeEasy API Key and API Secret, then select the desired DNS Group to add the zones under.

This operation will pull all zones from the DNSMadeEasy API.
This operation may take quite some time.

In order to import the zones it is highly advised to create a group with default parameters and NS records to be inherited by the imported records.

DNSMadeEasy Auth Options:

API Key:

API Secret:

Import Options:

Add to Group:

Import

When done, click the "Import" button.

For more information, see [DNSMadeEasy Zone Import](#).

Peering - Configure Sessions for Existing / Approved Peers:

Configure Sessions for Peer: Amazon.com

☐ Select all exchanges Schedule Configure Now (1)

Equinix Palo Alto ☐ Select all networks

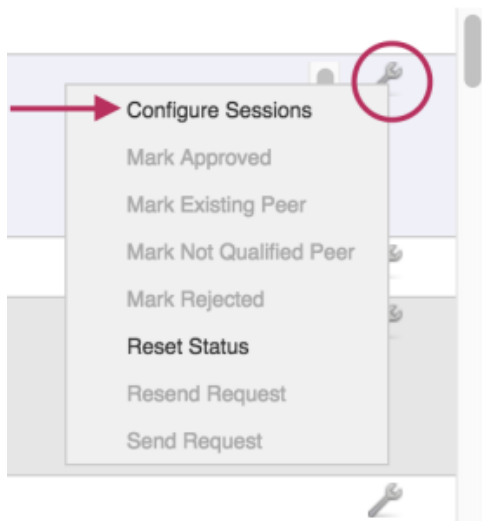
Configure	Peer ASN	Router	Peer IP	Peer Group	Type
☐	16509	lab1-juniper	198.32.176.36	equinix-test	Peer
☐	16509	lab1-juniper	2001:504:d::24	No IPv6 peer groups	Peer
☐	16509	lab1-juniper	198.32.176.217	equinix-test	Peer
☒	16509	cisco-lab1 - QA Router	2001:504:d::d9	dev-v6-peer-group	Peer

Exchanges without routers

- Equinix Seattle
- Digital Realty | Telx New York
- Equinix Los Angeles
- Equinix Hong Kong
- NDB
- Netnod Stockholm
- MIX-IT
- Equinix Paris
- ESPANIX Lower LAN
- KINX
- AMS-IX Hong Kong
- IX Australia NSW
- PLIX
- IX.br (PTT.br) Rio de Janeiro
- JPIX
- SIX Seattle
- LINX LON1
- Equinix Chicago
- AMS-IX
- IX.br (PTT.br) São Paulo
- CoreSite - Any2 California
- FL-IX
- MegaIX Melbourne
- MegaIX Sydney
- TPIX-TW
- NYIIX
- Equinix Tokyo
- BBIX Tokyo
- Equinix New York
- PacificWave
- JPIX OSAKA
- JPNAP Tokyo
- JPNAP Osaka
- BBIX Osaka
- France-IX

An option has been added to the Peering Communications action menu to "Configure Sessions" for that Peer. With this option, you can view and configure all sessions, from any or all exchanges, for that Peer from one menu. "Configure Sessions" becomes available once a peer has been marked "Existing" or "Approved" in the Communications Action Menu. For more information, see [Peering Sessions](#).

Clicking on "Configure Sessions" opens a modal showing the available exchanges with routers, sessions for that Peer under those exchanges, and options to change the router, peer group, and Peer type.



Select the checkmarks for the desired sessions to configure. As a shortcut, you may also check the "Select all exchanges" option to select all sessions under all exchanges, or, check "Select all networks" next to the exchange header to select all sessions in that exchange. From there, deselect items as needed.

Configure Sessions for Peer: Amazon.com

☒ Select all exchanges

[Schedule](#)
[Configure Now \(2\)](#)

Equinix Palo Alto		☐ Select all networks			
Configure	Peer ASN	Router	Peer IP	Peer Group	Type
☒	16509	cisco-lab1 - QA Router	198.32.176.36	dev-v4-peer-group	Peer
☐	16509	lab1-juniper	2001:504:d::24	No IPv6 peer groups	Peer
☐	16509	lab1-juniper	198.32.176.217	equinix-test	Peer
☒	16509	cisco-lab1 - QA Router	2001:504:d::d9	dev-v6-peer-group	Peer

Exchanges without routers

- Equinix Seattle
- Digital Realty | Telx New York
- Equinix Los Angeles
- Equinix Hong Kong
- NDB
- Netnod Stockholm
- MIX-IT
- Equinix Paris
- ESPANIX Lower LAN
- KINX
- AMS-IX Hong Kong
- IX Australia NSW
- PLIX
- IX.br (PTT.br) Rio de Janeiro
- JPIX
- SIX Seattle
- LINX LON1
- Equinix Chicago
- AMS-IX
- IX.br (PTT.br) São Paulo
- CoreSite - Any2 California
- FL-IX
- MegalIX Melbourne
- MegalIX Sydney
- TPIX-TW
- NYIIX
- Equinix Tokyo
- BBIX Tokyo
- Equinix New York
- PacificWave
- JPIX OSAKA
- JPNAP Tokyo
- JPNAP Osaka
- BBIX Osaka
- France-IX

When your selections have been made, click "Configure Now" to immediately configure all selected sessions, or you may [schedule the configuration](#) through the [Scheduler](#) Tab.

Users Tab/ Permissions Updates:

The Users tab in the Admin area of ProVision has been updated to reflect DNSv3 changes for permissions groups. Changes include removing "DNS" as a separate permissions area and incorporating DNS items under the "Resource" permissions area. DNS Groups, Zones, and Servers may now be selected as "Resource" items when settings up permissions groups.

Group Information

Name

Enabled ☒

Resource Permissions (Hide Details)

Resource	IPAM				Peer				Resource				User				SWIP	Admin
	C	R	U	D	C	R	U	D	C	R	U	D	C	R	U	D		
6connect Labz	☒	☒	☒	☒	☐	☒	☐	☐	☒	☒	☒	☒	☐	☒	☐	☐	☐	
7connect Labs	☒	☒	☒	☒	☐	☒	☐	☐	☒	☒	☒	☒	☐	☒	☐	☐	☐	

C: Create R: Read U: Update D: Delete

[Add More Group Permissions](#)

[Save](#)
 Updating Permissions can take some time on a large database.

CPNR Updates:

CPNR Updates include:

- Added a check to ensure CPNR modules in ProVision are reachable prior to Push
- Option 43 is now integrated
scope_upsert call now is taking 2 new parameters "option_43_name" and "option_43_value".
 - The "option_43_name" must be predefined inside CPNR (Design->Options)
 - "option_43_value" should be the value that is going to be set for the Scope for example "241 11.22.33.44" (typically 241 followed by the IP).

DNS APIv1 Updates

To support the release of DNSv3, the following updates have been made to DNS APIv1 endpoints:

- As of DNSv3, zones are now considered their own resource. Thus, DNS APIv1 zone parameters "zoneResourceId", "updateZoneResourceId", and "deleteZoneResourceId" now refer to (and equal) the zone ID instead of the parent resource ID, and are no longer editable values.
- The DNS Zone Control "GET" optional parameters "selectOffset" and "sortBy" have been removed.
- DNS Zone Tags are no longer supported. Zone Tag parameters under target=zone and target=record have been removed.

IPAM APIv1 Updates:

Get: The following updates have been made to IPAM APIv1 "get" endpoint. Valid tagsMode options are now "strict", "exclude", "intersection", and "union". See [API Module - IPAM](#) for additional details.

- If tagsMode is omitted from an IPAM Get request, the mode defaults to 'intersection'
- tagsMode=union has been implemented for IPAM Get. It selects any block which has any one of the tags.
- tagsMode=intersection matches any blocks which has all of the tags.
- tagsMode=strict and tagsMode=exclude remain unchanged.

smartAssign: if the phrase "assignedResourceId=ignore" is supplied, then a matching IP block is selected from the Available pool or any sub-assignable block on any resource.

DNS Gadget Updates:

The DNS Gadget has been simplified to support DNSv3 changes.

DNS		
Zone Records	Entries	
0.0.1.in-addr.arpa.	1	
0.0.10.in-addr.arpa.	1	
0.10.in-addr.arpa.	1	
10.168.192.in-addr.arpa.	1	
100.0.10.in-addr.arpa.	1	
100.200.198.in-addr.arpa.	1	
101.0.10.in-addr.arpa.	1	

- Zone creation, editing, and deletion has moved into DNSv3, under the [DNS](#) Tab.
- The action menu has been simplified to a "View Zone" option, which links to the DNSv3 view zone page (also accessible from clicking on the zone name).
- Zone delegation has been removed.

Bug Fixes/Improvements

IM - 1719: Removed "Edit" link on Contact Gadget for read-only users.

IM - 1948: Added a "Clear Search" function to DHCP Pool searches in the DHCP Management Gadget.

IM - 2089: Added the ability to deselect Domain and VLAN from "Create a New Pool" in the DHCP Management Gadget.

IM - 2380: When adding a Peering session, the Router selector will now correctly reset to the appropriate router list if the selected exchange is changed.

IM - 2385: Resolved an issue where "Invalid Date" would show in the Document Manager "Date" column.

IM - 2387: Fixed an issue where IP Rules would not reserve the first address in an IPv6 block.

IM - 2440: Updated the "Resource Tree" widget on the Dashboard to show text as angled while in vertical mode.

IM - 2456: Updated error message(s) in LIR Manager to show the correct color.

IM - 2458: Resolved an issue where the "Add Session" modal would populate a different router list between multiple modal instances.

IM - 2460: Improved the Resource Linkage Gadget to use the resource_linkage table instead of resource_attr, improving API access.

IM - 2469: Peering import BGP sessions will now detect router sessions in cases where no local sessions currently exist in ProVision.

IM - 2472: Resolved an API issue where a parent block could be directly assigned if specified by ID.

IM - 2487: Resolved an issue that occurred when a non-address string was provided for a Region's Address field. Non-address addresses will now default to global zero positioning on the IPAM Map.

IM - 2486: IPAM APIv1, the parameter tags_mode="strict" has been updated to return only blocks with no tags, if no tags are specified in the call.

IM - 2517: Read only users will no longer be able to view the "Delete" button for RIR Contacts.

IM - 2535: Mobile navigation search box now correctly returns search results.

IM - 2544: Resolved an issue in the DHCP Management Gadget - Create Pool where selecting a Domain / VLAN would prevent selection of an IP Rule.

IM - 2595: Removed "Audit DNS" link from the IPAM Manage Action Menu.

IM - 2599: Resource API fields "category__in" and "category__not_in" are once again returning responses.

IM - 2604: The IPAM Aggregate "Clean Up" function now respects subassignable blocks as assigned when used in conjunction with the "ignore assignments" flag.