Working with NAT Blocks

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The following section contains details on working with NAT blocks, from within the IPAM system.

Working with NAT Blocks

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Track IP NAT Associations

Track NAT associations between public and private (1918) blocks via the IPAM "NAT" Field.

The "NAT" field accepts a single IPv4 CIDR to associate with the current block, and automatically updates the corresponding block with the NAT association.

5.5.0.0/20 - R	IPE Switch to	Parent view	export to CSV	actions +					Search with	in this aggregate	٩ ٥	lear filter	>
		1											
11 Address	↓† NAT	IT Region	1† Tags		IT Assigned to	If Generi	If Updated	IT LIR	11 VLAN	11 Notes	11 Host	IT Metad	
5.5.0.0/23	5.6.0.0/23	Chicago, IL	QA		available	-	2019-08-14	-	-	test	512	-	۰

Working with NAT'ed Blocks

Use caution when managing NAT'ed blocks or aggregates - major actions that change either block's assignment or size (assign, unassign, split, merge, autosplit/cleanup) removes the NAT association.

In this case, complete the necessary high-level block tasks, and then re-save the NAT CIDR association to either block.

Enable NAT

Enable the NAT field by navigating to IPAM Admin Edit IPAM Columns.

From there, ensure that the NAT column is enabled (visible), and customize the column location if desired. Be sure to click "Update" to save any changes.

4	Settings	IPAM Admin 👻	Data Import	Users 🗸	API 🗸	Scheduler	Scanning 🗸	Log	Approvals 🗸	Constraints	Exit Admin	Search		۹	1.
	IPAM Ac	dmin													
	Edit IPAM	Columns 24													
	Manage co	olumn settings g	lobally for all u	users. Edit	t column	names, tog	gle visibility, (or reord	ler columns b	y clicking and	dragging into the desired order.				
	Fi	eld Name					Column Na	me				Visi	bility		
		idr					Address						۲		
	 = r	at					NAT						۲		
	≡ 1	egion				[Region						۲		

Create NAT Association

Ensure that the two appropriate IP Aggregates (one public, one 1918 private space) containing the desired blocks to NAT have been added into ProVision. (See: Working with IP Aggregates)

After verifying the aggregates and blocks, you may add the NAT association:

Open IPAM Manage for either aggregate, then open "Edit Block" for the specific block you wish to NAT. (See: Working with IP Blocks)

Manage aggreg	ate										
5.5.0.0/20 - F	RIPE Switch t	to Parent view	export to CSV	actions +			Search with	nin this aggregate	Q	lear filter	>
11 Address	1† NAT	↓† Region	↓† Tags	11 Assigned to	↓† Generi ↓† Updated	1† LIR	1† VLAN	11 Notes	↓† Host	↓† Metad…	
5.5.0.0/23	-	Chicago, IL	QA	available	- 2019-08-14	-	-	test	512	-	٥
5.5.2.0/26	-	Chicago, IL	QA	Edit	2019-08-13	-	-	test	64		٥
5.5.2.64/26	-	Chicago, IL	QA	Merge	2019-08-13	-	-	test	64	-	٥

In the Edit Block dialog, enter the IPv4 CIDR of the corresponding NAT block. When complete, click "Save".

RIR:	RIPE \$	LIR :		\$ Resource:	assign a resource	
omain:	select a domain	VLAN:		\$ NAT:	5.6.0.0/23	
Generic Code:				Metadata1:		
Region:	Chicago, IL			\$		
Tags:	×QA					
Notes:	test					
	Propagate attributes Mark this bloc!	to all children: c as important:	O OFF			

Once the NAT field has been saved, the association will display in the NAT Column.

5.5.0.0/20 - R	IPE Switch to	Parent view	export to CSV	actions +					Search with	in this aggregate	Q c	ear filter 2	>
It Addrage	IT NAT	It Region	It Tage	11	Assigned to	It Generi	It Undsted	ItIB	IT VI AN	It Notes	It Host	It Motod	
11 Address	11100	11 Hegion	11 1893	+1	Assigned to	ti deneri	11 obrated	*1 EIII		11 140163	11 Hoat	11 1416100	
5.5.0.0/23	5.6.0.0/23	Chicago, IL	QA	a	vailable	-	2019-08-14	-	-	test	512	-	٥

The corresponding block (here, the private 1918 space block) will automatically have the NAT associated applied.

Manage aggrega	ate												
5.6.0.0/20 (1	918 Switch to	Parent view	export to CSV	actions +					Search with	in this aggregate	Q	clear	filter >
↓† Address	It NAT	↓† Region	↓† Tags	11	Assigned to	1† Generi	11 Updated	11 LIR	11 VLAN	↓† Notes	l† Host	11 Met	tad
5.6.0.0/23	5.5.0.0/23	Chicago, IL	QA	a	vailable	-	2019-08-14	-	-	-	512	-	٥

Configure NAT to Router(s)

To push the NAT association to a router, go to the IPAM Manage Action Menu, and select "Configure NAT" for the NAT'ed block(s) (For information on adding a router to ProVision, see Peering Routers).

Open the Action Menu for the NAT'ed block(s) and select "Configure NAT".

11 Address	↓† NAT	11 Region	↓† Tags	11 Assigned to	11 Generi	11 Updated	↓† LIR	11 VLAN 11 Notes
5.5.0.0/23	5.6.0.0/23	Chicago, IL	Dynamic_Base,QA	available	-	2019-08-15		- teet
5.5.2.0/26	-	Chicago, IL	Dynamic_Available,QA	available	-	2019-08-13	- Assi	gn selected blocks
5.5.2.64/26	-	Chicago, IL	Dynamic_Available,QA	available	-	2019-08-13	- Uns	elect all
5.5.2.128/25	-	Chicago, IL	Dynamic_Available,QA	available	-	2018-12-20	- Con	figure NAT

Then, select the router. Add the custom configuration / interface information for the router and click "Configure".

a Configure NAT	
Search:	←──
lab1-juniper (Router)	
QA Cisco Lab 1 (Router)	
QA Cisco Lab 2 (Router)	
Inside Interface:	Outside Interface:
New router View Configuration	Cancel Configure

NAT Rotate Dynamic IPs

NAT'ed block assignments may be automatically rotated to other available IPs via the "Rotate Dynamic IPs" scheduler task available in the Admin Scheduler tab.

"Rotate Dynamic IPs" reassigns single IPv4 NAT addresses (/32s) after 'x' days (since last config push) to an available address denoted by blocks associated with the Dynamic_Available tags.

Prior to using this task, two blocks (one public, one private) must be NAT'ed in IPAM, the NAT Config pushed to a router, and appropriate blocks tagged with "Dynamic_Base" and "Dynamic_Available".

Before you Begin

Before setting up NAT Dynamic IP Block Rotation, ensure the follow has been completed:

- The public/private IP blocks exist in ProVision (as /32s) and have been set up with NAT Metadata and matching IP Tags
- · The NAT'ed blocks have been configured with a router
- The Aggregate(s)/IP's exist in ProVision with sufficient "Available" space to use for Rotating the NAT'ed block(s)
- IPAM Tags match between the NAT'ed blocks and intended available blocks

Add Dynamic Tags to Blocks

After NAT blocks and aggregates have been set up in ProVision with sufficient size, matching IPAM tags, and NAT metadata, you can identify which blocks to use for dynamic rotation by adding the "Dynamic_Base" and "Dynamic_Available" tags.

Go to IPAM Manage and:

- Add the IPAM tag "Dynamic_Base" to the /32 block(s) currently NAT'ed.
- Add the IPAM tag "Dynamic_Available to the aggregate or blocks which match the NAT'ed blocks, and are available for rotation use. If
 used on a block larger than the Dynamic_Base block, the available block will be automatically split.

Manage aggregate										
5.5.0.0/20 - RIF	E Switch	to Parent view et	xport to CSV actions +		Search w	ithin this aggreg	gate	Q	clear	filter >
↓† Address	↓† NAT	↓† Region	l† Tags	↓† Assigned to	↓† Generi	↓† Updated	.↓† LIR		↓† VLAN	↓† Notes
5.5.0.0/32	5.6.0.0/32	Chicago, IL	Dynamic_Base,QA	aaQAEntry	-	2019-08-15	-		-	test
5.5.0.1/32	-	Chicago, IL	Dynamic_Available,QA	available	-	2019-08-15	-		-	test
5.5.0.2/31	-	Chicago, IL	Dynamic_Available,QA	available	-	2019-08-15	-		-	test
5.5.0.4/30	-	Chicago, IL	Dynamic_Available,QA	available	-	2019-08-15	-		-	test
5.5.0.8/29	-	Chicago, IL	Dynamic_Available,QA	available	-	2019-08-15	-		-	test

Set up Scheduler Task

Go to Admin Scheduler, Add the scheduler task "IPAM - Rotate Dynamic IPs".

Enter a number for the days to wait (since last configure) until rotation.

Tasks		
Task Deta	il - Dynamic IP Rotation	
Name	Dynamic IP Rotation	
Task	IPAM - Rotate Dynamic IPs	
Settings	Days Until 1	
	Target CIDR (optional)	
Start	01-Jan-2022	
End	08-Jan-2022	
Schedule	/Repeat Settings	
Repeat Setti	ng	
Repeat Type 🔿	Hourly 💿 Daily 🔿 Weekly 🔿 Monthly 🔿 None (one-time)	
Repeat Time	18:00 -	
🗹 Sun 🗹 Mon 🕻	Tue 🗹 Wed 🗹 Thu 🗹 Fri 🗹 Sat	
Add +		
Repeat Setti	ngs For This Task:	
Every day	at 08:00 UTC Delete	
5		Save Task Cancel

Enter scheduled start / end dates, repeat settings, and click "Save" when complete.

The scheduled task will look for NAT'ed, /32 "Dynamic_Base" blocks that have last configuration times older than the provided day count, and rotate those IPs to "Dynamic_Available" blocks. Dynamic_Available blocks larger than than the Dynamic_Base block will be automatically split.

Additional Information

For additional information on working with the IPAM system in ProVision, see the following areas:

- IPAM GadgetsWorking with IP RulesIPAM Administration