

LIR Walkthrough

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Before You Begin

Before you begin, determine who in your organization has access to the RIR API Keys related to the ASNs used by your organization and gather the following data:

For ARIN, you will need to gather data for the ASN, Org ID, Admin/Tech/Abuse POCs, Name Prefix, and API Keys for each ASN.

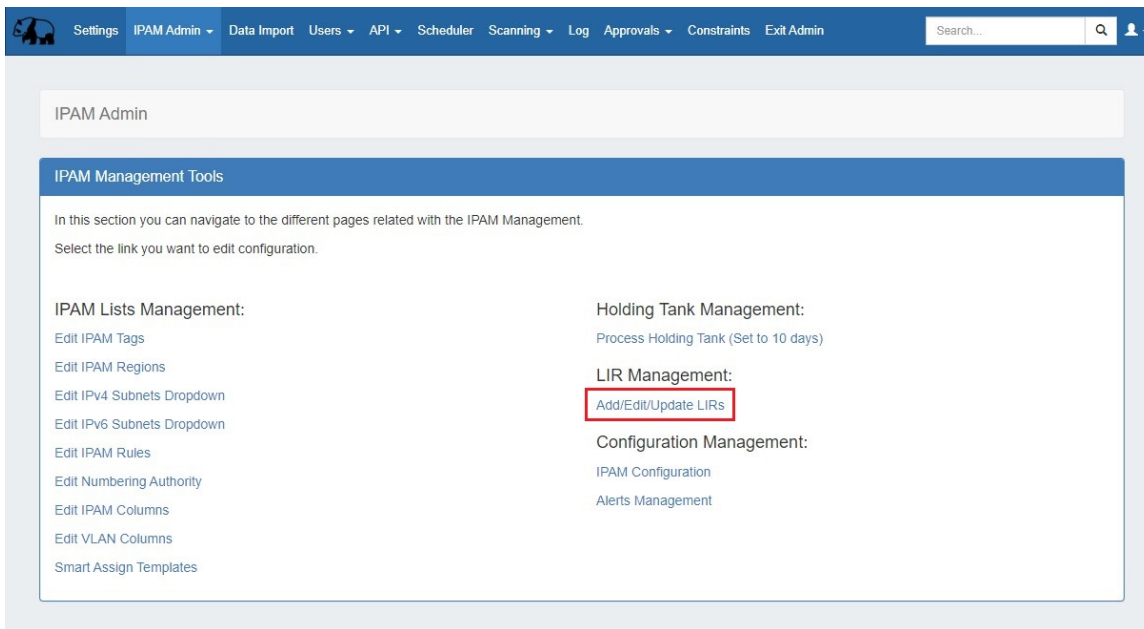
For all other RIRs, you will need information for the Maintainer, Password, and Admin/Tech Contacts per ASN.

- LIR Walkthrough
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 - Set up IP Associations
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Create LIRs

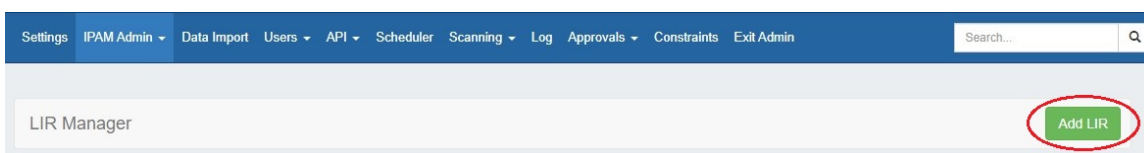
First, go and set up an LIR from Admin [IPAM Admin](#).

Click "Add / Edit / Update LIRs"



Complicated or large organizations will likely need many.

Start by adding a new LIR by clicking the "Add LIR" button at the top of the page:



At this point, you should have data collected for each RIR/ASN combination used in your organization.

Select the RIR, enter the Name and ASN, and then enter the relevant Org ID / POC / API Key (or Password) for the LIR. Entering the ARIN API Keys for ARIN LIRs is critical for every SWIP action. The API Key contained within an LIR object will be used to authenticate against ARIN's systems when you want to update them.

When you are done, click "Save" and continue to add other LIRs as needed.

An example of how this should look:

We can verify this information by querying the ARIN database, like so:

```
https://whois.arin.net/rest/org/CONNE-81/pft?s=conne-81
https://whois.arin.net/rest/poc/6CONN-ARIN?s=6conn-arin
```

Once you have an LIR in ProVision, it is trivial to query the API of its resource from the ProVision database using the resource Id number.

Set up IP Associations

From here, ensure that IP space has been entered into ProVision, along with necessary Contacts and Resources.

Associate Contacts with the Resources, and assign IP space to the necessary Resources. See: [Resources](#), [Working with Entries](#), [Contact Manager](#), and [Working with IP Blocks](#).

Make sure that you have followed the following guidelines:

- Danger #1: Make sure you own the IP space in question. ARIN knows who is supposed to be administering every bit of IP space under its domain, and you will run into issues if you do not actually own the IP space according to the RIR.
- Danger #2: Make sure the IP space is actually assignable with ARIN.

An example of why SWIPs might fail

Lets imagine that 10 years ago some network administrator did a simple assignment with ARIN which noted that a certain /26 was under management by Company A. Since then, that administrator has been fired, the company he worked for has been acquired, that company was then itself acquired, and Company A has gone bankrupt and dissolved.

Today, nobody knows about all this. But ARIN remembers that a certain /26 has been delegated to Company A, and nobody has informed them otherwise. This is a not-uncommon issue.

So today, you come along and you are doing your tests with a /28 which happens to be a sub-block of the /26. You can configure everything correctly and despite that, ARIN will completely refuse to SWIP the /28, because ARIN thinks that the /28 is part of a /26 which is already SWIP'd.

To make matters worse, ARIN won't tell you why it is refusing to SWIP the /28 -- it will just tell you its invalid. The only way to debug this situation is manually probe the ARIN database until you find the already-SWIP'd block, construct this block in ProVision, try to SWIP it (and fail, because it is already SWIP'd), then de-SWIP it, clearing the erroneous state both from ProVision and from ARIN. Due to a lack of access to the ARIN database, ProVision is limited in its methods of handling situations such as these.

SWIP

We've got everything together so let's do some SWIP'ing. Our happy candidate is 67.221.244.160/27, which is a slice of 6connect's very own domain. Screenshot from ARIN:

The screenshot shows the ARIN Online interface. On the left is a red sidebar with the ARIN logo and a button labeled 'ARIN Online enter'. The main content area is titled 'WHOIS-RWS'. Below the title, it says 'You searched for: 67.221.244.160/27'. A table titled 'Networks' displays the following data:

Networks	
NET67 (NET-67-0-0-0-0)	67.0.0.0 - 67.255.255.255
6CONNECT-1 (NET-67-221-240-0-1)	67.221.240.0 - 67.221.255.255

From here we can see that the /27 is currently undivided as far as ARIN is concerned. ARIN's database is arranged in a hierarchy, so it first looks to see if that /27 exists in its

database (nope), then it looks for blocks it *does* know about it which contains it. Here we see 6connect's /20 as its immediate owner:

<https://whois.arin.net/rest/net/NET-67-221-240-0-1>

And ARIN's own base allocation as the next-highest owner:

<https://whois.arin.net/rest/net/NET-67-0-0-0-0>

The story of this block is therefore: "ARIN was given this IP Block by ICANN, then ARIN did a Direct Allocation of a /20 to 6connect." And in a bit here, 6connect will do a detailed re-assign to MedaTeckle, a made-up company whose headquarters is the birthplace of Genghis Khan.

Here is the resource:

Contact Info

Phone:

Fax:

edit

Mailing Details:

Billing Details:

Delüün Boldog
 Dadal, Khentii 00001

Same as mailing details

GeoIP Details:

Same as mailing details

Tech Info

DNS Servers

ns1: ns1

ns4:

ns2: ns2

ns5:

ns3:

ns6:

ARIN Info

Org ID:

Abuse POC:

Org POC:

Origin AS:

Net POC:

Residential Customer Privacy:

Disabled

And here are the contacts:

Contacts

Select Contact: (or import via LDAP)

Search for a Contact

Assign

Name	Role	Email	ID	
Henry Jones	ARIN-NET	drjonesjr@test.com	#229	⚙
Jane Doe	ARIN-ADMIN	test@test.com	#39876	⚙

Having someone in the 'ARIN-NET' and the 'ARIN-ADMIN' roles is required for a Detailed Reassign. It is currently not possible to have a single Contact with both roles, so you'll need two contacts listed.

Here is the last piece, our IP block:

IPAM

Direct assign

Smart assign

IP Blocks

Address

Region

67.221.244.160/27

-

Displaying 1 to 1 of 1 blocks

So I open up the gear menu for the IP block right here on the resource page and I get this screen:

ARIN Integration 67.221.244.160/27 (67.221.244.160 - 67.221.244.191)

6connect

Net Name: 6CONN-6C-060-67-221-244-160-27

Registrar Public Name (Simple Reassign only):

By default, when ARIN blocks are SWIPed the customer name in the WHOIS database will be set to the assigned resource name. To override this, enter a public name to use in this field.

Org Handle	Admin POC	Net POC	Abuse POC	Net Name Prefix	API Key
☒ CONNE-81	6CONN-ARIN	6CONN-ARIN	6CONN-ARIN	6CONN	*****

Simple Reassign Detailed Reassign Close

I select the LIR in the upper-left (currently selected: 6connect), the Net Name is automatically generated from the LIR + netblock, and we are using the "CONNE-81" organization within the 6connect LIR. This will supply the ARIN API Key to make this all happen. I hit Detailed Reassign and after a few minutes of waiting for ARIN to catch up, here are the results:

ARIN Online
enter

WHOIS-RWS

You searched for: 67.221.244.160/27

Networks	
NET67 (NET-67-0-0-0)	67.0.0.0 - 67.255.255.255
6CONNECT-1 (NET-67-221-240-0-1)	67.221.240.0 - 67.221.255.255
6CONN-6C-060-67-221-244-160-27 (NET-67-221-244-160-1)	67.221.244.160 - 67.221.244.191

Our /27 has been delegated to our new fake company, here:

<https://whois.arin.net/rest/net/NET-67-221-244-160-1>

A new ARIN entry for the fake company has been automatically made:

<https://whois.arin.net/rest/org/MEDAT-1.html>

<https://whois.arin.net/rest/org/MEDAT-1.html>

And the relevant Points of Contact have been generated:

<https://whois.arin.net/rest/org/MEDAT-1/pocs>

This lets everyone know that if issues arise with that / 27, they know who to contact to resolve the issue.