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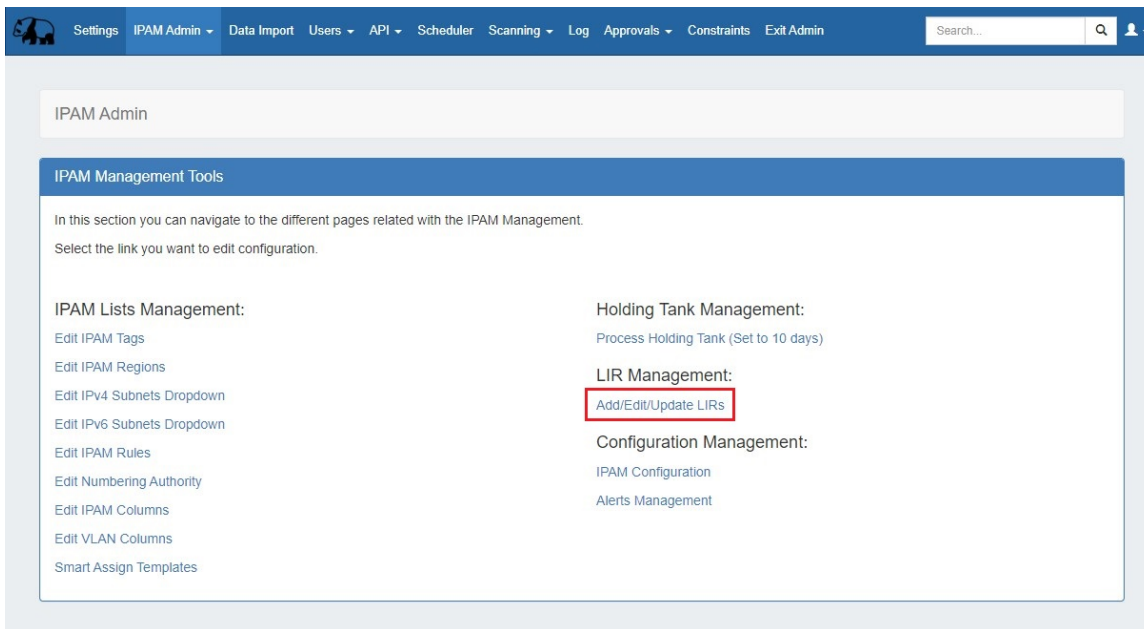>
> For all other RIRs, you will need information for the Maintainer, Password, and Admin/Tech Contacts per ASN.

- LIR Walkthrough
    - Create LIRs
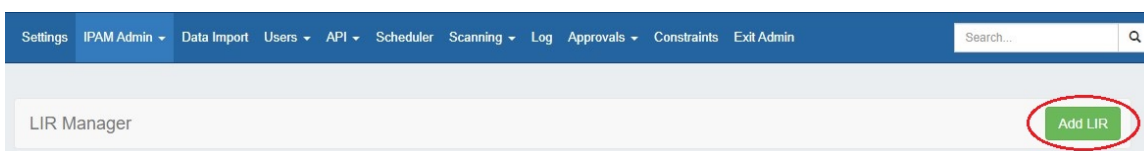   - Set up IP Associations
    - SWIP

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.

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:

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		Tech Info	
	edit		edit
Phone:	**Fax:**	DNS Servers	
		ns1: ns1	**ns4:**
Mailing Details:	**Billing Details:**	**ns2:** ns2	**ns5:**
Delüün Boldog	Same as mailing details		
Dadal, Khentii 00001		**ns3:**	**ns6:**
		ARIN Info	
GeoIP Details:		**Org ID:**	**Abuse POC:**
Same as mailing details		**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:

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:

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.