

Working with IP Blocks - Common Tasks

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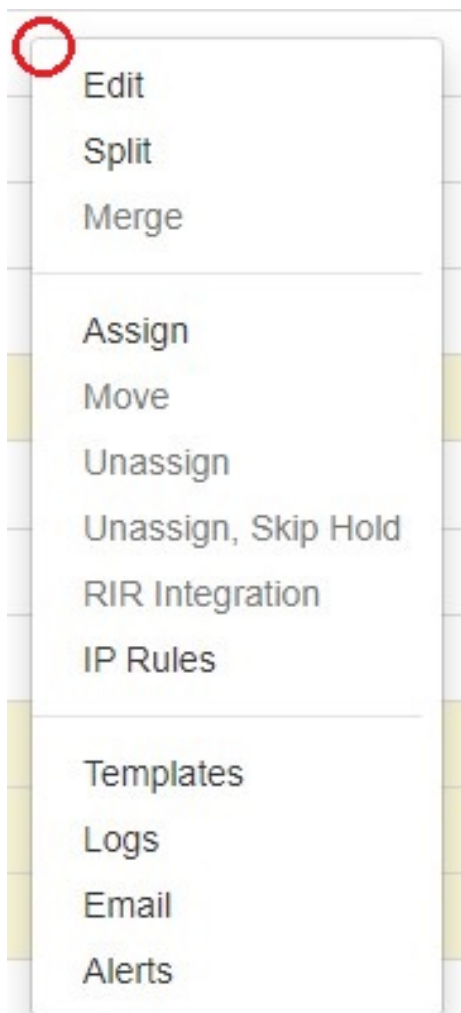
Individual Blocks may be managed from either IPAM Manage, or the IPAM Gadget. (if assigned to a resource, and the IPAM Gadget is enabled on the Resource's Entry Page).

In general, standard actions from the Action Menu will be performed the same in either area, with "Assign" being the exception.

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IPAM Block Action Menu - Overview

Most actions performed with block managed are contained under the IPAM Manage - Action Menu. Open the Action Menu by left clicking on the Gear Icon, or right clicking anywhere on the block's row. The same Action Menu is also available to manage blocks via the IPAM Gadget.



The Action Menu contains the following options:

- **Edit:** Opens the blocks "Edit Attributes" page, used to add, change, or remove data associated with a block. Can also be opened by double clicking on a block's row.
- **Split:** Splits the selected single block into two equal smaller blocks, of the next smallest mask, e.g. a /24 will be split into two /25s. The Split option is not available for blocks that are already of the smallest available size (IPv4 /32s or IPv6 /128s), for blocks in "Holding", or for blocks that are already assigned and do not have subassignments enabled. If more than one level of splitting is needed, use "Templates - Auto Split" instead.
- **Merge:** The opposite of Split. Merge combines two blocks of equal size into the next largest mask, e.g., two /25s will be merged into one /24. Merge is only available for adjacent blocks of the same size that are "Available", in "Holding", or is subassignable.
- **Assign:** Assigns the block to a ProVision Resource, making it unavailable for other assignment actions and certain block actions (unless edited to be subassignable).
- **Move:** Moves IP Blocks from one resource to another without the need to pass through either the Holding or Available status.
- **Unassign:** Unassigns the Resource from the current block, and moves the block into the Holding Tank. The block may then be eligible for certain actions such as direct assignment, merge, and split - but not for automated assignments until it is removed from Holding and regains the "Available" status. Unassigning a subassigned block will first place the block in "Holding", and then restore it to the parent assignment. (Tip: You can "Unassign" twice in a row to bypass "Holding", or select "Unassign, Skip Holding".)
- **Unassign, Skip Holding:** Unassigns the Resource from the current block, and bypasses the Holding Tank, restoring the block to "Available" status (or to the parent assignment if the block was subassigned).
- **RIR Integration:** Provides SWIP/RPSL functions for ARIN and RIPE blocks through simple reassigns, sending the updated block assignment information back to the coordinating RIR (ARIN or RIPE). See [LIR Management and Use](#) and [RIR Integration: SWIP/RPSL](#).
- **IP Rules:** Create or Associate an IP Rule to the block to reserve portions of the block from assignment. See [IPAM Rules](#).

- **Templates:** Provides options to 'Auto-Split' a standard block (that is available for standard "split" functionality) down to a certain mask and limit, or "Clean Up"(Auto-merge) a Parent Block to a certain mask level.
- **Logs:** Shows recent log event actions associated with that block.
- **Configure NAT:** Only displays for NAT'ed blocks. Configures the NAT'ed block to the selected router.
- **Email:** If a [Contact](#) is associated with the Resource assigned to the block, an email form with display to email the Contact with the template options provided in [Admin Settings](#).
- **Alerts:** Enable or clear alert emails for a block by setting an email address and utilization percentage level. When the block is utilized to the set percent, an email alert will be sent to the provided address.

Split or Merge Blocks Manually

To split a block manually, click on the Action Menu (Gear icon), or right-click anywhere in the row for the available block you wish to modify.

In the menu that appears, select the "Split" function.

To aggregate blocks, select "Merge" from the same menu.

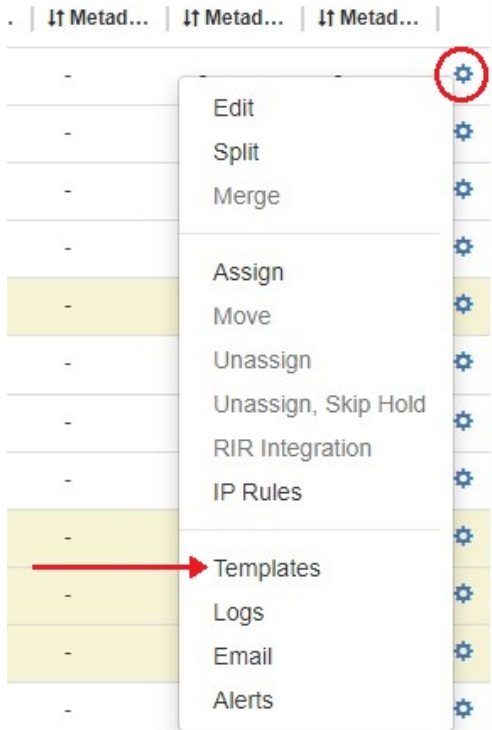
| Manage aggregate | | | | | | | | | | | |
|----------------------|---------|-----------|---------|-----------------------|---------------|---------------|-------------------|---------------------------------|--------|---------|----------|
| 8.41.207.0/24 - ARIN | | | | Switch to Parent view | Netblock Tree | export to CSV | actions + | Search within this aggregate... | | | |
| IP Address | IP Mask | IP Region | IP Tags | IP Assigned to | IP VLAN | IP LIR | IP Updated | IP ASN | IP NAT | IP Code | IP Notes |
| 8.41.207.0/30 | 30 | - | | Sunesys LLC | - | - | 2022-11-10 12:54 | - | - | - | |
| 8.41.207.4/30 | 30 | - | | available | - | - | 2018-10-17 06:... | - | - | - | |
| 8.41.207.8/29 | 29 | - | | available | - | - | 2018-10-17 06:... | - | - | - | |
| 8.41.207.16/28 | 28 | - | | available | - | - | 2018-10-17 06:... | - | - | - | |
| 8.41.207.32/27 | 27 | - | | USA Techno... | - | - | 2018-10-05 11:45 | - | - | - | |
| 8.41.207.64/30 | 30 | - | | Sunesys LLC | - | - | 2018-10-05 11:45 | - | - | - | |
| 8.41.207.68/31 | 31 | - | | available | - | - | 2022-11-10 13:10 | - | - | - | |
| 8.41.207.70/31 | 31 | - | | available | - | - | 2022-11-10 13:10 | - | - | - | |
| 8.41.207.72/29 | 29 | - | | available | - | - | 2018-10-17 06:... | - | - | - | |
| 8.41.207.80/28 | 28 | - | | APPLIANC... | - | - | 2022-11-10 12:55 | - | - | - | |
| 8.41.207.96/29 | 29 | - | | PHILADELP... | - | - | 2018-10-05 11:45 | - | - | - | |
| 8.41.207.104/30 | 30 | - | | available | - | - | 2022-11-10 13:10 | - | - | - | |

The Split option is not available for blocks that are already of the smallest available size (IPv4 /32s or IPv6 /128s), for blocks in "Holding", or for blocks that are already assigned and do not have subassignments enabled. If more than one level of splitting is needed, use "Templates - Auto Split" instead.

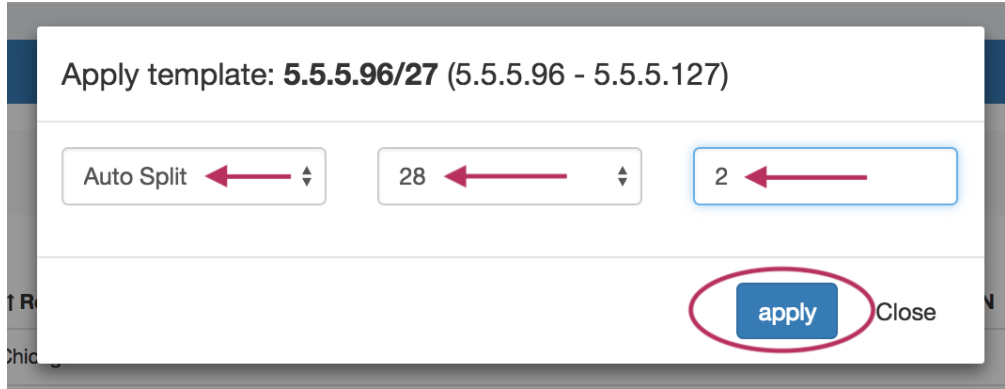
Merge is only available for adjacent blocks of the same size that are "Available", in "Holding", or are subassignable.

Split or Merge Blocks Using Templates

Templates for a block are available under the Action Menu (gear icon or right-click) for that block. Templates are only usable from IPAM Manage.



There are two templates available: Cleanup (Only available for parent blocks) which auto-aggregates the block, and Auto-split. Select the available template action, the mask, and the limit. When done, click the "Apply" button.



You can also use the "Templates" option from the Action Menu on the IPAM Manage screen for the specific block.

Edit IP Block Attributes

You may edit a block / multiple blocks from either IPAM Manage or the IPAM Gadget, with the same options available.

Select the "Edit" option from the Action Menu (or double click on the block row) for a given block to get the Edit Attributes menu.



To edit multiple blocks at a time, shift-click each block you wish to edit - they will highlight in blue. Once selected, right-click on any highlighted block to open the multi-edit attributes screen.

| | | | | | | | | | | | | | |
|---------------|--------|-----------------|------------|----------|-----------|-----------|---|---|------|------------|---|-------------|---|
| 16.5.32.0/19 | 8192 | ARIN Default... | Denver, CO | Customer | Some Note | available | - | - | 8038 | 2019-07-25 | - | Some Inf... | ⚙ |
| 16.5.64.0/18 | 16384 | ARIN Default... | Denver, CO | Customer | Some Note | available | - | - | 8038 | 2019-07-25 | - | Some Inf... | ⚙ |
| 16.5.128.0/17 | 32768 | ARIN Default... | Denver, CO | Customer | Some Note | available | - | - | 8038 | 2019-07-25 | - | Some Inf... | ⚙ |
| 16.6.0.0/15 | 131072 | ARIN Default... | Denver, CO | Customer | Some Note | available | - | - | 8038 | 2019-07-25 | - | Some Inf... | ⚙ |
| 16.8.0.0/13 | 524288 | ARIN Default... | Denver, CO | Customer | Some Note | available | - | - | 8038 | 2019-07-30 | - | Some Inf... | ⚙ |

Once selected, right-click on any highlighted block to open the multi-edit attributes screen.

From here you can set a variety of attributes for a given block. These values are also customizable from the Admin screen - see [IPAM Administration](#) and [IPAM Lists Management](#) to customize, enable, or disable the available parameters.

If a field that you know is supported in ProVision appears to be 'missing' from the IPAM Mange, IPAM Manage filters, or Edit Attributes screens, check the following:

Have an Admin verify that the field is set to "enabled" in Admin [IPAM Admin Edit Columns](#). Any field disabled here will be hidden throughout ProVision, and some functions are dependent on certain fields being enabled - for example, filtering by Mask in IPAM Manage requires the "Host" field to be enabled.

In IPAM manage, verify that the column widths of each field are set wide enough to display the column header

Check for a scroll bar - when all attributes are enabled, many screens will require scrolling down or to the right in order to see all of the available data.

After editing the desired attributes for the block, simply hit "Save".

Edit Attributes: 16.5.64.0/18 (16.5.64.0 - 16.5.127.255)

| | | | | | |
|---------------|--------------------|-------|------------------|-----------|------------------------|
| RIR: | ARIN | LIR: | ARIN Default LIR | Resource: | assign a resource... |
| Domain: | select a domain... | VLAN: | | NAT: | xxxx/yy or xxxxxxxx/yy |
| Generic Code: | | ASN: | 8038 | Meta1: | Some Info 1 |
| Region: | Denver, CO | | | | |
| Tags: | x Customer | | | | |
| Notes: | Some Note | | | | |

Propagate attributes to all children: ☐ OFF

Mark this block as important: ☐ OFF

Close Save

Edit Attributes Overview:

- RIR:** The RIR associated with the aggregate / block.
- LIR:** If LIRs are set up in IPAM Admin for the associated RIR, they will be selectable in this dropdown. See [LIR Management and Use](#).
- Domain:** The VLAN Domain to associate with the block. To set up domains in ProVision, see [VLAN - Working with Domains](#).
- VLAN:** VLAN information for the block, must have domain selected to view available VLANs.
- Generic:** This is a customizable text field that can be used to track information specific to your needs. It can be filtered in the IPAM Manage screen. The header, display, and enable/disable settings for this field are set under IPAM Configuration in the [IPAM Administration](#) section.
- ASN:** The ASN to associate with the block. ProVision auto-generates AS-Resources when an ASN is provided for the field in standard ASN format.
- Region:** Select the region from the drop down menu. Regions can be added and customized in the IPAM Admin section of ProVision - see [IPAM Administration](#) and [IPAM Lists Management](#).
- Tags:** Tags can be set under Edit Tags in the [IPAM Administration](#) section.
- Notes:** Freeform text field for additional information you wish to capture.
- Resource:** The resource assigned to the block. Click "Create and assign" to create a new resource to assign the block to if desired.
- NAT:** The corresponding public or private block CIDR that is associated with the current block.
- Metadata1 - Metadata 10:** User-defined text fields, as set in [IPAM Administration](#) Edit Columns.
- Allow Sub-assignments:** When editing a block that has been assigned, toggling this setting to "On" allows for further subassignments, indicated by a blue arrow next to the assignment in the Manage screen. Note: Subassign status cannot be changed if a block has children.
- Propagate Attributes to Children:** Toggle this setting to "On" when editing a parent block to carry through attribute changes to all children of that block *for that edit* (Only the changes made during that edit will propagate, instead of all values). This is not a persistent setting - it only applies to the specific edit you are in the process of making. To view parent blocks, and see which children would be affected, view the aggregate / parent block in Parent View or set filters to "Select all masks".

Note: The VLAN of a child cannot be different from that of its parent, so for multi-level situations (Parent -> Child -> Grandchild), VLAN should be updated at the top tier parent level.

IPAM Auto AS-Resource

ProVision automatically creates an AS resource for ASN's entered into IPAM Manage (formatted as "AS1234" or "1234").

| Manage aggregate | | | | | | | | | | | | | | | |
|---------------------------------|--------|---------------|--------------------------|----------------|-------------|--------|------------------|--------|----------------|----------|-------------|-------------|-------------|-------------|-------------|
| Advanced Search - export to CSV | | | | | | | | | | filter > | | | | | |
| IT Address | IT NAT | IT Region | IT Tags | IT Assigned to | IT Custo... | IT ASN | IT Updated | IT LIR | IT Notes | IT VLAN | IT Metad... | IT Metad... | IT Metad... | IT Metad... | IT Metad... |
| 0.0.0.0/23 | - | San Francisco | 12 Infra,16 QA/TestBL... | 14917 | Test | 8038 | 2020-07-28 11:51 | abc | Test Aggregate | 4 | - | - | - | - | - |
| 0.0.0.0/24 | - | - | - | A QA Entry → | - | 8038 | 2020-07-31 16:55 | - | - | - | - | - | - | - | - |
| 0.0.0.0/24 | - | San Francisco | 12 Infra,16 QA/TestBL... | Anden Compa... | Test | 8038 | 2019-07-22 03:35 | abc | Test Aggregate | 4 | - | - | - | - | - |
| 0.0.0.0/8 | - | - | - | available | - | - | 2020-07-28 17:31 | - | - | - | - | - | - | - | - |

An ASN in IPAM Manage will link to the created resource, which will display all IP Blocks in ProVision with that ASN value. SystemAS resources may not be edited, however they may be deleted by an admin if desired.

Resources / Entries / AS8038

Resource View

Name: AS8038 **Section:** SystemAS **ID:** 50335 **Category:** Uncategorized

IPAMv2

Direct assign

Smart assign

IP Blocks

| IP Address | IP NAT | IP Region | IP Tags | IP Custo... | IP ASN | IP Updated | IP LIR | IP Notes | IP VI |
|------------------|--------|-------------------|---------------|-------------|--------|------------|-----------------|----------------|-------|
| 10.0.0.16/28 | - | San Francisco, CA | - | - | 8038 | 2021-12-15 | - | Test Aggregate | QA T |
| 16.5.0.0/25 | - | Chicago, IL | Customer,QA | 1234 | 8038 | 2021-11-02 | ARIN Default... | QA Test | QA T |
| 16.5.0.0/25 | - | - | Customer | 1234 | 8038 | 2021-11-24 | - | QA3 | - |
| 24.216.31.0/25 | - | Denver, CO | Customer | 0 | 8038 | 2021-11-02 | ARIN Default... | - | Ano |
| 24.216.31.128/30 | - | Denver, CO | Customer | 0 | 8038 | 2021-11-08 | ARIN Default... | - | Ano |
| 24.216.31.132/30 | - | Denver, CO | Customer | 0 | 8038 | 2021-11-10 | ARIN Default... | - | Ano |
| 24.216.31.136/29 | - | Denver, CO | Customer | 0 | 8038 | 2021-11-10 | ARIN Default... | - | Ano |
| 24.216.31.144/28 | - | Denver, CO | Customer | 0 | 8038 | 2021-11-10 | ARIN Default... | - | Ano |
| 24.216.31.160/27 | - | Denver, CO | Customer | 0 | 8038 | 2021-11-08 | ARIN Default... | - | Ano |
| 24.216.31.192/26 | - | Denver, CO | Customer | 0 | 8038 | 2021-11-09 | ARIN Default... | - | Ano |
| 24.216.37.64/26 | - | Paris, FR | BugFixTest,QA | 1234 | 8038 | 2021-11-10 | - | testnote | QA T |
| 2001:433::1/27 | - | Chicago, IL | QA,RIPE | 3456 | 8038 | 2021-11-09 | - | testnote | 1 |
| 2001:433::2/128 | - | Chicago, IL | QA | 3456 | 8038 | 2021-11-09 | - | testnote | 1 |
| 2001:433::3/128 | - | Chicago, IL | QA | 3456 | 8038 | 2021-12-13 | - | testnote | 1 |
| 2001:433::4/126 | - | Chicago, IL | QA | 3456 | 8038 | 2021-11-09 | - | testnote | 1 |

Displaying 1 to 15 of 77 blocks

< 1 2 3 4 5 6 >

Assign IP Space

There are two areas where you can assign IP Space: in the IPAM Gadget for the particular Resource, or through IPAM Manage for manually assigning a block to a resource.

The IPAM Gadget allows for more detailed assignment options including Direct Assign, Smart Browse, and Smart Assign with advanced options, and is the primary tool for space assignment.

Assign Space from the IPAMv2 Gadget

The IPAM Gadget is accessed from a Resource Entry page, once enabled for the Section (to add Gadgets, see [Customizing Sections](#) and [Add Gadgets to your Section](#)).

For additional details on the IPAMv2 Gadget, see [Gadgets](#).

IPAMv2

Direct Assign

Smart Assign

IP Blocks

Options

export to CSV

Search...

| IP Address | IP Mask | IP Tags | IP LIR | IP ASN | IP Region | IP VLAN | IP Updated | IP ID Code | IP Host Count |
|---------------------|---------|-----------------------|---------------|--------|---------------------|------------|------------|------------|---------------|
| 50.100.0.16/28 | 28 | BB,WEBHOST | ARIN Test LIR | 1234 | Cairo, Egypt | VLAN 5 | 2023-12-11 | 12345 | 16 |
| 50.100.0.32/28 | 28 | BB,WEBHOST | - | - | - | - | 2023-12-11 | - | 16 |
| 50.100.0.48/28 | 28 | BB,WEBHOST | - | - | - | - | 2023-12-11 | - | 16 |
| 208.123.96.96/27 | 27 | | - | - | - | - | 2023-06-09 | - | 32 |
| 2001:102::1/128 | 128 | | - | - | Rio de Janeiro, ... | Test VL... | 2024-01-12 | - | 1 |
| 2405.D800::/32 | 32 | | - | - | Reykjavik, Iceland | - | 2023-12-12 | - | 2^96 |
| 2600.450::2/128 | 128 | Another QA Tag, DH... | - | - | Saskatoon, Sask... | - | 2023-12-12 | - | 1 |
| 2604.5680:100::/41 | 41 | | - | - | Boston, MA | - | 2023-12-12 | - | 2^87 |
| 2604.5680:3002::/48 | 48 | | - | - | - | - | 2023-12-12 | - | 2^80 |
| 2607.FAE0:4000::/48 | 48 | Another QA Tag | ARIN Test LIR | 1234 | Hebbronville | 2 | 2023-12-11 | - | 2^80 |

Displaying 1 to 10 of 10 blocks

You have three options for assigning IP space using the IPAM Gadget: Direct Assign, Smart Assign, and Smart Browse.

Direct Assign

Direct Assign is used when you know the exact CIDR that you wish to assign to the Resource. You can use "Simple" direct assign, for straightforward assignments of a CIDR to the Resource, or "Advanced", used in cases where duplicate blocks may exist and you need additional criteria to differentiate between them.

Simple Direct Assign:

Expand the "Direct Assign" module of the IPAMv2 Gadget by clicking the "Expand" arrow on the right side of the header.

Direct Assign

Show Advanced Options

CIDR

8.41.206.8/29

Enter valid address

Assign

8.41.206.8/29 assigned to QA Test Resource (41849) Edit assigned block

Type the desired CIDR to assign in the CIDR input box, then click "Assign". A message will appear to confirm success, or provide details on an error. A newly assigned block may be edited immediately by clicking "Edit assigned block" in the message bubble.

Advanced Direct Assign:

In some cases, you may need the ability to further specify a block to direct assign - such as if you have duplicate 1918 blocks. The "Show Advanced Options" filters allow for further detail to be provided to ensure ProVision assigns the specific block that is intended.

Expand the "Advanced Options + " link to the right of the "Direct Assign" module header.

Direct Assign
Show Advanced Options +

CIDR

8.41.206.16/28

Enter valid address

Assign

Then, add in the desired CIDR, and set your additional filter criteria, such as RIR, region, LIR, VLAN, and so forth. To assign a sub-assignable block, select the resource under which the block is allocated. Section and category options are available to filter the resource selector. When done, hit "Assign".

Direct Assign
Hide Advanced Options -

CIDR

8.41.206.16/28

Enter valid address

RIR

ARIN

LIR

Domain

Select a domain...

Aggregates

Select an aggregate...

Region

Chicago, IL

Code

VLAN

Select...

Assigned to

Filter by section...

Filter by category...

Select a resource...

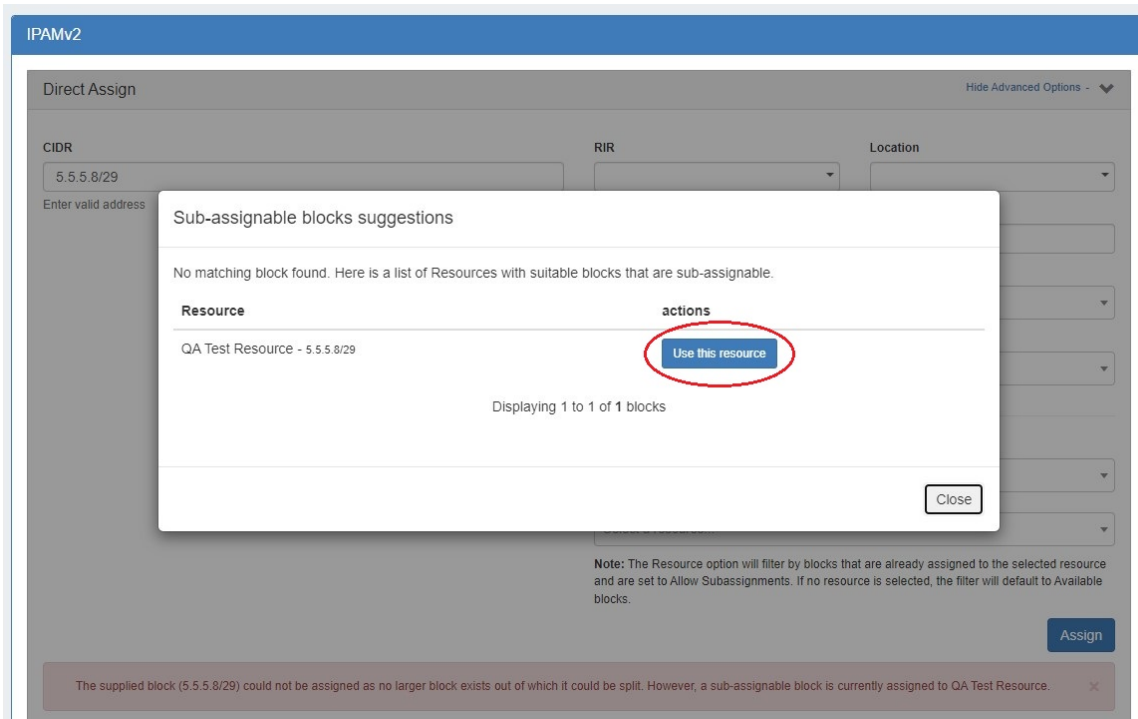
Note: The Resource option will filter by blocks that are already assigned to the selected resource and are set to Allow Subassignments. If no resource is selected, the filter will default to Available blocks.

Assign

8.41.206.16/28 assigned to QA Test Resource (41849) [Edit assigned block](#)

A newly assigned block may be edited immediately by clicking "Edit assigned block" in the success message bubble.

If no available blocks are found meeting the Direct Assign filter conditions, but one or more subassignable blocks are found, a modal will inform the user and suggest resources with allocations that meet that criteria. To assign the suggested block, simply click "Use this resource".



Smart Assign / Smart Browse

Smart Assign and Smart Browse are used when you have criteria that you need to meet for the assignment, and any block meeting that criteria is acceptable for assignment.

With Smart Assign, you enter criteria such as IP Type, Size, RIR, Region, and Tag information, then ProVision's automation will automatically assign a block meeting that criteria, if any exist. Smart Browse uses the same criteria, but provides a browsable list of blocks meeting that criteria for you to select from. Users can also save commonly applied Smart Assign / Smart Browse filter criteria for repeat use as Predefined Filters.

Expand the "Smart Assign" module in the IPAMv2 by clicking the expansion arrow in the right side of the Smart Assign header.

For a basic assignment, enter at least the IP type, RIR, and block size.

To assign a sub-assignable block, select the resource under which the block is allocated. Section and category options are available to filter the resource selector.

IP Tag filters are optional. IP Tag filters exist in three modes:

- Standard - checks to see if the selected tag is associated with the block
- Strict: limits results to blocks with exactly the selected tag(s)

- Exclude - blocks without the selected tag(s)

For Advanced Options, Click the "Show Advanced Options +" expansion link in the top right of the header. Additional filter criteria will be available to apply to both Smart Browse and Smart Assign.

The image shows the 'Smart Assign' configuration interface. At the top right, there is a 'Hide Advanced Options' link circled in red. The form contains several sections:

- Basic Filters:** Type (ipv4), Mask (29), LIR (ARIN Test LIR), Code (1234), RIR (ARIN), and Region.
- Domain and VLAN:** Domain (Select a domain...) and VLAN (Select...).
- Tags:** A list with 'Customer' and radio buttons for 'Standard' (selected), 'Strict', and 'Exclude'.
- Assigned to:** Filter by section and Filter by category dropdowns.
- Resource Selection:** A 'Select a resource...' dropdown.
- Buttons:** 'Smart Browse' and 'Smart Assign' buttons at the bottom right, both circled in red.

Then click "Smart Browse" or "Smart Assign".

For Smart Assign, you will receive a message indicating a successful assignment, or information regarding an error. If no blocks are available meeting the criteria, the message will say so. In this case, try removing one or more of your filter criteria and try again. As with Direct Assign, a newly assigned block may be edited immediately by clicking "Edit assigned block" in the success message bubble.

For Smart Browse, a screen will pop up showing blocks meeting your criteria. Browse to the block you want to assign, and click either "Assign this block", or "Assign from this block"(splits a larger block down).

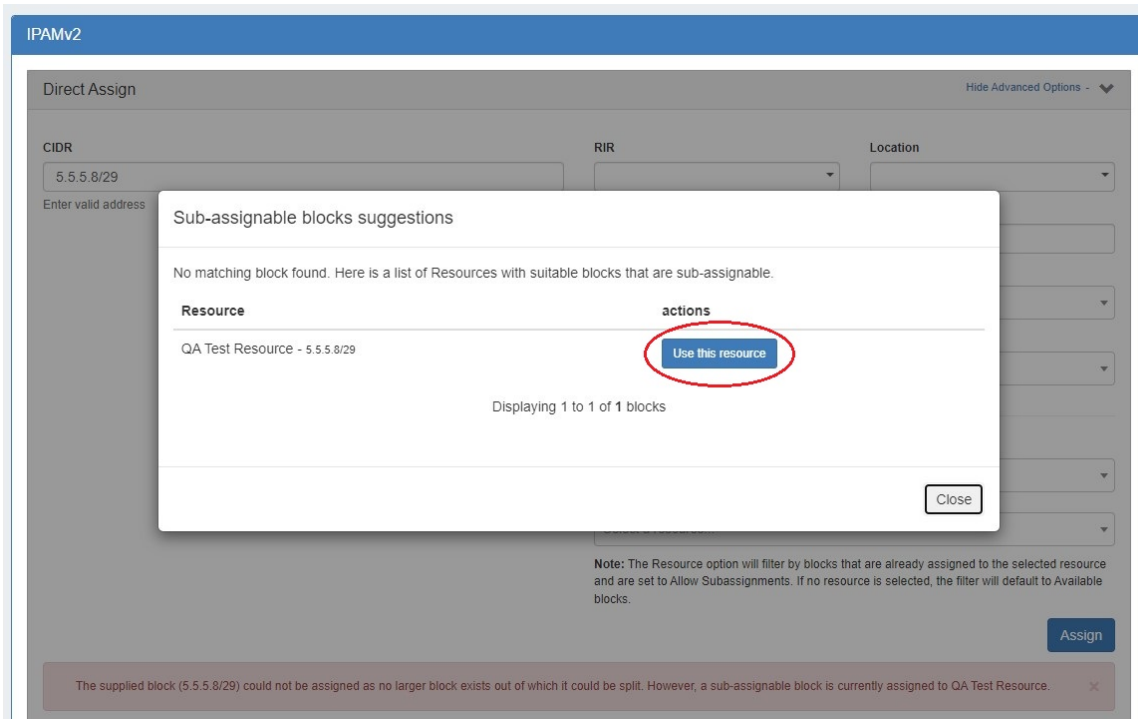
The image shows the 'Smart Browse' modal window. It features a table with the following data:

| Address | Resource | VLAN | Tags | Options |
|-------------------|-----------|--------------|----------|-------------------|
| 173.209.70.224/27 | Available | Test VLAN 27 | Customer | Assign this block |

Below the table, it says 'Displaying 1 to 1 of 1 blocks'. At the bottom right, there is a 'Close' button.

Successful assignments will be added to the "IP Blocks" list in the IPAMv2 Gadget, and are able to be managed in the IPAM Gadget, IPAMv2 Gadget, or IPAM Manage Screen.

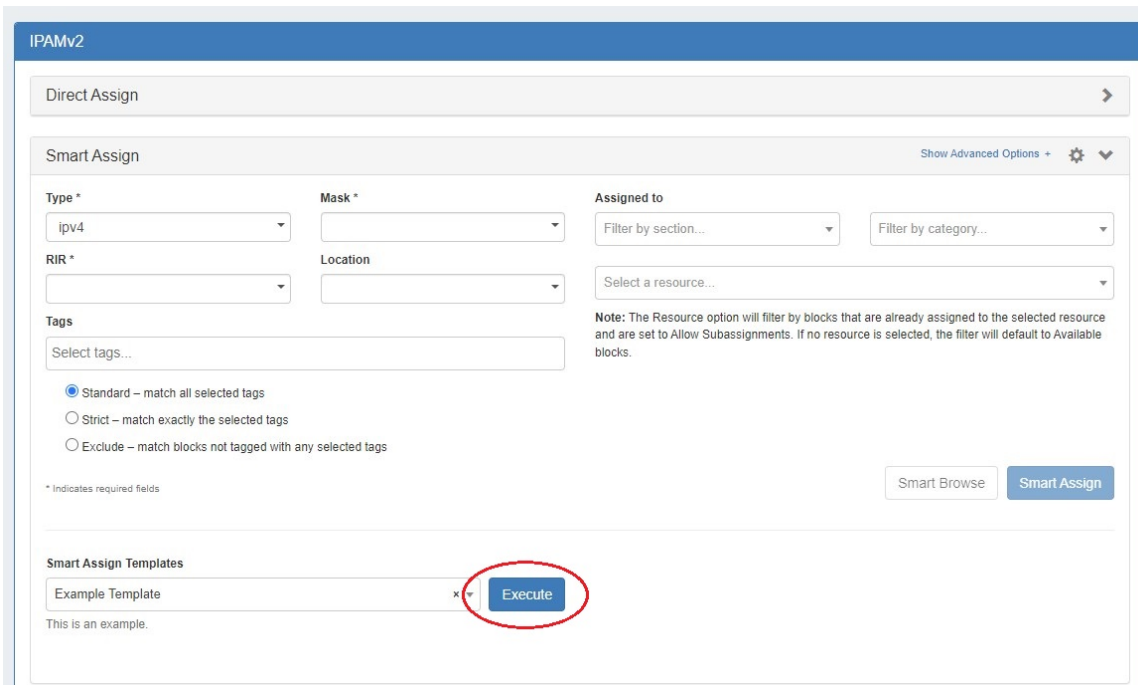
If no available blocks are found meeting the Smart Assign or Smart Browse filter conditions, but one or more subassignable blocks are found, a modal will inform the user and suggest resources with allocations that meet that criteria. To assign the suggested block, simply click "Use this resource".



Smart Assign Templates

Smart Assign Templates provide the ability to define complex assignment scenarios including those with multiple steps. Once a template has been created in IPAM Admin, it may be selected for use in the IPAM Gadget.

To run a smart assign template from the IPAM Gadget, expand Smart Assign and select the template from the "Smart Assign Templates" dropdown and click "Execute".

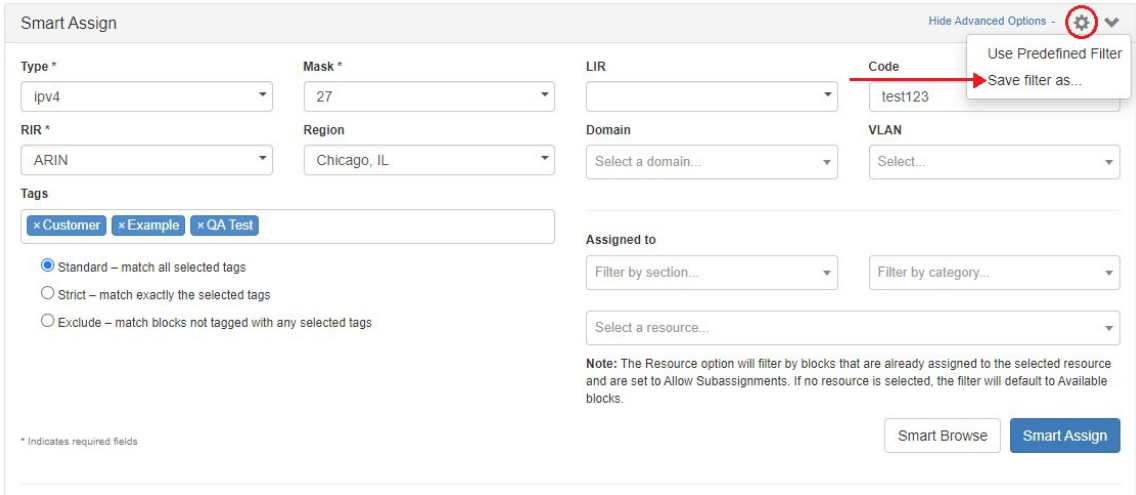


For information on setting up a smart assign template (Admin only), see [Smart Assign Templates](#).

Predefined Filters

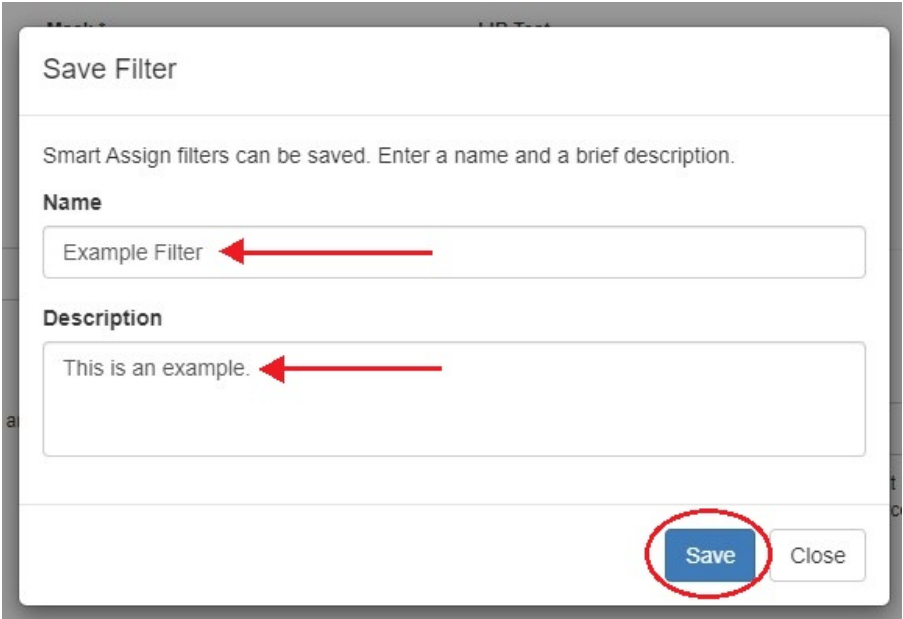
Users can save Smart Assign filter criteria for repeat use by saving them as Predefined Filters, accessible through the gear menu at upper right of the Smart Assign section.

To create a Predefined Filter, select Smart Assign filter criteria. Click on the gear icon at upper right and select "Save filter as..."



The screenshot shows the 'Smart Assign' configuration interface. At the top right, there is a gear icon (settings menu) circled in red. A dropdown menu is open from this gear, showing two options: 'Use Predefined Filter' and 'Save filter as...'. A red arrow points from the 'Save filter as...' option to the 'Code' field, which contains the text 'test123'. The main form includes fields for 'Type' (set to 'ipv4'), 'Mask' (set to '27'), 'LIR', 'Code', 'RIR' (set to 'ARIN'), 'Region' (set to 'Chicago, IL'), 'Domain', and 'VLAN'. There is also a 'Tags' section with buttons for 'Customer', 'Example', and 'QA Test', and radio buttons for 'Standard', 'Strict', and 'Exclude' matching options. At the bottom right, there are 'Smart Browse' and 'Smart Assign' buttons.

Enter a name and brief description for the filter and click "Save".



The screenshot shows a 'Save Filter' dialog box. It has a title bar 'Save Filter' and a subtitle 'Smart Assign filters can be saved. Enter a name and a brief description.' Below this, there are two input fields: 'Name' and 'Description'. The 'Name' field contains the text 'Example Filter' and has a red arrow pointing to it. The 'Description' field contains the text 'This is an example.' and also has a red arrow pointing to it. At the bottom right of the dialog, there are two buttons: 'Save' and 'Close'. The 'Save' button is circled in red.

To use a saved filter, click on the gear menu and click "Use Predefined Filter".

SmartAssign

Hide Advanced Options - [gear icon]

Type * Mask *

RIR * Region

LIR Code

Domain VLAN

Tags

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

* Indicates required fields

Assigned to

Note: The Resource option will filter by blocks that are already assigned to the selected resource and are set to Allow Subassignments. If no resource is selected, the filter will default to Available blocks.

Smart Browse Smart Assign

Use Filter

Select a filter from the dropdown and click "Use Filter". A saved filter may be deleted by selecting "Delete Filter".

Predefined Filters

Predefined filters will save you time by reusing Smart Assign filtering parameters. Most recently used filters are listed first.

Example Filter

This is an example.

Delete Filter Use Filter Close

Once the filter is applied, click "Smart Browse" or "Smart Assign" as normal.

Manually Assign Space from IPAM Manage

You can also assign blocks manually using the "Assign" function from the IPAM Manager screen (accessible from the IPAM Tab). Open the Action Menu for a block, then select "Assign".

Manage aggregate

8.41.207.0/24 - ARIN Switch to Parent view Netblock Tree export to CSV actions +

Search within this aggregate... clear filter >

| IT Address | IT Mask | IT Region | IT Tags | IT Assigned to | IT VLAN | IT LIR | IT Updated | IT ASN | IT NAT | IT Code | IT Notes |
|-----------------|---------|-----------|-----------|----------------|---------|--------|-------------------|--------|--------|---------|-----------------------|
| 8.41.207.0/30 | 30 | - | | Sunesys LLC | - | - | 2022-11-10 12:54 | - | - | - | Network Addr 40/MK... |
| 8.41.207.4/30 | 30 | - | available | | - | - | 2018-10-17 06:... | | | | |
| 8.41.207.8/29 | 29 | - | available | | - | - | 2018-10-17 06:... | | | | |
| 8.41.207.16/28 | 28 | - | available | | - | - | 2018-10-17 06:... | | | | |
| 8.41.207.32/27 | 27 | - | | USA Techno... | - | - | 2018-10-05 11:45 | | | | Network Addr 10/LU... |
| 8.41.207.64/30 | 30 | - | | Sunesys LLC | - | - | 2018-10-05 11:45 | | | | Network Addr 40/MK... |
| 8.41.207.68/30 | 30 | - | available | | - | - | 2018-10-17 06:... | | | | |
| 8.41.207.72/29 | 29 | - | available | | - | - | 2018-10-17 06:... | | | | |
| 8.41.207.80/28 | 28 | - | | APPLIANC... | - | - | 2022-11-10 12:55 | | | | Network Addr 10/LU... |
| 8.41.207.96/29 | 29 | - | | PHILADELP... | - | - | 2018-10-05 11:45 | | | | Network Addr 10/LU... |
| 8.41.207.104/29 | 29 | - | available | | - | - | 2018-10-17 06:... | | | | |
| 8.41.207.112/30 | 30 | - | | Trinity Health | - | - | 2022-11-10 12:55 | | | | Network Addr 10/LU... |
| 8.41.207.116/30 | 30 | - | available | | - | - | 2018-10-17 06:... | | | | |

Context menu for row 5 (8.41.207.32/27):

- Edit
- Split
- Merge
- Assign
- Move
- Unassign
- Unassign, Skip Hold
- RIR Integration
- IP Rules
- Templates
- Logs
- Email
- Alerts

Assignments may also be performed for multiple blocks at a time, by shift-clicking the desired blocks, and right-clicking on any highlighted row to open the multi-block menu (choose "Assign Selected Blocks") :

| | | | | | | | | | | | | |
|---------------|--------|-----------------|------------|----------|-----------|-----------|---|---|------|------------|---|-------------|
| 16.5.32.0/19 | 8192 | ARIN Default... | Denver, CO | Customer | Some Note | available | - | - | 8038 | 2019-07-25 | - | Some Inf... |
| 16.5.64.0/18 | 16384 | ARIN Default... | Denver, CO | Customer | Some Note | available | - | - | 8038 | 2019-07-25 | - | Some Inf... |
| 16.5.128.0/17 | 32768 | ARIN Default... | Denver, CO | Customer | Some Note | available | - | - | 8038 | 2019-07-25 | - | Some Inf... |
| 16.6.0.0/15 | 131072 | ARIN Default... | Denver, CO | Customer | | | - | - | 8038 | 2019-07-25 | - | Some Inf... |
| 16.8.0.0/13 | 524288 | ARIN Default... | Denver, CO | Customer | | | - | - | 8038 | 2019-07-30 | - | Some Inf... |

Context menu for row 4 (16.6.0.0/15):

- Edit selected blocks
- Assign selected blocks
- Unselect all

Then, search for / select the Resource to assign the block. A filter tool is provided to narrow the list to a particular Section type.

Assign block

Search: 6connect
Filter by type: Resource Holder

6connectEntry 2 (Resource Holder)

6connectQAEntry (Resource Holder)

6connectQAEntry2 (Resource Holder)

6connectQAEntry3 (Resource Holder)

a6connectEntry (Resource Holder)

a6connectLimitedPerm Child (Resource Holder)

New resource

Cancel

Assign

When the correct resource has been selected, click the "Assign" button. If needed, a new resource can be created by clicking the "New Resource" button.

After assigning, you can further [edit the block attributes](#) or subassign space.

'Reserving' IP Space

If you need to create a 'reserved' pool from which to assign blocks, you can achieve this by creating a "Reserved" Section. Create a Section called "Reserved", add the IPAM gadget to it, then create an Entry with that Section to be the address group. From there, use the IPAM gadget and the IPAM Manage page to assign and unassign IP space from that pool.

For more details, see the [FAQ entry: "How do I 'reserve' IP Space?"](#)

Sub Assigning IP Space

To allow sub assignments, just toggle the "Allow sub assignments" button to "On" under Edit block.

Once the allow sub assignments box is checked the block is set to the "allocated" status, and may be further split and assigned to other resources, using IPAM Manage or the IPAM Gadget.

Split blocks may also be re-claimed to the originally assigned resource and re-aggregated. When "allow sub assignments" is checked, the block is counted as allocated, but not assigned - various statistics in IPAM, on the dashboard, and reporting will reflect this.

Sub assignments can be useful for tracking IPs assigned to a customer with multiple subsidiaries, or locations.

Edit Attributes: 16.5.64.0/18 (16.5.64.0 - 16.5.127.255)

Assigned to: [Some Co.](#)

RIR: LIR: NAT:

Domain: VLAN: Meta1:

Generic Code: ASN:

Region:

Tags:

Notes:

Allow sub assignments for this block: ☒ ON

Propagate attributes to all children: ☐ OFF

Mark this block as important: ☒ ON

If a block is subassignable, a blue arrow will display in the "Assigned To" field in IPAM Manage.

| | | | | | | | | | | | | | |
|---------------|-------|-----------------|------------|----------|-----------|------------|---|---|------|------------|---|-------------|---|
| 16.5.32.0/19 | 8192 | ARIN Default... | Denver, CO | Customer | Some Note | available | - | - | 8038 | 2019-07-25 | - | Some Inf... | ⚙ |
| 16.5.64.0/18 | 16384 | ARIN Default... | Denver, CO | Customer | Some Note | Some Co. → | - | - | 8038 | 2019-07-30 | - | Some Inf... | ⚙ |
| 16.5.128.0/17 | 32768 | ARIN Default... | Denver, CO | Customer | Some Note | available | - | - | 8038 | 2019-07-25 | - | Some Inf... | ⚙ |

In the IPAM gadget, subassignable blocks display a blue arrow in the 'Address' field.

IP Blocks filter +

| It Address | It Mask | It Region | It Tags | It ASN | It Updated | It LIR | It Notes | It VLAN |
|--------------------|---------|------------|-----------------|--------|------------|------------------|----------------|-------------|
| 10.0.0.48/28 → | 28 | - | 1918,QA | - | 2021-12-20 | - | - | - |
| 10.2.3.0/24 | 24 | Boston, MA | Cable,Customer | - | 2022-01-05 | - | Internal space | - |
| 10.34.0.3/32 | 32 | Berlin | ARIN,BugFixTest | - | 2021-12-20 | - | - | QA Test 1 |
| 16.5.0.0/25 → | 25 | - | Customer | 8038 | 2021-12-23 | - | QA3 | - |
| 24.216.31.160/27 → | 27 | Denver, CO | Customer | 8038 | 2021-11-08 | ARIN Default LIR | - | Another ... |
| 24.216.31.192/26 → | 26 | Denver, CO | Customer | 8038 | 2021-11-09 | ARIN Default LIR | - | Another ... |

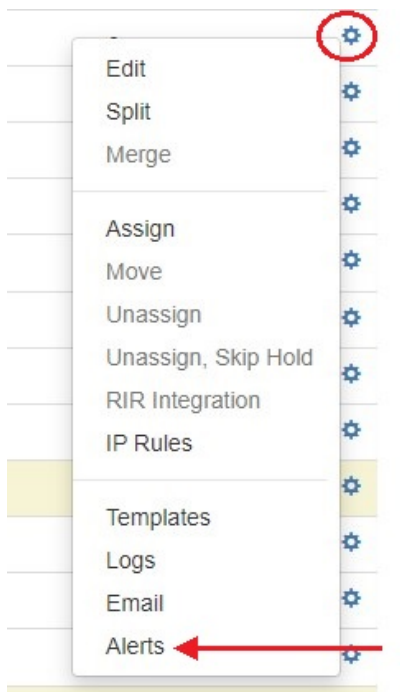
Subassignable blocks will be offered as suggestions when assigning from Direct Assign / Smart Assign / Smart Browse, if they meet the filter criteria but no available blocks are suitable.

You may also specifically select the resource allocated the block when entering Direct Assign / Smart Assign criteria, to specifically assign blocks under that allocation.

Set IP Block Alerts

Enable or clear alert emails for an IP block by setting an email address and utilization percentage level. When the block is utilized to the set percent, an email alert will be sent to the provided address.

To set an alert, select the "Alerts" option from the Action Menu.



Enter an email address and utilization level for the alert.

Manage Alerts: 8.41.207.104/30

Send an alert email when available space for falls below a specified level.

Email to:

Enter a valid email address

Level (%):

Number between 0 and 100

When done, click "Save Alert". To clear an existing alert, hit "Clear Alert", and the alert information will be removed and status saved.

| | | | | | | | | | | | |
|-------------------|----|---|----------------|---|---|------------------|---|---|---|-----------------------|---|
| 8.41.207.96/29 | 29 | - | PHILADEL... | - | - | 2018-10-05 11:45 | - | - | - | Network Addr 10/LU... | ⚙ |
| ⚠ 8.41.207.104/30 | 30 | - | available | - | - | 2022-11-10 13:10 | - | - | - | - | ⚙ |
| 8.41.207.108/30 | 30 | - | available | - | - | 2022-11-10 13:10 | - | - | - | - | ⚙ |
| 8.41.207.112/30 | 30 | - | Trinity Health | - | - | 2022-11-10 12:55 | - | - | - | Network Addr 10/LU... | ⚙ |

An alert icon will be visible in IPAM Manage next to any block that has an active alert set.

Note: the "IPAM Alerts" task is enabled by default when an alert is set. You can set the task to the desired notification frequency and review history in the [Admin Scheduler Tab](#). For more information on setting an IPAM alert at the aggregate level see [Working with IP Aggregates](#). For more information on managing alerts at the Admin level see [Alerts Management](#) in the ProVision Admin Guide.

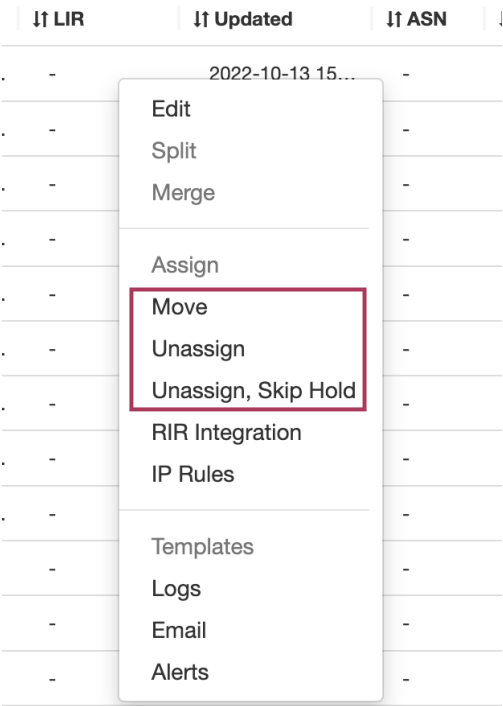
Unassign IP Space

When a block is assigned, you will have the option of unassigning the block from the resource and returning it to the Holding Tank:

To unassign the block, simply open on the Action Menu for the block in either IPAM manage or the IPAM Gadget, and select "Unassign".

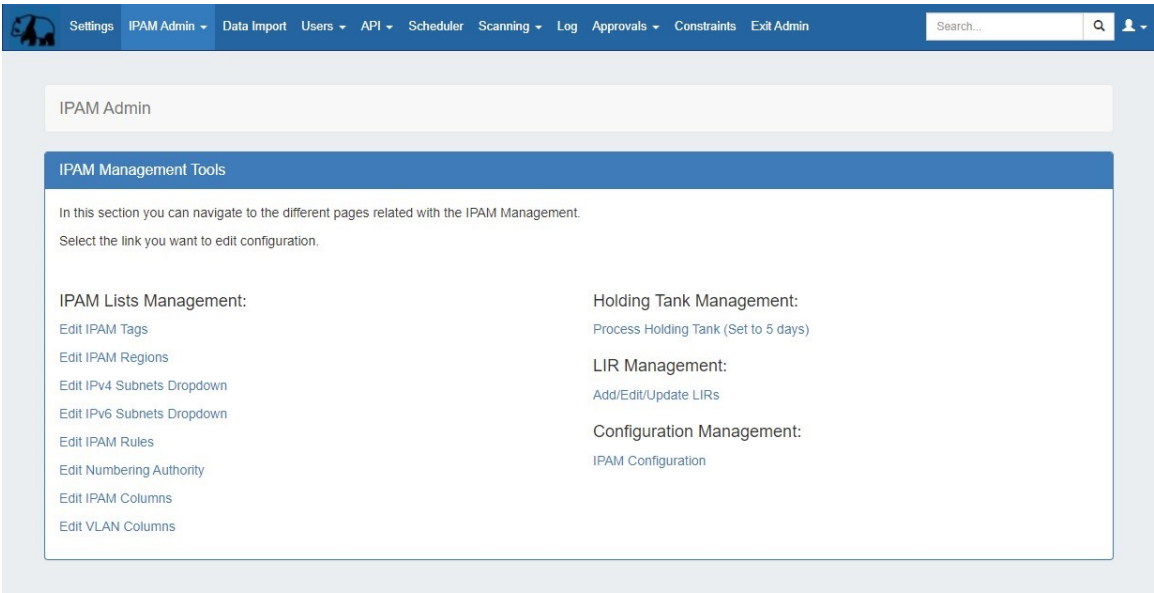
You may also chose "Unassign, Skip Hold", which unassigns the block and immediately returns it to available, bypassing the holding tank.

Another option is "Move", which moves the block from one resource directly to another without passing it through either available or holding status. Enabling the checkbox "Propagate to children" in the dialog will move all the child blocks to the selected resource as well.



After unassigning blocks / skipping holding, newly available blocks will be merged upon next page refresh. Blocks which had been subassigned will revert back to the parent resource.

To return IP space in the Holding Tank to the available pool, process the Holding Tank via the Admin screen under [IPAM Admin](#) (this will only process blocks that have been present for the specified number of days). You may also manually move a block from Holding to Available by selecting "Unassign" for the block.



For more information on the Holding Tank, see [Holding Tank Management](#).

For a fast method of unassigning all blocks from a particular resource, you may also bulk-unassign IPs from the Resource List! See [Working with Entries](#)

Additional Information

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

- [IPAM Gadgets](#)
- [Working with IP Rules](#)
- [IPAM Administration](#)
- [Working with NAT Blocks](#)
- [Alerts Management](#)