User Manual
SIPAM version 1.0

BS Project for Reykjavik University in collaboration with Iceland Telecom

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The Sipam System

SIPAM or The "Síminn Internet Protocol Address Manager" stores information about the networks and IP addresses that Iceland Telecom (Síminn) owns and assigns to its customers and it's overlying AS (Autonomous System) numbers, both internet and intranet. The system is used to keep track of what networks are assigned to what customer. The system can split a network into numerous smaller networks and join two or more networks together into a larger one according to the algorithms governing IP networks and can automatically send RIPE NNC (Réseaux IP Européens Network Coordination Centre), the Regional Internet Registry of Europe, updates for network registration. Furthermore the system makes this data available to other systems (billing systems for instance) within Siminn via web services.

Loging In

User authentication is centralised in Siminn's Active Directory so simply enter your Domain username and password and press the "Login" button to access the system. Please note that the system is only accessible by employees who have been granted one or more of the following privileges in Active Directory:

- SIPAM Admins
- SIPAM Net
- SIPAM Support

Loging Out

Pressing the "Logout" tab in the upper right corner of the toolbar will immediately log you out of the system and end your session.

For security reasons the login session expires automatically in 15 minutes of inactivity. After that you have to login again.

Customers and Contacts

To access the Customer and Contact management part of the system imply click on the "Customers" tab on the toolbar on the top of the page.

Creating a New Customer

To create a new customer press the "New Customer" button on the "Customers" tab in the toolbar.

Enter a name, Icelandic national registration number (kennitala), select a contact and designate whether the customer should be billed or not and then press "Save".

Editing a Customer

To edit an existing customer click on the "Edit" button in the customer list provided by the "Customer List" or "Search" buttons in the "Customers" tab in the toolbar.

Deleting a Customer

To delete a Customer press the "Delete" button on the "View Customer" page accessible by clicking the "Customers" tab then the "Customer List" or "Search" and then "View" next to the desired customer.

Creating a New Contact

To create a new Contact press the "New Contact" button on the "Customers" tab in the toolbar.

Enter a name, Icelandic national registration number (kennitala), E-mail and phone number and press the "Save" button.

Networks

To access the Network management part of the system click the "Network" tab on the toolbar on the top of the page.

Network information in the system is grouped so in descending order; AS Systems that contain multiple networks that contain multiple sub-networks.

Asynchronous System Number

Each network in the system belongs to a certain AS number (all of Siminn's internet networks belong to AS6677). To change the current AS number you are working on use the "AS System" drop-down menu on the "Network" tab in the toolbar.

Creating a New AS Number

To create a new AS number press the "New A.S." button next to the AS number selection drop-down menu. Enter the new AS number and the number of the department responsible for that system.

Creating a New Network

To create a new Network press the "New Network" button on the "Networks" tab in the toolbar.

Enter the desired network in CIDR block syntax (formatted `xxx.xxx.xxx.xxx/yy` i.e.: `128.0.0.0/24`) and assign it to a customer and click the "Save" button.

A small side note: If the above IP Network format description seemed confusing you probably shouldn't be using this system. ☺

Splitting a Sub Network

To split a sub-network press the "Split" button next to the network in the sub-network on the Sub-Network list page.

Enter the desired network in CIDR block syntax (formatted `xxx.xxx.xxx.xxx/yy` i.e.: `128.0.0.64/26`) and assign it to a customer and click the "Split" button.

Technically subnets can only be split into two equal halves but the SIPAM system calculates and performs all halving splits needed to create the desired network.

Joining Sub Networks

To join two or more smaller subnets into one larger network select the desired networks using the checkboxes next to the network and press the "Join Selected Networks" button on the bottom of the Sub-Network list.

Please note that the joining of networks follows these specific rules:

- You can only join together networks that are assigned to the same Customer.
- You can only join together two adjacent networks of the same size
    - i.e. `128.0.0.0/25 + 128.0.0.127/25 = 128.0.0.0/24`
- You can join more than two networks as long as the results follow a logical multistep joining of two adjacent networks
    - i.e. `128.0.0.0/26 + 128.0.0.64/26 + 128.0.0.127/25 = 128.0.0.0/24`
    - …instead of two steps:
        - `128.0.0.0/26 + 128.0.0.64/26 = 128.0.0.0/25`
        - …and then:`128.0.0.0/25 + 128.0.0.127/25 = 128.0.0.0/24`

RIPE Registration

A contact, role, customer and network can be created or updated in RIPE. Only those who have the role of admin can do so. To create an object go to the detail page of the object in question and press the "Create in ripe" link. If successful the "RIPE identification" field will contain the auto generated ID from RIPE. In order to update the object go to detail page for the object and click on the "Update in Ripe" link, the page will refresh and no error should be shown.