



Cadastro do AGW no Orc8r e Cadastro dos perfis de assinante

versão 1

Janeiro 2024

CONTROLE DE REVISÕES:

Revisão	Data	Atualização	Autor
00	19/02/2024	Criação e definição do documento.	André Santos

Objetivo

Realizar a configuração inicial do core para conectar um aparelho na rede.

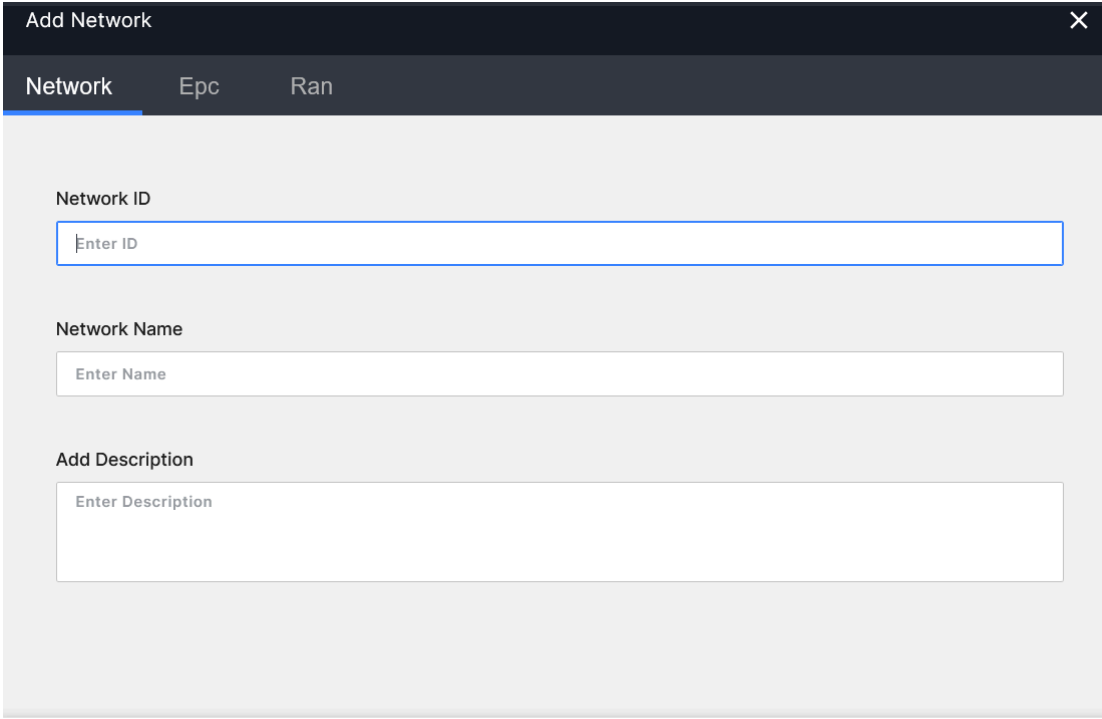
Requisitos

Orc8r e AGW instalados e pré-configurados.

Criando uma rede no Orc8r

Antes de cadastrar um AGW é necessário fazer a criação da rede no NMS.

1. Realizar o acesso via web e clicar em *Create Network*.
2. Preencher o Network ID com o nome da rede, Ex: venko. Os demais campos são descritivos. Salvar e continuar.



Add Network

Network Epc Ran

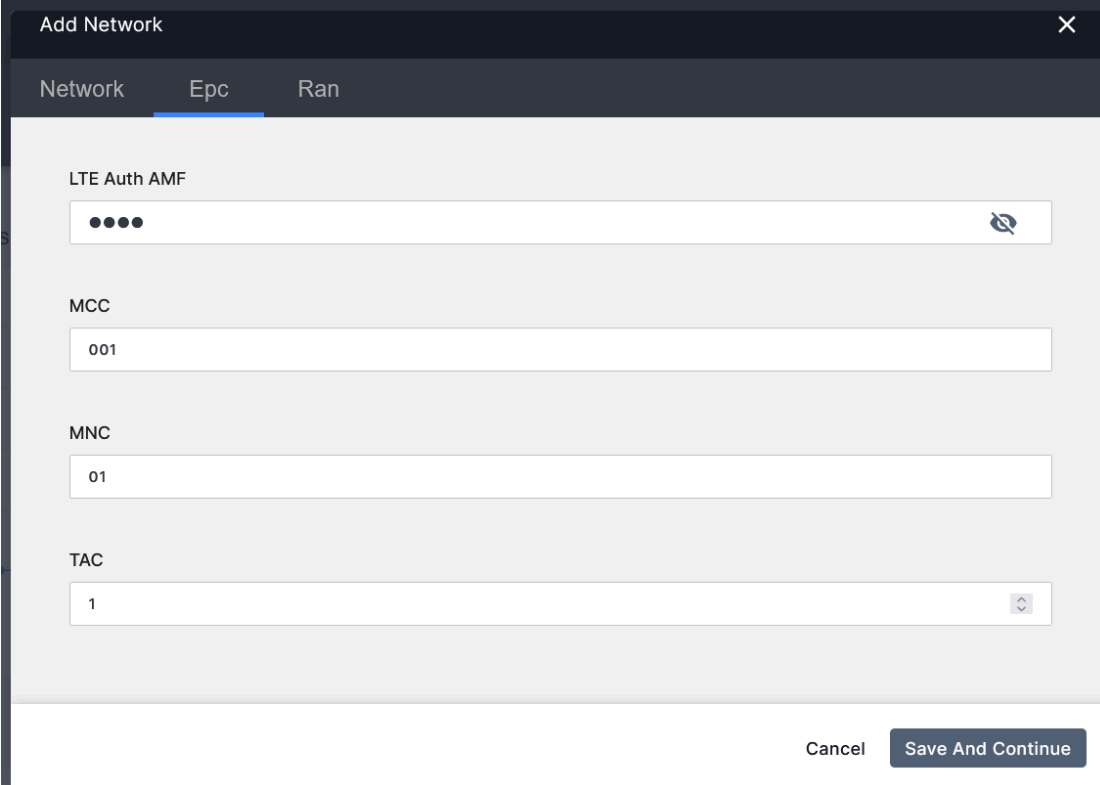
Network ID
Enter ID

Network Name
Enter Name

Add Description
Enter Description

Cancel Save And Continue

3. Na Aba Epc, inserir o MCC e o MNC da rede, Ex: MCC=724, MNC=90.



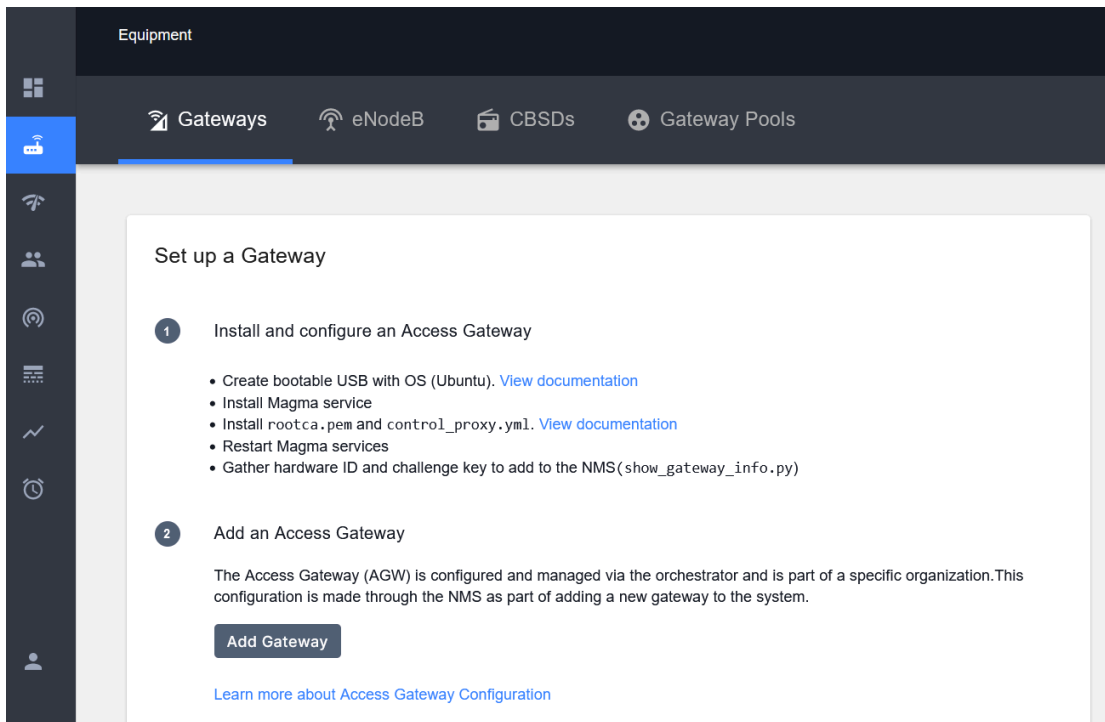
The screenshot shows a dialog box titled "Add Network" with a close button (X) in the top right corner. Below the title bar are three tabs: "Network", "Epc", and "Ran". The "Epc" tab is currently selected and highlighted with a blue underline. The main content area of the dialog contains four input fields:

- LTE Auth AMF:** A text input field containing four black dots, indicating a masked password or sensitive information. A small icon resembling a crossed-out circle is on the right side of the field.
- MCC:** A text input field containing the value "001".
- MNC:** A text input field containing the value "01".
- TAC:** A dropdown menu with the value "1" selected.

At the bottom right of the dialog, there are two buttons: "Cancel" and "Save And Continue".

4. Na Aba RAN pode deixar os valores padrões. Salvar e continuar.

5. Na tela inicial do NMS, navegar pelo menu esquerdo até a seção *Equipment*.



Equipment

Gateways eNodeB CBSDs Gateway Pools

Set up a Gateway

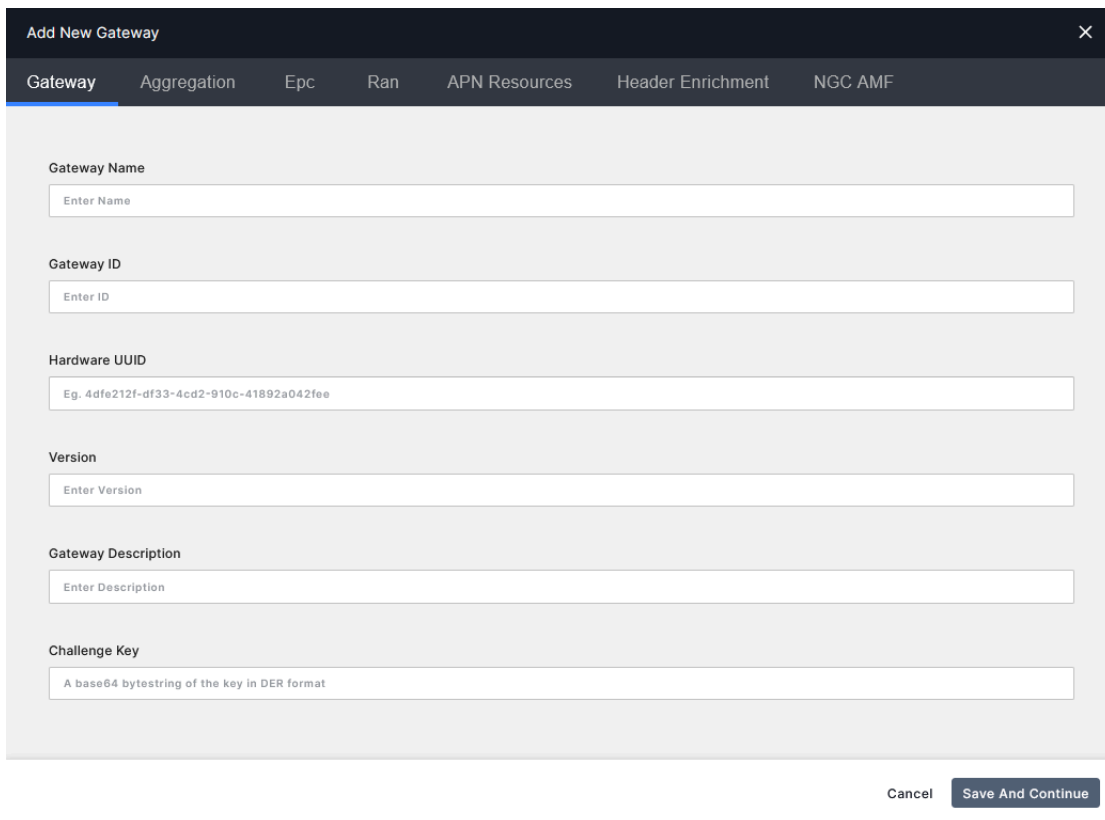
- 1 Install and configure an Access Gateway
 - Create bootable USB with OS (Ubuntu). [View documentation](#)
 - Install Magma service
 - Install rootca.pem and control_proxy.yml. [View documentation](#)
 - Restart Magma services
 - Gather hardware ID and challenge key to add to the NMS(show_gateway_info.py)
- 2 Add an Access Gateway

The Access Gateway (AGW) is configured and managed via the orchestrator and is part of a specific organization. This configuration is made through the NMS as part of adding a new gateway to the system.

[Add Gateway](#)

[Learn more about Access Gateway Configuration](#)

6. Na aba Gateways, clicar em *Add Gateway*. **Aqui será cadastrado o novo AGW.**



Add New Gateway

Gateway Aggregation Epc Ran APN Resources Header Enrichment NGC AMF

Gateway Name
Enter Name

Gateway ID
Enter ID

Hardware UUID
Eg. 4dfe212f-df33-4cd2-910c-41892a042fee

Version
Enter Version

Gateway Description
Enter Description

Challenge Key
A base64 bytestring of the key in DER format

Cancel [Save And Continue](#)

7. Campos obrigatórios: *Gateway Name*, *Gateway ID*, ***Hardware UUID***, *Gateway Description* e ***Challenge Key***.

8. Dos campos listados no passo anterior, os que estão em negrito devem ser obtidos dentro do próprio AGW.

9. Acessar o AGW e executar o script *show_gateway_info.py*. Os scripts do magma devem ser executados como root.

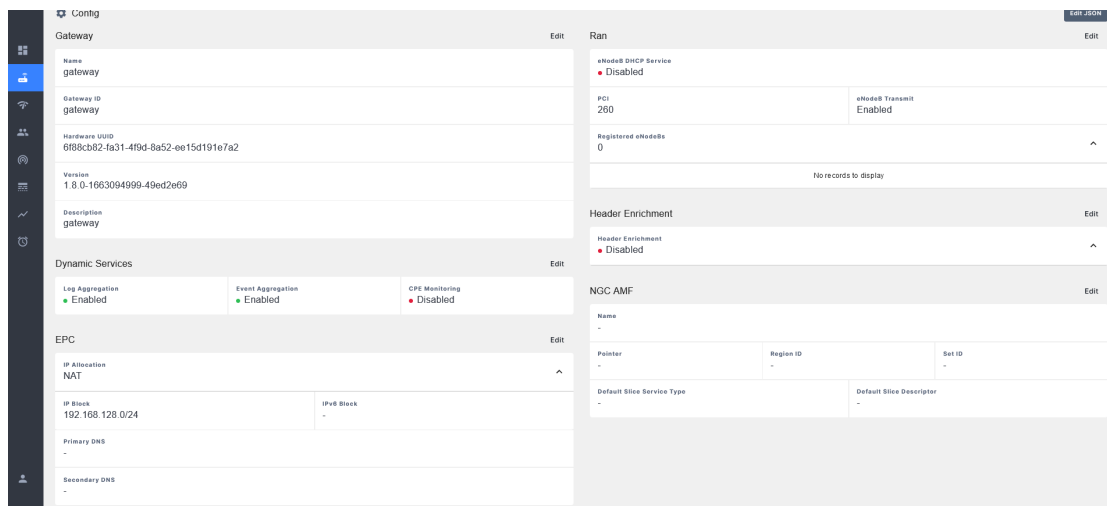
```

root@magma:/home/magma# show_gateway_info.py
Hardware ID
-----
6f88cb82-fa31-4f9d-8a52-ee15d191e7a2
Challenge key
-----
#BYwEAYHkoZiZj0CAQYFK4EEACIDYgAE8iY3EIi04NqQm0ac50z0pLZJLIJjBgJ/bwRV5WhEUP5UImP i77oa87Dpfr+ iPTRj90qthMDX1E5SKyxDfSmPNovH+oZzTbm428GdE3100CdJ7jeEqZi2vVl4crvW#K
Build info
-----
Commit Branch: unknown
Commit Tag: unknown
Commit Hash: unknown
Commit Date: unknown
Notes
-----
- Hardware ID is this gateway's unique identifier
- Challenge key is this gateway's long-term keypair used for bootstrapping a secure connection to the cloud
- Build info shows git commit information of this build
root@magma:/home/magma#

```

10. Preencher os campos informados no passo 7, conforme necessidade. *Salvar e Continuar*.

11. Manter os valores padrão e salvar até concluir a última aba. Por fim o gateway aparecerá assim.



12. Gateway cadastrado e configurado. Aguardar alguns minutos para que os serviços estabilizem. Se tudo estiver correto, o resultado do comando *health_cli.py* deve estar assim:

```

Running on 1.8.0, last updated: 2022-09-13 18:49:59
Version: Linux agw 5.4.0-172-generic #190-Ubuntu SMP Fri Feb 2 23:24:22 UTC 2024 x86_64 x86_64 x86_64 GNU/Linux
:
Service           Status      SubState    Running for Log level Errors since last restart
✓ control_proxy   active     running    03:25      INFO      0
✓ dnsd            active     running    03:23      INFO      6
✓ enodebd         active     running    03:26      INFO      0
✓ eventd          active     running    03:25      INFO      0
✓ magmad          active     running    05:20      INFO      109
✓ mme             active     running    01:48      INFO      107
✓ mobilityd       active     running    01:51      INFO      2
✓ pipelined       active     running    01:50      INFO      3
✓ policydb        active     running    03:26      INFO      0
✓ sessiond        active     running    03:23      INFO      9
x shared_mconfig  inactive   dead        00         INFO      0
✓ state           active     running    03:25      INFO      0
✓ subscriberdb    active     running    01:51      INFO      3
✓ td-agent-bit    active     running    03:27      INFO      0

Internet health: Up
DNS health: Up

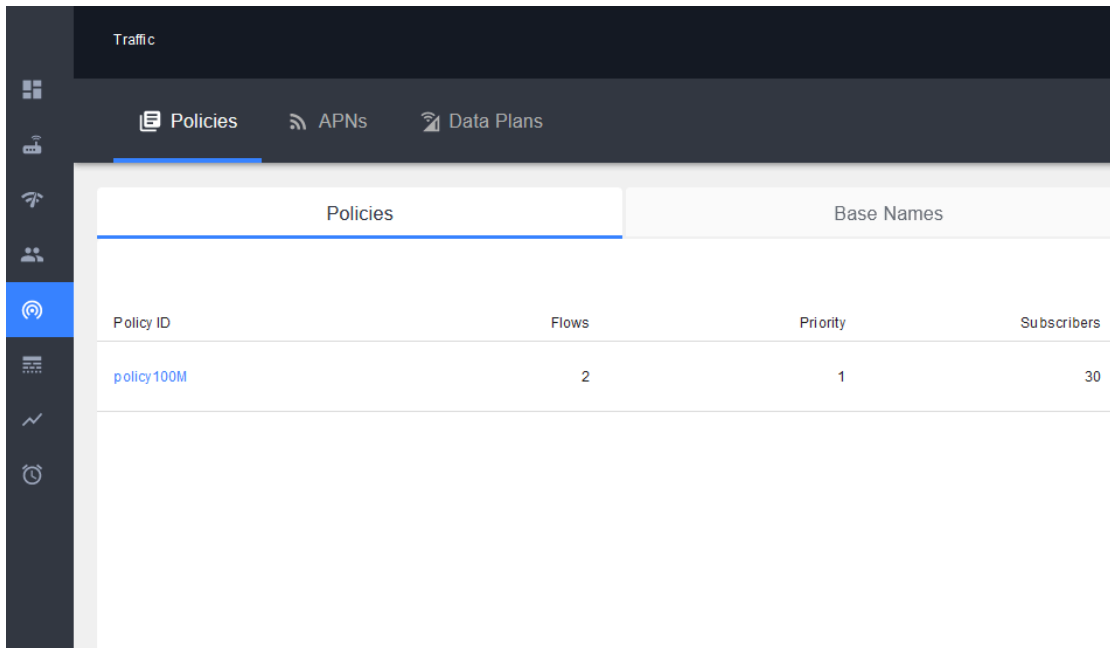
Restart summary:
No restarts since the gateway started

```

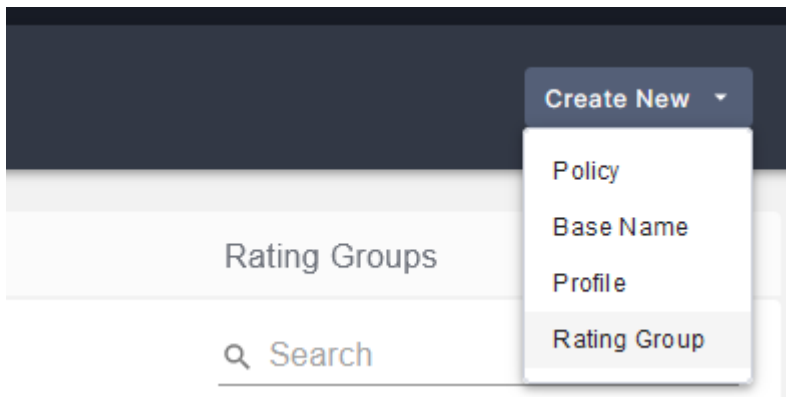
Cadastro dos perfis de assinante

Os passos a seguir descrevem o processo para a criação de um perfil de 100Mbps na rede. Para outras velocidades, editar conforme necessidade.

1. No menu lateral esquerdo, navegar até a seção Traffic, no quinto ícone de cima para baixo.



2. Ainda na aba de Policies, clicar em Create New/Rating Group:



3. Preencher desta maneira e Salvar.

Add New Rating Group ✕

Rating Group ID

Limit Type

Close Save

4. Ainda na aba Políticas, clique em Create New/Profile. Preencher desta maneira e Salvar.

Edit Profile ✕

Profile ID

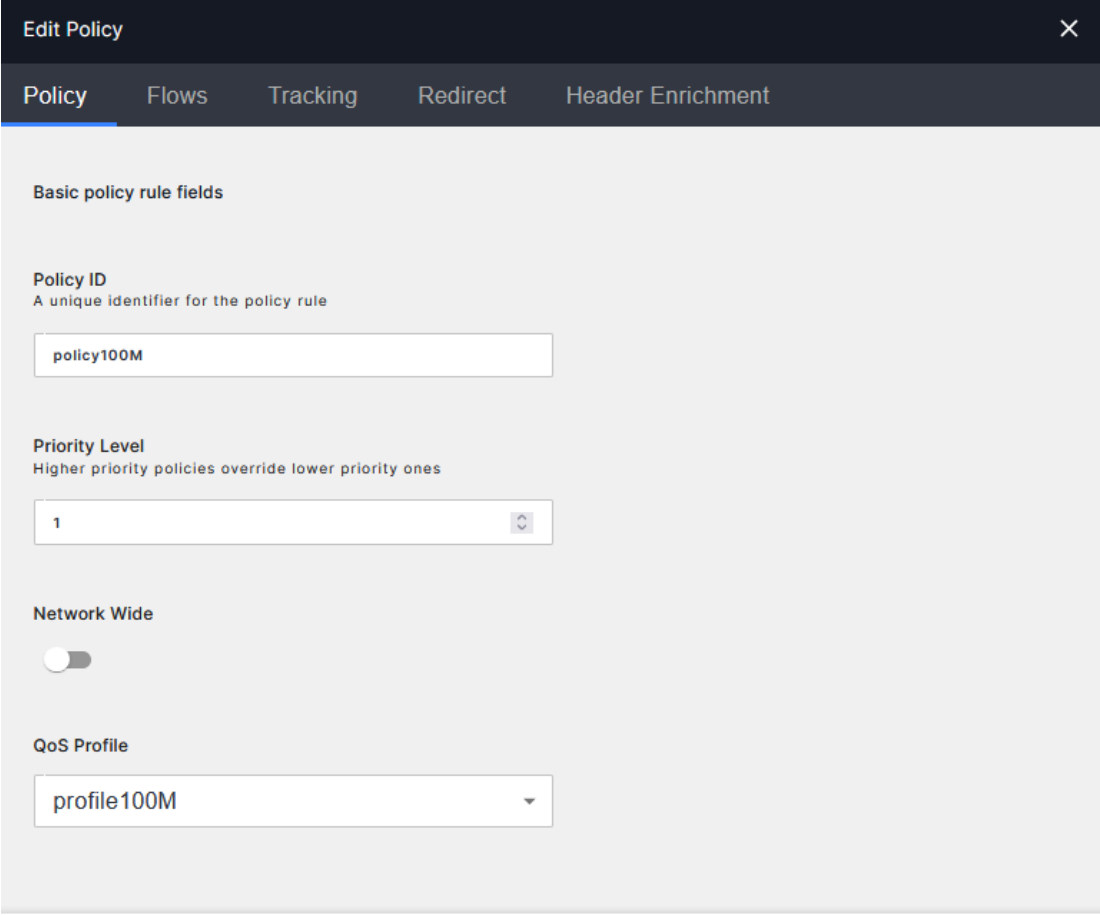
Class ID

Max Bandwidth Downlink(bps)

Max Bandwidth Uplink(bps)

Close Save

5.a Ainda na aba Políticas, clique em Create New/Policy. Preencher desta maneira e salvar.



Edit Policy ✕

Policy Flows Tracking Redirect Header Enrichment

Basic policy rule fields

Policy ID
A unique identifier for the policy rule

policy100M

Priority Level
Higher priority policies override lower priority ones

1

Network Wide

QoS Profile

profile100M

Close Save

5.b Na aba Flows, adicionar fluxos permitindo tráfego IP bidirecional, como na imagem abaixo

Flow 1 🗑️ ^

Action Direction Protocol

Permit Uplink IP

IP

Source IP
192.168.0.1/24

Destination IP
192.168.0.1/24

IPv4 IPv6

Flow 2 🗑️ ^

Action Direction Protocol

Permit Downlink IP

IP

Source IP
192.168.0.1/24

Destination IP
192.168.0.1/24

IPv4 IPv6

6. Clicar em Salvar até finalizar o processo de criação da Policy.
7. Clicar em Create New/Base Name e atribuir à policy criada no passo 5. Os assinantes serão associados depois. Salvar.

Edit Base Name ✕

Base Name ID

Included Rule Names

Assigned Subscribers

Cancel Save

8. Na aba Traffic/APNs, clique em Create New APN. Preencher da seguinte maneira. O APN ID deve ser coerente com o que foi gravado no chip. Salvar.

APN ID

Class ID
ARP Priority Level
Max Required Bandwidth

Upload

 bps

Download

 bps

ARP Pre-emption-Capability

ARP Pre-emption-Vulnerability
PDN Type

[Cancel](#) [Save](#)

9. Na aba Traffic/Data Plans, clique em Create New Data Plan. Preencher da seguinte maneira e Salvar.

Edit Data Plan ✕

Data Plan ID

Max Bit Rate

Download

↕ Mbps

Upload

↕ Mbps

Cancel Save