



# GT-Plateau

Março de 2025



# Agenda

- Contextualização
- Fatiamento de rede como serviço - NASP
- Arquitetura do projeto Plateou
- Infraestrutura de experimentação do programa OpenRAN@brasil
- Demonstração





# Equipe



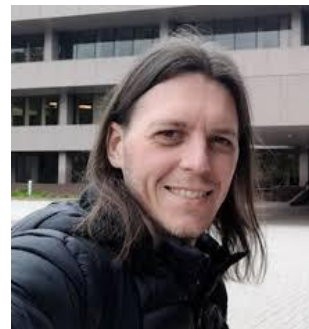
Cristiano Bonato Both



Lúcio Rene Prade



Gustavo Zanatta Bruno



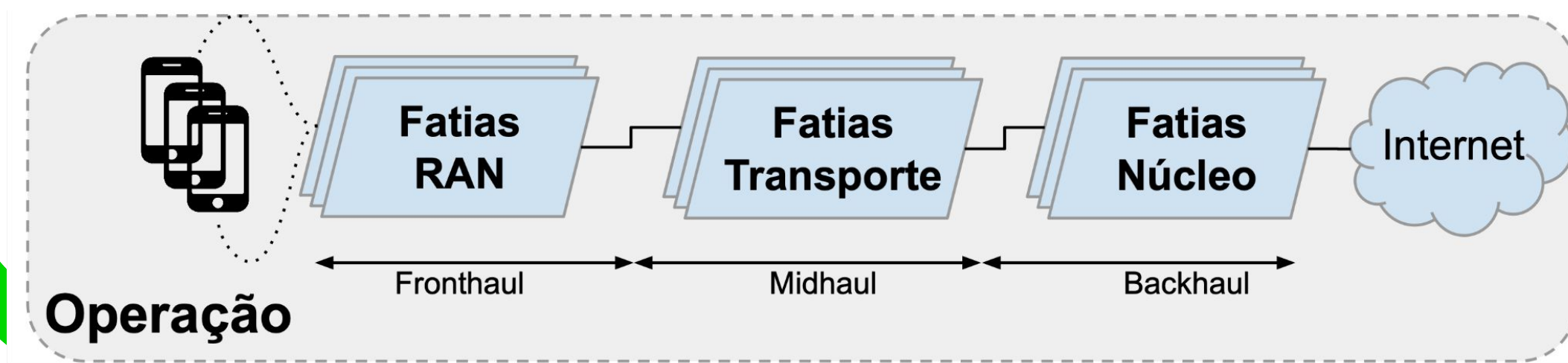
Alexandre Huff





## Contextualização

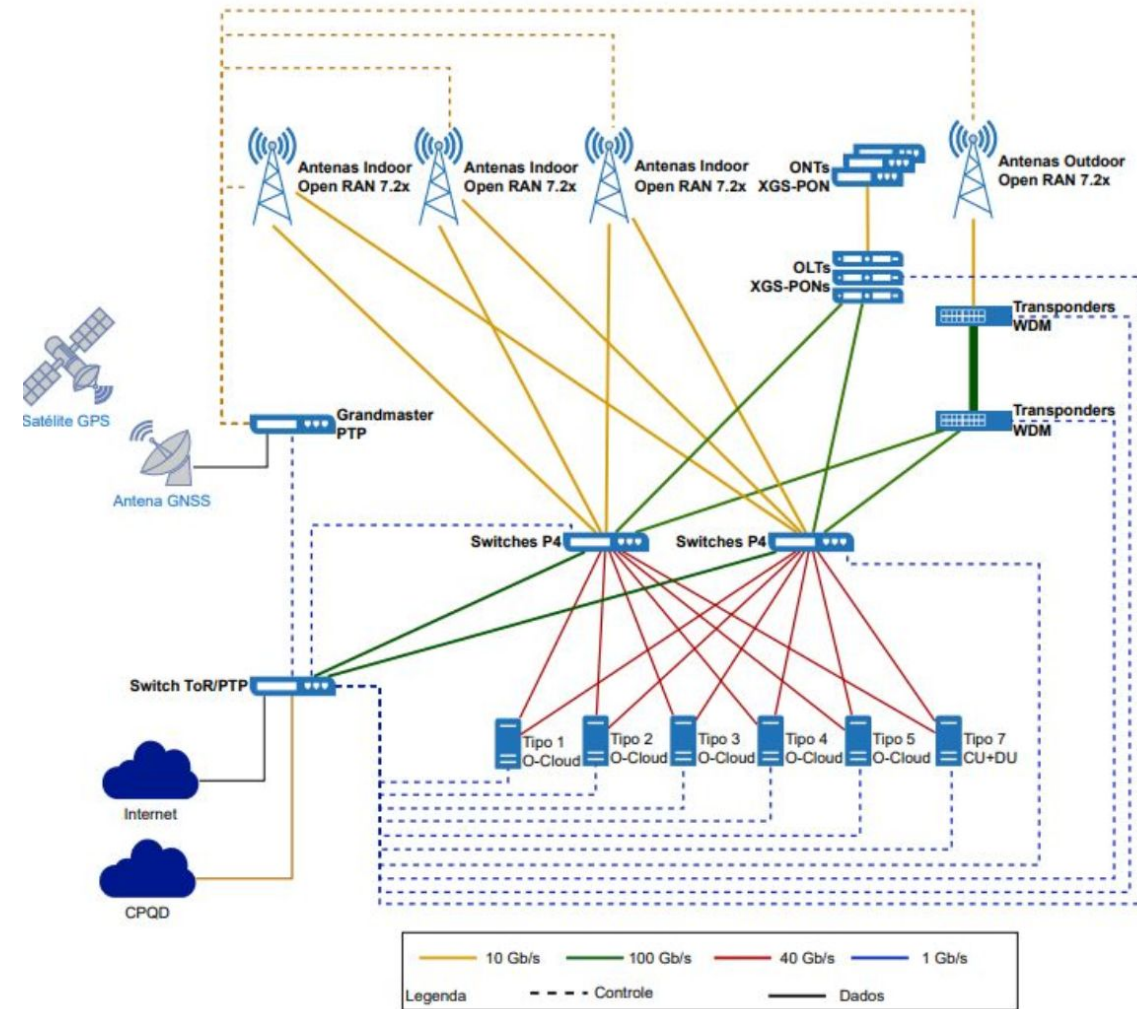
O projeto Plateou está desenvolvendo e implementando, no ambiente experimental do programa OpenRAN@Brasil, uma plataforma para orquestrar o **fatiamento de redes O-RAN como serviço**, contemplando o **fatiamento fim-a-fim da rede Crosshaul**, conforme as definições do 3GPP, ETSI, GSMA e aliança O-RAN





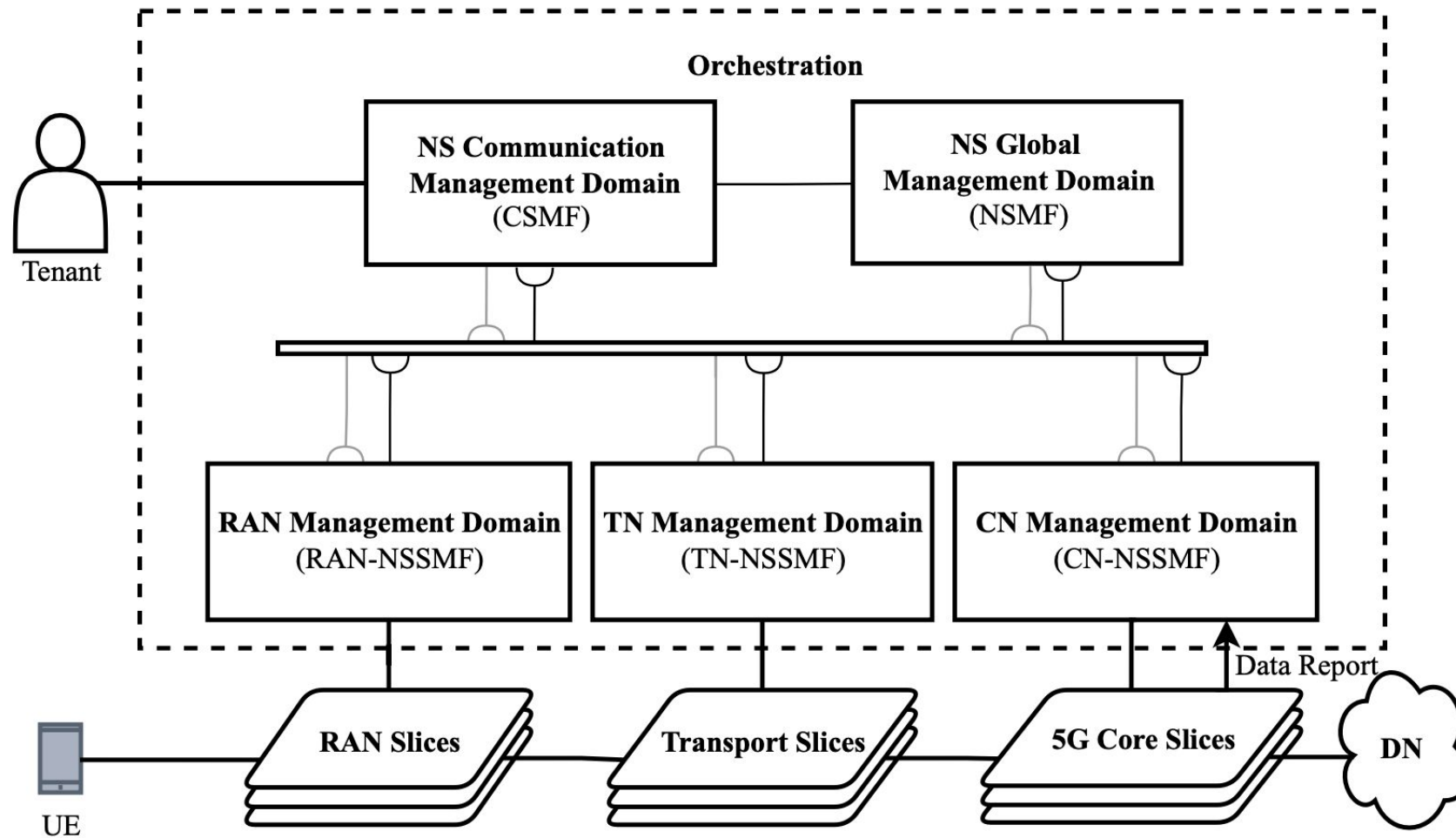
# Objetivos

1. Implantar, no *testbed* da RNP, uma infraestrutura 5G funcional (software + hardware)
2. Habilitar o uso de fatiamento de rede fim-a-fim e orquestração
3. Realizar experimentos com reconfiguração dinâmica de *fatias de rede*





# Arquitetura para fatiamento de rede como serviço





# Arquitetura para fatiamento de rede como serviço



**Generic Network Slice Template**

**Version 10.0**

**October 2024**

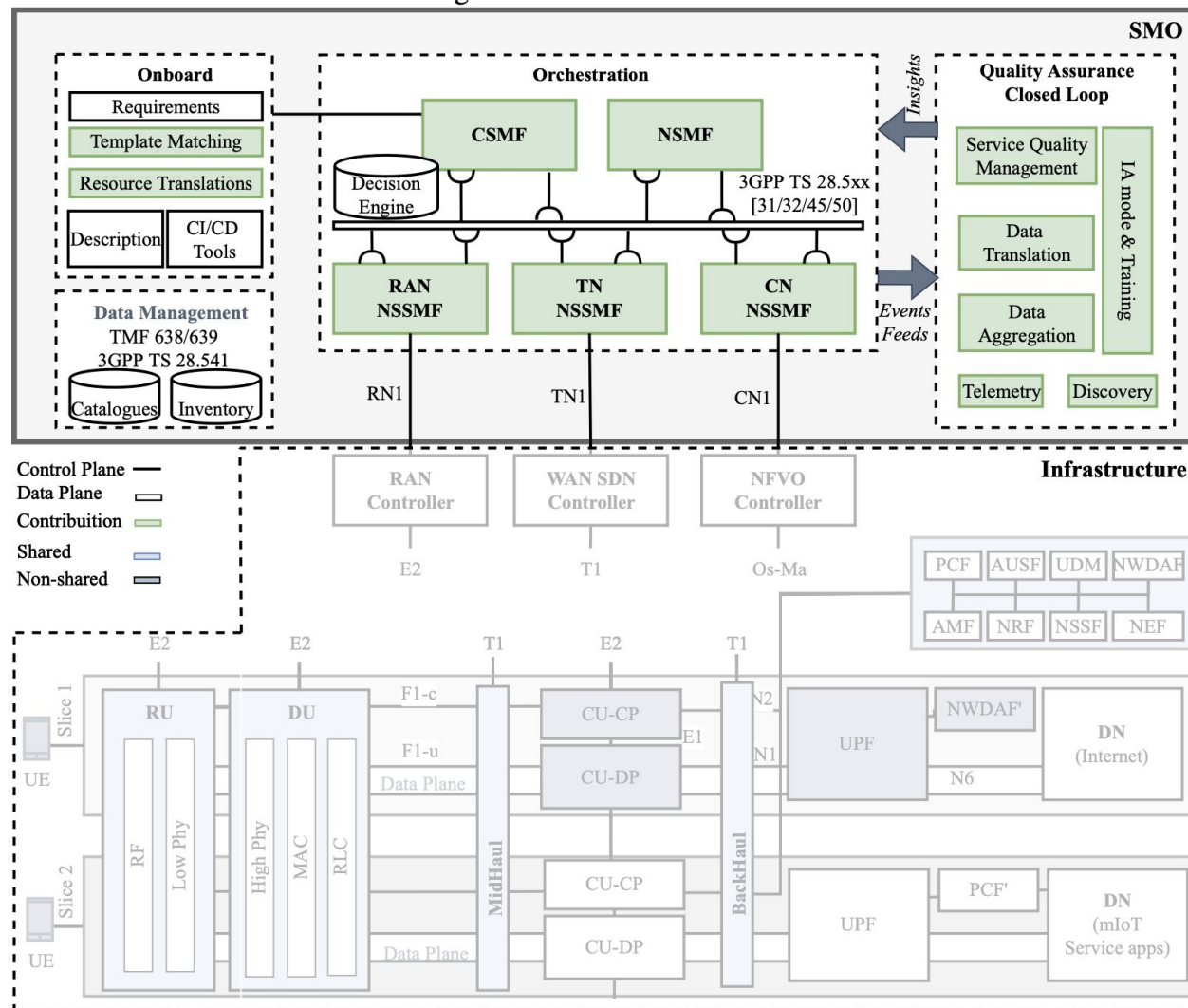
<https://www.gsma.com/newsroom/wp-content/uploads//NG.116-v10.0.pdf>

```
{
  "$schema": "http://json-schema.org/draft-07/schema#",
  "title": "WHAT",
  "description": "WHAT",
  "type": "object",
  "properties": {
    "WhatsDrivingTheConnectivityRequirement?": {
      "description": "Connectivity requirement in plain text",
      "type": "string"
    },
    "UseCaseType": {
      "description": "Use case, per NGMN",
      "type": "string"
    },
    "Service/SliceType(Sst)": {
      "description": "Service/Slice Type",
      "type": "string",
      "enum": [
        "eMBB",
        "uRLLC",
        "mMTC"
      ],
      "minItems": "1"
    },
    "SliceDifferentiator": {
      "description": "Slice differentiator ",
      "type": "string"
    },
    "NumberOfTerminals": {
      "description": "Number of terminals or UEs",
      "type": "string",
      "maxLength": "22"
    },
    "NumberOfConnections": {
      "description": "Number of connections. If not populated, assumed to be same as n",
      "type": "string"
    }
  },
  "required": [
    "NumberOfTerminals"
  ]
}
```

<https://github.com/5g-ridersonthestorm/gsma-gst>



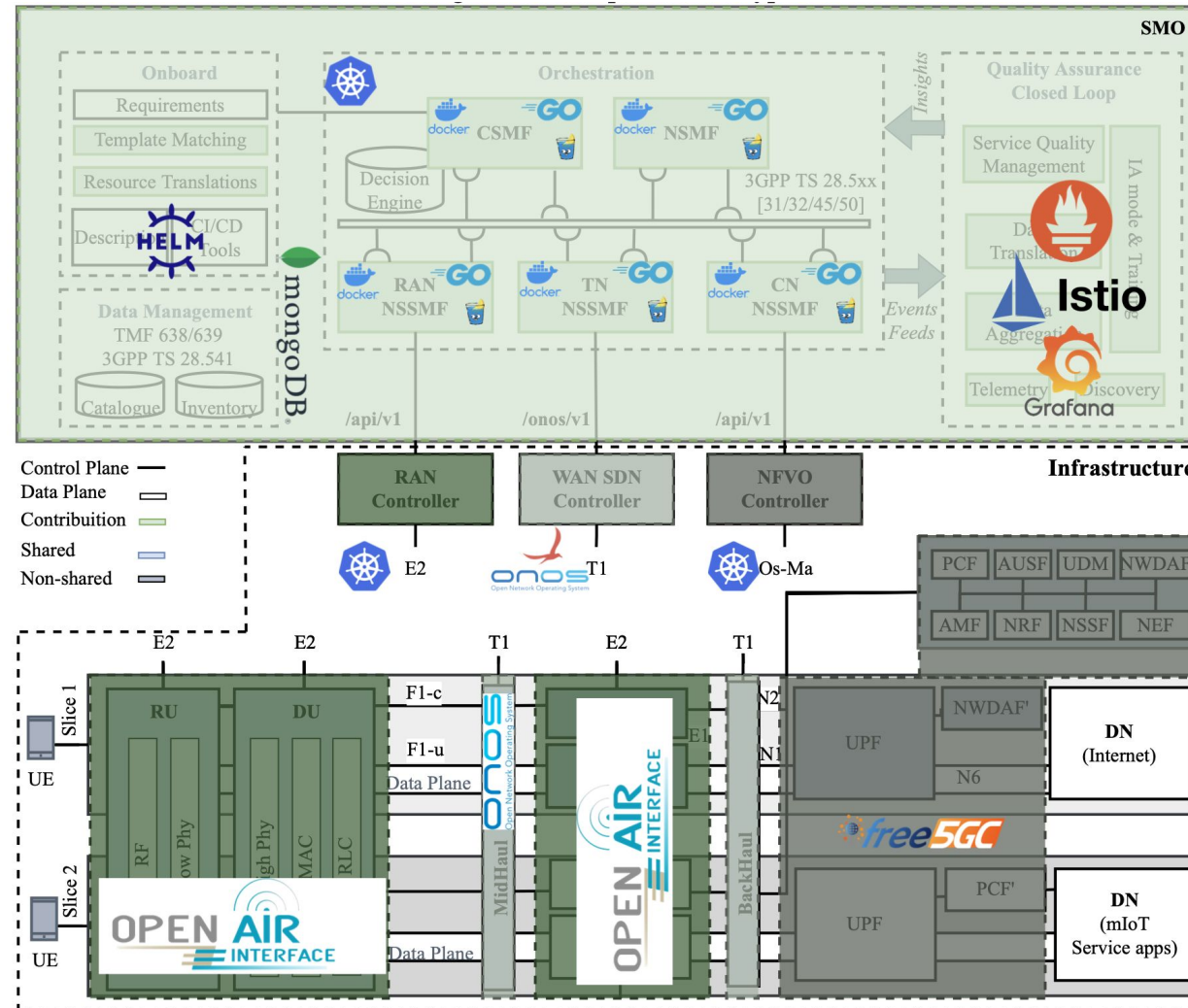
# NASP - Network Slice as a Service Platform





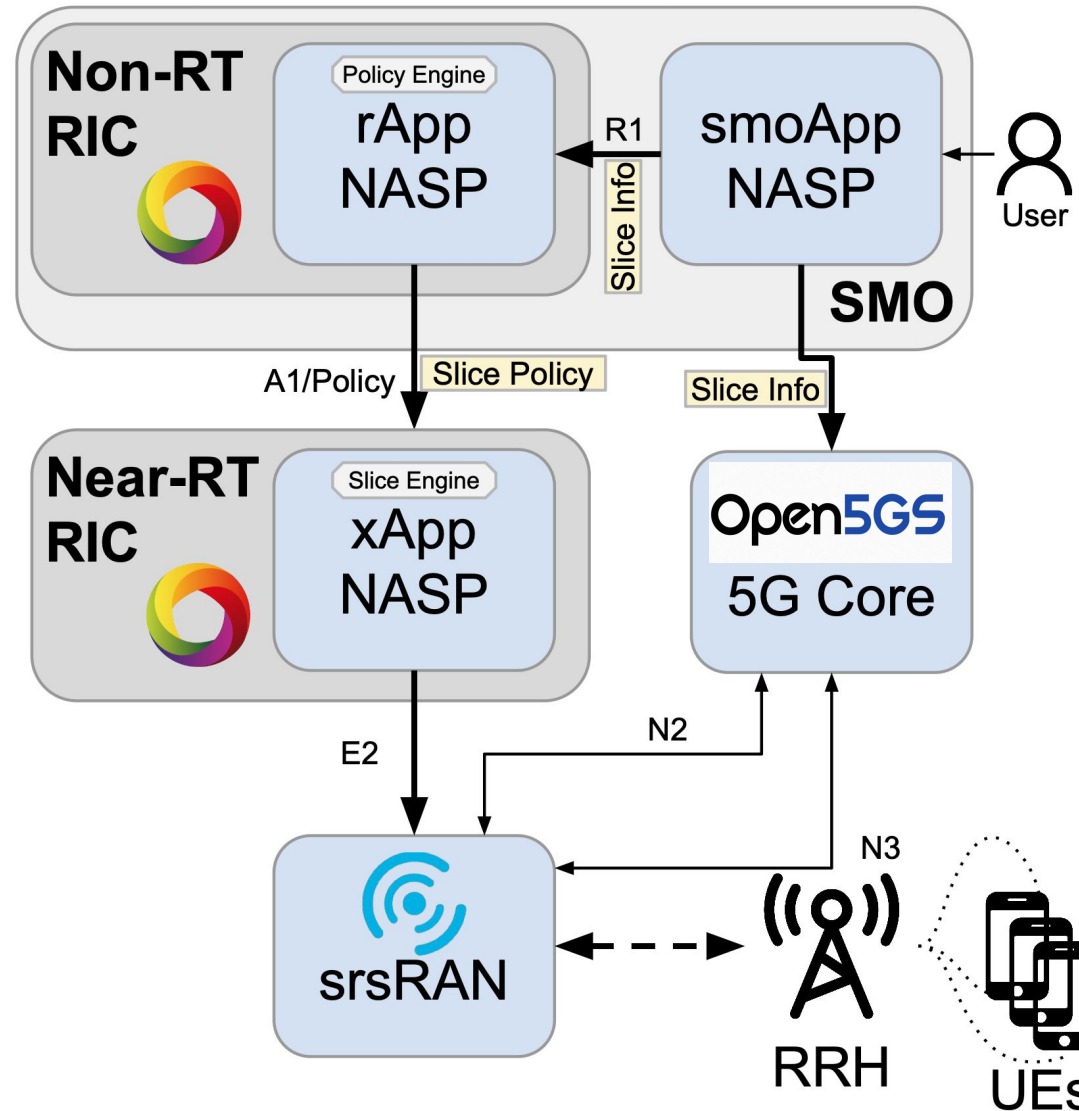


# NASP - Protótipo





# Plateou - Arquitetura



## GT-Plateou

Subgroups and projects Shared projects Inactive

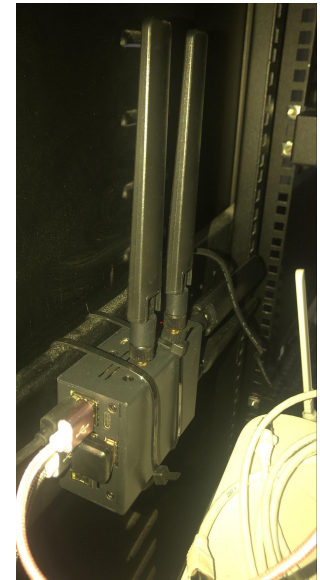
Search (3 character minimum)

- N nasp
- R rApp-NASP
- S slicing-xapp
- S srsRAN

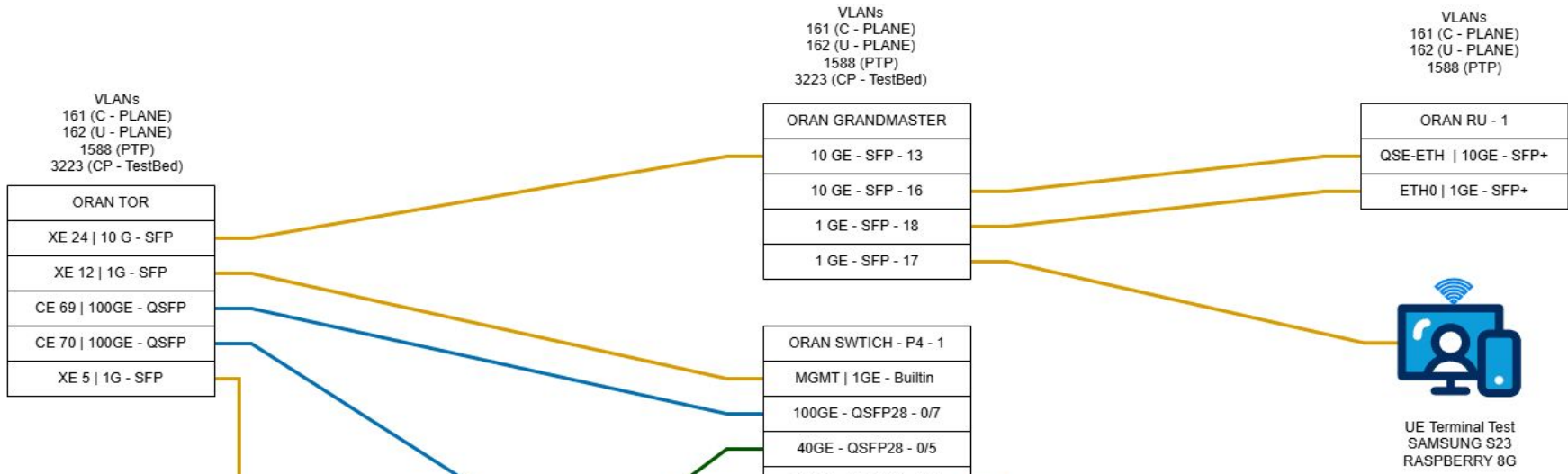
<https://git.rnp.br/openran/fase-1/gts/plateou>



# Infraestrutura de experimentação do programa OpenRAN@Brasil



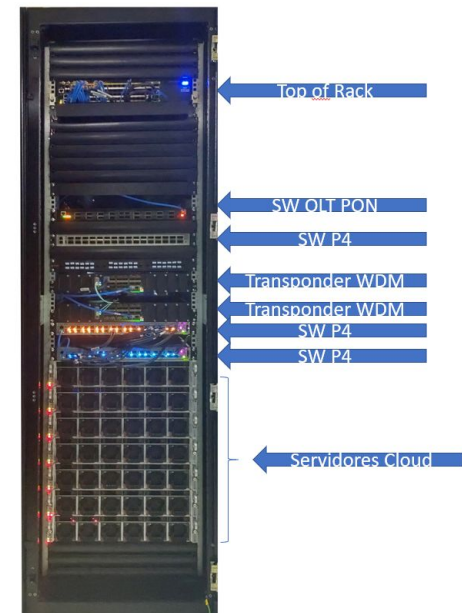
Raspberry pi + Hat 5G



**O-RAN Cluster  
Kubernetes (GT-Platou)**

**VLANs**  
161 (C - PLANE)  
162 (U - PLANE)  
1588 (PTP)  
3223 (CP - TestBed)

ORAN CLOUD 6
MGNT   1GE - Builtin
ENP152S0F0   40GE - QSFP+
ENP152S0F1   40GE - QSFP+



Foxconn O- RU (indoor)



# Demonstração





**Obrigado!**