

# RNP Experience with perfSONAR

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2nd European perfSONAR User Workshop

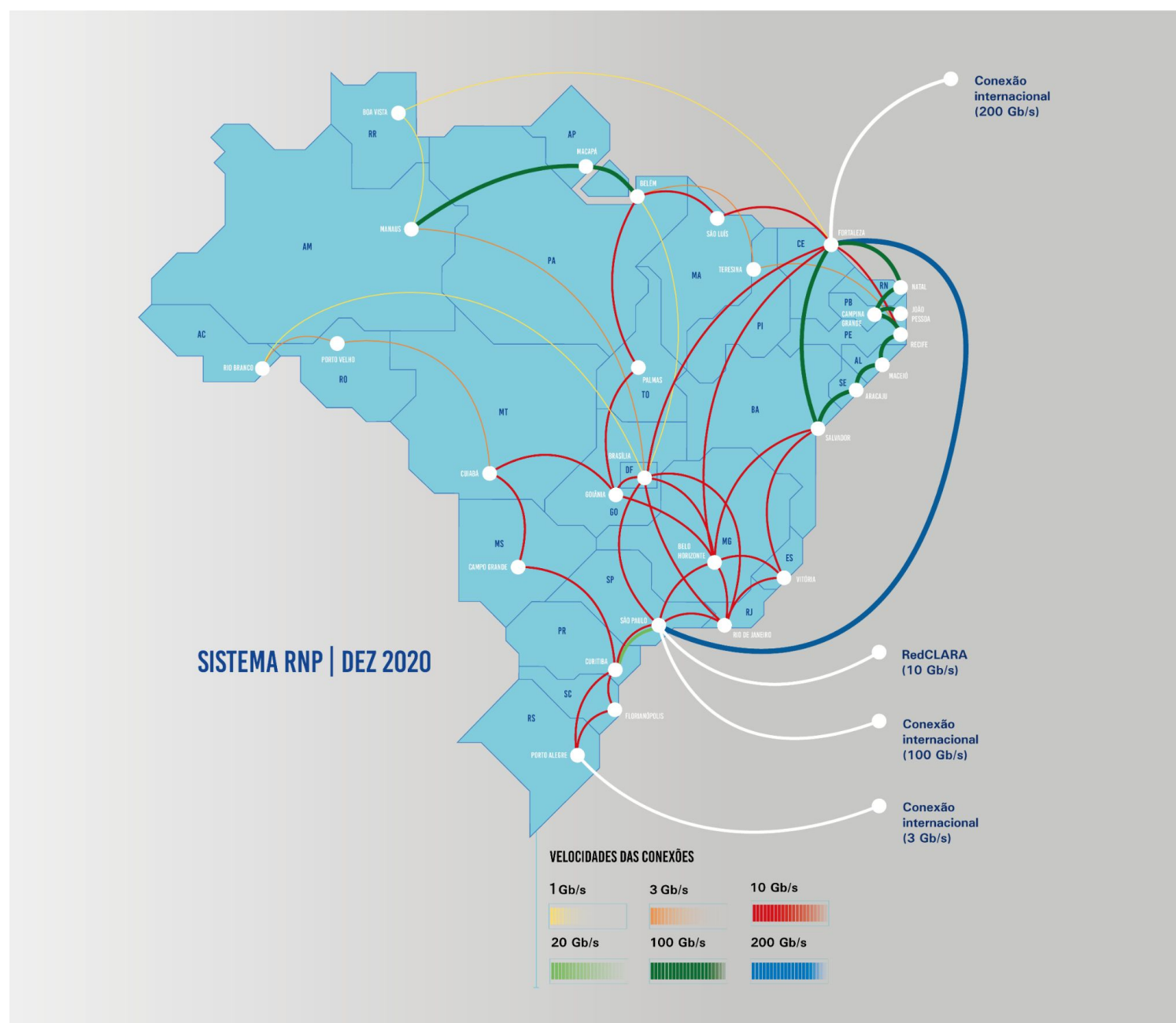
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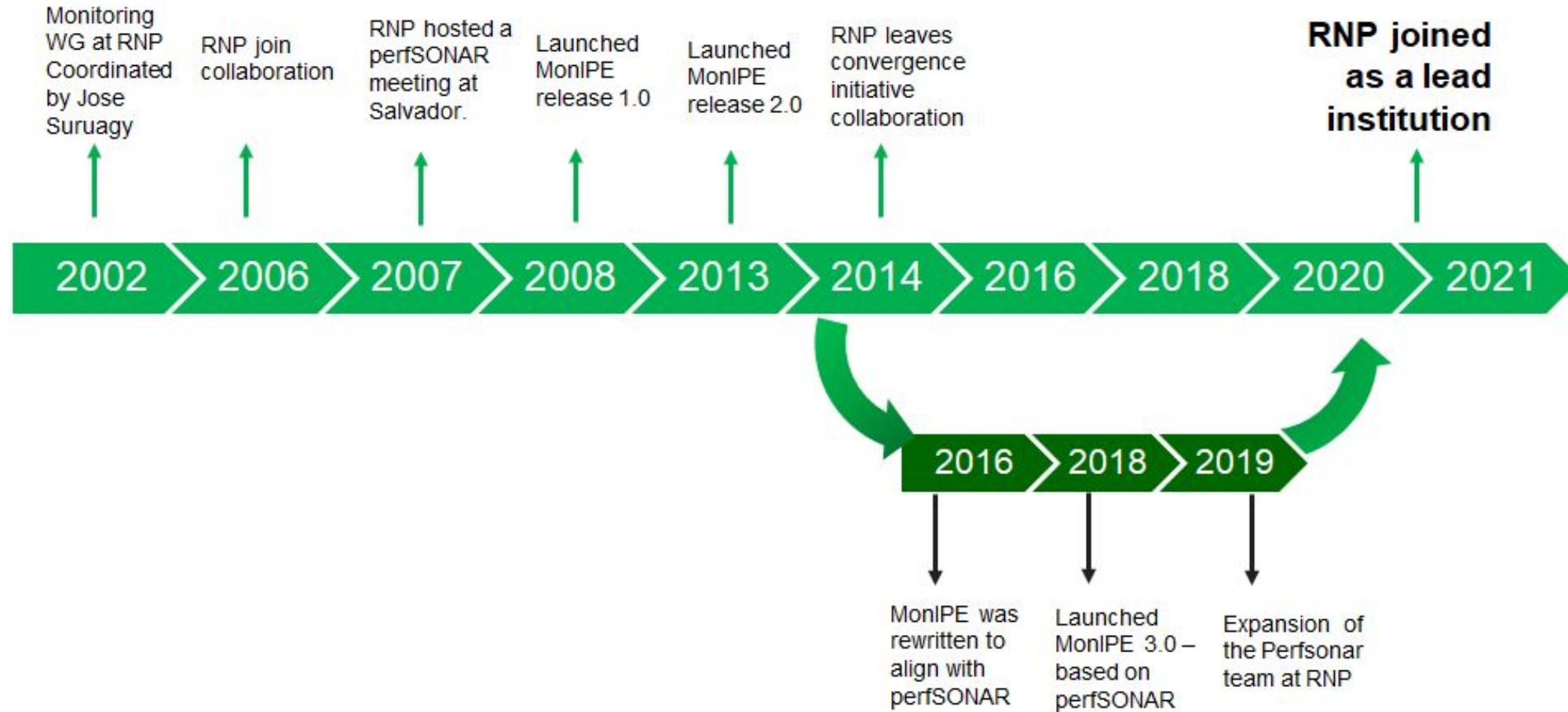
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# About RNP



# Timeline



# Motivations for joining perfSONAR

- Share development and maintenance costs
  - We believe in this model for global services
  - we want to participate in this experience
- RNP adopted perfSONAR to enable important operations processes
  - Circuit approval at 27 PoPs
  - Calculation of network availability and performance indicators
- Being part of perfSONAR is strategic to RNP

# MonIPE Service

## Goal

- Provide a network measurement solution to aid performance diagnostics, troubleshooting and validation to RNP and its user community

## Description

- MonIPE adopts **perfSONAR** components with a specialized web portal to provide specific features with focus on demands from RNP's target audiences

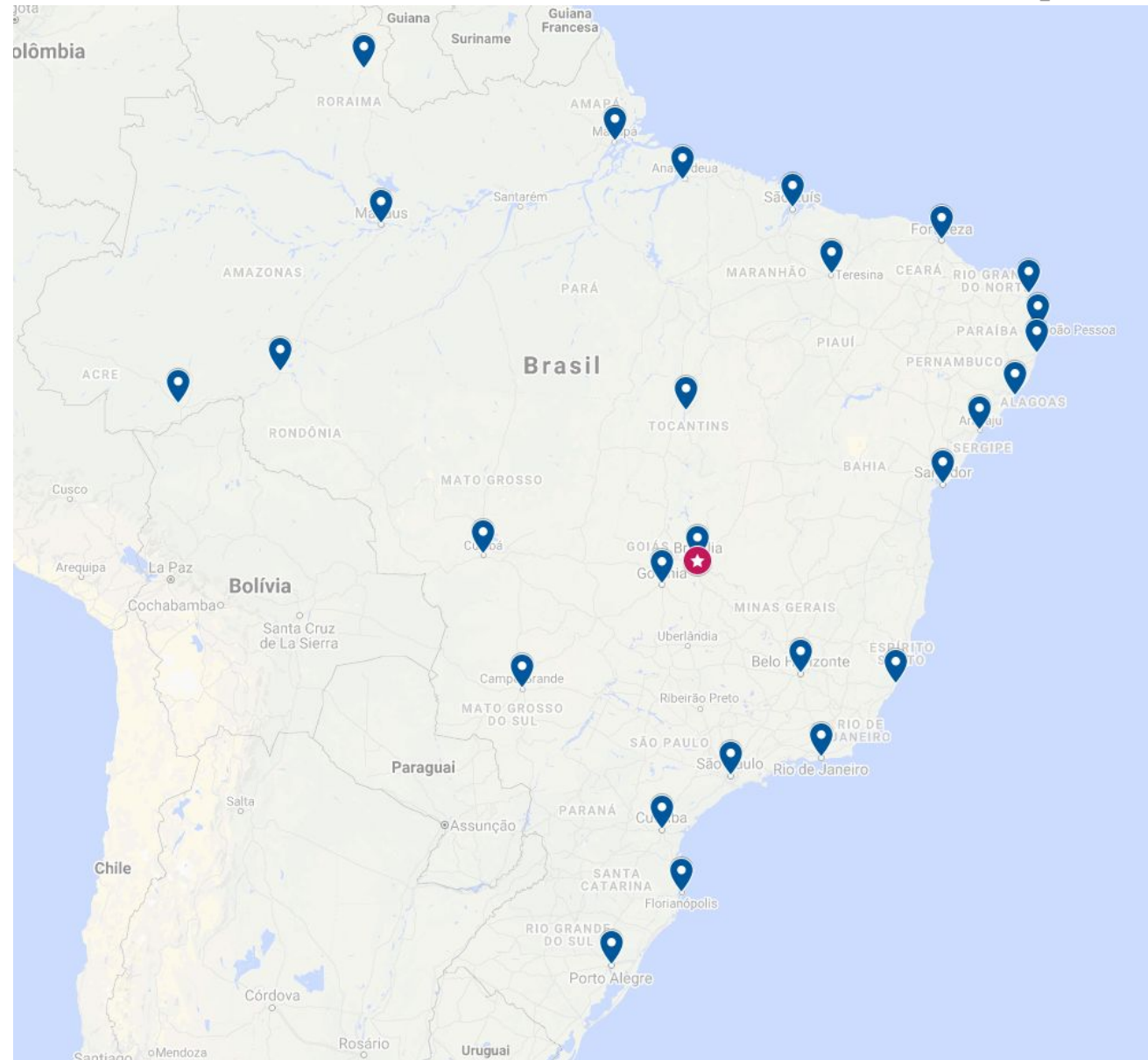
## Target audience

- **Network engineers and network researchers:**
  - RNP/PoP network operators
  - RNP clients (universities and research centers); and
  - Other communities (projects like Science DMZ, PADEX, and other NRENs)

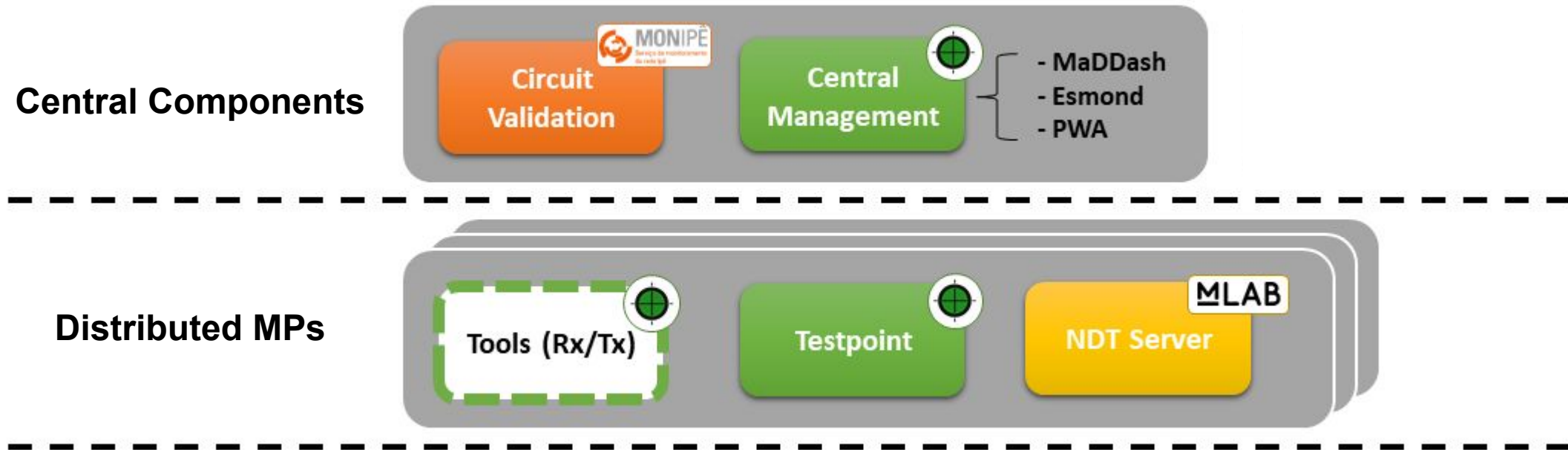
# MonIPE Deployment

1 Central Node

27 Measurement Points



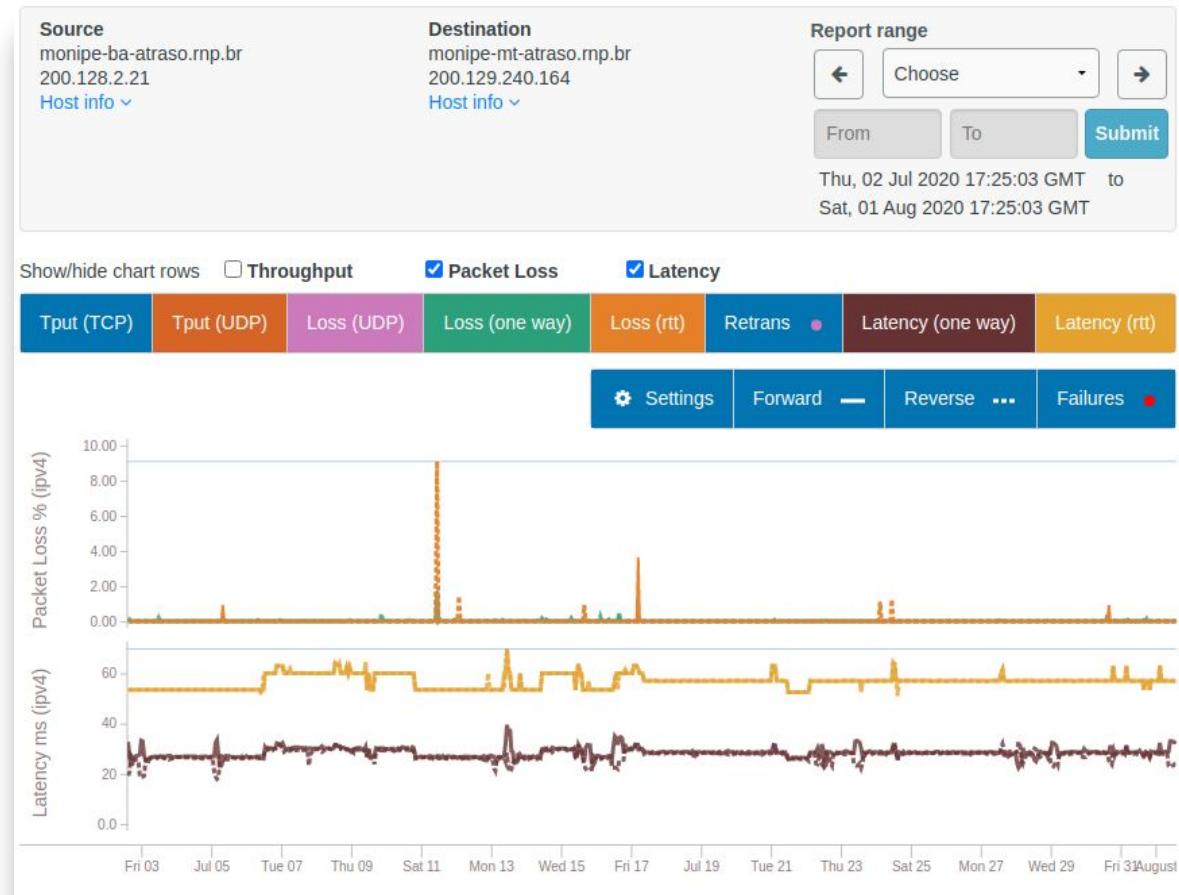
# MonIPE Architecture



# Services: Measurement Meshes

## RNP Backbone: MonIPE - Desempenho entre PoPs Dashboard

### RNP Backbone: MonIPE - Desempenho entre PoPs - Atraso e Perda de pacotes - Ping Loss

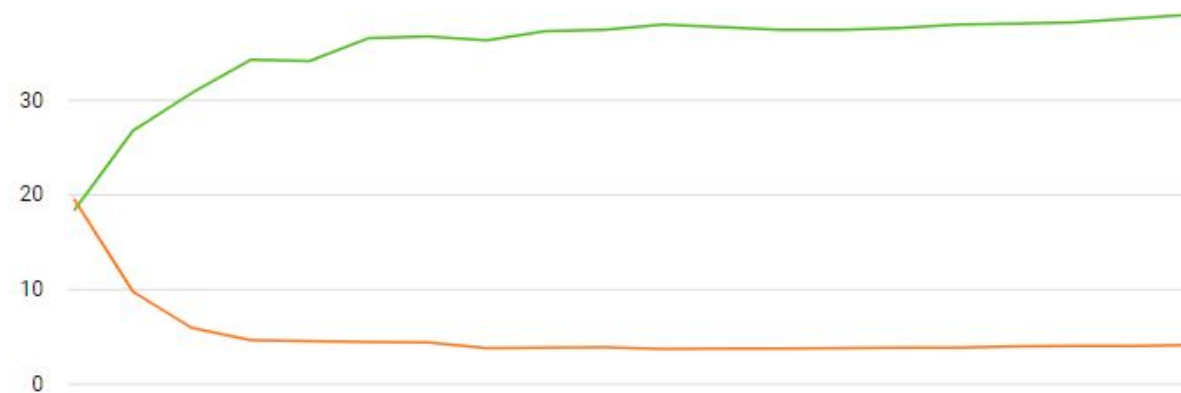




# Services: Speedtest (powered by NDT)

## Resultado

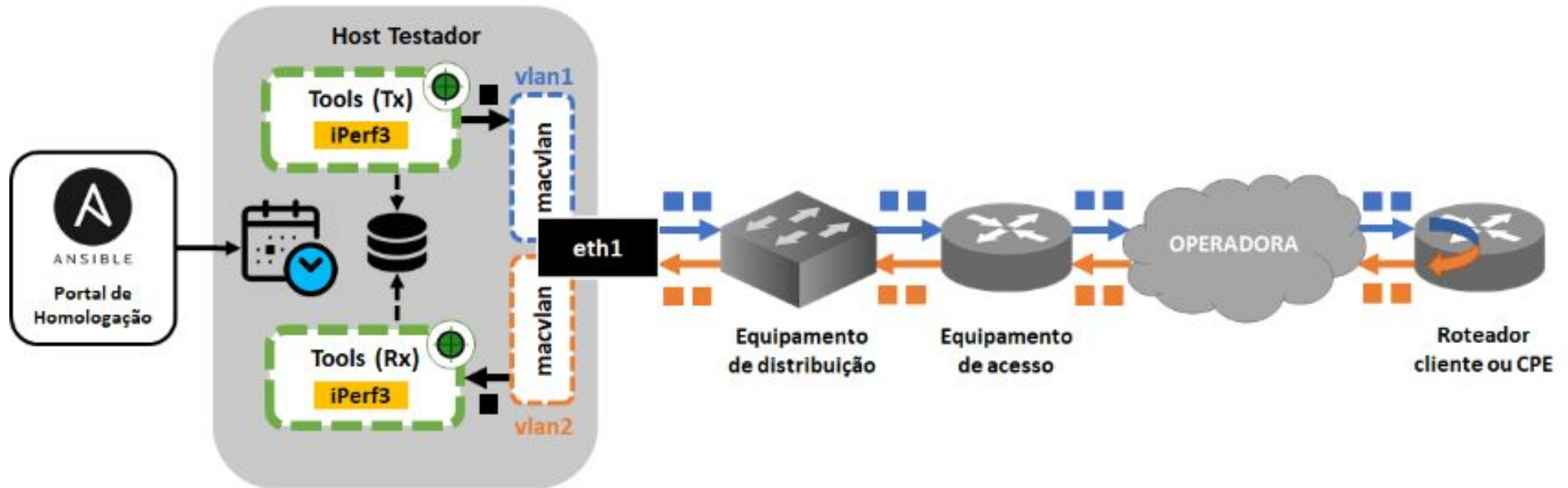
Download:	39.0 Mbps
Upload:	4.1 Mbps
RTT:	45.91 ms
Jitter:	12.23 ms
Retransmissões:	0.04%
IP:	201.82.32.88



## Legenda

■ Download ■ Upload

# Services: Circuit Validation Test



# Circuit Validation Report



PoP-SC

REDE NACIONAL DE ENSINO E PESQUISA  
RELATÓRIO DE HOMOLOGAÇÃO DE ENLACES  
Data: 22-09-2016

INFORMAÇÕES DA HOMOLOGAÇÃO	
Data	22/09/2016 11:15:00
Instituição	RNP
Unidade	CPS8
Operadora	GTI
Contrato	555
Designação Operadora	GTI555
Designação PoP	DPD111
Tiquete ativação	12345
Tipo Circuito	MPLS / Metroethernet

RESUMO DA HOMOLOGAÇÃO POR VLAN					
VLAN	Teste	Limite Perda	Limite Atraso	Limite Banda	Resultado
500	CPE100Mbps	0.01%	10ms	95%	Aprovado

RESUMO DA HOMOLOGAÇÃO POR TESTE								
VLAN	Medição	Protocolo	Dur. (Seg.)	Banda (Mbps)		Atraso	Perda	Resultado
				Nominal	Alcançada			
500	1	tcp	300	100	5967	0.653ms	-	Aprovado
500	2	udp	300	98	98.8	0.272ms	0.003%	Aprovado

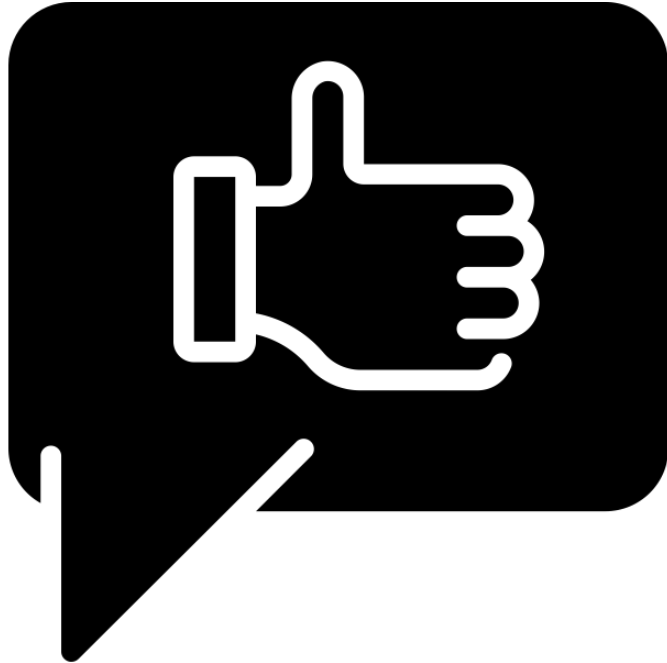
# RNP Contributions

- Containerized perfSONAR deployment
  - New Testpoint container for better maintenance and automation
- Throughput test variation to support Circuit Validation tests
  - Loopback: Runs both client and server tools on the same host
- Early adoption / contribution to new archiver and front-end options
  - Elasticsearch, Logstash, Kibana, Grafana

# RNP Team Structure

- Steering
  - Iara Machado (RD&I Director)
- Lead
  - Marcos Schwarz (R&D Manager in Cyberinfrastructure)
- Development
  - Daniel Neto (Developer at RNP)
  - Fernanda Barros/Luan Guimarães (Undergrads at Federal University of Bahia)
- Operations
  - Daniel Marques (Analysts at RNP)

# perfSONAR



Thanks icon by priyanka from The Noun Project

## Thanks!

For more information,  
please visit our web site:  
<https://www.perfsonar.net>

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