

RNP Experience with perfSONAR

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2nd European perfSONAR User Workshop

perfSONAR is developed by a partnership of



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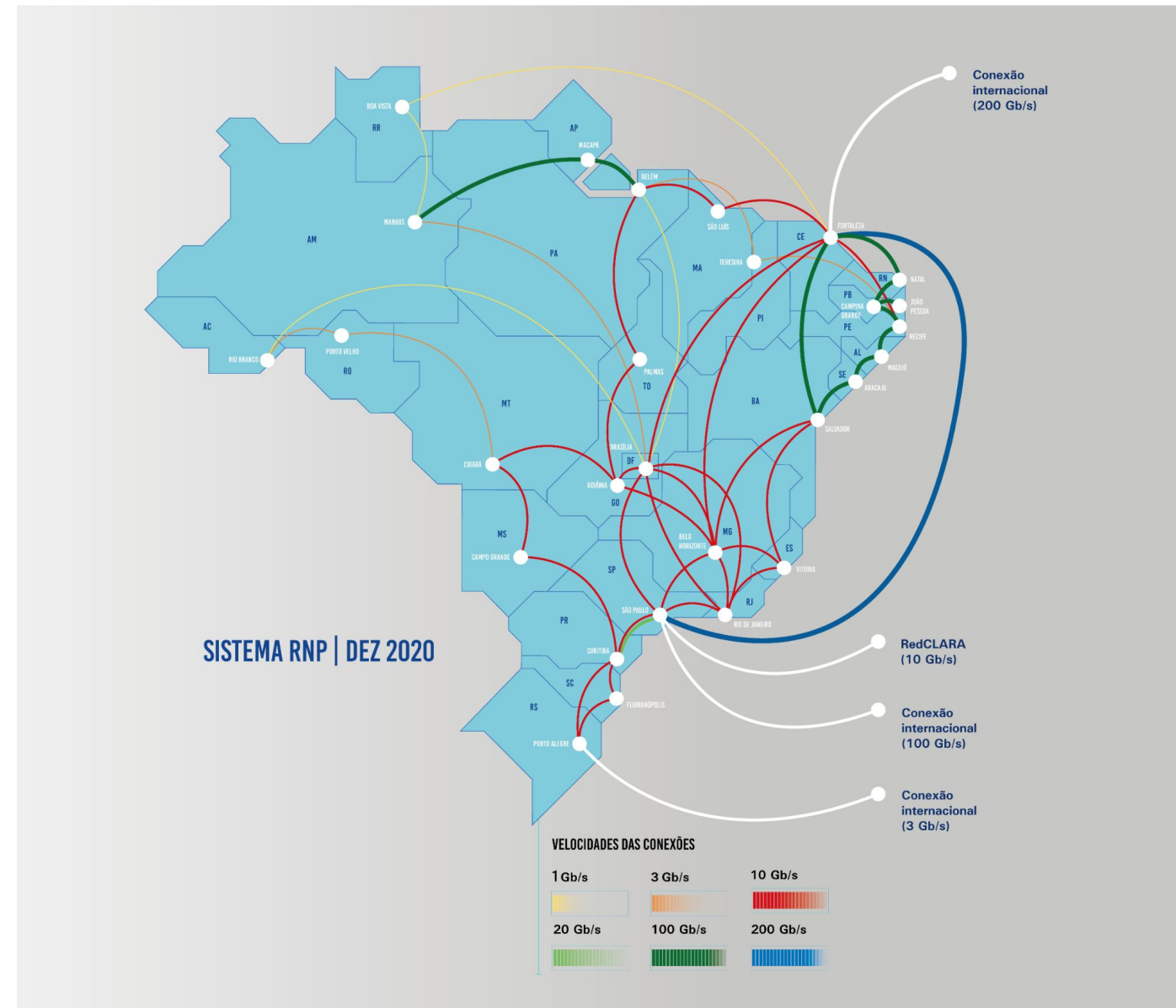
About RNP

27 Points of Presence

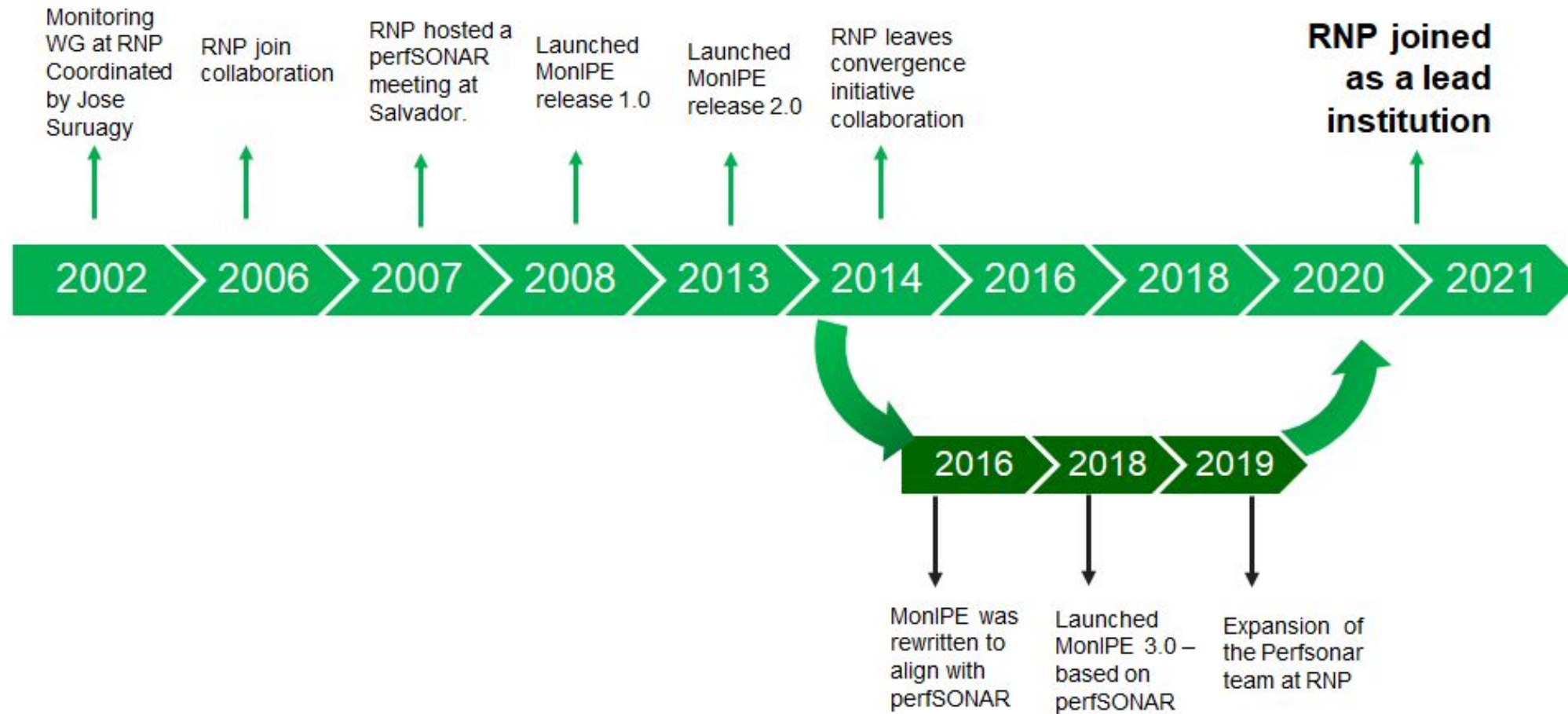
50 Communitary Networks

800 Connected Organizations

- Higher education and research institutions
- Research funding agencies
- Museums and cultural institutions
- Innovative companies
- Health facilities with teaching and research
- Innovation-promoting environments (technology parks and hubs)



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)

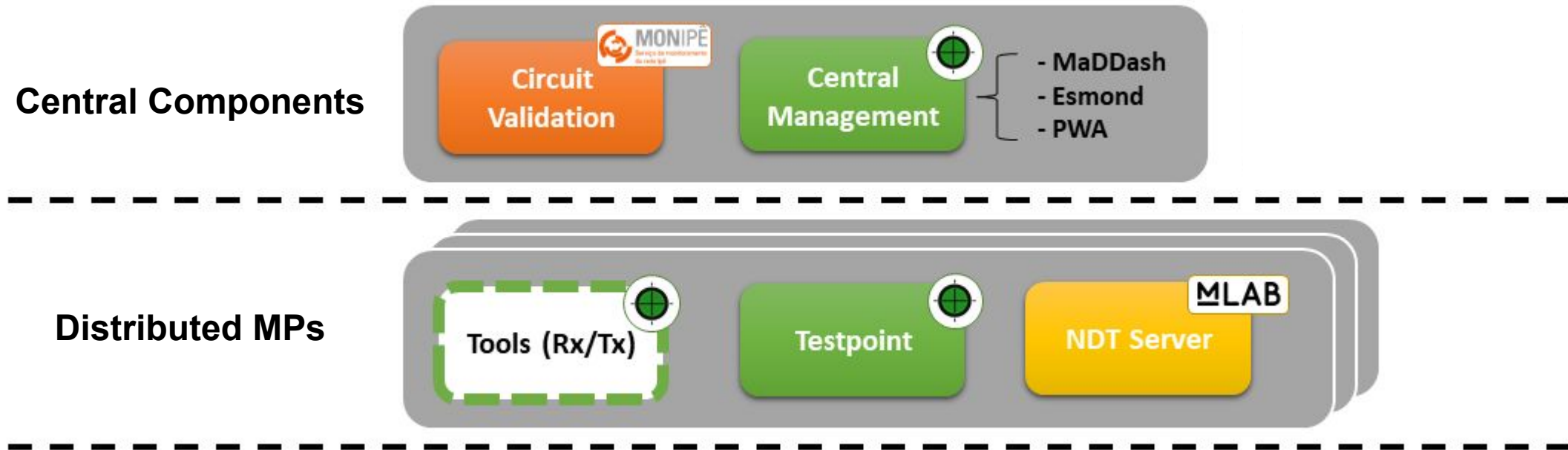
MonIPE Deployment

1 Central Node

27 Measurement Points



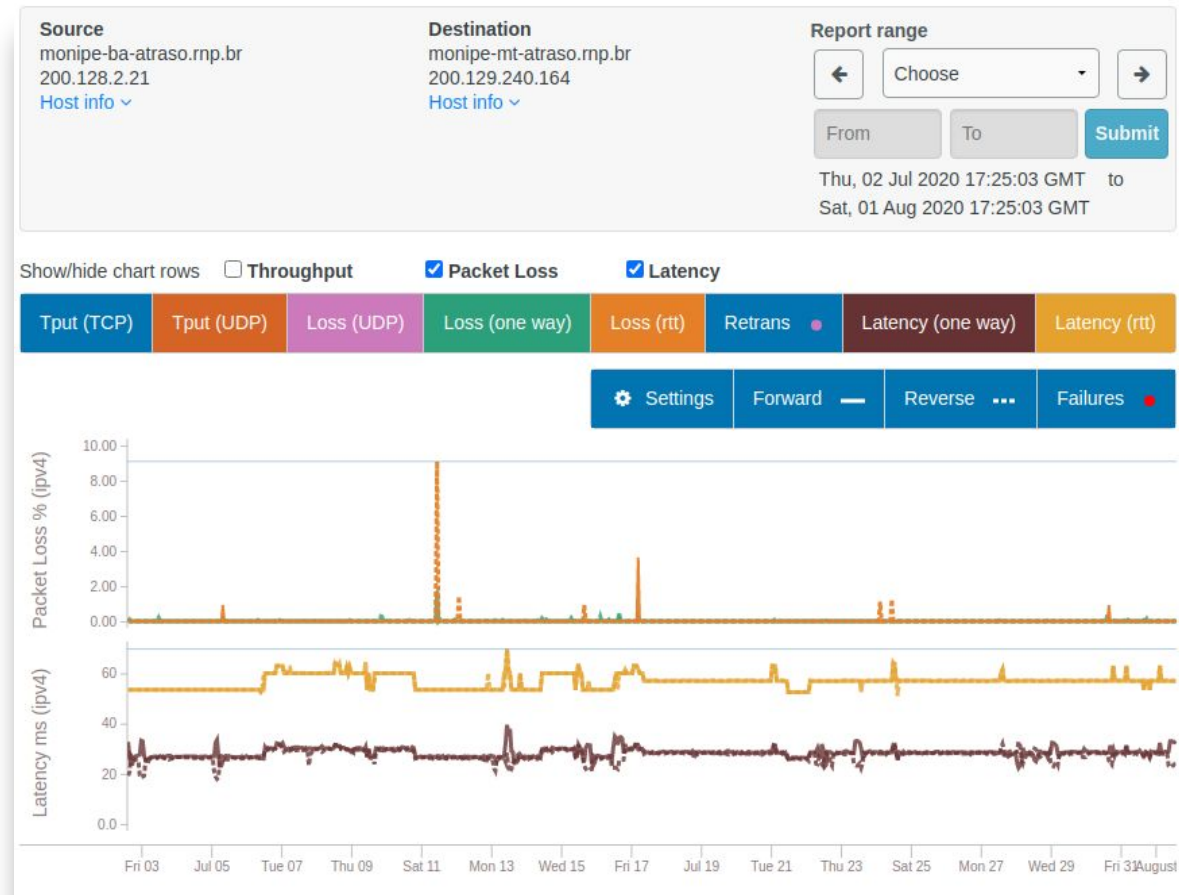
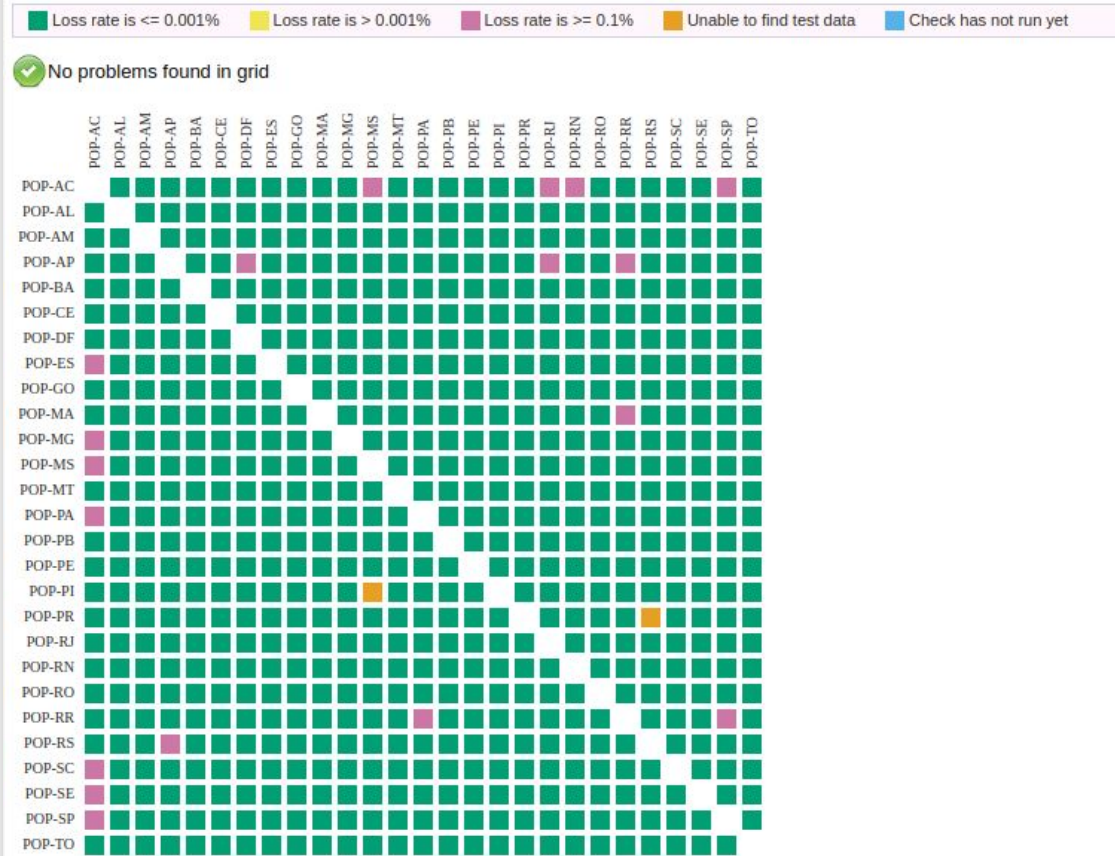
MonIPE Architecture



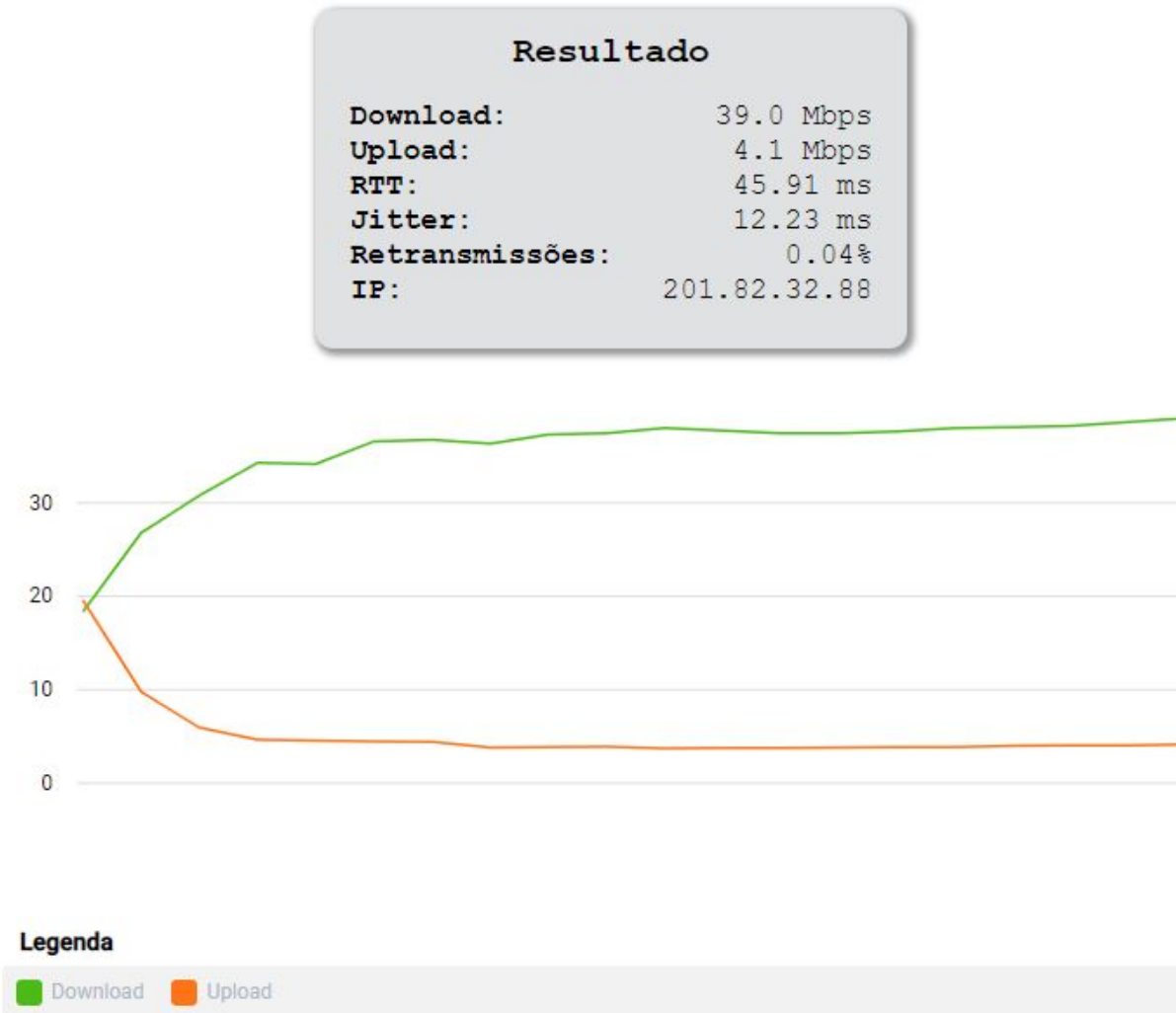
Services: Measurement Meshes

RNP Backbone: MonIPE - Desempenho entre PoPs Dashboard

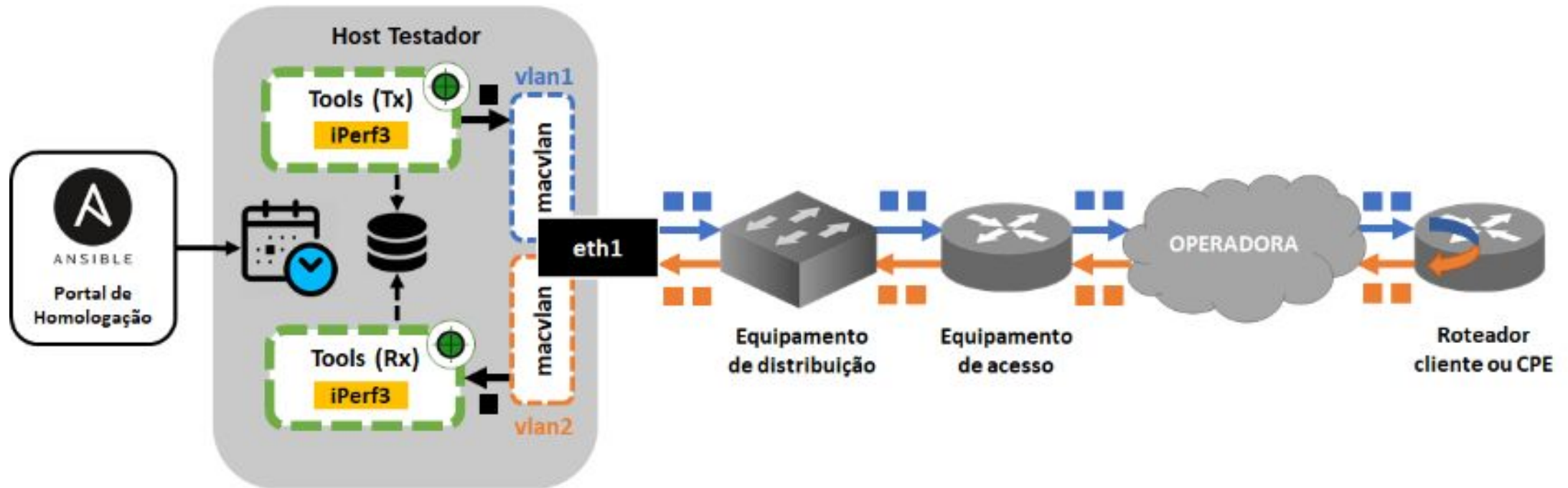
RNP Backbone: MonIPE - Desempenho entre PoPs - Atraso e Perda de pacotes - Ping Loss



Services: Speedtest (powered by NDT)



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

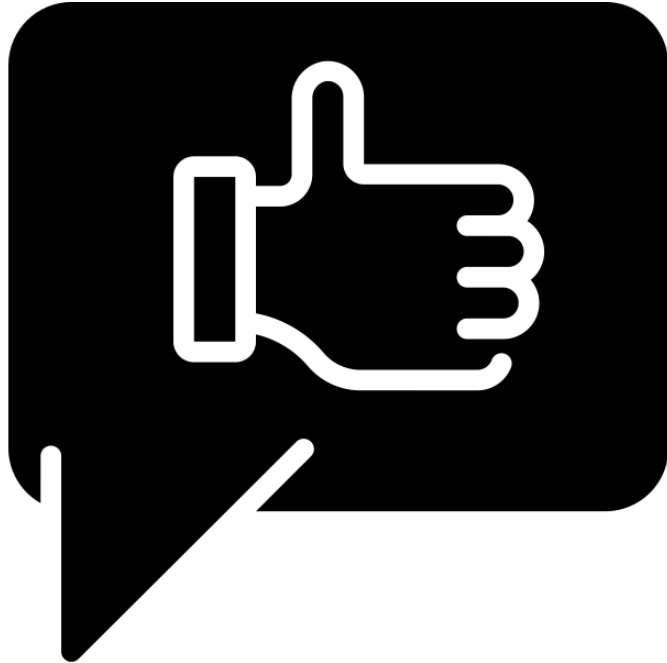
RNP Contributions

- 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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