

Respostas aos Questionamentos RFI Switches e Roteadores

Programa Conecta

Rede Nacional de Ensino e Pesquisa (RNP)

Compilado de perguntas e respostas
RFI - ROTEADORES E SWITCHES PROGRAMA CONECTA

RESPOSTAS

ALL - Anexo Especificações - 6.01.04

Draft-ietf-idr-flowspec-payload-match: RFC has expired and is not generated. Is it possible to remove this item?

The draft-ietf-idr-flowspec-payload-match will be moved to optional requirement during the RFP process. However, RNP would like to know if this feature, or any alternative to this, is available in any router or switch requested in the RFI.

ALL - Anexo Especificações - 6.01.01.10

By Layer 3 encryption, does the RFI mean IPSEC?

Item 6.01.01.10 on Technical Specs - ALL roles does not exist in the RFI document.

ALL - Anexo Especificações - 6.01.01.11

We understand that CPCAR can on the Control plane protection could met this requirement, is our understanding correct?

Item 6.01.01.11 on Technical Specs - ALL roles does not exist in the RFI document.

The control plane protection mechanism must be able to granularly filter, limit, and protect protocol traffic directed to the router and switch control plane. If the vendor has any feature with equivalent functionalities to CoPP, it will be accepted. This feature will be validated in the laboratory tests during RFP, with the related documentation.

ALL - Anexo Especificações - 18.01.03

Netconf queries for Firewall is not very clear since this kind of device is not scope of the RFI. Can this specific query be removed from the requirement list?

This RFI covers routers and switches. Firewall in this context means the function within these devices.

Services and protocols listed in the RFI must be accessible via NETCONF queries, using either standardized YANG models and/or native models. In this context, 'firewall' refers to obtaining information from ACL/packet filter functionality, such as installed rules, accepted and denied matched packets and other metrics, for both IPv4 and IPv6. This feature will remain a requirement in the RFP.

ALL - Anexo Especificações - 21.01.01

Netconf Yang models have different implementations on each vendor and several item may differ from the original model. We suggest this item be optional. Since Netconf Yang will be the main tool for any possible controller working in multivendor environment, we suggest that this item could be replaced by "provide Yang model library for all equipments in this RFI"

Item 21.01.01 is not related to YANG models.

RNP is aware of IETF YANG models and proprietary YANG models. Both cases will be taken into consideration when evaluating this requirement. This feature will remain as required.

ALL - Anexo Especificações - 4.01.04

Firewall-filters are not common for traffic mirroring scenarios. Is it possible to split this item and request as optional?

Item 4.01.04 is not related to traffic mirroring scenarios.

Item 6.01.02.07 (Selective port mirroring based on ACL or firewall filter) shows the possibility to use ACL or firewall filters to selective traffic mirroring. This feature will be required in the RFP.

Aggregation / Universal - Anexo Especificações - 19.01.04

Since electronic systems are based on binary methods, we request that baseline should be 48K and 50K, this will allow the use of adequate devices that can also bring better options for commercial phase.

Item 19.01.04 is not related to the vendor's question. RNP team was not able to identify the question in the RFI.

Aggregation - Anexo Especificações - 4.01.12 and 4.01.16

For more competitive devices, we request aggregation type 2 reduce RIB requirement to 4M IPv4 / 2M IPv6.

RNP encourages vendors to submit proposals for a device that fully satisfies the RFI's requirements, as well as a more cost-effective option with lower resource specifications, such as 4M IPv4 and 2M IPv6 routes. If a solution that not fully satisfies the RFI is presented, vendor must highlight the key difference between them.

Peering - Anexo Especificações - 1.01.02

Is it possible to consider 3RU equipments with Dual routing processors for this layer?

RNP encourages vendors to submit proposals for a device that fully satisfies the RFI's requirements, as well a solution with 3RU. If a solution that not fully satisfies the RFI is presented, vendor must highlight the key difference between them.

DATACENTER - Anexo Especificações - 4.01.06 and 6.01.01 and 20.01.02

Can BGP flowspec be removed from Spine and Leaf and only be kept on Super-SPINE?

Flowspec is only required in the Super Spine.

DATACENTER - Anexo Especificações - 5.01.02

Can H-QoS be removed from Spine and Leaf and only be kept on Super-SPINE?

H-QoS is only required in the Super Spine.

DATACENTER - Anexo Especificações - 14.01.01, 14.01.02 , 16.01

Can MPLS/LDP/Segment routing be removed or become optional?

MPLS/LDP/Segment Routing might become optional. If available, it will be an advantage for the vendor.

DATACENTER - Anexo Especificações - 7.01.03

Can Y.1731 become an optional item?

Y.1731 might become optional. If available, it will be an advantage for the vendor.

DATACENTER - Anexo Especificações - 7.01.04 to 7.01.08

Can TWAMP become an optional item?

TWAMP might become optional. If available, it will be an advantage for the vendor.

DATACENTER - Anexo Especificações - 8.01.01

Support PTP, including G.8275.1 profile: can this one become an optional item for DC switches?

PTP, including G8275.1 might become optional. If available, it will be an advantage for the vendor.

DATACENTER - Anexo Especificações - 13.01.01.12 and 13.01.01.07

Can this type of BGP extensions be removed from Spine and Leaf and only be kept on Super-SPINE?

BGP-LS and BGP communities are only required in the Super Spine.

1. **Nos elementos de peering e agregação (Tipo 2), seria aceitável uma profundidade ligeiramente maior do que a especificada? O requisito atual é de 60 cm. Uma profundidade de 62,5 cm estaria dentro dos limites aceitáveis?**

Sim, podemos considerar a aceitação de equipamentos com profundidade de 62,5 cm para os elementos citados.

2. **Para os roteadores METRO Tipo 4, um equipamento com capacidade full-duplex de 100 Gbps atende o requisito? Considerando a capacidade máxima com portas de 25GE, o total seria de 150 Gbps. No entanto, ao adotar um mix de interfaces de 10 e 25, entendemos que a capacidade proposta seria suficiente, levando-se em conta a natureza estatística da rede. Estão de acordo com esse entendimento?**

Devido ao posicionamento do roteador METRO TIPO 4 e sua característica de uso na infraestrutura da RNP, podemos considerar a aceitação da capacidade do backplane menor que o somatório total da capacidade das portas para o caso em questão (oversubscription), ou seja, com um backplane de 100 Gbps.

RFI - ROTEADORES E SWITCHES PROGRAMA CONECTA

RESPOSTAS

6. **RNP expect to conduct these tests, at their own infrastructure or the vendor's lab?**

The vendor must provide the infrastructure for interoperability testing, ensuring the laboratory's independence from any RNP infrastructure or resources. The RNP team will conduct the tests in person at the company's premises. Detailed laboratory requirements, including virtual and physical devices from any vendor, will be specified in the RFP.

7. **About the sentence: "If subscription and permanent license exist, provide a TCO analysis comparison for 5 years ("subscription" vs "perpetual + support NBD"). It is understood that in the subscription model, NBD support must also be considered. Correct?"**

The vendor may provide a comparison of values and characteristics between the different possibilities, being:

- Permanent license versus subscription without support
- Permanent license versus subscription with support (including NBD and any other available support models)

8. **About the sentence: "Please provide the most competitive quote possible so that RNP can evaluate equipment categories, quantity estimates, and target prices. This will allow the RNP team to understand the price range and feasibility of the project based on the options selected. It is highly desirable to receive the price per item." Is it possible to send us an expectation of consumption by types and if they will be distributed in batches? This information will guide us to make a more refined commercial analysis.**

The acquisition process will be divided into lots. Details will be contained in the RFP, along with quantity information.

At this moment, the reference topology can provide information regarding the estimation of quantities, considering network layers, number of sites and projects involved.

9. **In the Technical Proposal, more specifically "This network must be secure, high-performance and scalable to 400G, offering internet services, Layer 3 VPN capabilities and Layer 2 VPN (point-to-point and point-to-multipoint)." RNP is considering some layers of the network, right? Such as Core, Peering, Aggregation, and Metro, in other layers they do not request 400G capacity. Is our understanding correct?**



RNP's network is structured in distinct layers, each with its own responsibilities, services, and capabilities. The requirement for 400Gbps ports may be present in the CORE, AGGREGATION, METRO, and DATACENTER layers.

10. Is RNP considering in its analysis the pay-as-you-grow model to scale the equipment capacity? If so, what initial capacity should we consider in the proposal? And which type is allowed to do that?

Yes, RNP considers the pay-as-you-grow model in the METRO, AGGREGATION, UNIVERSAL, and PEERING layers.

The proposal must contain the pay-as-you-grow model considering the needs from reference topology and full license model taking into account the maximum capacity of the device.

11. For "RMA must be provided using spare parts in Brazil. What is the SLA for delivery considering each state capital (provide a list of cities)?" Is RNP considering the possibility of purchasing spare parts to keep in the partner's warehouse or purchasing support that replaces the defective item with a desired service SLA?

During this RFI, we aim to understand the vendor's logistical capabilities. Vendors are expected to submit one or more proposals detailing RMA lead times, considering delivering to all Brazilian capitals where RNP's Points of Presence (PoPs) are located. RNP is open to the possibility of keeping local spares at its PoPs, in order to accelerate RMA procedures.

