



Technical Annex

LPI 2021

Solution in the cloud of Content Filtering by DNS

Gerencia Telecomunicaciones

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1 CALL AIM

Centro Ceibal calls for a public international tender for the acquisition of a cloud solution (in the cloud) of web filtering content based on DNS for traffic on Ceibal network.

2 BACKGROUND

Since the beginning of Plan Ceibal, internet connectivity and WiFi access have been provided in educational centers in Uruguay. Currently the service is deployed in approximately 3,000 stores and serves more than 750,000 users (not simultaneous). The Ceibal network is the set of all the premises where Ceibal manages the network infrastructure. This management consists of the definition of the network architecture in each premises, deployment and configuration of network equipment, support and maintenance of the installed infrastructure, management of the Internet connection and web content filtering service, among others. Access and Internet browsing of each website is done locally through the ISP (ANTEL), with the management being centralized.

The Ceibal network is mainly made up of educational centers and since its inception it has a content filtering service for web browsing. The way in which this service is provided has evolved over time, being the currently required service the one detailed in the aim of this document.

3 TECHNICAL SPECIFICATIONS

A DNS-based web content filtering cloud system is required for the entire Plan Ceibal connectivity network.

3.1 Mandatory requirements

In all cases, the offer must comply with all the mandatory specifications. In the event that the product offered does not comply with one or more mandatory specifications, the offer will be discarded.

Mandatory Requirements	
# Req.	Description
A.3.1.1	DNS-based web filtering.
A.3.1.2	Cloud solution.

A.3.1.3	It is not a proxy solution, the traffic from each educational facility does not go to a central site (or CDN).
A.3.1.4	Capacity to serve 3,000 educational centers, 300 million DNS queries per day and 180,000 simultaneous users. The sizing parameters of the service should be detailed.
A.3.1.5	It should not require adding any central or distributed hardware in the Plan Ceibal network.
A3.1.6	It should not require any client software on user devices.
A3.1.7	It should be possible to unsubscribe sites that should not be blocked.
A.3.1.8	It must be possible to add sites to the blocked list.
A.3.1.9	The filtering service must include at least 40 predefined categories including violence, malware, and adult-rated content.
A.3.1.10	Redundant solution with a grade of service greater than 99.9%.
A.3.1.11	Support 24/7.
A3.1.12	Possibility of massive loading of educational premises.
A3.1.13	Possibility of enabling Safe Search in specific premises or groups of particular premises.
A.3.1.14	<p>Predefined and customized reports. The information should include:</p> <ul style="list-style-type: none"> • Number of DNS queries discriminated by educational center. • Statistics of blocks and threats detected. • Statistics of inquiries according to category, domain and most requested destinations. • Access audit data of the administrator users of the tool and changes in the configuration. <p>It should be possible to export the reports and it should be possible to customize them in terms of the application of filters by sites and by date range.</p>
A.3.1.15	Real-time monitoring from the cloud management platform.
A.3.1.16	REST API for management and reports.
A.3.1.17	Automatic updates in real time.
A.3.1.18	Presence of at least 3 years of the product on the market.
A.3.1.19	Possibility of customizing blocking pages.

3.2 Solution sizing

The system must be sized by the bidder based on requirement A.3.1.4. The scalability of the solution must be detailed. In the premises of the Ceibal network there is a router installed that acts as the gateway of the internal network and the public IP is fixed.

An informative talk will be held to clarify doubts regarding Ceibal's network architecture and details of the service. Attendance at this instance is not compulsory.

3.3 Installation and Start-up

The scope of the services to be quoted includes the stages of installation, configuration of the solution, start-up and knowledge transfer. The solution must be operational and providing the service to educational centers before October 29, 2021.

Some instance of knowledge transfer should be considered that ensures the proper operation of the tool by Ceibal's technical team, which will actively participate during all stages, facilitating the correct development of activities. Ceibal's technical team must be able to operate the service autonomously.

3.4 Support and Maintenance

Apart from compliance with requirements A3.1.10 and A3.1.11, a support and maintenance plan must be described, including SLA for minor, serious and critical failures, including contact information, escalation mechanism and communication channels.

4 PRESENTATION OF OFFERS

The bidder must know the Information Security Policy Manual that is available at::

[https://www.ceibal.edu.uy/storage/app/media/manual-de-politicas-de-seguridad-de-l a-informacion-wiki-ceibal.pdf](https://www.ceibal.edu.uy/storage/app/media/manual-de-politicas-de-seguridad-de-l-a-informacion-wiki-ceibal.pdf)

4.1 Technical presentation format

The technical offer must be submitted by completing the "Specification Compliance Table" included in Annex I.

4.2 Quotation

The offer must be submitted including the 1, 2 and 3 year service as detailed in the "Quote Table" included in Annex II.

4.3 Documentation

All the necessary information must be provided so that Plan Ceibal fully understands the aspects of the solution. This documentation must contain at least the following items:

- Description of the solution and architecture.
- List and description of the components that make up the solution.
- Service configuration guide at the level of connectivity network devices (routers).
- Platform administration guide.
- Outline and instructions for support and maintenance.

Centro Ceibal reserves the right to discard those offers that do not present any of the indicated documents or that do not correspond to the product offered.

4.4 Product testing

Along with the offer, a demonstration of the functionalities of the product must be carried out. There will be a maximum period of 10 calendar days from the opening date of the Public International Tender to coordinate the presentation with the Network Engineering sector of the

Telecommunications management. After this period, Ceibal reserves the right to reject the offer. Centro Ceibal may make the relevant technical consultations related to the evaluation of the solution to the bidder. Said advice will not represent any additional cost for Centro Ceibal.

5 STAGES OF TECHNICAL EVALUATION

The evaluation of the offers will be carried out according to the following stages:

- 1 It is verified that the information presented is complete and consistent with the quoted product.
- 2 It will be verified that the product meets the objectives for which it was requested (including product testing) and adapts to Plan Ceibal's network architecture.
- 3 It is verified if the product offered complies with the Mandatory Specifications and they are evaluated according to a "pass / fail" criterion.

After the offer is evaluated and technically approved, it will go on to the economic evaluation stage.

6 INFORMATION SECURITY AND PRIVACY REQUIREMENTS

The bidders must complete the "Information Security and Privacy Requirements Compliance Matrix" based on the information detailed in the document "Information Security and Privacy Requirements", both documents attached to this tender. If Ceibal requires it, it must be available and material that proves what is declared in the compliance matrix shall be presented.

ANNEX I - SPECIFICATION COMPLIANCE TABLE

SPECIFICATION COMPLIANCE TABLE		TO BE COMPLETED BY THE BIDDER	
		(in each specification mark with a cross (X) the corresponding option)	
Mandatory Specifications		COMPLIES	
# Spec.	Description	YES	NO
A.3.1.1	DNS-based web filtering.		
A.3.1.2	Cloud solution.		
A.3.1.3	It is not a proxy solution, the traffic from each educational facility does not go to a central site (or CDN).		
A.3.1.4	Capacity to serve 3,000 educational centers, 300 million DNS queries per day and 180,000 simultaneous users. The sizing parameters of the service should be detailed.		
A.3.1.5	It should not require adding any central or distributed hardware in the Plan Ceibal network.		
A3.1.6	It should not require any client software on user devices.		
A3.1.7	It should be possible to unsubscribe sites that should not be blocked.		
A.3.1.8	It must be possible to add sites to the blocked list.		
A.3.1.9	The filtering service must include at least 40 predefined categories including violence, malware, and adult-rated content.		
A.3.1.10	Redundant solution with a grade of service greater than 99.9%.		
A.3.1.11	Support 24/7.		
A3.1.12	Possibility of massive loading of educational premises.		

A3.1.13	Possibility of enabling Safe Search in specific premises or groups of particular premises.		
A.3.1.14	<p>Predefined and customized reports. The information should include:</p> <ul style="list-style-type: none"> • Number of DNS queries discriminated by educational center. • Statistics of blocks and threats detected. • Statistics of inquiries according to category, domain and most requested destinations. • Access audit data of the administrator users of the tool and changes in the configuration. <p>It should be possible to export the reports and it should be possible to customize them in terms of the application of filters by sites and by date range.</p>		
A.3.1.15	Real-time monitoring from the cloud management platform.		
A.3.1.16	REST API for management and reports.		
A.3.1.17	Automatic updates in real time.		
A.3.1.18	Presence of at least 3 years of the product on the market.		
A.3.1.19	Possibility of customizing blocking pages.		

ANNEX II - PRICE TABLE

PRICE TABLE	TO BE COMPLETED BY THE BIDDER		
	Price (US \$) including taxes		
Solution	1 year	2 years	3 years

The solution quoted must include everything requested in point 3 in the offers for 1, 2 and 3 years. In addition to the table, it is requested to detail the form of payment and billing frequency (monthly / annual) of each of the listed alternatives.