

CLARIFICATIONS

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ECMWF/RFI/2025/381 REQUEST FOR CLARIFICATION FORM

#	Page/Part/ Article/Section	Question	Answer by ECMWF	Date - answer is published by
1	TAPs	Please indicate how many TAPs and on which interfaces are required in the DC office?	TAPs will likely be connected to the Internet Edge Routers, and as such will be in position to capture both DC and Offices traffic in Bologna.	24/10/2025
2	TAPs	The exact copy of the traffic intercepted by the TAPs (Test Access Points), to which monitoring tool should it be sent?	The respondent is invited to propose a solution.	24/10/2025
3	TAPs	Considering the high throughput requested, we ask to approve the adoption of dedicated TAP devices.	Agreed.	24/10/2025
4	TAPs	"RFI 381 Document.pdf" par. "5.1 Security Controls" reports that TAPs should be considered for DC and Offices, but the TAP throughput and performance requirements is reported only for DC in par. "5.1.1.1 Throughput and performance requirements for the DC environment" and not in par. "5.1.1.2 Throughput and performance requirements for the Offices and OOBM environments". For what environments should you consider introducing TAPs? DC only or DC and Offices?	TAPs will likely be connected to the Internet Edge Routers, and as such will be in position to capture both DC and Offices traffic in Bologna. DC requirements are higher than Offices, so should be sufficient to cover both use cases.	24/10/2025
5	TAPs	To identify the correct TAPs type to propose, we would like to ask: - For what type of links TAPs are expected to be used? Fiber or Copper? In case of Fiber, will it be Singlemode or Multimode? What speed are the links? What connectors are expected to use (LC or MPO)? - How many links will use TAPs?	Fibre links only for TAPs. Ideally two links will be used, using either single mode or multimode fibre (ECMWF can do either), either MPO or LC is fine. Interface speed should be at the minimum 100Gbit, ideally 400Gbit.	24/10/2025
6	Power Supply	What type of power supply is required for firewalls? AC or DC?	AC.	24/10/2025
7	Contract	The duration of the contract is set at 4 years. On the Annex 1 document, in the F2 request, it mentions "All software subscriptions for a period of one (1) year and three (3) years (when applicable)" and "All maintenance and support for a period of one (1) year and three (3) years (when applicable);". Does the prices, of subscriptions and maintenance for 1 year and for 3 years, depend on the fact that you assume that to have 4 years of the contract you normally have to order 1+3 years?	The information requested in F2 is for pricing analysis and is not related to the contract duration. This is for the moment an information. The duration of the contract will be indicated during the ITT.	24/10/2025
8	Firewall	Is a HA configuration required for all firewalls, whether DC, Offices or OOBM?	Yes. Firewalls for DC, Offices and OOBM should use either active-active or active-passive HA.	24/10/2025
9	Firewall	Please indicate the type of interfaces required and the number of firewalls for each site (DC, Office, OOBM).	DC firewalls should offer a number of 400Gbit (minimum, 2, ideally 4+) and / or 100Gbit interfaces (minimum 4, ideally 8+) interfaces to achieve the required throughput, factoring in HA / resiliency. Exact number of interfaces will depend on the proposed clustering / HA mechanisms. Offices firewalls should offer a number of 10/25Gbit interfaces (8+). OOBM interfaces should offer a number of 1/10Gbit interfaces (8+)	24/10/2025
10	Firewall	When SSL IPSEC is reported in firewall performance, does it refer only to the IPSEC protocol?	Yes. The "SSL IPSEC" entries in tables of sections 5.1.1.1 and 5.1.1.2 refer to "VPN IPSEC".	24/10/2025
11	Firewall	The performance of firewalls intended for Offices and OOBM networks is identical, which leads to oversized machines for the OOBM network. Can you decline less stringent performance for OOBM firewalls?	Smaller platforms could be proposed for OOBM firewalls.	24/10/2025
12	Firewall	Please confirm that the quantities of firewalls required are correct: - DC: 2 production firewalls + 2 OOBM firewalls - Offices: n.6 production firewalls + n.6 OOBM firewalls	DC should have 2x independent firewall clusters (i.e. 4+ firewall appliances), using either active-active or active-passive HA. Each Offices site should have either active-passive or active-active HA firewall cluster (overall, 6+ firewall appliances). Each site should have two separate OOBM firewalls (i.e. 6 appliances, Bologna DC + Bologna Offices share 2x OOBM firewalls)	24/10/2025
13	Management product	Is a HA configuration required for the management product?	It is desirable	24/10/2025
14	Management product	Please indicate the type of interfaces required and the quantity for the management product.	It depends on the solution proposed, i.e. whether it is Cloud, VM or hardware-based. If hardware, it depends on projected data rates, minimum 10Gbit interfaces.	24/10/2025
15	Management product	Should the management product be physical or virtual?	This should be decided by the respondent based on the proposed design and on advantages/disadvantages that should be explained as part of the response.	24/10/2025

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16	Monitoring product	Is an HA configuration required for the monitoring product?	It is desirable	24/10/2025
17	Monitoring product	Please indicate the type of interfaces required and the quantity for the monitoring product.	It depends on the solution proposed, i.e. whether it is Cloud, VM or hardware-based. If hardware, it depends on projected data rates, minimum 10Gbit interfaces.	24/10/2025
18	Monitoring product	Should the monitoring product be physical or virtual?	This should be decided by the respondent based on the proposed design and on advantages/disadvantages that should be explained as part of the response.	24/10/2025
19	Virtual	In the case of virtual solutions for management and monitoring, is it also necessary to provide for the supply of the hw (server), on which to run them, and any hypervisor licenses?	No, ECMWF will use existing hypervisors in this case. The respondent should provide the hypervisor specification requirements if the chosen solution is a virtual one.	24/10/2025
20	WAF	Considering the high throughput requested, we ask to approve the adoption of dedicated WAF appliances.	The solution could be a dedicated platform or included in another platform, e.g. firewall.	24/10/2025
21	WAF	Is a HA configuration required for the WAF?	It is desirable.	24/10/2025
22	WAF	Please indicate the type of interfaces required and the quantity for the WAF.	This is dependent on the proposed solution but at a minimum 25Gbit, ideally 100Gbit or 400Gbit interfaces.	24/10/2025
23	WAF	Should WAF be used as a reverse proxy? Please report more details on the type of services requested.	No, WAF should be transparent. Load balancers can be used for reverse proxy functionality, if required.	24/10/2025
24	WAF	Is the throughput of the WAF $\geq 40\text{Gbps}$ referred to the https protocol or only to the http protocol?	It is likely to be a mixture but predominantly HTTPS (80% HTTPS in current environment).	24/10/2025
25	Annex1	Could you clarify the next sentence reported on Annex 1 paragraph 9? Does this mean that compliance with the requirements expressed in the RFI document must also be included in the answers to the questions in Annex 1? "Please ensure that the content of the section(s) listed in the following column is (are) fully addressed in the response: "Relevant section(s) in the Instructions and Specifications document."	The answer to the questions must cover all the elements listed in the section(s) pointed at in column "Relevant section(s) in the Instructions and Specifications document." when applicable.	24/10/2025