Introduction

MIC2 intends to purchase a Secure and State of the Art Domain Name System (DNS) Hardware and Software to be hosted at its premises, along with the corresponding Implementation, Integration, Configuration, Tuning and Support Services. This Gi DNS will be integrated by the selected Vendor with MIC2 Core Network and will manage the resolution and conversion of the Internet domains for MIC2 customers’ HTTP/HTTPS traffic over 2G, 3G and 4G.

MIC2 intends to select a Mobile Operator / Carrier Grade DNS from a reputable DNS Vendor having an international thorough experience and presence in the DNS field. The Vendor selection will follow a clear scoring schema based on MIC2 specific requirements that will be part of this RFP Documents and provided to all Companies participating in this Tender, along with a scoring related to the Bidders Commercial offers. Notably, the Vendor needs to ensure a set of mandatory requirements to be part of the RFP, non compliancy to these mandatory requirements or killing factors will not allow the Vendor to be part of the RFP.

Mandatory requirements (killing factors)

The Vendors need to fulfill the below criteria to be eligible for evaluation and offer review. The Vendor that is unable to provide solid documents supporting its fulfillment of the below criteria cannot be considered for this Tender and his offer shall not be considered.

The Vendor shall not only confirm his compliancy of the below criteria, but also provide his detailed technical solution for each one of them for MIC2 further assessment of his compliancy. The Vendor shall thus provide his compliancy to each of the below mandatory requirements separately and explicitly, and shall provide its technical solution and relate it to each of the below requirements by clearly indicating in his answer the correlation between the solution document and the requirement. In case MIC2 judges that one of the mandatory requirements is not completely achievable, the Vendor shall not be able to submit its Commercial offer. Note that MIC2 shall have the right, during the RFP, to ask for a technical presentation from the participating Vendors.

1. The offered Gi DNS Product/Solution should be a Carrier Grade / Mobile Operator Grade DNS from a HW and SW perspectives.
2. The offered DNS Product/Solution should be dedicated to MIC2 on a standalone HW implemented in MIC2 premises. In case the applying vendor has already deployed a Virtualized/Cloud Infrastructure within MIC2 premises, he can apply with two options, one of them is based on a standalone HW similar to all other applying Vendors and the other based on a Virtualized HW.
3. The offered DNS Product/Solution should be currently deployed in a number of Mobile Operators Networks across the globe, at least in 5 Mobile Networks in 2 different Continents for the same use case of this Tender.
4. The Vendor needs to be able to provide the corresponding Implementation, Integration, Configuration, Tuning and Support Services.
5. In case the Vendor is not the original Product/Solution Manufacturer, he needs to provide official certifications from the original Manufacturer to sell/re-sell, implement, integrate, configure, tune and support the Product/Solution in question from both HW and SW perspectives, along with its employees’ updated technical certificates showing the ability to carry the aforementioned Services.
6. The Vendor needs to ensure an end to end Implementation, Integration, Configuration, post-implementation Tuning and Support Services.
7. The Vendor needs to provide free of charge Warranty on Hardware and Software for 1 year.
8. The Vendor should be able to ensure 24x7 Maintenance and Support Services for both HW and SW from qualified and certified team members, whereby the response time needs to be 15 minutes max, all service affecting issues should be solved within one hour and all escalated non-service affecting faults and tickets should be solved within 1 week.
9. The Vendor needs to provide repair & return service as part of the Maintenance and Support Services, to repaid and return and defected or problematic Hardware in a prompt manner and specify the timeframe.
10. The Vendor needs to ensure spare parts for all main HW components.
11. The Vendor needs to ensure a regular configuration review and tuning and to update the configuration and tune the system whenever highly needed.
12. The Vendor should provide a complete Documentation and Training in relation to the Product/Solution as well as an on the job training right after the Product/Solution deployment.
13. The Vendor should provide his Technology Roadmap for the Product/Solution HW and SW, including its readiness for 5G NSA/SA and IPv6.
14. The Vendor should offer the latest HW and SW versions of his Product/Solution and should clearly provide the next expected HW and SW upgrade dates or End of Support dates for all the elements of the Product/Solution he is offering.
15. The Vendor should clearly indicate in its offer the yearly amount of recurrent fees be it support services, tuning services if separated from the support services, features or software subscription fees or any other recurrent fees.
16. The Vendor should be able to commit contractually on a clause preventing him from sharing any data or information with any third party and to restrict the access to MIC2 Network, data or information to its employees to fulfill specific and pre-approved tasks.
17. The Vendor, its Company, Research & Development Center or shareholders and employees should not be affiliated to the state of Israel or located in Israel. The Vendor shall provide its Company HQ and R&D center locations, details about the company shareholders and group/sister companies and Investors Information.
18. The Vendor should ensure the migration of the current whitelisted/blacklisted domains, pages or IPs and rules from the existing MIC2 DNS to its new DNS and should ensure the full integration with the existing MIC2 Core Network Elements that are currently connected to the DNS.
19. The Vendor should provide the details of the cutover plan from the existing MIC2 DNS to its new DNS, as well as the PIP, HLD, LLD, Acceptance tests documents and project teams structure and details.
20. The Vendor should have already performed integrations and demonstrated interoperability between its offered Product/Solution and similar Vendors than MIC2 existing ones.
21. The offered Product/Solution should have at least a demonstrated 99.999% availability.
22. The offered Product/Solution should be easily scalable and expandable in case any capacity upgrade is needed post-deployment.
23. The Vendor should have the DDI capability within its offered Product/Solution portfolio.
24. The Vendor should provide a complete Gi DNS solution HW and SW (and not a Gn/Gp DNS), including all the following functionalities Resolver/recursive resolver, authoritative server, caching server and DNS FW (Firewall) or equivalent solution to be specified along with an RPZ (Response Policy Zones) or an equivalent solution to the RPZ to be specified.
25. The Product/Solution should handle all existing traffic types including HTTP/HTTPS, 2G/3G/4G.
26. The Vendor should ensure the deep inspection of the DNS traffic and detection of the signature of the queries to detect and stop various types of DNS/DHCP attacks, DDoS and DNS tunneling/data exfiltration, malware protection, response rate limiting, DDoS attacks, cache poisoning/spoofing, man in the middle attack, DNS amplification, fast-flux DNS, NXDOMAIN flood, slow drip, TCP SYN flood, Domain brute Force, Reverse lookup, Zone Transfer, Zone walking, flood/overflow prevention. It is mandatory to have the ability to detect and stop the vast majority of the above types of attacks and fraud.
27. The Vendor should provide DNS threat protection, threat protection regular and continuous update and analysis.
28. The Vendor needs to provide DNSSEC.
29. The Vendor should provide DNS caching acceleration or equivalent functionality.
30. The Vendor offered Product/Solution should cater for a total of 300K Query Per Second (QPS) traffic over three different DNS Appliances distributed across three different MIC2 Core sites.
31. The three different DNS Appliances should be able to work in both active-active or active-standby modes and an automatic switchover should be ensured upon the failure of any Appliance to the rest of active appliances.
32. The Vendor should ensure a connectivity of its DNS to more than 10 external international renowned root name servers.
33. The Vendor should ensure a Management System capable of monitoring, managing, controlling and configuring all the Product/Solution elements through a graphical interface. This Management system should be able to display all elements alarms and notifications, and to generate performance management statistics covering the number of customers, number of requests, number and type of queries, successful and failed queries/requests, system load and other counters and KPIs. The Management system should allow configuration management, modification, tuning, backup, blacklisting/whitelisting, configuration of rules, Security parameters management, etc.
34. The Vendor Solution needs to allow Analytics, log files, traces and include troubleshooting tools.
35. The Product/Solution needs to interwork with the current Facebook and Google cache servers that are available in MIC2 premises.
36. The Vendor needs to specify the networking interfaces type and amount, noting that 1, 10 and 100 GE interfaces need to be supported.
37. The Vendor needs to provide all necessary connections and connectivity interfaces and cables.
38. The Vendor needs to specify the power and ventilation requirements as well as the expected peak and average power consumption of the Solution.
39. The Vendor needs to provide the maximum caching server capacity in the quoted Product/Solution and the expected cache hit ratio, both based on the 300 QPS requirement, noting that the minimum acceptable cache hit ratio is 95%.
40. The Vendor needs to clarify the possibility to modify or manage the TTL (Time-to-live).
41. The Vendor needs to indicate the expected Latency brought by his Solution.
42. The Vendor should preserve the existing MIC2 customers Quality of Experience and KPIs in terms of resolution time, latency, pages processing time, images and video display time and other KPIs or KQIs related to the Internet Services customers’ experience.
43. In case of a failure to demonstrate the above required functionalities or in case of a deterioration in the existing MIC2 customers’ experience or KPIs post-implementation that is directly related to the DNS replacement, MIC2 shall have the right to disqualify the winning Vendor with no financial liability on MIC2 and to select the second winner.

The Vendor solution needs to include the below features and services to be offered by MIC2 to corporate customers or individuals and shall clearly describe the corresponding functionality and details in the provided documentation.

* Web application Firewalls
* DDoS protection
* Web filtering & whitelisting
* Anti-Malware
* Phishing protection
* Multiple profiling: possibility of having several profiles. Each profile to have different approval and denial settings via the DNS server
* Content Classification/Categorization
* Integration with 3rd party
* Support DNS over HTTPs (DOH)
* Customized user-friendly reporting for retail and corporate customers
* Include a user-friendly web filtering interface that can be used by the customers to manage their internet browsing
* Provide a parental control platform with a client based application (android/ios app and web) to allow for parents to manage their kids internet browsing