
**IT Network Operations Centre AIOps Solution
Request for Information**

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Public

Table of Contents

01	INTRODUCTION.....	3
02	MITA PROFILE	4
03	OBJECTIVES AND SCOPE.....	6
04	REQUIREMENTS	7
	ANNEX A - SERVICE PROVIDER INFORMATION FORM	13

01 Introduction

01.1 Malta Information Technology Agency (MITA) intends to conduct market research on an:

IT Network Operations Centre AIOps Solution (R116/19)

01.2 Interested Parties are requested to provide the required information by **not later than 25 November 2019**. Submissions are to be sent on cmd.mita@gov.mt quoting the RFI title and reference number.

01.3 Requests for clarifications may be sent on cmd.mita@gov.mt until the 15 November 2019.

01.4 Interested Parties are to visit the MITA website (<https://procurement.mita.gov.mt>) for any updates published in relation to this RFI, including any clarification notes.

01.5 Responses and any related supplementary information are to be submitted electronically and in the English Language.

01.6 MITA may request Interested Parties to provide it with clarifications or additional information in connection with their submission.

01.7 The information collected through the submissions will be treated as confidential and shall be processed in accordance with the Data Protection Act (Chapter 586 of the Laws of Malta).

01.8 No costs incurred by the Interested Parties in responding to this RFI, including but not limited to the preparation and submission, shall be reimbursable. All such costs shall be borne by the Service Provider.

01.9 Information submitted in response to this RFI will become the property of the Government of Malta. MITA will not pay for the information solicited or for the use of the information submitted.

01.10 MITA on behalf of the Government of Malta shall retain possession of all documents received. All materials provided by the interested parties will be treated as confidential and are non-returnable.

01.11 This RFI is to be treated solely as exploratory market research for the purpose of gaining knowledge of the availability of AIOps (Artificial Intelligence for IT Operations) solutions in the market and the willingness of prospective service providers to provide services to the Government of Malta. This RFI should not be regarded as a Call for Tenders (CfT) or as an obligation to procure on the part of MITA. No contract will result from any response to this RFI.

01.12 MITA and the Government of Malta reserves the right to issue a CfT for the same or similar services in the future.

02 MITA Profile

The Malta Information Technology Agency (MITA) is the central driver of Government's Information and Communications Technology (ICT) policy, programmes and initiatives in Malta.

MITA's role is to deliver and implement the assigned programmes as set out in the Digital Malta National ICT Strategy 2014 - 2020, and as directed by the Parliamentary Secretariat for Financial Services, Digital Economy and Innovation from time to time. MITA manages the implementation of IT programmes in Government to enhance public service delivery and provides the infrastructure needed to execute ICT services to Government. MITA is also responsible to propagate further use of ICT in society and economy and to promote and deliver programmes to enhance ICT education and the use of ICT as a learning tool.

MITA officially took over the operations of MITTS Ltd on 1st January 2009. Whilst MITTS Ltd (and its predecessor) were solely devoted in providing a service for the Government, MITA's role is extended to cover projects and services on a national scale. MITA shall therefore continue to excel in providing ICT infrastructure and services, professional project management and consulting services to the Government. The Agency is dedicated in assisting the Government in transforming technological innovations into real business solutions. Its unique approach combines an innovative array of ICT and project management services with focused delivery capabilities using tried and tested methodologies to help fulfil Government's strategies and projects and maximise the benefits of investment in technology.

Building upon the strong legacy of all its predecessors MITA operates within a defined national ICT strategy. Besides the expertise, MITA inherited a mature organisation, comparable to the best practices within the corporate scene. The Agency is a young, fresh, dynamic and knowledge-driven organisation thriving on the culture of being a cutting-edge IT services player. MITA prioritises national ICT targets, and embraces open standards and technologies as a matter of policy. The Agency builds, nurtures and sustains excellent industry relations both locally and internationally.

The above is reflected in MITA's mission statement and reinforces the Agency's pivotal role in the evolution of Malta into a world class information society and economy.

For an effective execution of its raison d'être MITA has three fundamental components which are embraced by all its employees. MITA has a transformation approach towards its programmes and projects – to transform the way they are engineered together with their delivery, their return of investment and the enhancement of all-round value they effectively provide. Innovation is the second component – the aspiration to become the leading innovator within the public sector and one of the prime movers in

the innovation circuit in Malta by thinking creatively in respect of its people, technology and operations. MITA's strive for excellence is its third component which strengthens the agency's craving for continuous improvement at all levels.

Further corporate information may be obtained from the following web portals:

Government of Malta

<http://www.gov.mt>

Malta Information Technology Agency

<https://www.mita.gov.mt>

03 Objectives and Scope

MITA is issuing a Request for Information (RFI) for an AIOps solution to enhance the 24x7 visibility of the Network Operations Centre (NOC) across Government IT systems and services. The main objective is to instil predictive analysis within the day-to-day operations while also improving proactivity, embracing automation and expediting root cause analysis.

The scope of the solution being sought is the end-to-end Government IT infrastructure comprising of various components which include hardware, software applications, networks, appliances, and other physical and virtual components. The solution is required to provide insights into each individual component while also correlating data from various repositories to realize the aforementioned objectives.

The MITA NOC is currently utilizing several industry leading silo-based tools to monitor its services and related components. Such tools provide NOC with visibility primarily related to availability and capacity. It is required that the solution being sought by MITA has the potential to integrate with such tools.

Background

MITA is entrusted with offering IT Services to various Government Ministries and Entities which amount to thousands of users. To provide the required services through agreed levels, MITA has a complex ecosystem of components which require continuous maintenance and administration. MITA is aiming at updating its current operational toolsets within NOC to be able to continue to thrive within such a dynamic environment.

04 Requirements

Interested parties are kindly requested to submit their feedback in response to any or all of the following questions together with a filled-in Annex A - Service Provider Information Form. Where possible, providers are kindly requested to provide links and/or documentation related to and supporting their replies.

This RFI and the prices being requested are for market research only. The scope of this RFI is neither exhaustive nor conclusive of the requirements that may be published in subsequent call for tenders or expressions of interest.

More information on MITA's procurement activities is available from the website <https://procurement.mita.gov.mt>. MITA publishes its open tenders on the Government of Malta's Electronic Public Procurement System (EPPS) on <https://www.etenders.gov.mt> – more information on how to make use of EPPS is available on <https://procurement.mita.gov.mt/resources/tendering/>.

A. Government Policies

- 1) Can the provider indicate the geographical locations where data is processed and stored in the case of a cloud service?
- 2) Can the provider detail the controls in place, including agreements with processors and any sub-processors (whether within or outside the EU or EEA), to ensure the service provided is compliant with the General Data Protection Regulation (EU) 2016/679 (the 'GDPR'), Data Protection Act (Cap. 586 of the Laws of Malta), and any other subsidiary legislation?

B. Contract Terms and Conditions

- 1) What is the providers' feedback in relation to the following contract provisions which are normally included in IT solution contracts?
 - a. Subcontracting requires the prior written consent of Government contracting authority.
 - b. Applicable Law is Maltese Law.
 - c. Maltese courts have exclusive jurisdiction, unless the parties agree to submit to arbitration in Malta.
- 2) A performance guarantee is required for Government contracts exceeding €10,000 as follows: 4% (of the annual contact value) for contracts €10,000 – €500,000 and 10% (of the annual contract value) for contracts exceeding €500,000. The performance guarantee is a Government

of Malta policy requirement intended to make provision for circumstances of non-performance by contractors awarded public contract. As a result of the provision, contracting authorities will have a right to demand payment from bank issuing the performance guarantee up to the amount of the guarantee in the event of a default by the contractor under the contract. Payments under the performance guarantee may be disbursed in full upon written request of the contracting authority. Would you be able to meet this requirement?

C. Solution General Requirements

1) Does/Is the solution:

- a. Have the ability to integrate with network management tools, such as and not limited to: System Centre Operations Manager (SCOM) version 1807/2019, PRTG, SolarWinds, Site24x7, OEM Hardware Tools, Azure Monitor/Log Analytics, Forti Manager and Forti Analyser, while also having the ability to correlate and analyse data from each of the above sources?
- b. Compatible with all major operating systems (Windows, Unix/Linux) and networking equipment brands/models?
- c. Have the ability to visualise historic and real time metric information, including and not limited to the below basic list together with other service specific metrics such as DNS, Active Directory, SQL and Exchange?

- Windows Metrics

Logical Disk	% Free Space
Logical Disk	Avg. Disk sec/Read
Logical Disk	Avg. Disk sec/Transfer
Logical Disk	Avg. Disk sec/Write
Logical Disk	Disk Bytes/sec
Logical Disk	Disk Read Bytes/sec
Logical Disk	Disk Reads/sec
Logical Disk	Disk Transfers/sec
Logical Disk	Disk Write Bytes/sec
Logical Disk	Disk Writes/sec
Logical Disk	Free Megabytes

Memory	Available MBytes
Network Adapter	Bytes Received/sec
Network Adapter	Bytes Sent/sec
Network Adapter	Bytes total/sec
Network Adapter	% Bandwidth used total
Processor	% Processor Time
System	System uptime

- Unix/Linux Metrics

Logical Disk	% Used Space
Logical Disk	% Free Space
Logical Disk	Free Megabytes
Logical Disk	Disk Read Bytes/sec
Logical Disk	Disk Reads/sec
Logical Disk	Disk Writes/sec
Logical Disk	Disk Transfers/sec
Logical Disk	Disk Write Bytes/sec
Logical Disk	Disk read Bytes/sec
Logical Disk	% Used Inodes
Memory	Available Megabytes
Memory	Available % Memory
Swap Space	Available Swap Space
Network	Total Bytes Received
Network	Total Bytes sent
Network	Total Bytes Transmitted
Processor	% Processor Time

- d. Provide the capability to monitor at the hardware layer for servers and networking equipment?
- e. Have the ability to support SNMP monitoring through custom imported MIBs?
- f. Provide autonomous visibility and correlation across typical components on all tiers of the infrastructure, without support from other monitoring tools?
- g. Does the solution have the ability to correlate service outages / degradation resulting from configuration changes while highlighting the said configuration changes to NOC?
- h. Have the ability to show the time stamp of the network configuration changes resulting in exceptional service trend?
- i. Provide a dynamic, real time, end to end graphical representation of services, including flow, protocols and processes being linked?
- j. Have the ability to play back through the sequence of events facilitating the understanding of the origin of problem root cause to facilitate analysis in a proactive rather than reactive manner?
- k. Have the ability to create and maintain an automatic baseline of metrics against which exceptions to the trend, are alerted to NOC? Additionally, is the solution able to provide business intelligence based on information other than metrics?
- l. Provide means to ingest, store and index logs from various sources, including event logs, application logs, database/SQL logs, audit logs and syslogs with the ability to perform manual search queries within? Additionally, is the solution able to automatically analyse and correlate such indexed logs together with other insights, such as real time and historic metrics, business intelligence, proactive monitoring, preventive monitoring and anomaly detection?
- m. Have the necessary intelligence to analyse the resources and utilisation of a specific service and/or components to identify and foresee any capacity or availability issues (predictive analysis)?
- n. Have the necessary functionality to configure and produce ad-hoc and scheduled reports based on parameters such as performance, availability, capacity, service-specific elements, service levels, tools' specific such as alerts triggered and auditing.
- o. Have the necessary intelligence to pin-point the root cause in failures, facilitating root cause analysis?
- p. Provide detailed alerting functionality with the option to set automated response actions (including integrating with ticketing systems and/or execution of scripts) and issuing notifications (through email/messaging) for selected alerts?
- q. Utilize aspects of Artificial Intelligence including machine learning to adapt to changing circumstances with minimal human intervention? If Yes, kindly provide examples.

- r. Have the ability to provide best practices and recommendation for improvements, based on the insight gathered on services?
 - s. Have a limitation with regards to number of nodes/components to monitor?
 - t. Operate in an application aware context, supporting end-to-end visibility and information as applications are added to the landscape?
- 2) What licensing models are available?
 - 3) How and where can the solution be hosted?
 - 4) Does the solution provided have any local representatives in Malta?
 - 5) What type of support is offered with such solution?
 - 6) What methods other than Logs, Events, Metrics and Monitoring Tools does the tool provide to get insight from sources?

D. Sample of Case Scenarios expected to be captured through the Solution

- a. Disk Space / Latency: Although a disk is at say 15% consumption, all parameters evaluated imply that based on trend, such utilization is abnormally high and needs to be looked into. Example: During the past months, disk capacity varied between 5% and 7%. Over the past three days, it has abruptly risen to 10%, 13% and 15% respectively. Although way beneath full utilization, this would be considered as an abnormal behavior and some kind of alert needs to be triggered.
- b. Network Failure: The Solution must be able to detect a configuration error such as an ACL gone wrong or otherwise, hindering connectivity to a server and/or service.
- c. Network Utilization / Latency: Link is normally used at an average of 40%. Suddenly, while ping is still successful, network traffic is at 0%. Conversely, the same needs to be alerted when network traffic rises above average, e.g. goes at 80%.
- d. Server Utilization: Drastic increase or decrease in demand of a specific server/service.
- e. Backup Time: Backup Time of a server is increased beyond or decreased way beyond average (when compared to trend).
- f. Service Monitoring: Domain Controller 'A' and 'B' are online – instating DC 'C' in same domain. All FSMO roles moved to be serviced by 'A' and 'C'. When demoting DC 'B', users were hindered from logging on to a specific application, most probably due to a hard-coded link towards DC 'B'.
- g. Service Monitoring: A Load Balancer not balancing requests properly, and therefore sending the majority if not all requests to a single server.
- h. Service Monitoring: A number of users are unable from logging on a specific website, the culprit being something in the backend which is malfunctioning, such as a Domain Controller or SQL DB.

- i. Service Monitoring: A large number of users out of the norm are accessing a specific service.
- j. Service Monitoring: A specific service is being impacted because of a specific TCP port being denied access, following a change in the network layer.

E. Online Information, Demo & Case Studies

Supplier to provide the following, if available:

- 1) Any reference to online information on the solution, including possible access to a demo version of the solution. Interested parties are encouraged to note their availability to give a presentation of their Solution offering as a follow-up to this RFI.
- 2) Some case studies that reflect the requirements set out in this document, preferably but not limited to in Malta or in the EU, where the solution has been implemented.

Annex A - Service Provider Information Form

Interested parties are requested to complete this Service Provider Information Form to provide MITA with information on their organisation and include it with their submission.

Company Information

1.	Name of Company	
2.	Address	
3.	Date company was founded	
4.	Company Registration Number	
5.	Telephone Number(s):	
6.	Fax Number(s):	
7.	Website address:	
8.	Contact Person for this RFI: Contact name: Position: e-mail: Address: Telephone number: Mobile number: Fax number:	
9.	Company Profile	
10.	Main business activities	