

**Achievement of Market-Friendly Initiatives and Results Program
(AMIR 2.0 Program)**

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Jordan e-Government MDS Staffing Requirements

Final Report

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This report was prepared by Paul MacLean, in collaboration with Chemonics International Inc., prime contractor to the U.S. Agency for International Development for the AMIR Program in Jordan

0 Document Control

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0.1 Document History

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0.2 Changes From Last Issue

Ver	Date Updated	Revision Author	Summary of Major Changes Made	Reviewed By	Review Date
0.1	19 May 2002	Paul MacLean	Initial document created and internally reviewed.	Paul Williams Allan Gormley	23 May 2002

0.3 Acknowledgements

N/A

0.4 Distribution List

Allan Gormley	EDS
Kendall Lott	EDS
Reginald Miller	AMIR
Mahmoud Ali Khasawneh	MoICT
Abed Shamlawi	AMIR

0.5 Referenced Documents

Number	Title	Reference	Note
1.	GOJ eMail Statement of Needs	GOJ.CON.S.ANLS.028.	
2.			
3.			
4.			
5.			

0.6 Abbreviations

GOJ	Government of Jordan
MoICT	Ministry of Information, Communications and Technology (previously MoPC).
MDS	Messaging and Directory Services

0.7 Glossary

N/A

1 Introduction

1.1 Purpose

In support of the Government of Jordan's move towards becoming an electronic Government there is an agreed strategy to provide a corporate directory and an enterprise messaging service. These services will be made available to all registered Government employees and applications. The optimal solution will be located in a data centre and centrally administered. In order to ensure a stable offering, the proper support staff must be in assembled and put into place. This document will detail the appropriate staffing recommendations.

1.2 Scope

Staffing requirements will change based on the size and complexity of the environment. As the Government of Jordan MDS environment grows so should the team that is supporting it. A periodic assessment of the performance of the teams can determine how accurate the guidelines, described in this document, are.

The actual staffing of your organization can be a combination of the roles identified within this document.

This document describes staffing recommendations for the centrally located MDS infrastructure only. It does not make any recommendations for any other infrastructure or servers that may be co-located in the data centre. It does not make any recommendations for any distributed email or directory servers that may be located remotely in a ministry. Each of these scenarios would have to be evaluated separately.

Desktop/end user support is not covered within this document. The role of end user support is to provide assistance at the users desk, in a hands on role. This support role should be the responsibility of each Ministry/Agency as it spans all hardware and software issues for a user, more than just email. It is expected that organizations will leverage existing support staff or build the expertise outside of this document..

For optimal team performance and adherence to the strictest guidelines, Electronic Data Systems (EDS) recommends that individuals be grouped into the following:

- Support/Helpdesk
- Administration
- Engineering
- Security

2 Groups Defined

2.1 Support/Help Desk

This is the front line of customer support. All user related issues start at this point and get escalated, as necessary from here.

- First Level Support
- Responds to calls from users
- Logging all calls in the problem management system
- Resolving the call (if possible) and closing it in the problem management system
- If the call cannot be resolved by the analyst, escalating the call to the next level of support
- Coordinate with other support personnel as required
- Publicizing scheduled outages to end users
- Capable of resolving 80% of all calls without escalation

2.2 Administration

This is the group that does day-to-day operational support of the environment and general troubleshooting of server related issues. They provide 2nd level support for user issues that are related to the messaging environment.

- Second Level Support
- Primary production administrative role
- Operates servers and monitors performance and availability
- Provide on-call (7x24) production support for issues
- Monitor network status
- Monitor mail routing and replication activities
- Respond to escalated calls from Help Desk
- Work with other Administrators/Security personnel to resolve replication problems
- Perform installation and setup on new servers
- Update problem tracking system with problem status and resolution
- Escalate issues to Engineering team.
- Backup and recovery of data
- Apply patches and upgrades to servers (operating system, mail, anti-virus, etc)
- Generate reports for usage statistics

2.3 Engineering

This group is responsible for designing and testing the strategy for the environment. This strategy includes new features as well as future concepts. Any issues that cannot be solved in a timely manner by the administration group are escalated to the engineering group.

- Third level support
- Develop and test new "standard" server configurations: create "gold" versions
- Operate test/validation environment
- Perform periodic audits of environment to ensure that settings are consistent amongst like server builds.
- Planning for future functionality
- Capacity Planning
- Perform audits and investigations to verify proper system usage as necessary.

2.4 Security

This group maintains the directory and ensures that access is given only to authorized individuals. The structure of the security hierarchies and policy/access control management is done through this group. This group ensures central directory aspects, such as replication and propagation of information, take place.

- Create and Maintain (Add/Change/Delete) user ids
- Create Enterprise Mail Groups
- Create Enterprise Policy groups
- Manage Certifiers, ServerIDs, Passwords, ServerAccess
- Monitor directory synchronization and replication
- Respond to escalated trouble calls
- Escalate issues to Engineers

3 Experience Required

It is expected that certain basic educational and work related requirements are already in place. The following requirements build on those as specific job related qualifications.

3.1 Support/Help Desk

End User knowledge of product (min. 1 year)
Problem solving ability
Customer service skills

3.2 Administration/Security

Hands-on technical experience with product in a support role (min. 2 years)
Hands-on experience with a monitoring product.
Trained in product or operating system
Ability to master new technologies quickly
Basic networking knowledge
Hardware knowledge

3.3 Engineer

Industry Certified in product
Hands-on technical experience with product in a support role
Demonstrated ability to be innovative
Master new technologies quickly and independently
Vision
Some network experience

3.4 Security

Hands on technical experience with security concepts (policies/access control)
Hands on experience with a corporate directory
Understands concepts of a central directory
Experience with directory synchronization using a third party tool
Demonstrated ability to follow strict guidelines
Demonstrated ability to follow strict guidelines
Ability to master new technologies quickly

4 Education Required

An evaluation of the existing staff should be done to assess the current skill sets. Training existing staff is more effective than higher new staff in most cases.

All individuals should be trained in the escalation process and the tools used for tracking issues.

4.1 Support/Help Desk

1. In-house training on the problem tracking system used
 - Educate the support person on the tools that are to be used.
2. Formal class training on advanced user topics of the messaging product.
 - Local providers should be available to provide this training using a standard format offered by the vendor.
 - A formal class, rather than computer based training, is more effective for this position. It allows the individual to ask questions as they arise and get immediate answers.
 - The advanced topics assume some knowledge of the product. The knowledge learned in this class will allow the individuals to be more effective in their role and understand the capabilities of the product better.
 - The chances of the support people educating the user base will increase with the knowledge that they possess.

4.2 Administration/Security

Administration and Security should follow similar educational paths to attain their skills.

1. Computer based training.
 - Training on product concepts and administration
 - Individuals should be able to learn on their own so CBT's can be the most effective and least costly option as they can be reused.
2. Lab environment
 - Provide an environment where the administrator can enhance his knowledge without affecting the production environment.
 - Allows the administration an area to test out ideas and new concepts.
3. Mentoring from Engineering team
 - Allow the more experienced and knowledgeable people mentor members of the administration team.
 - Provide the ability for the engineering team to educate the administration team on the environment as well as receive feedback and ideas on ways of improving it.

4.3 Engineer

1. Create a training plan to map the course of each engineer to attain certification.
 - The testing process will provide knowledge that may not be attained in the existing environment.
2. Computer based training
 - Engineers should have the ability to learn new concepts on their own. Computer based training allows them to do this.
3. Lab environment
 - Provide a lab environment, outside of production, that will allow the engineer to test new concepts and ideas.
 - Additional equipment should be available to introduce new technologies and allow the engineer to create/meet the planned vision.

5 Staffing Numbers

The following table provides a mechanism to determine the number of support people you need to support the messaging environment. It assumes a steady state rather than a migration state. Additional staff needed for a migration period should be accounted for in the migration plan and the duration needed for those additional resources.

Group	Quantity Calculation	Minimums
Support/Helpdesk	1 per 640 calls/month	2 helpdesk
Administration	1 per 3 servers	3 administrators
Engineers	N/A	1 Engineer
Security	1 per 300 Change/Add/Move requests/month	1 Security

Figure 1 – Staffing Numbers

Support/Helpdesk – The number of calls per month is based on how long it will take to resolve a single call (either escalating it or solving it). 15 minutes is on average a typical call pattern for a helpdesk. Depending on past performance of helpdesks, this call length could be adjusted and the number of people supported. Over time the number of calls should be reduced and peak during any sort of upgrade or system change, especially a product upgrade. Consider the following when adjusting the number:

1. Current call volumes to helpdesk
2. Average length of current calls
3. Planned steady state time vs change
4. Quality of support staff

Note: Any poor support staff, or ones that are not technically proficient could cause 1 of two scenarios:

Scenario 1 – Quick calls (< 5 minutes each).

This is due to the fact that they are constantly having to escalate the call to the next level and can not support the assumption that they are to solve 80% of the issues.

Scenario 2 – Long calls (>30 minutes)

This is due to the fact that they are taking longer to understand or solve the issue. In this case, often times the issue is not actually solved and the user is forced to re-open the trouble ticket.

Administration – The ratio of administrators to servers should increase as the size of the team and number of servers grows. Once the team grows beyond 5 or 6 administrators, the ratio can increase to 1 per 4 servers. This ratio can be adjusted based even more depending on the track record of server performance and crashes and the overall stability of the environment. Consider the following variables when adjusting the ratio:

1. Call volume of trouble tickets escalated from helpdesk
2. Average time to resolve trouble tickets
3. Time spent troubleshooting problems
4. Server performance statistics (i.e. crashes)
5. Overlap with network team

Engineer – The number of engineers in an environment is dependent on the complexity of the environment and the future planning that is necessary. Things to consider when staffing this position are:

1. Size of the current environment
2. Number of administrators and quality of administrators.
3. Mentoring
4. Future planning that is necessary.
5. Upgrade/refresh requirements to the environment.

Security- The number of security personnel that are needed varies depending on the volatility and the complexity of the environment. Things to consider when staffing this position are:

1. How much synchronization/replication takes place (Monitoring)
2. Tools used for synchronization (manual vs. automated)
3. The number of modifications (C/A/M) of the directory needed.
4. Level of security used in the environment (groups, policies, hierarchies)

Note: The level of security used in an environment plays an important role in determining the number of people, as does the product that is being used. A larger number of policies means more time spent deciding the best fit for the user (potentially). Ease of implementing policies or hierarchies depending on the product chosen could also play a role. The number of locations that the directory is being replicated to, how it is being replicated and if updates are being performed centrally vs. remotely all play factors in this role.

All of these factors can cause both an increase and decrease in the number of people needed to support the security role. Security is a critical piece of any environment and should not be overlooked as a cost cutting measure.