REQUEST FOR PROPOSAL

Support and Maintenance of the Government Network of Maldives

Version 1.0 - February 2009

National Centre for Information Technology
Republic of Maldives

Terms of Reference

I. INTRODUCTION

The National Centre for Information Technology (NCIT) wishes to hire a competent firm to carry out the support and maintenance of the Government Network of Maldives (GNM) for a period of three (3) years.

II. BACKGROUND

Under Information Technology Development Project (ITDP) a nationwide computer network is established that connects government and parastatal agencies (including Vilingili, Hulhule' and Hulhumale' islands) in Male' and 20 atoll capitals. This will enable government and parastatal agencies to share information electronically. The network will also host the eGovernment portals which will enable the public to get access to government information and services through the internet.

The rationale of the GNM is for the Government of Maldives to take advantage of information communication technology (ICT) in its pursuit of making government work more efficient, transparent, and accountable, and of delivering public services to the public.

The GNM is composed of:

a. a Metropolitan Area Network in Male' built over Ethernet fibre and DSL technologies,
b. a National Satellite Network for the connection of islands,
c. the distribution networks for the connection of sites inside the islands,
d. the common network infrastructure for the hosting of Government applications and the secured access to Internet.
e. OAM Network and Operation Centre inside the NCIT
f. a WiMAX network between Male', Vilingili, Hulhule' and Hulhumale'.

When the GNM becomes operational NCIT wishes to outsource the Support and Maintenance of the Government Network of Maldives in order to maintain the availability, uptime and service levels of the network.

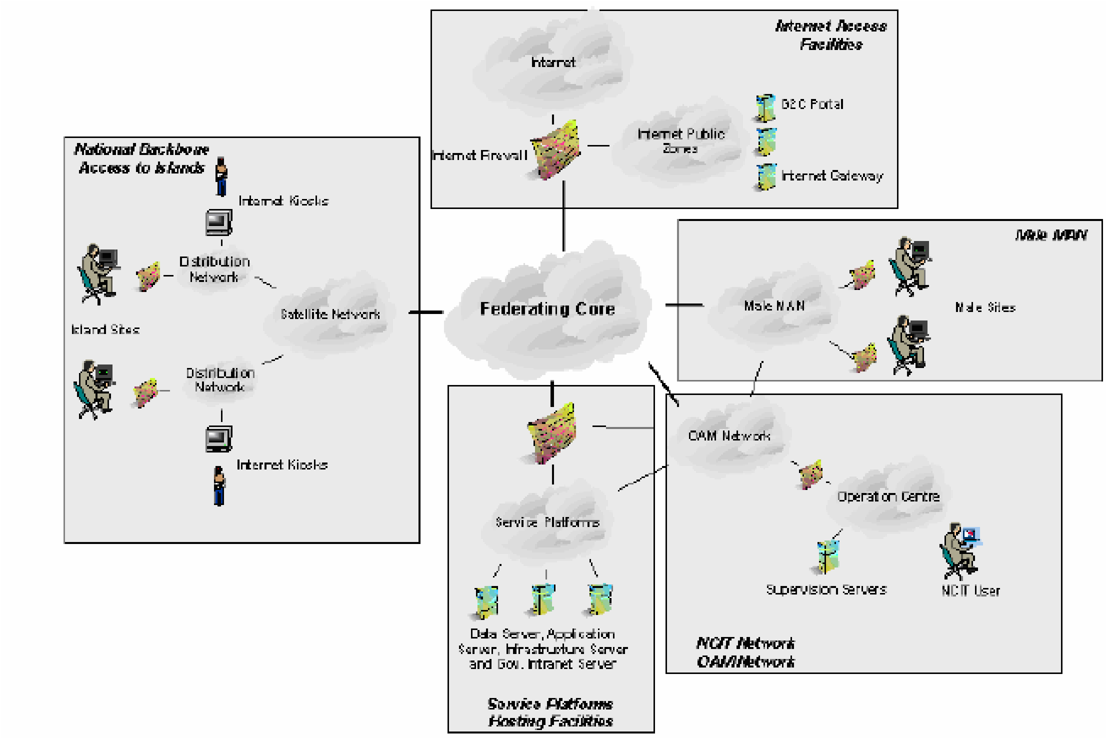

Figure 2. Elements composing the GNM

See Appendix 1 for a detailed description of the GNM.

III.OBJECTIVES

The objective of Support and Maintenance is to monitor, troubleshoot and rectify network problems to ensure at the very least 99.8% availability of the entire network. Also carry out the civil, engineering and technical works required for the expansion of the network including configuration management to meeting the requirements of the users. The selected bidder will be required to sign a service level agreement (SLA) which aims to guarantee the rectification of network problems in a timely manner and ensure service levels of the network are met.

IV. SCOPE

The scope of this project is:

1. Preventive and Corrective Maintenance of Male' Metropolitan Area Network (MAN), which includes:
    a. Support and Maintenance of the Male' MAN fibre infrastructure including PoPs and SubPoPs.
    b. Support and Maintenance of the Male' MAN equipments, which includes Federating Core, Internet Access Facilities, Hosting Facilities, NCIT NOC and the connected sites.

2. Preventive and Corrective Maintenance of the Satellite Network and the Island Distribution Networks, which includes:
    a. Support and Maintenance of Satellite Hub Equipment at NCIT premises and VSAT equipments in the islands.
    b. Support and Maintenance of fibre distribution infrastructure and equipments in the islands.

3. Preventive and Corrective Maintenance of the WiMAX network established between Male', Vilingili, Hulhule' and Hulhumale'.
4. Provision of Configuration Services and Support to meet the requirements of the GNM users.
5. Adds, moves and changes to the infrastructure as needed.

The scope of services is:

1. On-site support, diagnostics and replacement of faulty hardware
2. 12/6 (Should coincide with normal working hours) NCIT NOC presence and helpdesk support by phone and email
3. Four hour response on core switches and 24 hour response for all other equipment
4. 48 hour response on all island network infrastructure and hardware equipments
5. Network analysis and packet tracing for network diagnosis
6. Emergency after-hours support for critical systems.
7. After-hours support, for critical systems that may not be available during normal business hours.
8. Adds, moves, changes, and device configuration as needed
9. All labor and materials
10. Service components stocked locally

The detailed list of Maintenance and Support requirements are given in Appendix 5, including details of infrastructure (Appendix 1), list of equipments (Appendix 2), required human resources (Appendix 4) and list of sites (Appendix 3).

V. DELIVERABLES

The bidders are expected to submit the following:

1. Cost, with detailed breakdown, of Support and Maintenance of Male' MAN infrastructure including Satellite Hub equipment.
2. Cost, with detailed breakdown, of Support and Maintenance of Island Networks including VSAT equipment.
3. Cost, with detailed breakdown, of Support and Maintenance of WiMAX network.
4. Cost (salaries, benefits and rent etc.) of Support & Maintenance team,

    a. Rates for common network items such as CPEs, media converters and fibre etc. valid for a period of one year.
    b. Rates for common civil works such as equipment installation at a new site, relocation of a new site and laying of fibre etc. valid for a period of one year.
    c. Details of how the stated service levels will be met.
    d. Details of hierarchy, escalation, communication structure and review timetables with Employer.

5. Details of qualifications and organization structure of the Support & Maintenance Team

6. The cost savings from the aggregate if the Contractors are allowed to use the fibre network infrastructure for commercial purpose under certain security regulations to be defined by NCIT.

When providing costs for infrastructure and equipment maintenance, bidders shall differentiate between preventive and corrective maintenance.

VI. TERMS

The Term of the Service Level Agreement (SLA) will be for one year. The bid will be awarded for 3 years of service on the basis of one year contracts. The terms and costs of the SLA may be renegotiated and adjusted at each renewal of the SLA.

VII. MINIMUM CRITERIA USED TO DETERMINE RESPONSIBILITY AND RESPONSIVENESS OF PROPOSALS

The following points will be considered in the evaluation of the bids:

a. Does the bidder demonstrate an understanding of the Employer's needs?
b. Can the bidder respond to network problems and service requests in a timely manner?
c. Does the bidder possess the ability, capacity, skill, and financial resources to provide the requested services?
d. Can the bidder take upon itself the responsibilities set forth in the RFP and produce the required outcomes in this RFP?
e. Has the provider performed satisfactorily in previous contracts of similar size and scope, has it otherwise demonstrated its capacity to perform the contract the Employer seeks to establish through this RFP?

All work performed shall be of the highest quality in accordance with good practices, procedures and industry standards. The contractor must conform to all laws and government regulations.

Knowledge of system architectures, characteristics, commands and components, applicable to the network environments used in the GNM, network security including experience with secured and sensitive information, network architectures and theory and principles of design, integration and administration, including topologies and protocols; principles, practices and methods of systems/network administration and maintenance, including configuration, performance tuning and security; principles, methods and techniques for layout, installation, configuration, integration and operation of network, systems, equipments and devices; Internet/intranet technologies and design concepts and techniques, including firewall configuration and applicable programming languages; principles and practices of systems analysis and design; methods and techniques for performing connectivity testing and network analysis and troubleshooting, including use of diagnostic tools and equipment; techniques and procedures for business and technical system applications.

Additional competencies should include:

a. Network Infrastructure solutions (Network Engineering)
   Must have 3-5 years Enterprise Level Experience Routing and Firewall Technologies (CISCO and Juniper a plus).
b. 2 Years Enterprise Level Security Experience.
c. 3-5 Years Enterprise Level Disaster Recovery and Network Triage.
d. Established firm with minimum 3 years of service in Information Communication Technologies.

A. Qualification Criteria

Scope

The Bidders shall provide detailed information to demonstrate their qualifications regarding critical aspects of their financial, technical, production, procurement, turnkey, maintenance and other capabilities to execute the contract satisfactorily.

This information shall be included by the bidder:

a. Description of activities in relation with the Project
b. Description of Local (in the Maldives) or Regional Presence (In South central Asia)
c. Total Head-account for the past three years broken down into activities
d. Total Turn-over for the past three years broken down into activities
e. Financial statement of the company for the past three years audited by an independent and authorized financial controller
f. Current or past litigation or arbitration resulting from contracts completed or being executed by the Bidder over the last five years
g. Descriptions or relevant telecommunication contracts successfully completed in the past three years.

B. Financial Criteria

Financial Position

Submission of audited balance sheets and income statements or, if not required by law of the Bidder's country, other financial statements acceptable to the Employer, for the last three years to demonstrate the current soundness of the Bidder's financial position and its prospective long-term profitability. As a minimum, an Applicant's net worth calculated as the difference between total assets and total liabilities should be positive.

Average Annual Turnover

Minimum average annual turnover of US$ 0.8 million calculated as total certified payments received for contracts in progress or completed, within the last three years.

Cash Flow Capacity

The Bidder must demonstrate access to, or availability of financial resources such as liquid assets, unencumbered real assets, lines or credit, and other financial means, other than any contractual advance payments to meet a minimum cash flow requirement of US$ 0.3 million during contract implementation period.

Experience Criteria

Participation as contractor or management contractor in at least 2 IT projects with a cumulative value of at least US$ 100 thousand that has been successfully or is substantially completed within the last three years.

VIII. PROPOSAL

The proposal should include the following:

1. Demonstration of the Criteria highlighted in Section VII
2. Experience of the firm in similar projects
3. Cost and details required in Section V

Appendix 1: Description of the Government Network of Maldives (GNM)

A. Description of GNM

The GNM has been divided in several coherent network elements following a geographical and/or functional repartition. These elements are:

- Federating Core
- Male' Metropolitan Area Network
- Access and Distribution Networks in Islands
- Hosting facilities and Internet Access Facilities
- OAM Network and Operation Centre inside the NCIT

This is a scheme of the solution:

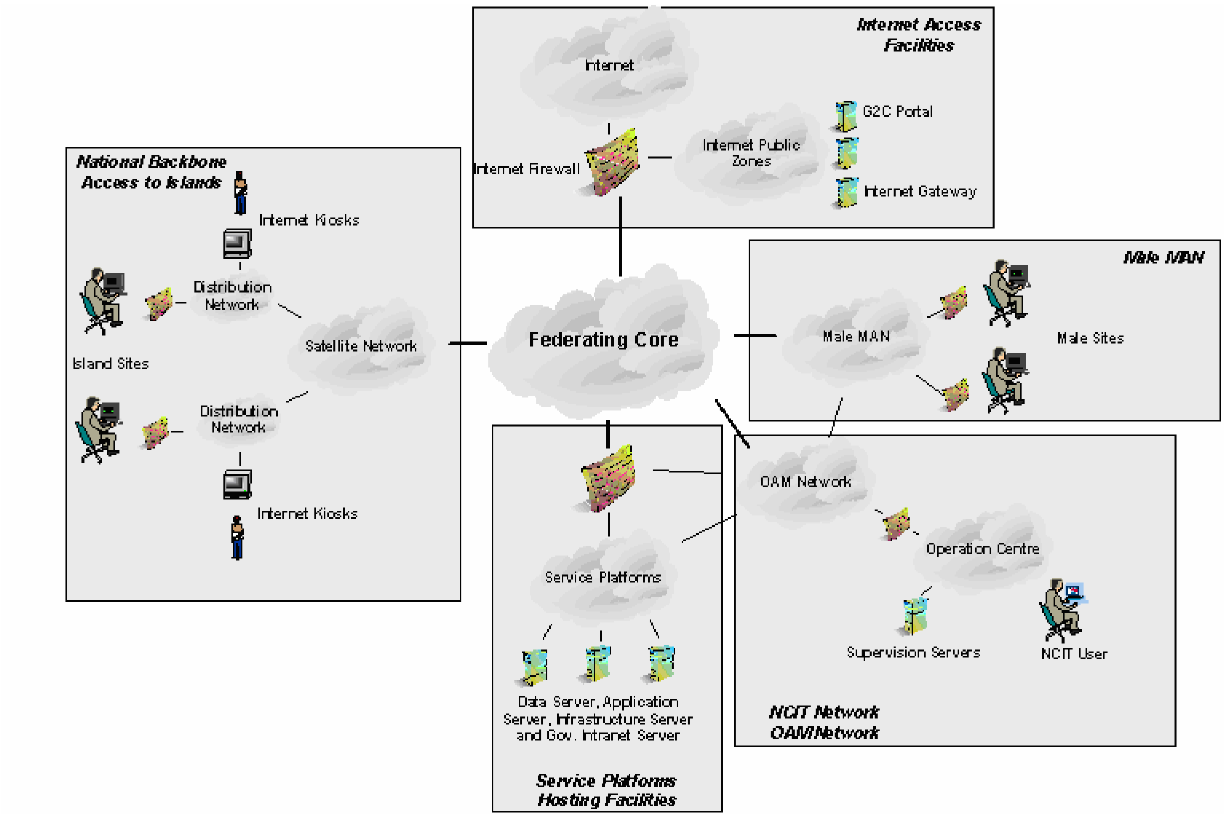

Figure 1. Elements composing the GNM

These elements are described in the following paragraphs:

1. Federating Core

The federating core is the heart of the network and its main mission is interconnecting every network element. The federating core will be composed of redundant equipments located in the middle of the network. These equipments must be able to recognise virtual networks for every network element to assure the connection to corresponding virtual networks in the others networks elements. The following scheme shows the construction of two virtual networks from a single physical infrastructure by using the federation core:

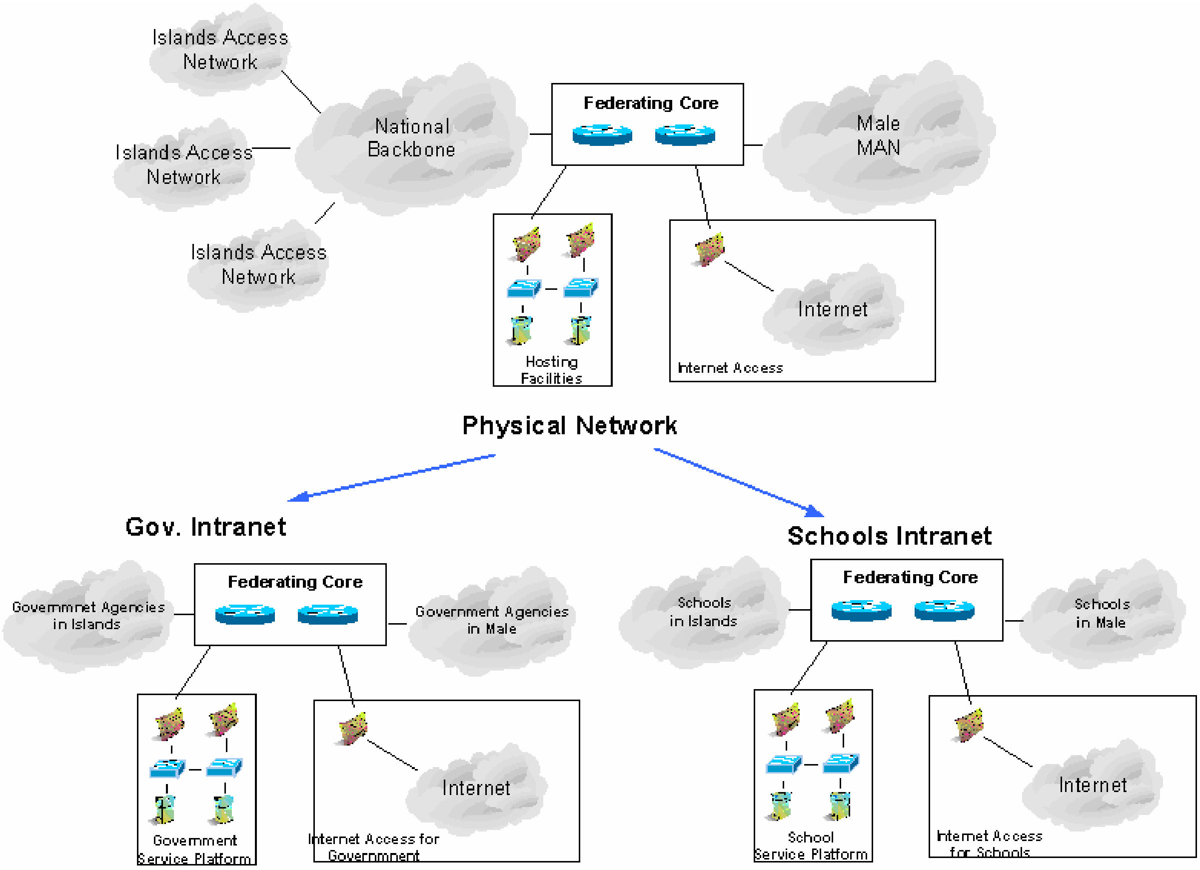

Figure 2. Physical and logical schemes of the network

The characteristics of the federating core are:

a. Virtual Routing: capability to create independent virtual routing environments inside single equipments. Possibility of using different routing schemes inside each private network.

b. Support for main tunnelling protocols:
   - IPSec,
   - L2TP, PPPoA, PPPoE, ATM, MPLS
   - 802.1q VLANs

c. Virtual Firewalling capabilities: capability to create independent firewalling contexts inside each private network
d. Internet bandwidth monitoring and management for individual government sites
e. High capacity: Support for hundreds of tunnels and tens of different routing and firewalling contexts. The federating core equipment will be hosted inside the NCIT.

2. Male' Metropolitan Area Network

The MAN in Male' will connect Government organisations in the capital and, therefore, it will support the most important part of the traffic. It must be designed to scale to thousands of users. It will be mainly based on Gigabit Ethernet complemented with an ADSL solution. The main characteristics of this network would be:

a. 1 Gbps Ethernet backbone capacity
b. Access via standard Ethernet interfaces
c. Ring backbone to assure redundancy data paths
d. Access to sites via Fast or Giga Ethernet over fibre
e. Easy management
f. Flexibility and secure isolation of traffic via VLANs
g. This Ethernet network requires a dedicated fibre infrastructure in order to support the ring backbone and the access to every fibre site. The construction of this infrastructure will be included in the project.

The ADSL service will be provided by Dhiraagu via a wholesale solution including the copper cable and the DSLAM. The delivery of collected traffic will be based on ATM.

3. Access Network to Islands

The identified communications requirements imply the building of an IP access network providing high–speed always–on connections to support following services:

a. Access from the Internet kiosks to Government services and eventually Internet
b. Connection of Island and Atoll Offices to the Government Intranet
c. Connection of schools to the School Intranet

d. Connection of faculties to the Faculties Intranet
e. Connection of hospitals and Health Centres to the Government Intranet
f. Connection of Police sites to the Police Intranet

For achieving these connections, a satellite solution will be installed. The satellite solution will be composed of a hub in Male' and a remote terminal in every connected island. The remote terminal will be installed in the atoll office or island office premises. For connecting other sites in the island to the satellite remote terminal, a distribution network will be built.

The technology to use for the distribution network will be based on a wired network. The construction of the infrastructure required for the distribution network will be included inside the project.

4. Service platforms and hosting facilities

This element is an important component of the network given that main common applications and contents should be hosted in it. This element will be composed of a series of firewalls and switches supporting the installation of servers and databases. Main feature of this element will be the capacity of logically creating different architectures to match hosting requirements for different applications and organisations.

This service platform could host main common Government applications and databases. For this, a three security level network will be created.

The design assumes that main facilities concerning the Government common services platform will be hosted and maintained by the NCIT. Other service platforms (e.g. inside the Schools or Faculties Intranet) will be designed, installed and managed by the concerned organisation (e.g. Ministry of Education or Maldives College of Higher Education). Nevertheless, the NCIT could provide hosting facilities for the construction of these service platforms if it is required.

Hosting facilities will be hosted inside the NCIT building.

5. Internet access facilities

Internet access facilities will include the following components:

- Routing equipment
- Firewalls
- DMZ for hosting Government–to–Citizens and Government–to– Business portals

This element must provide Internet access services for the users of Government, Schools and Faculties Intranets. The service must be able to support different access policies for each of these Intranets.

The NCIT will be in charge of the management of the Internet Access for the Government Intranet. The control of the access to Internet for other network users such as students should be done by the appropriate organisation. The use of different firewalls for the Internet access of each Intranet will allow a clear definition of responsibilities for this service. The GNM will provide common bandwidth via a single connection to the Internet for every concerned group of user in order to reduce the global cost.

The Internet Firewall will also fulfil the role of VPN gateway for remote connections through the Internet for Government Users. This functionality could be used for connecting agencies in islands not covered by the satellite network.

6. OAM Network and Operations Centre inside the NCIT

The Operation and Maintenance (OAM) network will connect the OC (Operations Centre) in the NCIT building to any network equipment installed in the GNM. This connection will allow NCIT staff to supervise and manage remote equipment. In the OAM network, we will find the following parts:

a. Operation Centre LAN: This is the Local Area Network where the stations from the NCIT staff are located
b. Operation Centre servers LAN: In this LAN, OAM servers and tools will be installed.
c. NCIT supervision network: It will be used for the supervision of network equipment and servers hosted inside the NCIT building.
d. Male' Supervision Network: It will provide a supervision connection to every network equipment in the Male' MAN.
e. Island supervision Network: It will provide a supervision connection to every network equipment in the backbone and in the access network.

Appendix 2: Government Network of Maldives (GNM) Equipment List.

List of Equipments in NCIT Data Centre

S/N	Data Center / NCIT	Quantity
1	NetScreen 5200 Chassis	2
2	NetScreen 208	2
3	NetScreen 25	1
4	Cisco 4507R Chassis	6
5	Cisco 6506E/Firewall Services Module	2
6	Cisco 3750G-24TS	2
7	Cisco 2811	1
8	Cisco 2950G-48	2
9	Cisco 2950G-24	4
10	Cisco 2950-24	4
11	Cisco 2950-12	3
12	HP DL380 G4	8
13	Dell Workstation	3
14	7.6M C-Band Tx/Rx Motorized Gregorian Earth Station Antenna	1
15	Satellite LNB Equipment	1 Lot
16	Redundant RF Equipment	1 Lot
17	FlexiDAMA-SkyIP System	1 Lot
18	Liebert NX 30kVA UPS	2
19	Liebert GXT 10kVA UPS	1

List of Equipments in Male' MAN Sites

S/N	MALE' Remote Sites	Quantity
1	NetScreen 25	33
2	NetScreen 5GT	57
3	NetScreen 5GT-ADSL	37
4	Cisco 2950G-24	9
5	Cisco 2950C-24	12
6	Allied Telesyn AT-MC103XL Media Converter	68
7	Liebert GXT2 6kVA UPS	2
8	Liebert GXT2 1.4kVA UPS	9

List of Equipments in Island Access Network Sites

S/N	Island Remote Sites	Quantity
1	NetScreen 5GT	146
2	Cisco 2950C-24	23
3	Liebert GXT2 3kVA UPS	23
4	2.4m Antenna System	23
5	Satellite LNB Unit	23
6	Agilis ALB180 C-band Block-up Converter (BUC)	23
7	SkyIP Remote Terminal	23
8	PEP Client	23
9	Alied Telesyn AT-MCR12 Media Converter Chassis	23
10	Alied Telesyn AT-MC102XL Media Converter	292

Appendix 3: Government Network of Maldives (GNM) Number of Sites

S/N	Location	Sites
1	Male’	134
2	H.A. Dhihdhoo	6
3	H.Dh. Kulhudhuffushi	8
4	Sh. Funadhoo	6
5	N. Manadhoo	6
6	R. Ugufaaru	6
7	B. Eydhafushi	6
8	Lh. Naifaru	6
9	K. Thulusdhoo	7
10	A.A. Rasdhoo	6
11	A.Dh. Mahibadhoo	6
12	V.Felidhoo	6
13	M. Muli	6
14	F. Nilandhoo	6
15	Dh. Kudahuvadhoo	6
16	Th. Verymandoo	6
17	L. Fonadhoo	6
18	G.A. Villingili	6
19	G. Dh. Thinadhoo	8
20	Gn. Fuvahmulah	7
21	S. Hithadhoo	10
22	K. Villingili	6
23	K. Hulhumale’	3
24	K. Hulhule	7
TOTAL NUMBER OF SITES		**280**

Appendix 4: Human Resource Requirements

Division: Network Operations and Maintenance

Role: Service Delivery Manager

Reports to: Systems Manager

Number of Persons: 1

Role Description:

Head of the local based Contractor Support team. Will be responsible for the overall planning and management of the Operations and Maintenance of the Government Network of Maldives. Ensure that all agreed service levels are adhered to for the GNM.

Required Skill Set:

1. Have an overall understanding of the network setup of Male' MAN and Island Access Network
2. Experience configuring and troubleshooting Cisco devices, preferably CCNP certified
3. Experience configuring and troubleshooting Juniper Netscreen firewalls
4. Extensive knowledge of TCP/IP & routing protocols
5. 4 years experience with Local Area, Metropolitan Area and Wide Area Networks
6. Network and Data Communications administration experience in a large TCP/IP network
7. Strong verbal and written communication skills and the ability to communicate effectively with business users as well as other members of the technical team
8. Previous experience with ITIL principles preferable

Primary Requirements:

List of main responsibilities

1. Plan the operations concept of the Maintainability and Supportability of the Government Network of Maldives.
2. Heads and co-ordinates the Contractor Support Team.
3. Single point of contact between Employer and Contractor for the maintenance and support of this project.
4. Reports to the Systems Manager on the task advancement and project progress.
5. Assemble the Support team, assigning role and responsibility to each member.
6. Performs the necessary resource planning, estimating, budgeting and controlling the cost.
7. Control and allocate resources to ensure the successful delivery of the Support outputs.
8. Manage and resolves problems relating to the Support and Operations.
9. Performs risk management planning as in identifying risks, analyzing risks, risk response planning, monitors and controls risks.

10. Generates progress and status report. Conducts reviews and meeting with the assistance of project team members.
11. Negotiates changes to the contract affecting requirements, schedule and costing.
12. Direct management of supplier resources and operations in order to fulfill the quality and planning requirements in the Maintenance and Support
13. Ensure all equipment maintenance is taken into consideration.
14. Progress Reporting
15. Renewal and Improvement Works

Division: Operations Team
Role: Operations Manager
Reports to: Service Delivery Manager
Number of Persons: 2
Role Description: Will be responsible for the overall management of the monitoring and operations of the Government Network of Maldives.
Required Skill Set: 1. Experience configuring and troubleshooting Cisco devices, preferably CCNP certified 2. Experience configuring and troubleshooting Juniper Netscreen firewalls 3. Extensive knowledge of TCP/IP & routing protocols 4. At least 2 years experience managing TCP/IP networks and related technology 5. Strong verbal and written communication skills and the ability to communicate effectively with business users as well as other members of the technical team 6. Excellent problem solving skills 7. Ability to lead a team of employees 8. Previous experience with ITIL principles preferable
Primary Requirements: List of main responsibilities 1. Plan and manage the overall monitoring and operations of the Government Network of Maldives 2. Escalation Point in level one faults 3. Manage local contractor resources 4. Manage problems and faults for the project 5. Consolidate service report and summaries in progress reports 6. Responsible for managing document designs, construction documents, installation guides, validation procedures and testing results and so on

Division: Maintenance Team
Role: Maintenance Coordinator
Reports to: Service Delivery Manager
Number of Persons: 1
Role Description: Will be responsible for the overall planning and management of the maintenance of the Government Network of Maldives.
Required Skill Set: 1. Experience configuring and troubleshooting Cisco devices, preferably CCNP certified 2. Experience configuring and troubleshooting Juniper Netscreen firewalls 3. Extensive knowledge of TCP/IP & routing protocols 4. Atleast 2 years experience in a similar role 5. Strong verbal and written communication skills and the ability to communicate effectively with business users as well as other members of the technical team 6. Ability to lead a team of employees 7. Previous experience with ITIL principles preferable
Primary Requirements: List of main responsibilities 1. Plan and manage the overall maintenance activities of the Government Network of Maldives 2. Consolidate maintenance report and summaries in progress reports 3. Responsible for managing document designs, construction documents, installation guides, validation procedures and testing results and so on

Division: Operations Team

Role: NOC / Helpdesk Officer

Reports to: Operations Coordinator

Number of Persons: 1 staff per shift

Role Description:

The first line of contact of all issues and faults related to Government Network of Maldives. Will be responsible to log fault reports, attend to basic customer enquiries, network operations monitoring and escalation and management of faults.

Required Skill Set:

1. Atleast 1-2 years experience in a helpdesk environment
2. Posses excellent customer service skills
3. Experience using incident logging tools
4. Strong phone communication skills
5. Experience with routers, TCP/IP LAN/WAN, Internet Services: DNS, email, Ethernet switches and hubs
6. CCNA certified
7. Strong written and verbal communication skills
8. Strong time management skills

Primary Requirements:

List of main responsibilities

1. Receive and log fault calls.
2. Provide phone / email support to users whenever required
3. Escalate and manage faults.
4. Performs Service Availability monitoring.
5. Performance bandwidth tracking.
6. Customization of Network Monitoring and Service provisioning tools.

Division: Operations Team
Role: Support Technician
Reports to: Operations Coordinator
Number of Persons: 4
Role Description: Provide level 2 technical support to customers. Will be responsible for providing level 2 technical support, on-site support and network operations monitoring.
Required Skill Set: 1. 2 years experience in providing technical support in a network operations environment 2. Experience and proficiency in PC application & hardware support and technical problem analysis incorporating traditional Level 1 & 2 Support in a Managed Operating Environment 3. Ability to work well in a team environment, share knowledge and work collaboratively 4. Professional course in computer networking 5. CCNA certified
Primary Requirements: List of main responsibilities 1. Onsite support when activated 2. Provides first level troubleshooting onsite 3. Technicians capable of performing troubleshooting on Customer Premise equipment, distribution switches, un-interruptible power supplies, sub-POPs, POPs and so on 4. Responsible for basic capacity monitoring 5. Periodic review on the support activities 6. Apply permanent fixes for repetitive problems 7. Maintain the network and systems documentations

Division: Maintenance Team
Role: Male' MAN Engineer
Reports to: Maintenance Coordinator
Number of Persons: 1
Role Description: Provide high level technical support. Will be responsible for the overall support and maintenance of the Male' MAN.
Required Skill Set: 1. Experience configuring and troubleshooting Cisco devices, preferably CCNP certified 2. Experience configuring and troubleshooting Juniper Netscreen firewalls 3. Extensive knowledge of TCP/IP & routing protocols 4. 2 years experience with Local Area Networks and Metropolitan Area Networks 5. At least 2 years experience in a similar role 6. Strong verbal and written communication skills and the ability to communicate effectively with business users as well as other members of the technical team
Primary Requirements: List of main responsibilities 1. Resolve physical and network faults; inclusive of replacement of parts. 2. Should be capable of performing fiber troubleshooting. 3. Plan and manage any maintenance activities for the Male' MAN. 4. Configuration and management of all network equipments

Division: Maintenance Team
Role: Island Engineer
Reports to: Maintenance Coordinator
Number of Persons: 1
Role Description: Provide high level technical support. Will be responsible for the overall support and maintenance of the Island network.
Required Skill Set: 1. Experience configuring and troubleshooting Cisco devices, preferably CCNP certified 2. Experience configuring and troubleshooting Juniper Netscreen firewalls 3. Extensive knowledge of TCP/IP & routing protocols 4. 2 years experience with Local Area Networks and Wide Area Networks 5. At least 2 years experience in a similar role 6. Strong verbal and written communication skills and the ability to communicate effectively with business users as well as other members of the technical team
Primary Requirements: List of main responsibilities 1. Resolve physical and network faults; inclusive of replacement of parts. 2. Should be capable of performing fiber troubleshooting. 3. Should be capable of Satellite troubleshooting 4. Plan and manage any maintenance activities related to the satellite network. 5. Configuration and management of all network equipments

Division: Maintenance Team

Role: Maintenance Team / Basic Technician

Reports to: Maintenance Coordinator

Number of Persons: 4

Role Description:

Will be responsible to carry out all maintenance activities and work under the guidance of the Maintenance Coordinator to resolve all support and maintenance issues

Required Skill Set:

1. 2 years experience in providing technical support in a network operations environment
2. Experience and proficiency in PC application & hardware support and technical problem analysis incorporating traditional Level 1 & 2 Support in a Managed Operating Environment
3. Ability to work well in a team environment, share knowledge and work collaboratively
4. Professional course in computer networking
5. CCNA certified

Primary Requirements:

List of main responsibilities

1. Provide second level support in change, fault management of the MAN and remote islands networks
2. Provides Level 2 escalation for Network Operations Center
3. Responsible for basic move, add, change and provisioning of new services
4. Responsible for basic monitoring and service provisioning tools
5. Responsible for the various Core Segments such as Federating Core, Satellite Network, Hosting Facilities, Ethernet MAN operations and so on

Division: Maintenance Team
Role: Fibre Termination / Troubleshooting Team
Reports to: Male' MAN / Island Engineer
Number of Persons: 4
Role Description: Will be responsible to carry out all maintenance activities and work under the guidance of the Island engineer to resolve all support and maintenance issues for the Satellite Network.
Required Skill Set: 1. 2 years experience in providing technical support in a network operations environment 2. Experience and proficiency in PC application & hardware support and technical problem analysis incorporating traditional Level 1 & 2 Support in a Managed Operating Environment 3. Ability to work well in a team environment, share knowledge and work collaboratively 4. Professional course in computer networking 5. CCNA certified 6. Experience in fibre troubleshooting 7. Ability to splice fibre cables
Primary Requirements: List of main responsibilities 1. Responsible for attending to and rectifying fibre faults in Male' and the Islands 2. Technicians capable of performing fiber troubleshooting

Appendix 5: Services and Service Level Requirements

Maintenance

Preventive Maintenance

1. Periodic maintenance of the fibre infrastructure in Male'. Every 6 months 25% of the fibre network should be reviewed for deterioration and capacity planning.
2. Periodic review, maintenance and capacity planning of all equipments. Should be carried out every 6 months.
3. Periodic review, maintenance and capacity planning of island network infrastructure and equipments every 6 months.

Corrective Maintenance

1. Electrical Problems
   a. Core (classified as infrastructure and equipments located in NCIT DataCenter, NOC, Battery Room, PoPs, subPoPs, multiple fibre distribution points and Satellite Hub) – within 2 hours
   b. End user sites – within 24 hours
   c. Island equipments – within 48 hours
2. Replacement of faulty equipment
   a. Core – replaced from spare within 2 hours
   b. End user sites – replaced from spare within 24 hours
   c. Island equipments – replaced from spare within 48 hours
   d. Repair and return of faulty equipments – 45 days
3. Fibre Problems
   a. Core and exposed fibre – within 2 hours
   b. Buried fibre in ducts and junctions – within 3 days (additional time may be allowed based on time required to obtain permissions)
   c. Islands – 48 hours to reach the island + 3 days to obtain permission and rectify problem.

Support Services

1. Connection of new sites
    a. Fibre sites
    b. ADSL (Dhiraagu Copper) sites
    c. Island sites (fibre, leased lines and WiMAX)

2. Removals and Relocations of sites and infrastructures

3. Updates, Upgrades and patching (planned and unplanned)

4. Security
    a. Ensure physical and data security
    b. Should operate under NDA
    c. Follow best practices and international security standards
    d. Security Audits

5. Configuration Management
    a. Enable / disable services for individuals, groups or all
    b. Review and periodic backup of configurations

6. Capacity Management
    a. Fibre
    b. Bandwidth
    c. Infrastructure etc.

General Requirements

1. 24/7 Hotline
2. 12/6 stationing of staff at GNM NOC
3. Return of repaired equipments within 45 days
4. Storage of spares
5. Quarterly meetings and reporting to review service levels and performance of the network

Complete list of services and service levels will be defined and provided by NCIT at the time of awarding.