

**ISLAMIC EMIRATE OF AFGHANISTAN  
MINISTRY OF COMMUNICATION AND INFORMATION TECHNOLOGY (MCIT)  
AFGHANISTAN TELECOM REGULATORY AUTHORITY (ATRA)  
IT AND SYSTEMS DIRECTORATE**

**DOCUMENT NAME:**

**TENDER DOCUMENT FOR EXTENSION OF ATRA NETWORK  
INFRASTRUCTURE AND PURCHASE OF REQUIRED LICENSES FOR ATRA**



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## INTRODUCTION

To facilitate the rapid development of affordable, high quality telecom services to the entire population of Afghanistan by providing a transparent, and legal-regulatory framework that encourages innovative private sector participation and accelerates the adoption of Information Society Services as soon as possible.

The purpose of the project is to establish an efficient and secure Local Area Network (LAN) for the main office that will be expandable and can be integrated with any system as well as to establish an efficient IP Telephony and Video conferencing System for the main and sub offices of ATRA.

This project also includes establishment of Wide Area Network (WAN) through either Radio or Fiber that will provide high level connectivity, security, availability and data integrity from a central point to end user.

To achieve the aforementioned goals, ATRA is looking out for an improvised system and solution integrator design, build, integrate and implement an end-to-end solution.

## RATIONALE

Currently, ATRA does not have a standard ICT infrastructure. The current physical and logical network does not fulfil ATRAs needs nor does it meet any standard so therefore this infrastructure needs to be re-designed such that it is in compliance with the overall vision of the ICT sector policies, procedures, guidelines and strategies of the Ministry of Communication and IT (MCIT). A part from this, there is no standard Data Center or Server Room in ATRA and ATRA is not benefiting from the features of Afghanistan National Data Center (ANDC). The current setup cannot support any cyber security measures. Since there is no proper storage, therefore, ATRA is using cloud could solutions for its website, email and information systems hosting and data storage. The current setup is not able to support file sharing, email hosting, web and hosting, system hosting, Voice Over IP (VOIP) and other IT infrastructure features. This project is designed in accordance and integration with the overall infrastructure vision of the MCIT to solve the above-mentioned problems and at the same time be integrated with the ANDC at certain required levels. The main purpose of this project is to bring in efficiency, effectiveness, transparency and accountability to ATRA by providing standard ICT services to all ATRA staff.

This project will have the following features:

- A cyber space for IT/Telecom research and development in ATRA
- Standard storage and backups for all the websites, email services, information systems and databases
- All equipment/services will have licenses which means they will function properly
- High performance, redundancy, accountability and scalability meeting the CIA model of policies.
- Adherence to all required national and international standards, policies and procedures
- Good integration and scalability with ANDC and all other relevant infrastructure resources throughout the country.

## SCOPE OF WORK

Scope of work of this project includes:

- Establishment of a standard LAN infrastructure for ATRA.
- Provide ICT services that will increase productivity, efficiency and effectiveness in ATRA.



This project will be implemented by securing the services of a third party. A call will be made for all potential bidders to take part in the bidding process of this project. One bidder will be selected amongst them through open competition.

### **LOTS IN THE PROJECT:**

Scope of this project is divided into two lots:

**Lot1: Establishment of Local Area Network (LAN):** This lot includes establishment of a standard Local Area Network (LAN) for ATRA. Detailed list of the equipment and services are annexed to this document as Annex-1.

**Lot2: Licenses:** This lot includes purchase of major licenses needed for different applications and software's for ATRA. Detailed list of the licenses are annexed to this document as Annex-2. All the licenses should be provided to ATRA in accordance to the standards/policies lifetime and other rules of the relevant manufacturer/provider/company. ATRA will deduct 10% performance warranty of all the goods/licenses of Lot2 for one year. Bidder should provide any support to Lot2 in accordance with relevant standards and policies as specified by the manufacturer.

Lot1 includes the following activities:

**A. Supply, installation, integration and commissioning:**

- I. The bidder should supply all the installations and configurations of materials/ accessories/ consumables (e.g. screws, clamps, fasteners, ties anchors, supports, wires, etc.) necessary for the installation/configuration of tools, accessories, equipment's and systems.
- II. Bidder will be responsible to transport, deliver and implement all the equipment's to ATRA main office.
- I. The bidder will be responsible to submit detailed documentation about the project including user acceptance report to the concerned department within ATRA.

**B. Hardware:**

- I. All the equipment should be purchased from the region authorized for Afghanistan; Equipment purchased from other regions which is not authorized from the manufacturer or does not provide support to Afghanistan will not be accepted.  
The bidder should provide with its offer the Manufacturer or Authorized Reseller/Distributor Authorization Letter (MAF) for the items specified in BoQ according to their format or the format of SBD that may have same concept (the Manufacturer or Authorized Reseller/Distributor Authorization Letter can be original or colored copy but originally signed and stamped by the bidder).
- II. All the equipment's end user name should be ATRA, Afghanistan. In case, if the equipment's could not be registered by the name of ATRA, Afghanistan. due to the current situation of the country and political limitations; the bidder can register the equipment's by its name and provide the attached Commitment Letter to the ATRA.

**C. Maintenance and support services:**

Overall, the bidder will be responsible to provide one year maintenance and support after the project completion. Below are some general maintenance and support terms to be considered:

- I. Bidder should provide standard warranty for all the hardware items and the bidder will be required to maintain hardware with spare parts for the entire maintenance period.
- II. The bidder should provide comprehensive Maintenance Support Services (MSS) for supplied hardware and software. This involves comprehensive maintenance of all components covered under the project, including repairing, replacement of parts, modules, sub-modules, assemblies, sub-assemblies, spare part, updating, and security alerts and patch uploading etc... to make the system operational.
- III. All required equipment must be newly manufactured not refurbished, ATRA will not accept any refurbished equipment.
- IV. The bidder should be an authorized distributor / dealer / reseller for this region. In case, if the bidder is not authorized distributor / dealer / reseller for this region then the bidder should provide documented evidence (Manufacturer or authorized distributor/reseller authorization letter) with its offer for specified items in BoQ that the purchased goods are purchased from entity authorized by the manufacturer.



#### **D. Configuration and Management Services:**

- I. The selected bidder will be responsible to do complete configuration and handover the relevant documents (in the form of hardcopy and softcopy) to ATRA.
- II. The entire Hardware supplied under the project should be interoperable. In case any additional device/software are required for interoperability, then it should be provided, installed and maintained by the bidder at no extra cost for the entire warranty and maintenance and support period.
- III. Vendor should provide all patches and updates during the entire warranty and maintenance and support period.
- IV. Vendor should provide on-site, personal training to concerned ATRA staff.

#### **E. Project Plan and timelines**

The bidder is required to come up with a plan clearly marked with the title "Project Plan." With its offer for both lot, this plan should adhere to the following:

- I. Goals, objectives and deliverables of this project.
- II. The plan should clearly indicate approach, implementation methodology, coordination, communication towards this project.
- III. Estimated timelines of work schedule along with a work responsibility matrix, identifying the tasks to be performed by the firm and the tasks related to ATRA.
- IV. Any other resources and support needed to implement the project properly.
- V. A clearly stated control, monitoring and reporting mechanism of the project.
- VI. Product specification sheets (also known as "cut sheets") for all proposed hardware and software components.
- VII. The total duration for the implementation of Lot1 of this project will be 4 months starting from the project kick-off so consultant/firm/company is expected to prepare best plans considering the timeframe of four months and include in the proposals.
- VIII. The total duration for the implementation of Lot2 of this project will be 3 months starting from the project kick-off.

#### **IX. Project documentation**

Bidder is responsible to prepare complete documentation of the whole project including specifications, installation, configuration setup, diagrams and other documents. Nothing should be left from documentation. Everything should be documented.

Any other documents required for the project design, implementation, operation, configuration, user guides and maintenance should be prepared containing complete details and submitted to ATRA.

#### **VIII. Capacity Building**

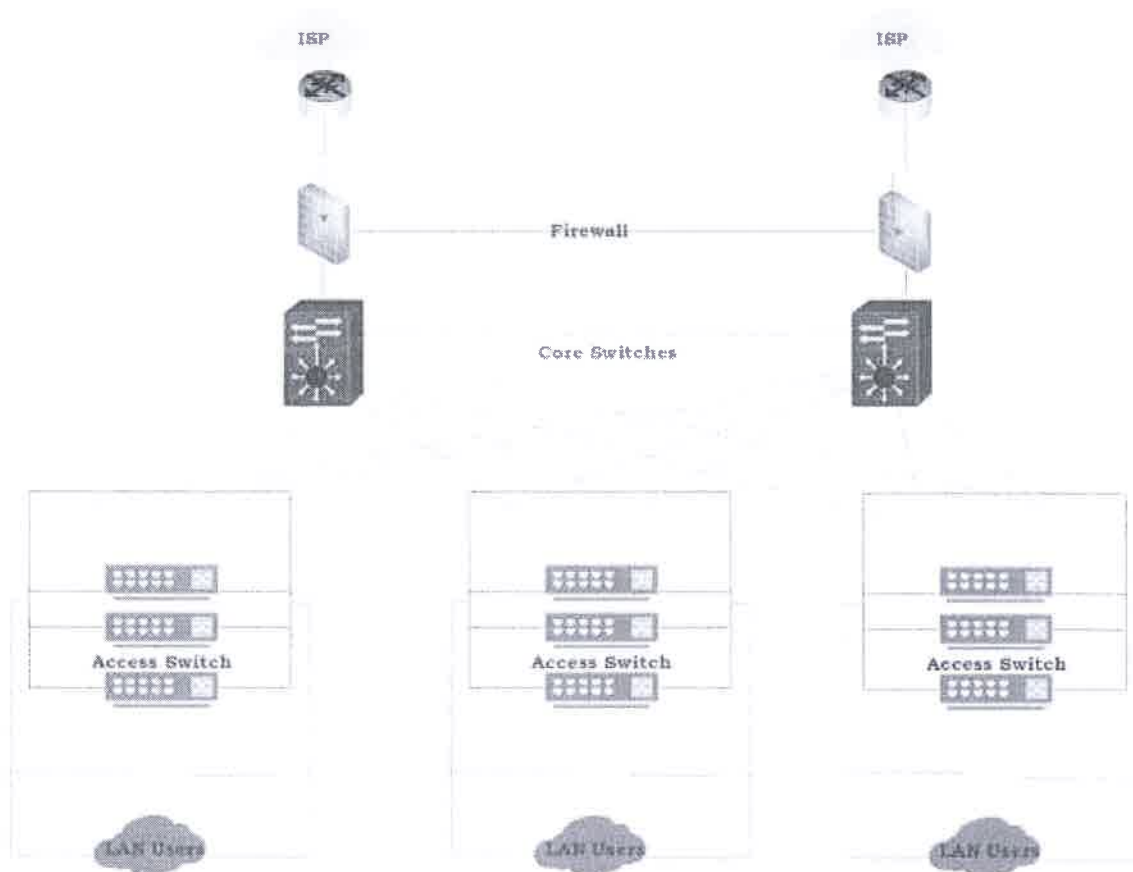
Bidder is responsible to build the capacities of all the technical staff in terms of the design, implementation, operation, configuration, maintenance and all other aspects of this project.

At least 8 personnel of Information Technology department are expected to be trained (on job training).

### **PROPOSED SOLUTION**

Below diagram shows the overall look of the proposed infrastructure:





#### CABLING:

It is worth mentioning that the new network should have the ability to support voice/video and high-speed data, therefore, alongside switches being connected through fiber, Gigabit speed supporting cabling are needed for current and future high-speed requirements. The cabling has to be done in a systematic manner using proper ducting and color scheme. Cables for each floor will be of a different color for easy identification and troubleshooting.

The cabling should support both data and voice communication systems. The Local Area Network for the ATRA main building will be both wired and wireless.

Patch panels will be installed in ATRA Data Center where all the ports of that specific floor will be terminated and connected to the switch.

#### CABINET

There will be 42U cabinets in Data Center. These cabinets will house the patch panels as well as PoE and Non PoE switches to be placed on each floor. Each switch will be powered centrally and a power cable will also be terminated in the cabinet.

### PHYSICAL SECURITY, RAISE FLOOR, FIRE PREVENTION AND COOLING SYSTEM OF ATRA SERVER ROOM

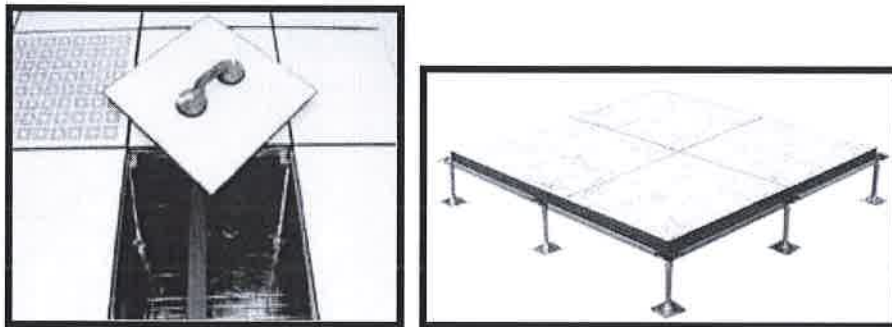
#### Raise Floor System for Data Center

Raised Flooring Systems have become a key component in delivering facilities like Fast, underfloor cable management changes allow workstations, computer equipment or entire office spaces to be quickly relocated or reconfigured without incurring significant downtime, and now it is the very basic requirement of each Computer/server room.

The infill steel panel should be used in the ATRA in ATRA server room raise floor and the interested bidder should provide the complete details of the raised floor they will use for the ATRA server room.



The proposed Raised Floor System panels should be manufactured to a high-quality specification using rigidly applied production procedures and are tested to CISCA standards. Panels should be made of high-grade steel and filled with concrete, giving them core strength and superior quality.



Raised Floor System panels should be manufactured to a high-quality specification using rigidly applied production procedures. Type 6

Flooring systems should independently test and certified to meet the standards

Bidder should do the site survey to know the exact dimensions

Stringers should support each edge of the panel. The Bidder should provide the sample tiles for the verification and approval Solid Tiles: Dimensions - 600 x 600 mm with Panel thickness (without covering) - ~23 - 39 mm.

Panel bottom - aluminum foil / galvanized steel sheet.

System weight (without covering, floor height 1000mm) - ~43 -70 kg/m<sup>2</sup>

Panel weight - ~14.5 - 23 kg/unit

Panel material - fiber-reinforced calcium sulphate

Substructure: Module - 600 x 600 mm

Pedestal material should be galvanized steel

Recommended Stringers should generally be used from a finished floor height of > 500 mm

Load values at concentrated load: acc. To DIN EN 12825 - Class 1 – 6

Nominal load - 2.000 - 6.000 N (higher loads on request)

Electrostatic: (independent from system and covering) - > 105 Ohm

Fire protection: Building material class acc to DIN 4102 T1: - A2 & Building material class acc to DIN 13501 T1 - A1

Fire resistance class acc. To DIN 4102 T2 - F30 oder F60 (depending on system and covering)

Thermal conductivity: Base material - ~ 0,44 W/mk

Acoustic values (New denomination acc. to DIN EN)

Perforated & Solid Tiles: Dimensions - 600 x 600 mm with Panel thickness (without covering) - ~23 - 39 mm

Dampers should be adjustable from the top surface of each panel at a centrally located control.

Provide manufacturer's standard lifting devices of the type compatible with the panel covering.

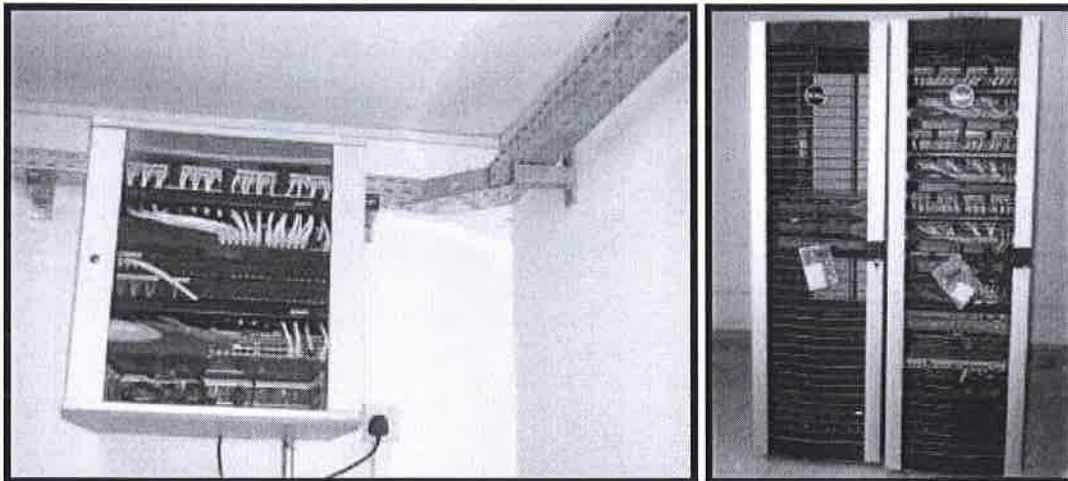
Also, it is bidder responsibility to provide some extra Panel, stringer, pedestals and lifting device

## LAN INFRASTRUCTURE

Currently, ATRA is having a very low-level network which does not meet any standard. Most of the equipment i.e. switches, routers are out of sale and end of support. A part from this, the physical and logical security of the network is also an issue.

To overcome the existing problems, there is a strong need to establish and deploy a standard Local Area Network (LAN) in all ATRA. In the proposed network, the core switches serve as the core and distribution switch. ATRA users i.e. desktops, laptops, and IP Phones will be connected via UTP Cat6 media and/or through wireless to the network.





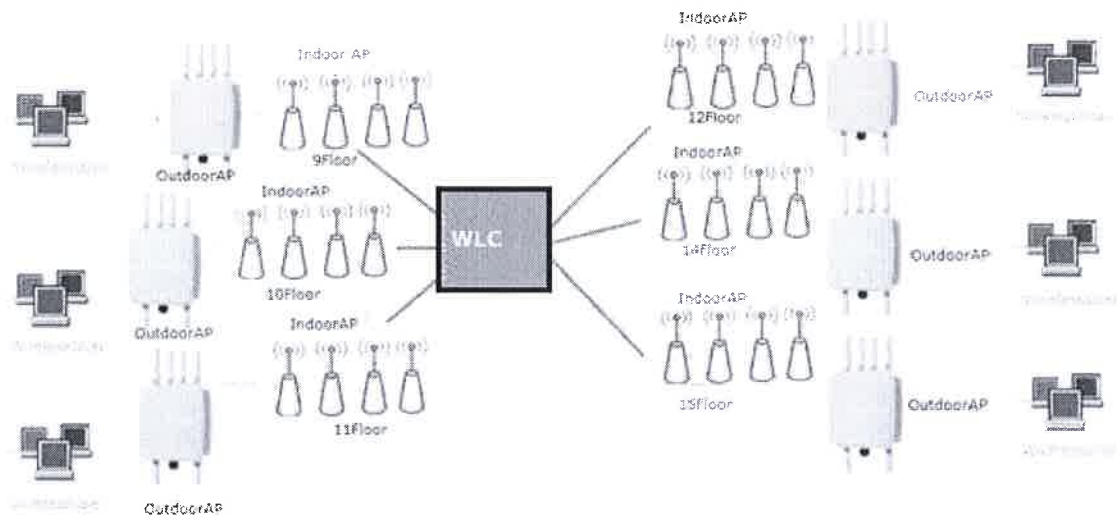
In the above figure, the PoE switches are installed for giving power to access points and IP phones.

Proposed solution requires technology addressing in the following Areas in the new ICT LAN infrastructure.

- Network connectivity;
- Data security;
- Secure wireless LAN connectivity with mobility, dynamic authentication and WLAN Controller;
- Centralized management for network systems, data, voice and wireless systems;
- Internet connectivity with availability and end to end network intelligence;
- Integrated Management with data and for future use, voice access security;
- Redundant server connectivity with switches;
- Secure network environment for the end-users.

#### WIRELESS AREA NETWORK FOR ATRA

Below diagram shows the proposed wireless area network for ATRA:



**All APs should be configured and monitored through WLC**

#### QUALITY ASSURANCE

All the specified equipment, services and system(s) should be legitimate. Equipment should be end of line tested (functionality test) before shipment and designed to meet CE requirements.



Systems should be designed and manufactured according to world-class quality standards. The manufacturer should have relevant certification, for example ISO 9001 certified.

Bidder should make sure that equipment or product are not end-of-sale and end-of- support. If any equipment mentioned in this proposal are end of sale or end of life, the bidder should bring its latest replacement model.

Bidder should also make sure that all CISCO devices have SmartNet which should be registered with ATRAs name.

#### GENERAL AND TECHNICAL CHECK LIST

The bidder must provide written progress report of the project every two weeks.

Furthermore, below checklist should be considered and filled with bidder offers (only for lot1).

#	Technical Specification	Comply/ Not Comply
<b>1</b>	<b>Installation, Integration and Commissioning</b>	
1.1	Bidder will be responsible for every kind of installation, integration, and commissioning of all the equipment, products, services, systems and all other items and peripherals.	
1.2	Bidder should make sure complete functionalities of every single portion of this project.	
1.3	Bidder should submit the detailed report about the installation, configuration and commissioning and get it approved by ATRA.	
1.4	Bidder should prepare a project implementation plan (PIP) considering the time limit of each lot. Bidder will be responsible to implement the project within the specified time.	
1.5	Bidder should propose a design for configuration and installation of the network and then configure and install all the equipment's according to the approved design by the ATRA.	
1.6	In case of any design changes, the bidder should get the approval of ATRA before starting the configuration.	
1.7	The bidder should supply, install, configure and the LAN, Wireless, security, NAT, Security and any other things related to technical and management aspects for this project as per the details given in the Technical Specifications and diagrams. Detailed user manual must be documented during the implementation process and must be handed over after the configuration.	
1.9	Bidder is not allowed to do any changes in the configuration without prior approval of ATRA.	
1.10	Before starting installation and setup, the bidder should prepare the complete physical and logical design of the overall infrastructure and get the approval of the design from ATRA.	
1.11	The site survey of the ATRA offices is included in the technical documentation. The bidders, by their own cost, should do the site survey for further clarification. In case of any modifications in the design.	
1.13	All the installations and configurations related to server room, power room and NOC room are bidders' responsibility.	





	replacement of parts, modules, sub-modules, assemblies, sub-assemblies, spares part, updating, security alerts and patch uploading etc. to make the system operational.	
3.3	ATRA should be the End-User for all warranty services. Alternative Registration as described in II.B.Hardware.	
3.4	All required equipment should be purchased on End-user name ATRA. Alternative Registration as described in II.B.Hardware.	
3.5	All required equipment must be newly manufactured not refurbished, ATRA will not accept any refurbished equipment.	
3.6	All the warranties should be honored locally in Afghanistan. Alternative Registration as described in II.B.Hardware.	
3.7	1 year hardware and software warranty with RMA also custom clearance is bidder's responsibility.	
3.8	In case, if the bidder is not authorized distributor / dealer / reseller for this region then the bidder should provide documented evidence that the purchased goods are purchased from Manufacturer of this region or any other legitimate entity.	
3.9	It is bidder Responsibility to notify any missing components in the given specification like it require any additional licenses etc. Otherwise, they will responsible to provide it	
3.10	ATRA has the right to do a background check of all purchased goods with manufactures and has the right to asked for any kind of documented evidence from the supplier.	
3.11	Only the latest replacement model will be acceptable when any given equipment is out of sales or end-of-support.	
3.12	POST (power on self-test) should be done for each equipment before installation and finally completed integration test.	
3.13	For successful implementation of this project, the bidders are advised to inform the purchaser for any clear missing hardware or software components or any missing license that are not mentioned in the list of equipment in this proposal at least 14 days prior to bid opening deadline	
3.14	Bidder will provide 1-year 24/7 on-site maintenance after project handover.	
4.	<b>Physical infrastructure and Server room Raise floor, Fire prevention and cooling system</b>	
4.1	Bidder must provide all required Power cables for the electronic devices and equipment.	
4.2	All coppers wires connecting switches to the floors should be Cat-6 or higher	
4.3	All floors' switches will be connected directly to the server room core switch in each Building through fiber.	
4.4	All Physical infrastructure cabling should support Gigabit speed	
4.5	All the cabling must be done in a Systematic manner using proper ducting and color Scheme.	
4.6	Cabling for Data and Voice should be of different colors for easy management and installation.	



4.7	Same cat-6 cable should be supporting both voice and data.	
4.8	Patch panels will be installed in each cabinet of every floor where all the ports of that specific floor will be terminated and connected to the switch	
4.9	All installed components must be new, Complete, in good condition and unused, Cable and connecting components are to be inspected for damaged. A one-year support and maintenance warranty for Physical infrastructure must be provided after the project completion.	
4.10	Every network point is to be tested and documented through advance Network cable tester showing speed of cable, length of cable and performance of link.	
4.11	Trays: Wherever cable trays are required for use on the Contract Works, the Contractor should supply and install cable tray as per the requirement. Trays, complete with all necessary bends, tee pieces and adapters for changes in width of trays as necessary.	
4.12	Cable Trays: Must be properly grounded.	
4.13	All Network equipment's like floor switches, access points, routers and other power needed equipment's will be connected through centralize power from server room in each location	
4.14	The damage done to the walls or ceilings and flooring during the installation of cabling and ducting in the main buildings will be repaired by the bidder party Once the new ICT Infrastructure completed and up and running.	
4.15	All Electrical installation must be properly grounded and protected against over voltage and lighting	
4.16	All electrical installation for server room and floors must be properly connected through a programmable control panel for automatic Switching between Main power and ATRA Generator and UPS system at each location.	
5.	<b>Other components</b>	
5.1	The infrastructure design should include all necessary active components to achieve the desired functionality.	
5.2	Components such as, transmission modules, SFPs, need to be included	
5.3	Passive components such as optical fiber, Ethernet cables and racks need to be documented.	
5.4	Power requirements have to be documented (including power and cooling requirements of each component of the described solution).	



## تعهد نامه قرار دادی

از اینکه بنابر شرایط کنونی کشور ثبت اجناس شامل قرارداد پروژه (پروژه زیربنائی تکنالوژی معلوماتی (ICT Infrastructure)) بنام اداره تنظیم خدمات مخابراتی افغانستان (اترا) امکان پذیر نمی باشد. ما شرکت ( قراردادى پروژه متذکره اجناس را به نام خویش ثبت نموده

و تعهدات ذیل را به اداره اترا ارایه می نمایم:

اصیلت (Originality) اجناس اكمال شده مطابق مشخصات تخنیکى مندرج قرارداد،

تضمین کارکرد (Functionality) لایسنس ها تا ختم میعاد آن،

ارایه سپورتهای معیاری (Vendor) در صورت لزوم الی میعاد معینه آن، وفعال سازی دوباره (Reactivation) اجناس ولایسنسها در صورت مسدود شدن (Block) آنها.

این تعهدنامه از تاریخ تکمیل قرارداد الی 3 سال مدار اعتبار میباشد در صورت لزوم توسط اداره اترا تمدید شده می تواند. با در نظر داشت نکات فوق الذکر، این شرکت به تعهدات خویش متعهد بوده و در صورتیکه تخطی منجانب ما انجام گیرد، اداره تنظیم خدمات مخابراتی افغانستان شرکت را وفق مواد قانون تدارکات به کمیته محرومیت ریاست تدارکات ملی و یا به محکمه تجارتی غرض محرومیت ویا سلب شهرت نیک تجارتی معرفی مینماید.

امضاء ریس / معاون/ نماینده با صلاحیت شرکت:

تاریخ:

مهر شرکت:

