Clause	Description	C	N	Comments / Clarification	Reference to details in Proposal (Page number and Section / Paragraph)
1	**Purpose of the RFP**				
	The purpose of this Request for Proposal (RFP) document is to invite qualified Bidders to submit proposals for suitable, cost-effective solutions for the Supply, Implementation and Support of a local Internet Exchange Point ("IXP") ix.kw.				
2	**Project Overview**				
	CITRA's has an operational Internet exchange point that is populated by internet service providers, mobile network operators and content delivery networks. The project aims to bring the internet exchange up to acceptable technical and operational standards with standards implemented for onboarding and streamlined operations and management of the IXP.				
	The IXP will route local and regional Internet traffic locally, rather than over international networks, reducing costs and network delays, increasing content upload speeds, and encouraging the growth and distribution of local Internet content.				
	The implementation shall ensure high availability and redundancy.				
	The scope of this RFP is three-fold:				
	1. Build an IXP infrastructure with all the required functionality and systems to interconnect peering partners.				
	2. Ensure the network to be fully redundant without any single points of failure throughout the defined scope of delivery.				
	3. Ensure operation of supplied systems by providing required support and training. The Bidder is expected transfer sufficient system knowledge to CITRA team through theoretical and practical training.				

	This document describes the system requirements for development of ix.kw based on leading switching technologies. It includes a set of solution requirements that will enable CITRA to appropriately control and manage internet traffic between various peers connected to ix.kw.				
	The key objectives of ix.kw include:				
	Facilitate handing over of domestic Internet traffic between peering members to enable more efficient use of international bandwidth.				
	Improve the Quality of Services for the customers of member ISPs, by being able to avoid multiple international hops and thus lowering delays.				
	Bandwidth provisioning and bandwidth allocation including active-active (i.e. all links actively used for full bandwidth)				
	Flexible connectivity options (such as interface speeds, supported optics and distance as well as remote peering possibilities)				
	Reduce latency				
	The installed systems should provide the operations staff with flexible management systems and interfaces to effectively control the network.				
	The chosen solution will become critical entities in Kuwait's digital ecosystem and therefore, it shall provide a significantly high level of system stability, service availability, scalability, proven reliability, and performance measurements and tracking.				
	The proposed systems shall provide well defined and user-friendly management interfaces to provide CITRA the option to dynamically and independently define and integrate new network components and peering partners.				
	CITRA is committed to deployment of systems based on open and standard				

	interfaces, as such, compliance to relevant standards shall be sought where applicable.				
3	**Scope of Work**				
	CITRA currently operates an internet exchange point that offers peering services to members. IX member connections must be maintained and onboarded onto the new system and ensure minimum disruption to operations.				
	The bidder shall design, supply, test, install, commission and support the operations of the proposed Internet Exchange Solution on a turnkey basis.				
	The bidder must train CITRA staff to support, operate and maintain the proposed internet exchange solution for the warranty period (1 year).				
	The solution shall use Ethernet devices to provide a flat Layer 2 network to interconnect ISP routers. The solutions shall ensure that there is no single point of failure.				
	To improve redundancy and diversity of access to IXP infrastructure, ix.kw shall be installed in two geographically separated locations in an active-active configuration.				
	Member provisioning should be automated to the extent possible.				
4	**Bidder Response**				
	The Bidder is required to submit their proposal and costs by due dates. The proposal shall contain solution information and pricing details of their products and services for each of the requested solutions, that will meet or exceed CITRA's requirements as described in this document.				
	Terminology applied shall be uniform throughout the documentation, and shall follow industry standards where applicable.				
	The Bidder is required to provide necessary description to support his compliance.				
	The Bid should contain two separately sealed envelopes marked as follows:				

	• Technical Response (following the response guideline below)				
	• Financial Response (BoQ and pricing information following BoQ Template included in section 5)				
	The format of technical response to this RFP is expected in separately marked sections and as follows for Technical Proposal:				
	• Section 1 - Executive Summary				
	• Section 2 – Statement of Compliance & Company General Information.				
	• Section 3 – Solution Description				
	▪ Detailed technical description				
	▪ Project Plan				
	▪ Support Plans				
	▪ Roadmaps etc				
	▪ others				
	• Section 4 – Supporting documents				
	• Section 5 – Proposal Softcopy on Compact Discs / flash drives				
	• Section 6 – References: Bidders are required to provide 3 references with details e.g. systems supplied, services deployed, architecture deployed etc.				

	Failure to agree to or comply with any of these terms and conditions and/or not following the required outline and/or not providing required information as softcopy may result in the proposal being disqualified from the evaluation.				
5	**Bidder Qualifications**				
	The Bidder along with partners, if any, should be companies specializing in providing the systems listed in this RFP each with a record of successful implementations. The bidder or his suppliers must provide evidence of similar projects experiences.				
	The Bidder shall list all partnerships and alliances related to the RFP response, distribution, or development of products or services, including the purpose for and duration of the collaboration.				
6	**Reference list**				
	The Bidder should provide reference list of 3 references for every solution proposed as a response to requested products / solutions in this RFP. The bidder (or their partners) must submit in his proposal a list of all relevant Project Experience.				
	References given must be verifiable and shall be from recognized Internet Exchange Points.				
7	**Company general information**				
	The Bidder shall specify:				
	• The size of the company, financial result, number of subject matter experts. In case the bidder represents a group of Bidders, the same shall be provided for individual companies that supply relevant parts of the solution.				
	• Person authorized to contractually bind the organization for any proposal against this RFP.				
	• Brief history, including year established and number of years the company has been offering the proposed solution and services.				
8	**Bidder Presentation**				

	A Bidder may be asked by CITRA to make a presentation and/or arrange a meeting to clarify any portion of his response and/or to further explain how CITRA's requirements will be met.				
9	**Main tasks and Responsibilities**				
	The Bidder's responsibilities within this project are derived from the leading concept of full responsibility for supply of operational systems on a turnkey basis. This includes:				
	Supply of H/W platform and S/W licenses: Define the relevant infrastructure configuration and relevant communication interfaces. With that supply S/W license with 3rd parties' licenses where relevant.				
	Provide modular pricing quotation: Quote for system modules. Provide pricing breakdown offer, where core modules are priced, and optional features and sub-systems are prices separately				
	Design documents: Construct system detailed design document and include detailed documentation. Final version will be agreed with CITRA staff later in the process.				
	Implementation plan: Offer detailed implementation timetables with specific task responsibilities, resources and key milestones. The implementation plan should clearly show all dependencies between individual modules for every part of the project. Project plans for individual solutions may be prepared and presented separately.				
	System installation: Install the system at CITRA premises, after defining and ensuring preparation of environment conditions and power.				
	Setup of relevant operational parameters, according to CITRA operational requirements.				
	Performance: Arrange performance benchmarks, measuring system load and check system limits, to ensure optimal				

	ongoing performance and future operational rate scalability.				
	Recovery procedures: Define and test system shutdown and up time after system crash, including data recovery and setup.				
	Documentation: Provide Installation guide, User guide, and system operator guide for daily maintenance and operations and other relevant technical documentation.				
	Training: Include sufficient and customized training sessions for system operators so that CITRA will be operationally self-sufficient.				
	Warranty: Provide 1-year warranty counted from first day of full functioning system operation after CITRA's written approval that the System passed all Acceptance Tests (Preliminary Hand Over Certificate).				
	The workmanship, material and finish of all equipment shall be of the highest quality and should be built for long service. The equipment shall be based on the latest technological developments and incorporate the best features available.				
10	**Warranty, maintenance and Support**				
11	**General Requirements**				
	The detailed provisions regarding Warranty, Maintenance and Support are those appearing in the contract post award. For the purpose of highlighting only, following are the main principles regarding the provision of such services, which apply to the submission of the proposal:				
	Warranty:				
	The Bidder will include one year of Warranty with operations support for all hardware and software supplied with support for the System and all the components supplied under this RFP. The warranty shall start only after a signed Acceptance Test Protocol (ATP) and preliminary handover certificate (PHOC).				

	During the Warranty Period, the selected Bidder shall be responsible to fix any problem or fault in the System, in accordance with the terms specified in the contract and ensure that the network provides 99.99% availability.				
	The Bidder will provide full access to its Bidder resources such as web documentation and technical literature, as shall be required for the provision of warranty and maintenance services.				
	During the Warranty period and the Maintenance and Support periods, the Bidder shall provide spare parts and upgrades and updates, as required.				
	Maintenance:				
	The Bidder shall undertake delivery of any spare part/s ordered post the warranty period without delay to ensure continuity of the service.				
	The Bidder shall ensure all CITRA's system software is always maintained and kept up to date with latest releases, the cost of which shall be included in the maintenance and support agreement.				
	Support:				
	Provisions must be made for onsite operations support during working hours and emergency support services outside normal working hours and on holidays during the warranty, maintenance, and support periods.				
	The support staff shall engage with the assigned CITRA staff taking an "On the job" training approach towards CITRA assigned support staff.				
12	**Service Level Agreement (SLA) Requirements**				
	In cases where there are network problems within CITRA's network e.g. core network congestion, trunk congestion, service outages, etc. caused by improper network build, inferior network operation or equipment failures, the bidder shall be responsible for rectification of such problems at its own cost and shall be within				

	the response timeframes set forth in this document for relevant category of faults.				
	Events are classified according to the following severity levels: Critical, Major, Minor and Informational. Critical and Major events are the most significant and directly affect network performance and quality of service.				
	The network severity levels for equipment and services supplied by Bidder shall be defined as follows:				
	Critical – Critical events are problems that severely affect service, capacity/traffic, and maintenance capabilities. Critical events require immediate corrective action, regardless of time of day or day of the week.				
	Critical Failure is deemed to exist when:				
	There is a total system failure				
	Traffic capacity is reduced by 20% or more of major network elements				
	There is a failure of a major network element component or a loss of operational capability (unable to recover the system)				
	There is a significant reduction of revenue generating capability (more than 5%)				
	Bidder Reporting requirements: Full root cause analysis performed and permanent fixes to be provided within the timeframe stipulated in the table above.				
	Major – Major events are problems that cause conditions that seriously affect system operation, maintenance, and administration. Major events require immediate attention. The urgency is less than a critical event because of a less immediate or impending effect on system performance, end-users, operation, and revenue. A major event on the device could impact a majority of the users.				
	Major Failure is deemed to exist when:				
	A network element component fails				

	Traffic capacity reduced by more than 5% but less than 20% of major network elements				
	There is a loss of network redundancy				
	There is a loss of diagnostic functionality There is a loss of reporting functionality				
	There is a major failure of a specific service type (system unable to access peripherals or supplementary services), e.g.				
	o Loss of routing				
	o Route Conversion				
	o Loss of monitoring or alarm system				
	Bidder reporting requirements: Full root cause analysis performed and permanent fixes for services failures to be provided within timeframe stipulated in the table above. Detailed analysis of potential causes and solutions to be provided with				
	timetable for anticipated resolution of service degradation.				
	Minor – Minor events are problems that are not viewed as critical or major. Minor events neither significantly impair the functioning of the system nor significantly affect service to end-users. These events are tolerable during system use. A minor event on the device may have impact on one or limited number of users or connections. Minor Failure is deemed to exist when:				
	There is an unexplained and minor increase in CITRA problem reports				
	There is a minor loss of network redundancy or capacity				
	There is a reduction in the functionality or the performance of the "monitoring or alarm system" of less than 10% (greater loss of functionality shall be treated as a major event).				
	Bidder reporting requirements: Analysis performed and fixes for failures to be provided within the timeframe stipulated in the table above. Detailed analysis of potential causes and solutions to be				

	provided with timetable for anticipated resolution of service degradation.				
	Informational – Informational events are used to note data for tracking and trending purposes and to offer advice and support on technical and operational questions raised by CITRA staff.				
	Bidder reporting requirements: Documented response with an explanation of operating procedure supported by technical documentation.				
13	**SLA related penalties for non-performance**				
	Availability will be calculated on a quarterly basis, and any failure of any part of the network that compromises any aspect of the operations will be part of availability calculations.				
	Appropriate Penalties will be recovered from the quarterly payment if the contractor is not able to achieve required Service levels as mentioned below:				

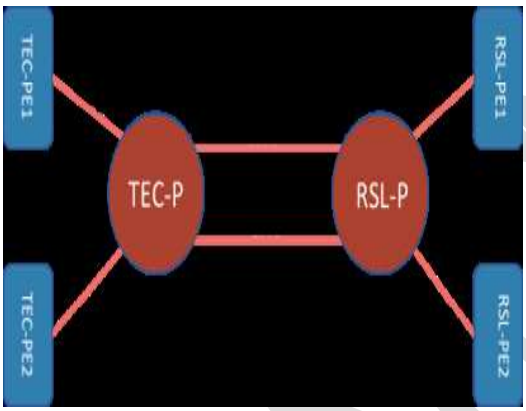
S/N	SLA	TARGETS	PENALTIES
1	System Availability /Uptime	99.00 %	• 99.00% or Better= 0 • 98.50% to 98.99%=0.50% of QP • 98.00 to 99.49% = 1.00% of QP • 95.00 to 98% = 1.50% of QP • Less than 95% = 5% of QP
2	Delay in resolution of support/in-cidents for the devices installed by the bidder	Meet requir-ed SLA targets .	• Critical: 2.5% of QP for every 2 Hours Delay in resolution. • Major: 1.25% of QP for every 3 Hours delay in resolution. • Minor: 0.75% of QP for every 6 Hours delay in resolution • Informational: 0.25% of QP for every 8 Hours delay in resolution>

14	**System Acceptance**				
	The Bidder is responsible for installation of the system, so that the system stays globally functional. Therefore, equipment commissioning must be done through demonstration of product capability and compliance with requirements when wired and configured in the system.				
	The Bidder shall present system and power supply redundancies by unplugging redundant links.				
	The Bidder shall be required to perform a range of Acceptance Tests on site for each individual sub-system to demonstrate that all items have been correctly installed and adjusted on a location-by-location basis and that the sub-system operates in every respect in accordance with the Specifications.				

	During this phase the equipment are powered, and the automation and networking are gradually integrated layer by layer.				
	The tests shall be performed by the Bidder and witnessed by CITRA's Representative. Any defects, which may become apparent during these tests, shall be rectified by the Bidder at his expense.				
	The Acceptance Test Specifications shall be prepared by the Bidder and submitted for Approval.				
	All Acceptance Tests shall be carried out by the bidder in the presence of the CITRA's Representative who shall sign off the testing documentation on satisfactory completion of the tests.				
	The Acceptance Test Specifications, at every level, shall be subjected to configuration management and change control by the Bidder.				
	If modification or reprogramming is required as a result of the tests, all affected parts of the Site Acceptance Tests, as determined by CITRA's Representative, shall be re-tested.				
	The results of the Acceptance Tests, version of software and hardware tested, together with any re-testing as a result of failure, shall be recorded and signed by the authorized personnel of the Bidder and CITRA's Representative.				
	The Bidder shall ensure that the test covers all aspects of the system and subsystems.				
	After successful test(s) of individual systems, Bidder and CITRA will sign Acceptance Test Protocol (ATP) and issue a Preliminary Handover certificate (PHOC).				
15	**Training**				
	The Bidder shall supply training manuals & handouts, The Bidder shall propose a detailed agenda of the training, listing all the topics to cover. CITRA will review this agenda and could request modifications before the beginning of the training.				

	The instructors shall be professional trainers with at least 5 years' experience in networks to cover all parts of the proposed network.				
	For each product and/or application, the Bidder shall provide a detailed description of the training offered.				
	Training shall be in sufficient scope to ensure that all trainees who complete the program will be capable to administrate, operate and/or maintain the equipment, systems, and facilities provided and installed, and to ensure a smooth transition between implementation and operations activities.				
	Training manuals, including course outline, basic text of instructions modules, and trainee workbook, films, slides, video tape(s), charts, models, hand-outs, catalogues, samples and other visual, written aids to complement instruction.				
	Operators shall be provided with thorough training in all aspects of system/sub-system operation under both normal and abnormal conditions. This training shall include, but not be limited to:				
	IX technologies and best practices.				
	Orientation to provide overview of system/sub-system purpose, configuration, and operations,				
	Terminology,				
	Operations theory and interfaces,				
	Equipment appearance, layout, functions, concepts and operations,				
	Operating modes, practice, and procedures under normal and emergency conditions,				
	Safety precautions,				
	Use of tools and test equipment,				
	Use of system utilities, diagnostic software and various software tools associated with the system maintenance,				
	Preventive maintenance,				
	Troubleshooting, diagnostics, and testing,				

	Backup and restoration of software/configuration,				
	Assembly and disassembly,				
	Repair and parts replacement,				
	Parts ordering practices and storage,				
	Failure and recovery procedures,				
	System/sub-system cabling,				
	Familiarization with and use of manuals and other reference materials.				
	Administrator course shall include but not be limited to:				
	Orientation to provide overview of system/sub-system purpose, configuration, and operations,				
	Terminology,				
	Operations theory and interfaces,				
	Software design and organization,				
	Database structure, generation, and modification,				
	Assembly, compilation, linking, editing, debugging, distributing, testing and integration of program modules,				
	Interface software design,				
	Configuration management and control of software,				
	Backup and restoration of software,				
	Use of system utilities, diagnostic software and various software tools associated with the design, development, and maintenance of the System,				
	Familiarization with and use of manuals and other reference materials.				
16	**Technical Specifications**				
	The offered solutions / systems shall be, as often as possible, a standard off-the-shelf package utilizing the latest hardware and software technology. Any major system development effort necessary to meet specified requirements is unacceptable. Even if this system is a new concept, it should not require huge development and shall be based on existing and proven technologies and standards that are applied in major IXP hubs.				

	To achieve diversity and redundancy, the solution shall be hosted in both TEC and RSL.				
	The solution should consist of switches in both TEC and RSL exchanges. All members of the exchange will connect to one of the switches and become members of a common VxLAN where they can peer together or with a route-server.				
	The solution must target 99.99% service availability. A design is provided below:				
					
	The design shows 2 cores (P) and 4 edges (PE). Each edge is connected to the cores, so there's always a redundant path available.				
	Hardware				
	All listed specifications are mandatory.				
	No vendor lockdown of transceivers				
	Hitless upgrade of software/software components "Nonstop forwarding"				
	Redundant PSU				
	Hot-swap of management and switch fabric cards with instantaneous failover to any installed redundancy (no reboot)				
	DWDM/CWDM optical transceiver support				
	Optical ports must support DDM/DMI				

	Port rate must not be shared with other ports (for example: single ASIC used by multiple ports)				
	Switching capacity shall be at least 6.4Tbps line-speed per device with no blocking, delays, or packet-loss during high load				
	Shall support hardware high-performance BFD and less than 5ms BFD interval to guarantee fast network failure detection to improve network stability and reliability				
	For configuration flexibility, the platform must allow configuration rollback capabilities.				
	Router servers				
	The offered solution must include route servers to offer multi-lateral peering between the members of ix.kw and speed up the peering process for new members.				
	The route server shall act as BGP proxy, eliminating the need for direct peering among members. The route servers shall forward BGP announcements among the members according to rules set by the members, without altering the BGP next-hop or the AS-PATH. The route server shall advertise each prefix to all connected members.				
	The route server shall support automated prefix processing based on rules configured by the administrator.				
	The router shall offer ports connectivity and shall be connected to each of the LAN Switch to ensure redundancy.				
	Route Reflector				
	The solution shall include a Route Reflector with which all ISPs peer. The Route Reflector shall provide information on all the routes within the IXP visible to all participants (Looking Glass).				
	The route reflectors shall exchange information at regular intervals so that the participants have a global view of all other participants with which they can peer. All participants shall have read-only access to				

	Route reflector to see the activity in the IXP.				
	Switch				
	The Switch shall be high-density, purpose-built 100Gb switch designed for high-performance enterprise and cloud data centers.				
	Must have 32 QSFP28 ports and support a range of interface speeds, including 10Gb, 40Gb, and 100Gb				
	Must not be more than 2RU in form factor.				
	Must support ability to be deployed in either spine/leaf or high-density top of rack architectures.				
	Must have Low-latency cut-through switching and an advanced feature for high-performance data center applications.				
	Must support the following:				
	• Full featured operating system with advanced features supporting switching, routing, SDN and VXLAN				
	• Spine and high-density leaf applications				
	• At least Non-blocking 6.4Tbps switching capacity per system				
	Scaling and Performance				
	Must support at least:				
	MAC Addresses: 136K				
	IPv4 LPM Entries: 192K max (ALPM)				
	with min LPM IPv4 entries: 72K				
	with max LPM IPv4 entries: 6K				
	IP Multicast Groups – 4K				
	IP Multicast (s,v,g) entries – 68K max				
	Flexible Universal Forwarding Tables (UFT)				
	4092 user-created VLAN/VMANs				
	9216 Byte Max Packet Size (Jumbo Frame)				
	8 queues per port				
	up to 12k ingress rules per system (3K rules per group of 8 QSFP ports)				
	1K egress rules				
	Data Center Bridging				

	DCBx Data Center Bridging Exchange Protocol				
	Priority Flow Control (PFC)				
	Enhanced Transmission Selection (ETS)				
	VxLAN Tunneling End Point (VTEP)				
	EVPN				
	Configurable Store & Forward and Cut Through forwarding modes				
	IEEE 802.3 Media Access Standards				
	IEEE 802.3ba / 802.3bm 40GBASE-X and 100GBASE-X				
	IEEE 802.3ae 10GBASE-X				
	IEEE 802.3bj 100Gb Ethernet with Clause 91 FEC				
	25Gb and 50Gb Ethernet implemented per 25G/50G Ethernet Consortium				
	Software				
	The bidder must include network and element management system.				
	All listed specifications are mandatory.				
	Management interface shall support the following				
	o SSHv2 public key authentication				
	o NETCONF (RFC 6241)				
	o HTTPS/SSL enabled web-access				
	Supports SCP/SFTP for config copy/upload/download, as well as TFTP/FTP				
	Possibility of creating view-only users, as well the capability of creating users that can only configure a subset of the device's configuration.				
	Telemetry (sFlow, IPFIX, NetFlow v9)				
	Jumbo Frame support				
	Monitoring via SNMPv3, SNMP traps, and/or syslog				
	On both CLI and SNMP, port statistics should be instant, and not aggregated over intervals				
	Environmental monitoring:				
	o Temperature sensors per chassis and module				

	○ Fan health sensors & RPM				
	○ Power supply health sensors				
	○ Power consumption per chassis and module				
	○ Power available				
	Exceptions or failures shall be logged via SNMP traps and syslog				
	Layer 2 security:				
	○ Static configuration of allowed source MAC addresses for each VLAN on a customer port				
	○ Static configuration of allowed destination MAC addresses for each VLAN on a customer port				
	○ Dynamic configuration of several allowed source MAC addresses for each VLAN on a customer port				
	○ Configuration of allowed Ethertypes (only allow ARP, IPv4, IPv6)				
	○ Blocking of link control protocol BPDUs such as STP or LACP on non-LACP ports				
	○ Blocking of unwanted packets from customers like DHCP or RA guard				
	○ Configurable action at violation: restriction of “bad traffic” per vlan or shutdown of physical port				
	○ Configurable auto-recovery after port-security violations				
	○ Upon detection of a violating frame, there should be an SNMP trap and a configurable syslog message				
	Layer 2 filtering above must not influence the performance of the system. Where this is not possible, it must be clearly documented.				
	Configurable MAC/CAM learning: it should be possible to configure the aging timeout to remove the MAC address from the MAC and CAM tables				
	Trunking and link-aggregation				
	○ IEEE 802.3ad LACP must be supported - fast and normal mode.				
	○ 5-tuple hashing (source MAC, destination MAC, source IP, destination IP, protocol)				

	○ Ability to add/remove ports from a LAG without interrupting the forwarding on the LAG				
	○ Load-sharing of broadcasts and multicast traffic				
	○ Port access-control features shall be applicable to the LAG as if it were a single port				
	○ Multi-Chassis Link Aggregation shall be supported				
	For multicast, PIM-SM should be present				
	Ability to perform VLAN tag rewrite				
	Link failure detection:				
	○ UDLD				
	○ LFN				
	○ BFD				
	○ IEEE 802.1ag compliant behaviour				
	OSPF with BFD				
	VxLAN and EVPN				
	Graphical User Interface for monitoring and configuration. Preferably web based GUI				
	○ Can generate reports of the status and usage of various subsystems.				
	○ Live web based view of system usage, status, and any alarm for the NOC room.				
	Ability to periodically test and analyze the network (throughput, latency, frame loss) with standard methods e.g. ITU-T Y.1564, RFC 2544				
	Scripting and automation capabilities				
	○ Modern languages shall be supported, such as Python, NodeJS, or C++, (NOT TCL.).				
	○ Integration with Graphana				
	○ Ability to upload external libraries/modules for use in a script				
	○ Running a script in daemon mode that can perform actions at intervals without reload				
	○ Socket access for sending and receiving TCP/UDP packets (example: running a script that listens on port 8000)				

	Power				
	All devices shall have redundant power supplies. The equipment shall be modular with redundant CPU and forwarding cards.				
	TEC and RSL sites: Devices will use 220/240v AC power				
	Service Interfaces				
	All ports will be single mode with exceptions for local rack connections (DAC). Distance between TEC and RSL is 16km. Distance to members within the building will be under 1km.				
	Transceivers				
	The bidder shall propose 3rd party transceivers with the following conditions:				
	Spare transceivers will always be available in Kuwait if replacements are required				
	Meet the applicable requirements of Directive 2011/65/EU of the European Union Restriction of Hazardous Substances (RoHS)				
	Comply with CE				
	Comply with the requirements of FCC Part 15 Subpart A Rules				
	Included in the support contract				
	Installation Work				
	General				
	The following shall be covered under the installation work:				
	Installation, testing, handing over, commissioning and ensuring all the functions and facilities mentioned in specifications and the Bidder' s offer. Special attention should be paid by the Bidder while installing, testing and commissioning the interfaces in the offered system to and from the existing ISPs.				
	The Bidder shall submit literatures, drawings, detailing the standard methods and practices being followed.				
	For the period of the installation work, countermeasures for local environmental conditions shall be sufficiently ensured.				

	Attention shall be paid to protection, particularly dust-proofing of the equipment.				
	Equipment Layout				
	Bidder is required to submit the proposed equipment layout plan specified here in after:				
	Floor Plan:				
	1. The layout should occupy least possible space.				
	2. The Bidder shall submit dimensional floor layout plan for the initial and ultimate capacity.				
	3. Bidder is required to visit the sites and then to propose the dimensional floor layouts for the equipment room, power room, battery room, etc., for the initial and ultimate capacity of the system.				