



# ADDENDUM NO. 1

TO  
BIDDING DOCUMENTS

Issued on: December 16, 2020

for

## Procurement of Fiber Optic Transmission and Networking Equipment for Broadband Network

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**LCB No: FCG/SUP/017**

**Project:** FOUNDATIONS FOR COMPETITIVENESS AND GROWTH PROJECT

**Purchaser:** PLANNING INSTITUTE OF JAMAICA

**Date of Addendum:** January 19, 2021

## Section II. Bid Data Sheet (BDS)

*A. Clauses ITB 22.1 and 25.1 of the Bid Data Sheet, which read:*

<b>ITB 22.1</b>	<p>For bid submission purposes only, the Purchaser’s address is:          Attention: Procurement Specialist – FCGP          Address: Planning Institute of Jamaica, 16 Oxford Road          City: Kingston 5          Country: Jamaica          Telephone: 876 935 5082          Electronic mail address: <a href="mailto:mhgriffiths@pioj.gov.jm">mhgriffiths@pioj.gov.jm</a> with copy to <a href="mailto:dwint@pioj.gov.jm">dwint@pioj.gov.jm</a>          The deadline for bid submission is:          Date: <b>January 29, 2021</b>          Time: <b>2:00pm</b>          Bidders <b>shall not</b> have the option of submitting their bids electronically.</p>
<b>ITB 25.1</b>	<p>The bid opening shall take place at:          Address: Planning Institute of Jamaica, 16 Oxford Road          City: Kingston 5          Country: Jamaica          Date: January 29, 2021          Time: 2:15pm  <b>Bidders may participate virtually via a URL to be provided upon bid submission.</b></p>

*are hereby amended as follows:*

<b>ITB 22.1</b>	<p>For bid submission purposes only, the Purchaser’s address is:          Attention: Procurement Specialist – FCGP          Address: Planning Institute of Jamaica, 16 Oxford Road          City: Kingston 5          Country: Jamaica          The deadline for bid submission is:          Date: <b>February 5, 2021</b>          Time: <b>2:00pm</b>          Bidders <b>shall not</b> have the option of submitting their bids electronically.</p>
<b>ITB 25.1</b>	<p>The bid opening shall take place at:          Address: Planning Institute of Jamaica, 16 Oxford Road</p>

	<p>City: Kingston 5 Country: Jamaica Date: February 5, 2021 Time: 2:15pm <b>Bidders may participate virtually via a URL to be provided upon bid submission.</b></p>
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# Section VII. Schedule of Requirements

## 1. List of Goods and Delivery Schedule

*B. Line 12 of the List of Goods and Delivery Schedule, which read:*

LOT 3							
Item N°	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [ <i>to be provided by the bidder</i> ]
12.	Generic Fiber Transceivers	92		eGov Jamaica Limited   235b Old Hope Road, Kingston 6, Jamaica			

*is hereby amended to include the physical unit as follows:*

LOT 3							
Item N°	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [ <i>to be provided by the bidder</i> ]
12.	Generic Fiber Transceivers	92	number	eGov Jamaica Limited   235b Old Hope Road, Kingston 6, Jamaica			

C. *The List of Related Services and Completion Schedule was erroneously omitted from the Schedule of Requirements. The Schedule was included as follows:*

## 2. List of Related Services and Completion Schedule- **Not Applicable**

Currencies in accordance with ITB 15						Date: _____
						ICB No: _____
						Alternative No: _____
						Page N° _____ of _____
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
<i>[insert number of the Service ]</i>	<i>[insert name of Services]</i>	<i>[insert country of origin of the Services]</i>	<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price per item]</i>	<i>[insert total price per item]</i>
<b>Total Bid Price</b>						

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

### 3. Technical Specifications

*D. The Technical Specifications are hereby revised as follows:*

#### Router

**Quantity: Eighteen (18)**

**NB: All specification listed in the table below are mandatory specifications**

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
1	Interfaces	<ul style="list-style-type: none"> <li>28 x 1/10 Gigabit ports</li> <li>4 x 40/100 Gigabit ports</li> <li>2 x Rj45 (Management, Console port)</li> </ul>	Mandatory			
2	Processor	<ul style="list-style-type: none"> <li>8 core 1.5Ghz x86 CPU</li> </ul>	Mandatory			
3	Software	<ul style="list-style-type: none"> <li>Latest offered by the manufacturer with software subscription for 3 years.</li> </ul>	Mandatory			
4	Support	<ul style="list-style-type: none"> <li>24x7x4 three (3) year support contract</li> </ul>	Mandatory			
5	Throughput	<ul style="list-style-type: none"> <li>300 Gbps and 300 Mpps of system throughput</li> </ul>	Mandatory			
6	Route Scale	<ul style="list-style-type: none"> <li>128K IPv4 and 32K IPv6 FIB entries</li> </ul>	Mandatory			
7	Power and cooling	<ul style="list-style-type: none"> <li>Fixed dual redundant DC power supplies</li> <li>4 fans provide 3+1 redundant system cooling</li> <li>110/220 VAC</li> <li>50 to 60 Hz</li> </ul>	Mandatory			
8	Power consumption	<ul style="list-style-type: none"> <li>Typical: 200W at 25°C</li> <li>Maximum: 240W at 40/45°C, 270W at 50/55/70°C</li> </ul>	Mandatory			
9	Power Specs	<ul style="list-style-type: none"> <li>110/220 VAC</li> <li>50 to 60 Hz</li> </ul>	Mandatory			
10	Inter-Operability with multi-supplier equipment	The device being proposed must be fully interoperable with devices currently in the network. These are Cisco devices.	Mandatory			

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
11	Software feature support	<ul style="list-style-type: none"> <li>• Layer 2 switch ports</li> <li>• IEEE 802.1Q VLAN encapsulation / Q-in-Q encapsulation</li> <li>• IEEE 802.1ad</li> <li>• Ethernet Link Aggregation Group (LAG) (up to 32 ports)</li> <li>• Link Aggregation Control Protocol (LACP): IEEE 802.3ad</li> <li>• Jumbo frames on all ports (up to 9216 bytes)</li> <li>• L2 ingress Access Control List (ACL)</li> <li>• IPv4 and IPv6 unicast</li> <li>• Layer 3 interfaces: physical interfaces and subinterfaces</li> <li>• Routing protocols: static, Open Shortest Path First (OSPFv2), OSPFv3, Intermediate System to Intermediate System (ISIS), ISISv6, and Border Gateway Protocol (BGP)</li> <li>• 32-way equal-cost multipath (ECMP)</li> <li>• L3 ingress and egress IPv4 ACL and IPv6 ACL</li> <li>• Bidirectional Forwarding Detection (BFD)</li> <li>• Cisco bundle Ethernet technology (up to 32 ports per Ethernet bundle)</li> <li>• Jumbo frame support (up to 9216 bytes)</li> <li>• Virtual Router Redundancy Protocol (VRRP) Integrated Routing Bridging (IRB) with Bridge Virtual Interface (BVI)</li> <li>• MPLS Label switching</li> <li>• LDP</li> </ul>	Mandatory			

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
		<ul style="list-style-type: none"> <li>• SR-MPLS</li> <li>• RSVP-TE and SR-TE MPLS Traffic Engineering</li> <li>• Point-to-point L2VPN – T-LDP, BGP, EVPN-VPWS</li> <li>• Multipoint L2VPN – VPLS, EVPN</li> <li>• L2/L3 VPN EVPN with Anycast IRB</li> </ul>				
12	Security	<ul style="list-style-type: none"> <li>• Control-plane and management plane protection</li> <li>• Authentication, Authorization, and Accounting (AAA)</li> <li>• Terminal Access Controller Access-Control System Plus (TACACS+)</li> <li>• Secure Shell (SSH) Protocol</li> <li>• Layer 2 ingress ACLs</li> <li>• Layer 3 ingress ACLs</li> </ul>	Mandatory			
13	Management	<ul style="list-style-type: none"> <li>• MIB, XML, JSON, GPB, and SNMP</li> <li>• MPLS OAM</li> <li>• Ethernet OAM</li> </ul>	Mandatory			

## Server

**Quantity: One (1)**

**NB: All specification listed in the table below are mandatory specifications**

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
#						
1	Form Factor	<ul style="list-style-type: none"> <li>• 1RU rack server</li> </ul>	Mandatory			
2	Processor	<ul style="list-style-type: none"> <li>• Intel 5218 2.3GHz</li> </ul>	Mandatory			
3	Memory	<ul style="list-style-type: none"> <li>• 64GB RAM x2</li> </ul>	Mandatory			
4	Storage	<ul style="list-style-type: none"> <li>• 900GB HDD x 4</li> </ul>	Mandatory			



Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
#						
5	Software	<ul style="list-style-type: none"> <li>Must be able to support Cisco UCS Manager release 3.2(1) or later</li> </ul>	Mandatory			
7	Power Specs	<ul style="list-style-type: none"> <li>Hot-pluggable</li> <li>Redundant supplies</li> <li>50/60 Hz</li> </ul>	Mandatory			
8	Support	<ul style="list-style-type: none"> <li>24x7x4 three (3) year support contract</li> </ul>	Mandatory			

## Power over Ethernet Switch – Type A

Quantity: Four (4)

**NB: All specification listed in the table below are mandatory specifications**

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
#						
1	Network Interfaces	<ul style="list-style-type: none"> <li>24 100/1000 Mbps (RJ45) ports</li> <li>24 PoE+ ports with 370W power budget</li> <li>4 x 1G/10G SFP</li> </ul>	Mandatory			
2	Software	<ul style="list-style-type: none"> <li>Latest offered by the manufacturer with software subscription for 3 year</li> </ul>	Mandatory			
3	Support	<ul style="list-style-type: none"> <li>24x7x4 three (3) year support contract</li> </ul>	Mandatory			
4	Performance Capability	<ul style="list-style-type: none"> <li>Multiple switched backplane (optional).</li> <li>100/1000 Mbps auto-negotiating capability on all RJ45 ports.</li> <li>Auto-sense half or full duplex connections on all ports.</li> <li>Accommodate minimum of 16000 MAC addresses</li> <li>Supports frames up to 9 KB</li> </ul>	Mandatory			

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
#						
		<ul style="list-style-type: none"> <li>Switching Bandwidth 176Gbps</li> <li>Forwarding rate 261.9Mpps</li> </ul>				
5	Switching Methods	<ul style="list-style-type: none"> <li>Store-and-forward switching modes</li> </ul>	Mandatory			
6	Standard Components	<ul style="list-style-type: none"> <li>High-speed console ports</li> <li>Rack-mount kit for standard 19" cabinet</li> <li>Power supply and cord</li> </ul>	Mandatory			
7	Power Specs	<ul style="list-style-type: none"> <li>640WAC</li> <li>110/220 VAC</li> <li>50/60 Hz</li> </ul>	Mandatory			
8	Memory	<ul style="list-style-type: none"> <li>4 GB Flash</li> <li>2 GB DRAM</li> </ul>	Mandatory			
9	Inter-Operability	The device being proposed must be fully interoperable with devices currently in the network. These are Cisco devices.	Mandatory			
10	VLAN	<ul style="list-style-type: none"> <li>Port-based and 802.1Q-based VLANs</li> <li>Private VLAN Edge (PVE)</li> <li>Management VLAN</li> </ul>	Mandatory			
11	Stacking	<ul style="list-style-type: none"> <li>Stacking bandwidth of 160 Gbps</li> <li>Supports up to eight (8) switches in a stack.</li> <li>Stacking module with 2 (two) one meter (1M) Stacking cable must be included.</li> </ul>	Mandatory			
12	Protocols	<p>The access switches provided must support all the following protocols:</p> <ul style="list-style-type: none"> <li>IEEE 802.1q (VLAN tagging).</li> <li>IEEE 802.1p (Layer 2 Prioritization tagging)</li> <li>IEEE 802.1d</li> </ul>	Mandatory			

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
#						
		<ul style="list-style-type: none"> <li>• IEEE 802.1w</li> <li>• IEEE 802.1x</li> <li>• IEEE 802.3z (1000Base-SX).</li> <li>• IEEE 802.3af Power over Ethernet</li> <li>• IEEE 802.3x full duplex on 10BaseT, 100BaseTX and 1000BaseT ports.</li> <li>• IEEE 802.3u 100BaseTx specifications.</li> <li>• IEEE 802.3 10BaseT specification.</li> <li>• RFC 793(TCP); RFC 791(IP).</li> <li>• RFC 826 (ARP).</li> <li>• RFC 854 (Telnet).</li> </ul>				
13	IGMP snooping	<ul style="list-style-type: none"> <li>• IGMP (v1/v2) snooping provides for fast client joins and leaves of multicast streams and limits bandwidth-intensive video traffic to only the requestors</li> </ul>	Mandatory			
14	Other Features	<p>The access switches provided must support all the following:</p> <ul style="list-style-type: none"> <li>• Support appropriate fast switching methods that bypasses packet-by-packet processing</li> <li>• Minor configuration changes, shall not warrant reboot or restart (e.g. Adding IP interfaces).</li> <li>• Head-of-line (HOL) blocking prevention</li> <li>• SNMP (v2C &amp; 3)/RMON compatibility</li> <li>• GUI configuration tool</li> </ul>	Mandatory			

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
#		<ul style="list-style-type: none"> <li>• Manufacturer's Management Information Base (MIB) II, SNMP MIB extensions.</li> <li>• Quality of Service (QoS)</li> <li>• Port mirroring</li> <li>• Full Flexible NetFlow</li> <li>• EEM</li> <li>• Health dashboards</li> <li>• Flexible NetFlow (FNF)</li> <li>• Policy-based automation and assurance for wired and wireless</li> <li>• Network assurance and analytics</li> <li>• Element Management</li> <li>• Priority queuing and weighted round-robin (WRR)</li> <li>• The LAN switch shall have the capability to provide inline power to the capable devices as described in IEEE 802.3af standard over UTP Cat 5 cable connected to a RJ45 port.</li> <li>• SNMP Management Information Base (MIB) 11, SNMP MIB extensions.</li> <li>• TACACS+ and RADIUS authentication</li> </ul>				

## Power over Ethernet Switch – Type B

Quantity: Six (6)

**NB: All specification listed in the table below are mandatory specifications**

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
1	Network Interfaces	<ul style="list-style-type: none"> <li>8 10/100/1000 Mbps (RJ45) ports</li> <li>2 x 1G SFP</li> </ul>	Mandatory			
2	Software	<ul style="list-style-type: none"> <li>Latest offered by the manufacturer with software subscription for 3 year</li> </ul>	Mandatory			
3	Support	<ul style="list-style-type: none"> <li>24x7x4 three (3) year support contract</li> </ul>	Mandatory			
4	Forwarding Bandwidth	<ul style="list-style-type: none"> <li>Min. 10 Gbps</li> </ul>	Mandatory			
5	Mac addresses	<ul style="list-style-type: none"> <li>16000</li> </ul>	Mandatory			
6	Standard Components	<ul style="list-style-type: none"> <li>High-speed console ports</li> <li>Rack-mount kit for standard 19" cabinet</li> <li>Power supply and cord</li> </ul>	Mandatory			
7	Power Specs	<ul style="list-style-type: none"> <li>640WAC</li> <li>110/220 VAC</li> <li>50/60 Hz</li> </ul>	Mandatory			
8	Memory	<ul style="list-style-type: none"> <li>256 MB Flash</li> <li>512 MB DRAM</li> </ul>	Mandatory			
9	Inter-Operability	The device being proposed must be fully interoperable with devices currently in the network. These are Cisco devices.	Mandatory			
10	VLAN	<ul style="list-style-type: none"> <li>Port-based and 802.1Q-based VLANs</li> <li>Private VLAN Edge (PVE)</li> <li>Management VLAN</li> </ul>	Mandatory			

# **NETWORK CONTROL & COMMAND CENTRE**

**Quantity: One (1)**

**NB: All specification listed in the table below are mandatory specifications**

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
1	Management	<ul style="list-style-type: none"> <li>• Granular views network wide, from a single dashboard</li> <li>• Device lifecycle management</li> <li>• Multi domain integration</li> <li>• Open and extensible</li> </ul>	Mandatory			
2	Automation	<ul style="list-style-type: none"> <li>• Automated device discovery</li> <li>• Drag-and-drop policy creation</li> <li>• Zero-touch device deployment and lifecycle management</li> <li>• Automated quality of service (QoS)</li> </ul>	Mandatory			
3	Artificial Intelligence/ Machine learning Analytics	<ul style="list-style-type: none"> <li>• Everything as a sensor</li> <li>• Context-guided analytics</li> <li>• At least 150 actionable insights</li> <li>• Local and cloud-based AI analytics</li> </ul>	Mandatory			
4	Security	<ul style="list-style-type: none"> <li>• Threat detection and response</li> <li>• Stealth watch and ISE integration</li> <li>• Encrypted Traffic Analytics (ETA)</li> </ul>	Mandatory			
5	System Capabilities	<ul style="list-style-type: none"> <li>• Role-Based Access Control (RBAC)</li> <li>• Backup and restore of entire database</li> </ul>	Mandatory			

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
#						
		<ul style="list-style-type: none"> <li>ISE integration through pxGrid or API fabric</li> </ul>				
6	Hardware Appliance	Should Support a minimum of: <ul style="list-style-type: none"> <li>1000 switches/routers</li> <li>4000 access points</li> <li>20,000 clients</li> </ul>	Mandatory			
7	Device Support	Should be fully inter-operable with all devices presently on the procuring entity's LAN. These are predominantly <ul style="list-style-type: none"> <li>Cisco</li> </ul>	Mandatory			
8	Warranty	<ul style="list-style-type: none"> <li>Three (3) years next day business support for hardware and software</li> </ul>	Mandatory			

## **NETWORK MANAGEMENT SYSTEM**

**Quantity: One (1)**

**NB: All specification listed in the table below are mandatory specifications**

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
#						
1	Point and click provisioning	<ul style="list-style-type: none"> <li>Fast, easy, and automated provisioning that uses a single platform and similar workflows to create an Optical Transport Network (OTN) and Dense Wavelength-Division Multiplexing (DWDM) circuits</li> <li>Optical circuits support for optical channel data units and optical channels</li> </ul>	Mandatory			

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
#						
		(ODUxx and OCHxx)Open and extensible				
2	Event and fault management	<ul style="list-style-type: none"> <li>Graphical correlation of faults at different layers (OTN and DWDM)Drag-and-drop policy creation</li> <li>Support for multilayer circuit</li> </ul>	Mandatory			
3	Network health monitoring	<ul style="list-style-type: none"> <li>Network health monitoring, including network-level alarms, performance metric gathering, and TCAs</li> </ul>	Mandatory			
4	Layer 3 VPN provisioning/resource allocation	<ul style="list-style-type: none"> <li>Provisioning for full-mesh, hub-and-spoke, and combined hub-and-spoke and full-mesh topologies; provisioning includes configuration of QoS attributes Stealth watch and ISE integration</li> <li>Resource allocation for Layer 3 VPN (L3VPN), including route targets, route distinguishers, bridge group virtual interface (BVI) and Bridge Domain Interface (BDI) instances, and IP addresses</li> <li>Management of all potential faults (traps and syslog) in relation to L3VPN services, with alarms automatically attached to the service; alarms include interface-level alarms, IP Service-</li> </ul>	Mandatory			



Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
		Level Agreement (SLA) alarms, and QoS alarms				
5	Network Infrastructure configuration	<ul style="list-style-type: none"> <li>Support for creating MPLS TE service on Cisco</li> <li>Bidirectional TE tunnel and Layer 3 link creation</li> </ul>	Mandatory			
6	Support for Northbound API (NBI)	<ul style="list-style-type: none"> <li>Standards-based NBIs (REST, RESTCONF, SNMP) to integrate with third-party OSSs</li> </ul>	Mandatory			
7	Warranty	<ul style="list-style-type: none"> <li>Three (3) years next day business for support</li> </ul>	Mandatory			

## **Fiber Transceivers**

**QUANTITY: NINETY TWO (92)**

**N.B All specifications listed in the tables below are minimum mandatory specifications.**

Ref No.	Description	Specifications	Quantity	Requirement	Comply (Y/N)	Comments
1	Single mode Transceivers	Cisco 1000BASE-LX/LH SFP transceiver long-wavelength	50	Mandatory		

Ref No.	Description	Specifications	Quantity	Requirement	Comply (Y/N)	Comments
1	Single mode Transceivers	Cisco 10 GBASE-LR SFP transceiver	2	Mandatory		

Ref No.	Description	Specifications	Quantity	Requirement	Comply (Y/N)	Comments
1	Single mode Transceivers	Cisco 10 GBASE – ER SFP	20	Mandatory		

Ref No.	Description	Specifications	Quantity	Requirement	Comply (Y/N)	Comments
1	Single mode Transceivers	Cisco 10 GBASE – ZR SFP	20	Mandatory		

## **LOT 2 – SECURITY APPLIANCE (FIREWALL)**

**QUANTITY: ONE (1)**

**N.B All specifications listed in the tables below are minimum mandatory specifications.**

Ref No.	Description	Specifications	Requirement	Comments	Comply	
					YES	NO
1	Ports	<ul style="list-style-type: none"> <li>• Minimum 6 *1 GbE (1 interface to be used for Internet)</li> <li>• Minimum 4*10 GbE SFP+ Short Range (inclusive of transceivers)</li> <li>• Minimum 1 Management Port</li> <li>• Minimum 1 USB Port</li> </ul>	Mandatory			
2	Software	<ul style="list-style-type: none"> <li>• Latest stable offered by the manufacturer with support for 3 years</li> </ul>	Mandatory			
3	Support	<ul style="list-style-type: none"> <li>• Next business day response time, 3 year contract</li> </ul>	Mandatory			
4	Features Summary	<ul style="list-style-type: none"> <li>• Firewall</li> <li>• IPSecVPN</li> <li>• On-board Management</li> <li>• URL Filtering</li> <li>• Application Control</li> <li>• Content Awareness</li> <li>• Integration with Active Directory</li> <li>• Intrusion Prevention</li> <li>• Support OSPF and BGP Routing</li> </ul>	Mandatory			
5	Firewall Throughput	<ul style="list-style-type: none"> <li>• Minimum 20 Gbps</li> </ul>	Mandatory			

6	IPS Throughput	<ul style="list-style-type: none"> <li>Minimum 15 Gbps</li> </ul>	Mandatory			
7	VPN Throughput	<ul style="list-style-type: none"> <li>Minimum 4.5 Gbps</li> </ul>	Mandatory			
8	Concurrent Sessions	<ul style="list-style-type: none"> <li>Minimum 160K</li> </ul>	Mandatory			
9	Power	<ul style="list-style-type: none"> <li>Redundant Power supplies</li> </ul>	Mandatory			
10	Storage	<ul style="list-style-type: none"> <li>Minimum 480 GB</li> </ul>	Mandatory			
11	Memory	<ul style="list-style-type: none"> <li>Minimum 32GB</li> </ul>	Mandatory			
12	Logging	<ul style="list-style-type: none"> <li>Should be able to support both local and remote logging</li> </ul>	Mandatory			
13	Management	<ul style="list-style-type: none"> <li>Lights Out Management</li> <li>Should support central management via current Check Point Management Station</li> </ul>	Mandatory			

## **LOT 3 –GENERIC FIBER TRANSCEIVER**

**QUANTITY: NINETY TWO (92)**

**N.B All specifications listed in the tables below are minimum mandatory specifications.**

Ref No.	Description	Specifications	Quantity	Requirement	Comply (Y/N)	Comments
1	Generic Single Mode Transceiver	1000BASE-LX/LH SFP transceiver long-wavelength	50	Mandatory		<b>Compatible with Cisco devices</b>

Ref No.	Description	Specifications	Quantity	Requirement	Comply (Y/N)	Comments
1	Generic Single Mode Transceiver	10 GBASE-LR SFP transceiver	2	Mandatory		<b>Compatible with Cisco devices</b>

Ref No.	Description	Specifications	Quantity	Requirement	Comply (Y/N)	Comments
1	Generic Single Mode Transceiver	10 GBASE – ER SFP	20	Mandatory		<b>Compatible with Cisco devices</b>

Ref No.	Description	Specifications	Quantity	Requirement	Comply (Y/N)	Comments
1	Generic Single Mode Transceiver	10 GBASE – ZR SFP	20	Mandatory		<b>Compatible with Cisco devices</b>

**All other terms and conditions of the Bidding Documents shall remain unchanged.**