

د افغانستان اسلامي جمهوریت
وزارتو د پراختیا د وزارت



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تعمیرات

در صورتی که مشخصات فنی تجهیزات، در صورتی که در جدول زیر ذکر شده است.

Layer 3 Core Switch - Quantity: 1	
Technical Specification	
Brands	Should be one of the following brand (Aruba / Cisco / Huawei / Juniper)
Operating temperature	-5°C to +45°C (23°F to 113°F)
Relative humidity	5% to 95% (non-condensing)
RAM	Grater or equal to 4GB
Flash	Grater or equal to 2GB
Fans	Should have minimum of 4 fans
Power supply	1+1 power supply backup
Power supply surge protection	Using AC power modules: ±6 kV in differential mode, ±6 kV in common mode
	Using DC power modules: ±2 kV in differential mode, ±4 kV in common mode
Noise under normal temperature	60 to 65 dB(A)
Remote terminal connection (RTC)	Should Support
Uplink Fixed ports (100GE QSFP)	100GE QSFP ports (Should have minimum of 6 x 100GE QSFP ports)
	Ports should support 40GE optical transceiver and should be able to upgrade to 100GE optical transceiver with or without an additional license)
Downlink Fixed ports	48x 10GE SFP+ ports
Layer 2 functions	128K MAC address entries
	Switching capacity should be grater or equal to 2.4 Tbps
	4096 VLANs
	IEEE 802.1d
	Automatic learning and aging of MAC addresses
	IEEE 802.1w
Layer 3 functions	IEEE 802.1s
	Static routes
	RIP v1/2 and RIPng
	OSPF and OSPFv3
	IS-IS and IS-ISv6
	BGP and BGP4+
	MLDv1/v2 snooping
	IGMPv1/v2/v3 snooping
	IGMPv1/v2/v3, PIM-SM, and PIM-SSM
	MSDP
Multicast VPN	
QoS/ACL	Rate limiting for incoming and outgoing packets on an interface
	802.1p and DSCP priority re-marking
	Packet redirection
	Layer 2 to Layer 4 packet filtering
	Queue-based rate limiting and traffic shaping on an interface
Security features	MAC-Forced Forwarding (MFF/MACFF)
	Network Access Control (NAC) function
	AAA authentication and RADIUS authentication
	IEEE 802.1X/MAC address Portal authentication
	Encrypted communications analytics (ECA)
	SSH V2.0 and HTTPS



	Threat deception
Reliability	BFD for BGP/IS-IS/OSPF
	LACP
	E-Trunk
	LLDP
Network virtualization	VXLAN function
	VXLAN Layer 2 gateway and Layer 3 gateway
	BGP EVPN
	Configuration through NETCONF/YANG
Management and maintenance	SNMPv1/v2c/v3
	RMON
	NetStream or similar technologies
	Telemetry
Warranty	1 year Warranty
Support	1 year product support should provide without any additional charges
	Product must be under vendor support
Layer 3 48 Port POE - Quantity: 11	
Technical Specification	
Brands	Should be same brand as proposed core switch
RAM	Grater or equal to 2GB
Flash	Grater or equal to 1GB
Fans	Should have minimum of 2 fans
Console Port	Recommended RJ45 type
Noise under normal temperature	35 to 50 dB(A)
Power supply surge protection [kV]	Differential mode: ±6 kV; common mode: ±6 kV
Downlink Ports	48x10/100/1000Base-T ports PoE+ (All port must be POE or poe+)
Uplink Ports	4x10GE SFP+, 2 stack ports
PoE	Support PoE+
	PoE power budget ≥ 380W
	Support Perpetual PoE and Fast PoE
Forwarding Performance	Grater or equal to 160Mpps
Switching Capacity	Grater or equal to 200Gbps
Operating temperature	-5°C to +50°C
Relative humidity	5% to 95% (non-condensing)
Layer 2 functions	32K MAC address entries
	2K ARP entries
	4094 active VLANs
	Support STP/RSTP/MSTP
	Automatic learning and aging of MAC addresses
Layer 3 functions	Up to 4K FIB(v4) entries
	Up to 1K FIB(v6) entries
	Support Static routes/RIP and RIPng/OSPF and OSPFv3



QoS/ACL	Rate limiting for incoming and outgoing packets on an interface
	802.1p and DSCP priority re-marking
	Layer 2 to Layer 4 packet filtering
	Queue-based rate limiting and traffic shaping on an interface, there are 8 QoS queue
Security features	Support MAC/802.1x authentication
	AAA authentication and RADIUS authentication
	SSH V2.0/HTTPS
Reliability	Eth-Trunk
	Support stacking up to 5 sets
	Support ERPS for Ring Networking
Management and maintenance	Link Layer Discovery Protocol(LLDP)
	Netconf
	Telemetry
	IPCA, real traffic based network quality monitoring
	Cloud-Based Management
	Intelligent Upgrading
	SNMPv1/v2c/v3
RMON	
Warranty	1 year Warranty
Support	1 year product support should provide without any additional charges
	Product must be under vendor support

10G Optical Transceiver - Quantity: 61

Technical Specification

Brands	Should be same brand as proposed core switch and 48port switches
Form factor	SFP+
Connector type	LC
Optical fiber type	Multimode fiber (MMF)
Transmission rate [bit/s]	10 Gbit/s
Target transmission distance [km]	Multimode fiber (OM3): 0.3 km
Center wavelength [nm]	850 NM

40G Optical Transceiver - Quantity: 6

Technical Specification

Brands	Should be same brand as proposed core switch
Form factor	QSFP+
Connector type	MPO
Optical fiber type	Multimode fiber (MMF)
Transmission rate [bit/s]	40 Gbit/s
Target transmission distance [km]	Multimode fiber (OM3): 0.3 km
Center wavelength [nm]	850 NM

