

Infrastructures of cabling.

1	<p>Network Switch</p> <p>Configurations</p> <ul style="list-style-type: none">• 10/100/1000 Ethernet Ports: 48 Ports• Uplink Interfaces: 4 SFP Ports• Fanless : Yes <p>Console Ports:</p> <ul style="list-style-type: none">• RJ45 Ethernet: 1• USB mini-B: 1• USB-A port for storage and Bluetooth console: 1 <p>Memory and Processor</p> <ul style="list-style-type: none">• CPU : ARMv7 800 MHz• DRAM: 512MB• Flash Memory: 256MB <p>Performance:</p> <ul style="list-style-type: none">• Forwarding bandwidth: 52 Gbps• Switching bandwidth: 104 Gbps• Forwarding rate (64-byte L3 packets): 77.38 Mpps• Unicast MAC addresses: 8K• Maximum active VLANs: 64• VLAN IDs available: 4094• Maximum STP instances: 64• Maximum SPAN sessions: 1• MTU-L3 packet: 9198 bytes• Jumbo Ethernet frame: 10,240 bytes• MTBF in hours (Data): 1,370,769 <p>Operating temperature:</p> <ul style="list-style-type: none">• Up to 5,000 ft: 23°F to 113°F (-5°C to 45°C)• Up to 10,000 ft: 23°F to 104°F (-5°C to 40°C)• Operating altitude: 10,000 ft (3000m)• Operating relative humidity: 5% to 90% at 40°C• Storage temperature: -13° to 158°F (-25° to 70°C)• Storage altitude: 15,000 ft (4500m)• Storage relative humidity: 5% to 95% at 65°C• Storage altitude: Minimum ambient temperature for cold start is 0°C (32°F)• Electrical: Data• Voltage (autoranging): 110 to 220V AC in• Frequency: 50 to 60 Hz• Current: 0.29A to 0.48A	10
---	--	----

	<ul style="list-style-type: none"> Power rating (maximum consumption): 0.09 Kva Power consumption (watts) <table border="1"> <tr> <td>0% traffic</td> <td>29.7</td> </tr> <tr> <td>10% traffic</td> <td>41.1</td> </tr> <tr> <td>100% traffic</td> <td>41.1</td> </tr> <tr> <td>Weighted average</td> <td>37.3</td> </tr> </table> <p>Safety and Compliance:</p> <ul style="list-style-type: none"> Safety: UL 60950-1 Second Edition, CAN/CSA-C22.2 No. 60950-1 Second Edition, EN 60950-1 Second Edition, IEC 60950-1 Second Edition, AS/NZS 60950-1 EMC: emissions: 47CFR Part 15 (CFR 47) Class A, AS/NZS CISPR22 Class A, CISPR22 Class A, EN55022 Class A, ICES003 Class A, VCCI Class A, EN61000-3-2, EN61000-3-3, KN22 Class A, CNS13438 Class A EMC: immunity: EN55024, CISPR24, EN300386, KN24 Environmental; Reduction of Hazardous Substances (RoHS) including Directive 2011/65/EU Telco: Common Language Equipment Identifier (CLEI) code U.S. government certifications: USGv6 and IPv6 Ready Logo 	0% traffic	29.7	10% traffic	41.1	100% traffic	41.1	Weighted average	37.3	
0% traffic	29.7									
10% traffic	41.1									
100% traffic	41.1									
Weighted average	37.3									
2	SFP Transceiver module	28								
3	Cat-VI UTP Cable (305 Meter) <ul style="list-style-type: none"> 305m UTP CAT6 Cable Support Poe long-distance transmission; Excellent OFC with 99.99% OFC(oxygen free copper) purity; Environmentally-friendly outer sheath; Top-notch quality guarantee for 10 year Firm should be the distributor of Quoted Cable. 	60								
4	Cat-VI I/O	400								
5	Faceplate	400								
6	Back Box	400								
7	24 Port Patch Panel fully Loaded	10								
8	9U Rack	10								

9	OFC 12 Core (Feet)	3000
10	OFDf 24 Ports for Server Room	1
11	OFDf 12 Ports for DB	10
12	Pigtail SC-SC	80
13	SC-LC Patch Cord (1 Meter)	40
14	Adamjee Duct 60 x 60 (Each 10 Feet Length)	50
15	Adamjee Duct 40 x 40 (Each 10 Feet Length)	400
16	Adamjee Duct 16 x 38 (Each 10 Feet Length)	1000
17	PVC Pipe 1 1/2 Inch for Ethernet Cabling	1000
17	PVC Pipe 1 Inch for Power & Fiber (Each 10 Feet Length)	150
18	40/76 Power Cable (Feet)	2000
19	Power distribution unit	2
20	100Amp Breaker for Control Room with DB	2
21	10Amp Breaker	10
22	HD Pipe 1 Inch (Feet)	700
23	Digging and Filling for Optical Fiber (Feet)	700
24	Installation & Commissioning	6000 Feet (AS per Actual)

Optional equipment (as per the Requirements)

1	<p>WS-C3850-24XS -S (Core Switch) Cisco Catalyst 3850 24 port 10G Fiber Switch IP Base</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Enclosure type</td> <td>Rack-mountable - 1U</td> </tr> <tr> <td>Ports</td> <td>24 x SFP+ ports</td> </tr> <tr> <td>Network management Interface</td> <td> <ul style="list-style-type: none"> • Ethernet management port: RJ-45 connectors, 4-pair Cat-5 UTP cabling • Management console port: RJ-45-to-DB9 cable for PC connections </td> </tr> <tr> <td>Available PoE Power</td> <td>None</td> </tr> <tr> <td>Switching Capacity</td> <td>320Gbps</td> </tr> <tr> <td>Maximum stacking number</td> <td>up to 9 switches with same IOS feature set in same series</td> </tr> <tr> <td>Stack Bandwidth</td> <td>480Gbps</td> </tr> <tr> <td>Forwarding Performance</td> <td>454.55Mpps</td> </tr> <tr> <td>FNF entries</td> <td>48,000 flows</td> </tr> <tr> <td>Maximum VLANs IDs</td> <td>1,000</td> </tr> <tr> <td>MAC Address Table Size</td> <td>32K</td> </tr> <tr> <td>CPU</td> <td>Multicore CPU</td> </tr> <tr> <td>RAM</td> <td>4 G</td> </tr> <tr> <td>Flash Memory</td> <td>4 G</td> </tr> <tr> <td>Compliant Standards</td> <td> <ul style="list-style-type: none"> • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1p CoS Prioritization • IEEE 802.1Q VLAN • IEEE 802.1s • IEEE 802.1w • IEEE 802.1X • IEEE 802.1X-Rev • IEEE 802.11 • IEEE 802.1ab (LLDP) • IEEE 802.3ad • IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports • IEEE 802.3 10BASE-T • IEEE 802.3u 100BASE-TX • IEEE 802.3ab 1000BASE-T • IEEE 802.3z 1000BASE-X • RMON I and II standards • SNMP v1, v2c, and v3 </td> </tr> </table>	Enclosure type	Rack-mountable - 1U	Ports	24 x SFP+ ports	Network management Interface	<ul style="list-style-type: none"> • Ethernet management port: RJ-45 connectors, 4-pair Cat-5 UTP cabling • Management console port: RJ-45-to-DB9 cable for PC connections 	Available PoE Power	None	Switching Capacity	320Gbps	Maximum stacking number	up to 9 switches with same IOS feature set in same series	Stack Bandwidth	480Gbps	Forwarding Performance	454.55Mpps	FNF entries	48,000 flows	Maximum VLANs IDs	1,000	MAC Address Table Size	32K	CPU	Multicore CPU	RAM	4 G	Flash Memory	4 G	Compliant Standards	<ul style="list-style-type: none"> • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1p CoS Prioritization • IEEE 802.1Q VLAN • IEEE 802.1s • IEEE 802.1w • IEEE 802.1X • IEEE 802.1X-Rev • IEEE 802.11 • IEEE 802.1ab (LLDP) • IEEE 802.3ad • IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports • IEEE 802.3 10BASE-T • IEEE 802.3u 100BASE-TX • IEEE 802.3ab 1000BASE-T • IEEE 802.3z 1000BASE-X • RMON I and II standards • SNMP v1, v2c, and v3 	1
Enclosure type	Rack-mountable - 1U																															
Ports	24 x SFP+ ports																															
Network management Interface	<ul style="list-style-type: none"> • Ethernet management port: RJ-45 connectors, 4-pair Cat-5 UTP cabling • Management console port: RJ-45-to-DB9 cable for PC connections 																															
Available PoE Power	None																															
Switching Capacity	320Gbps																															
Maximum stacking number	up to 9 switches with same IOS feature set in same series																															
Stack Bandwidth	480Gbps																															
Forwarding Performance	454.55Mpps																															
FNF entries	48,000 flows																															
Maximum VLANs IDs	1,000																															
MAC Address Table Size	32K																															
CPU	Multicore CPU																															
RAM	4 G																															
Flash Memory	4 G																															
Compliant Standards	<ul style="list-style-type: none"> • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1p CoS Prioritization • IEEE 802.1Q VLAN • IEEE 802.1s • IEEE 802.1w • IEEE 802.1X • IEEE 802.1X-Rev • IEEE 802.11 • IEEE 802.1ab (LLDP) • IEEE 802.3ad • IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports • IEEE 802.3 10BASE-T • IEEE 802.3u 100BASE-TX • IEEE 802.3ab 1000BASE-T • IEEE 802.3z 1000BASE-X • RMON I and II standards • SNMP v1, v2c, and v3 																															
2	0.6 KVA UPS with 15~20 Backup Support. (Battery Should be inside the UPS)	1																														
3	1 KVA UPS with 20~30 Backup Support. (Battery Should be inside the UPS)	1																														
3	2 KVA UPS with 20~30 Backup Support. (Battery Should be inside the UPS)	1																														

4	CAT6 A Cable	1
5	Network Tool Kit	1
6	24 Port Full Gigabit Manageable Switch	1
7	2 U Rack	1
8	4 U Rack	1
9	27 U Rack	1
10	42 U Rack	1
11	ODDF 6 Ports for DB	1