



RFQ-3519-10778-Consultancy Services-Network Assessment Activity

IBA - Data Centre Network and Security Infrastructure Assessment

Objective

The main objective of this engagement is to perform the IBA Main and City Campuses Network and Security Infrastructure assessment activity to identify the gaps in the current physical and logical design, physical placement, and connectivity to achieve redundancy, scalability, high-performance and security.

Scope of Work

The Service Provider's technical team will be responsible for performing the network assessment activities for the following Campuses and Data Centres.

1. IBA Main Campus, University Enclave, University Road, Karachi
2. IBA City Campus, Kiyani Shaheed Road, Karachi

The technical activity details of this engagement are given below;

Activities list

The scope will cover the IBA Data Centre and Campus LAN network assessment for the following work at a minimum;

- Understand the current network design and layout of the IBA Data Centre and Campus LAN segments.
- Review the physical and logical overall design architecture of both Main and City Campuses.
- Placement of network, security, compute and storage devices in the Data Centres.
- Review the current Hardware and software versions of the devices installed in Data Centres and Campus.
- Identify EoL/EoS and unsupported devices/appliances in the network.
- Current design and configuration review for Layer – 2 topologies and network infrastructure
 - Spanning-tree structure and flow.
 - VLANs segregation and allocations on switching fabric.
 - Compute (Chassis/Rack Server) traffic flow on switching fabric.
- Current design and configuration review for Layer – 3 topologies and network infrastructure
 - Dynamic routing protocol design and topologies (if any).
 - Static routing structure (if enabled within data centre segments).
 - Routing optimization and technique.
- The Data Centre network segments are included in the network assessment.
 - Data Centre core switching fabric design and connectivity.

- Data Centre Serverfarm switching fabric design and connectivity.
- Data Centre Serverfarm Gateway (on Firewall) design and connectivity.
- Internet Segment design and connectivity.
- Internet link utilization and bandwidth allocation for Employees and Students.
- Security Policy enforcement for Employees and Students for using internet.
- Layer – 2 and Layer 3 Data Centre Interconnect (DCI) between Main and City Campuses design and traffic flow.

➤ DMZ Server Farm gateway design and connectivity.

➤ Network Access control to minimize the possibility of rogue device connection with IBA networks using the existing network devices/software or configurational changes.

Hardware Inventory

- **Main Campus**

Sr.	Name of Assets	Qty	Status
Rack 1			
1	Nexus 9K switch	1	In Active
2	Media Converter (Mobilink)	1	Active
3	HUAWEI SWITCH S5731-H48P4XC	1	Active
4	Huawei Firewall	1	In Active
5	Huawei Firewall	1	In Active
6	Oring Media converter VPN	1	Active
7	Fujitsu Primergy RX 2530M5 - Currently ADC	1	Active

Sr.	Name of Assets	Qty	Status
Rack 5			
1	Corning (CCH)	2	Passive
2	HUAWEI Cloud engine S12700E-4	1	Active

Rack7
1 EMC2 Storage 1 Active

Rack 8
1 EMC2 Storage 1 Active

Rack 9
1 MDS Switch 9222i (DS-CAC-845W) 1 Active
2 MDS Switch 9222i (DS-CAC-845W) 1 Active
3 VNXE -3200 (EMC - Storage) 1 Active
4 EMC2 storage 1 Active
5 Dell server PowerEdge R710 1 Active

Rack 10
1 IBM TFT Screen 1 Active
2 Cisco Catalyst 3750 E Series 1 Active
3 IBM Servers X 3850 3 Active
4 HUAWEI SWITCH S5731-H48P4XC 1 Active
5 HUAWEI SWITCH S5731-H48P4XC 1 Active
6 HCI SANGFOR VDS-R-G530 1 Active

Rack 2			
1	Cisco 4400 Series wireless controller	1	In Active
2	Ruckus smart zone 100 (Controller)	1	In Active
3	Cisco 5500 AIR-CT5508-K9	1	Active
4	Cisco UCS C220 M3BE	1	In Active
5	H3C WX3840H	1	Active
6	Huawei NE05E-SQ	1	Active
7	Grand Stream PBX (Sec)	1	Active
8	Grand Stream PBX (Pri)	1	Active
9	H3C WX3840H	1	Active

Rack 3			
1	Cisco IP VCR 2210	1	In Active
2	Cisco 2900 Series Router Voice	1	Active
3	Sky Controller Remote monitoring system SC8100	1	Active

4	Cisco ASA 5515-X	1	In Active
5	DR WALI DESKTOP SERVER	1	In Active
6	DR SAJJAD HAIDER DESKTOP SERVER	1	In Active

Rack 4			
1	sangfor IM M5500	1	In Active
2	Cisco ME 3400 Series Switch	1	In Active
3	Sangfor NGAF M5400	1	In Active
4	Sangfor NGAF M5400-F-1	1	In Active
5	HUAWEI SWITCH S5731-H48P4XC	1	In Active
6	Attom Auto Transfer Switch	1	In Active
7	Connect Cisco Switch/48 Catalyst 3560G	1	In Active

- **City Campus**

Sr.	Name of Assets	Qty	Status
Rack 1			
1	Cisco Network Switch (3750)	1	In Active
2	Huawei Campus Firewall (AR6140-9G-2AC)	1	In Active

Rack 2			
1	Huawei HCI Network Switch (S5731-H48P4XC)	2	In Active
2	Sangfor a-Sever 2305	3	In Active
3	Huawei S6730-H24X6C-V2(HCI Switches)	1	In Active
4	Huawei S6730-H24X6C-V2(HCI Switches)	1	In Active

Rack 4			
1	Cisco IPT Router (4300)	1	In Active
2	Huawei Campus Firewall (USG6000E)	2	In Active
3	Huawei Optimizer Engine (2288H) V5 - SecoManager	1	In Active
4	Cisco UCS Server (for IPT)	1	In Active
5	Sangfor NGF	2	In Active
6	Sangfor IAM/IAG	1	In Active
7	IBM Server (SystemX 3620M3)	1	In Active

7	HCI SANGFOR VDS-R-G530	1	In Active
8	HCI SANGFOR VDS-R-G530	1	In Active
9	SANGFOR VDI Server	3	In Active
10	Huawei S6730-H24X6C-V2(HCI Switches)	1	In Active
11	Huawei S6730-H24X6C-V2(HCI Switches)	1	In Active

Rack 11			
1	SANGFOR UID (VDI Server)	3	

Sr.	Name of Assets	Qty	Status
Rack 5			
1	Network Switch (Cisco 3750)	1	In Active
2	AIR-WLC4404-100-K9	1	In Active
3	Huawei Network Switch (CE6856-48T6Q-HI)	3	In Active
4	H3C Wireless Controller (WX3840H)	1	In Active
5	Huawei Core Switch (Cloud Engine 12800S)	1	In Active

Rack 7			
1	IBM Server SystemX x3850-X5	7	In Active

Rack 8			
1	EMC Storage Bay	1	In Active

Rack 9			
1	EMC Processor Bay (Director)	1	In Active

Rack 10			
1	Cisco MDS Switch (922i)	1	In Active
2	Quantum Tap Library Scalar i80	1	In Active

3	EMC VNxe (3200 Disc Processor Enclosure)	1	Active
4	EMC VNxe (3200 Disc Array Enclosure)	2	Active

Deliverable

The scope of work should be covered in the deliverable with the minimum service interruption and impact, where possible. As a deliverable of this engagement, the Service Provider should submit a comprehensive assessment report having the details of current network and security infrastructure and also recommend the identified gaps using the industries' best practices and also IBA's technical and business requirements.

considering the following parameters;

- High Availability
- Scalability
- Security
- Performance