Central Network Switching Center

All the classrooms and lab are well connected with central switching center and have 100Mbps NKN Link. For academic and research purpose there is also a facility of a mini Data center having CISCO UCS 5108 Chassis with 4 Numbers of B220 blade servers. For faulty tolerance and to decrease downtime there are redundant Fabric Interconnect in clustered fashion.

Main Equipment's Available

1. CISCO Layer 3 Central Switch 4507.

This CISCO L3 main switch deployed with two sup Engines, 2 Line card for 10G fiber optic ports and 2 Line card for 48 PoE Gigabit Ethernet copper ports with dual 6000w power supply. This form main 10G backbone on fiber optic connectivity for NIELIT Aurangabad.

2. CISCO Catalyst 2960X-48TDL.

Every lab is deployed with CISCO Layer2 switch 48 Gigabit Ethernet port and 10G fiber optic port for uplink to main central L3 Switch.

3. UCS 5108 Chassis with 4 blade servers

Server is CISCO 5108 with 4 B220 blade server each having 2 Xeon processor and 192 GB RAM. Chassis is connected using Fabric Interconnect to 40 GB storage.

The hardware is controlled is CISCO UCS and VMware software.

4. Storage IBM v3700

IBM storage is used to provide space to the VMs created on servers. storage is configured and working on iSCSI connectivity with server Chassis.

5. CISCO router ISR 2911 and ISR2821

NIELIT Aurangabad is acting as CISCO network Academy for CCNA routing and Switching course. The lab is equipped with 3 Nos. of 2911 CISCO routers to understand working and configure various routing protocols.
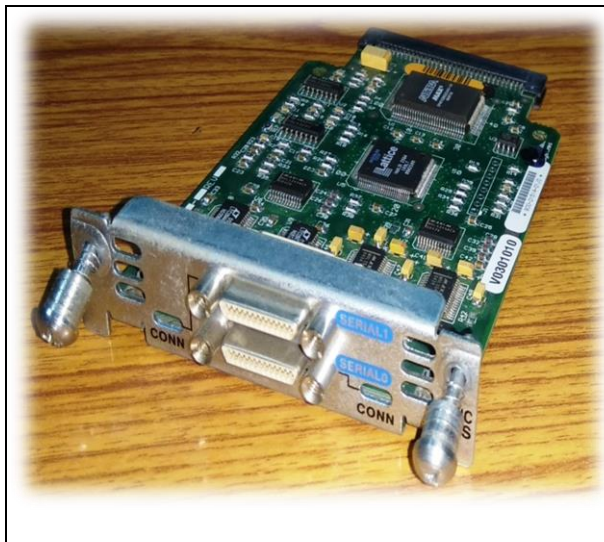
6. CISCO Catalyst switches 2960:

There are 3 Nos. of CISCO Catalyst 2960 switches for CCNA practical. This is useful hands on practice to configure and troubleshoot various VLAN, VTP, STP, trunking protocols.

7. Programmable Logic Controller

Cisco HWIC 2T serial port module is used to configure various WAN protocols like HDLC, PPP, Frame-relay, etc.

8. Connection to NKN link
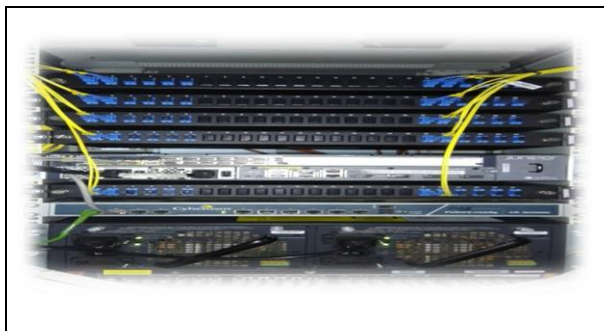
Whole office is using 100Mbps NKN link for public connectivity using Juniper route MX-8 and for security using Cyberoam 300iNG as firewall.

9. System Administration using RHEL Linux and Windows Server 2008

There are 3 Nos. of HP Proliant DL160 Rack mount servers. One of those is deployed as Public web service where other is used as hardware accreditation portal is hosted. One server used as intranet server where various services are running like DNS, DHCP, Web, FTP, Telnet, etc. Authentication server is configured in Windows environment as Active Directory Server.

Some of Practical Project Experiments

Students can practice and build their own network scenario and configure various protocols using the lab. Some of the practical experiment covered are:

1. Provide seamless, strong 10G backbone connectivity to all labs.
2. High end Hardware and Software tools are used to deploy the infrastructure.
3. By creating the infrastructure productivity is every individual scaled up.
4. Create network scenario and configure routing protocols like Static routes, Dynamic routing protocols like RIP, OSPF, EIGRP and BGP, etc.
5. Infrastructure mainly used to prepare skilled man power in IT sector in the domain of networking particularly in routing and switching.
6. students learn, practice and prepare for Industry Certification.
7. Academy started in the year 2014 and trained 300 student using the infrastructure and 100+ certified as CCNA.