

Data Center

(1) Internet leased line:

We have three leased lines.

- ❑ **NKN 1 Gbps link**
- ❑ **BSNL 1 Gbps link**
- ❑ **VSNL 70 Mbps link**

(2) Radware Link Load Balancer:

- ❑ Link terminated from ASR 1002 to Radware Link Load balancer
- ❑ Link load Balancer used is Linkproof 1000/ASII/5*Gb + 16* FE/256 MB
- ❑ All the three internet leased lines are being load balanced as per the requirement such as VSNL is used only for servers, BSNL used for users and NKN for Virtual Lab.

(3) Firewall:

- ❑ The firewall which is being used is Cisco WS-SVC-ASA SM1
- ❑ Total throughput is 20 Gbps and acting as a security device for unauthorized access.
- ❑ It's inbuilt on Cisco 6807-XL Chassis and placed in between Radware Linkproof 1000 and Core Chassis (6807-XL).
- ❑ All the proxy as well as non proxy users traffic go through the Cisco Firewall Module. (4)Proxy Server and Web gateway:
- ❑ McAfee is being used as a Proxy Server
- ❑ It is directly connected to the Core Chassis (6807-XL) and responsible for url filtering, application control.
- ❑ All the non proxy traffic from the entire College and Hostel campus go through Macfee Server
- ❑ As McAfee is synchronized with the LDAP Server, users authentication can be managed by the McAfee working synchronously with the LDAP where all the users credentials are stored in Database.

(5) Core Switch

- ❑ Cisco 6807-XL is used as a Core Switch at Data Center
- ❑ The Cisco Catalyst 6800 provides mobility, pervasive video, collaboration, and resiliency and the resulting challenges of scale, security, and management, making it the ideal switch for campus backbone deployments.
- ❑ Two Cisco 6807-XL switch is being used as a VSS(Virtual switching system) where total switching capacity is 11.4 Tbps
- ❑ Core switch is responsible for transferring cross campus traffic without any processor- intensive operations.
- ❑ Modules on Cisco 6807 XL Chassis are as follows.

CEF720 16 port 10GE	WS-X6816-10GE
CEF720 24 port 1000mb	SFP WS-X6824-SFP
Supervisor Engine 2T 10GE w/ CTS	(Acti VS-SUP2T-10G
Supervisor Engine 2T 10GE w/ CTS	(CSSO VS-SUP2T-10G
ASA Service Module	WS-SVC-ASA-SM1
WiSM 2 WLAN Service Module	WS-SVC-WISM2-K9

Entire College user's traffic pass through the Core Switch where all the VLANs and Access list policies are being configured.

(6) Cisco ASR1002 router :

A gateway router, with routing backplane to handle traffic upto 5 GBPS

All WAN links such as NKN (1 Gbps), TATA(70 MBPS) and BSNL (1Gbps) terminating on the router

Populated with both 1000T and 1000SX (fiber) interfaces for scalability interms of LAN/WAN links

RADWARE Link load balancer terminates traffic onto this router from campus LAN side

(7) Wireless Service Module:

Wireless Service Module used is WS-SVC-WiSM2.

Cisco WSM provide the visibility, scalability and reliability needed for highly secure. Enterprise – scale wireless network.

All the Cisco AP(Access point) are being controlled by WS-SVC-WiSM2 and 300 APs license WS-SVC-WiSM2e is installed

Separate SSIDs are configured for users as well as Guests.
WPA+WPA2 layer 2 security policies configured for wireless access.

(8) Cisco LMS:

Cisco LMS 4.1 tool is used for monitoring the entire Campus Network and installed on VMWARE platform

It provides the health and status of the networking devices and complete network topology.

It is used for fault monitoring and notification.

(9) Server Details:

1.	HP ProLiant ML350 G4p	DNS & DHCP
2.	HP ProLiant ML350 G4p	COEP .NEW MAIL.DNS (LOGIN.LIVE.COM)
3.	HP ProLiant ML350 G4p	Squid Proxy
4.	HP ProLiant ML350 G4p	Catia V6 Software
5.	HP ProLiant ML370 G6	Mcafee Antivirus Software
6.	HP ProLiant ML350 G4p	Library software
7.	HP ProLiant ML350 G4p	ISM 6 Marathi software
8.	HP Workstation XW4200	Global DNS Server
9.	HP ProLiant ML350 G4p	E-Mail Server (old)
10.	HP ProLiant ML350 G4p	LDAP Server for Authentication
11.	HP ProLiant DL380	FTP Server
12.	HP ProLiant ML350 G4p	Hyper mesh software
13.	HP xw9400 Workstation	Foss software
14.	HP ProLiant ML350 G4p	Exam Cell software

15.	HP Pro BL25p G1	Gate software / StarCCM+/ LS-DYNA
16.	DELL Power edge R710	MIS
17.	DELL Power edge R710	MIS
18.	DELL Power edge R710	MIS
19.	DELL Power edge R710	Proe /Autocad / Cadem/ AVL
20.	DELL Power edge R720	Institute website
21.	DELL Power edge R720	Student Transcripts / verification
22.	DELL Power edge R720	ERP Software
23.	DELL Power edge R720	MIS Data
24.	DELL Power edge R720	College Moodle software
25.	DELL Power edge R720	Kpoint Software/ Live Streaming Software.
26.	DELL Power edge R720	Mcafee Proxy
27.	DELL Power edge R720	Webreporter / Ansys 15.0/ Geometric/Matlab R2015b software
28.	DELL Power edge R720	RFID server/Backup server
29.	DELL Power edge R720	NPTL Lectures/Digital Library
30.	DELL Power edge R720	Tally / Matlab R2010a software.
31.	HP Proliant ML350P Gen 8	QEEE Server
32.	IBM® System x3650 M3	Projects/ZP Student Psychology software application

New Server:-

Model No.	Configuration	HDD Capacity	Ram	Quantity
Rack Server				
HP Proliant DL 380Gen9	Intel Xenon E5-2630 v3 2.4	2.4TB	128Gb	09

	Ghz			
Blade Server	HP Blade System C7000			01
	Intel Xenon E5-2680 v3 2.5Ghz	1.2TB	256GB	05
Storage	HPE 3PAR 7200c	30TB		01

- Storage Area Network (SAN) Switch :- Two Numbers of SAN switch having 24 Port fiber channel.129 Gbit/sec Bandwidth.
- Private Cloud Software Solution.:-
HPE Helicon along with Backup solution HP StoreOnce-3540, 24TB System for disk based backup.

Distribution and Access layer Switches At Various Departments Including Hostel.

(1) Cisco 3560G and 3560X

Cisco 3560G and 3560X are installed at various Departments as a distributed layer switches and being connected directly to the Data Center via Multimode Fiber.

The link between Data Center and the distributed Switches are 10 Gbps each.

Part no: WS-C3560G-24TS-S

WS-C3560X-24TL-L

(2)Cisco 2960X, and C2950SX:

Cisco 2960X, and 2950SX are installed at various Departments as a access layer switches and being connected directly to the distributed Switches via UTP Cable.

Part no: WS-C2960X-48TT-L

WS-C2960X-24TT-L WS-C2950SX

(3) Cisco POE Switches:

Cisco 2960P switches are being configured for connecting Cisco AP and IP Phones. All the POE switches are connected to distribution switches via UTP cables.

Part No: WS-C2960S-24PS-L

(4) Wireless Access Point (AP):

All the lightweight APs are configured using Wireless Service Module.

Part No: AIR-CAP3502E-N-K9

AIR-LAP1262N-N-K9

Total count of networking devices in COEP campus Network

Switches

2960 (Qty-112)

2950 (Qty-42)

3560 (Qty-18)

3650 (Qty-21)

Core Switches:

WS-C4506 (Qty-1)

C6807-XL (Qty-1)

WS-C6509-E (Qty-2)

Firewall and Wireless LAN controller:

ASA Service Module - WS-SVC-ASA-SM1

WiSM 2 WLAN Service Module- WS-SVC-WISM2-K9

Use of IT Infrastructure:

We Use COEP Network for:

- Live Streaming.
 - Video Conferencing.
 - Online Examination.
 - Campus Placements.

- MIS
- Online Journals

- F.Y B.Tech. Admissions
- F.Y M.Tech. Admissions
- Any other internet related programs.

24x7 Internet Availability to all the Users for the Educational as well as Research Purpose.