



University of Lucknow, Lucknow

Campus Wide Networking

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The Client



- The idea of starting a University at Lucknow was first mooted by Raja Sir Mohammad Ali Mohammad Khan, Khan Bahadur, K.C.I.E. of Mahmudabad, who contributed an article to the columns of "The Pioneer" urging the foundation of a University at Lucknow.
- A little later Sir Harcourt Butler, K.C.S.I., K.C.I.E, was appointed Lieutenant-Governor of the United Provinces, and his well-known interest in all matters under his jurisdiction, specially in matters educational, gave fresh life and vigour to the proposal.
- The first step to bring the University into being was taken when a General Committee of educationists and persons interested in university education appointed for the purpose, met in conference at Government House, Lucknow, on November, 10, 1919.
- The Lucknow University Act, No. V of 1920, received the assent of the Lieutenant-Governor on November 1, and of the Governor-General on November 25, 1920.
- The following three Colleges provided the nucleus for the establishment of the University:
 - The King George's Medical College. (Now Known as King George's Medical University)
 - The Canning College.
 - The Isabella Thoburn College.
- During the past two decades there has been an extension of the University Campus. This is borne out by the fact that a huge and majestic building, as part of the New Campus, has been constructed on 75 acres of land provided by the State Government on Sitapur Road near Engineering College. The New Campus at present is being used for the teaching of management and law courses.

Challenges



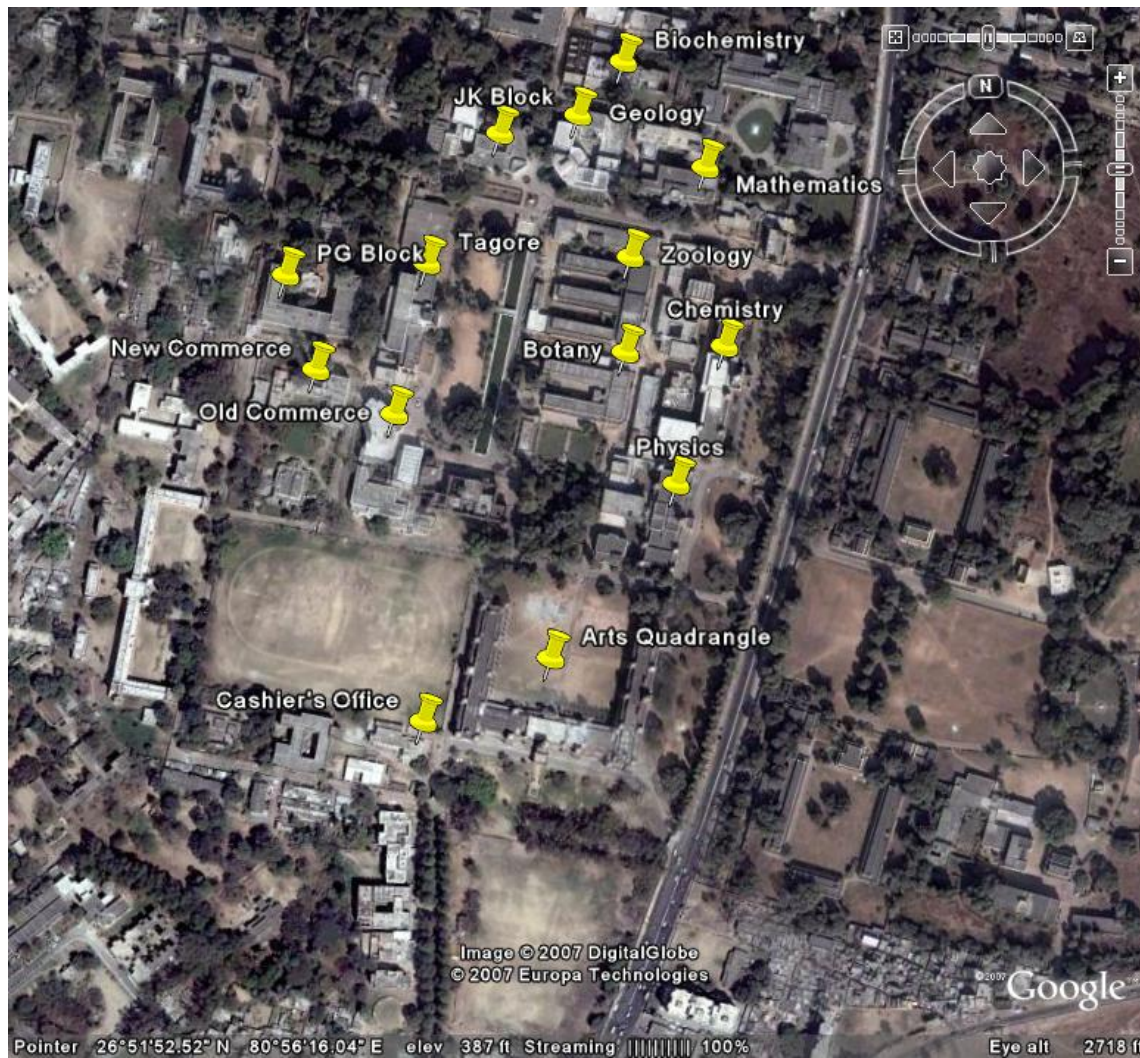
- Stiff competition from Cisco. Also, Enterasys, Tyco, Panduit & Dax were very active for this project
- Experts involved from NIC, BSNL & IIT were against both our active & passive components and favored Cisco & Enterasys for active components & Tyco & Panduit for passive components
- Even SIs like Tulip which were not committed to us were another challenge as far as connectivity between two campuses was concerned
- They wanted to offer their already established radio network for connectivity along with networking components. They had to be weeded out so as to ensure that the final tender could come with our specs

Key Success Points



- Complete mapping of the customer's key authorities along with technical people helped to keep the advice of external experts at bay.
- Sustained presence along with timely delivery of technical assistance kept the customer on our side.
- The earlier campus wide network established by us about six years back has been working successfully & thus University had faith in us.

Old Campus Map

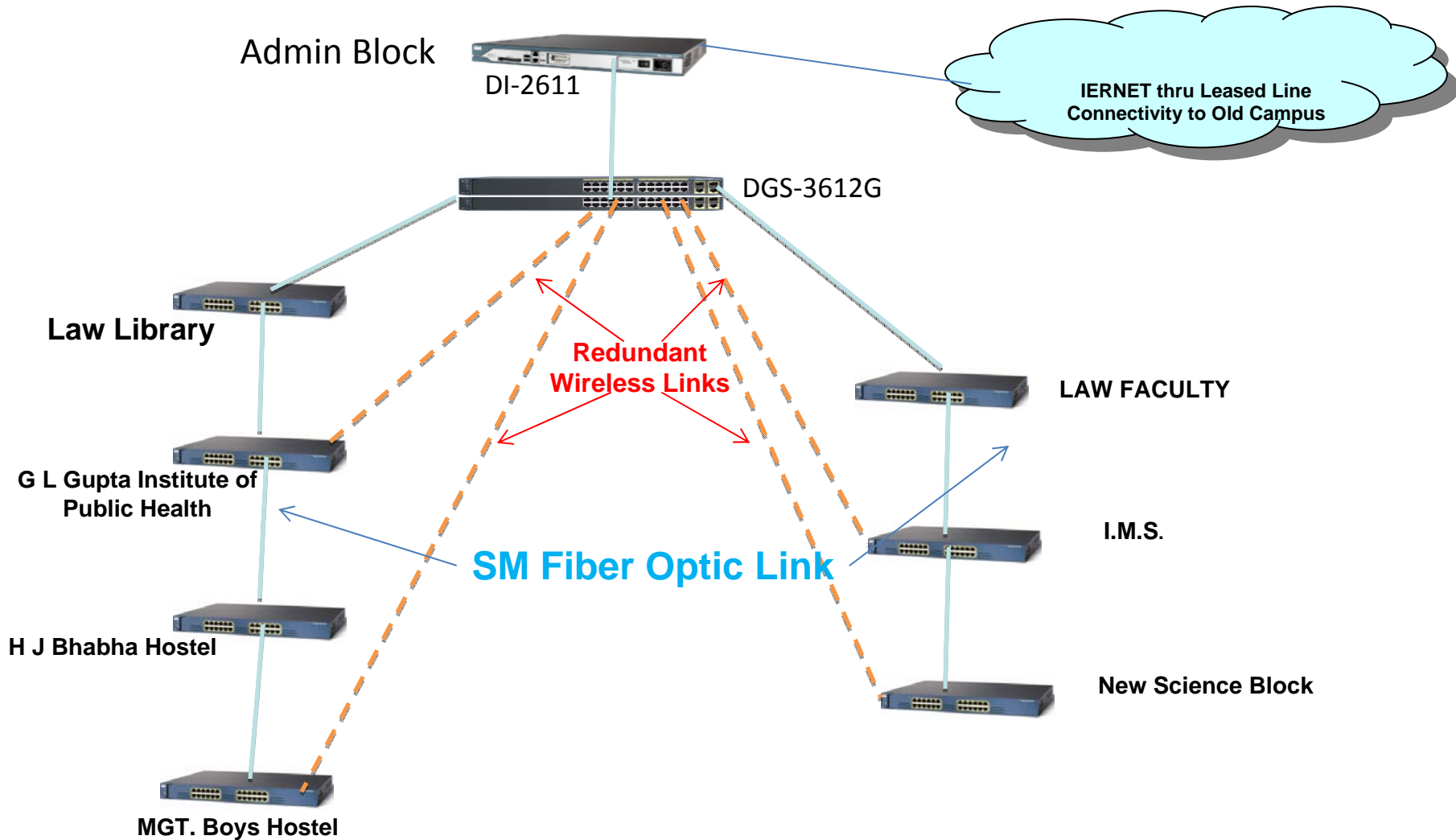


Customer Requirement



- To upgrade the existing network at Old campus.
- The Campus Wide Networking , Computer Hardware Items And Software.
- Customer need the failsafe network at new campus.
- Customer need the complete manageability in new network.
- Both the campus should be interconnected for some file transfer.
- Internet access in the campus should be secure from threats.
- Indoor wireless connectivity should be secured and Managed.

SCHEMATIC DIAGRAM OF NETWORKING AT LUCKNOW UNIVERSITY- NEW CAMPUS



Solution for New Campus



The following Buildings interconnected in University New Campus.

- Admin Block
- Law Library
- LAW FACULTY
- G L Gupta Institute of Public Health
- H J Bhabha Hostel
- MGT. Boys Hostel
- I.M.S
- New Science Block

Solution (New Campus)



- All the buildings have been interconnected through Single Mode fiber cable.
- Admin building is the main building.
- There is outdoor wireless connectivity for link redundancy. In case of fiber cut ,the wireless link will provide the connectivity.
- Admin building has 12 port fiber switch to connect the other buildings.

- The complete network is on Gigabit connectivity.
- The complete network is Link redundant through outdoor wireless.
- Network is Managed through D-Link NMS.
- Both the campus has Indoor managed wireless through D-link Wireless controllers.
- Around 125 wireless adaptors used for wireless connectivity of PC and Laptop.
- Old campus and new campus are connected through Leased line using D-Link router and Leased Line modems.

Solution Highlight (Old Campus)



- Upgraded core switch from DES-6300 to New chassis switch DES-7200 loaded with redundant management module, redundant power supply and 24 fiber ports.
- Edge switches has been upgraded to 24/48 port Giga switches (DGS-3100-24/48)
- Gigabit connectivity given on the existing Multimode fiber cable.
- Internet access is secured from Virus, Intrusion and spam though D-Link UTM (DFL-860)

Bill of Material(Active)



Product Code	Description	Qty
DGS-3100-24	24 ports 10/100/1000 Bast-T L2 stackable management switch with 4 combo ports	37
DGS-3100-48	48 ports 10/100/1000 Bast-T L2 stackable management switch with 4 combo ports	2
DWS-3024	24-port Gigabit L2+ PoE WLAN Switch with 4 Combo SFP	2
DEM-310GT	1-port mini-GBIC LX Single-mode Fiber Transceiver (up to 10km, support 3.3V power)	26
DEM-312GT2	1-port mini-GBIC SX Mutli-mode Fiber Transceiver (up to 2km, support 3.3V power)	88
DV-600P	D-View 6.0 Professional Edition	1
DES-7206-BASE	6 slots chassis base with fan module without Power Supply	1
7200-CM1	CPU module for DES-7206 chassis, 96G switching capacity	2
7200-1200AC	1200W redundant AC power supply for DES-7200 series	2
7200-24G	12 ports GE SFP and 12 ports combo (10/100/1000M Base-T or GE SFP)	1
DI-2611	D-Link DI-2611 Modularized Router (1 console port, 1 AUX port, 2 10/100M Fast Ethernet port, 2 serial sync and async port, 1 WIC slot)	2

Bill of Material(Active)



Product Code	Description	Qty
DFL-860	Network Security UTM Firewall	1
DFL-860-AV-12	DFL-860 NetDefend AV Subscription for 12 Months	1
DFL-860-IPS-12	DFL-860 NetDefend IPS Subscription for 12 Months	1
DFL-860-WCF-12	DFL-860 NetDefend WCF Subscription for 12 Months	1
DWL-3500AP	802.11g indoor wireless access point +PoE (Unified AP solution)	2
DWL-7700AP	Wireless tri-mode a/b/g 2.4/ 5 GHz outdoor access point + PoE	9
DWA-510	Wireless G desktop adapter	100
DWL-G132	IEEE8 802.11g Wireless USB Adapter	25
ANT70-0800	Wireless 2.4/5 GHz Dualband 8 dbi omni-directional Antenna	2
ANT70-1000	Wireless 2.4/5 GHz Dualband 10 dbi Directional Antenna	7
DRC3212	DB-60 (male) to 2 x DB-34 (male) for V.35 DTE	2
DGS-3612G	12-port SFP L3 Management Switch with 4 Combo 10/100/1000Base-T ports	1

Bill of Material(Active)



Product Code	Description	Qty
DFPCD3LCSC01	PATCH CORD LC-SC MM(62) DUPLEX LENGTH- 1m	75
DFCAO62GCT06	O.F. Cable 6F Unitube Type Outdoor CSTA MM (62.5um)	500 Mtrs.
DFBOX24RSCXX	LIU 24 PORT SC RACK MOUNT BLK	8
DFADSC TYPXZS	ADAPTOR SC SM -ZR-SLEEVE	168
DFPGS1SCXX01	PIGTAIL SC SM SIMPLEX LENGTH- 1m	168
DFPCS1LCSC01	PATCH CORD LC-SC SM SIMPLEX LENGTH- 1m	20
DFCAO09GCT12	O. F. Cable 12F Unitube Type CSTA SM	2500 Mtrs
DC6CAUTP4P3X	Solid Cable Cat 6, 4 pair, UTP - 305m	15
DC6PCURJ01-GY	Patch Cord Cat 6 UTP Gray 1m	160
DC6PCURJ02-GY	Patch Cord Cat 6 UTP Gray 2m	160
DC6IOSM UXXXXX	Information Outlet Cat 6 UTP Shuttered Single Port	160
DCBACKBOX2M	For Single and Dual	160
DC6PP24UKY1U	Patch Panel Cat 6 UTP Keystone -24 Port- Loaded	11

Thank You