Presentation outline

- Objective

- Scope of Work

- Architecture

- Timelines

- Discussion points

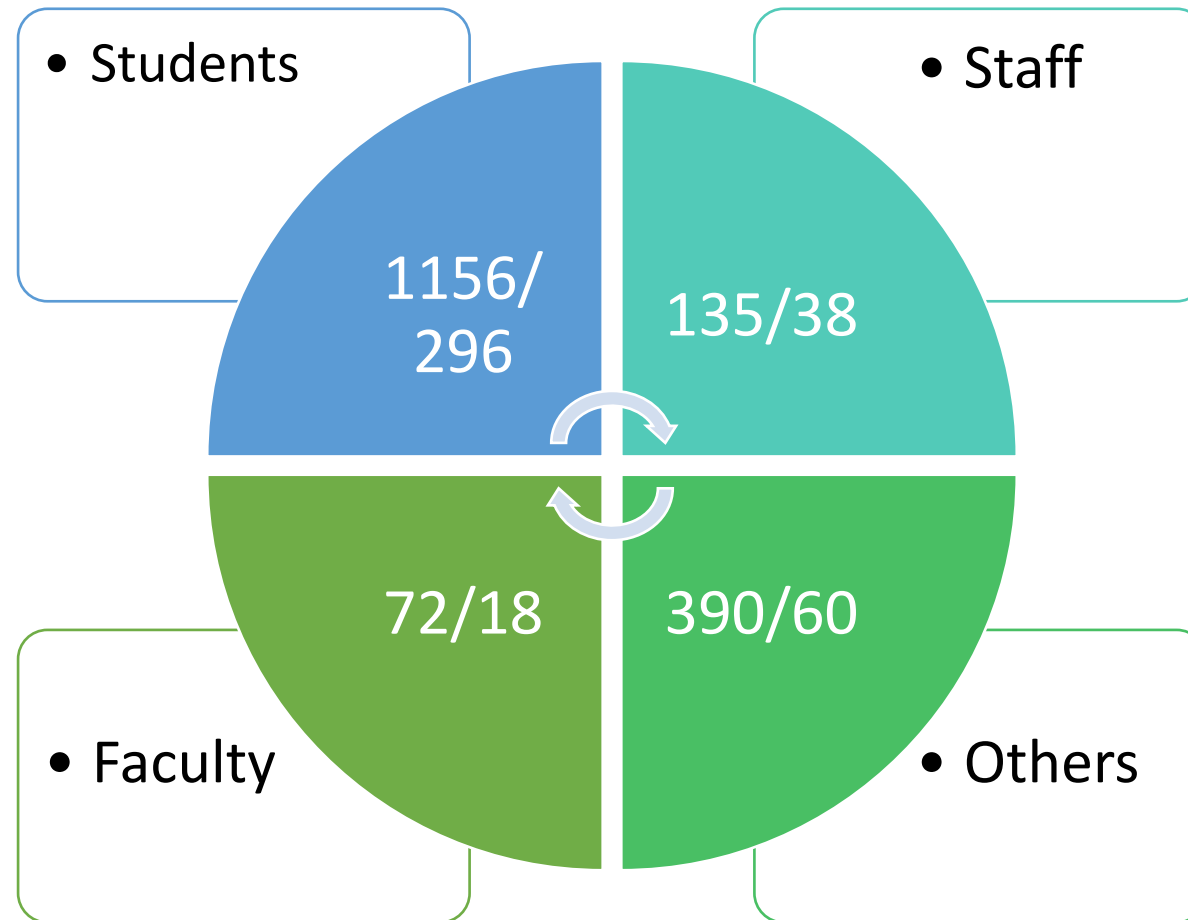# Objective
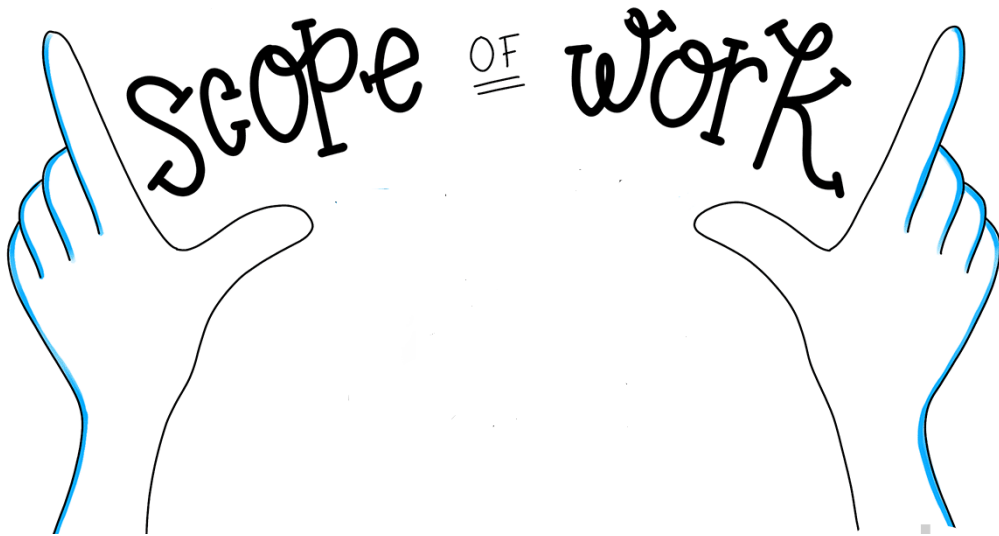
Un-interrupted, Assured, Secured and Adequate Network data speed delivery

- **Supply of Networking, Security equipment , Installation, testing & commissioning**

  - Wi-fi coverage survey (Pre, post implementation)

  - Equipment configuration/audit & Training by OEM

- **Operations and Maintenance for 7 years**

  - Technical Manpower for O&M period

  - OEM's support cost

Proposed Network at IIML

Network Infrastructure sizing has been done to cater to next 10 years requirement

New Fiber backbone to cater to next 20+ years requirement in Campus with no single fiber route failure

Modular design of campus network to cater to unplanned requirements (new building, events)

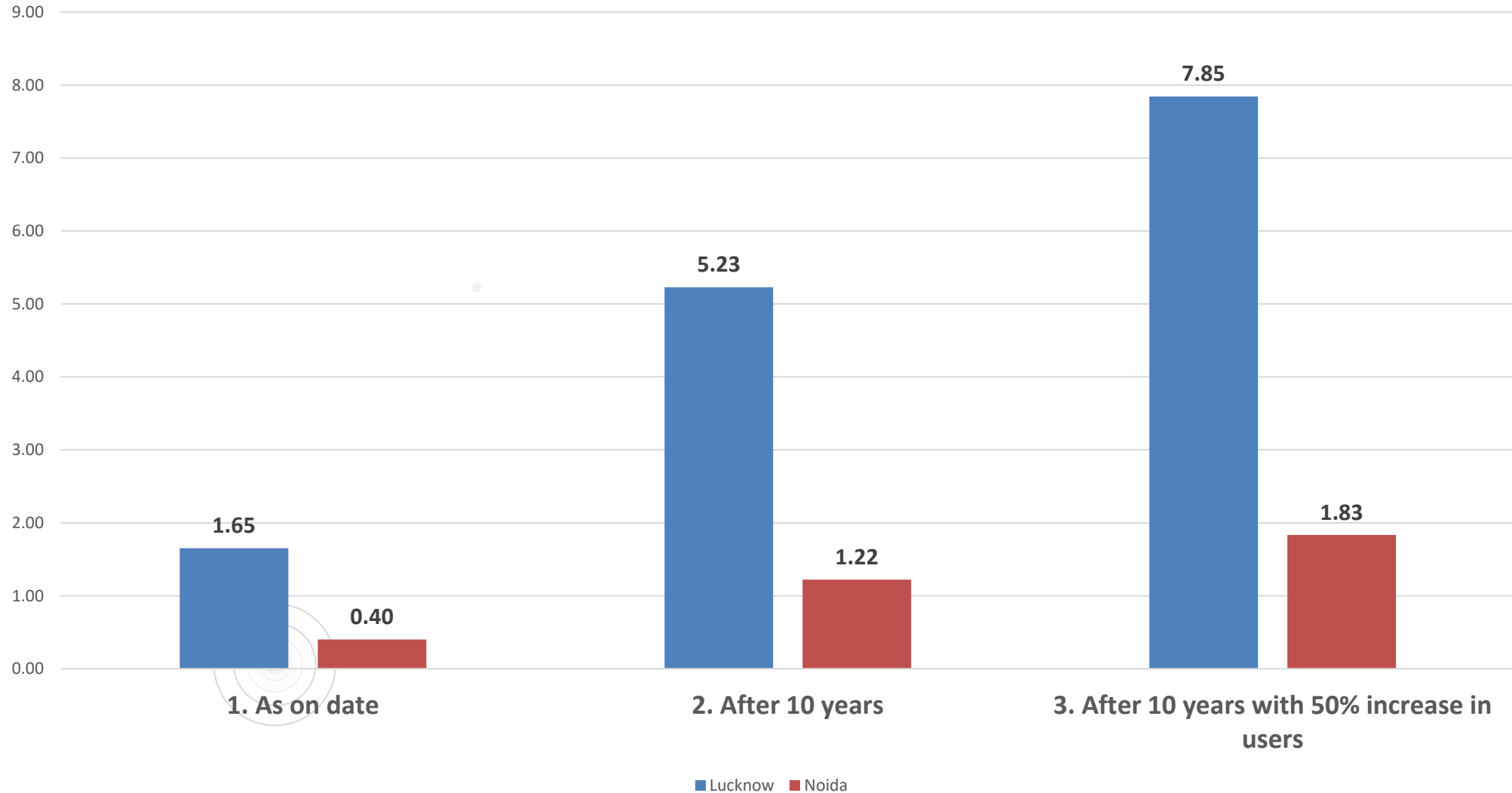Internet bandwidth (NKN, additional) shall be augmented with increase in demand

Spare reserve capacity planned for Networking equipment (switches, wireless access points & fiber backbone)

Capability for monitoring and managing Network SLAs through monitoring tools

Estimated ILL Usage (Gbps)

Proposed Network Architecture: Lucknow
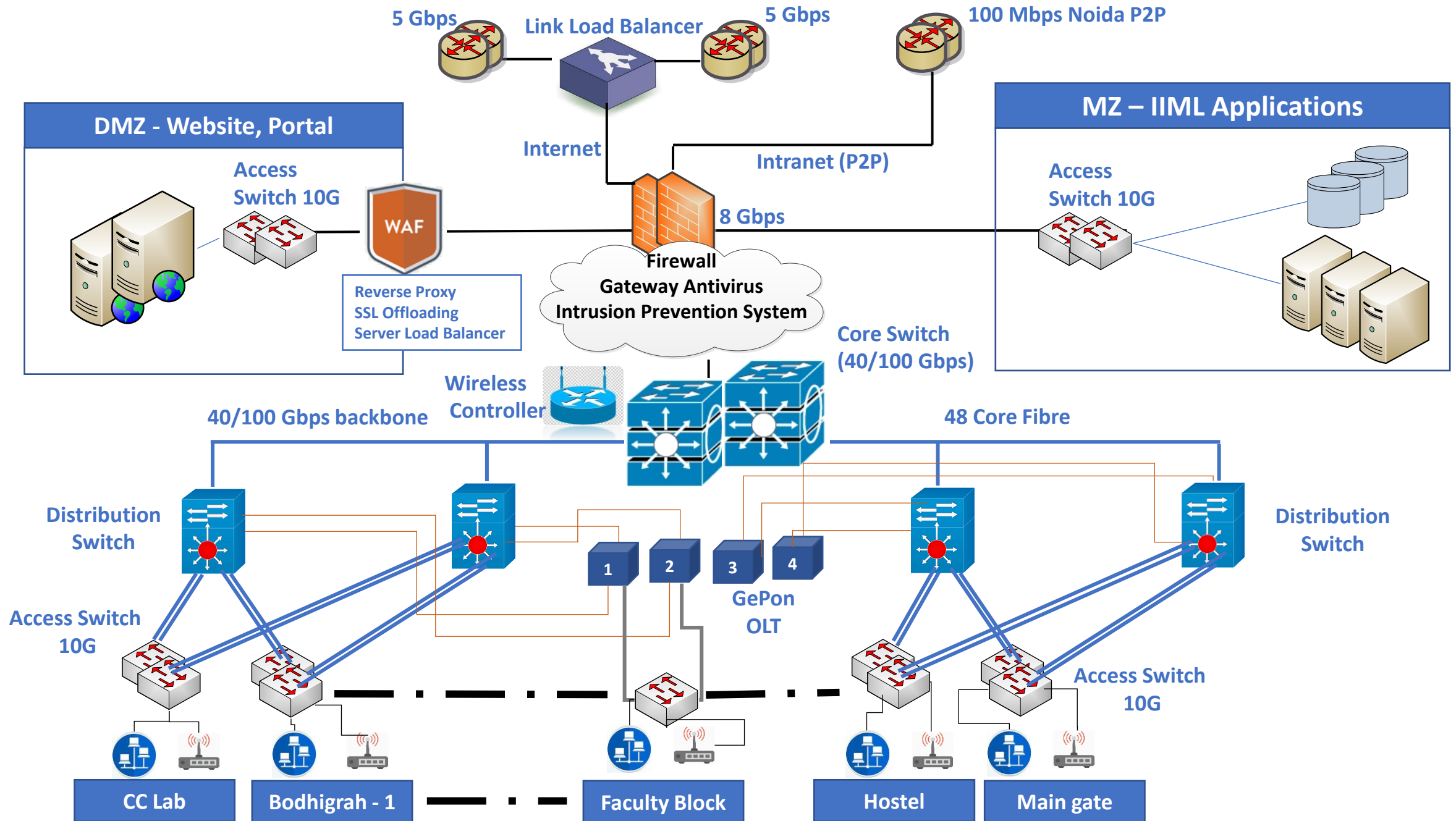
Proposed Network Architecture: Noida
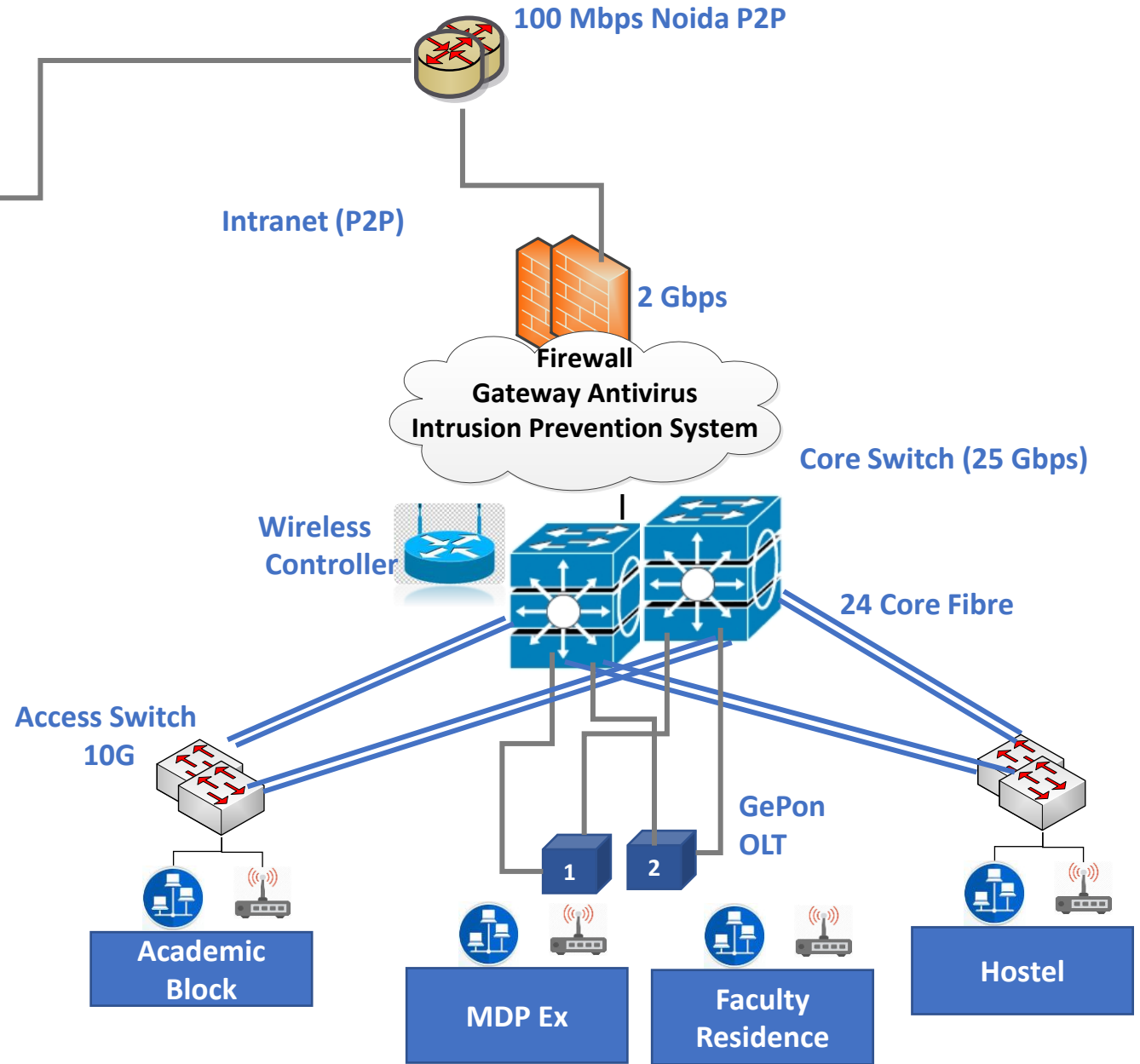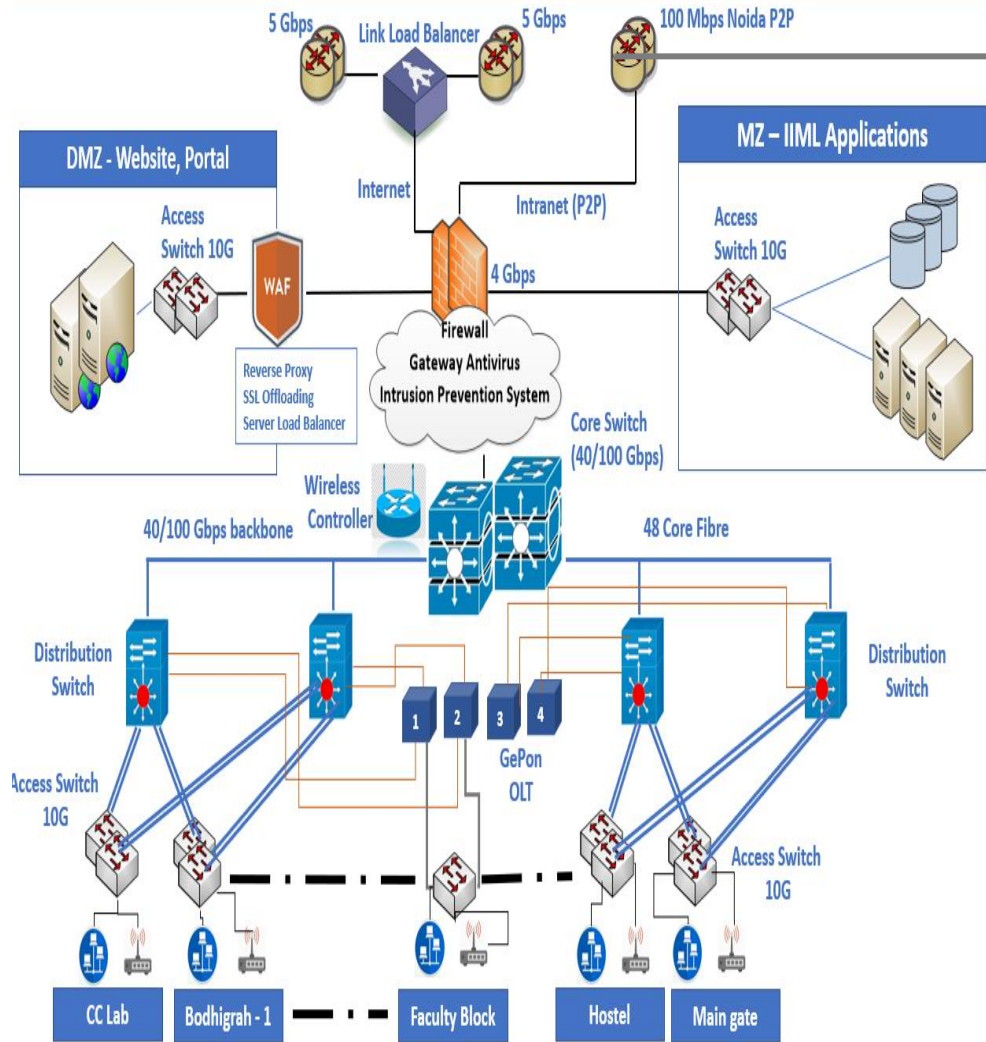
GePon Network Distribution: Lucknow

Distribution Switch

OLT 1 OLT 2 OLT 3 OLT 4

Bank/ cafeteria

Faculty Block

ONT — Splitter

Splitter — ONT

Type I,III,IV,V-A

Chanakya & Patanjali

ONT — Splitter

Splitter — ONT

- Director Res, Umang
- Utsav, Samanjyas
- Main Gate, Football field
- Cricket field, Basketball court

FPM 1 & 2

ONT — Splitter

Splitter — ONT
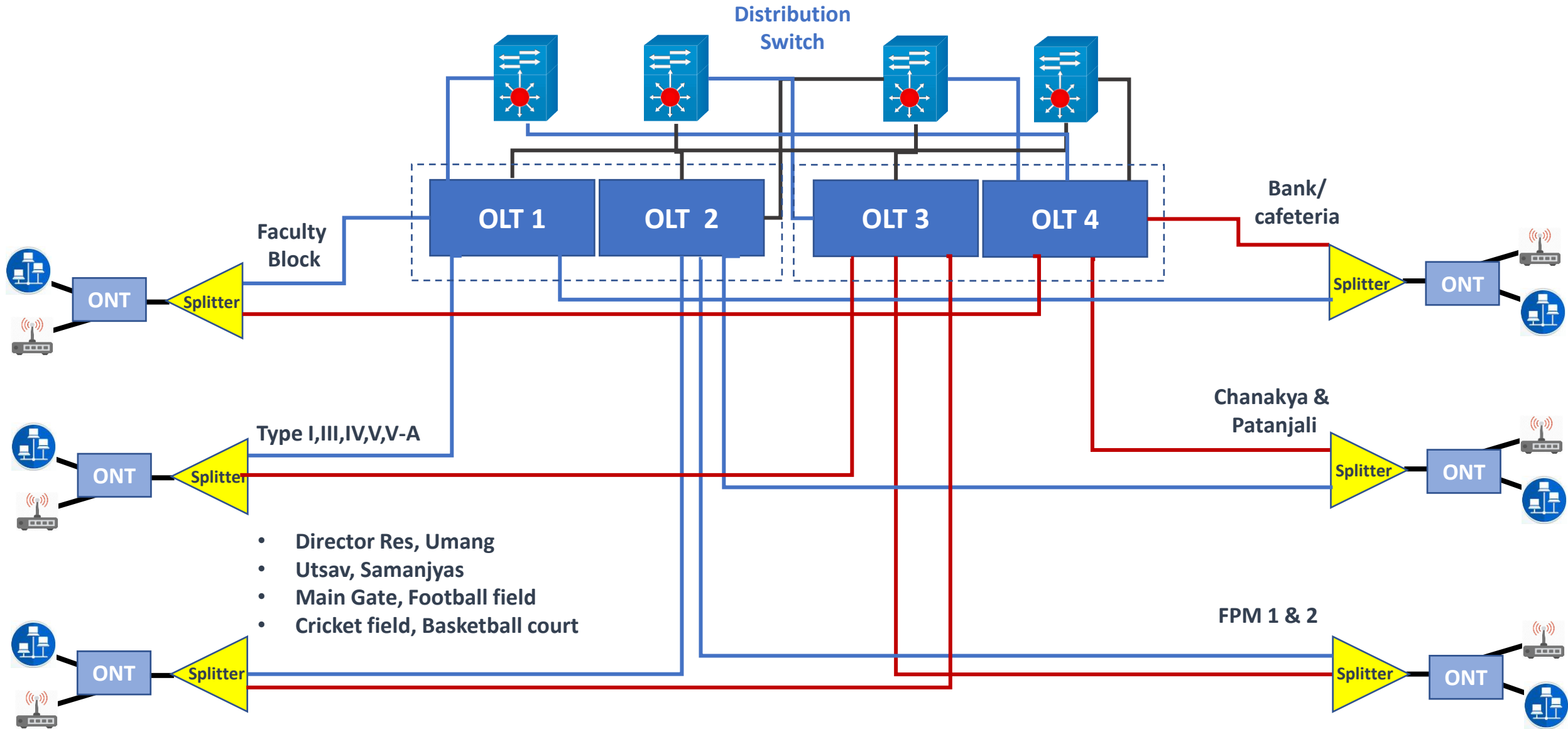
Fiber connectivity
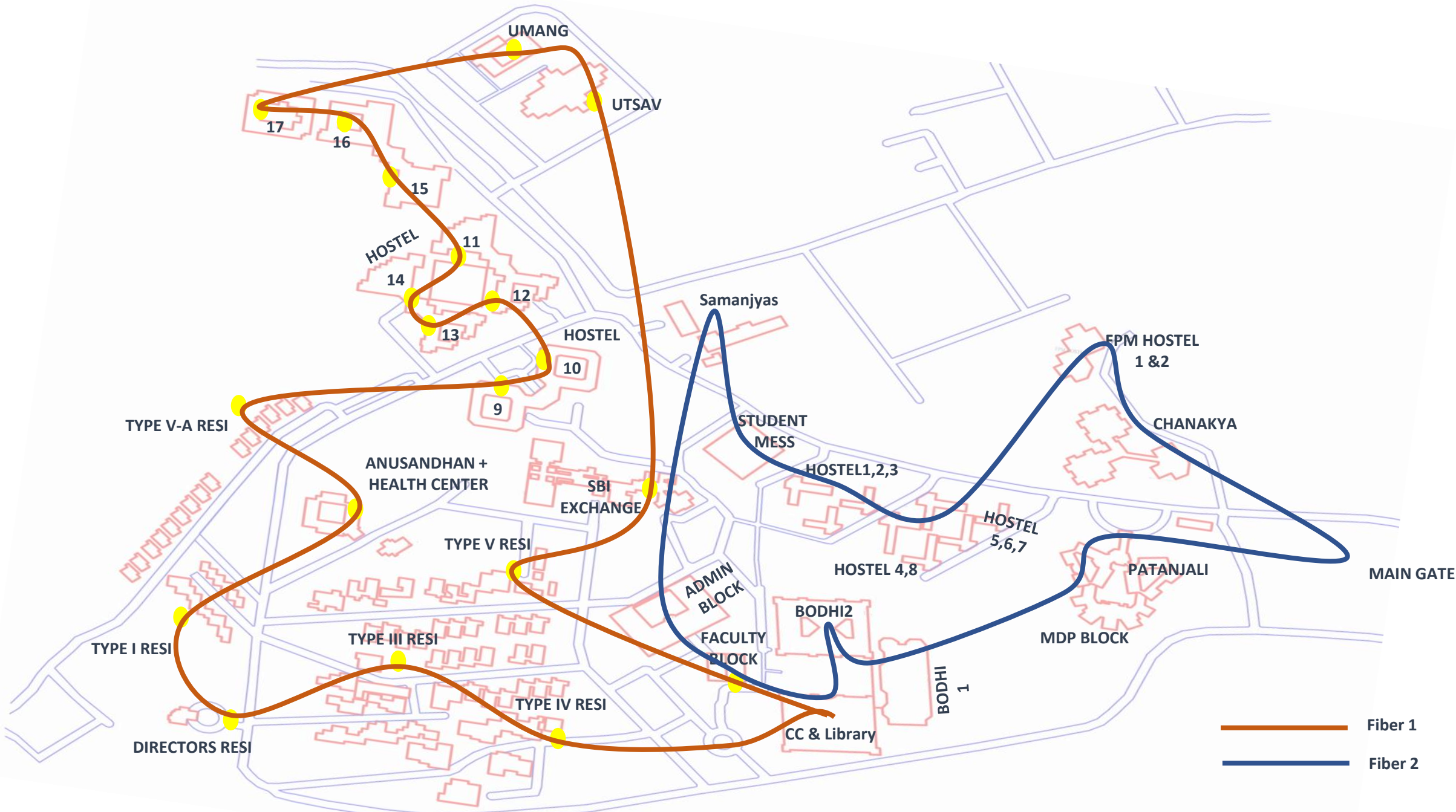
Security Features of the Proposed Network

- Next Generation Firewall with Application Security, Content inspection, Anti malware & URL filtering

- <u>VPN connection for 4000 user</u>

- Web Application Firewall

- Network Access Control to enforce secure policies on access devices (Laptop/PC, Mobile, Tablet)

- Network Management System (NMS) for monitoring

- WLAN Controller for WAPs

- **Single sign on – EduRoam, Gmail, VPN, AD, Applications**

- Noida to Lucknow link security with site to site VPN

Reducing local power supply dependence

- PoE switches

- Distribution s/w at DC

- Access switch – Central UPS & semi central UPS

Timelines

Draft RFP on IIML website

24 December

End Dec

RFP floating

Agreement signing

31 Mar 21

01 Apr 21

Implementation commencement

Go-Live*

July 21

* Network for Hostel, classes, mess to be ready by 30th June

Project Timelines

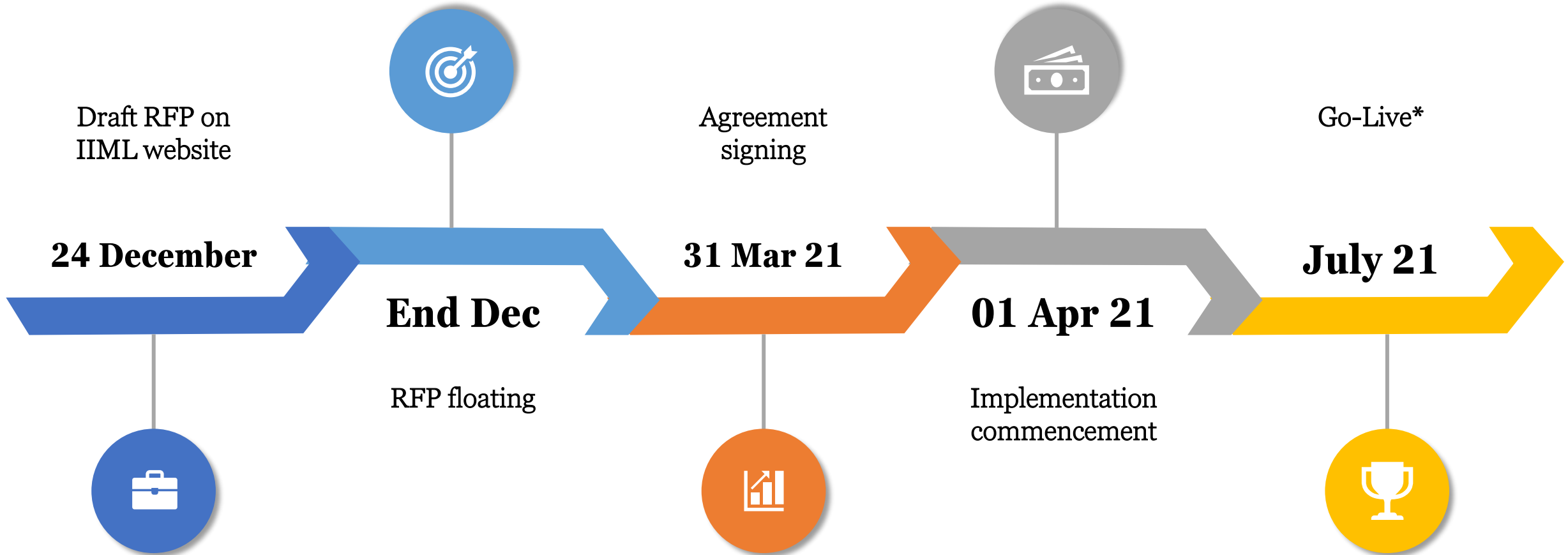| Project Phase	Timelines (in weeks)															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Contract Sign off	■															
Resource Onboarding		■	■													
Pre-implementation Site Survey & Report Submission		■	■													
Implementation Plan and Design			■	■												
Part procurement of BoQ items		■	■	■	■	■										
Procurement of complete & approved BoQ					■	■	■	■	■							
Implementation of Passive Components						■	■	■	■	■						
Implementation of Active Components								■	■	■	■					
Post-implementation Site Survey & Report Submission											■	■				
Acceptance of Post-implementation Survey Report by IIML													■			
Acceptance Testing by IIML														■	■	
Third-party Audit														■		■
Documentation											■	■	■	■	■	
Training and Capacity Building														■	■	
Go-Live																■

Pre-Qualification

1. The Bidder should have been <u>in operation for a period of at least 5 years as of 31-03-2020,</u> as evidenced by the Certificate of Incorporation and Certificate of Commencement of Business issued by the Registrar of Companies. The company should have an office in India which is operational.

2. The Bidder should have an <u>annual turnover of not less than INR <<30 Crores>></u> p.a. during <u>the last three financial years</u>. This turnover should be on account of <u>IT- infrastructure Projects, Hardware Commissioning, LAN Set Up</u>

3. The Bidder should have <u>minimum annual turnover in LAN Set Up and associated monitoring & Security Software related business of <<Rs.15 Cr>></u> for each of the last 3 financial years

Pre-Qualification

4. The Bidder should have <u>positive net worth in last three financial years</u> i.e., (F.Y. 2017-18,2018-2019, 2019-20.respectively)

5. The Bidder should have: Valid PAN Number and Valid GST Number

6. The Bidder should <u>not be blacklisted</u> or debarred from participation in any State/Central government/PSU procurement activities in India.

7. The Bidder should be an <u>established IT System Integrator in India</u> and should have been in the business of System Integration/ Hardware Implementation/ Network Services and associated software /IT Infrastructure, Operation & Maintenance <u>for a period for a period of Five years as on 31.03.2020</u>.

Pre-Qualification

8. The Bidder should be an IT-solutions-provider incorporated in India and should have implemented or in the process of implementation of similar project in the last five financial years as below:

One System Integration project of minimum – INR 24 Crore OR

Two System Integration projects of minimum – INR 18 Crores each OR

Three System Integration projects of minimum – INR 12 Crores each

Similar Project means setting up Campus area networking and related security (NGFW/ equivalent, SSO) & monitoring system software (NMS, WLC, NAC) and its O&M phase.

Technical Qualification

S1: Experience and Credentials – 20 Marks

1. **Experience in implementing in System Integration/ e- Governance Projects in State / Central / PSU in the last five financial years (Value of one <u>project - Rs 15 Cr</u> or more).**

   - One Project – 2 Marks

   - Two Projects - 5 Marks

   - Three Projects or more – 10Marks

2. **Experience in Setting Up Campus Network* in the last five financial years (Value of one project - <u>Rs 10 Cr or more</u>)**

   - One Project - 2 Marks

   - Two Projects - 5 Marks

   - Three Projects or more – 10 Marks

Technical Qualification

S2: Understanding of Project requirements – 20 Marks

1. **Integrated Project Management Plan covering the entire scope of work**

2. **Project Plan covering areas including but not limited to**

   - WBS

   - Activities, Timelines, Milestones and Deliverables;

   - Site survey

   - Governance and RACI

3. **Risk Management Plan specially to manage project timelines and deliverables and business continuity plan.**

Technical Qualification

S3: Bill of Materials proposed for the Project Components – 10 Marks

1. Proposed Bill of Material for Active Components

2. Proposed Bill of Material for WAPs, wi-fi routers, extenders

3. Proposed Bill of Material for Security components

4. Proposed Bill of Material for Passive Components

5. Proposed UPS for Data Center, & Other Locations

Technical Qualification

1. **Project Manager (1)**

    *   At least 1 Campus area networking implementation as Project Manager

    *   More than 7 years of IT experience

    *   Educational Qualification – B.Tech./BE/MCA

2. **Network engineer (9)**

    *   Min 5 years relevant experience

    *   Educational Qualification – B.Tech./BE/MCA

Technical Qualification

S5: Technical Presentation – 15 Marks

1. The Technical Presentation should cover all the Project Components and the Bidders approach for the Project

S6: O & M Roadmap for Project Components – 15 Marks

1. Proposed O & M Roadmap for a period of 7 years

Discussion Point: 1

Expectation for participation?

- **Cash flow**

- Timely approval

- Timely payment

Discussion Point: 2

OEM's involvement in Project?

SI – OEM relations

- **Equipment configuration &/or support by OEM**

- **Training by OEM**

Discussion Point: 3

MARGIN LEVEL

SI's margin

- **N% of OEM's cost – huge variations in bid(s)**

- **Before bid submission, last minute disproportionate changes**

Discussion Point: 4

Financial bid

Transferring cost to:

✓other Item which shall make higher upfront Capex payment

✓From Opex to Capex

Impact: makes repeat purchase difficult

Discussion Point: 5

Anuual escalation:

a. OEM's support cost

b. O&M team cost

Discussion Point: 6

Cordial relations

Fruitful and cordial

- Transparent RFP

- Suggestions towards Competitive advantage to an OEM & a product

- Offensive tone in response/ suggestions

- Publishing query/ suggestions on website???????

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Discussion Point: 7

SI's role in completing bid process, implementation in 3 months each

- Agreement signing – 31st March 2020

- Network Go-Live: 30th June

Suggestions ???

Thank you

Bill of material: Lucknow

Sl.	Work Item	Unit	Qty (Q1)
1	**Active component**		
1.1	Core Switch 12X40 G Port	No	2
1.2	Breakout cable 1:4 (40 to 10G) 10 mtr for NGFW & Core sw connection	No	2
1.3	Distribution Switch 24 port (12X10 G ports populated with SM) with 2X40G uplink slots	No	4
1.4	Direct attach copper (DAC) cable 40 G	No	2
1.5	Access Switch 48X1G Ethernet ports with 2X10 G uplink slot	No	2
1.6	Access Switch PoE 48X1G port with 2X10 G uplink slot	No	6
1.7	Access Switch PoE 48 (12X1/2.5/5 multigig, 36 1G) ethernet ports with 2X10 G uplink slot	No	1
1.8	Access Switch 24X1 G ports with 2X10 G uplink slot	No	2
1.9	Access Switch POE 24 ports with 2X10G uplink slots	No	5
1.10	Access switch PoE (8X1/2.5/5 G multigig, 16X1 G) ethernet port with 2X10 G uplink slot	No	24
1.11	Transreceiver 40G SM	No	16
1.12	Transreceiver 10G SM	No	80
1.13	NAC (Appliance/ Software) for 3500 devices (Lucknow & Noida)	No	1
1.14	Wireless LAN Controller with AP licenses	No	1

Sl.	Work Item	Unit	Qty (Q1)
1	**Active component**		
1.15	Indoor Access Points 1.6/ 2 G 4X4	No	103
1.16	Outdoor Access Points 1.6/ 2 G 4X4	No	37
1.17	Indoor Access Points 5 G 4X4	No	9
1.18	Indoor Access Points 450 Mbps 4X4	No	125
1.19	Wi-fi device 300 Mbps 2X2	No	394
1.20	Wi-fi 300 Mbps Extender	No	51
1.21	GePON OLT 16 Port	No	4
1.22	Internet Link aggregator/ Load balancer	No	1
1.23	Racks - at Computer Center for Networking equipments	No	4
1.24	Network Management Solution	No	1
1.25	GePON Network Management Solution	No	1
1.26	Ticketing solution	No	1
1.27	Single sign on solution	Subscription/ Year	3500

Bill of material : Lucknow

2	Passive components	Unit	Qty (Q1)
2.1	GePON Splitter 2:32	No	13
2.2	GePON Splitter 2:16	No	5
2.3	GePON Splitter 2:4	No	1
2.4	GePON Splitter 2:8	No	5
2.5	GePON Splitter 2:2	No	5
2.6	GePON Splitter 1:2	No	2
2.7	GePON Bridge/ PoE ONT 4 port	No	11
2.8	OFC 48 Cores	Mtrs	15,000
2.9	OFC Laying within building	Mtrs	2,000
2.10	OFC Laying outside the building	Mtrs	13,000

2	Passive components	Unit	Qty (Q1)
2.11	Cat 6A UTP (500 mtr roll)	Roll	195
2.12	Cat 6A UTP Laying	Mtrs	97,373
2.13	LIU	No	88
2.14	I/O Box,Face Playe & Gang Box with Installation	No	1,014
2.15	Drop cable (fiber)	Mtrs	39,400
2.16	Patch chord 1 mtr	No	533
2.17	Patch chord 2 mtr	No	533
2.18	Patch panel	No	53
2.19	PVC Conduit/ Channels for Laying of Cables	Mtrs	1,01,538
2.20	HDPE Pipe for OFC Laying	Mtrs	1,600

Bill of material: Noida

Sl.	Work Item	Unit	Qty (Q1)
1	**Active component**		
1.1	Core Switch 12X25 G Port populated with SM	No	2
1.2	Access Switch 48X1G Ethernet ports with 2X10 G uplink slot	No	1
1.3	Access Switch PoE 48X1G port with 2X10 G uplink slot	No	1
1.4	Access Switch 24X1 G ports with 2X10 G uplink slot	No	1
1.5	Access Switch POE 24 ports with 2X10G uplink slots	No	8
1.6	Access switch PoE (8X1/2.5/5 G multigig, 16X1 G) ethernet port with 2X10 G uplink slot	No	8
1.7	Transreceiver 25G SM	No	2
1.8	Transreceiver 10G SM	No	38
1.9	NAC hardware (Lic included in Lucknow sheet)	No	1
1.10	Wireless LAN Controller with AP licenses	No	1
1.11	Indoor Access Points 1.6/ 2 G 4X4	No	45
1.12	Outdoor Access Points 1.6/ 2 G 4X4	No	2
1.13	Indoor Access Points 5 G 4X4	No	
1.14	Indoor Access Points 450 Mbps 4X4	No	51
1.15	Wi-fi device 300 Mbps 2X2	No	166
1.16	Wi-fi 300 Mbps Extender	No	21
1.17	GePON OLT 8 Port	No	2
1.18	Racks - at Computer Center for Networking equipments	No	2

Bill of material: Noida

2	Passive components		
2.1	GePON Splitter 2:32	No	6
2.2	GePON Splitter 2:16	No	1
2.3	GePON Splitter 2:4	No	1
2.4	GePON Bridge/ PoE ONT 4 port	No	5
2.5	OFC 24 Cores	Mtrs	2,000
2.6	OFC Laying cost within building	Mtrs	500
2.7	OFC Laying Cost outside the building	Mtrs	1,500
2.8	Cat 6A UTP (500 mtr roll)	Roll	52
2.9	Cat 6A UTP Laying	Mtrs	25,760
2.10	LIU	No	42
2.11	I/O Box,Face Playe & Gang Box with Installation	No	322
2.12	Drop cable (fiber)	Mtrs	16,600
2.13	Patch chord 1 mtr	No	169
2.14	Patch chord 2 mtr	No	169
2.15	Patch panel	No	22
2.16	PVC Conduit/ Channels for Laying of Cables	Mtrs	20,608
2.17	HDPE Pipe for OFC Laying	Mtrs	400

Bill of material

Sl.	Work Item	Unit	Qty (Q1)
	Security Software		
1	Appliance - Next Generation Firewall 8 Gbps combined throughput with Application Security, Content inspection, Anti malware & URL filtering	No	2
2	Annual subscription component of NGFW 8 Gbps	Subscription/Year	2
3	Appliance - Next Generation Firewall 2 Gbps combined throughput with Application Security, Content inspection, Anti malware & URL filtering	No	2
4	Annual subscription component of NGFW 2 Gbps	Subscription/Year	2
5	Web application firewall	No	1