Hakeem Abdul Hameed

Centre for Information Technology

Outlines

- Introduction
- Infrastructure Overview
- Networking Infrastructure
- Server Infrastructure
- Data Storage and Backup Solutions
- Computer Labs
- High-Performance Computing (HPC)
- Security Systems
- Power and Cooling Infrastructure
- Monitoring and Management Systems
- Future Expansion and Upgrades

Introduction : A Journey of Milestones and Transformations

Inception and Growth

•Established in 1997 as a foundational pillar of Jamia Hamdard's technological advancement.
•Started with a couple of computers and gradually expanded to accommodate over a thousand desktops and laptops for end users.

Networking Evolution

• Transition from dial-up network connections to faster and more reliable network speeds.
• Progressed from 2 Mbps to 10 Mbps, and currently operates at a remarkable 1000 Mbps + 100 Mbps bandwidth.
• Upgraded mailing services from a limited space of 50 MB to a spacious 100 GB, catering to growing user demands.

A Journey of Milestones and Transformations

Infrastructure Advancements

- Transformed from tabletop arrangements to a state-of-the-art 3-tier Data Centre, ensuring optimal performance and security.
- Evolved from a LAN with 100 Mbps to a high-speed LAN upto 10 Gbps capacity.
- Implemented managed Layer 3 switches at the network edges, enhancing network efficiency and control.

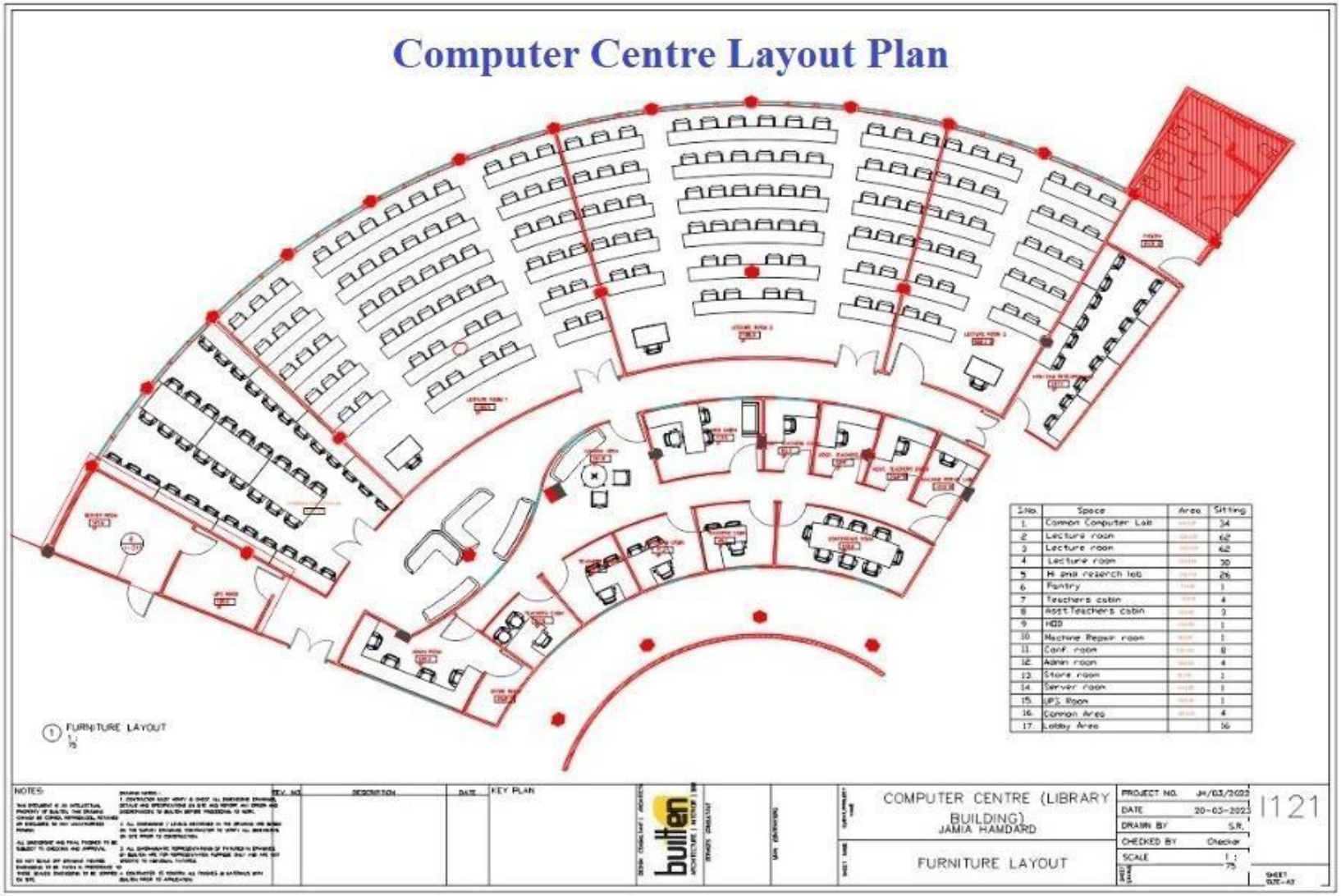
Server Virtualization and Optimization

- Consolidated physical servers from 28 to just 8, while providing a total of 42 virtual servers.
- Pioneered the virtualization of the Data Centre over a decade ago, an exceptional achievement in a University environment.
- Streamlined software operations by transitioning from independent modules operating in silos to a comprehensive Integrated University Management System (UMS).

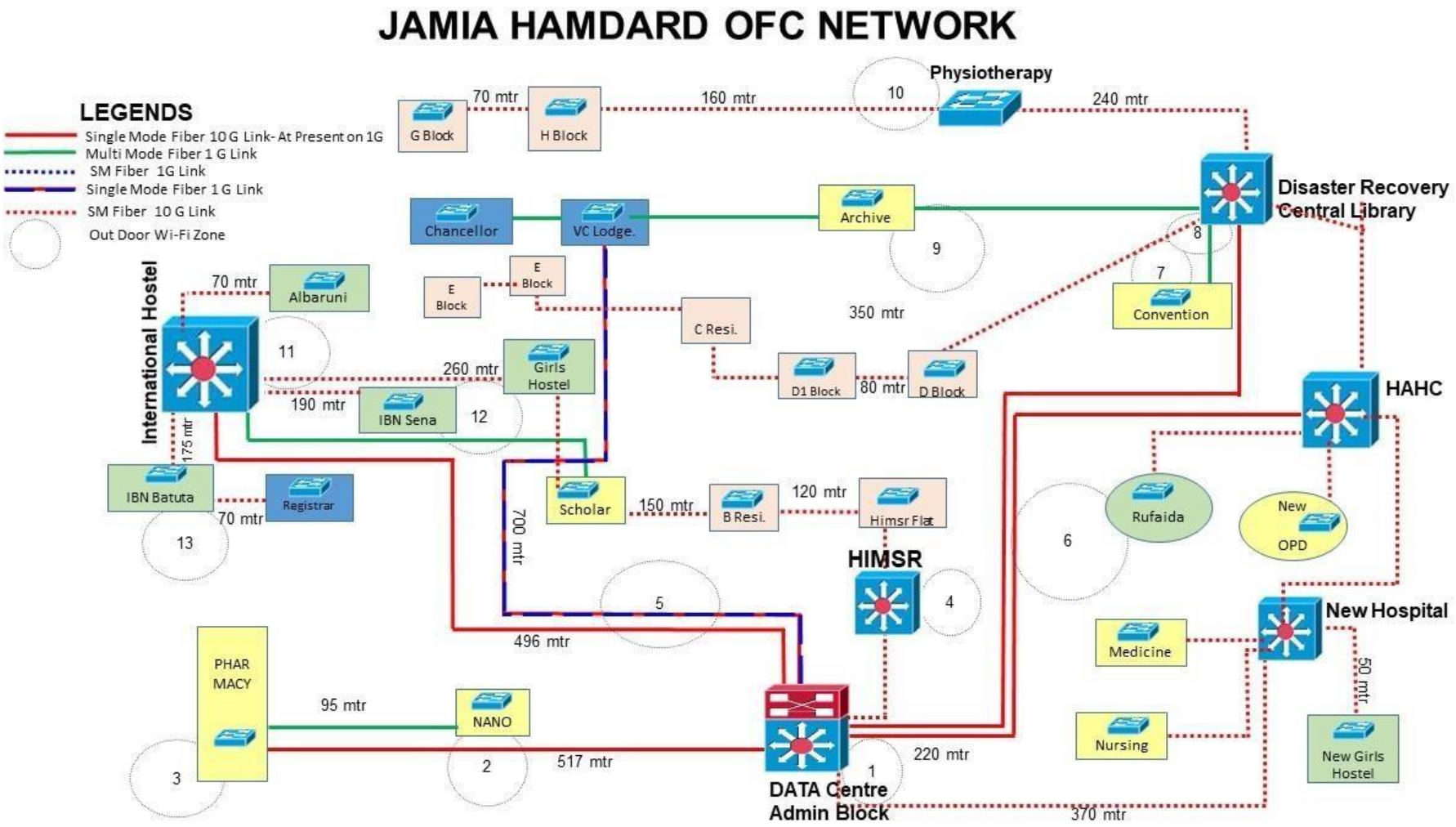
Staff

- Dr. Qamar Parvez Rana - Incharge Computer Center
- Mr. Mirza Rahil Beg - System Analyst Networking
- Mr. Azam Khan - System Analyst
- Mr. Ayaz Ahmad Nika - Computer Operator
- Mr. Nasruddin Ahemad - Networking Assistant
- Mr. Mohd Rashid - Data Processing Assistant
- Mr. Raijan - Lab Attendant
- Mr. Shadab - Lab Attendant
- Mr. Prakash Chandra Arya - Attendant

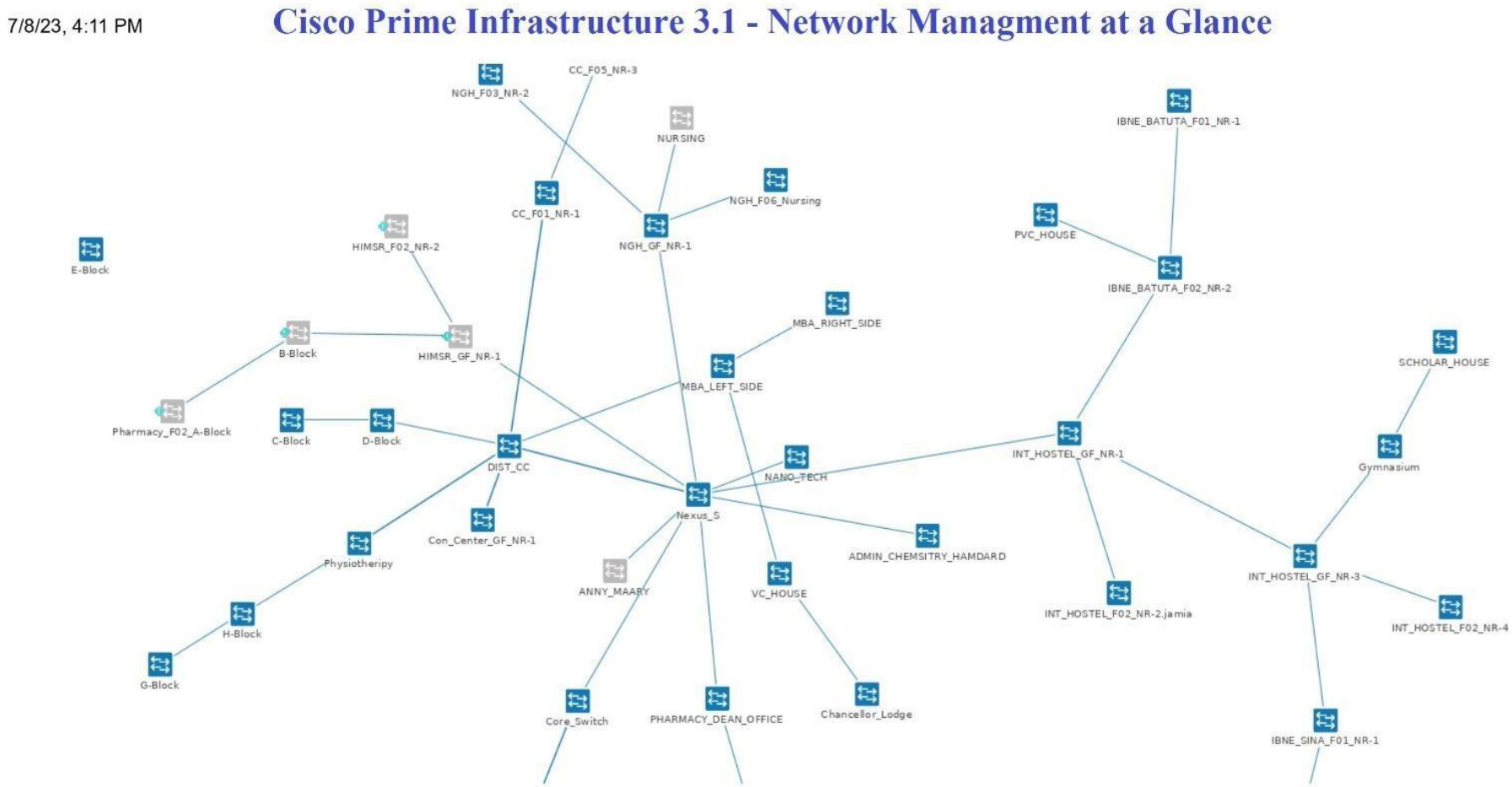
Infrastructure Overview



Networking Infrastructure

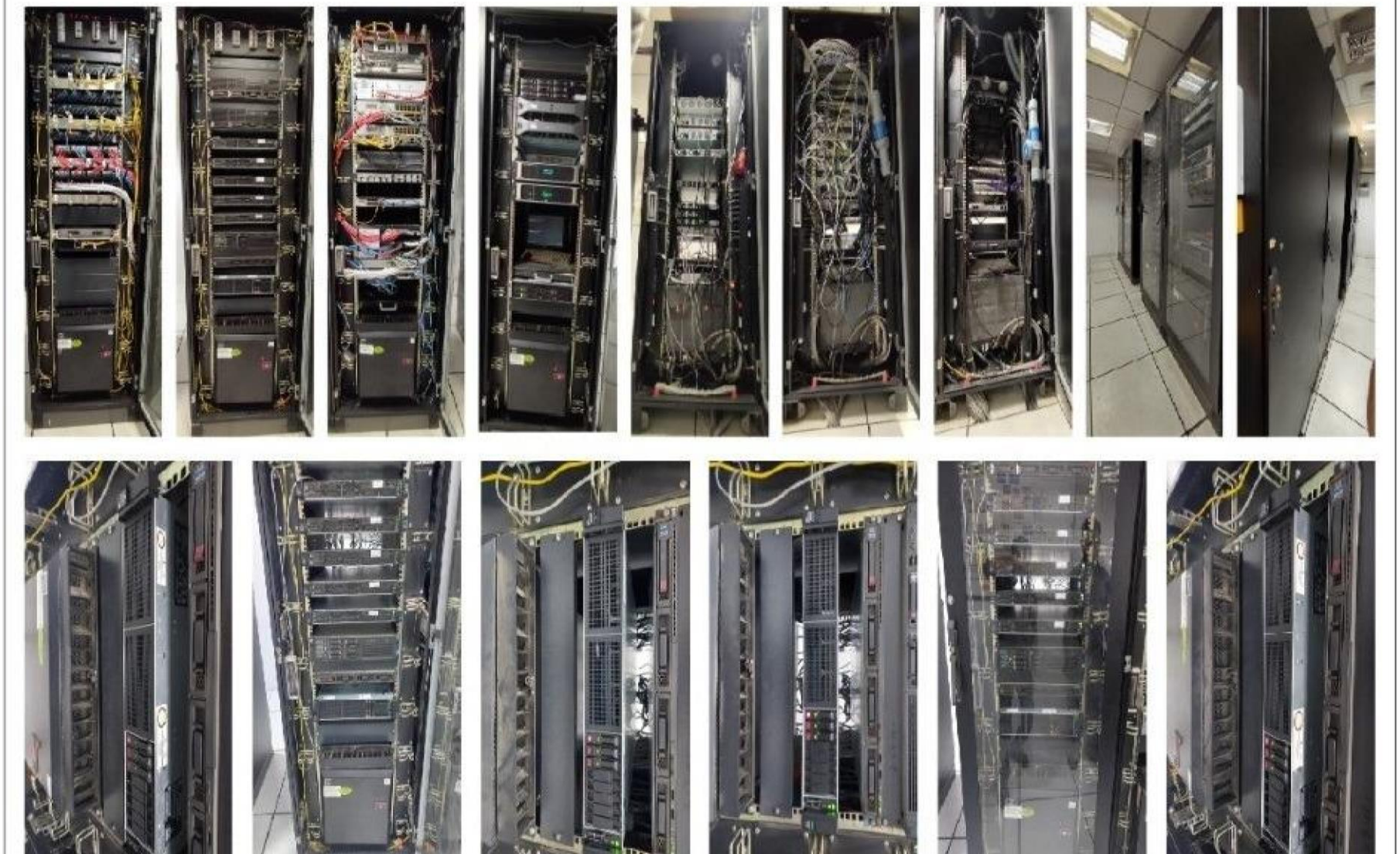


Networking Infrastructure



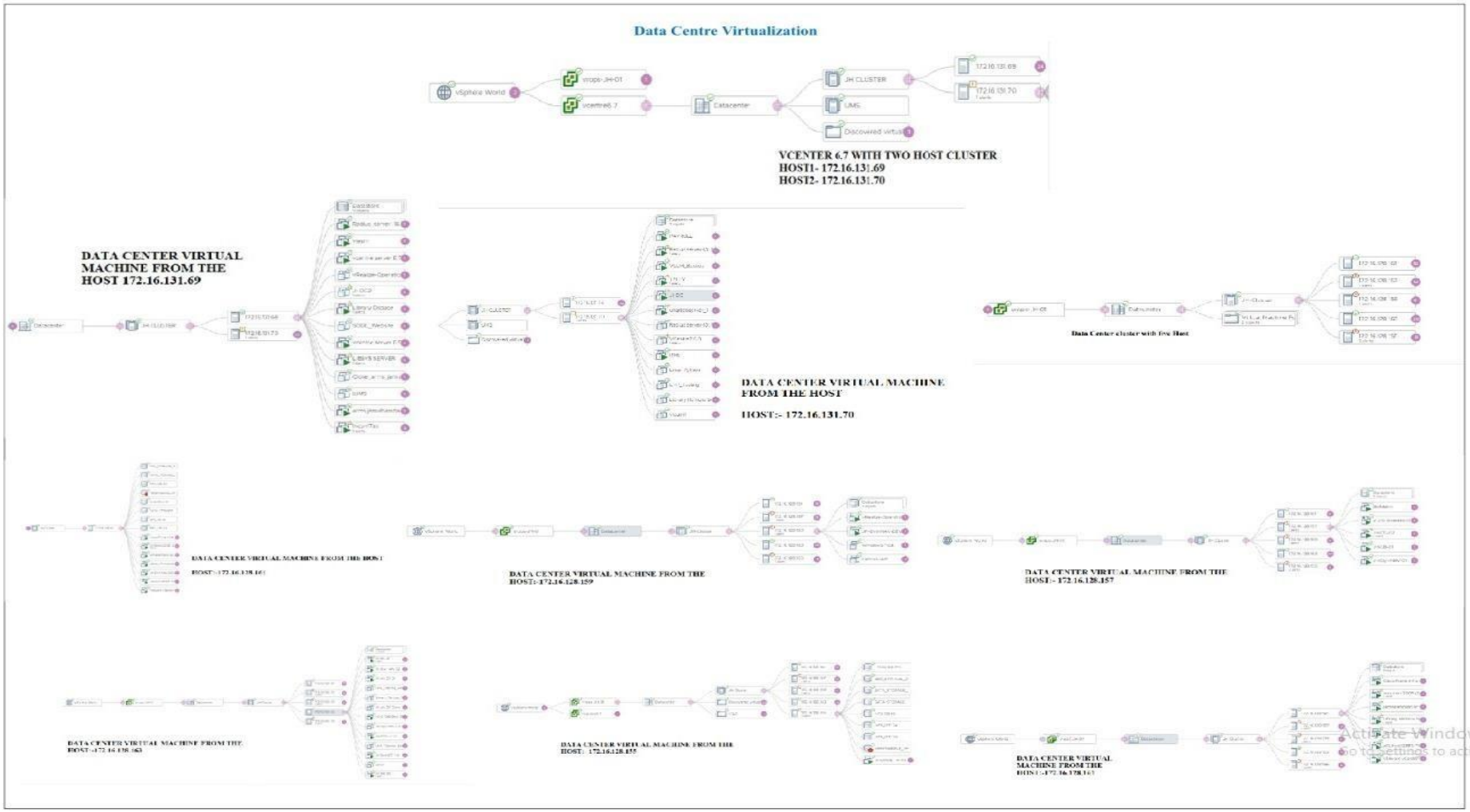
Server Infrastructure

Data Centre, Admin Block, Jamia Hamdard



Server Infrastructure

Virtualization

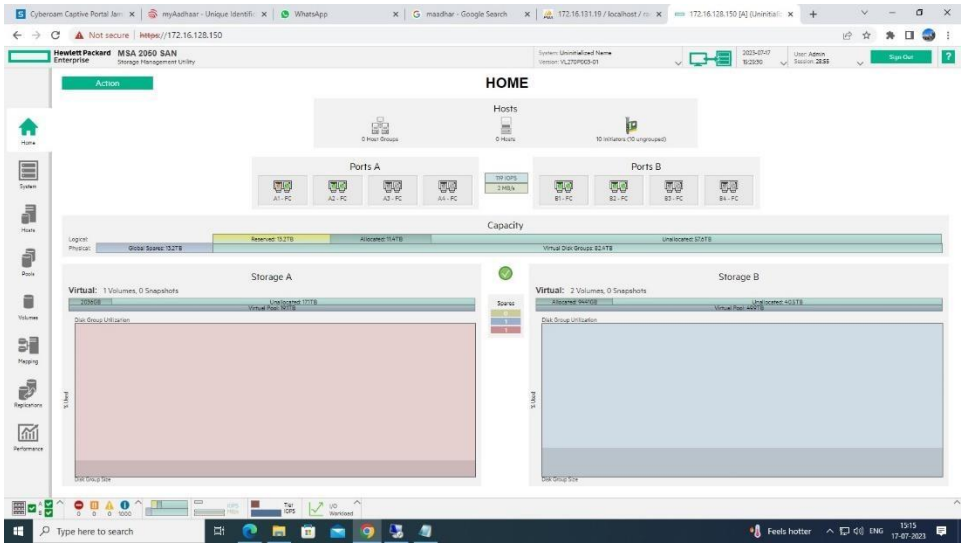


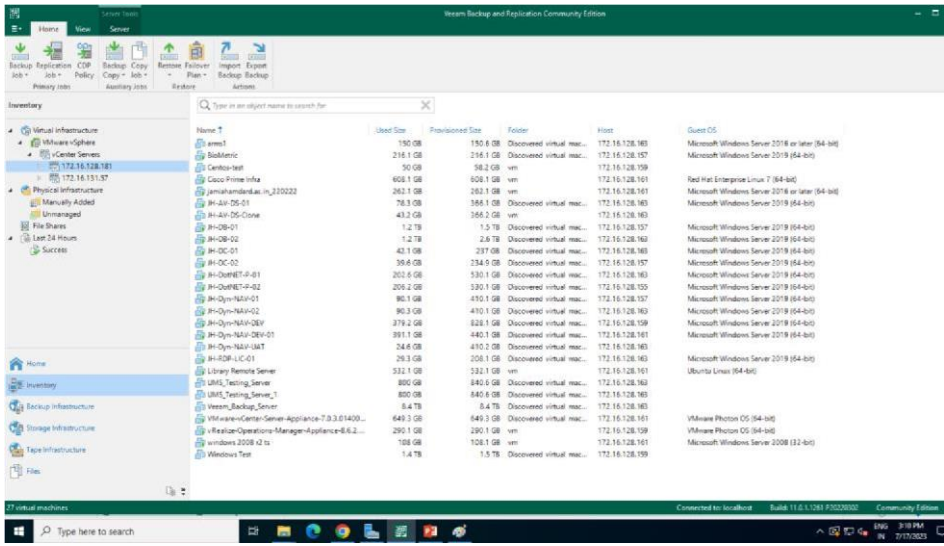
Data Storage and Backup Solutions

NAS and SAN

Storage HP MSA2050 70 TB

Storage HP MSA2000 04 TB





Beeam Backup and Replication Server 20TB

“High End Facility”

- (i) Physical Infrastructure
- (ii) Virtual Environment

Computer Labs

Old Computer Centre

4.1.1. The institution has adequate facility for teaching –learning. viz, classrooms, laboratories, computing equipment, etc.

Longitude: 77° 15' 8.13" E
Latitude: 28° 31' 2.328" N

COMPUTER CENTRE
JAMIA HAMDARD

4.1.1. The institution has adequate facility for teaching –learning. viz, classrooms, laboratories, computing equipment, etc.

Longitude: 77° 15' 7.938"E
Latitude: 28° 31' 1.902" N

COMPUTER CENTRE
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4.1.1. The institution has adequate facility for teaching –learning. viz, classrooms, laboratories, computing equipment, etc.

Longitude: 77° 15' 8.808" E
Latitude: 28° 31' 2.988" N

COMPUTER CENTRE
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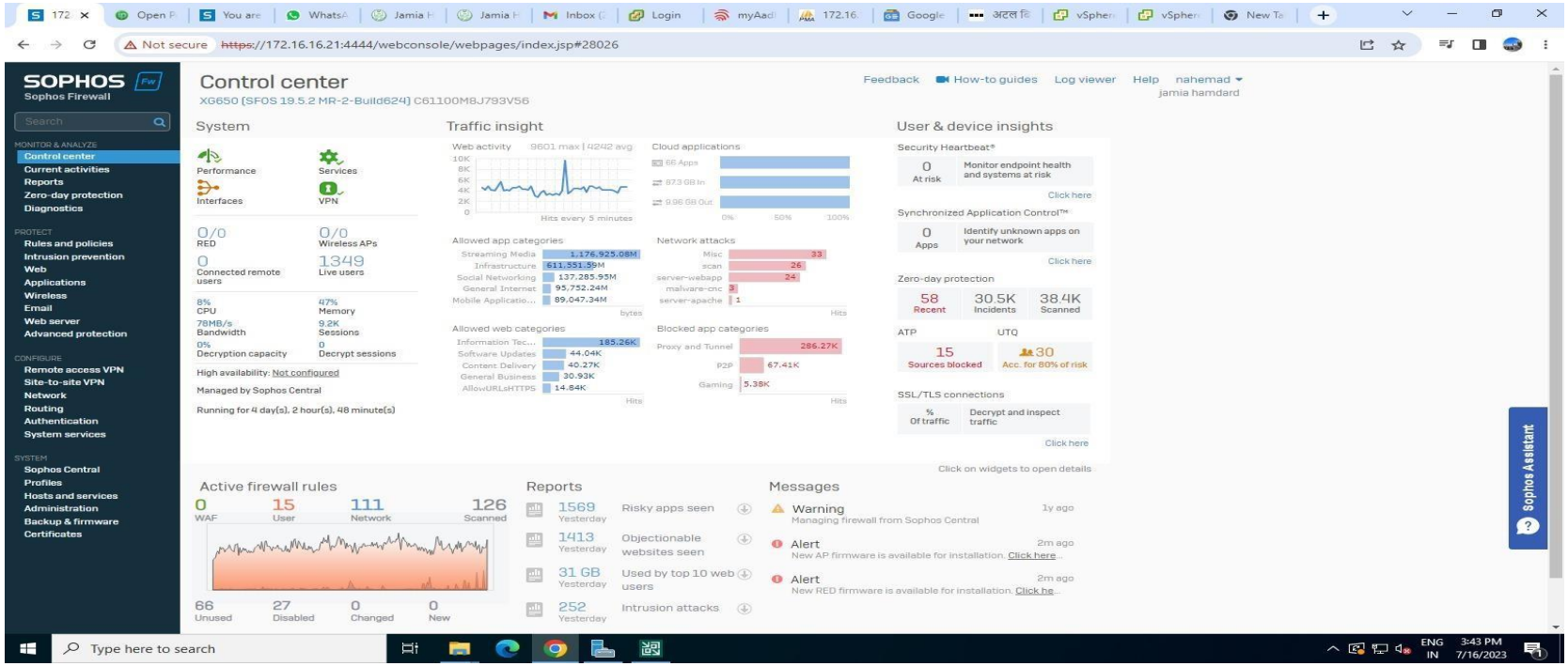
High-Performance Computing (HPC)

Server: 2x Intel Xeon Gold, 4x64GB RAM, 480 GB SSD, 24GB GPU

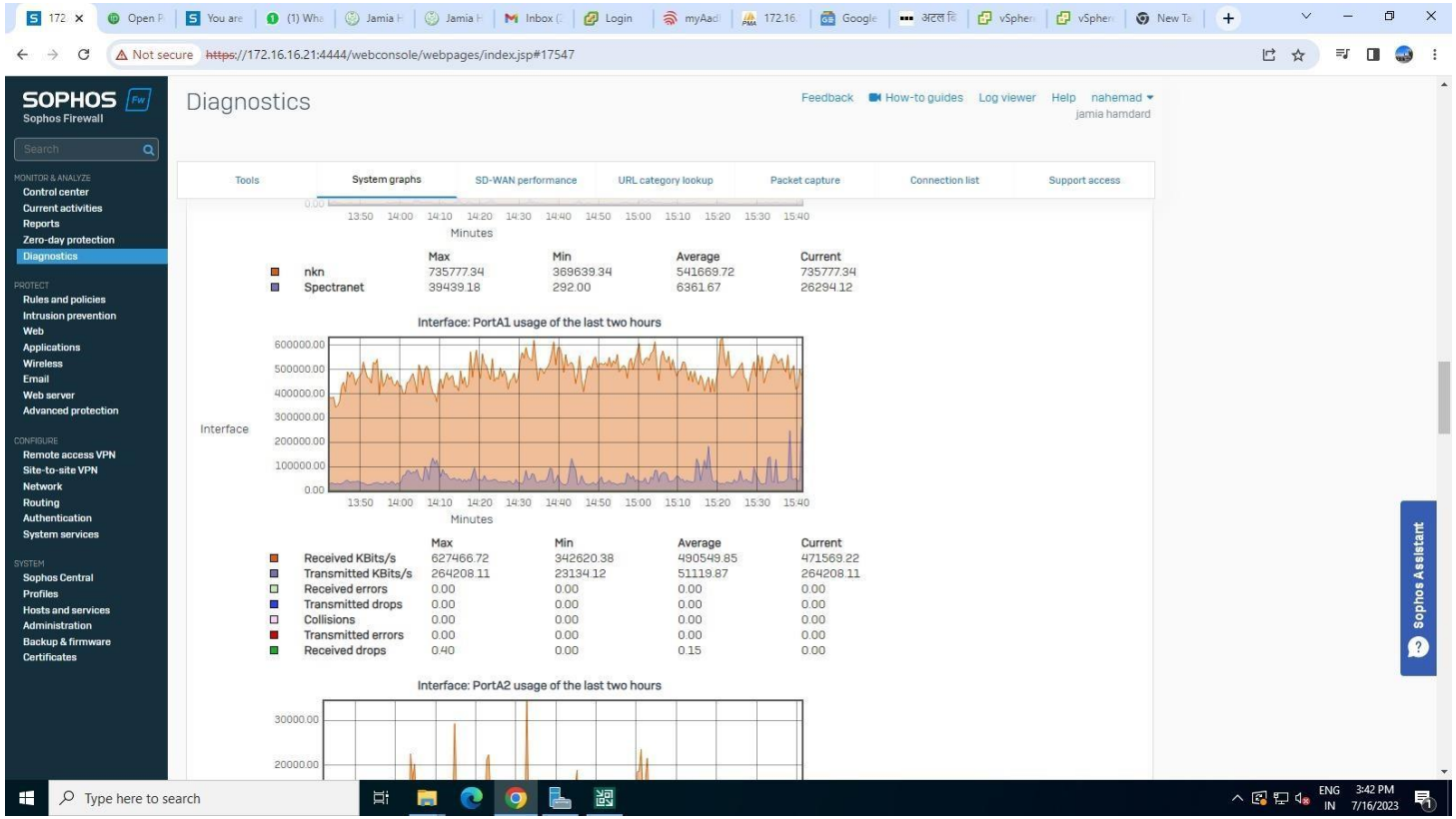
Security Systems

- Fire wall , other devices
- Bit defender Antivirus for End User
- Trend Micro Deep Security Antivirus for Server



Internet Connectivity

- 1 GBPS NKN Connectivity
- 200 MBPS Spectra net

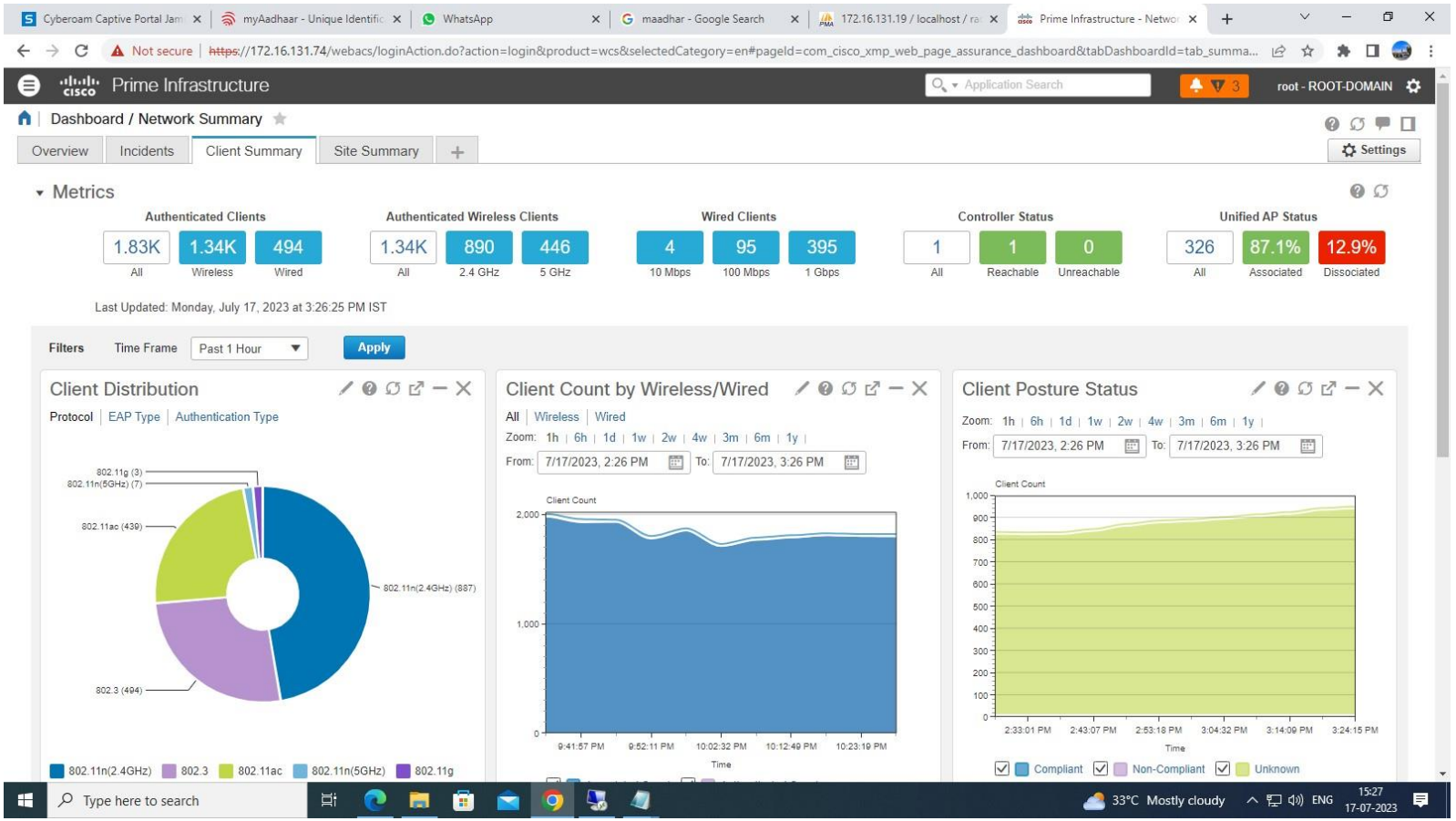


Facilities

- Edurom – Global Academic arrangement.
- E-mail Services for Faculty, Non Teaching, Research Scholars.
- Login ID to Access Internet.
- Online Conferences and Collaboration using Google meet.
- Website Updation.

Monitoring and Management Systems

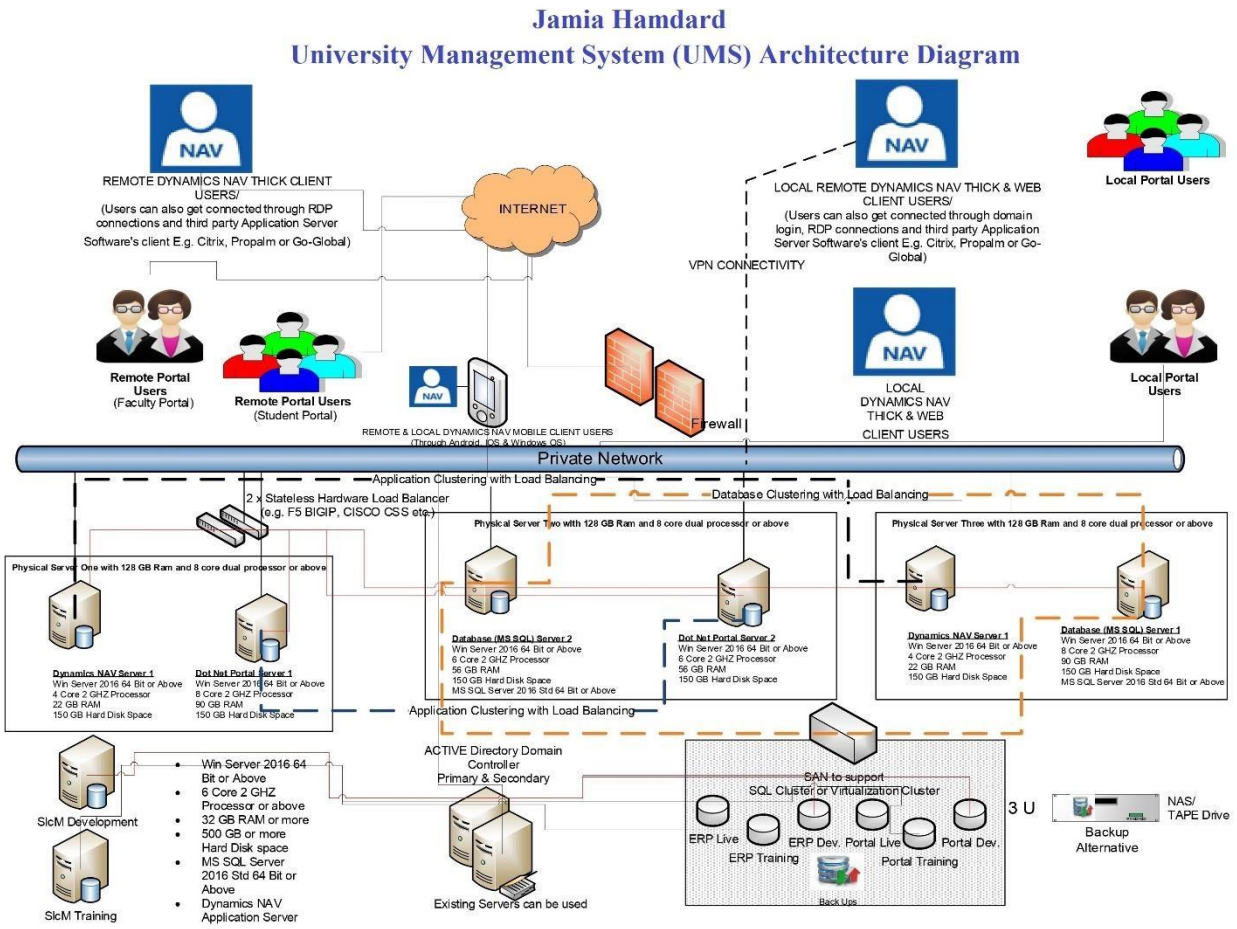
- Cisco Prime3.1



Future Expansion and Upgrades

- Discuss

Integrated University Management System



HP ProLiant DL360G10+
HP ProLiant DL580 G7
HP ProLiant DL560G5
HP ProLiant DL180G6
HP ProLiant DL380G6
Dell R530 R-2

Vmware 7.0

HP ProLiant DL360G10+

Intel Xeon Gold 5318 CPU 2.10 Ghtz, RAM 384GB Quad core 5 Servers

Vmware 6.0 Dell R530 R-2

Dell R-530 R-2 Server with One Cluster Intel Xeon I5-2630 -2.20GHtz, RAM 192 GB Quad core

Vmware 5.5

HP ProLiant DL560G5

Intel Xeon CPU 2X2.10 Ghtz, RAM 48GB, RAID 5

HP ProLiant DL560G7

Intel Xeon CPU 2X1.8 Ghtz, RAM 48GB, RAID 5

Vmware 5.0.0

HP ProLiant DL180G6

Intel Xeon CPU 2X2.4 Ghtz, RAM 48GB, RAID 1

HP ProLiant DL380G6

Intel Xeon CPU 2X2.4 Ghtz, RAM 6GB, RAID 1