



Sardar Patel Institute of Technology, Mumbai-400058

IT Infrastructure Requirements (Updated)

About Sardar Patel Institute of Technology (S.P.I.T.):

The institute is located on 47 acres of green campus at Andheri (W), the fastest-growing suburb of Mumbai. The campus also houses four Bhavan's Institutions of great repute namely Bhavan's College (the arts, commerce, and science college), Sardar Patel College of Engineering – Government-aided Engineering college, S.P. Jain Institute of Management and Research, a management institute, and A.H. Wadia, higher secondary school.

In 1957, the Bharatiya Vidya Bhavan conceived the idea of establishing an engineering college in Mumbai. It was on the 19th of August 1962 that there was a huge gathering at the Bhavan's Campus in Andheri to inaugurate Sardar Patel College of Engineering (SPCE). In 1995 Self-Financed Engineering Course was added to it and it functioned as SPCE (Unaided-wing) conducting Electronics Engineering, Electronics and Telecommunication Engineering, Computer Engineering, and Information Technology courses. These courses have earned a great reputation in the field of engineering education, as well as industry. Bharatiya Vidya Bhavan's Sardar Patel College of Engineering, Unaided Wing from the year 2005-2006 was established in its new building under the name and style of Bharatiya Vidya Bhavan's Sardar Patel Institute of Technology and is affiliated to Mumbai University. Subsequently, Electronics and Telecommunication courses were started at the graduate and post-graduate level in the years 2006 and 2010 respectively. In addition to these programs in Electronics and Telecommunication, Computer Engineering started the Ph.D. program in 2012, MCA in 2016, and Electronics Engineering in 2017. The University of Mumbai has conferred Autonomous Status to S.P.I.T.

About IT Infrastructure:

Introduction

In the era of the digital revolution, advanced IT Infrastructure is a need of time for every academic institution. In view of this, the institute has provided state-of-the-art and well-maintained IT Infrastructure to students and faculty members. This includes high-speed servers with large storage & processing power. Following is a brief description of the services that have been hosted on the servers.

Wi-Fi

The entire campus has been Wi-Fi enabled to provide mobility to the users in accessing various services available on the institute's network. This Wi-Fi network allows faculty, staff, and students to log on to the Internet at any point in time. This wireless layer is placed on top of a highly dense network with a high level of security using username password-based authentication.

Storage

S.P.I.T. has set up its own Cloud, a file and document sharing utility similar to the popular Dropbox, for use by the S.P.I.T. staff. The utility supports storing and sharing of files, documents, contacts, calendars, tasks etc. It also supports version control and syncing with Windows/Linux/Mac desktops and Android and iOS-based devices.

NTP Server

S.P.I.T has set up its own internal NTP server to keep its network devices & servers with the standard date & time. This timeserver also gets synchronized with external regional timeservers with a time drift of less than a few milliseconds.

Moodle

S.P.I.T. has hosted Moodle, a public domain course management software, for use by faculty and students for the courses running in the current semester. All students and faculty members are periodically enrolled in various courses. Apart from online dissemination of course material, Moodle supports a host of other features for every course like news, blogs, discussion forums, and the facility for online submission of assignments and quizzes. Moodle at S.P.I.T. can be accessed at <https://moodle.spit.ac.in>

DNS

S.P.I.T. has its own DNS server for name resolution of its website & subdomains. All nodes connected within the S.P.I.T. network use the DNS server for faster Internet browsing by caching the name resolution results of frequently visited websites.

DSPACE Server (Digital Repository)

All-important documents are available and hosted in digital format on a server named as DSPACE. This is a digital repository of all documents. This server runs on open-source software. The documents can be searched easily using a keyword. The documents and data segregation, department-wise, community-wise, etc. is supported. This facilitates centralized data storage accessible from the institution's intranet.

Website

Apropos to the mandatory requirements of AICTE, the college has an informative website: <https://www.spit.ac.in>. The information on the website is regularly updated. Students, faculty members, and all stakeholders access the website regularly. Apart from statutory information, the website also hosts useful academic resources for students, such as exam papers, schemes, and syllabus, NPTEL Videos, academic schedules, exam schedules, etc.

Mail Server and Client

The E-mail facility is managed through G Suite, which provides us the web, based email clients, and built-in chat facility, Google Docs, Google Apps, Google Sites and a few other facilities as well. Every faculty & student has an e-mail ID on [spit.ac.in](https://www.spit.ac.in) a domain.

Internet

The Institute's network is linked to the Internet via a set of dedicated leased lines enabling round-the-clock Internet connectivity on the campus. The Internet leased lines are availed from different service providers so that the provision of redundant ISPs is there in order to have seamless connectivity across the campus. All the Internet Service Providers (ISPs) from whom the Institute has procured Internet bandwidth have installed fiber optics links from the campus to their hub. This ensures a very high quality of bandwidth to the Internet.

The Institute has 175 MBPS bandwidth to the Internet. It is technologically equipped to increase it up to 200 MBPS as and when the need for more bandwidth arises. There is a dedicated Internet browsing center within the library for students. This Internet browsing center is open to students during all working hours and even beyond office hours in order to have access to information available on the Internet when required.

Requirements List
FY 2021-2022 (Updated on 25th March 2022)

Sr. No	Item	Qty	Specifications	Warranty	Recommended
Part-A: Network Equipment					
1	L3 Core Switch Stackable HP Aruba 2930F 24G + 4 SFP (JL253A) Equivalent or higher	1	24 x 10/100/1000BASE-T ports, x Combo 10/100/1000BASE-T/SFP ports 4 x 10G SFP+ ports, 6 kV surge protection on all RJ-45 access ports Switch Resource Management (SRM) for flexible management of system resources Redundant Power Supply (RPS) support MPLS L2VPM/L3 VPN support, Full L3 routing protocol support including OSPF, BGP, and ISIS for IPv4/IPv6, SDN-enabled switch, compatible with Openflow 1.3	Lifetime comprehensive	Cisco/HPE/HP/Aruba
2	L2 Distribution layer switch stackable HP 2530-24G L2 Switch, 24 10/100/1000 Ports, 4 SFP Ports(J9776A) Aruba 2530 24G Switch equivalent or Higher	6	Stackable, 24 port/ 4 SFP/ 2-10Gb SFP, full PoE, surge current protection, Manageable switch SNMPv1/v2/v3 and RMON1 and RMON2	Lifetime comprehensive	HP/DLink
3	Access Layer L2 switch (Gigabit) Dlink- DGS 3130 OR HP Aruba 2930 M/F/G Equivalent or Higher	6	24-Port PoE Gigabit, 2-10G Port combo, Smart Managed Switch, SNMPv1/v2/v3 and RMON1 and RMON2	Lifetime comprehensive	HP Aruba/Dlink/TPLink

4	Wireless Access Point (AP) Dlink DAP 2680 Equivalent or higher	10	High Performance, Dual Band, MIMO upto 2000 Mbps, Multi Operation Modes, Gigabit-PoE-capable LAN port, Security features with extensive management	Lifetime comprehensive	HP Aruba/ DLink/ TPLink
5	Fiber Modules	12	Standard Gigabit modules with compatible with HP 2930 F L3 switch and HPE 5130 L2 Switch	Lifetime comprehensive	Standard
6	Cat 6/6e Cabling (300 meters)	2	Standard Cabling 10 Gigabit UTP cables	Standard warranty	Dlink/Belden
7	Network Troubleshooting Equipment	1	Microscanner Multimedia support, tests all common media types including RJ11, RJ45, Coax, with no need for adapters VDV Service Detection: Verifies media services, including 10/100/1000 ethernet, POTS and PoE	Lifetime comprehensive	Fluke
Part-B Server Upgrade (RAM and Disk)					
8	Servers RAM upgrade	4 x 32 GB	DELL POWEREDGE R530 Server compatible 2016 purchase Service Tags 7YFSXC2 7YGWXC2 7YBSXC2 7XTTXC2	Lifetime comprehensive	DELL
9	Server storage upgrade-2 TB RAID 0,1,5 Mirror + stripes+ Parity = 4 Drive Possible Solution-A: Add 3,disk of 1 TB Solution-B: replace 1 TB existing with 3 disks of 2TB	2TB x 3 x 3 + 4 TB x 2 SA TA	DELL POWEREDGE R530 Server compatible Hot-swap 2016 purchase SAS 7.2 K RPM HDD Service Tags: 7YFSXC2 7YGWXC2 7YBSXC2 7XTTXC2 Server Details: [i] Three R530 Server:	Lifetime comprehensive	DELL

			<p>Current 1TB X 3 NL-SAS : 3 out 8 bay used /Server</p> <p>Upgrade with 2TB x 3 NL-SAS or SAS with compatible with current disks</p> <p>Quantity:3 disks of 2 TB each /Server=9 disks for 3 server)</p> <p>[ii] One Server R530</p> <p>Currently 8 disks of 4TB SATA each. All slots/bay used.</p> <p>Upgrade: 2 disks of 4TB each SATA as Spare disks.</p>		
Part-C: Server Storage- Backup and Restore					
Option-I					
10 A	Storage (NAS/SAN):	25 TB	<p>DELL POWEREDGE R530 Servers (04) and R930 (01) compatible</p> <p>Server OS backup and Restore and Data Backup</p> <p>Refer: #SN10 SPIT SAN Specifications</p>	Lifetime comprehensive	DELL/HP/QNAP
OR					
Option-II					
10 B	Cloud Storage	---	Equivalent or Required Capacity of Specified as mentioned 10A	Standard	--

Eligibility:

1. Bidder should have paid all statutory taxes and duties for the financial year 2020-2021
2. Turnover of the bidder should be a minimum of Rs.10 Crore for the financial year 2020-2021
3. Bidders should have supplied similar networking components to the institute of repute and Industry.
4. Bidders are allowed to participate in Part-wise (**Part-A,Part-B and Part-C**) as well.

Terms and Conditions:

1. The bidder should be an authorized dealer or supplier.
2. A letter of authorization from OEM must be accompanied by the bidder.
3. The Bidder should have paid all statutory taxes and duties for the financial year 2020-2021
4. All supplies should be on the site and at the location designated by the institute.
5. Pricing should include total pricing considering duties, taxes, transportation, etc. However, a break of these should be clearly indicated.
6. Delivery should be within four weeks from the date of the purchase order (PO).
7. Bidder/OEM should have a service center in Maharashtra and Karnataka.
8. Advance payment of up to 80% will be given against the bank guarantee of an equivalent amount.

9. Bidder should have a client base of a minimum of 25 clients.

Deadline for quotation: 5th April, 2022 at 3.00 PM.

Tender can be sent in person or by email to:

Dayanand Ambawade

dd_ambawade@spit.ac.in

and

Dr. Y. S. Rao:

ysrao@spit.ac.in

Dr. B. N. Chaudhari
Principal,
S.P.I.T. Mumbai-400058.

#SN10: Specifications of 25 TB SAN storage system at SPIT Mumbai-400058

Sr	Feature	Description
1	System Architecture	Proposed unified or SAN storage should be rack-mountable & modular in architecture with linear scalability of capacity, just by adding disks & disk enclosures.
2	Storage Controller	64 bit Quad-core @ 2.3 GHz or Higher
3	Controller Memory	Min 16 GB/controller with support for 32 GB or higher per controller without changing or adding controllers.
4		Cache should be controller cache and not PCIe based or SSD based.
5	No of Installed Controllers	At least 2
6	Hardware Autonomy	The storage subsystem proposed should have no single point of failure with respect to the controller, cache, disks, power supply, and cooling.
7	I/O ports	Proposed storage system shall be configured with 4x16Gbps FC ports for host connectivity.
8		Each controller should support option for 10 Gbps iSCSI port for future expansion
9	Data Drive type	Proposed storage system should support SAS10K, NL-SAS
10	Storage Capacity (Installed)	Minimum 25 TB usable capacity with RAID 6 better than 8D+2P reliability using 4 TB or better NL SAS 7.2K drives. One Hot spare per 8 disks to be included over and above the mentioned capacity.

11	Storage Capacity (scalability)	System should be scalable up to 100 TB or higher without adding additional controllers.
12	Data Protection features	RAID 1,5,6,10 or better within controller disk shelf
13		Snapshots (with Scheduling)
14		Synchronous & Asynchronous replication.
15	Data Access Protocol Support	8 & 16Gbps FC and 10Gbps iSCSI
16	Client OS Compatibility	Support for access from Linux & Windows clients
17	System Management	WebUI administration console with support for configuration & monitoring of all entire storage system parameters (health, utilization, performance, etc) compatible with latest version of all popular browsers
18		Support for restricted CLI base super user control
19		Support for an audit trail of system configuration & administration
20	System Alerts	Error logging and automatic email forwarding Error alerts on Web management console
21	Maintenance and Upgrades	System should support the removal of storage controllers for maintenance or replacement without downtime
22	Feature license	All above features must be available as standard, without the requirement for any additional licensing costs.
23	Write Cache Protection	The offered solution should provide session/cache information replication across the controllers to support faster failover across the controllers.
24	Power Supply	Dual redundant hot-swap (230VAC, 50Hz) PSU
25	Product Support and Warranty	Lifetime comprehensive (Hardware & Software) from OEM (Min 7 years support commitment (i.e. 4 years post-warranty support)
27	Installation cost	To be included in the quotation