

ION Internal Network Audit Report

Version

Summary

2.2

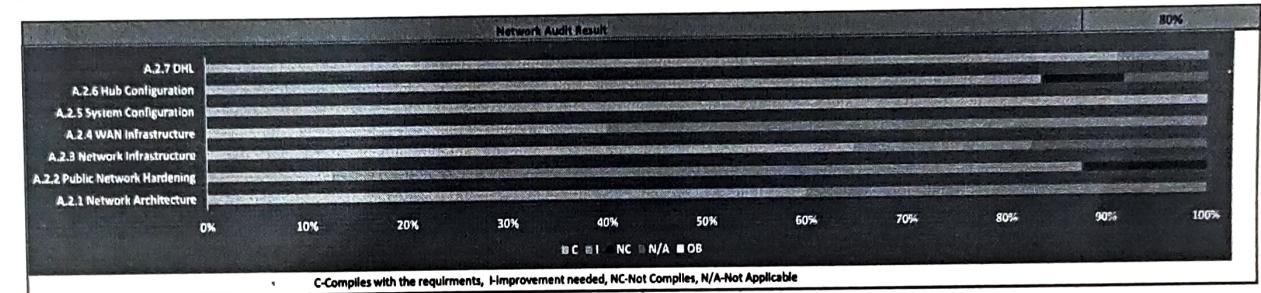
Audit date	Test Center Name	Report No.
22-Dec-22	Prof. Santosh Kute Examination Center	30042_2022_02

Test Center Information	
Test Center Name	Prof. Santosh Kute Examination Center
Address	In Front Sant Tukaram Cancer Hospital, Sant Tukaram Chowk, Gorakshan Road, Akola, Maharashtra - 444001
City	Akola
State	Maharashtra
Phone No.	095278 03090
No of system Available	100

Test Center Personnel Participating		
Name	Designation	Email ID
Mr. Ankush Ingle	TCA	ankushingle7@gmail.com/ 9561448557
Mr. Akash Popalghat	IT Manager	9172985288

Auditor Details		
Name	Designation	Email ID
Praful Patil	Tech Lead/ Network Auditor	praful.patil@tcs.com
Amar Karule	VH	amar.karule@mail.digialm.com

Previous Network Audit Date:	27-Jun-22	
Next Audit Date:	22-Jun-23	



Recommendations		
Network	Total NCs	
	Minor NCs	0
	Major NCs	2

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Audit scope:

Activities: Network infrastructure check

Locations of the audit: Please mention the areas of IDZ / LSP where the audit will be conducted (Example: LAB, Server Room, etc)

Observations:**Network**

1	All switch rack need to be clean
2	Need to be Prepare Used & unused Port Index Page & Need to be pasted on switch Racks
3	Make DHL Index Page
4	Need to be install DAX switch on exam day.
5	All switch rack need to be Lock & seal
6	All unused port should be Physically block with RJ 45 Dummy connector
7	All Uplink Should be mark in Distribution switch rack as ion policy.
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Network Audit Checklist

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Audit date 22-Dec-22	Test Center Name Prof. Santosh Kute Examination Center			Report No. 30042_2022_02
C = Complies with the requirements, I = Improvement Needed, NC = Not Complies, N/A = Not Applicable				
Questionnaire	Evidence	Findings	Score	
1.0 Network Architecture:				
a Is Network diagram available	Check if the updated Network Diagram is present in center history book 1.The header must contain the City, TC Code, TC Name and LAN. 2.The body of the document must contain the network diagram, Index, and port connectivity Index. 3.The logical network diagram must be prepared with proper visibility and adequate space between symbols. Relevant symbols should be used. 4.The primary connectivity of switches must be shown by a straight line segment and the backup connectivity by dotted line segment for clear visibility. 5.Optical fibre connections must be clearly indicated. 6.USED and unused ports should be clearly mentioned in index page. 7.All the port numbers for uplink must be clearly indicated. 8.Switches must be named with standardized nomenclature for core, distribution, access, and extension switches. Example-L1CS1, L1DS1, L1AS1, L1AS1Ext1. 9. Connectivity of server's switch port number must be mentioned. 10.Index chart of for all switches must be there. 11.Techlead / Network Auditor signature and date must be available on every page.	Yes	C	
b Validate the Network Diagram		Index chart of for all switches not available.		
c Who have validated the network diagram	(Tech Lead / Network Auditor) Please mention the name and Role and date of validation. After validation please put signature and date on the network diagram	Tech Lead (Praful Patil) - Validation Date - 22-12-2022	C	
d Is Modular Network followed	Check if the below process followed 1. Assessment Network physically separated from any other network 2. Network should be in star topology 3. Maximum 300 nodes per LAN 4. Primary and backup server should be connected with primary distribution switch only	1. Network physically separat from other network 2. Star topology used for Network 3. Maximum 100 nodes per LAN 4. Primary and backup server connected	C	
e Check if assessment network isolated from any other network	Any evidence that is effective	network is isolated	C	
f Is Port standardization followed	Check if the below process is followed 1. Primary server connected in the last port of the distribution switch 2. Backup server connected in the second last port of the distribution switch 3. Access switch uplink should connect in sequence (Eg. L1AS1 uplink should connect to distribution switch port no 1) 4. Distribution switch primary uplink should be connected at the last port of access switch and backup uplink at second last port	Yes Port Standardization followd	C	
g Check Is all Uplink marked	Check if all the uplink cable marked at both the end	Uplink not Marked in Distribution switch rack		
h Is all switches marked with standardized naming convention	Check if switch naming done as per ION standard (Eg. For LAN 1 distribution It should be L1DS1 for access switch L1AS1)	Yes all, switches marked		
i IS IP standardization followed for candidate nodes	Check if IP has been set as per ION standard - IP- 10.LAN.LAB.system no and subnet-255.255.0.0 (Eg. For LAN 1 LAB 1 system no 5 the IP should be 10.1.1.5)	Exam will conduct on netboot		
j IS IP standardization followed for switch	Check if IP has been set as per ION standard - IP configuration. 1. For Distribution switch- 172.20.LAN No.101 for primary and 172.20.LAN No.102 for backup. 2. For Access switch- 172.20.LAN No.1 and so on	DAX Switch will use for exam		
2.0 Public Network Hardening:				
a Password	Wifi router must be password protected (Should not contain the default password)	Internet Facility not available		
b SSID should not be common	If multiple wireless access point is used, it must not contain the same SSID name	Internet Facility not available		
c Who owns the password	Mention the name and designation of the person	Internet Facility not available		
d Not common password	Wireless access point must not contain the common password (Eg. Pswd1234, India@123 etc)	Internet Facility not available		
e Password complexity	Password must be at least 8 character long and contain upper case, lower case character, number, special character	Internet Facility not available		
f Complete air gap	Public network must not be connected physically with assessment network	Internet Facility not available		
g Frequency of password change	Check what is the duration of password modification (Should be change after 180 days)	Internet Facility not available		
h Complete marking of public network	Proper marking must be done for public network at rack and IO box as well	Yes	C	

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Questionnaire	Evidence	Findings	Score				
3.0 Network Infrastructure:							
a Is switch configuration done as per ION standard (mandatory for IDZ and preferred for LISP)	Check the switch configuration (Not applicable for un-managed switches)	Not Applicable	N/A				
b Is switch port security enabled and working at Access layer switches (mandatory for IDZ and preferred for LISP)	1. Check the port security by interchanging the Lan cable 2. Check the switch port security configuration file (Not applicable for un-managed switches)	Not Applicable	N/A				
c Check if Internet is available in public network only	Check for the Internet that must not connected in the assessment network	Internet Facility not available	I				
d Check if all the network are air gaped / vLan (CCTV / Assessment network)	CCTV network must be separated physically / logically from assessment network (If logically separated then please mention the Vlan details).	Yes , Checked CCTV network physically separated	C				
e Check if Index chart of the network switch is available/pasted on every switch Rack	Physically verify the rack	No, not Pasted	I				
f How each LAN segregated from each other	Check if the LAN are separated from each other Physically / Logically	Yes , LAN are Physically separated	C				
g How many networks / VLANs is available	Furnish the details	only 1 Network	C				
h Core/Distribution Switch Speed (Gigabit or 10/100/1000 Mbps)	Furnish the details Scoring Pattern- Gigabit- C, Other than Gigabit - NC	1 GBPS	C				
i What architecture is followed for networking(star, partial star with max one level extention)	Furnish the details Scoring Pattern- If Star- C, If Partial Star - I, Any other - NC	Star Topology	C				
j Which make network switch are used in different layer	Furnish all the switch details	D-Link Unmanagable	C				
k Check if the switches are managed or un-managed	Furnish all the switch details	D-Link Unmanagable	C				
l LAN Cables Type	Check the cable type (CAT 5e, CAT-6, Optical Fibre)	CAT -6	C				
m Quality Of Network Wiring	Check the quality of LAN cable and Wiring (Very good, good, bad, worst)	Quality Of Network Wiring is good, but need to be clean.	C				
n Patch Cord	Check the quality of Patch cord used and check if it is manual or company crimped	Yes , Checked the quality of LAN cable Manual and Wiring good	C				
o Check for any additional unattended hardware/cables detected in Exam labs	Furnish the details	Yes Checked	C				
p Check for any unused ports in Network Switches (Mandatory for IDZ and preferred for LISP)	All unused ports must be in shutdown mode (Not applicable for un-managed switch)	Not Applicable	N/A				
q Check if all unused port physically blocked with blank RJ 45	Any evidence that is effective	YES checked all Unused port not block.					
4.0 WAN Infrastructure:							
a How many Internet are available	Furnish the details	Internet Facility not available	I				
b Who is the service provider	Furnish the details	Internet Facility not available	I				
c What is the download and upload speed of Internet	Check with at least 50Mb random data size (Speed should be at least 4Mbps for both) Scoring pattern- >=4Mbps- C, Between 2Mbps-3.9Mbps- I, Less than 2Mbps-NC	Internet Facility not available	I				
d Is network diagrams for WAN is available	Furnish the details	YES WAN Network Daigram is available	C				
e Check if the backup Internet is available	Furnish the details	JIO Dongle	C				
5.0 System Configuration:							
a Check which OS used on exam nodes (ILEON/ Netboot/Dual Boot)	Furnish the OS details (ILEON / Netboot-C, Dual boot-NC)	Netboot	C				
b Check if minimum hardware configuration of candidate system are met for ILEON OS	Minimum configuration required is 1 GB RAM (Preferred 2 GB) / Dual core processor / 150 GB HDD / 16" monitor. Sampling should be done 10% of the existing system. Scoring Pattern : >= 2 GB should be "C", 1 GB should be "I" and Less than 1 GB RAM should be "NC"	4 GB RAM, Intel core 2 due, i5 4th generation ,500 GB SDD / 15.5" monitor. Sampling done 10% of the existing system.	C				
c Check if minimum hardware configuration of candidate system are met for NETBOOT OS	Minimum configuration required is 1 GB RAM (Preferred 4 GB) / Dual core processor / 150 GB HDD / 16" monitor. Sampling should be done 10% of the existing system. Scoring Pattern : Less than 1 GB RAM should be "NC", Greater than 1 GB to Less than 4 GB should be "I" and >= 4 GB should be "C"	4 GB RAM, Intel core 2 due, i5 4th generation ,500 GB SDD / 15.5" monitor. Sampling done 10% of the existing system.	C				

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Questionnaire		Evidence	Findings	Score
6.0	Hub Configuration:			
a	Condition of Switch Rack/Patch Panels	(Check for proper dressing, dusting, light, space, ventilation)	Condition of Switch Rack/Patch Panels is ok, but need to be clean	C
b	Check the Network performance, latency.	Check from the cmd with 65000 packet load. Scoring Pattern : Less than 12ms - C, 12ms to 14ms - I, Greater than 14ms - NC	Yes, Checked the Network performance, latency. Is good	C
c	Distribution switch to Access Switch Connection Status	Check for proper cabling and ping status. Ping reply must be less than 1ms	Yes , Checked cabling ok and ping status ok. Ping reply less than 1 ms	C
d	Check whether only Exam Lab's Uplink are connected to Distribution Switch	Check the count of the access layer switch and the connected uplink in distribution switch. It must match with the access switch count.	other uplink are not connected	C
e	Check whether Primary / Backup Server is directly connected with primary distribution switch	Both the server must be connected to primary distribution only	YES directly connected	C
f	Check whether Distribution switch is properly dressed	Any evidence that is effective	Yes , Checked	C
g	Is Loop prevention enabled in distribution switch	Check by creating loop in the network	yes on DAX switch	C
h	Check if working air-conditioning system is available in server room	Any evidence that is effective	AC not available	N/A
i	Check the maximum length of Network UTP wiring between communication uplinks and end stations	Check if length is less than 60mtr . Scoring pattern- Less than 60mtr -C, Greater than 60mtr- NC	Yes Checked	C
j	Check if structured cabling followed	It should be in a cable tray	Yes Checked	C
k	Check if Network switch rack is secured & locked	1. Rack must be locked 2. Must have authorised signature on seal	Yes Checked, All Racks are Locked but not sealed	C
l	Check if Network rack key kept at safe place	Furnish the details	* Yes	C
7.0	DHL			
a	Is DHL Available	Check for the DHL availability	Yes DHL Available	C
b	Index mentioned for DHL	Check the index	Index Page not mentioned	I
c	One Buffer switch	Check and test the switch	Yes	C
d	Five Power cable	Check and test the power cable	Yes	C
e	Ten Company crimped patch cord (At least 3 mtr each)	Check and test the patch cord	Yes	C
f	One Power extention board	Check and test the power extension board	Yes	C
g	Network tool kit with all working equipment	Check and test the equipment	Yes	C
h	One box of RJ45 connector	Any evidence that is effective	Yes	C
i	Five Keyboard	Check and test the keyboard	Yes	C
j	Five Mouse	Check and test the mouse	Yes	C
k	Any Other equipment is present	Mention in details	No other equipment	C

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Audited Artifact

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Test Center Name

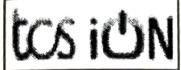
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Access Switch		Place for Distribution switch
Photo		Photo
Access Switch		Distribution Switch Rack
Photo		Photo
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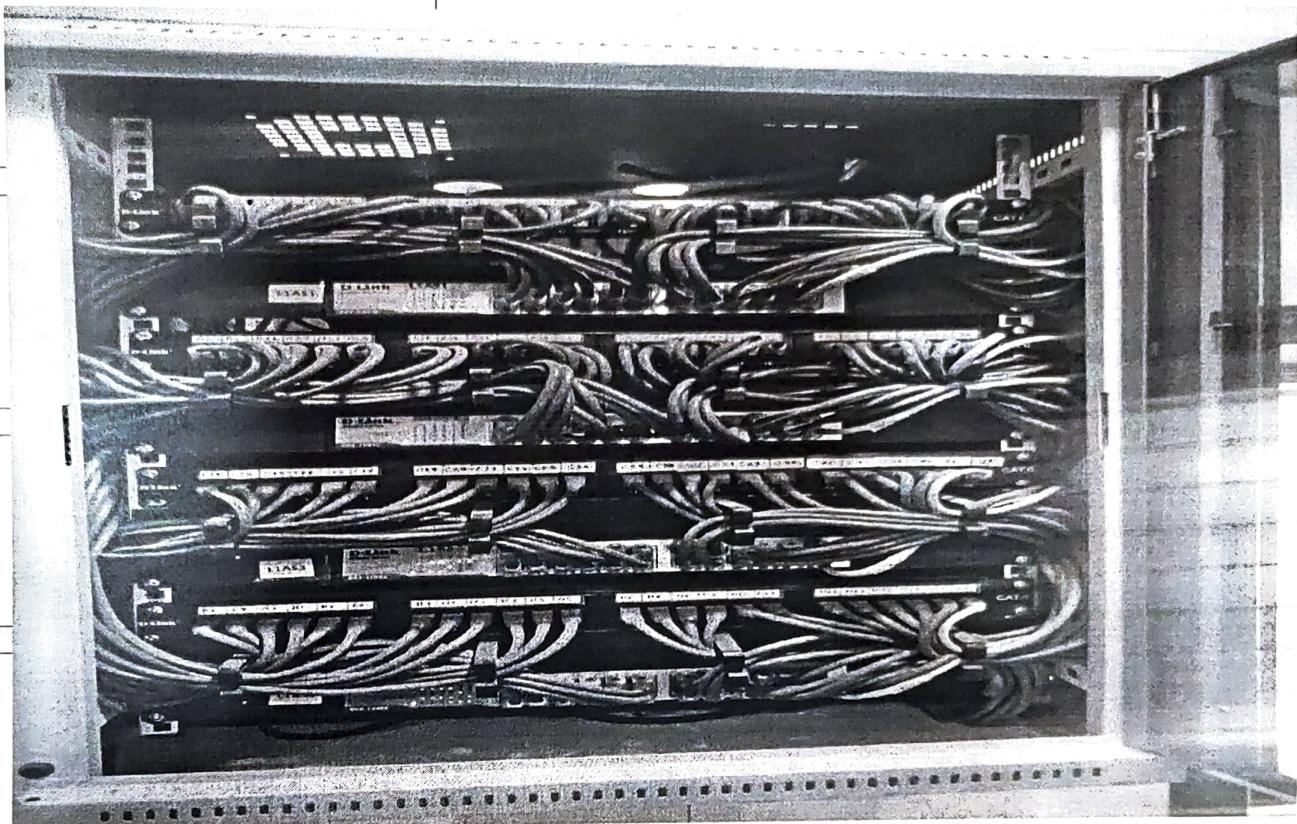
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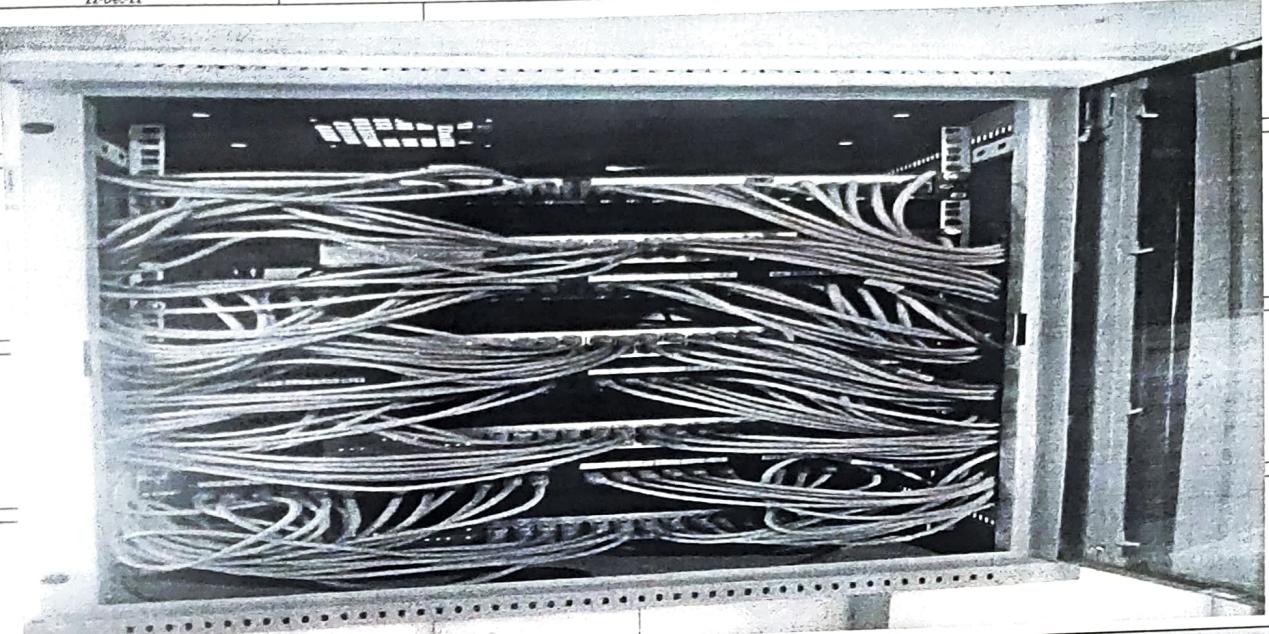
Access Switch

Access Switch

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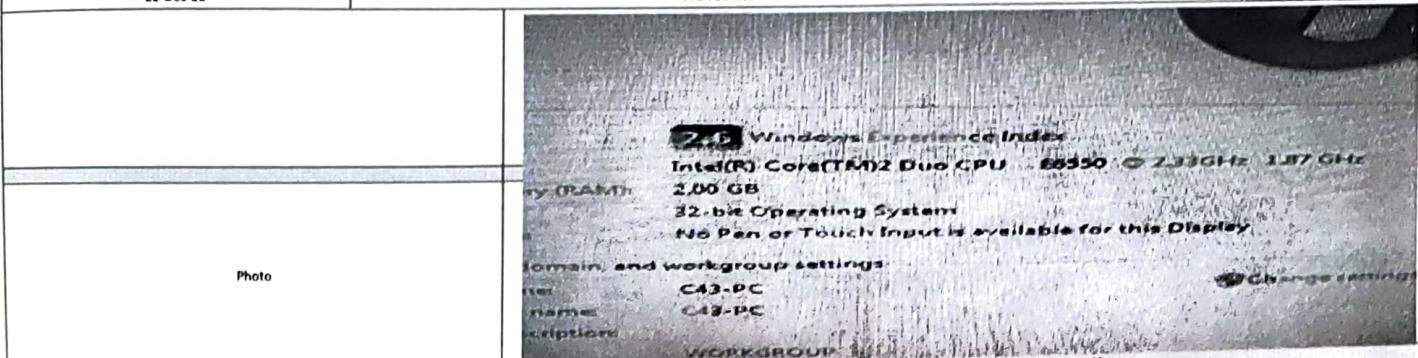
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Access Switch		Access Switch	
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System Configuration Details	System Configuration Details
Photo	See details in Windows Security
Photo	Device specifications Device name: DESKTOP QJ6H2EA Processor: Intel(R) Core(TM) i5-4870 CPU @ 3.20GHz 3.20GHz Installed RAM: 4.00 GB Device ID: RDP G1P-TECHNOLOGY-818C-WIN7-FW-F128 Product ID: 00000-00000-00000-00000 System type: Pen and touch

System Configuration Details	System Configuration Details
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Photo		Photo	
Photo		Photo	
Photo		Ping Status	
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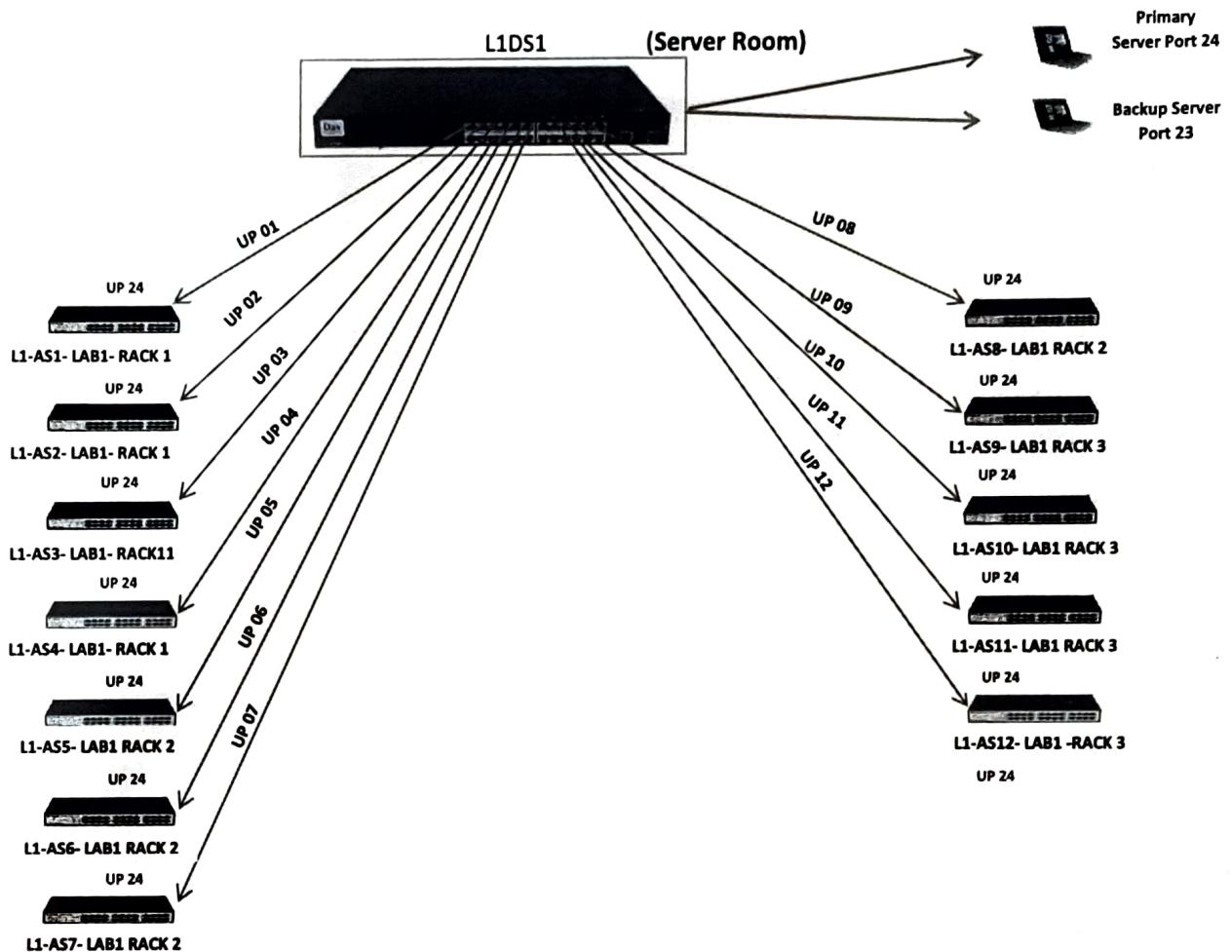




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Audit date 22-Dec-22	Test Center Name Prof. Santosh Kute Examination Center	Report No. 30042_2022_02
Photo	Internet Facility not available	
Photo	Internet Facility not available	
Photo	Photo	Internet speed
VH Signature: Amar Karule		
TCA Signature: Mr. Ankush Ingle		
LISP IT Manager Signature: Mr. Akash Popalghat		
Network Auditor Signature: PRAFUL PATIL		
Center Stamp:		

NETWORK DIAGRAM

City Name	TC Code	TC Name	LAN No.
Akola	30042	Prof. Santosh Kute Examination Center	1



P. Patil
Tech Lead/Network Auditor
Praful Patil

Date
22/12/2022



DISTRIBUTION LAYER SWITCH CONFIGURATION

SWITCH MAKE	SWITCH MODEL	SWITCH NAME	SWITCH PORT	NO OF SERVER CONNECTED	NO OF SYSTEM CONNECTED	NO OF UPLINK CONNECTED INCLUDING BUFFER	TOTAL USED PORT	AVAILABLE FREE PORT	LAB NAME
DAX	DX-5028	L1DS1	24	2	0	12	14	10	SERVER ROOM

ACCESS LAYER SWITCH CONFIGURATION

SWITCH MAKE	SWITCH MODEL	SWITCH NAME	SWITCH PORT	NO OF SYSTEM CONNECTED	NO OF UPLINK CONNECTED INCLUDING BUFFER	TOTAL USED PORT	AVAILABLE FREE PORT	LAB NAME
D-LINK	DGS-1024C	L1-AS1	24 PORT	23	1	1	0	LAB1
D-LINK	DGS-1024C	L1-AS2	24 PORT	23	1	1	0	LAB1
D-LINK	DGS-1024C	L1-AS3	24 PORT	23	1	1	0	LAB1
D-LINK	DGS-1024C	L1-AS4	24 PORT	23	1	1	0	LAB1
D-LINK	DGS-1024C	L1-AS5	24 PORT	23	1	1	0	LAB1
D-LINK	DGS-1024C	L1-AS6	24 PORT	23	1	1	0	LAB1
D-LINK	DGS-1024C	L1-AS7	24 PORT	23	1	1	0	LAB1
D-LINK	DGS-1024C	L1-AS8	24 PORT	23	1	1	0	LAB1
D-LINK	DGS-1024C	L1-AS9	24 PORT	23	1	1	0	LAB1
D-LINK	DGS-1024C	L1-AS10	24 PORT	23	1	1	0	LAB1
D-LINK	DGS-1024C	L1-AS11	24 PORT	23	1	1	0	LAB1
D-LINK	DGS-1024C	L1-AS12	24 PORT	23	1	1	0	LAB1

Tech Lead/Network Auditor
Praful Patil

Date
22/12/2022

