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Janasevanakendrams
in Municipalities and Corporations

Information Technology for Transparency and Efficiency

A Programme of

Information Kerala Mission
A-23, Jawahar Nagar,
Thiruvananthapuram

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Information Technology for Transparency and Efficiency

Introduction

1.0

Long drawn out queues, weary citizens forced to shuttle from one department to another for information and services, complex and time consuming processes totally queer to the uninitiated, inordinate delays in services for the ordinary man, special offerings and fast clearances for the privileged. This is by and large the level of public services in most government departments. Add to this poor book keeping, sizeable arrears in updating registers, poor accountability and transparency within the system, we have the service delivery mechanism in most Local Self Government Institutions (LSGIs). No wonder why such systems also lead to extensive nepotism and corruption. Improving service delivery is therefore one of the, most critical areas of intervention in LSGIs and establishing 'Janasevanakendrams' is the first step towards this.

The 'Janasevanakendram' is a modern computerised front office designed for local self government institutions by the Information Kerala Mission (IKM) for improved service delivery. It is now common knowledge that excellent customer service works only with competent, empowered and willing employees, working in the right motivational environment, and supported by sound business processes[1] and enabling technology. The objective is to replace the unimpressive and stale enquiry counters along with the traditional 'silo mentality'[2] ingrained in public services, with an inspiring and integrated single window customer friendly computerised service counter, positioned in a promising pleasant ambience.

IKM Janasevanakendrams now run in all the five Municipal Corporations in the state and at Vellanad[3] Grama Panchayat. In some of these locations they had been running uninterrupted for nearly more than two and half years. A unique brand identity encompassing the interior design, furnishing and equipment layout has emerged. See profile of a typical Janasevanakendram at Thiruvananthapuram Corporation. (Fig. 1.0, Profile)

[1] A Business Process is best defined as any function within an organization that enables the organization to successfully deliver its products and services

[2] Silo mentality is the attitude of working in closed compartments without effective communication.

[3] Vellanad Grama Panchayat is the first computerised Grama Panchayat in the country.

2.0 The Concept and Objectives

The intention of Janasevanakendrams is to replace the present swarming and non user friendly counters in most Municipalities with a clean, tidy and people friendly counter with appropriate queue management options. In some of the Corporations the Janasevanakendrams have been positioned in fully air-conditioned lobbies. This is optional. However, a well ventilated space in an excellent setting, neatly maintained toilets and a drinking water facility for the public are inevitable requirements. Uninterrupted power supply for equipments is part of the Information Kerala Mission package; generator back up for the equipments and air conditioners is desirable but not mandatory. Emergency lights and fire security equipment in the counter are also compulsory.

The objective of the 'Janasevanakendrams' shall be the following:

(1)To provide computerised counters for automatic demand generation from the respective departments or sections in the Municipality (except for property tax and profession tax which would be directly received at the counter) and a facility for fast counter collection.

(2) To provide counter collection from the public based on receipts issued to them earlier (for payment of the previous instalment of property tax) till such time back end linkages are established.

(3) To provide counter collection of profession tax based on statements prepared by the drawing and disbursing officers in the respective offices.

(4) To facilitate online update of outdoor collections made by field staff on a daily basis so that identification of defaulters of revenue payment can be streamlined.

(5) To provide a facility for online registration of births, deaths and marriages and for issue of certificates of registrations (for current registrations only) under section 12 of the Kerala Registrations of birth and death rules.

(6) To provide a facility for search and issue of extracts for previously registered births, deaths and marriages as and when the past data entry of records is completed and integrated with the Janasevanakendram counter.

(7) To provide generation of daily cash and cheque receipts counter wise and to prepare books of accounts in the local body based on this.

(8) To facilitate update of collection in demand registers without delay so that revenue collection could be smooth.

Space Requirements 3.0

The Janasevanakendram is a computerised counter established within the office of the Urban Local Body based on a space, furnishing and equipment scheme worked out by the Information Kerala Mission. The space identified should facilitate visibility and also provide convenient seating for the public. Details of space requirements, counter and hardware requirements in various types of urban local bodies are provided below:

Table 1
Details of seating and spacing for Janasevanakendrams

Sl.No.	Category	Minimum Seating for Public (no.)	Minimum space for Janasevana Kendrams (sq.m.)		Space for UPS Room & Server Room (sq.m.)
			For Counters	Circulation and waiting	
1.	Corporation Grade I	50	40.00	80.00	15.00
2.	Corporation Grade II	50	40.00	80.00	15.00
3.	Corporation Zonal Office	8	8.00	15.00	12.50
4.	Municipality Grade I	12	14.00	25.00	12.50
5.	Municipality Grade II	12	14.00	25.00	12.50
6.	Municipality Grade III	8	8.00	15.00	12.50

The details on space for counters and other furniture are attached at Annexure 1.

4.0 The Design

A design specifying the style, colour and quality of each item to be used in the interior for Janasevanakendram has been specified to ensure the uniformity of the interior and for standardisation.
The elements which are covered in the interior scheme of IKM are listed in the table below:

Table 2
Details of interior components for Janasevanakendrams

Sl. No.	Interior Components
1.	Flooring
2.	Wall Finish
3.	Doors and Windows
4.	Main Signage
5.	Logo
6.	Direction or Information Signage
7.	Flower trough or pots

Table 3
Details of furniture for Janasevanakendrams

Sl. No.	Furniture
1.	Chairs for officials and staff (CH-01)
2.	Chairs for public - waiting (CH-02)
3.	Chairs for visitors in the interactive counters (CH-03)
4.	Double computer table (CT-01)
5.	Single computer table (CT-02)
6.	Printer Table (PT-01)
7.	Monitor stand (MS-01)
8.	Complaints and suggestions box cum stand (CSB-01)
9.	Dust bin (DB-01)

The details of the design, materials and finish of the various components are shown in Annexure 2.
The requirement of the counter furniture for various types of urban local bodies is provided below:

Table 4
Details of requirements of counter furniture for various urban local bodies

Sl.No.	Category	CH-01	CH-02	CH-03	CT-01	CT-02	PT-01	MS-01	CSB-01	DB-01
1.	Corporation Grade I	13	48	12	6	1	6	6	1	2
2.	Corporation Grade II	13	48	12	6	1	6	6	1	2
3.	Corporation Zonal Office	3	8	2	1	1	1	1	1	1
4.	Municipality Grade I	5	12	4	2	1	2	2	1	1
5.	Municipality Grade II	5	12	4	2	1	2	2	1	1
6.	Municipality Grade III	3	8	2	1	1	1	1	1	1

The Hardware and Standard Software Requirements

5.0

The hardware and commercial off the shelf software (COTS) for the Janasevanakendrams have been standardised depending on the grade of the Municipality.

Table 5
Details of hardware for Janasevanakendrams

Sl. No.	Hardware Item	Code
1.	Medium class server	SM-01
2.	High End Client for backup server	HC-01
3.	Low End Client	LC-01
4.	80 Column Dot matrix printer	PRD-01
5.	132 Column Dot matrix printer	PRD-02
6.	Inkjet printer	PRI-01
7.	56 kbps dial-up External Modem	MD-01
8.	8 Port 10/100 Ethernet switch	SW8-01
9.	16 Port 10/100 Ethernet switch	SW16-01
10.	24 Port 10/100 Ethernet switch	SW24-01
11.	LAN Cabling using UTP (Structure Cabling) - 8 Nodes	LAN-01
12.	LAN Cabling using UTP (Structure Cabling) - 16 Nodes	LAN-02
13.	LAN Cabling using UTP (Structure Cabling) - 24 Nodes	LAN-03
14.	5 kVA offline UPS with 4 hours backup	UPS-01
15.	2kVA offline UPS with 4 hours backup	UPS-02

5.0

Table 6
Details of COTS software for Janasevanakendrams

Sl. No.	Software Item	Code
1.	Bright Stor ARC Serve for Windows 2000 Server	ASB-01
2.	CA e-Trust anit-virus for Windows 2000 Server	AVS-01
3.	CA e-Trust anit-virus for Windows XP Professional	AVC-02
4.	Windows 2000 Server	WS-01
5.	Windows XP Professional	WP-02
6.	Windows 2000 Client access license	WCL-01
7.	CDAC ISM Office - 25 User	ISM-01
8.	CDAC ISM Office - 10 User	ISM-02
9.	CDAC ISM Office - 5 User	ISM-03
10.	MS Office 2003 Standard	MOS-01
11.	MS SQL Server 2000	MSQS-01
12.	MS SQL Server Client access license	MSQC-01

The requirement of hardware for various types of urban local bodies is provided below:

Table 7
Details of hardware requirements for Janasevanakendrams

Sl.No.	Category	SM-01	HC-01	LC-01	PRD-01	PRD-02	PRI-01	MD-01	SW8-01	SW16-01	SW24-01	LAN-01	LAN-02	LAN-03	UPS-01	UPS-02
1.	Corporation Grade I	2		12	12	1		2			1			1	1	
2.	Corporation Grade II	2		8	8	1		2			1			1	1	
3.	Corporation Zonal Office	1	1	2	2	1		1	1			1				1
4.	Municipality Grade I	1	1	2	1	1	2	1		1		1				1

5.0

Table 7
Details of hardware requirements for Janasevanakendrams

Sl.No.	Category	SM-01	HC-01	LC-01	PRD-01	PRD-02	PRI-01	MD-01	SW8-01	SW16-01	SW24-01	LAN-01	LAN-02	LAN-03	UPS-01	UPS-02
5.	Municipality Grade II	1	1	2		1	1	1	1		1	1				1
6.	Municipality Grade III	1	1	1		1	1	1	1		1	1				1

The requirement of standard software for various types of urban local bodies is provided below:

Table 8
Details of COTS software requirements for Janasevanakendrams

Sl.No.	Category	ASB -01	AVS -01	AVC -01	WS -01	WP -01	WCL -01	ISM -01	ISM -02	ISM -03	MOS -01	MSQS -01	MSQC -01
1.	Corporation Grade I	1	1	12	1	12	12	1			12	1	12
2.	Corporation Grade II	1	1	8	1	8	8		1		8	1	8
3.	Corporation Zonal Office		1	2	1	2	2			1	2	1	2
4.	Municipality Grade I	1	1	3	1	3	3			1	3	1	3
5.	Municipality Grade II	1	1	2	1	2	2			1	2	1	2
6.	Municipality Grade III	1	1	1	1	1	1			1	1	1	1

Detailed specifications of the hardware, software, networking and electrification at Janasevanakendrams are provided at Annexure 3.

6.0 The Application Software

Information Kerala Mission would deploy the following applications in the counter:

(1) Sevana local body kiosk application for entry of current birth, death and marriage data.

(2) Sevana local body application for search, processing of applications for name inclusion, delayed registrations, changes etc. and for issue of certificates from the Sevana database.

(3) Sevana district level application for approval of delayed registrations, for incorporating changes in already registered events etc. and for forwarding applications to the Chief Registrar's Office.

(4) The Mission shall also deploy the Sevana past data entry module for pre-processing past registrations and for the creation of a framework for transition of manual data to electronic data and for validated data entry of past records at the data entry centre identified by the Municipality.

(5) Saankhya application for handling receipts and payments of current transactions leading to creation of daily statements, register of receipts, register of payments, cash book etc.

7.0 The Next Steps

The major steps to be completed in establishing Janasevanakendrams after a LSGI decides to entrust IKM with the project and releases funds for the same are as follows:

(1) Completion of civil works in the space identified for establishing the Janasevanakendrams.

(2) Electrification for positioning the Uninterrupted Power Supply unit and for wiring the computers, printers, modems, hubs/switches etc. as per standards.

(3) Earthing as per Indian standards to avoid spikes and for equipment and personnel protection.

(4) Cabling for network as per EIA/TIA standards.

(5) Positioning of pre-designed counters, dustbin, printer table, suggestions box etc.

(6) Installation of equipments and software including application software developed by IKM.

The application installation would in turn require the operational staff prepare masters for customisation of the application as per the requirements of the Municipality. The staff of the Municipality are to be trained in fundamentals of computers, Saankhya and Sevana applications and also in operations of the public service counters.

Profile

Figure 1.0
Profile of a Janasevanakendram at Thiruvananthapuram Corporation.

Annexure 1

Details of Space Requirements

1. Seating for the Public

2. Circulation space

3. Space for counters

4. Space for Server room and UPS Room.

Table A1.1
Seating for the public (No. of Seats)

Sl.No.	Category	Minimum	Maximum
1.	Corporation Grade I	50	75
2.	Corporation Grade II	50	75
3.	Municipality Grade I	12	16
4.	Municipality Grade II	12	16
5.	Municipality Grade III	8	12

Table A1.2
Space for circulation (sq.m.)

Sl.No.	Category	Minimum	Maximum
1.	Corporation Grade I	80	100
2.	Corporation Grade II	80	100
3.	Municipality Grade I	25	35
4.	Municipality Grade II	25	35
5.	Municipality Grade III	15	25

Annexure 1

Table A1.3
Space for seating (sq.m.)

Sl.No.	Category	Minimum	Maximum
1.	Corporation Grade I	50	75
2.	Corporation Grade II	50	75
3.	Municipality Grade I	12	16
4.	Municipality Grade II	12	16
5.	Municipality Grade III	8	12

Table A1.4
Number of Public Service Counters

Sl.No.	Category	Number of Counters
1.	Corporation Grade I	12
2.	Corporation Grade II	12
3.	Municipality Grade I	4
4.	Municipality Grade II	4
5.	Municipality Grade III	2

Table A1.5
Space for counters (sq.m.)

Sl.No.	Category	Minimum	Maximum
1.	Corporation Grade I	40	40
2.	Corporation Grade II	40	40
3.	Municipality Grade I	14	14
4.	Municipality Grade II	14	14
5.	Municipality Grade III	8	8

Annexure 1

Table A1.6
Space for Server Room (sq.m.)

Sl.No.	Category	Minimum	Maximum
1.	Corporation Grade I	7.5	10
2.	Corporation Grade II	7.5	10
3.	Municipality Grade I	7.5	10
4.	Municipality Grade II	7.5	7.5
5.	Municipality Grade III	7.5	7.5

Table A1.7
Space for UPS Room (sq.m.)

Sl.No.	Category	Minimum	Maximum
1.	Corporation Grade I	7.5	10
2.	Corporation Grade II	7.5	10
3.	Municipality Grade I	5	7.5
4.	Municipality Grade II	5	7.5
5.	Municipality Grade III	5	7.5

Table A1.8
Total space required for Counter Setup (sq.m.)

Sl.No.	Category	Minimum	Maximum
1.	Corporation Grade I	185	235
2.	Corporation Grade II	185	235
3.	Municipality Grade I	63.5	82.5
4.	Municipality Grade II	63.5	80
5.	Municipality Grade III	43.5	60

Annexure 2

Design details of the JanasevanaKendram

As explained earlier, a design specifying the style, colour and quality of each item to be used in the interior for Janasevanakendram has been specified to ensure the uniformity of the interior and for standardisation. The details of various components covered are shown in the table and the drawings below:

Table A2.1
Details of seating and spacing for Janasevanakendrams

Sl.No.	Component of Interior	Dimension	Material or Finish	Color Scheme	Benchmark make for identifying equivalents[4]
1.	Flooring		Granite Slabs	Green	
			Vitrified floor tile	Ivory	Johnson's marbonite or equivalent
2.	Wall Finish		Plastic Emulsion	Butter Milk	Code 36-0014 of ICI Paints or equivalent
3.	Door and Windows	New - as per design	Aluminium frame	Powder coated Black	
		Existing	Wood	Bluebell white or equivalent	
4.	Counter (Fig. A2.1)	Counter size: 260cm x 60cm x 75cm for housing two machines (Code No. CT-01) Monitor stand as per drawing (Code No. MS-01)	Pre-laminated board (18mm) of approved colour with lacquer finished wooden beading on all exposed edges.	Boards- Bavarian Beech	Novapan or equivalent
				Borders - Green	Brilliant Green Asian Paints apcolite series or equivalent Green

[4] IKM is absolutely vendor neutral. The makes referred here are purely indicative and is done for benchmarking only.

Annexure 2

Table A2.1 (contd.)
Details of seating and spacing for Janasevanakendrams

Sl.No.	Component of Interior	Dimension	Material or Finish	Color Scheme	Benchmark make for identifying equivalents[1]
4.	Counter (Fig. A2.1)	Printer table size: 90cm x 90cm x 75cm with 2 separate CPU compartments, 2 drawers, 2 cupboards (18mm) and 1 open shelf. (Code No. PT-01) as per design sheet attached. Server table of size; 120cm x 75cm x 75 cm for housing one machine (Code No. CT-02). Five legged revolving frame chair with castors, with height and tilting adjustments as shown in design sheet (Code No. CH-01			
5.	Chairs for officials and staff (Fig. A2.1)	Chairs as shown in design (Code No. CH-03)	MS frame chairs, upholstered moulded Poly Urethane seat and back, Poly Urethane armrest	Fabric Green	Brilliant Green Asian Paints apcolite series or equivalent Green
				Metal and plastic partslike arm rest and pedal cover - Black	
6.	Chairs for visitors in the interactive counters	Four seat multiseater without armerst as shown in design (Code No. CH-02)	MS frame and upholstered seat and back	Fabric Green	Brilliant Green Asian Paints apcolite series or equivalent Green
				Metal and plastic partslike arm rest and pedal cover - Black	Brilliant Green Asian Paints apcolite series or equivalent Green
7.	Chairs for public - waiting		MS tubular frame and Poly propylene moulded seat	Seats -Green	
				Metal parts -Black	

Annexure 2

Table A2.1 (contd.)
Details of seating and spacing for Janasevanakendrams

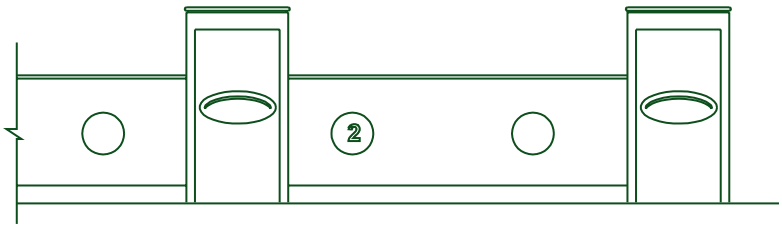
Sl.No.	Component of Interior	Dimension	Material or Finish	Color Scheme	Benchmark make for identifying equivalents[1]
8.	Logo (Fig. A2.2)	Printed Stickers - Length 30 cm max. and height at an appropriate ratio (as per the approved logo size)	PVC sheets for affixing on the counters	White flex sheet	Brilliant Green Asian Paints apcolite series or equivalent Green
				Text - White on green logo	
9.	Main Signage	Length: Preferably full length of the fascia of the entrance. Height: 45cm, Pattern: 10cm, Green border pn the top and bottom, centre portion in Yellow. Logo in 60cm length and height at an appropriate ratio, fixed, printed at the centre.	Acrylic/PVC sheet	White flex sheet	
			Text matter digitally printed	Text - White on green logo	
10.	Direction or information Signage indication workgin time and stickers	As per design	Computer letters	Red colour letters in transparent stickers or Red letters directly affixed in the glass surface	
11.	Complaints and suggestions box cum stand	60 cm (h) x 45 cm (w) x 40 cm (d) (Code No: CSB-01)	Hardwood reapers and pre laminated board (18mm) of approved colour with lacquer finished wooden beading on all exposed edges	Bavarian Beech	Bavarian Beech colour
12.	Dust bin	45 cm (h) x 30 cm (w) x 30 cm (d) (Code No. DB-01)	Medium density fibre board (18mm) or pre laminated board (18mm) of approved colour with lacquer finished wooden beading on all exposed edges	Bavarian Beech	Bavarian Beech colour

Annexure 2

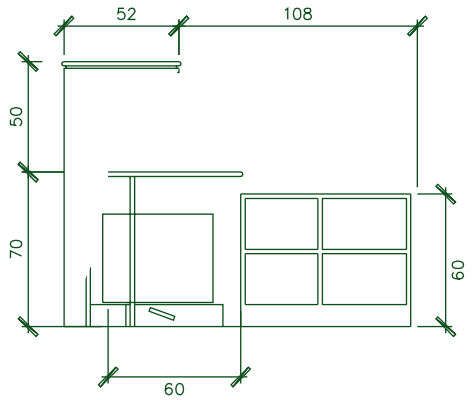
Table A2.1 (contd.)
Details of seating and spacing for Janasevanakendrams

Sl.No.	Component of Interior	Dimension	Material or Finish	Color Scheme	Benchmark make for identifying equivalents1
13.	Flower trough or pots	60 cm (l) x 30 cm (h) x 45 cm (w)	Medium density fibre board (18mm) or pre laminated board (18mm) of approved colour with lacquer finished wooden beading on all exposed edges	Beech	Beech colour
14.	Emergency Lamp				
15.	Air Conditioning (Optional)	To suit the size and volume of tthe hall			

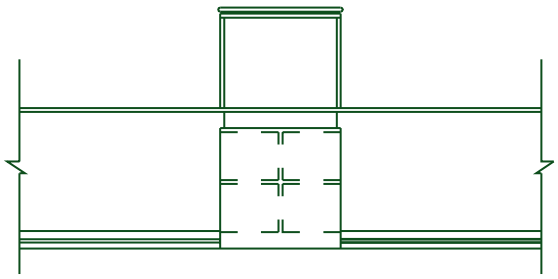
Figure A2.1
Design of counter table, printer table and monitor stand



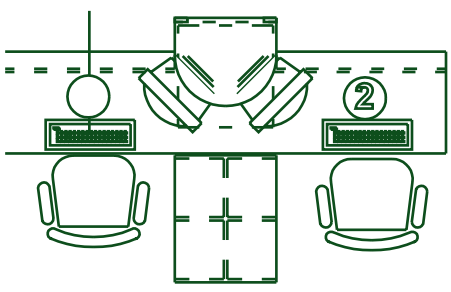
FRONT ELEVATION



SECTION



INSIDE ELEVATION



PLAN

Annexure 2

Figure A2.2
Typical layout for Janasevanakendrams

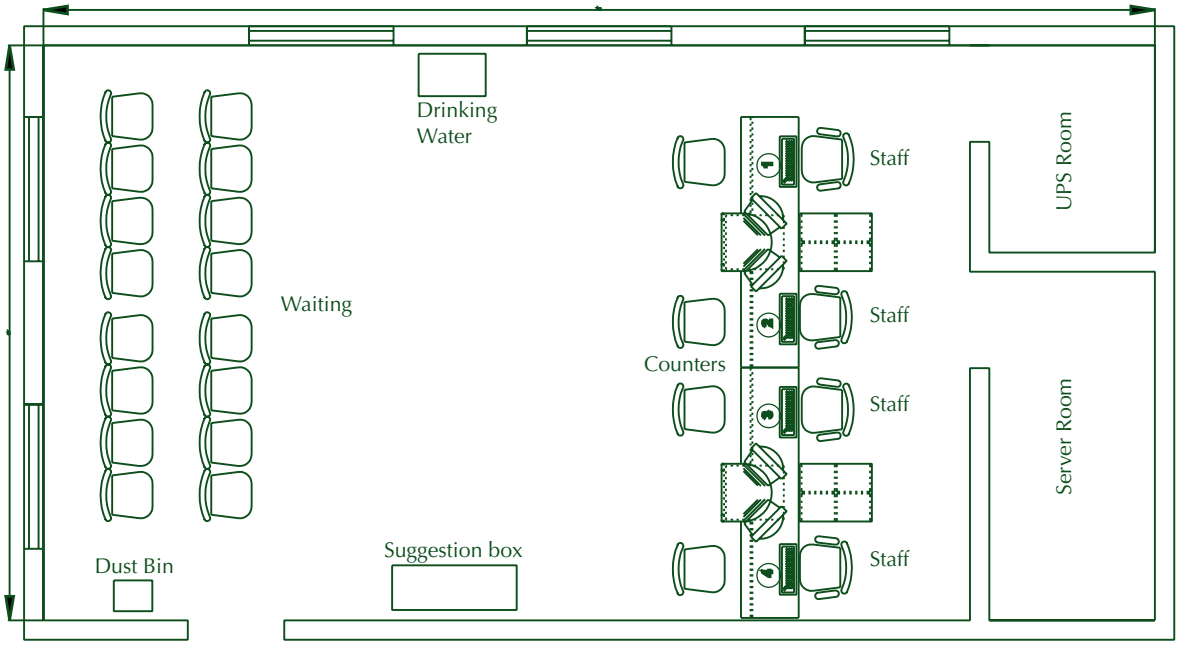


Figure A2.3
Logo for Janasevanakendrams

Annexure 3

Technical Specification for Hardware, COTS Software, networking and electrification in Janasevanakendrams

A3.1 Specifications for Hardware

A3.1.1 Medium class Server (SM-01)

Intel Xeon 3.2 GHz or better processor
System should be dual processor capable
800 MHz front side bus or better
512 MB ECC DDR-SDRAM upgradeable to 2 GB or better
Original server class chipset (as per specification of the chipset manufacturer)
RAID Controller - Dual Channel Ultra 320 SCSI with 64 MB of ECC Cache
(independent of the onboard SCSI channels) with support for RAID 5
4 nos. of 36 GB hot-swappable Ultra320 SCSI or better hard disks at 10,000 rpm or better
1.44 MB Floppy Disk drive
48x or better CD-ROM drive
20/40 GB Internal SCSI DAT drive
Dual 10/100/1000 Mbps Ethernet network adapters (At least one on-board gigabit network adapter)
Server configuration and monitoring software
15" SVGA non-interlaced digital colour monitor
PS2 keyboard for Windows
PS2 Scroll mouse with mouse pad
Front panel high speed USB 2.0 ports
Serial, parallel and USB ports
Dual redundant power supply (hot pluggable) with separate power cord to each unit
Localised power cord
Remote management hardware with necessary software (including client side) for remotely connecting to the system and performing maintenance, including the Operating System
Automatic server recovery
3 year comprehensive, onsite warranty (onsite) from original manufacturer
Pre-failure warranty for hard disk, memory
Certification from Microsoft for Windows 2003 Server
(the model offered should be listed on the certifier website and should be verifiable by IKM; copy of certificate with URL to be enclosed)
Device drivers for all devices with media. Drivers for components/devices should be digitally signed by Microsoft
All I/O ports must be labelled
Optional items (price to be quoted separately)
Additional 512 MB RAM
Optical mouse in lieu of PS2 Scroll mouse

A3.1.2 High End Client for Backup Server (HC-01)

Pentium 4 HT, 3.2 GHz or better
800 MHz front side bus or better (Intel 915 chipset, OEM or Intel motherboard)
256 MB DDR RAM
80 GB Hard disk
1.44 MB Floppy Drive
48x or better CD-ROM drive
15" Colour Monitor
10/100/1000 Mbps Ethernet Card (Onboard NIC), PXE enabled for remote booting and install facility
PS2 Keyboard and Scroll Mouse
Front panel high speed USB 2.0 ports and Audio ports

Annexure 3

2 USB Ports, 1 serial and parallel port at rear
Integrated audio with internal speakers (for multimedia audio)
Localised power cord
Certification from Microsoft for Windows XP Professional
(the model offered should be listed on the certifier website and should be verifiable by IKM)
Windows XP Professional preloaded
Management features: industry standard management features for integrated monitoring and management.
Drivers for components/devices should be digitally signed by Microsoft
3-year comprehensive onsite warranty, direct from manufacturer

Optional items (price to be quoted separately)
Additional 256 MB RAM
Optical mouse in lieu of PS2 Scroll mouse

A3.1.3 Low End Client (LC-01)

Celeron, 2.8 GHz or better (Intel chipset with Intel original or OEM motherboard)
256 MB DDR RAM
80 GB Hard disk
1.44 MB Floppy Drive
48x CD-ROM drive
15" Colour Monitor
10/100/1000 Mbps onboard Ethernet NIC, PXE enabled for remote booting and install facility
PS2 Keyboard and Scroll Mouse
Front panel High speed USB 2.0 ports and Audio ports
2 USB Ports, 1 serial and parallel port at rear
Integrated audio with internal speakers (for multimedia audio)
Localised power cord
Certification from Microsoft for Windows XP Professional (the model offered should be listed on the certifier website and should be verifiable by IKM)
Windows XP Professional preloaded
Management features: industry standard management features for integrated monitoring and management.
Drivers for components/devices should be digitally signed by Microsoft
3-year comprehensive onsite warranty, direct from manufacturer

Optional items (price to be quoted separately)
Optical mouse in lieu of PS2 Scroll mouse

A3.1.4 Dot matrix printer - 80 column (PRD-01)

24 pin, 80 column dot matrix printer
Print speed of 300 cps for draft (10 cpi), minimum speed for LQ - 80 cps (10 cpi)
Facility for printing on cut-sheets and continuous stationery (with tear-off)
1+3 paper support
Necessary software including drivers for Windows 2000/XP/2003
3-year comprehensive onsite warranty, with warranty document from manufacturer

Optional item:
Multilingual printing capability (with CDAC ISCII Malayalam character set compatible with ML-TTRevathi font) with flash memory for character set updates

Annexure 3

A3.1.5 Dot matrix printer - 132 column (PRD-02)

24 pin, 132 column dot matrix printer
Print speed of 300 cps for draft (10 cpi), minimum speed for LQ - 60 cps (10 cpi)
Facility for printing on cut-sheets and continuous stationery (with tear-off)
1+2 paper support
Necessary software including drivers for Windows 2000/XP/2003
3-year comprehensive onsite warranty, with warranty document from manufacturer
Optional item:
Multilingual printing capability (with CDAC ISCII Malayalam character set compatible with ML-TTRevathi font) with flash memory for character set updates

A3.1.6 Modem (MD-01)

Dial up external modem
56 kbps
Modem should be suitable to function properly in all exchanges in Kerala
Necessary cables and connectors
Necessary drivers for Windows 2000/XP/2003
3 year comprehensive warranty onsite

A3.1.7 Ethernet Network switch - 16 port (SW16-01)

16 port
10/100 Mbps
Minimum back plane bandwidth of 7.2 Gbps or better
Should be rack mountable
Should support VLAN, port trunking, Port mirroring
Slot for one gigabit Ethernet module
LED indicators for power, Link status for each port link activity, full duplex and speed indication
In-built internal power supply capable of 100 to 240 V AC input power source
3 year comprehensive warranty onsite, direct from manufacturer, with next business day support
Optional item:
Gigabit module for above switch

A3.1.8 Ethernet Network switch - 24 port (SW24-01)

Switch with Layer 3 capability
10/100 Mbps
Managed stackable switch
Should be rack mountable
Minimum back plane bandwidth of 8.8 Gbps or better
Should support modules for fibre optic and gigabit Ethernet (minimum 2 ports)
LED indicators for power, Link status for each port link activity, full duplex and speed indication
In-built internal power supply capable of 100 to 240 V AC input power source
Should support VLAN, Port trunking
3 year comprehensive warranty onsite, direct from manufacturer, with next business day support
Optional items:
Gigabit module for above switch
Fibre module for above switch

A3.1.9 UPS 5 kVA (UPS-01)

5 kVA line interactive UPS
Sine wave output with less than 5% THD for normal computer load, when running on batteries
Network monitoring capability through inbuilt Ethernet card, preferably over a http/ browser interface
SNMP for reboot, shutdown and basic diagnostics of the UPS
2 year warranty for UPS and battery
4 hour backup duration at full load

Annexure 3

SMF lead acid batteries, with cabinet. Batteries shall be of reputed makes such as Panasonic/ Yuasa/ APC/ Exide or equivalent
Input voltage range should support normal operating voltage ranges in Kerala
A3.1.10 UPS 2kVA (UPS-02)
2 kVA line interactive UPS
Sine wave output with less than 5% THD for normal computer load, when running on batteries
Network monitoring capability through inbuilt Ethernet card, preferably over a http/ browser interface
SNMP for reboot, shutdown and basic diagnostics of the UPS
2 year warranty for UPS and battery
4 hour backup duration at full load
SMF lead acid batteries, with cabinet. Batteries shall be of reputed makes such as Panasonic/ Yuasa/ APC/ Exide or equivalent
Input voltage range should support normal operating voltage ranges in Kerala
Test certificates from reputed laboratories such as ERTL/ CPRI for the model quoted shall be enclosed

A3.1.10 UPS 2kVA (UPS-02)

2 kVA line interactive UPS
Sine wave output with less than 5% THD for normal computer load, when running on batteries
Network monitoring capability through inbuilt Ethernet card, preferably over a http/ browser interface
SNMP for reboot, shutdown and basic diagnostics of the UPS
2 year warranty for UPS and battery
4 hour backup duration at full load
SMF lead acid batteries, with cabinet. Batteries shall be of reputed makes such as Panasonic/ Yuasa/ APC/ Exide or equivalent
Input voltage range should support normal operating voltage ranges in Kerala
Test certificates from reputed laboratories such as ERTL/ CPRI for the model quoted shall be enclosed

A3.2 Software Specifications for commercial off the shelf (COTS) software for Janasevanakendrams

1. MS Windows 2000 Server (OLP)
2. MS SQL Server 2000 (OLP)
3. MS Office 2003 Standard (OLP)
4. MS Window 2000 Client access license (OLP)
5. MS SQL Server Client access license (OLP)
6. CA BrightStor ARCserve version 11.0 or later backup software for Windows 2000 Server
7. CA eTrust Antivirus version 7.0 or later software for Windows 2000 server with 3 year support-OLP
8. MS Windows XP Professional (pre loaded with client)
9. CA eTrust client anti-virus for Window XP Professional
10. CDAC ISM:
Version 3.04 (network version)-25 user with modification made for IKM with media and documentation
11. CDAC ISM:
Version 3.04 (network version)-10 user with modification made for IKM with media and documentation
12. CDAC ISM :
Version 3.04 (network version)-5 user with modification made for IKM with media and documentation

A3.3 Network cabling

A3.3.1 LAN Cabling using UTP (Structured Cabling - 24 Nodes)

LAN cabling is to be done as per EIA/TIA 568 standards. Structured cabling with patch panel, rack and information outlets, is to be done with certification for performance/ warranty from reputed networking component manufacturers for passive components for the next 20 years. The components and the approximate estimate of networking is given.

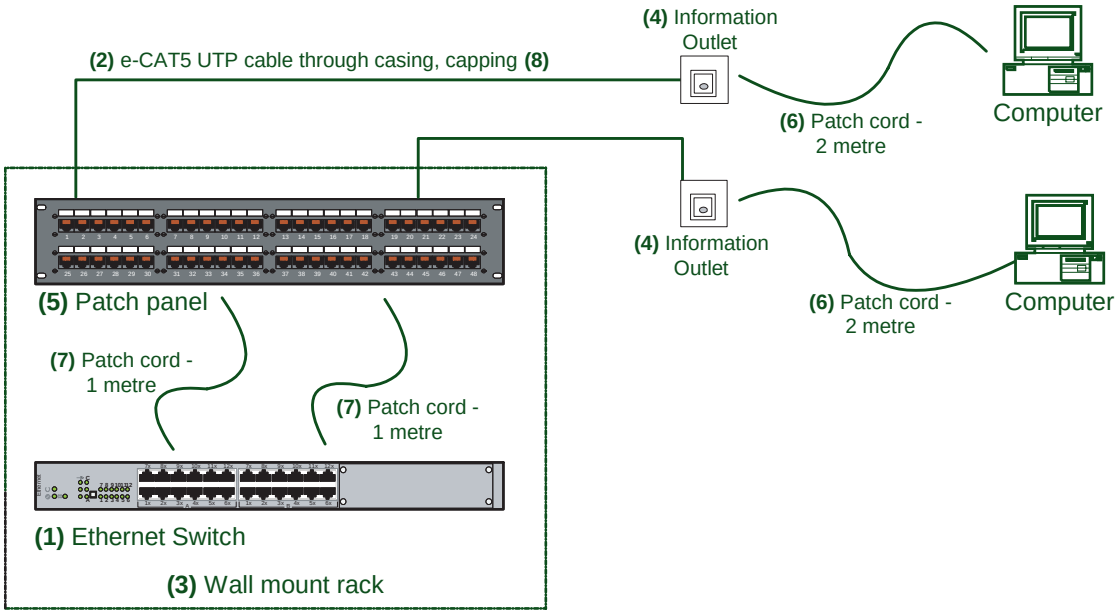
Annexure 3

Table A3.1
Components for LAN cabling for local body network with 24 nodes

Sl. No.	Description	Quantity[5]
1.	24 Port 10/100 Mbps Ethernet Switch Rack - Mountable	1 Nos.
2.	4 pair 100 ohms Enhanced CAT 5 UTP Cable (per meter)	100 meters
3.	Standard wall mounting 6U Rack with accessories, Accessories include one cooling fan, AC Distribution Box with 5 Nos of 5A Sockets.	1 Nos.
4.	E-CAT5 spring shuttered Information Outlet with Surface Mount Box	24 Nos.
5.	24 Port E-CAT5 fully loaded Patch panel with cable manager	1 Nos.
6.	Enhanced CAT5 4 pair Patch Cord 2 metre	24 Nos.
7.	Enhanced CAT5 4 pair Patch Cord 1 metre	24 Nos.
8.	Cost and laying of Conduits using first quality Casing & capping (25 mm) with fittings on wall per metre	50 Nos.
9.	Laying and Termination of cable	100 Nos.
10.	Fixing and termination of Patch panel	1 Nos.
11.	Fixing and Termination of information outlet with surface mount Box	24 Nos.
12.	Fixing of 19" 6U wall mount Rack	1 Nos.
13.	Testing with due Certification and warranty for 20 years from reputed networking component manufacturers	24 Nos.

Annexure 3

Figure A3.1
Components in LAN cabling



Note: Patch panel (1) and rack mountable Ethernet switch (5) are fixed in a wall mount rack (3) in the server room. (9) to (13) are expenses related to the installation work.
The numbers (in brackets) are references to the items in Table A3.1 above.

A3.2.2 LAN Cabling using UTP (Structured Cabling - 16 Nodes)

As in the cabling for 24 nodes, the structured networking cabling as per EIA/TIA 568 standards shall be done for 16 node networks also. In this case also certification for performance/warranty for 20 years should be obtained for passive components from reputed networking manufacturers.

Table A3.2
Components for LAN cabling for local body network with 16 nodes

Sl. No.	Description	Quantity[5]
1.	16 port 10/100 Mbps Ethernet Switch, should be Rack Mountable (3-year on-site warranty)	1 Nos.
2..	4 pair 100 ohms Enhanced CAT 5 UTP Cable (per meter)	100 meters

[5] The quantities shown are approximate and would vary from site to site.

Annexure 3

Table A3.2
Components for LAN cabling for local body network with 16 nodes

Sl. No.	Description	Quantity
3.	Standard wall mounting 6U Rack with accessories, Accessories include one cooling fan, AC Distribution Box with 5 Nos of 5A Sockets.	1 Nos.
4.	E-CAT5 spring shuttered Information Outlet with Surface Mount Box	16 Nos.
5.	16 Port E-CAT5 fully loaded Patch panel with cable manager	1 Nos.
6.	Enhanced CAT5 4 pair Patch Cord 2 metre	16 Nos.
7.	Enhanced CAT5 4 pair Patch Cord 1 metre	16 Nos.
8.	Cost and laying of Conduits using first quality Casing & capping (25 mm) with fittings on wall (per metre)	50 Nos.
9.	Laying and Termination of cable	100 Nos.
10.	Fixing and termination of Patch panel	1 Nos.
11.	Fixing and Termination of information outlet with surface mount Box	16 Nos.
12.	Fixing of 19" 6U wall mount Rack	1 Nos.
13.	Testing with due Certification and warranty for 20 years from reputed networking component manufacturers	16 Nos.

A3.4 Electrical cabling specification

A3.4.1 Earthing[6]

The object of an earthing system is to provide as nearly as possible a surface under and around a station which shall be at a uniform potential and as nearly zero or absolute earth potential as possible. The purpose of this is to ensure that in general all parts of an apparatus, other than live parts, shall be at earth potential, as well as to ensure that operators and attendants shall be at earth potential at all times. Also by providing such an earth surface of uniform potential under and surrounding the stations, as nearly as possible, there can exist no difference of potential in a short distance big enough to shock or injure an attendant when short-circuits or other abnormal occurrences take place.
It is recommended that a drawing showing the main earth connection and earth electrodes be prepared for each installation.
All materials, fittings, etc. used in earthing shall conform to Indian Standard specifications wherever these exist, the material shall be approved by the competent authority.

[6] Source: National Electrical Code and IS 3043:1987

Annexure 3

A3.4.1 The earthing should be done as per IS 3043:1987 by an approved electrical contractor or wireman. The aim of earthing is to have almost zero resistance between the earth terminal of equipment and Earth.
Plate electrode is recommended for the computer systems.

Earth Electrode in Plate Type Earthing

Length/Depth of burial (not less than) 1.5 m
Plate Size 600 x 600 mm
Plate Thickness 6.30 mm
Plate Material Copper

Two runs of 8/10 SWG bare copper conductor should be used to connect the earth plate to the UPS/ Distribution box.
A typical illustration of plate electrode is given in Figure A3.2. If two or more plates are used in parallel, they shall be separated by not less than 8.0 / ideal area is 3.50 m2.
After completing the earthing the earth resistance should be measured using an earth tester (such as Megger Earth Tester) and recorded in the test report.
The earthing should be tested and certified that it is prepared as per IS 3043 by an electrical engineer not below the rank of an Assistant Executive Engineer.

Maintaining Earthing

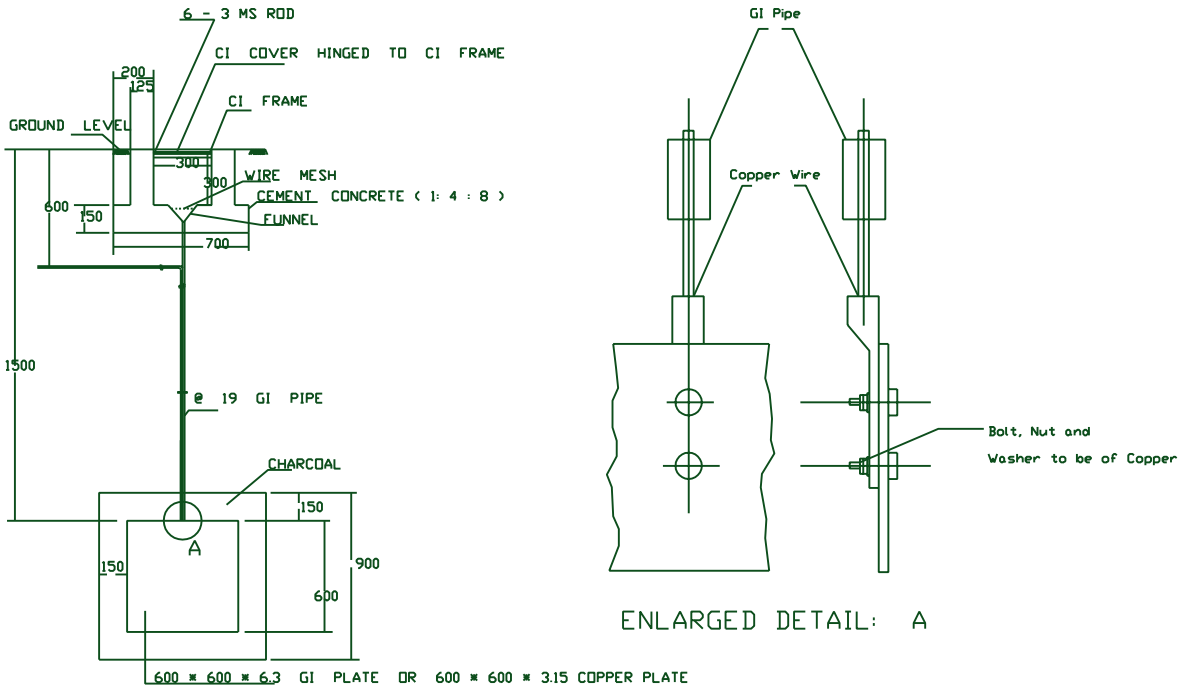
The earthing should be maintained properly to ensure connectivity with earth. The earth pit should always be moist. It is better pour a few bucket of water down the earth pit every couple of weeks.

Table A3.3
Items for plate earthing

Sl. No.	Description	Quantity[7]
1.	Supply of all materials and providing plate earth pit using 600x600x6.3mm copper plate and other accessories as per IS 3043 at corporation building.	1 Set
2..	Supply laying and connecting 2runs 8 SWG bare copper wire from the earth pit to the ELCB of UPS input at proposed location	30 meters

Annexure 3

Figure A3.2
Plate Earthing (All measurements are in mm)



A3.4.2 Electrical cabling specification

Electrical cabling for the UPS and from UPS to the various locations where the computers are positioned is to be done as per the Indian electrical standards. A brief estimate of the electrical work is given below:

Table A3.4
Items for electrical cabling

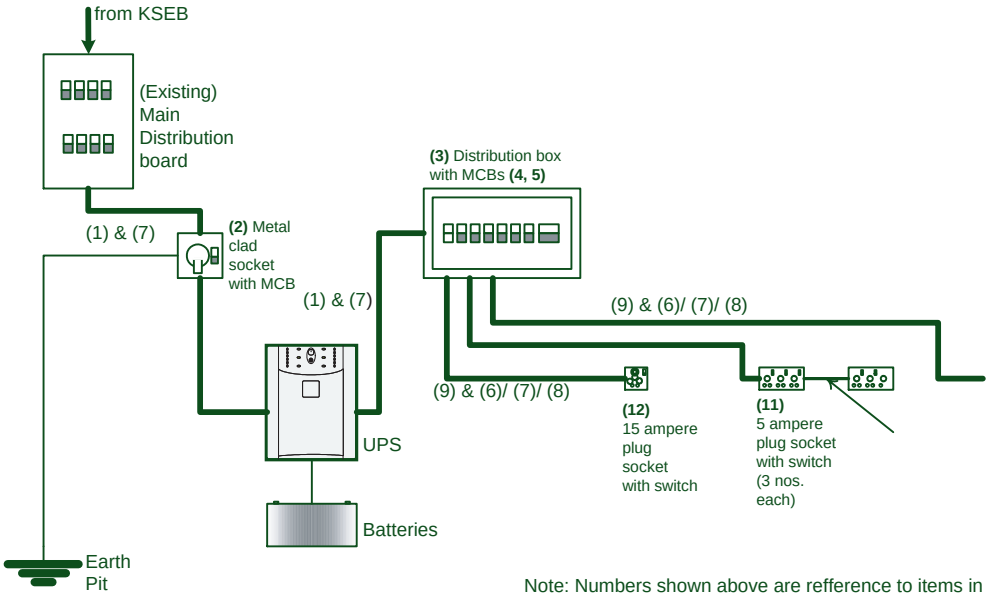
Sl. No.	Description	Quantity[7]
1.	Supply and laying of 2 run, 6 sq.mm PVC insulated copper wire (BIS) & 12 SWG bare copper wire through PVC pipe [from main distribution board to UPS and UPS to distribution board]	45 m
2.	Supply & fixing of metal clad socket, with 40 A MCB in metal clad enclosure on brick wall, including terminations	2 nos.
3.	Supply and fixing of 12-way distribution box (with cover) for UPS output, with one no. 40 A 2-pole isolator, on brick wall/counter table including terminations [at the output of UPS]	1 no.
4.	Supply and fixing of 16A MCB in distribution box including cable terminations	6 no.
5.	Supply and fixing of 20A MCB in distribution box including cable terminations	4 no.

Annexure 3

Table A3.4
Items for electrical cabling

Sl. No.	Description	Quantity[7]
6.	Supply and fixing of 40mm PVC pipe using clamps on wall/counter table with specials.	200 m
7.	Supply and fixing of 25mm PVC pipe using clamps on wall/counter table with specials	150 m
8.	Supply and fixing of 15 mm PVC pipe using clamps on wall/counter table with specials	100 m
9.	Supply & laying of 2 run 2.5 sq. mm. PVC insulated copper cable (BIS certified) with 14 SWG bare copper cable through PVC Pipe (from distribution box to 15A plug sockets)	75 m
10.	Supply & laying of 2 run 1.5 sq. mm. PVC insulated copper cable (BIS certified) with 14 SWG bare copper cable through PVC Pipe (from distribution box to 5A plug sockets)	300 m
11.	Supply and fixing of plate-type plug-socket boards with 3 nos. of 5A sockets with switches, with PVC box, on brick wall/counter table	16 nos.
12.	Supply and fixing of plate-type plug-socket boards with 1 no. of 15A socket with switch, with PVC box, on brick wall/counter table	3 nos.

Figure A3.3
Electrical wiring components



[7] The quantities shown are approximate and would vary from site to site.

Glossary

10/100 Speed of the Ethernet network devices such as switch, hub or network interface card (NIC). 10/100 indicates that the device can work at 10 Mbps or 100 Mbps. 10/100/1000 indicates that the device can work at 10 Mbps or 100 Mbps or 1000 Mbps.

ampere The SI base unit of electric current

Asian Paints Asian Paints is India's largest paint company and ranks among the top ten decorative coatings companies in the world today.

BIS Bureau of Indian Standards, was established by an Act of the Parliament for standardisation, marking and quality certification. BIS grants the "ISI" mark of product certification. (bis.org.in)

CA Computer Associates International, Inc., the world's largest management software company, delivers software and services across operations, security, storage, life cycle and service management to optimize the performance, reliability and efficiency of enterprise IT environments. The antivirus software eTrust and the backup software BrightStor ARCserve are products from CA. (ca.com)

Cache Pronounced "cash", it is a special high-speed storage mechanism.
A memory cache, sometimes called a cache store or RAM cache, is a portion of memory made of high-speed static RAM (SRAM). Here it refers to the high speed memory (usually of 128 kB to 1 MB capacity) available with the microprocessor which acts as an interface between the processor and the system memory (usually of 128 MB to 1 GB capacity).

CAT5 Category 5 standard specifies the electrical performance of the cable. It refers to the standard of cable and other passive components used for local area network cabling. CAT5 components support upto 100 Mbps speed on an Ethernet network (Fast Ethernet). eCAT5 or CAT5e refers to enhanced CAT5 standard which is suitable for 1000 Mbps (gigabit) Ethernet connectivity.

C-DAC Centre for Development of Advanced Computing is a scientific society of the Government of India. It is renowned for the first indigenously developed supercomputer PARAM and its work in the development of products for usage of Indian languages in computers (cdacindia.com).

C-DAC ISM Office ISM Office is C-DAC's Office Application with Indian Language Interface

CD-ROM Pronounced see-dee-rom. Short for Compact Disc-Read-Only Memory, a type of optical disk capable of storing large amounts of data

CI Cast Iron

Client The client part of a client-server architecture. Here it refers to the computers used as nodes on the network for accessing applications from the server. These clients are also capable of working as standalone computers for certain applications.

Client/Server architecture A network architecture in which each computer or process on the network is either a client or a server. Servers are powerful computers dedicated to managing disk drives (file servers), printers (print servers), or network traffic (network servers). Clients are PCs or workstations on which users run applications. Clients rely on servers for resources, such as files, devices, and even processing power.

COTS Commercial off-the-shelf software includes Operating System, Relational Database, Antivirus Software, Indian Interface Application, etc. These come as shrink-wrapped products and can be bought from a store. Also called Standard Software.

CPRI Central Power Research Institute, an autonomous body of the Government of India involved mainly in electric power research (cpri.res.in).

Glossary

Dot Matrix Printer A type of printer that produces characters and illustrations by striking pins against an ink ribbon to print closely spaced dots in the appropriate shape.

eCAT5 Enhanced Category 5 (also named CAT5e) standard for LAN cable and other passive components.

EEPROM Pronounced e-squared-prom, short for electrically erasable programmable read-only memory. Like other types of PROM, EEPROM retains its contents even when the power is turned off and can be erased with a specific electric signal and re-written.

EIA Electronic Industries Alliance, abbreviated EIA, a trade association representing the U.S. high technology community. The EIA sponsors has been responsible for developing some important standards. The EIA/ TIA 568 standard is used for network cabling for data communication around the world. (eia.org)

ERTL Electronics Regional Testing Laboratory, is an group of laboratories established by the Government of India under the Standardisation Testing and Quality Control Directorate for testing and certifying electronic products. (stqc.nic.in/stqcnetwork/ertls.htm)

Exide Exide Technologies is a global leader in manufacturing lead-acid batteries, used in network-power, motive power, transportation, standby power and military applications

Flash Memory A special type of EEPROM that can be erased and reprogrammed in blocks instead of one byte at a time.

GHz Abbreviation for gigahertz. One GHz represents 1 billion cycles per second.

GI Galvanized Iron

Gigabit Ethernet Ethernet systems that operate at 1000 Mbps

Hub A common connection point for devices in a network. Hubs are commonly used to connect segments of a LAN. A hub contains multiple ports

I/O Input Output

Intel The world's largest manufacturer of computer chips. Although it has been challenged in recent years by newcomers AMD and Cyrix, Intel still dominates the market for PC microprocessors. (intel.com)

IS:3043-1987 Code of Practice for Earthing. This standard has been published by the Bureau of Indian Standards (BIS).

ISCII ISCII (Indian Script Code for Information Interchange) is a coding scheme for representing various Indic scripts. ISCII is a fixed-length 8-bit encoding. The lower 128 codepoints are plain ASCII, the upper 128 codepoints are ISCII-specific.

Johnson H&R Johnson Tiles Limited is UK's leading ceramic tile manufacturer and also one of the largest manufacturers of floor and wall tiles in India.

kbps Short for kilobits per second, a measure of data transfer speed. Spee of modems, for example, are specified in kbps. Note that one kbps is 1,000 bits per second, whereas a kB (kilobyte) is 1,024 bytes.

kVA kilovolt-ampere (kVA), a common unit of load in power engineering, equals to 1000 volt amperes.

LAN Local Area Network, a computer network that spans a relatively small area.

Glossary

Layer 3 Layer 3 means the third (Network) layer in the 7-layer OSI Reference Model. Even though routing between networks were handled by bridges and routers earlier, the present day Ethernet switches have high-speed routing capability.

LED Abbreviation of light emitting diode

LSGI Local Self Government Institutions - the lowest level of government in India.
Servers are powerful computers dedicated to managing disk drives (file servers), printers (print servers), or network traffic (network servers). Clients are PCs or workstations on which users run applications. Clients rely on servers for resources, such as files, devices, and even processing power.

Mbps Short for megabits per second, a measure of data transfer speed (a megabit is equal to one million bits). Network transmissions, for example, are generally measured in Mbps.

metre (m) The metric and SI base unit of distance/ length

Microsoft Founded in 1975 by Paul Allen and Bill Gates, Microsoft Corporation is one of the largest and most influential software companies in the personal computer industry. (microsoft.com)

millimetre (mm) A very common metric unit of distance/ length. One millimetre equals 0.001 metre.

Modem A modem is a device or program that enables a computer to transmit data over, for example, telephone or cable lines. The name modem is a combination of the words modulator-demodulator.

Mouse A device that controls the movement of the cursor or pointer on a display screen. It is an indispensable peripheral of computers with a graphical user interface (GUI).

MS Short for the software company Microsoft. (Also used as abbreviation for mild steel).

MS SQL Server 2000 SQL Server 2000 is an enterprise-class relational database management system product from Microsoft.

NIC Network Interface Card - the device in the computer that allows it to be connected to a local area network. The most common NIC standard is the Ethernet.
The National Informatics Centre, a premiere organisation of the Government of India in the field of Informatics Services and Information Technology (IT) applications, also has the abbreviation NIC. (home.nic.in)

OEM Short for original equipment manufacturer. Many of the products such as computers are put together by a vendor by sourcing components from other manufacturers who are called original equipment manufacturer.

ohm The SI unit of electric resistance

OLP Open Licence Policy - a license policy for software provided by the software manufacturers for organisations requiring software in large quantities. This license policy involves discounts depending on the quantity procured, and is usually in the form of paper license without any packaged product.

Optical mouse A mouse that uses a laser/ light source to detect the movement of the mouse

Parallel port A parallel interface available on computers for connecting an external device such as a printer to the computer.

Pentium 4 The current generation of microprocessors from Intel for desktop/ personal computers.

PVC Poly vinyl chloride

Glossary

PXE Short for Pre-Boot Execution Environment. Pronounced pixie, PXE is one of the components of Intel's WfM specification. It allows a workstation to boot from a server on a network prior to booting the operating system on the local hard drive.

RAID Abbreviation for Redundant Array of Independent (or Inexpensive) Disks, a category of disk drives that employ two or more drives in combination for fault tolerance and performance.

RAM Pronounced ramm, acronym for random access memory, a type of computer memory that can be accessed randomly, made from semiconductor devices.

Remote Management Features that enable network administrators to manage computers across an entire network from one location.

Saankhya Application software developed by IKM for local self government institutions in Kerala for handling receipts and payments of current transactions leading to creation of daily statements, register of receipts, register of payments, cash book, etc.

SCSI Short for small computer system interface, a parallel interface standard used by many types of computers for attaching peripheral devices including disk drives, scanners, etc. to computers.

SDRAM Short for Synchronous Dynamic Random Access Memory, a type of DRAM that can run at much higher clock speeds than conventional memory.

Serial port A port, or interface, that can be used for serial communication, in which only 1 bit is transmitted at a time. This is generally a slow interface.

Server A computer or device on a network that manages network resources such as applications, devices, etc.

Sevana Application software package developed by IKM for LSGIs for registration of Birth, Death and Marriage

SVGA Short for Super Video Graphics Adapter, a set of graphics standards designed to offer 800 x 600 resolution, or 480,000 pixels.

Switch In networks, a device that filters and forwards packets between LAN segments. Switches operate at the data link layer (layer 2) and sometimes the network layer (layer 3) of the OSI Reference Model and therefore supports any packet protocol.

TIA The Telecommunications Industry Association is the leading non-profit trade association serving the communications and information technology industry, with proven strengths, domestic and international advocacy, standards development and enabling e-business. (tiaonline.org)

Ultra 320 SCSI Ultra320 SCSI is a SCSI standard that has a maximum data transfer rate for the SCSI bus at 320 MB per second

USB Short for Universal Serial Bus, an external bus standard that supports data transfer rates of 12 Mbps.

USB 2.0 It is referred to as Hi-Speed USB. USB 2.0 is an external bus that supports data rates up to 480 Mbps.

UPS Short for uninterruptible power supply, a power supply that includes a battery or a battery bank to maintain power in the event of a power outage.

UTP Short for unshielded twisted pair, a popular type of cable used in data communication network that consists of two unshielded wires twisted around each other. The LAN cabling is usually done with a 4-pair UTP cable.

Glossary

Vitrified floor tile Vitrified tiles are much harder than natural stones, which makes them best suited for high traffic areas where abrasion resistance is required.

VLAN Abbreviation for virtual LAN, a network of computers that behave as if they are connected to the same wire even though they may actually be physically located on different segments of a LAN.

VOLT The SI unit of electric potential

Volt Ampere A unit of electrical load used in power engineering in an alternating current circuit. Usually abbreviated VA.

Xeon A line of microprocessor developed by Intel especially for servers and high performance workstations. Xeon chip speeds started at 400 MHz and have currently speeds of 3.2 GHz or greater.

Windows A family of operating systems for personal computers developed by Microsoft. Windows dominates the personal computer world, running, by some estimates, on 90% of all personal computers. Different versions are available for servers, desktops in networked enterprises and desktops for homes.

Windows 2003 Microsoft Windows Server 2003 is the latest version of the Windows Server platform.

Windows XP An operating system introduced in 2001 from Microsoft's Windows family of operating systems. Windows XP has two flavours - Windows XP Professional for networked enterprise use and Windows XP Home for home use.

Yuasa Yuasa Battery, manufacturers of the Yuasa brand of lead acid batteries for automobiles and standby power applications. (yuasabatteries.com)

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