

IST CORE SYSTEMS & TECHNOLOGIES QUICK REFERENCE SHEET

Term	Meaning	Short Description
MDF	Main Distribution Facility	Main telco room for facility. Room where all cabling, telephone and data components reside and feed floors above.
IDF	Intermediate Distribution Facility	Telco room on each floor that distributes facilities (voice & data) to the desktop. Connects back to the MDF.
VEF	Vault Entrance Facility	Main telco room where leased facilities are fed into from the street.
DID	Direct Inward Dialing	Type of line used in a PBX
DOD	Direct Outward Dialing	Type of line used in a PBX
Quad	Station wiring and faceplate	4-port voice/data connectivity (single-gang box w/ 1" stub-up unless requested otherwise).
Single Wall Phone Outlet	Cabling for Wall Phone	Install one cable for a wall phone
CAT 5	Category 5 Cabling	Voice & network cabling approved up to 155 MB ATM speeds
CAT 6	Category 6 Cabling	Voice & network cabling approved up to 1000 MB Ethernet speeds
SM	Single-Mode Fiber	Used for connecting network components over long distances
MM	Multi-Mode Fiber	Used for connecting network components over short distances
CO	Central Office	Telephone Company Service Facility
KSU	Key System Unit	Small phone system
PBX	Private Branch Exchange	Self contained CO. Owned and operated by the Telecomm dept. Allows set up of digital and analog lines with minimal interaction from Telephone Company.
Centrex	Central Branch Exchange	Telephone number provided via a pair of copper from a Telephone Company CO.
Segment	IP Address range on a Network	Can support approximately 250 network devices
Data Switch	Network hardware	Allows multiple PC connections to talk to the network.

Voice Switch	Phone System	Allows voice connection between MDF and Telephone Company services.
Router	Network hardware	Acts as a traffic cop allowing network traffic to route between network segments and out to the internet.
IP Address	Internet Protocol	Unique address designated to a network component that determines the segment it resides on.
J-Hooks		Independently mounted hooks utilized for quad-cable management and support in ceilings.
Products		
3524	Data switch	24 port data switch
3550	Data switch	48-port data switch
6500	Data switch	Large Data switch that may provide additional services.
7500	Router	Large Router
1720	Router	Small Router used in remote offices
2900	Switch	Small data switch
Riser	Also referred to as "Homerun"	Cabling that runs between the IDF and the MDF. It maybe fiber or copper.
Horizontal	Also referred to as station or "quad" cabling	Cabling between the IDF and the desktop
ATM	Asynchronous Transfer Mode	High Speed network connection with Quality of Service attributes. Required for video and IP voice.
Ethernet	Standard 10/100 network connection	10 or 100 Megabyte network connection
Gigabyte	High Speed network connection	1000 Megabyte network connection used to connect IDF's to MDF's for network connections.
T1		24-channel high-speed line used for voice and/or data.
BRI	Basic Rate Interface	Low-speed line used for voice, video and /or data.
PRI	Primary Rate Interface	High-speed line used for voice, video and /or data.
POTS	Plain Old Telephone Service	Telephone line with no special features. Receives and sends phone calls.
Ground Start Trunk	Phone Line	Phone line that uses a ground

		instead of a short to signal central office for dial tone.
Analog	Type of Telephone Line	Typically used for fax and modem
Digital	Type of Telephone Line	Typically used for PBX/KSU telephone set
Wireless Base Station	Access Point	Access point connected to the network via an Ethernet port.
Option 11	PBX System	Small System
Option 61	PBX System	Mid System
Option 81	PBX System	Large System
Fiber Remote	Remote PBX system	Used to connect remote buildings to a larger PBX system
Wall Field		
Station Panels	Red, White, Blue and Yellow iconed panels in IDF's	48 port panels on which Horizontal cable is terminated.
Voice Panels	-Red – voice -Miscellaneous voice	Installed in IDF. Where telephone #'s and their locations are cross-connected.
Data Panels		Installed in IDF. Where data connections are cross-connected.
Cross Connect	Patch Cabling	Patch and/ connect one type of cabling to another
Wire Management		Any type of cable tray, hooks or brackets utilized for cable runs.
Miscellaneous		
SDS	System Design Specialist	Voice system designer. Conducts interview with customer to determine telephone needs.

REQUIRED SPECIFICATIONS

VEF

- Space should be preferably 64 sq. feet. Room needs to be close to square I.E 8' x 8'. This is an estimate. The building may require a larger size.
- Plumbing and un-related telecommunications piping and cabling should not "pass through" or terminate in the VEF. This includes gas lines, water pipes, drain pipes, air conditioning pipes and heat exchangers unless they are directly servicing the VEF.
- The VEF should not be used as a pathway for any electric cabling, besides that which is servicing the MDF.
- This space should be adjacent to the MDF.
- If installed within MDF room, 100 pair copper tie cable between Verizon facilities and riser cable wall field must be installed by contractor.
- A minimum of 2, 4" conduit required from manhole for facilities.
- If adjacent to the MDF, a minimum of 2, 4" conduit required between rooms.
- Card Swipe on the door.

Power Requirements

- All power needs to be isolated ground, dedicated circuits on emergency power.
- This room typically needs two (2) 220v 30 amp circuits with Hubble twist lock plugs, typically NEMA L6-30. This can change with individual engineering design provided by Verizon for each building.
- Room should have some un-conditioned "dirty" 120 volt 20 amp circuit for convenience.
- Isolated ground bar, terminated on building steel.

HVAC

- Room should be equipped with either a send or return vent off of the building HVAC system and the average temperature should be kept between 65-70 degrees year round.

MDF

- Space minimum of 200 sq. feet. Preferably 400 sq. feet. Room needs to be close to square I.E 14' x 15'. This is an estimate. The building may require a larger size.
- A basic workstation (5'x3') and chair with castors is required in the MDF room. Final installation location to be determined by IST/CST after all equipment has been installed.
- Plumbing and un-related telecommunications piping and cabling should not "pass through" or terminate in the MDF. This includes gas lines, water pipes, drain pipes, air conditioning pipes and heat exchangers unless they are directly servicing the MDF.
- The MDF should not be used as a pathway for any electric cabling, besides that which is servicing the MDF.
- All walls in MDF room need to be sheeted with ¾" unpainted fire-rated plywood built out on 3 ½" metal studs. The stamp should face outward.
- A minimum of 2, 4" conduit between MDF and IDF room above if not stacked. If stacked, a minimum of 4, 4" sleeves required between rooms. If VEF room is within MDF, a minimum of 2, 4" conduit required from manhole.
- Card Swipe on the door.

Power Requirements

- All power needs to be isolated ground, dedicated circuits on emergency power.
- PBX needs 2 208V 50 amp circuits terminated into a cut-off switch, located in the MDF. This cut-off will need to be hard wired into a rectifier provided by the PBX vendor.
- Data needs two (2) 208v 30 amp circuits with Hubble twist lock plugs, typically NEMA L6-30. This can change with each building.
- In addition 2-6 120 Volt 20 amp circuits. Some may need to be Hubble twist lock plugs.
- Room should have some un-conditioned "dirty" 120 volt 20 amp circuit for convenience.
- Isolated ground bar, terminated on building steel in all IDFS and MDF.

HVAC

- Room should be kept between 65-70 degrees year round. Unit should be "stand alone " for the MDF with a separate control.

IDF

- Space Minimum 100 sq. feet. net without columns or notches. Room needs to be close to square I.E 12 x 10. This is an estimate and the building may require a larger size. In new construction, all IDFs should be "stacked".
- Plumbing and un-related telecommunications piping and cabling should not "pass through" or terminate in the IDF. Plumbing and un-related telecommunications piping and cabling should not "pass through" or terminate in the IDF. This includes gas lines, water pipes, drain pipes, air conditioning pipes and heat exchangers unless they are directly servicing the IDF.
- The IDF should not be used as a pathway for any electric cabling, besides that which is servicing the MDF.
- ¾" unpainted fire-rated plywood should be installed on the wall directly behind the floor mounted racks (formerly the station panel wall). The seal should face outward.
- A minimum of 4, 4" sleeves are required between stacked IDF rooms.
- Card Swipe on the door.

Power Requirements

- All power needs to be isolated ground, dedicated circuits on emergency power.
- Data needs 1 (one) or 2 (two) 208v 20 amp (in some instances, 208v30amp) circuits with Hubble twist lock plugs. This can change with each building and the type of UPS installed.
- In addition 1 (in some instances 2) 120 Volt 20 amp circuit(s) are needed.
- Room should have at least 1 un-conditioned "dirty" 120 volt 20 amp circuit for convenience.

HVAC

- Room should be equipped with either a send or return vent off of the building HVAC system and the average temperature should be kept between 65-70 degrees year round.

GENERAL NOTES

- IST must approve all products and vendors used for telecommunications.
- All specifications are estimates. IST must review new construction Telecommunications requirements.
- A 4'w by 8'h space for Public Safety Micro, can be allocated in the MDF. If additional space is required for Public Safety/ Security equipment, the room size must be increased. FP&C shall obtain Public Safety/ Security power requirements directly from Public Safety department.
- IDF/ MDF rooms need to be centrally located in the building and stacked. They are to be accessed from a central hallway and not through any other space...preferably next to the stairway.
- Minimum of four 4-inch sleeves between stacked closets. If closets are not stacked, four 4-inch conduits must be installed.
- MDF should have a ceiling no lower than 9 feet. IDFs should not have a ceiling unless there is a plenum return.
- Card Swipes on all doors with access to the building 24 hours a day.
- **No running water/plumbing in any telco room.** No hot water, no cold water, and no drains of any kind in the walls or ceilings.
- **No windows** in any telco room (MDF, IDF, VEF).
- Cable tray for wiring is to be used only for telecommunications wiring. Not for Public Safety, fire alarms etc.
- Cable tray is required in the halls and needs to be an approved IST product. Cablofil EZ tray is approved.
- The number of IDFs is dependent on the size of the building. IST must approve MDF/ IDF numbers, locations, etc. Each IDF cannot be anymore than 250 ft. from the furthest cable run on that floor.
- No electrical cables except those needed for the closet are to be run through the closet...either horizontally or vertically.
- If the IDF/ MDF is located next to the electrical closet; no transformers or high voltage electric is to be mounted near the closet. This may cause interference with any PBX or Data equipment.
- IST must approve "Poke throughs" for conference rooms, modular furniture, etc..
- Modular furniture should have a clear defined path to accommodate up to twenty-four CAT 6 cables without compromising wiring specifications. Inserts and outlets required will be determined in the field and will be based upon proposed furniture cut sheets.
- New Construction- An VEF room (separate from MDF/IDFs) should be designed for Verizon services with 120 volt 20 amp isolated circuit(s) providing Hubble twist locks on emergency power. This room will provide the conduits out of the building to Verizon services in the street or pole as determined by Verizon. From this room, two 4-inch conduits will be run to the MDF. The room must provide enough space to install at least one 23-inch rack and allow for proper installation of any copper or fiber cabling.