

The following are general terms that we have found being used by tenants, landlords, IT Staff and consultants when discussing facility space.

## Terminology:

---

<b>Telco:</b>	Telecommunications providers – Companies that provide voice and data connectivity into and out of the building.
<b>Dmarc:</b>	Point of Demarcation ILEC + CLEC room – Single location within a building that houses the incoming (entrance facilities) services from any of the Telco service providers.
<b>NOC:</b>	<b>N</b> etwork <b>O</b> perating <b>C</b> enter - place from which administrators supervise, monitor and maintain a telecommunications network.
<b>SAN:</b>	<b>S</b> torage <b>A</b> rea <b>N</b> etwork - an architecture to attach remote computer data storage devices to servers so the devices appear as locally attached to the operating system.
<b>GENSET:</b>	Another term for a generator.
<b>Switch:</b>	Network Device that routes an input signal to an output signal – such as PCs to each other, PCs to servers, PCs to printers, etc. The network "Traffic Cop."
<b>Blade Server:</b>	A stripped down server computer with a modular design optimized to minimize the use of physical space and energy. Typically mounted vertically in a cabinet, Blade Servers draw more power and require more cooling than other types of servers.
<b>Virtualization:</b>	Eliminating the old “one server, one application” model and run multiple virtual machines on each physical machine, thus improving the efficiency and availability of IT resources and applications.
<b>VoIP:</b>	<b>V</b> oice <b>O</b> ver <b>I</b> nternet <b>P</b> rotocol - a general term for a family of methodologies, communication protocols, and transmission technologies for delivery of voice communications and multimedia sessions over Internet Protocol (IP) networks, such as the Internet.

## Data Center Terms



<b>Telco hotel:</b>	Market term describing buildings organized to support the Telephone Computer Service provider that developed in the late 1990's. Typically a structure previously used as an office or warehouse with some upgrades to power and cooling. In today's environment they would be referred to as Tier One capability with little or no redundancy.
<b>Hardened shell:</b>	Terms associated with the ready status of a building such as 18-22' floor height, exterior wall resistance to blast/storm/wind Resistance, roofing and roof drainage, uniform live load
<b>Technology Infrastructure:</b>	Name given to the equipment, the control and operating subsystems, the IP network connections, and the cabling of the total <i>technology system</i> as it resides in the building. The building's technology infrastructure is connected to utility services outside the building, such as telephone or cable service; this incoming service is referred to as the <i>technology utility</i> .
<b>Building Infrastructure:</b>	The collective support capability of a building from floor to ceiling height, live load, incoming power, backup systems, security, redundancy, conduit capability, expansion capability, sharing arrangements
<b>Co-location (hosting/ managed services):</b>	The service provided by companies specializing in high level computer location sites for multi-tenant configuration. The customer typically has a need that does not justify their own data center space and staff. The can do shorter terms, have easy expansion and does not have to provide the capital for infrastructure support.
<b>Data Center:</b>	A space capable of housing specialized customer computer or telephone needs that typically require extra electrical power, high capacity cooling, redundant backup systems, protection from outside interruption.
<b>Data Center Tier levels /rating - I through IV</b>	<b>Refer to attached Chart</b>
<b>Critical load:</b>	Computer equipment load delivered by PDU output
<b>Connected load:</b>	The loads for the actual operating values of the equipment connected (installed)
<b>Conduit space:</b>	The vertical or horizontal space in a building to provide access to connections between computers or operation centers, power, chilled water, fiber, telephone, junction box, and other infrastructure support.
<b>Connectivity:</b>	Typically referring to the data transmission services available <b>such as</b> Cable, fiber, telephone lines, wireless interface

## Data Center Terms



- Cloud computing:** Cloud computing is Internet-based computing, whereby shared resources, software and information are provided to computers and other devices on-demand, like electricity.
- Redundancy (N+1, 2N, etc.):** The duplication of critical components of a system with the intention of increasing reliability of the system, usually in the case of a backup or fail-safe. N+1 refers to the initial component need plus 1 backup, N+2 refers to the initial component need plus 2 backups, etc.
- CRAC/CRAH:** **C**omputer **R**oom **A**ir **C**onditioner (pronounced crack) that uses a compressor to mechanically cool air/**C**omputer **R**oom **A**ir **H**andler (pronounced craah) that uses chilled water to cool air
- UPS:** **U**ninterrupted **P**ower **S**ource or uninterruptible power supply, UPS or battery backup, is an electrical apparatus that provides emergency power to equipment usually when utility mains, fail.
- PDU:** **P**ower **D**istribution **U**nit. This electrical device is used to control the distribution of power to the individual loads. Control may be as simple as a series of switch or circuit breakers to interlocked logic operating solid state relays.
- Generator:** Engine that converts mechanical energy into electrical energy by electromagnetic induction
- Base power:** Baseload (also base load, or baseload demand) is the minimum amount of power that a utility must make available, or the amount of power required to meet minimum demands based on reasonable expectations of customer requirements.
- Switch gear:** Electrical term, used in association with the electric power system, or grid, refers to the combination of electrical disconnects, fuses and/or circuit breakers used to isolate electrical equipment.
- Transformer:** Anan electrical device by which alternating current of one voltage is changed to another voltage
- SLA:** **S**ervice **L**evel **A**greement – Agreement between two parties which state the exact level of performance expectations for specific equipment or service response times
- Synchronous:** (Digital Communication) pertaining to a transmission technique that requires a common clock signal (a timing reference) between the communicating devices in order to coordinate their transmissions

**Replication:** Replication is the process of sharing information so as to ensure consistency between redundant resources, such as software or hardware components, to improve reliability, fault-tolerance, or accessibility.

## Units of Measurement:

---

<b>KVA:</b>	<b>Kilo Volt Amps</b> (ampere) - 1000 volt-amps
<b>Watt:</b>	A unit of power equal to 1 joule per second; the power dissipated by a current of 1 ampere flowing across a resistance of 1 ohm
<b>Amp:</b>	The unit of measurement for the electric current, the flow of electrons. One amp is produced by an electric force of 1 volt acting across a resistance of 1 ohm
<b>Ton (air conditioning):</b>	In refrigeration and air conditioning, a unit of power required to cool one ton of water by 1 °F every 10 minutes, equal to 12,000 Btu/h (3.517 kilowatts).
<b>BTU:</b>	<b>British Thermal Unit:</b> a unit of heat equal to the amount of heat required to raise one pound of water one degree Fahrenheit at one atmosphere pressure
<b>Rack (or rack area):</b>	Typically approximately 16 sq ft for the rack and 24 sq ft of support area for a total of 40 sq ft.
<b>Unit (referring to a Slot within a rack):</b>	Also referred to as a "u" – a measurement which determines the amount of equipment that can be housed in rack - one "u" is 1.75 " in height
<b>Bit:</b>	A unit of measurement of information (from binary + digit)
<b>Byte:</b>	A sequence of 8 bits (enough to represent one character of alphanumeric data) processed as a single unit of information
<b>Kilobyte:</b>	<b>kb</b> - a unit of information equal to 1000 bytes
<b>Megabyte:</b>	<b>Mb</b> - a unit of information equal to 1000 kilobytes 1,000,000 (1 million) bytes

**Giga Byte:** Also referred to as a “Gig” - the gigabyte is a multiple of the unit byte for digital information storage. The prefix giga means 1,000 megabytes or 1,000,000,000 (1 billion) bytes in the International System of Units

**Terabyte:** A terabyte is a multiple of the unit byte for digital information storage and is equal to 10<sup>12</sup> (1 trillion short scale) bytes or 1000 gigabytes

## Conversion Rules of Thumb

1KVA = 851 Watts      1Ton = 3,517 Watts      1Watt = 3.41 BTU      12,000 BTU = 1Ton

**100 Watts psf:** using 1,000 sq ft would mean 117.5 KVA (100,000 watts) of power, and 28.4 Tons of chilled water. This equation is linear so 50 Watts would be 58.75 KVA and 14.4 Tons, and so on.

**Rack at 100 Watts psf:** rack area = 16 sq ft(100 watts) + support area of 24 sq ft( 25 watts) total 40 sq ft and 2,200 watts. This actually represents an average of 55 watts psf. So 25 racks would take up approximately 1,000 sq ft and use 64.6 KVA (55,000 watts) and 15.6 tons.

**Typical office power load psf:** high density user 8-9 watts on peak with 4-6 watts on average

