

Solutions Integration

# Are You An Expert on VoIP Terminology?

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With the TDM to IP technology changes taking place in the Telecommunications market place, even the terminology has changed. This affects everyone from the sales force to customers so that we all understand exactly what is being said. In some cases, the new terminology is useful. In other cases, the concept is the same; we just have a new name to describe the same item – which ends up to be much ado about nothing, i.e. just a lot of vendor and marketing hype.

While this may sound simple, some of the vendors and industry pundits like to do what they can to confuse the market by using different definitions of existing terminology established during the TDM era. The sales force and customers need to fully understand the terminology as well as the industry pundits' usage so that the customers fully understand the IP telephony solutions being presented to them.

For instance, redundancy in a TDM environment meant an exactly duplicated controller and circuits, based on Active and Standby capability. Some vendors will state that their product has redundancy while in fact, it only has clustered survivability. This is especially true of solutions that involve two separate servers to create one solution. For those products, if the central unit goes out of service, the distributed units may continue to process calls. However, no changes to the system can be made until the central unit is back on-line.

In the TDM environment, this is not called redundancy as critical functions are not replicated if the primary component fails.

Although this vendor will, and does, claim that this is redundancy even though NEC

would not. The NEAX 2400 and SV7000 have true redundancy capability with Active and Standby controllers according to the original (TDM) definition of redundancy. NEC can also perform the clustered survivability that the other vendors implement but clustered survivability is a lesser standard of survivability.



Another source of misunderstanding can be the term “ports”. Ports is a TDM term that originally referred to a connector on a card that was used to interface stations or trunks to the system. If wiring was run to the card slot and it was said to be “wired for”. If the ports were equipped, then not only was the wiring run but an interface card was installed in the system. In data terminology, many of the competitors and some customers will use terms such as “IP sessions” and “IP clients” to refer to the connections to a switch.

In the current era, the term “ports” is still in use but the ports are now virtual in many cases. The term ports still refers to the number of interfaces (or channels) but now also includes analog and TDM stations, analog and TDM trunk connections, IP station connections, and/or IP trunk connections. The benefit of the term ports is that it allows the vendor and customer to refer to a maximum capability of a switch without all of the confusion around IP sessions and how much memory is consumed per session, etc. For instance, some vendors have equipment that use 120 IP sessions. The same device can do analog but only 24 analog stations. So there is a distinct difference between the capacities of the box based upon the technology. It can really be confusing if the two are mixed. With the ports terminology, if a system supports 10,000 ports, then it supports 10,000 ports, mix or match. This allows the number of ports in a system to be easily understood, i.e. no confusion for the customer.

In regard to analog ports, some vendors often try to refer to ports by using terms such as analog gateways, channels or interfaces. This is their way of trying to avoid saying the term ports.

“IP telephony” is a useful new term that can be used broadly or narrowly, depending upon the user. Some people use the narrow definition and say that IP telephony is the same as Voice over IP (VoIP). At NEC, we use the broader definition which includes the following components: VoIP, Fax over IP (FoIP), data over IP, and the use of Computer Telephone Integration (CTI) applications. The reason for this is that all of the components are benefits gained from the convergence of voice and data communications. VoIP is one subset of the benefits, not the whole encompassing benefit.

Discussions also center around the brains of a telephony system. The TDM term is called “PBX” (Private Branch Exchange). The term “switch” could also be used as the PBX was used to switch calls between parties. In the IP world, the IETF and other bodies have defined the Media Gateway Controller (MGC) as the entity that is the brains of the IP Telephony system. The term switch can still be used as it is technically still appropriate. Server is another term used in the IP environment but this is less common because a server can be used for many different uses: system management, user applications, DNS, DHCP, web hosting, FTP, etc. Telephony systems are now generalized as “Communications Platforms”.

Some vendors have tried hard to make the term PBX a bad word that refers to an archaic piece of equipment often because they do not have any legacy (TDM) systems and want to use FUD (Fear, Uncertainty, and Doubt) to drive customers away from hybrid products and only to the pure IP platforms that they offer. This is despite the fact that almost all PBX's in the industry now support IP clients and most PBX's are now IP-PBX's.

The same is true for Key systems. The typical reason is that several of the vendors want to brand the term Key system as old, even though it functions very well and may still address the needs of various customer types. While the terminology for Key system may be changed to be a "Communications Platform" or "Converged Platform", sales of these telephony systems continues at a strong pace.

As mentioned previously, servers are used for deploying applications in an IP environment as most of the applications follow a client/server model. One misunderstanding that can occur is that a server contains a hard drive. NEC servers can use hard drives or flash drives for program storage depending upon the product model and applications used. This should be mentioned up front to a customer if the server being sold is using a flash drive as this is an advantage, not a detriment. The way NEC uses the term server, this can be a true rack mounted server or a personal computer (PC) running server software. It all depends upon the price points trying to be met and customer preferences.

"Blades" are another trendy term that IT individuals like to use. These are essentially cards (expansion modules) that plug into a chassis, just like the old (TDM) days. The blades typically support interfaces, such as T1, fiber, etc. The term blades is normally associated with servers, routers, and switches.



"Appliance" is a term that can be confusing. It is often generalized as a device that plugs into the Internet and performs some function; sort of synonymous to a toaster plugging into the electrical network. A formal definition from <http://www.fiplanet.webopedia.com> defines an appliance as, "A typically inexpensive personal computer, sometimes called a thin client, that enables Internet access and some business-related activities but lacks many features of a fully equipped PC, such as a hard drive or CD-ROM." This definition narrows the scope of what an appliance is and how it is used. Webopedia also

provides the following definition for appliance, "Also called an *appliance server*, a

specialized server that is designed for ease of installation and maintenance. Server appliances have their hardware and software bundled in the product, so all applications are pre-installed. The appliance is plugged into an existing network and can begin working almost immediately, with little configuration. It is designed to run with little or no support.” This definition means that the appliance is really a switch/server that has been preconfigured for an application. The term appliance is then often dropped and the term switch or server is used by itself.

One of the new terms that definitely is beneficial is the term “Terminals”. This is a general term that is required because convergence has opened up lots of new options for customers. Besides using telephones, customers can now integrate various other devices such as: PDA’s, WI-FI handsets, wireless tablets, softphones, Blackberry’s, Smart Phones, etc.

“IP clients” is another term that can be used to refer to terminals. NEC uses both terminals and IP clients to refer to IP terminals used in the system, whether they are wired terminals, wireless terminals, PDA’s, Blackberry’s, etc. The term IP clients naturally differentiates from any IP trunking interface. Other vendors will commonly use the terms “IP sessions” and “end points” to refer to IP clients in their systems. All three terms are used in the industry.

Table 1 provides a quick cross-reference between TDM and IP telephony terms.

<b>TDM Term</b>	<b>IP Equivalent</b>
Redundancy	Redundancy (clustered survivability is often presented instead of true redundancy)
Ports	Connections or sessions
PBX	MGC
Trunk	MG
Cards/expansion modules	Blades
Telephone/stations	Terminal, client or end point

**Table 1: TDM to IP Terminology Cross-Reference Chart**

Another major point of confusion is always the acronyms that are used within the telecommunications industry. Thanks to convergence, even more acronyms have been introduced. The following is a general list of acronyms that are commonly used with IP telephony.

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IP telephony List of Acronyms

ACD = Automatic Call Distribution

CCIS = Common Channel Inter-office Signaling

CTI = Computer Telephony Interface

FCCS = Fusion Call Control Signaling

FoIP = Fax over Internet Protocol

H.323 = ITU-T Recommendation H.323 (packet-based multimedia communications systems standard)

IPT = IP Telephony

LAN = Local Area Network

LDAP = Lightweight Directory Access Protocol

MAN = Metropolitan Area Network

MC = Media Converter; used for interconnection of stations (particular analog and TDM) to the IP network

MEGACO = MEdia GATeway Controller; IETF model for IP Telephony

MG = Media Gateway; used for interconnection to the PSTN

MGC = Media Gateway Controller; means PBX in the IP world

MGCP = Media Gateway Control Protocol

OAI = Open Application Interface

P2P = Peer to Peer

PIR = Port Interface Rack; NEC product

PRI = Primary Rate Interface

PSTN = Public Switched Telephone Network

Q.SIG = IP protocol for passing ISDN information across an IP network

RTP = Real Time Protocol; used for the voice conversation

SIP = Session Initiation Protocol

SNMP = Simple Network Management Protocol

Softphone = PC-based telephone

SR-MGC = Survival Remote Media Gateway Controller

TDM = Time-division multiplexing (digital voice signals)

VoIP = Voice over Internet Protocol

VS-32 = Voice Server with 32 channels for conferencing; NEC product

WAN = Wide Area Network

XML = Extensible Mark-up Language

Assumptions have often times led to poor customer satisfaction with purchases because an IP definition of a term or a TDM definition of a term has been used instead of what the speaker intended the term to mean. As mentioned above, common misunderstandings occur around the terms of redundancy, ports, and servers.

Please see the NEC website at [www.necunifiedsolutions.com](http://www.necunifiedsolutions.com) for more information about how you can use NEC products and solutions to meet your business goals.