



*PBX
MANUFACTURER
OVERVIEW*

Courtesy of:
Teledynamic Communications, Inc.

TIER 1 PBX MANUFACTURERS

There are 15 viable manufacturers that make business telephone systems for the small/medium sized U.S. market place. They are categorized into four groups.

TIER I:

Tier one manufacturers are made up of three large players in the industry:

- ❖ *Nortel*
- ❖ *Avaya*
- ❖ *Cisco*

PROS: They aren't likely to disappear, serve international marketplace

CONS: They aren't inexpensive, products evolve slowly.

TIER II:

Tier two manufacturers are well established players that have a substantial history and market share in the industry:

- ❖ *3Com*
- ❖ *Toshiba*
- ❖ *Inter-Tel*
- ❖ *NEC*
- ❖ *Mitel*

PROS: They provide more features usually at less cost than the Tier 1 companies.

CONS: They don't lead market place and have a narrower scope of vision.

TIER 1 PBX MANUFACTURERS

TIER III:

Tier three is made up of traditional manufacturers that have relatively little market share, but have carved out their niches:

- ❖ *Panasonic*
- ❖ *Telrad*

PROS: They are the “value” manufacturers and can’t be beat on price

CONS: They are bit players and there is a substantial risk that they could exit the marketplace.

THE PIONEERS

This category is comprised of the small start-up companies that believe they have a better way of building a business telephone system:

- ❖ *Shoretel*
- ❖ *Fonality*
- ❖ *Altigen*
- ❖ *Vertical Communications*
- ❖ *Digium*

PROS: They bring new ideas to the market place, leading the way on IP PBX standards.

CONS: Not all of them will make it.

OUT OF BUSINESS

We have provided a list of manufacturers who recently went out of business. The industry is undergoing a technology transformation. New companies are forming, old ones changing or merging. There are a few casualties along the way.

TIER 1 PBX MANUFACTURERS



HISTORY: Avaya began life as Western Electric in 1880, the equipment arm of AT&T. In 1996, AT&T sold the equipment business was spun off to a new company, Lucent. In 2000, Lucent spun off the phone systems business to form the new company, Avaya. The company went private in Summer 2007.

COMPANY SIZE: 2006 Sales: \$5 billion

TICKER SYMBOL: Private

MARKET SHARE: Avaya and Nortel Networks are the two dominant players in business telephone systems. Avaya has approximately 22% market share.

PRODUCT LINE:

- Partner ACS (traditional)
- IP Office (IP-Enabled)

DISTRIBUTION: Avaya maintains a direct sales force as well as a robust group of Avaya dealers.

STRENGTHS: One of the two dominant industry players. Core business is telecommunications.

WEAKNESSES: Post-installation maintenance plans are extremely expensive and are required for any real support. Avaya is known for a proliferation of product lines and short product life spans. Private equity has taken over the company and will likely make substantial changes, including the possibility of breaking the company up.

CONTACT INFO:

Phone: 866-462-8292

Website: www.avaya.com

TIER 1 PBX MANUFACTURERS



HISTORY: Nortel was founded in 1895 under the name of Northern Electric. In 1998 it acquired Bay Networks, becoming a voice/data powerhouse.

COMPANY SIZE: 2006 Sales: \$11 billion

TICKER SYMBOL: NT, trades on New York Stock Exchange

MARKET SHARE: Nortel and Avaya are the two dominant players in business telephone systems. Nortel has approximately 19% market share.

PRODUCT LINE:

- Norstar (traditional)
- BCM (IP-Enabled)
- SCS500 (Open-Source SIP PBX – shipping Q4, 2007)

DISTRIBUTION: Nortel sells their products through a well-developed channel of authorized dealers. They do not sell direct.

STRENGTHS: Nortel is famous for its reliability and 100 yr plus telecom history. Nortel is one of the huge industry players. Core business is telecommunications.

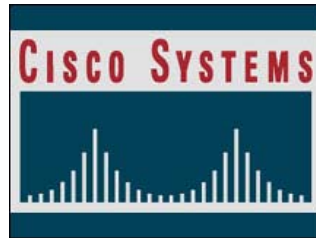
WEAKNESSES: Nortel has a reputation for being conservative in adopting new technology. Nortel has an ongoing problem with gray marketers who have besmirched Nortel's reputation for quality.

CONTACT INFO:

Phone: 800-466-7835

Website: www.nortelnetworks.com

TIER 1 PBX MANUFACTURERS



HISTORY: Cisco was founded in 1984 by a number of computer scientists at Stanford University

COMPANY SIZE: 2006 Sales: \$2.8 billion

TICKER SYMBOL: CSCO, trades on Nasdaq

MARKET SHARE: Cisco, Avaya & Nortel have similar market share numbers for IP PBX's, each with approx 15% market share. Cisco has no market share in traditional systems as they only manufacture VOIP systems.

PRODUCT LINE:

- Unified Communications Manager Express (software on Cisco router)
- Unified Communications Manager

DISTRIBUTION: Cisco works primarily through resellers, with only limited direct sales.

STRENGTHS: Cisco was the first to market with a VOIP phone system. They are a huge company with incomparable marketing expertise.

WEAKNESSES: The Cisco phone system was not designed by Cisco and is a very complicated product with several servers to maintain. Pricing is substantially more than market.

CONTACT INFO:

Phone: (408)526-4000

Website: www.cisco.com

TIER II PBX MANUFACTURERS

TOSHIBA

HISTORY: Toshiba was formed in 1939 as a manufacturer of electrical equipment and consumer products.

COMPANY SIZE: 2006 Sales: \$50 billion

TICKER SYMBOL: TOSBF, trades Over The Counter

MARKET SHARE: 8%

PRODUCT LINE:

- Strata CS (obsolete)
- Strata CIX (IP System)

DISTRIBUTION: Toshiba distributes their products through an extensive dealer network. They do not sell direct.

STRENGTHS: Toshiba is known for its rugged phones and solid dealer network

WEAKNESSES: Toshiba proudly states their strategy is to follow, not lead. They were about four years behind the other manufacturers in shipping an IP-PBX.

CONTACT INFO:

Phone: 800-222-5805

Website: <http://www.toshiba.com/taistsd/index.htm>

TIER II PBX MANUFACTURERS



HISTORY: 3Com was founded in 1979 and invented ethernet

COMPANY SIZE: 2006 Sales: \$700 million

TICKER SYMBOL: COMS, trades on Nasdaq

MARKET SHARE: 8%

PRODUCT LINE:

- NBX V3000 (IP-PBX)
- VCX 7000 (IP-PBX)

DISTRIBUTION: 3Com distributes their products through a robust dealer network. They do not sell direct.

STRENGTHS: The NBX was designed from the ground up as an IP-PBX and scales from five to 1,500 devices. The NBX is very affordable.

WEAKNESSES: 3Com is not well-known as an IP-PBX manufacturer

CONTACT INFO:

Phone: 800-638-3266

Website: www.3com.com

TIER II PBX MANUFACTURERS



HISTORY: Intertel was founded in 1969 as a small business telephone system manufacturer. Over the past two years the company has been in a battle with the founder and ex-CEO for control of the company. In March of 2007, a competitor, Mitel made an offer to purchase the company. Again, the founder is battling this latest development.

COMPANY SIZE: 2006 Sales: \$460 million

TICKER SYMBOL: INTL, trades on Nasdaq

MARKET SHARE: 6%

PRODUCT LINE:

- Encore CX (traditional technology w/IP gateway capability)
- Axxess (traditional technology w/IP gateway capability)
- 5000 (IP-PBX)
- 7000 (IP-PBX)

DISTRIBUTION: Intertel distributes directly and through authorized dealers.

STRENGTHS: Intertel systems are known to be feature-rich with a heavy emphasis on applications such as “presence”.

WEAKNESSES: Intertel is late to the IP-PBX marketplace. Intertel pushes their “Total Solution” financing which is pricy and locks customers in.

CONTACT INFO:

Phone: 480-449-8900

Website: www.inter-tel.com



TIER II PBX MANUFACTURERS



HISTORY: NEC was founded in 1899 as Nippon Electric.

COMPANY SIZE: 2006 Sales: \$48 billion

TICKER SYMBOL: NIPNY, trades on New York Stock Exchange

MARKET SHARE: 5%

PRODUCT LINE:

- DS1000/2000 (traditional TDM system)
- DSX 40/80/160 (traditional TDM system)
- Aspire (traditional w/IP gateway capability)
- Electra Elite IPK & IPK II (hybrid traditional/IP-PBX)
- Univerge (hybrid traditional/IP-PBX)

DISTRIBUTION: NEC sells their products through authorized dealers.

STRENGTHS: NEC has been in telecommunications business for a long period of time. They make an excellent Enterprise (large) traditional PBX.

WEAKNESSES: NEC has duplicate product lines, distributed through separate subsidiaries, by separate dealers. Aspire product is actually Nitsuko product and does not have traditional NEC quality.

CONTACT INFO:

Phone: 203-926-5400

Website: <http://www.necinfrontia.com/>

TIER II PBX MANUFACTURERS



HISTORY: Mitel was founded in 1972 as Mike & Terry's Lawnmowers (no kidding!). They quickly moved into the electronics business. In March 2007, they made a buyout offer for Inter-Tel and the acquisition is scheduled to close in July.

COMPANY SIZE: 2006 Sales \$387 million

TICKER SYMBOL: Privately held, SEC application for IPO in Nov. 2006, but IPO not launched.

MARKET SHARE: 6%

PRODUCT LINE:

- SX-200 IP (traditional w/IP gateways)
- SX-2000 (traditional)
- 3300 (IP-PBX)

DISTRIBUTION: Mitel distributes through a network of authorized distributors.

STRENGTHS: Mitel has been a stalwart competitor since the 70's. The systems have known to be very reliable and they are the system of choice in motels.

WEAKNESSES: Mitel has one leg in traditional telephone systems and the other in IP. Their systems tend to be quite complicated to configure and administer. Merging Inter-Tel into Mitel may be quite challenging considering the competing product lines and methods of distribution.

CONTACT INFO:

Phone: 703-318-7020

Website: www.mitel.com

TIER III PBX MANUFACTURERS



HISTORY: Panasonic is the consumer and business products subsidiary of Matsushita Corp. The company was founded in 1917.

COMPANY SIZE: 2006 Sales: \$79 billion

TICKER SYMBOL: MC, traded on the New York Stock Exchange

MARKET SHARE: 5%

PRODUCT LINE:

- KX-TA Advanced Hybrid (traditional, 2 different models)
- KX-TDA Super Hybrid (traditional, 4 different models)
- KX-TD500 Digital PBX (traditional)

DISTRIBUTION: Panasonic is widely distributed through a network of small dealers.

STRENGTHS: Panasonic equipment is very cheap. They emphasize wireless systems.

WEAKNESSES: Panasonic has seven different systems. They frequently discontinue products. Their commitment to the business is questionable. A few years back they dumped their DBS product line and dealers, leaving customers stranded.

CONTACT INFO:

Phone: www.panasonic.com

Website: 800-211-7262

TIER III PBX MANUFACTURERS



HISTORY: Telrad Connegy is a subsidiary of Telrad Networks. Telrad Networks was founded in 1951.

COMPANY SIZE: 2006 Sales: Unknown

TICKER SYMBOL: Privately held company

MARKET SHARE: 2%

PRODUCT LINE:

- Advance IP (hybrid traditional/IP)
- Avanti (hybrid traditional/IP)

DISTRIBUTION: Telrad has a very limited dealer network, with only one dealer in the Bay Area and they aren't active.

STRENGTHS: Telrad systems are known to have a large number of features. Telrad systems are inexpensive.

WEAKNESSES: Telrad has a very small dealer network and is losing market share. They are more of a player outside of the US>

CONTACT INFO:

Phone: 516-730-3310

Website: www.telradusa.com



THE NEW PIONEERS



HISTORY: Fidelity was founded in 2003

COMPANY SIZE: 2006 Sales: Unknown

TICKER SYMBOL: Private, funded by Intel Capital

MARKET SHARE: <1%, but growing very rapidly

PRODUCT LINE:

PBXTra – Turnkey SIP IP PBX

Tribox - SIP IP PBX platform for do it yourselfers

DISTRIBUTION: Fidelity products are marketed direct and through a dealer network. The direct group has no installation services so customers must seek out a local dealer or self-install.

STRENGTHS: Open source telephony has been embraced as the future of telephony. Fidelity has taken this basic building block and has created a well-crafted, fully-featured and reliable IP PBX

WEAKNESSES: There is some confusion in the marketplace about open source and the various ways of building and maintaining an open source solution.

CONTACT INFO:

Phone: 877-366-2548

Website: www.fidelity.com



THE NEW PIONEERS



HISTORY: Company was founded in 1996 and began shipping product in 1998. They are located in Sunnyvale, CA.

COMPANY SIZE: 2006 Sales: \$61 million

TICKER SYMBOL: Privately held, IPO filed but not launched as of June 07.

MARKET SHARE: Nil

PRODUCT LINE: ShoreTEL IP PBX

DISTRIBUTION: The products are distributed through a small network of authorized dealers.

STRENGTHS: Shoretel built their company on their unique method of networking systems together and their eye-catching Call Manager client software

WEAKNESSES: Shoretel is not cheap. They use proprietary MGCP protocol while the rest of the world is going SIP. The heart of the system is still based upon old TDM technology.

CONTACT INFO:

Phone: (877) 807-4673

Website: www.shoretel.com

THE NEW PIONEERS



HISTORY: Altigen was founded in 1996 and has headquarters in Fremont, CA.

COMPANY SIZE: 2006 Sales: \$18 million

TICKER SYMBOL: ATGN

MARKET SHARE: Nil

PRODUCT LINE: Max1000 IP PBX

DISTRIBUTION: The products are distributed through a network of dealers.

STRENGTHS: Their Altiview client software is a powerful client application that combines call control, voicemail management, and configuration to the end user's desktop.

WEAKNESSES: In business for more than a decade, their sales are only \$18M annually and they've never made money. How long can they hang on? Awhile, apparently.

CONTACT INFO:

Phone: 510-252-9712

Website: www.altigen.com

THE NEW PIONEERS



HISTORY: Digium was founded in 1999 and is headquartered in Huntsville, Alabama.

COMPANY SIZE: 2006: Unknown

TICKER SYMBOL: Privately held

MARKET SHARE: Nil

PRODUCT LINE: Asterisk Business Solution (open source SIP-based PBX)

DISTRIBUTION: The Asterisk is available as a free download. Hardware, installation and on-site support must be sourced as Digium does not provide.

STRENGTHS: Open source, SIP and ability to use off-the-shelf hardware translates into lower cost phone system.

WEAKNESSES: Weak dealer network, no on-site support, open source software still rapidly evolving, setup and maintenance very complex and time-consuming.

CONTACT INFO:

Phone: 256.428.6000

Website: www.digium.com and www.asterisk.org



THE NEW PIONEERS



HISTORY: Company was founded in 2004 as a merger of Vertical Networks and Artisoft, who were both failing. They combined and found venture capital money. In 2005 they bought Comdial who was in bankruptcy and in 2006 bought Vodavi, another struggling telecom mfr.

COMPANY SIZE: 2006: \$55 million

TICKER SYMBOL: VRCC.OB (over the counter)

MARKET SHARE: Nil

PRODUCT LINE: There are eight separate product lines in a company that does \$55 million in revenue per year.

DISTRIBUTION: The products are distributed through three different sets of dealers:

- # 1. Vertical dealers
- # 2. Old Comdial dealers
- # 3. Old Vodavi dealers

STRENGTHS: Hard to tell

WEAKNESSES: The company has never made a profit. Product line is a mess of Comdial, Vertical, Vodavi and Artisoft products.

CONTACT INFO:

Phone: (617) 354-0600

Website: www.vertical.com

OUT OF BUSINESS



HISTORY: Out of business. Purchased by Vertical Networks



HISTORY: Out of business. Purchased by Vertical Networks



History: Bankrupt. Ceased operations in 2006 and later the remnants were sold to Telrad.

SUMMARY

A total of 15 companies offer IP-PBX'es in the market today.

3 – Tier 1

5 – Tier 2

2 – Tier 3

5 – Pioneers

TIER I: The tier one competitors enjoy substantial market share advantages. It appears that they will be in the PBX business for the long term. However, Avaya has recently gone private and nobody knows where that will end. And many rumors swirl around Nortel about acquisitions and dispositions of certain parts of their business.

TIER II: The tier two competitors are established firms with major hurdles to gain market share. In many instances they have a quality product but will likely settle for their tier two status unless they can create a breakthrough product. A risk for the tier II competitors (other than 3Com) is that they are old-line traditional manufacturers who need to make the leap to the SIP standard and new way of conducting business. Expect to see more consolidation within this group.

TIER III: The tier 3 competitors are vying for the low-end of the market. The number one concern in the small end is cost. Tier 3 providers can only survive if they provide must fully-featured products for less money than the more established players. They are going to have a very tough time of it going forward as they are being attacked from above and by the pioneers in the industry.

PIONEERS: One or two of the pioneers will likely make the leap to become a tier I or II player. Developing and promoting the SIP and open source standards, as a group they are re-defining the PBX technology standards. However, it's hard to know which one will be the company that finds that magic combination of technology, marketing and distribution. The remaining pioneers will be either purchased or go out of business as the SIP standards-based industry matures.

SUMMARY

NEW TELECOM APPLICATIONS COMPANIES WILL FLOURISH

Once the SIP standard takes over, customers can build a “best of breed” system rather than be a “captured customer” of their PBX vendor. Taking it to an extreme, customers can buy phones from one or more manufacturers, T1 cards from yet another, their server from Dell or HP and then applications from one of dozens of providers. Data networks have been put together like this for years.

Before the PC became popular, computer systems were provided by one company – typically customers bought an IBM system. Later with the invention of the personal computer with its open architecture, hardware manufacturers and software developers popped up all over the place. At first, the various components didn’t always work well together and there were compatibility problems. As time went on, the various products began working better. And the business productivity gains have been massive, in large part due to the low costs and multitude of applications – word processing, spreadsheets, databases, email, etc.

Now the telecom market is undergoing this same transformation from the expensive proprietary system to an open, affordable and agile system that will once again provide huge productivity gains to business.

Application developers will flourish in this new environment. For some of the pioneers, it will be an easier route to write software rather than design entire telephone systems. This is where the breakthrough technologies will occur. The hardware, cards, racks, chassis and switches will fade into the infrastructure and the applications will be where the real advances are made. Stay tuned as the industry makes a giant leap forward!