



Information and Analysis on the Telecommunications and Unified Communications Solutions from

NEC

Featuring Spherical Release 8.0.

October 2011

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Executive Summary

For years, telephony and business communications were largely synonymous. The telephone offered instant communications, and its primary alternative was physical letters that could stretch a conversation over weeks. In the 1990s email became prevalent, and more recently we have gained mobile phones (voice and SMS), IM and presence, video options, and social networks. As communication paths and options increased, so did the complexity to manage it all (mentally and technically).

The underlying technologies also changed. Analog gave way to digital, then VoIP, and now Unified Communications (UC). While VoIP effectively replaced digital telephony with newer technology and a near identical value proposition, UC has the broader vision to unify multiple communication modes in terms of approach and management.

UC is not a product or feature, but rather an approach that varies by the needs of an organization. A UC strategy for one organization may look a lot like a PBX, while another organization may opt to eliminate telephones. Few assumptions can be made about the hardware or scope of a UC solution. Nor can it be assumed that vendor UC solutions offer a common set of features and services. As a result, the definition of UC lies with the beholder, who must understand the menu thoroughly before ordering. While set menus do exist, it is also common to take an à la carte approach to complete or complement a UC solution.

NEC supports both. Its products offer a fairly broad interpretation of UC as well as hooks and partnerships to enable a multi-vendor approach. NEC was founded in 1899 and originally worked closely with Western Electric to create the Japanese telecommunications infrastructure. The company is well established as a recognized player in business communications, not just in the US and Japan, but globally. Some studies list NEC as the world's third-largest telephony vendor, with noted success in both SMB and very large deployments. Key vertical markets include hospitality, education and health care.

NEC business communication systems evolved from digital communications, to VoIP, to Unified Communications. Each generation, the company picked up valuable experience and features. NEC offers several business communications platforms, but its two most strategic platforms are the SV8000 appliance series and its Spherically solution. The SV8000 comes in three flavors—the SV8100, the SV8300 and the SV8500—each targeted at different demographics. The SV8000 line has been the company's primary UC platform for the past several years.

While the SV8000 series products continue to sell well, NEC believes the market will shift away from appliances toward a more extensible, software-based model. This is a fairly bold vision coming from what has historically been a hardware company. In 2007, NEC acquired Spherically Communications and has been diligently both selling and improving the Spherically UC platform. Spherically is NEC's first communication platform delivered as software-only. While it is capable of being a telephone system replacement, its vision is much broader. NEC is positioning Spherically as a communications tool that can facilitate data center objectives including virtualization and centralization, as well as integration with other data center services and strategies. Spherically can interact with end users via a variety of modes, methods and devices. NEC intends to allow customers to mold Spherically into whatever communications solution is needed—from a traditional PBX to a loosely coupled service for other business applications.

NEC is effectively straddling the present and future of unified communications with these two platforms. The company can't simply decide to focus on Sphericall, as it represents a very different product than the SV8000 series. The majority of its SV8000 dealers are not Sphericall savvy, nor is a changeover a simple matter of product training, as Sphericall's true value lies in its approach to IT infrastructure. In the four years that NEC has owned Sphericall, it has yet to build a bridge between Sphericall and the SV8000 series. The two platforms' dealers, features and devices remain largely separate.

This report addresses the SV8000, but focuses primarily on Sphericall. Describing Sphericall can be a challenge, as it is different things to different people. It can be both a phone system and a background communications enabler for IT. The telecom folks describe its UC features including call processing, endpoints, contact center, IM/video, etc. For IT architects, it is more about Web technologies, extensibility and openness. Web services allow disparate computers to easily interact and transact. Later this year, Sphericall Release 8 is expected. Release 8 looks to be a major event for Sphericall—and likely the one where NEC publicly transitions Sphericall as not just the company's future, but its present as well.

Key Findings:

- Sphericall is a broad set of services that includes PBX functionality.
- Sphericall is highly extensible—it has a broad SDK, adheres to SOA and uses Internet standards and Web services.
- Sphericall is as much an IT solution as a UC solution. Sphericall enables a thin client architecture through the use of RIA clients, its SOA approach will facilitate extensibility, and its HA and virtualization approach will integrate with existing or broad IT procedures. NEC is truly addressing voice as an IT service in its architecture.
- Sphericall has highly simplified licensing and pricing—particularly when considering the complexity and capabilities of the product.
- Sphericall is an impressive attempt to align a product with overall IT and voice directions as well as NEC's overall corporate strategy, which is far broader than UC and telephony.
- Sphericall is different things to different people—IT and voice-centric prospects will view the product totally differently.
- Sphericall has a near-term deficiency with regard to collaboration—however, a major improvement in this area is on deck for spring 2012.
- NEC will have a significant challenge in building awareness and a channel for Sphericall.
- Sphericall is strong in telephony and extensibility; however, it is a bit weak in mobility and collaboration.

This TalkingPointz report covers key elements of both Sphericall and NEC to help users assess its organizational fit as a UC solution. Organizations adopting SOA, standards and thin clients will find Sphericall particularly attractive. Its simplistic pricing and highly available architecture, however, will also appeal to users focused on core voice and contact center solutions.

UC Market Overview

Business communications are in tremendous transition. For nearly a century, the PBX remained fiercely independent, with its own dedicated terminals, wiring, hosts and applications. It was a reasonably well-understood model. Products were similar, and innovation provided only brief advantages until competitors implemented the functionality. Market share was fairly easily grasped by counting the number of physical ports sold according to vendor-provided reports. Customers placed heavy emphasis on desktop phones as a key differentiator, and system prices and features were similar enough that side-by-side comparisons were manageable.

Recently, that easy-to-understand PBX model morphed into something a bit more nebulous, loosely referred to as unified communications. Around 2002, VoIP technology crept into the PBX, initially disguised as a transport alternative. One key benefit to VoIP was the notion of convergence, which at the time referred to running voice and data traffic over the same wires and cable infrastructure. The notion of convergence rippled through the industry—servers, applications, departmental organizations and the vendors themselves converged in unexpected ways. Concurrently, the tools of business communications greatly expanded from email and voice to include IM, SMS, social networking and numerous Internet-based services. The need to unify both communication tools and infrastructure became a priority.

The communication vendors responded to the opportunity with broadening portfolios and features that rapidly embraced multi-modal communications. The desktop computer became a hub for UC including presence/IM, unified messaging, call control features, and voice and video softphones. UC extended to mobile devices, particularly the smartphone with rich client capabilities. It's amazing, really: A proprietary dedicated phone is now being threatened and sometimes replaced with a client on a general-purpose mobile device that has its own call control. Rather than the "me too" innovation of the PBX era, UC vendors now seek unique value propositions. Solutions, both premises and services, vary far more now than in the PBX TDM realm.

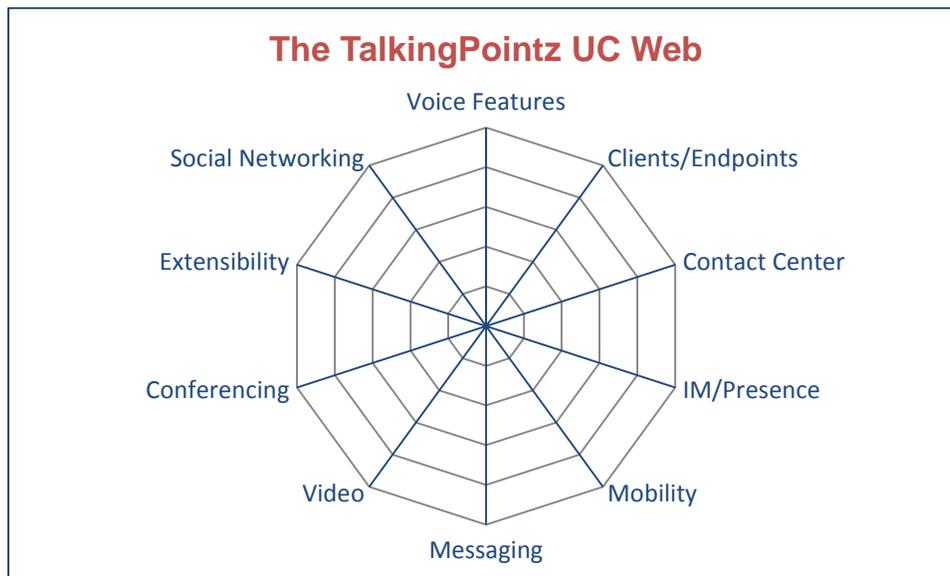
Additionally, over the past few years, solutions moved from hardware to software. Hardware-based models were foolproof in terms of capacity planning and repair. Capacity was met when systems ran out of ports; when something broke, the dealer replaced the part. Software-based solutions offer many benefits and a new realm of innovation, yet demand much more effort in planning and operations. A simple hard-drive replacement is no longer a matter of selecting a part, but could require expertise in the operating system and/or storage infrastructure. New features and capabilities are simply unlocked or licensed. Questions about operations and features are no longer simple "yes" or "no," but require a conversation. The presales buyer must constantly clarify the difference between "what's supported" and "what's proposed."

The TalkingPointz UC Web

UC represents more than voice communications, but exactly how broad is the subject of debate; few definitions agree. UC attempts to capture all forms of electronic business communications including voice, presence/IM, video, and tools that support collaboration and mobility. These tools' degree of integration, as well as the breadth of each offering, varies widely.

UC is effectively in the eye of the beholder. It's intended to be a comprehensive approach to the tools, media, and devices used in business communications. But not only is there no consistent answer to the question of what UC entails, but the menu keeps changing with every new iDevice. UC is different for each organization based on its needs and vision. Therefore, in its broadest sense, no single vendor provides a complete UC definition or solution. It is up to users to determine the scope of their UC strategy. Most strategies involve multiple vendors, services and technologies.

The TalkingPointz UC Web offers 10 key functional UC categories of communications. The web gives each spoke equal importance, but this will not be the case for most end-user organizations. As organizations identify various UC solutions on the web, areas of strength and weakness will be exposed. Aligning these areas with organizational priorities helps identify a match. Alternatively, this process could help an organization identify complementary partnerships in a multi-vendor approach to UC.



Voice: Voice is less important overall than it was a decade ago due to the increases in communication mode alternatives. Twenty years ago, the communications choices were generally either/or: a phone call or a physical letter. Today, we use email, social networking services, IM, even SMS, to name a few. However, voice remains critical and central to UC. Evaluate powerful call processing and routing features, integrated applications and independence from hardware. Features are tricky to evaluate: Because specific features invariably seem small and minor, the versatility of a large feature base is often important.

Clients/Endpoints: The desktop client and/or the physical endpoint device will largely determine the user's experience and training needs. Organizations must evaluate the obvious—features and feature accessibility—but of increasing importance is the range of solutions. Issues to consider include client features, operating systems supported, Web-based feature sets, display sizes, power consumption, wireless options and standards compliance.

Contact Center: Plenty of specialized contact center solutions exist, but most organizations with modest requirements will utilize the call center component of the core telephony solution. Contact center feature sets vary greatly among solutions. Look for CTI/IVR tools, queuing and routing flexibility, speech recognition, outbound dialing, and specific tools, clients and displays optimized for agents and supervisors.

IM/Presence: Instant messaging and presence tremendously impact communications and productivity. Look for solutions that integrate status with the voice solution, calendar solution and/or mobile location. Some IM solutions can promote to voice and/or video sessions and back again rather than requiring separate applications. Directory synchronization and various controls over visibility of that information should be evaluated. Some systems integrate with existing directories, others create their own, and some even allow searches based on skills or location. Presence and IM are rapidly changing business communications. Look for a robust solution, and pay particular attention to compatibility with external systems. IM interoperability is usually done in by some combination of public gateways, standards-based interfaces, or federation.

Mobility: Mobility is a very broad area and includes fixed remote users (teleworkers), wireless mobile workers (3G/4G/Wi-Fi) and corridor warriors (Wi-Fi, DECT) who require mobility at multiple or remote locations. Mobility solutions generally drive at either enabling portability or reducing costs (using Wi-Fi instead of voice minutes or roaming charges). Solutions involve mobile phones, clients for smartphones and tablets, hot desking or hoteling, fixed mobile convergence (FMC), UC desktop applications and softphones. This area is difficult to compare among vendors as they use similar terminology ("smartphone client") to represent very different capabilities. It is also an area changing very quickly. Look for solutions around single-number management, and carefully evaluate the capabilities and supported platforms of mobile clients.

Messaging: Voice mail, email, auto attendant and fax (though fax is disappearing) are frequently addressed together in a messaging strategy. Most vendors support Microsoft's Exchange and IBM's Domino integration; some even utilize those products as a single store. The messaging component may also offer speech recognition and/or transcription. Look for synchronization features (so a message doesn't have to be deleted more than once), use of popular codecs, visual messaging and transcription.

Videoconferencing: The popularity of Skype and other consumer services has set a higher expectation for video-based business communications. Most of the UC vendors now support limited webcam-type video calls between internal users. Many solutions also integrate with external sites, room systems and/or mobile devices. This is an area of wide disparity among solutions. Video systems, content management and conferencing collaboration systems overlap around shared documents.

Collaboration: Collaboration within the UC context generally refers to expanded conferencing. The solutions include several tools such as audio and/or videoconferencing, desktop sharing, push presentations/PowerPoint and whiteboarding sessions, all involving multiple simultaneous users. Collaboration tools are becoming increasingly important due to the rise of distributed workforces. Collaboration tools often, but not always, involve client software that must be distributed and upgraded. Evaluate resource management, calendaring systems and client ease of use. Look for tools that can be extended outside the organization to embrace partners. Collaboration in a purer context generally involves a content management system, shared workspaces and content portals.

Extensibility: CEBP, or Communications Enabled Business Processes, refers to integrating communications capabilities into business processes and applications. To do this requires technology interfaces, commonly known as application programming interfaces or APIs. Look for bi-directional API capabilities. For example, a telephony solution that can coordinate with a CRM could auto-populate calling records. A dispatch or reservation system could potentially interface with telephony to initiate outbound calling reminders. Look for both APIs and partner solutions that demonstrate an ability to integrate communications into other applications.

Social Networks: This area is the least mature of the UC components. Social networks are increasingly used for business communications, both as a direct communication among business partners as well as a method to monitor public conversations about a brand, product or service. Some contact center solutions integrate with public networks. Some vendors are now offering the ability to route calls based on social networking status updates and/or collect information (such as phone numbers) from social networks.

The above items are core UC component categories included in the TalkingPointz UC Web. The following topics include more specialized infrastructure directions that impact UC implementation designs and decisions.

Virtualization: IT departments are rapidly adopting virtualization technologies from VMware, Citrix and Microsoft for servers and desktops, and even mobile devices. Virtualizing real-time communications requires careful consideration and planning. Virtualization capabilities significantly vary among vendors. Verify that the UC solution when virtualized will still adhere to organizational objectives regarding resource planning, disaster recovery and management.

Consumerization: Social networks and personal computing devices such as smartphones and tablets have reduced the barriers between personal and professional lives. The rate of innovation taking place in the consumer or personal market is staggering—and it affects the way we work and the way we live. Individuals increasingly want to use consumer-class devices and services for their corporate tasks, including their own computers (at home), their own bandwidth and their own portable devices. While this is obviously financially attractive for business organizations, it introduces new complexities around support and the protection of employer assets (content, directories, phone numbers, etc.). Vendors and end users are striving to find the balance in price, security and capability. The bring-your-own-device (BYOD) model is rapidly emerging as a best practice, and forcing major changes to how an organization approaches support and security.

Cloud and Centralization: VoIP reduced the limitations imposed by geography, which then gave rise to the concept of hosted voice. Hosted voice offers several compelling benefits, including the elimination of infrastructure (equipment and administration) at each site and feature parity among users/locations. However, hosted voice does not necessarily equate to outsourcing. Many organizations are centralizing their UC solutions on or off premises—effectively self-hosting, or using a private cloud. Centralization typically results in all the UC services being centralized in a data center model. The only equipment at branches is for survivability or failover.

Security: UC security is not directly addressed in TalkingPointz UC reports. All major brands meet base corporate security requirements. However, security is not a check-box feature. Buyers should be aware that IP technology introduces numerous security aspects that were not relevant with TDM systems. VoIP technologies are susceptible to Internet threats such as DDoS attacks. Unified messaging makes it possible for voice mails to be forwarded to external users, and simultaneous ring/call forward means customers may end up on home and personal phones. A modern UC implementation should force changes to internal practices and policies as well as industry or federally mandated compliance-requirements. Users requiring advanced security considerations, such as JITC or specific encryption requirements, should discuss these with their dealer and/or manufacturer.

There is a tremendous amount of differentiation and specialization among industry players, and end users should not assume it's a Ford vs. Chevy situation anymore. The manufacturers are adopting different areas of focus and specialized value propositions. The available solutions in the marketplace today are incredibly powerful and, when appropriately matched and implemented, can offer significant communication capabilities and productivity boosts.

Market Share

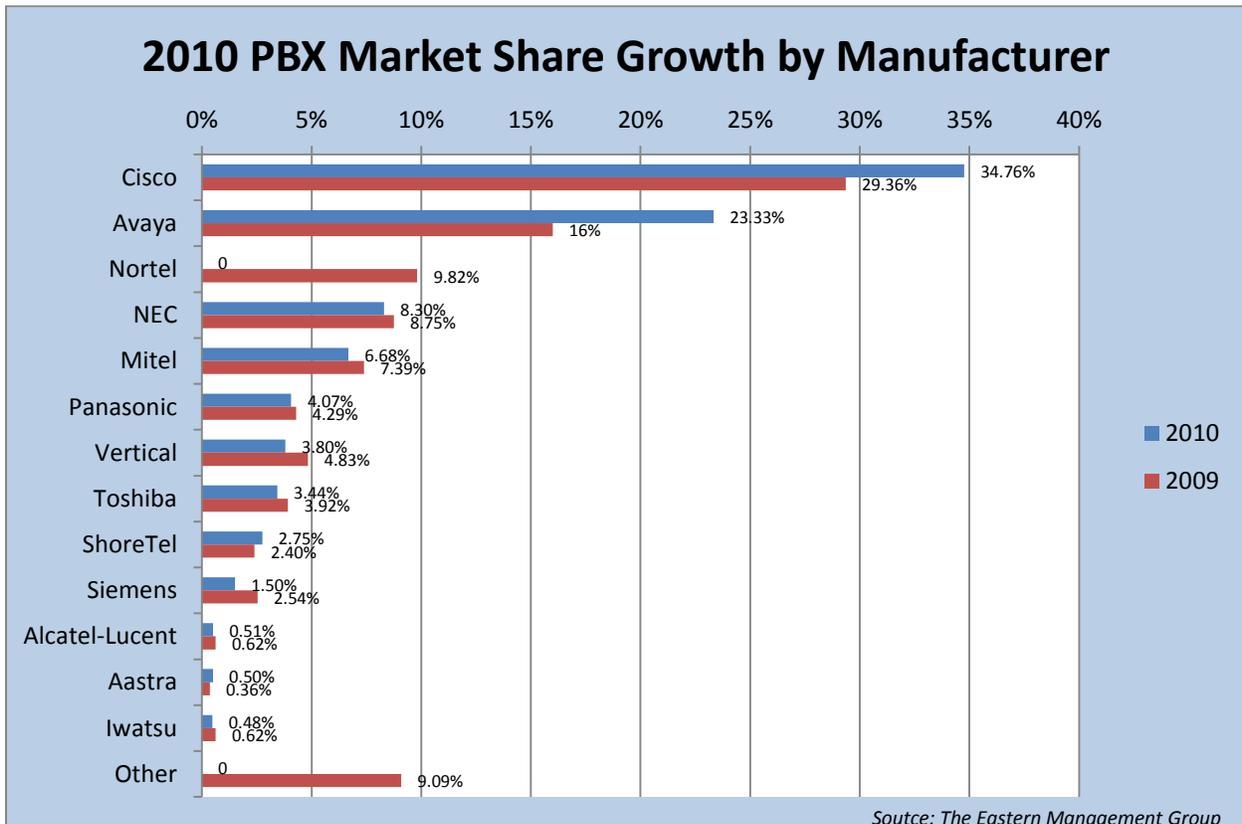
Measuring and comparing sales performance is not what it used to be. The major manufacturers don't agree exactly what Unified Communications includes. Research firms tend to count components such as licenses for voice, IM, video, etc., while vendors market "UC." Very few vendors are willing to use the term "PBX," as if the technology is evolution-proof. The result is PBX market share reports measure what the vendors insist they don't make. Additionally, the notion of counting ports has become obsolete—a single Ethernet port can service thousands of users and trunks.

Market share reports are valuable, but not indisputable. Counting licenses isn't simple either, largely due to bundling and "free" apps/plugin downloads for the desktop and mobile. What each vendor includes in each licenses and what customers actually implement are different matters. Even "like" licenses vary. A Session Initiation Protocol (SIP) trunk, for example, could support one or 255 active calls per the standard. Counting telephones is equally difficult due to the introduction of software-based softphones, numerous extensions to one user (home phone, mobile client, etc.) and desktop clients that can be used with or without a desktop phone. Year-to-year revenue comparisons are ambiguous as the industry is gradually moving away from hardware. Then there is the whole notion of open-source software, which is frequently excluded in market share reports. Industry counting methods are struggling to adapt to a non-physical converged marketplace. Market share reports represent a best effort to ascertain trends, shifts and patterns in UC sales.

The table below shows market share information for the North American PBX line shipments in 2009

and 2010 as researched by The Eastern Management Group (reprinted with permission).¹ 2010 line shipments showed overall year-over-year growth of 16 percent. Note, the data does not reflect the installed base, which is very difficult to measure.

The sales information includes both new systems and add-on sales to existing systems. Add-on sales showed an even higher annual growth of 18 percent. Software-based systems are easier to supplement and enhance with add-ons than their hardware predecessors, which were sized and licensed to accommodate a specific customer size.



¹ Market research printed with permission of Eastern Management Group, <http://www.easternmanagement.com>.

UC Vendor Landscape

Note: This is not a comprehensive list, but rather seeks to provide a representative sampling of the leading companies in this space.

- **ADTRAN:** While known primarily as an infrastructure vendor, ADTRAN offers UC solutions within its NetVanta brand, a reasonably priced solution sold as a small business appliance or as software for larger implementations. ADTRAN also produces its own phones.
- **Aastra:** Aastra offers ClearSpan, which is a premises-based version of the BroadSoft technology typically sold only to service providers. As a result, its underlying technology has extensive deployment experience. Aastra also offers the MX-One mid-market platform. Aastra has strong penetration in higher education and with very large implementations. Its MX brand is better known in Europe.
- **Alcatel-Lucent (Genesys):** ALU offers its own OpenTouch Communication Suite as well as the Genesys Contact Center solution it acquired. OpenTouch is a fully unified and integrated UC suite. Very successful in Europe, ALU also offers a full range of networking solutions.
- **Avaya:** In 2010, Avaya merged with Nortel, creating a UC behemoth. Avaya's primary strategy centers on its Aura offering, which presents a slightly different twist on enterprise communications and places more emphasis on the session aspects rather than the transport element of SIP. The company has some very innovative products around video and mobility including its Desktop Video Device and its Flare experience.
- **Cisco:** Cisco offers its Unified Communications Manager (CallManager) products for SMB and enterprise customers. The 6000 and 5000 products share numerous applications and devices, and the 3000 is a far simpler product largely aimed as a TDM replacement solution.
- **Digium:** Digium is primarily known as the keeper of Asterisk, free open-source telephony software. Asterisk can be found in numerous commercial and supported offerings including Digium's own Switchvox solution which is positioned as a rich SMB UC solution.
- **Huawei Technologies:** This Chinese powerhouse is very strong in routers and switches and recently expanded into UC. The company is expanding its market presence, particularly via its telepresence solutions; however, it is not well known in the European or US markets.
- **IBM:** IBM offers Sametime to extend third-party calling solutions. Its approach hides the telecom platform, enabling a consistent approach regardless of the underlying telecom technology (premises or hosted). IBM's Sametime leverages IBM's strengths in messaging and social networking into a UC solution.
- **Interactive Intelligence:** Sold as both premises and a hosted solution, the company's Contact Center core has expanded to a larger UC offering. The solution includes a single intuitive desktop interface to manage incoming and outgoing calls, chats and emails. The same interface also equips users with real-time presence management controls, corporate and workgroup directories, and conferencing.
- **Microsoft/Lync:** Lync 2010 is geared toward larger enterprises (+250 users, but generally much larger). This may change with Lync Online (hosted). Lync takes a very different approach to UC than most competitors: It tightly integrates with other Microsoft products such as Exchange, Office and Windows. Lync successfully challenges a number of long-held assumptions and offers a unique and compelling experience, but with limited voice features and a more proprietary approach.
- **Mitel:** The Mitel Communications Director (MCD) platform is supported for a variety of implementations ranging from appliances to service provider multi-tenant solutions. The company is focusing its efforts around virtualization and mobile technologies. Mitel also offers smaller appliance solutions. It tends to do well in the less-than-2,500-user market size.

- **NEC:** With the purchase of Spherical technology in 2007, NEC added next-generation software-based communications to its appliance portfolio. The SV8000 platforms are a proven workhorse suitable for businesses of all sizes. Spherical and the SV8000 series offer broad UC applications.
- **ShoreTel:** ShoreTel's claim to fame is simplicity. The solution, sold as appliances, automates and simplifies many complex tasks such as resiliency and propagation of distributed databases. The company has been successful in SMB, but aggressively growing into larger implementations.
- **Siemens-Enterprise Communications:** Siemens-Enterprise Communications is a separate company from Siemens AG. Its OpenScape platform, recently also available as a service, builds on a widely deployed IP PBX system and provides a rich set of UC features that go well beyond the desk phone. Siemens-Enterprise has its strongest market penetration in Europe.

NEC Networks Overview

NEC is a multi-national corporation headquartered in Tokyo, Japan, and founded as Nippon Electric Company in 1899. Yes, that is correct—100+ years ago. NEC has a local presence in 44 countries, employs more than 142,000 people, owns 283 subsidiaries, and has managed to file more than 74,000 patents. CEO Nobuhiro Endo reported FY2010 worldwide revenue at \$37.5 billion USD. The company is organized into five major business units. Below, the percentage indicates each segment's contribution to sales (FY2010):

- **Platform Business, 12 percent:** Offers **IP telephony and UC** along with PCs, servers, mainframe computers, supercomputers, storage products, software, networking and professional services.
- **IT Services Business, 26 percent:** Provides systems integration, maintenance and support, and outsourcing services to government agencies and private-sector companies.
- **Carrier Network Business, 19 percent:** Offers network infrastructure, network control platform systems and service delivery platform systems to carriers.
- **Social Infrastructure Business, 10 percent:** Provides industrial systems that support social infrastructure, including broadcasting systems, artificial satellites, CCTV surveillance, broadcasting systems, video equipment, fire and disaster prevention systems, aerospace and defense systems.
- **Personal Solutions Business, 25 percent:** Offers mobile handsets, personal computers, personal communications equipment, monitors, projectors and Internet services to individuals and private-sector companies.
- **Other solutions, 8 percent:** Includes lithium-ion rechargeable batteries, capacitors, LCD panels and lighting equipment.

Telephony is not new to NEC. Its telecom products date back to early telecommunications, including pull-cord switchboards. The company has provided telecommunications solutions to both business and carrier sectors for most of its history. NEC is among only a handful of companies that offer telecommunications and UC products worldwide.

Recent Performance

Total revenues in FY 2010 were US \$37.5 billion, and the company reported an overall loss of US \$83 million. NEC also reported losses in FY08 and FY05. NEC does not provide profit and loss information by division or region. However, there are indicators that its telephony and UC solutions are doing well.

In NEC's 2011 Annual Report, the company lists numerous global achievements including the IP telephony system for InterContinental Hotels and Resorts in Shanghai and the IP-based telephone and television system solution for Mandarin Oriental in Macau, China: "Turning to network products, NEC captured the No. 1 share of the Japanese enterprise telephony market and the No. 3 share of the corresponding worldwide market."²

John Malone of Eastern Management believes 2010 may have returned the company's best overall sales

² NEC 2011 Annual Report, p. 17, citing data from Gartner, "Market Share: Enterprise Telephony Equipment, Worldwide 2010," March 29, 2011, based on seat licenses shipment basis, 2010 calendar year.

performance in a half dozen years, specifically citing the company's reorganization (creation of NEC Corporation of America, or NECAM; see "Company Organization") and success in the verticals of government, health care, higher education and hospitality: "We believe NEC had 40 percent of its North America sales on systems larger than 250 lines."³

NEC provides information on its worldwide quarterly line shipments. For 2010, NEC experienced 12 percent global growth. In Q111, global shipments increased 10 percent compared to the year prior, with particularly strong growth in Asia. In Q211, NEC reported 9 percent worldwide growth over the prior year. Larry Levenberg, Vice President and General Manager, reported to dealers at the NEC Advantage 2011 conference that NEC took the leadership position in the US small and medium-size businesses (SMB) market and holds 22.6 percent market share.⁴

In March 2011, a devastating earthquake and tsunami hit northern Japan, wiping out entire cities and industrial supply chains. NEC specifically cited the earthquake, along with weakness in the technology-services, for a 36 percent drop in net profit in its fiscal Q4. The Wall Street Journal reported, "The March 11 disaster, which damaged companies' production facilities in northeastern Japan and led to supply-chain problems, came as NEC was already struggling to stay profitable."⁵

In the earthquake's aftermath, NEC and many other companies undertook an extraordinary effort emphasizing their industrial capabilities to a skeptical world. One such example involves a damaged plant in Japan, jointly owned by NEC, Hitachi and Mitsubishi. It was widely predicted that the damages and subsequent shortages would impact worldwide supply chains (particularly in the automotive industry) through the end of 2011. Yet the three owners working together, along with their customers, managed to restore production levels in September.

³ "2010 PBX Sales in North America Grew 16 percent," by John Malone, Eastern Management Group, published on Nojitter.com, June 27, 2011.

⁴ Not validated. Levenberg cites data published by T3i Group.

⁵ "NEC's Quarterly Profit Falls 36%," by Juro Osawa, The Wall Street Journal, May 10, 2011.

Current NEC Portfolio

NEC produces several telephony and UC platforms. The DSX and UX5000 series provide core voice solutions to smaller businesses with simple requirements. The SV8000 series of appliances and Spherically are targeted to business with broader UC requirements. The company is shifting its focus from its strong-performing appliances to its forward-looking Spherically platform. NEC complements these platforms with a broad portfolio of UC, wireless, voice, data and managed services, as well as systems integration and application development. The telephony and UC divisions are part of the IT Platforms business group. Specific revenue is not publicly provided for these products and services.

SV8000 at a Glance

- ✓ Appliance-based solutions
- ✓ Each family networkable as a single system
- ✓ Three platforms/appliances
- ✓ Targeted UC application for each appliance
- ✓ Broad selection of endpoints
- ✓ Hybrid platform (analog, digital, IP)
- ✓ Scales from small to very large

Spherically at a Glance

- ✓ Based on open standards
- ✓ Scalable: suitable for user levels from 50 to very large account sizes
- ✓ Distributed architecture
- ✓ Productivity applications built in
- ✓ Desktop applications for Macintosh or PC (via Adobe Air)
- ✓ Pure IP— analog and digital support through gateways
- ✓ Software based
- ✓ SIP-based endpoints
- ✓ Engineered for a Services Oriented Architecture (SOA)
- ✓ Runs on Microsoft Server
- ✓ Optimized for Web Services
- ✓ Integration ready with Microsoft infrastructure (Active Directory [AD], Outlook and Exchange)
- ✓ Virtualization ready (VMware, HyperV)
- ✓ Meets Stringent Department of Defense JITC Certification

UNIVERGE SV8000

The NEC SV8000 refers not to a product, but to a family of appliance-based solutions that have a reputation for solid performance and a reasonable value. The product line was introduced in 2008, but represents decades of evolution from NEC's prior telephony platforms. Each appliance supports analog, digital and IP endpoints as well as traditional and SIP trunking.

The family incorporates three platforms: SV8100, SV8300 and SV8500. The SV8100 serves small-business users with two to 512 extensions, but has a sweet spot around 25 to 75 users (single system). The SV8300 targets the 50-to-500 space; it is particularly attractive for users migrating from a NEAX 2000 as it can support the older Series E phones. The SV8500 serves the large and very large, including hospitals, enormous hotels and universities. It has a sweet spot around 500 users, but is commonly used in very large deployments with multiple servers. All three share many components and endpoints, but the appliances themselves are physically different products. The SV8100 comes in two form factors (rack or wall mount), the 8300 comes in two rack-mount components (1U + 2U), and SV8500 is a single 3U rack chassis.

	Extensions Typ/Max	Networked Sys/Exts	Management	VM	UM and UC
SV8100	30/512	16/712	WebPro PC Pro 8100	VM8100 InMail	Desktop Suite UM8000 Mail UCB
SV8300	200/1536	46/2048	MA4000* PC Pro 8300	VM8100 InMail	UM8000 Mail UCB UCE
SV8500	750/16,000	64/192,000	MA4000* PC Pro 8500		UM8700 UCB UCE

*MA4000 is a Web-based management portal.

Each platform shares a common core feature set, and each is targeted, packaged and priced for different demographics. The platforms themselves have upgrade paths, but there is no migration path between the various UC offerings. Proprietary NEC networking (CCIS or NetLink) can interconnect the appliances and even consolidate multiple systems into one large virtual system. However, virtual systems are limited to like appliances, with the exception of SV8300 to SV8500.

The SV8000 series includes several NEC-branded options including:

- Hospitality Management Solution: Allows specialized hotel/motel property management integration with the SV8100 or SV8300.
- Series PC Pro/WebPro: A troubleshooting and management tool for both administrators and users.
- InRouter: All-in-one networking solution, supports T1 and Ethernet ports in an in-skin router.
- VM8100: Up to 16 ports, can forward messages to email with optional license.
- UM8000 Messaging:* Synchronized unified messaging solution, charged per user and per port. Features Outlook and Notes integration, supports fax.
- Digital, IP, DECT and Wi-Fi endpoints:* Broad full range of phones. Softphone (SP350) is supported on the SV8300 and SV8500.
- Multimedia Conference Bridge: An in-house conferencing solution, up to 16 channels, PC access portal.
- Voice Security Recorder:* Call recording.
- SonicView:* IP call recording.
- Communication Analyst:* Simple, graphical software package to review voice activities.

* Branded NEC, but produced by third-party partner. Not all NEC-branded endpoints are made by NEC.

The product line is largely mature, but NEC continues to roll out enhancements. In 2011, NEC launched three new phones and two releases to UC for Enterprise (UCE), with significant new features including IM federation.

NEC offers a range of branded phones: digital, IP and wireless. About half still use paper labels instead of self-labeling LCD screens. New in 2011 are three new endpoints:

- The ML 440 is an IP DECT phone with four programmable buttons. Its access point can support up to four simultaneous voice paths each, and the system supports up to 20 bases.
- A new IP phone with 28-character-by-4-line LCD display, 8 lines, POE support, LAN port for PC and full duplex speaker was announced for late in the year.
- A low-cost, 12-line digital phone without a display has also been announced.

The NEC-branded phones run in a proprietary mode, but SIP endpoints are supported. NEC does not offer any video phones; however, third-party video endpoints from Polycom are supported.

Two particularly successful verticals for the SV8000 are health care and hospitality. The SV8000 supports HL7, an ANSI specification for clinical data and interoperability between health care information systems. This allows the PBX to keep up with hospital system changes such as the location of patients (with automatic PBX updates). Similarly, in the hospitality industry, the SV8000 supports strong integration with major hotel Property Management Systems (PMS), which notify the PBX of various events such as check-in and check-out.

The SV8000 series offers numerous options for messaging and UC. Only the InMail voice mail and Desktop Suite are made by NEC; the others utilize technology from partners (branded as NEC). Further complicating these options is that core features vary by implementation type (server or blade) on the SV8100 and SV8300.

NEC has numerous UC options for each of the SV8000 appliances. The entry-level UC available for the SV8100 is Desktop Suite. To access more features and capabilities, UCB (UC for Business) is available for all three of the platforms. The more advanced features are bundled in UCE, or UC for Enterprise. Generally speaking, there is no migration path from one UC feature suite to another.

Desktop Suite includes PC Assistant, PC Attendant and a softphone. PC Assistant gives a user easy access to desktop features and settings via their desktop computer. The solution also enables caller-ID lookup in a user's Outlook database to display caller name information. PC Attendant provides operator or attendant staff access to intuitive point-and-click call processing features. It does not replace a desktop phone, but rather works in conjunction with it. The softphone can eliminate the need for a physical phone, and can make/receive calls directly from the computer desktop. Desktop Suite also supports desktop video calling, presence and IM, and collaboration tools enabling a user to share their desktop presentation or whiteboard.

UCB or UC for Business is designed for small and medium-sized businesses. The solution is branded NEC, but produced by Zeacom. It can be purchased in conjunction with any of the SV8000 series products and Spherical. It is available as a blade on the SV8100 and SV8300, or as software for installation on a separate server.

UCE or UC for Enterprise is the flagship UC bolt-on for the SV8300 and SV8500 platforms. It involves both a server component and a desktop client that consolidates for the user numerous forms of communications. The core feature capabilities of UCE include:

- Messaging
- Presence
- Video
- Collaboration
- Conferencing
- The platform combines several mature technologies including the voice mail engine from AVST, sold separately by NEC as UM8700. With UCE, the voice mail engine integrates with presence-enabling features such as updating the voice mail outgoing greeting based on a calendar.
- Presence was upgraded in 2011 to support XMPP gateways and federation with other sites.
- UCE supports up to 16 video collaboration windows without a multi-port control unit (MCU). Technology is provided by XL Connect.
- The UCE client is done via a Web page interface. The good news is any smartphone or Web device will work; the bad news is the interface lacks client benefits such as richness and speed.

UNIVERGE Sphericall

Sphericall is not a PBX in the traditional sense of the term. Rather, Sphericall is a platform for unified communication services which happens to include traditional PBX functionality. **Being a PBX is more of a feature than identity.** Sphericall treats communications as an application or service—directly to end users and/or via Web services to other business applications that need not concern themselves with communication infrastructure. Realistically, **Sphericall is ahead of where the market is, but nicely aligned with where the market is headed.**

NEC acquired Sphere Communications, and its product Sphericall, in 2007. Although NEC has kept the product available and left its sales channel intact, NEC has not positioned Sphericall as its primary platform. Instead, the company continues to sell and develop the SV8000 appliances while diligently improving Sphericall with its engineering teams in Chicago, Ill., and Hilversum, Netherlands (near Amsterdam). Sphericall is NEC's next-generation solution, completely software based and Web savvy. As a result, NEC currently straddles two worlds—the present (SV8000) and the future (Sphericall).

Sphericall is designed to take advantage of the ongoing assimilation of telecom into IT. Historically, IT and telephony were separate: separate systems, separate cables, separate departments and separate technology trends. Over the past decade, the technologies moved closer together. First came physical convergence with VoIP, and then came system overlaps such as unified messaging and hosting voice on industry servers. NEC is betting the trend will continue to a point where telecom is viewed as an IT service that is potentially blended with other IT initiatives and systems. Sphericall is how NEC intends to capitalize on the next wave of convergence.

Trend-wise, the telecom world is marching toward:

- Adoption of SIP trunks and SIP endpoints
- A high degree of focus on mobility, and tight integration with mobile devices
- Ongoing adoption of multi-modal communications
- Enabling of distributed workforces and mobile productivity
- Increased adoption and acceptance of videoconferencing tools
- Centralization of communications infrastructure

Trend-wise, the IT world is marching toward:

- Virtualization of servers
- Thin client or client-less computing via HTML5 and other browser technologies
- An increasing need to blur and mix applications via a services architecture
- Software technologies such as REST, SOAP, JSON, HTTP, XML and WSDL
- Integration with Microsoft infrastructure, particularly Active Directory and Exchange

NEC believes the evolution of UC will lead to enabling organizations to embed, mash-up and integrate communications into existing or emerging IT applications and architecture. Spherically is designed to be independent of both network and computing infrastructures, effectively ready to integrate into data center applications and user environments.

As an added bonus, perhaps not by coincidence, Spherically falls into NEC Corporation's published vision. NEC's "Vision 2017" states products and services should help people live a better life by:

1. Enabling better mutual understanding between people through sharing and utilizing information anytime, anywhere, with anyone.
2. Sharing information interactively without human intervention to support the safety and comfort of people and the preservation of the environment.

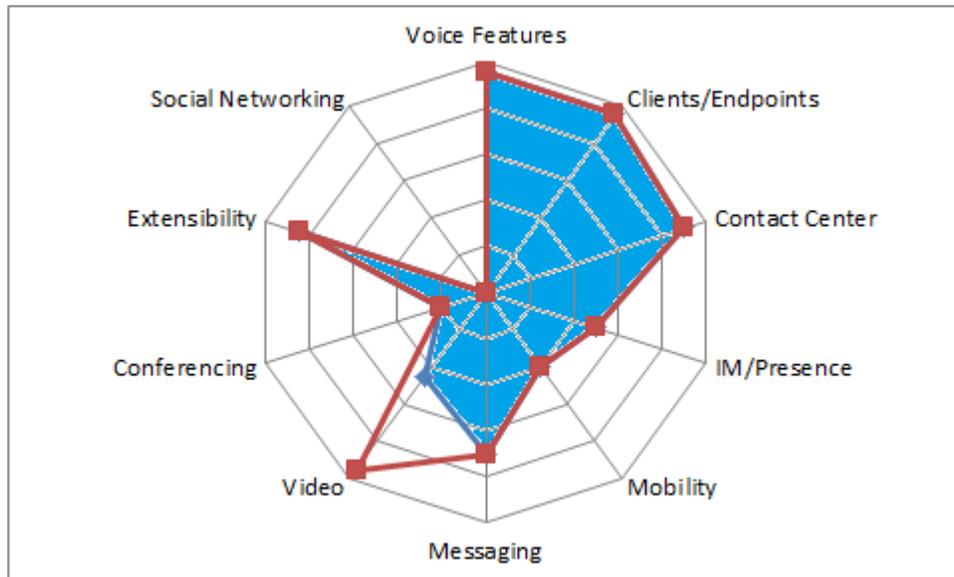
Spherically's UC capabilities improve "mutual understanding between people" through rich communications and collaboration. Its mobility strength allows for anytime, anywhere communications, with anyone. Communications in general support safety, but Spherically is also E911 compliant, and comfort and environmental impact are addressed with teleworking, virtualization, centralization and reduced travel.

Additionally, in the 2011 NEC Annual Report, the Platform Business section clearly states NEC intends to leverage cloud services for future growth. "NEC aims to drive further growth in its operations by focusing on three priority businesses: the unified communication (UC) business, common infrastructure for cloud business and server business." Spherically hits the first one directly as a UC application server. NEC has not clearly stated a cloud strategy for Spherically, but it is expected. Spherically is cloud ready and optimized for cloud delivery including its infrastructure, applications and delivery models. Common infrastructure is addressed via virtualization, server bundling and SOA.

The company has been talking up Spherically much more lately, including predominant positioning at the 2011 Enterprise Connect industry conference. In 2010, NEC began targeting selected SV8000 dealers to get them Spherically ready. Release 8 of Spherically, delayed and now expected in the autumn of 2011, will likely be the turning point.

NEC is reasonably cautious. The SV8000 series continues to sell well, and Sphericall is a horse of a completely different color. The skills necessary to sell and support Sphericall are different, as will be the reasons customers will purchase it. NEC positions Sphericall as a highly extensible, feature-rich, standards-based, scalable platform. Sphericall will be the most open and broadest UC platform NEC has offered.

TalkingPointz UC Web: Sphericall Release 8



As the TalkingPointz UC Web diagram indicates, Sphericall Release 8 can be seen as a reasonably broad and mature telephony solution with robust voice features, a broad range of clients and endpoints, and a decent contact center. Release 8 marks a major move regarding the platform’s contact center as NEC will begin moving away from its UCB (Zeacom) solution to its own NEC-developed BCT solution, previously only sold in Europe. The Sphericall Desktop is supported on Windows Vista, Windows 7 and MacOS.

Sphericall has a reasonable IM and presence solution, but currently does not offer any type of interoperability with public IM networks or even other Sphericall implementations. However, federation is planned. There is also limited integration between Sphericall’s presence and desktop applications such as Outlook (in Release 8).

Sphericall Release 8 supports mobility via its desktop app that can direct calls to any number. Additionally, it offers an iPhone client. The Android solution requires Adobe Flash. Simultaneous ring is complemented with advanced filtering rules (time of day, status, caller ID), but it uses timers to attempt to route unanswered calls back to the system’s voice mail. Remote phones require separate solutions for security (such as a virtual private network), and there is no ability to substitute outbound caller-ID numbers placed from a mobile device.

Regarding messaging, Sphericall Release 8 ideally relies on Microsoft Exchange for unified messaging. The advantage of using Exchange is a single message store for unified messaging. Voice mail can be retrieved and played within Outlook or via telephone through Sphericall’s native front-end. However, the solution is missing some advanced features such as fax support and transcription. NEC also offers its UM8700, made by AVST, which offers some more advanced features.

Spherical does natively support point-to-point video calls placed either through its desktop client or third-party SIP video phones produced by Polycom or compatible. Advanced video conferencing features such as multi-point, recording, or integration with mobile devices and room systems will require third-party solutions. The TalkingPointz Web Chart indicates a more complete video solution with NEC's partner Polycom.

The video collaboration capabilities are largely expected in Release 8.1 in spring 2012. Release 8 has very limited conferencing and collaboration features. At this time, Spherical has no native capabilities or strategic partnership around social networking.

Spherical really shines when it comes to its extensibility capabilities. The solution adheres to the SOA model and thus supports SOAP and XML technologies. The software development kit (SDK) supports both voice and presence solutions and comes with sample code and a simulator. Spherical supports WSDL, HTTP, HTTPS, remoting and a variety of development tools. Essentially, it insists on being mashed-up with other IT applications and services.

NEC does not charge for additional implementations of the server. Each server implementation automatically load-balances, and if the system is properly engineered it can absorb a server failure. Spherical works with Quintum Tenor and NEC gateways, which can be configured to provide failover service.

NEC is backing up Spherical with several advanced service capabilities including NEC Professional Services for installation and/or customization assistance, and remote monitoring and management services. Additionally, Software Assurance includes support and major release upgrades, and a short list of hardware is available from NEC with overnight replacement options.

Core Features

- IP-PBX
- Business continuity
- Unified messaging
- Mobility and Wi-Fi solutions
- Integrated softphone functionality
- Rich presence
- Integrated conferencing bridge and desktop videoconferencing
- Collaboration solutions
- IM/chat
- Contact center solutions
- On-demand recording (software based)
- SIP, Analog, T1 or PRI trunking
- Broad support for endpoints from NEC and Polycom natively supported
- E911

Contact Center Features (R8)

- Skills-based routing
- Call back
- Customer IVR and auto attendant
- Standard and custom reporting
- Web chat and email queuing
- Wallboard on RIA technology available to tablets
- Customer database integration
- Customizable views including logged-in queues, view individual agent activity and state, queue views

SIP and Softswitch Support

- Broadsoft—Oct 2006, joint certification with Broadsoft
- Asterisk—Oct 2006, by Sphere reseller
- Sansay—Oct 2006, by Sphere reseller
- Sylantro—2006, by Sphere
- XO Communications—Nov 2008, by Allied Telesis @ Yokota
- CBeyond—Certified by Sphere in 2006
- Global Crossing—Certified by Sphere in Jan 2007
- Fidelity Voice—by reseller in Nov 2007
- Broadvox—by customer in 2007
- BandTel—Certified by Sphere in 2006
- Nex—Vortex—by reseller in Nov 2006
- USLec now Paetec—customer has deployed, 2007
- McLeod now Paetec—customer has deployed, June 2007
- Netlogic acquired by Voxitas—Feb 2007
- Grande Communications—Jun 2008
- Telcentric—Cabo San Lucas, Mexico—by Allied Telesis, Sep 2006
- Xtra—Spain—by Allied Telesis, Sep 2006
- Priority Telecom NV—Netherlands—by Allied Telesis, Nov 2006

Other Characteristics of Interest

- PBX1 Certification through JITC
- Customization of Web pages and content on IP phones using standard XML commands and programming; license-free micro-browser SDK
- Built-in real-time load-balancing

Miercom tested Spherical performance in May 2011 and published these key findings:⁶

- NEC Spherical maintained 100 percent availability during IPv4, ICMPv4 protocol mutation attacks.
- During failover tests, the system handled 16 calls per second with no failures.
- Spherical completed 1.4 million calls and registered 48,000 users.
- In IPv4 Protocol Mutation testing, Spherical properly blocked more than 42,981 protocol mutations from 298 variants in two protocol suites.

Release 8

Release 8, planned for late 2011, represents a major upgrade to Spherical, including:

- New subsystem for Instant Messaging including archiving and IM history.
- RIA server to deliver services to new UC clients. Interfaces with Active Directory.
- Web Administration Portal: Clientless administration.
- Distributed Services including FTP, DFS and IIS, enabling load-balancing.
- Significant improvements to the user experience.
- Expanded integration with Polycom HDX video products.
- New RIA UC desktop client (based on Adobe Air) with integrated presence, IM, recording, and icons for status and one-click features. Office integration including smart-tag support and Outlook plugins. Also, a new softphone.
- New client for Apple IOS devices (support for 3G/4G and Wi-Fi).
- New User-Based Licenses: UA: Name user for UC; STL: Station License; VML: Voice mail or unified messaging license. All three available in a SAL bundle.
- New System-Based Licenses: TAL: trunk license; SRL: ad-hoc recording; MSA: to allow external application to control media services.

UX5000/Aspire

The UX5000, previously known as Aspire, is a hybrid solution for small businesses. It is available in a cabinet-style housing (typically wall mounted) and a rack-mountable configuration. The UX5000 is a telephony product, not a UC solution, although it does support SIP trunks and IP, digital and analog phones. NEC's SV8100 effectively replaces the UX5000 as a small-business UC telephone system plus offers optional UC features. The UX5000 is typically sold through different dealers than are the SV8000 products. The UX5000 offers two internal voice mail options, a simple conference bridge and ACD solution. The system leverages NEC's broad range of IP and digital endpoints including wireless sets and its own video-capable softphone.

DSX

The DSX series products are hybrid systems designed for small-business and residential users. Notable features include built-in auto attendant, caller ID, doorbell integration, optional voice mail (IntraMail), and most recently home automation integration (HAI). This series uses its own unique NEC phones. The DSX sales channel tends to involve different dealers than the SV8000 solution, but there is some overlap.

⁶ Miercom Lab Testing Summary Report, May 2011, Report 110315.

Key Partnerships

Although its various partnerships are of great importance, NEC downplays its partnership program. The company does not publicly list all of its partners, partnership levels, or whether the relationship is regional or global. Nor does NEC break out its telephony and UC partners from other Platform Business partners. Developed through extensive questioning, we offer the following incomplete list:

NEC has four levels of partnership, not-so-creatively named 1 through 4. Level 1 is basic and represents that NEC has certified the product for compatibility. Level 1 partner relationships include:

- **Technology for Business (TFB):** Computer Telephony Integration (CTI) and screen-pop solutions for NEC's ACD and contact center solutions. TFB integrates with numerous popular databases and applications or via ODBC.
- **Emergin:** Software solution that delivers text messages to mobile devices. Emergin provides interoperability with nurse call and patient monitoring systems, enabling staff to receive real-time alerts directly to NEC wireless handsets.
- **Forum Communications:** Analog audio conference bridge solutions.
- **NICE:** Call recording solutions.
- **Switchview:** Keyboard, video and mouse switching solutions.

Level 2 and 3 partners have minor nuances, but involve co-marketing and unique NEC part numbers, and often NEC resells these products. Level 2 and 3 partner relationships include:

- **AmCom Software:** The Fusion product provides connectivity between clinical alarm systems such as nurse call, patient monitoring and duress, as well as security and fire panels with NEC wireless devices.
- **Edgewater Networks:** Session Border Controller and bandwidth shaping.
- **TDI:** Produces Liberation and Encore products. Used with NEC contact center agents for workforce development and campaign management.
- **MTS:** AnchorPoint, a division of MTS, provides hosted TEM software and services that are integrated into NEC's lifecycle services and NOC offering.
- **NET Quintum:** Spherically uses the Quintum VoIP gateways for survivable remote office solutions. Quintum Technologies was acquired by NET.
- **Polycom:** NEC works closely with Polycom video on both the SV8000 and Spherically products. Spherically includes Polycom firmware for seamless support of Polycom SIP phones.

Level 4 partner products are sold under the NEC brand and often have customized NEC features. NEC offers direct support on these solutions. Level 4 partner relationships include:

- **AVST:** AVST provides the core voice mail in most of NEC's telephony products including the UM8700 product.
- **Spreed:** Spreed provides the collaboration technology to be integrated into Spherically 8.1.
- **Polycom:** MH150 and MH160 wireless phones are produced by Polycom, but branded as NEC.
- **Red Phoenix (InSkin UC on SV8100):** Produces the NEC Desktop Suite (PC Attendant PC Assistant, and SP310 softphone), ACD and wallboard solutions.
- **TrVium:** Provides automation, reporting and management tools.
- **XOP Networks (Conferencing):** Conferencing bridging.
- **Zeacom (UCB):** Provides the technology used in UCB.

Common Sales Objections

The following are objections likely to be raised in the sales process—often by competitors. As is the case with most simple objections, there is more to the story. Below, each issue is addressed in greater depth. Each objection contains a paraphrased, unofficial response characterizing NEC's assumed position, followed by analysis of the matter.

If NEC's UC Solutions Are So Good, Why Does the Company Sell Cisco UC?

Objection: On one hand, NEC offers its own telephony and UC solutions, and on the other the company resells Cisco telephony and UC solutions. Isn't NEC's selling competitive product indicative of gaps or deficiencies in its own solutions?

Response: NEC is a large company actively involved in a broad array of IT activities and services aimed at organizations of all sizes. It would be foolish for NEC not to include Cisco, the dominant IT infrastructure player, among its core competencies. NEC is a major Cisco reseller, and that includes Cisco UC. NEC is actively moving away from its hardware heritage into more services across its portfolio, including professional services surrounding complex products.

Analysis: This is clearly a delicate topic: NEC is not just a Cisco reseller, but an exceptional one. Cisco awarded NECAM (NEC Corporation of America) Enterprise Partner of the Year in 2010. In 2011, NEC achieved three Cisco Master Certifications: Master Security, Master Managed Services and Master Unified Communications. The route to Master UC includes multiple advanced certifications, demonstration of master-level sales and services capabilities, numerous industry technical certifications and customer references. These certifications are certainly more rigorous than NEC's Triple Diamond dealer designation. For that reason, in fact, one could easily argue that these competencies and awards suggest a degree of discipline and capability at NECAM not widely found in the industry.

NEC's making money via Cisco should not raise concern about NEC products. NEC is a large company, and there is nothing inherently wrong or telling in its diversifying its revenues. Various overlaps in product portfolios and partnerships are very common in the UC space. NEC also has strategic relationships with Microsoft and Dell. Multiple products exist to address the unique needs and preferences of multiple customers. Cisco UC is generally targeted at the enterprise, where NEC servers and storage compete.

However, this pattern could be construed as duplicitous in that NECAM incents its dealers to be exclusive to NEC telephony and UC products when NECAM itself is not. The problem with dealer exclusivity programs is they restrict the dealer to a vendor instead of what the customer may really need. Nonetheless, dealer exclusivity programs are increasing in popularity. NECAM's dealer exclusivity program is optional, and about 30 percent of its dealers participate.

NEC Telephony Is a Small Part of NEC

Objection: NEC is a large, diversified company of which telecom and UC are not its primary focus. The product and services can't possibly be as comprehensive as from a vendor focused in this space.

Response: NEC holds the No. 3 position in worldwide telephony market share.

Analysis: The intent of the objection is to cast doubt on NEC's commitment to the telephony and UC market and imply it could easily exit the space. There is no evidence to suggest these are legitimate concerns; however, little is known about how much telephony contributes to the company's top or bottom lines. Total NEC revenue in 2010 was US \$37.5 billion, of which 12 percent or US \$4.5 billion came from the Platform group. Of that, US \$107.2 million was contributed as operating income to the bottom line. The Platform group is responsible for several product categories including servers, PCs, switches, storage, and of course telephony and UC. How much of the US \$4.5 billion comes from telephony is not publicly known. NEC openly reports Gartner's findings that NEC holds the No. 3 position (10.2 percent) of the global telephony market (based on seat license shipments). Additionally, it seems reasonable to assume NEC realizes numerous synergies from its corporate reach and breadth including research, distribution, manufacturing and finance. Furthermore, it should be noted that telecom has been a core part of NEC from its very beginning in 1899.

NEC? Telephony?

Objection: Never heard of NEC, didn't know NEC was in telephony.

Response: NEC is a major multinational corporation and is the world's third-largest telephony provider in terms of line shipments.

Analysis: NEC spends very little on visible marketing. The brand is well established in telecom circles, but may be unfamiliar to end-user organizations. Prospects are usually somewhat familiar with the NEC brand even if they didn't know it was in telephony. The upshot is the company, and its channels, need to find the prospects, as prospects may not be seeking out NEC. Once NEC has the opportunity to present its case, its story is strong. In fact, NEC may indeed have more telecom manufacturing and sales experience than any of its competitors. Just don't tell anyone.

NEC Is Way Behind

Objection: The majority of NEC's VoIP sales are associated with its hardware products including SV8000, UX5000 and DSX. These systems use proprietary NEC VoIP technologies and TDM infrastructure. The world has changed, and NEC is still in the labs with Sphericall.

Response: Most of NEC's solutions support SIP trunking, VoIP handsets and basic unified messaging. The SV8000 and Sphericall have strong software-based UC capabilities.

Analysis: This objection is typical vendor-bashing rhetoric. Clearly the SV8000 is a reasonable current-generation product that will meet the needs of a huge portion of the public. While modern UC technologies are building momentum, traditional PBX sales continue strong. Frost & Sullivan reported, "Unified communications and advanced collaboration may be all the rage, but many companies are still just trying to upgrade their telephony systems. Which helps explain why the world enterprise telephony systems market shipped 43.2 million lines in 2010—a growth rate of 14.4 percent from 2009 to 2010—according to Frost & Sullivan's latest research."⁷ The SV8000 is contemporary and available. Sphericall is NEC's next-generation product, which also is available today and undergoing significant development.

⁷ "The PBX is Dead! Long Live the Communications System!" by Melanie Turek, NoJitter.com, Aug. 24, 2011.

SWOT Analysis

Strengths

Resources

NEC is a large multinational company with a deep internal bench of skills, capabilities and patents. Strong financial resources enable the company to self-finance creative leasing solutions. Its voice and UC products are available around the globe, and its brand is widely known and well regarded. The company manufactures many of its own components and has an impressive history of high-technology innovation. NEC claims to have specialized internal programs to mobilize resources and rapidly address service-related issues.

Team

The team managing NEC telephony products in Dallas, Texas, appears to have remarkably low turnover, and over the years, it has created a cohesive, proven and mature team that knows how to work with each other and how to get things done.

Services

NEC's services are categorized into professional services, managed services and support services. Professional services supplement sales efforts (direct and channel). Many competitors do not have this capability, and it is extremely difficult and expensive to create. It will become a key asset as NEC transitions from its appliance products to Sphericall. Managed services offers 7x24 monitoring as well as management services such as telecom expense management (TEM). A national service capability is also critical for branded support solutions required by national organizations.

Resilience (Sphericall)

As products across the industry have moved from hardware to software, the issue of resilience has become more complex. Design and configuration have moved from the factory to the dealer and/or customer. In many cases, resilience has become both an expensive option and a technical challenge. Conversely, Sphericall makes resilience a core feature of the product with automatic load-balancing and server fail-over. There is no additional charge for this feature or for additional server instances. Additionally, gateways from both NEC and third parties provide branch office survivable solutions with centralized deployments.

Strong Channel (SV8000)

NEC has a very strong, mature channel for its SV8000 series of products. About 75 percent of NECAM's voice-related sales are handled by the US and Canada channel, and those numbers are heading up. The majority of this channel is not yet engaged with Spherical. Additionally, the smaller channel acquired from Sphere remains largely intact.

Willingness to Partner

NEC is an industrious, vertically integrated company, which usually results with a bad case of "not invented here" syndrome. NEC, however, has an impressive collection of partners that are deeply integrated into the products. Many of these partner technologies are branded NEC, such as some of the wireless phones and UC solutions. Several Polycom products are deeply integrated into NEC, including the ability to update firmware on Polycom phones. This approach offers strong features, low research and development, and seamless support.

Broad Scalability From a Single Product

NEC developed its SV8000 products to cover a wide base of customer sizes and vertical sectors. The products and core technologies are similar, but not identical; however, they share phones and other components. This product alignment is opposed to the totally separate systems for different size customers as commonly found in the industry. But the better story belongs to Spherical, which scales a very wide customer span in a single product.

Weaknesses

International Account Management

Included as a Strength above is the fact NEC's telephone and UC portfolio is available worldwide. These products, however, are generally purchased through regional operations. Not only are its dealers restricted to territories, but NECAM itself only supports the US and Canadian markets. This prevents multi-national firms from single-point account management and procurement. NEC claims this is not a major limitation and in cases where it is, the company has addressed the situation with an exception process. Also, NEC has developed a multinational account management service specifically for the hospitality vertical. Customers that consider NEC's international capability important should be aware of this regional purchasing limitation.

Small Spherical Channel

Largely as a result of measured and intentional planning, NEC's Spherical-capable channel remains relatively small. NEC acquired Sphere Communications and its channel in 2007. The Spherical product has remained available throughout, but not particularly stressed to, its pre-existing network of dealers. With Spherical 8, NEC will start to push Spherical more aggressively and work hard to win over many of

its SV8000 dealers. This is not a trivial undertaking. Traditional voice dealers across the industry are reluctant to migrate from appliances to software-based UC solutions. NEC will need to invest heavily in dealer training and marketing to migrate its channel.

Not a CIO Player

NEC is sometimes pigeonholed as an SMB player. The company does well in the SMB space, but also boasts several large testimonial accounts, particularly within its key verticals hospitality, health care and education. NEC generally wins “bottom up” rather than from the CIO or “top-down.” Outside of the key verticals, NEC does not strongly court the executive suites in the enterprise. This is more of a channel, marketing and sales issue than a product issue, but it is one that is not easily changed.

Migration from SV8000 to Sphericall

Historically, NEC has provided strong migration paths between product generations. This was the case with its NEAX to SV8000. However, as of this time there is no solution to migrate SV8000 licensing (core or applications) or NEC digital phones to Sphericall. This can be addressed partially with pricing promotions, but customers will undoubtedly and reasonably expect a migration path that leverages and rewards past loyalty and investments.

There are two common approaches to this problem, but neither has been announced by NEC. The first is to effectively turn the SV8000 into a gateway and use NEC’s CCIS networking to a Sphericall server for master control of resources that are both directly attached and SV8000 attached. The other solution is to use Remote Call Control (RCC) and allow Sphericall (or other solution) to integrate with the SV8000 through a more generic and limited public interface. NEC will likely address this issue in 2012.

Mobility Solutions

NEC offers a reasonable breadth of mobile solutions ranging from iPad support to SIP fixed mobile convergence (FMC) solutions. However, these solutions are not industry leading in features and capabilities. Some of the mobile clients rely on Web pages instead of a local client, some simultaneous-ring solutions rely on timers, and some of the critical mobile clients use third-party generic SIP softphones. The industry as a whole identified mobility as priority in 2010/2011, and research and development is rapidly shifting there. The iPad was launched in spring 2010, and it took a few months to declare it a hit. It is likely NEC will focus more effort on mobility after the completion of Sphericall 8.

NEC does, however, have a slight benefit in terms of its commitment to a Rich Internet Applications (RIA) framework. NEC should be able to roll out new clients using its RIA architecture relatively quicker than many of its competitors. The technology today relies heavily on Adobe Air, which allows a single solution to work on multiple desktops and portables. For this reason, NEC has reasonable confidence that its existing clients will work on the next few generations of tablets. NEC’s clients are effectively platform independent with this approach. Additionally, this technology is fairly well optimized for HTML5, which is also rapidly gaining support and acceptance.

Complex Product Portfolio (SV8000)

An overly complex product portfolio for SV8000 is a minor issue for customers, but more significantly impacts NEC and its channel with the burden of excessive parts, options, certifications and other complexities. This is largely a result of evolution. A 400-extension customer can actually fit into any of NEC's six platforms, of which three are the SV8000 appliances. Each has its own recommended UC applications, some available on board versus a server with different features and options.

Clear Identity

While the NEC brand is strong and worldwide, the specific effort behind business VoIP and Unified Communications does not have its own identity. The brand "UNIVERGE" applies to numerous NEC products. Telephony and UC are part of its Platforms division, but telephony has its own channel, research and development, and manufacturing. Publicly, there is no single leader of NEC's telephony and UC strategy or business, and there is no simple way to refer to this group on either a worldwide or regional basis.

Leadership Turnover

NEC's regional leaders generally come from Japan, and due to a US-imposed five-year limit on work visas, there is fairly regular, even scheduled, executive management turnover. The result is obvious loss of momentum, lost time, and various other forms of turmoil associated with these ongoing changes.

Opportunities

Spherically Based on Windows

Many competitive UC and telephony solutions now run on a Linux core. Spherically runs on Windows Server. While this prevents NEC from tweaking the operating system, it gives NEC numerous benefits. NEC is free from ongoing OS management and testing, and has a wide range of supported hardware options. Spherically is Windows savvy and plugs directly into an Active Directory and Exchange environment. Spherically does not require client access licenses, and so the cost of Windows Server is not material.

Additionally, NEC Spherically has received a coveted PBX1 JITC certification. The Joint Interoperability Test Command (JITC) conducts testing of national security systems and information technology systems hardware, software and components. Few systems have obtained this certification, which is required by most defense agencies and valued by many more. NEC claims the JITC designation effectively kills customer security concerns and has proven to be valuable in multiple verticals unrelated to defense. This could have been placed as a strength, but JITC awareness is still the exception, not the norm. NEC now is pursuing Local Session Controller or LSC designation, which is a subsequent, higher JITC designation.

Collaboration

Strong Web-based conferencing and collaboration are a requirement in UC. NEC is working with Spread to develop a new, comprehensive collaboration suite built into Spherical. The solution will enable multi-party secure collaboration, audio/Web recording, whiteboarding, videoconferencing and remote desktop control. It is a very robust offering planned for Spherical 8.1, likely in spring 2012.

Bundles

With appliance-based telephony, the end user and the dealer were largely relieved of hardware engineering. The factory effectively ensured the appliance hardware was sized appropriately for the possible load, and complex matters such as high availability and replacement parts were simplified to SKUs. As the industry moves toward software-based solutions, the hardware responsibilities move from the factory to the dealer and/or customer.

This is one of the reasons why Spherical represents a new skill set for appliance dealers. However, NEC has an ace up its sleeve—it produces and sells its own servers (and storage). This gives NEC the capability to deliver the best of a software-based solution on its own servers; an appliance-like solution. Several competitors are using servers from Dell, HP or IBM—but NEC can offer it all with one brand, one warranty, one dealer. New server and Spherical bundles were announced in September 2011 for medium and small businesses.

Spherical

Spherical itself poses an interesting opportunity for NEC. Spherical represents an aggressive Web services strategy for communications. It will be the first telephony/UC solution from NEC (a company with a hardware heritage) based purely on software. It represents a disruptive shift, not just for NEC's customers but for NEC itself. The retooling effort is immense and will require significant investment and education internally, with its channel partners, and with its prospects. Fortunately, it is not expected or required to be an overnight transformation. The SV8000 products are selling well and are unlikely to disappear anytime soon. Success with Spherical represents a very different future for NEC.

Hosted Solution

The cloud is where the excitement (and hype) lives—and NEC isn't benefiting from any of it. Cloud-based or hosted UC solutions are experiencing rapid growth, particularly in the SMB where NEC does well. This is listed under opportunities instead of weaknesses, because it is pretty clear Spherical will be a cloud play. It's already marketed as cloud ready for those willing to host their own implementation. NEC confirms it is developing a cloud/hosted play and is very likely to announce details in late 2011 or early 2012. It could be aimed at end users directly, or at service providers that would use Spherical as an engine. At this time, NEC has not announced any cloud or hosted strategy (nor have most of NEC's premise-based competitors). There is also the potential for NEC to develop a cloud solution optimized for specific verticals. The hospitality industry in particular has been making noise about switching from analog to hosted VoIP. Cloud plays for existing CPE makers are tricky, as they potentially disrupt or conflict with channels.

Vertical UC

NEC has done well with custom features and industry interfaces in the health care and hospitality verticals. Moving forward, those verticals are carefully evaluating hosted services. The potential exists for major chains to centralize their communications infrastructure, but significant challenges exist related to integration with other systems. NEC believes Spherical is well positioned to leverage NEC's vertical experience as these sectors explore new delivery models. Additionally, NEC has been showcasing its pre-released M155 wearable phone for health care applications. The device can receive calls, but its hands-free ability to receive and display text messages may be attractive for health care providers.

Market Conditions

The past few years were fairly slow for UC sales. While the world economy has been slow, the improvements in UC continued, widening the feature gap between the non-upgraded and the current offers. The overall industry showed modest growth in 2010 after being down sharply in 2009. A significant portion of the mid-market remains on dated TDM technology. Additionally, the Nortel base still remains largely intact post-bankruptcy, with most users not yet having upgraded. NEC claims recent success with its Nortel displacement strategies.

NEC's Other Channels

NEC needs to recruit new Spherical channel partners. The company seeks partners that are IT savvy. This problem is not unique in the industry, as not all traditional voice dealers are adapting their businesses. However, it just so happens NEC already has IT-savvy dealers serving both its IT (servers, storage) and Display (LCD, projectors, Plasma) divisions. Conceivably, NEC could create programs to incentivize some of these dealers to expand into unified communications.

Threats

Base Retention to Spherical

As stated above, NEC has not announced a migration path from the SV8000 series to Spherical. If this is not properly addressed, NEC customers will have no incentive to upgrade to Spherical versus available alternatives. Although this is unlikely, it would not be the first time a manufacturer abandoned its lucrative customer base. A related issue: Spherical 8 is imminent, yet there has been no upgrade path announced.

Channel Conflict

NEC sells its products directly and through its channel with no clear rules for engagement. Generally, NEC directs prospects to the channel, but maintains a direct sales force for underserved markets and larger accounts. NEC claims there is little channel conflict and when situations arise, the channel wins.

The only evidence of such is that the majority of sales do come through channel dealers. This is listed as a threat because NEC relies heavily on its channel and expects its channel to make a significant investment in Sphericall skills. These same partners will likely be wooed by other manufacturers offering a simpler learning curve and a lower risk of sales conflict. The majority of NEC's competitors do not have such blatant channel conflict. To be clear, this is not a technology issue, and the impact to the end user is largely dependent on their satisfaction with local representation.

NEC Endpoints

Endpoints represent 30 percent to 50 percent of the revenue associated with phone system sales. Some of those sales will disappear as the industry slowly embraces less expensive softphones, and some of those phone sales will disappear to the third-party SIP phone providers. Sphericall is the first NEC solution to utilize SIP endpoints as its primary/default solution. The threat is the potential drop in revenue currently coming from endpoints. However, NEC does produce its own rich softphone solution, and has created a strong story around its upper-model SIP phones by tightly integrating the display with system features. NEC IP phones, SIP and proprietary IP used with SV8000, are the same physical devices with different firmware loads.

Standards Compliance

NEC positions Sphericall as a solution compliant with industry standards. It has broad support for SIP circuits and SIP phones. However, NEC is not active in any of the relevant standards bodies. It dropped out of the SIP Forum in 2011, and has not joined the UC Interoperability Forum (UCIF). Membership in these organizations is not required for standards compliance, but relegates NEC to the role of follower rather than leader as technologies and interoperability evolve.

Service Providers Could Damage the Brand

Sphericall, as a platform, may attract service providers that intend to offer hosted UC. However, hosted real-time service is a complex business. Should a provider using Sphericall deliver poor service based on non-product related challenges, NEC may catch the blame. Other vendors that target service providers have less visible end-user branding (clients and endpoints). The liability is the perception that a poor implementation of the technology equates to poor technology.

Keys to Success

For NEC

Being aligned with market trends and NEC's worldwide objectives isn't enough. NEC must clear several major hurdles for Spherical success.

Ship it

After acquiring Spherical Communications in 2007, NEC now has been talking up what Spherical will become for four years. Release 8, expected in 2011, may be the time when the conversation turns to the present tense. The 8.0 release represents a major upgrade. Spherical's SOA approach isn't changing, but its ability strengthens. Spherical Release 8 includes an improved Web services tool set, stronger emphasis on mobility and new integrated applications. The contact center features NEC technology tightly integrated into the product, and a major expansion of collaboration capabilities is under development for 8.1. Shipping a reliable and stable product is the big prerequisite to success, but not the only one.

Collaboration

Release 8 still has a weak solution set around Collaboration. NEC refers to Spherical as a UC&C solution—Unified Communications and Collaboration. But that second "C" is a bit of an exaggeration. NEC knows this and intends to correct this situation or potentially even over-compensate in Release 8.1. NEC is looking to its partnership with Spread to develop a strong collaboration suite in Release 8.1 (spring 2012). This solution set, if delivered, is well worthy of that second "C." The solution has all the core "fixings" of desktop sharing, conferencing and recording, but also includes IOS mobile clients and a remote desktop control which can be helpful for some collaboration and an internal help desk. A pre-released version is reasonably useful.

WOA

SOA remains very popular in enterprise IT, but concurrently WOA or Web Services Architecture is gaining traction around real-time applications. Many organizations are watching new Internet services being created rapidly using WOA. It is less cumbersome than SOA and uses REST and JSON instead of SOAP and XML. Spherical is built around SOA, but may need to adapt to better support the less formal approach provided by WOA technologies.

Channel

It must be stressed that Spherical is not a plug-and-play PBX for its existing SV8000 channel. The product itself is totally different, and it requires a broader IT skill set. NEC is offering its dealers free training, but training around the NEC product is not broad enough to fully leverage Spherical's capabilities. Expect to see more aggressive dealer recruitment—possibly from other NEC divisions. This is an urgent matter, but one likely on hold until Release 8 ships.

Migration Path for SV8000

NEC needs to bridge the divide between its products if it wants to see its future customer base remain similar to its current customer base. The most likely scenario is to see Spherical control the SV8000 as a gateway, re-using existing phones (analog, digital and VoIP) with centralized call control. For larger organizations, the idea of a single Spherical implementation managing multiple distributed SV8000 appliances combines centralization, migration, SOA and potentially virtualization in a single shot.

Microsoft Dancing

Spherical represents a “dancing with the devil” challenge for NEC regarding Microsoft. Spherical will be attractive to customers who have Microsoft technical savvy and infrastructure. Spherical is based on Windows Server, and it is optimized to integrate with Active Directory and Exchange.

However, in late 2010, Microsoft launched a directly competitive UC solution. NEC will need to carefully tout its Microsoft integration capabilities to Microsoft-based organizations while maintaining differentiation. At least for now, there is plenty of differentiation to highlight. But NEC is going to have to work around the marketing imbalance to get to the technical conversation. Due to disparities in brand awareness and marketing budgets, NEC will likely be forced into a defensive position.

SMB

Spherical is not a clear replacement for SMB SV8100 users—a market where NEC has been strong. It is unlikely NEC will discontinue the SV8000 anytime soon, but the SV8300 and SV8500 will begin moving to the back seat shortly. The new bundles that feature Spherical on an NEC server (MBSE) will be more attractive to smaller businesses, but the pricing and complexity are still higher than on the SV8100. Expect NEC to continue SV8000 development, but with the SV8100 prioritized. For example, the new DECT ML440 handset was released for the SV8100 first. NEC is likely to continue support of the SV8100 for quite some time.

For Customers

Organizations planning to implement Spherical should consider including the following in the implementation scope to maximize and optimize the product’s capabilities.

To optimize the capabilities of Spherical, consider the following in the system design and implementation.

- **SIP Trunks:** Organizations still using PRI or T1 will realize significant savings with SIP trunks. The most common barrier to realizing these savings: Equipment that does not support SIP requires gateways and TDM hardware on telephone systems. Most brands now support at least some SIP trunks. Spherical supports more than 20 ITSP (Internet Telephone Service Providers). Additionally, SIP trunks can be used to increase redundancy. Even if an SBC is added for security, no TDM hardware is necessary.

- SOA: Use Sphericall’s SOA capabilities to communications enable business processes (CEBP) with other IT services. Sphericall understands the nuts and bolts of real-time communications and can provide these services to other applications that need not be bothered with such drudgery. Oh, and feel free to connect phones to it, too.
- NEC SIP Phones: The common problem with some SIP phones (not all) is the loss of phone-top features often associated with proprietary phones. Most SIP endpoints provide simple dial-tone, with advanced features accessed from a desktop client. This has to do with limitations of the SIP standard, particularly around displayed information. NEC solves this with its own phone. Display information is sent to the phone via XML. The solution adheres to XML and SIP standards, but because the information must be formatted for a specific screen size, it is effectively limited to NEC phones, specifically the DT730 and DT750.
- High Availability: Sphericall does not charge for additional server licensing, and additional servers (or additional server instances) automatically load-balance and provide fail-over services. Proper capacity and trunk designs can create a cost-effective solution optimized for business continuity.
- Microsoft Exchange: Sphericall does not have a built-in voice mail solution; however, it tightly integrates with Microsoft Exchange. Combining Sphericall with Exchange provides a unified messaging solution with a single database (as opposed to two message stores). Sphericall provides the telephone user interface (TUI) for those accessing messages from a phone. Without Exchange, a separate voice mail or unified messaging solution/server will likely be required; NEC offers its UM8700 (made by AVST).
- Centralization: With Sphericall in the data center, branch office hardware can be reduced or eliminated. Connect branch offices to the data center over the data WAN—ideally, via MPLS networking. Use NEC or NET Quintum gateways for branches that need failover to analog trunks should the WAN or datacenter fail. “Local” numbers can be pointed to the data center. The result is reduced hardware and maintenance and local appearance, with economy-of-scale savings in both administration and trunking.
- M155: NEC-Philips intends to launch the M155 wireless device in the US in autumn 2011. This small speakerphone can be worn as a pendant or necklace. The phone uses DECT wireless technology and supports wireless text messaging with a three-line display. The solution is aimed at health care, as it supports hands-free text and voice, but could be useful in a variety of segments. The solution will be integrated with Sphericall. The units are currently available in selected European markets, and NEC has published case studies at Medical Centre St. Jozef and Mouscron Hospital (both in Belgium).
- Remote Control: Pending Sphericall 8.1 with new collaboration, plan on using the desktop client’s remote control feature for help-desk support and other desktop activities hindered by a distributed workforce.
- Thin Clients: Because Spherical uses Web-centric clients, or RIA clients, customer organizations can deploy thin-client desktops or VDI solutions. Soft phones are not currently supported, but the desktop client can be paired with any phone—SIP, mobile, even analog.
- Virtualization: Sphericall can be virtualized on VMware and Microsoft Hyper-V. Combine virtualization with centralization and high availability (multiple instances) for maximum benefit.

Purchasing

Where to Buy

NEC's products are generally purchased from authorized NEC channel partners—what the firm calls “Associates”—or directly from NEC in some situations. NEC reports roughly 80 percent of revenue comes through its channel. Either route has NEC professional services available for specialized implementation needs. NEC claims its direct sales channel typically only serves major accounts or areas where no dealer exists.

Unfortunately, this critical initial step in the sales process is poorly implemented and neglected. First comes the matter of terminology: The word “dealer” only appears in the “Find an NEC Dealer” link. NEC then uses its terms Associate Sales, Reseller Sales and Direct Sales. Associate is the term NEC uses to describe a dealer or reseller. Reseller is the term NEC uses to describe a distributor that sells to Associates (which leads the casual site visitor to wonder, don't the Associates already know the Distributors?). The option of direct sales is presented for organizations with more than 250 employees, but the “Associates” also serve these accounts, thus inviting channel conflict.

The website wants to ensure the dealer locator suggests a local Associate qualified in the desired product, so it prompts for ZIP code and the product family desired. Evidently, NEC believes prospective customers should know exactly which products best suit their needs before contacting a sales professional. The form's output shows all the dealers that meet the requested requirements, along with the entire certifications of that dealer. There are some inconsistencies—for example, the product requested menu offers “Aspire,” but the listed certifications list “UX Series.” The output also indicates the dealer class-level, which is not explained. In the US and Canada, there are four types of dealers:

- Authorized
- Diamond
- Double Diamond (about 23 in US)
- Triple Diamond (about 7 in US)

These designations reflect the capabilities of a dealer. New dealers begin at the Authorized level and earn points for various activities and achievements. These points translate into diamonds. Triple Diamond dealers have earned a minimum of 2,000 points, which generally takes a minimum of two years to accomplish. Double Diamond dealers earned a minimum of 1,000 points, and Diamond dealers have earned a minimum of 500 points. The diamonds are not directly indicative of certifications, or the products and services offered.

NEC does lightly use distributors, but the vast majority of its sales are directly to its channel partners.

Purchasing Considerations

General

- NEC's add-on interactive voice response (IVR) blade is very feature-rich and more cost-effective than external third-party IVRs; as pluses, it uses VB scripts and is easier to program.
- The best-value NEC phones are the 12-button phones (digital and IP). The 12-button phone

can be upgraded to 24 and 32, includes a full duplex speaker phone, large display and option for Bluetooth.

- NEC came up with the idea of optional colored side panels instead of multiple colors of phones. Skip this; the panels are small and don't really make the phone any more "fun."
- Check [website](#) for promotions
- Get built-in UPS batteries, which are very cost-effective. Con: Does not have a bad battery indicator. Pro: Uses standard batteries, which are easy to replace. Be forewarned: These batteries don't keep the system up for very long during a power outage.
- NEC regularly runs 0 percent financing specials via a fair market value (FMV) lease. Most attractive for organizations that expect to replace the system upon lease termination.
- Take advantage of longer-term Software Assurance bundles (avoid reactivation fees; lock in price for up to five years).
- Plan on lower-cost SIP trunking. NEC supports 20-plus SIP carriers. Or use a gateway for more carriers and SBC services.

UNIVERGE SV8000

- 8100: In-skin voice mail and ACD are very cost-effective if they meet requirements.
- 8100: The Desktop suite is a very attractive package vs. the PC Pro app. The main compromise: PC Pro is required for backups. Most small businesses don't do backups.
- 8100: UCB is not a great value, but recommended for call centers.
- 8300: UCB in-skin a good value.
- 8500: Check bundle on UM8700 for messaging.
- 8500: Competitive displacement programs (Nortel) can sometimes be worthwhile to purchase a used system to save a bundle.
- 8500: Consider the Empowered User License bundle; includes UCE desktop license and management license.

UNIVERGE Sphericall

- Consider virtualization—no additional server costs (if you own existing standard servers or virtualize).
- Redundancy is virtually free (no server licenses), and auto load-balancing is built-in. Plan for multiple servers.
- Leverage existing standard SIP phones (if you already own them). For proprietary-like phone-top experience (call park, record button, Busy Light Fields) go with DT730 (or DT750). Any Standard SIP phone supports hot desking. Sphericall has built-in profiles for most Polycom SIP phones.
- Presence is supported on any NEC phone. DT710—best value.
- Polycom VVX recommended for video top phones, otherwise plan on webcams.
- If you already have Exchange, use it for voice mail. Consider the UM8700 if you don't have Exchange, or require advanced features such as tenanting, integrated fax, text to speech, or voice recognition.
- Consider centralizing voice for branch offices with Sphericall. Doing so will require NEC or NET Quintum gateways for increased availability.

Reference Accounts

NEC is not shy about its customers—many are listed directly on its [website](#) and even featured in the [Video Showcase](#) on the website. The reference accounts indicate a widespread set of demographics and verticals including government agencies, hospitals and some of the world's largest hotels.

SV8100

Matthews, Gold, Kennedy & Snow, an employee benefits consulting firm that provides administration and actuarial services for retirement plans. As the company grew, it needed to offer a solution for remote workers and found it with the SV8100 and UCB.

SV8300

Ameristar Jet Charter provides passenger and cargo charter services and logistics. Headquartered in Addison, Texas, the company implemented the SV8300 with UCB. One of the key benefits was the contact center received presence capabilities, allowing agents to become more responsive to customer needs.

SV8500

Spotlight 29 Casino, a California casino, implemented NEC SV8500, UCE, UCE Collaboration, UCE-Contact Center, UM4730 messaging, DT730 desk sets and UCE Manager. Customer claims NEC was selected for price and expandability.

The Wit Hotel, a luxury boutique hotel in Chicago, opened in spring 2009 with a SV8500 (with hospitality suite), DT730 and DT750 IP phones, and NEC remote managed services.

Other known SV8500 customers include MGM-brand hotels on the Las Vegas strip, including several of the largest hotels in the world (MGM Grand, Excalibur, Mirage, Mandalay Bay and Luxor); the US Veterans Administration hospitals, and Harlem Healthcare.

Sphericall

Keller Williams Realty. A California franchisee of one of the largest residential real estate companies in the US used Sphericall to network three locations and 370 agents with a single centralized implementation. Sphericall replaced a hosted solution, but utilized the customer's pre-existing SIP-based phones. The resultant solution, including leasing and carrier charges, offered a significant monthly savings.

Columbia Public School District, in Missouri, migrated from Centrex to Sphericall to provide service to 30 buildings via 140 hubs supporting about 2,800 endpoints.

Aero Energy implemented Sphericall to improve service levels within its contact center and better manage queues across multiple departments and remote offices. The company's contact center is spread across nine locations.

Other known customers of Sphericall include Bombardier, USDA, NAPA, Sourcingtech, Minerallac, NCSA, Delta Dental, PADI, California Western School of Law, Prochemex, Cygnus and the former Walter Reed Army Medical Center.

NEC Company Information

Company Timeline

Among NEC's accomplishments is being the first Japanese joint venture in the US. NEC innovations can be found across sectors ranging from the new Nissan Leaf (battery technology), to the recently launched IKAROS spacecraft (radio technology), to the new O2 Olympic stadium under construction in London. The list below provides a sample of major milestones from its history:

- 1899 Nippon Electric Limited Partnership was formed as a joint venture with Western Electric. The first Japanese-US joint venture with foreign capital.
- 1902 Completes its factory for telephone and switch production.
- 1904 Begins exporting telephones to China.
- 1919 Produces first domestic Type 1 common-battery switchboards for long-distance toll calls.
- 1927 Delivers first domestic-made A-Type automatic PBX to Mitsukoshi Department Store.
- 1929 Produces domestic A-Type automatic switching system for central telephone office.
- 1952 Receives Deming Application Prize (first time for company in communications industry).
- 1953 Produces microwave PTM (Pulse Time Modulation) multiplexing equipment.
- 1955 Produces first domestic-made XB switching system for PBX.
- 1958 Develops fully transistorized NEAC-2201 computer.
- 1960 Begins development of ICs. Develops time division electronic switching system.
- 1961 Introduces business division system.
- 1963 Establishes Nippon Electric New York (presently NEC Corporation of America).
- 1979 Announces PC-8001 personal computer.
- 1977 Announces NEAX 61 digital switching system in the United States.
- 1978 NEC America Inc. opens plant in Dallas, Texas, to manufacture PBX telephone systems.
- 1986 Begins shipping the NEAX61 digital switching system.
- 1995 Unveils world's first prototype 1Gbit DRAM.
- 2002 Completes "The Earth Simulator," the world's fastest supercomputer system for resolving global environmental problems.
- 2007 Acquires Sphere Communications for \$42 million.
- 2009 NEC UNIVERGE UX5000, and IP 24E Deskphone named Best Channel Products by Business Solutions Magazine.
- 2009 NECAM formed as a merger between NEC Unified Solutions and NEC Infrontia.
- 2011 NEC Latin America SA created, narrowing NECAM's focus to US and Canada.
- 2011 NEC inUCB for SV8100 and SV8300 recognized by Unified Communications Magazine as 2010 Product of the year.
- 2011 NEC UNIVERGE Spherically supported on VMWare as a virtual appliance.
- 2011 NEC UNIVERGE SV8000 gets certified for Skype Connect.

Company Organization

Telephony and unified communications reside in the Platform Business unit headed by SVP Masato Yamamoto. This business targets government agencies and enterprises, and offers servers, storage, software and IP telephony systems. It uses the UNIVERGE brand across many of these products. NEC then organizes into subsidiaries around the world—in the US and Canada, the wholly owned subsidiary

is NEC Americas or NECAM, which is headquartered in Irving, Texas. Takayuki Okada is the current President and CEO of NECAM. NECAM was responsible for all of the Americas until April 2011, when NEC opened NEC Latin America S.A. headquartered in Sao Paulo, Brazil. In EMEA, the subsidiary is NEC Unified, headquartered outside Amsterdam, Netherlands, and headed by Paul Kievit.

NECAM is organized into two large divisions: Enterprise Services Unit and Enterprise Technology Unit. Heading up ETU is SVP Masaaki "Jim" Nakajima who is responsible for NEC's suite of business communications products. Executives specifically focused on telephony and unified communications are Larry Levenberg and Frank Viola.

- Takayuki Okada, CEO of NECAM: Okada oversees operations of the company's diverse business lines in the US, including unified communications, server and storage solutions, optical network systems, microwave radio communications and biometric security. Okada is also a Senior Vice President of NEC Corporation, Japan. Okada was appointed to this role in March 2009.
- Masaaki Nakajima, SVP of NECAM: Nakajima is responsible for providing NEC's suite of business communications products and solutions dedicated to development, marketing, sales and technical training support.
- Larry Levenberg, Vice President and General Manager: Levenberg is responsible for telephony and UC business sales strategy. He oversees the development of US channels including dealers, direct sales and distributors. Levenberg joined NEC in 1986.
- Paul Kievit, President NEC Unified, NL: Prior to joining Philips in 2003, Kievit was Managing Director of Avaya Netherlands and before that General Manager Telecom Solutions at global systems integrator Getronics. In September 2008 Kievit was named President of NEC Philips Unified Solutions.
- Hiroki Shiba, CFO and SVP Corporate Planning, NEC Unified NL: Shiba joined NEC Corporation in Japan in 1982 and has since then spent over 18 years outside of Japan, 14 years in the US and four years in Netherlands, since the joint venture NEC Philips was established.

Ownership

NEC America (NECAM) is a wholly owned subsidiary of NEC. There is no separate ownership of the Telecom subsidiaries worldwide. Thus the only available information regards the parent Japanese company.

NEC is traded on Tokyo Stock Exchange, under ticker code 6701. As of March 31, 2011, there were 2,604,732,635 outstanding shares issued to 279,583 shareholders. The top 10 shareholders collectively held about 22 percent of the company.

Name of Shareholder	% of Shares of Common Stock Held
The Master Trust Bank of Japan, Ltd. (Trust Account)	4.45
Japan Trustee Services Bank, Ltd. (Trust Account)	4.20
SSBT OD05 Omnibus Account-Treaty Clients	2.76
Japan Trustee Services Bank, Ltd. (Trust Account No.9)	1.94
Japan Trustee Services Bank, Ltd. (Trust Account No.4)	1.81
NEC Employee Shareholding Association	1.79
Nippon Life Insurance Company	1.61
Sumitomo Life Insurance Company	1.58
State Street Bank West Client-Treaty	0.90
Japan Trustee Services Bank, Ltd.	0.88