Brockmann & Company

Where Will Unified Communications Take Us?

The Future of Business Communications

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Introduction

The industry 'buzz' around unified communications (UC) is real. Both Microsoft and Cisco re-named their portfolio 'Unified'. IBM coined its software strategy as 'Unified Communications and Collaboration.' UC reflects a fundamental and continuing re-organization of communications services, technologies and the vendors and resellers who supply them. For the industry participants the goal is growth. For users, the goal is greater user productivity and customer responsiveness.

Communications products and services have been an important fuel for the engine of growth for many businesses. This industry has delivered numerous innovations, from a wide array of sources, available from a broad and growing range of channels to market. These fundamentals – technology, source, channel - have served business users well over the past decades, bringing new products and services, lower prices and more convenient access to innovations. The acceleration of competition on these dimensions present new opportunities for users, channels that serve them and the vendors that create innovations.

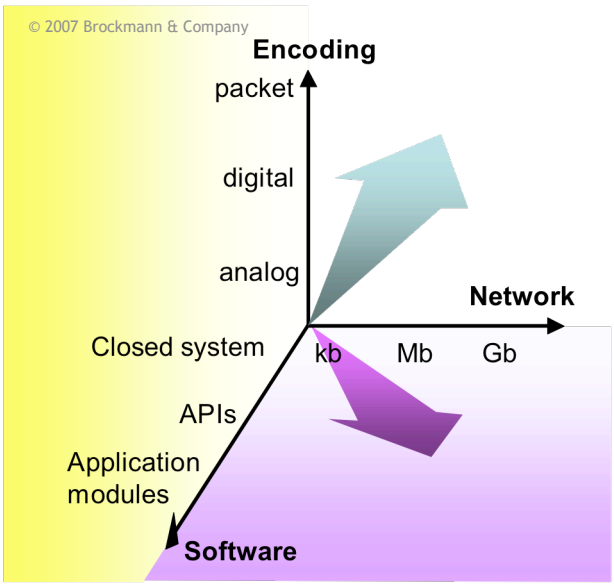
The market dynamics are reviewed in this report to develop a deeper understanding of the forces moving business and the industry forward. The Brockmann & Company forecasting model is useful in understanding the likely shape of the future.

So, where can unified communications take us?

Technology Openings

Enterprise communications has been able to exploit hardware innovations and software innovations as well as improvements in enterprise and public network capabilities. The three critical dimensions – encoding techniques, network performance and software power – are shown in figure 1 below.

Figure 1 – Communications technology has evolved in terms of encoding technologies, software power and network performance.



The transition of voice service delivery platforms in the past decades from analog PBX (Private Branch eXchange) to the digital PBX in the mid-1980s through to the packet-based IP PBX product category starting in the late 1990s, is the most obvious element of technical innovation. The packet encoding technique is embraced by both the client-server approach of the IP PBX, and the peer-to-peer (P2P) model better understood as the Avaya One-X Quick Edition, or Skype's Enterprise solution.

Yet, the role of the underlying network and its performance has also seen enormous transition from separate voice and data networks measured in kilobits per second, to the broadband packet-oriented Ethernet networks with performance measured in Gigabits per second, capable of dynamically supporting both voice and data traffic quality of service, security and throughput requirements.

These dimensions are interdependent. For example, there's no need for Gb network service in a digital PBX implementation, and standardized packet encoding together with standardized session control simplifies the integration of application modules. Within any one of these dimensions, there are substantial technologies required. The packet network for example, needs quality of service and power over Ethernet to deliver quality audio and support phones without separate power bricks.

Innovation Flourishes With Potential

The pace of innovation is dependent on the potential for innovator gain. With an industry locked into closed systems, where all applications and all components are provided by the platform vendor, common in the original analog PBXs and to a lesser extent the digital variety, innovation comes at the pace of the platform vendor at some premium price. In these vertically integrated systems, represented in figure 2 below on the left, the phones, applications, call control functionality and gateways to the public network or other systems are all from the same vendor using proprietary protocols to connect them into useful packages. Controlling the complete system enabled greater profits, but forced users into a binary decision for each business location – this vendor gets it all, or that one does. Competition was limited to a small number of companies capable of developing the technologies and the sales channels.

Changes in the channel discussed in the next section and digital PBX technology introduction enabled the formation of APIs which gave rise to a class of independent software vendors (ISV) such as AVST (Messaging), Adomo (Messaging), Genesys (Call center), Spectel (Conferencing), Latitude (Conferencing), Periphonics (Interactive Voice Response (IVR)) and Intervoice (IVR) which quickly developed unique communications applications that extended and enhanced the basic features of the PBX. These capabilities enabled a new suite of applications for voice messaging including voicemail and broadcast, contact center call flow and management, interactive response and audio conferencing. Some of these ISVs were acquired and integrated into the product delivery, support and sales models of the platform vendors.

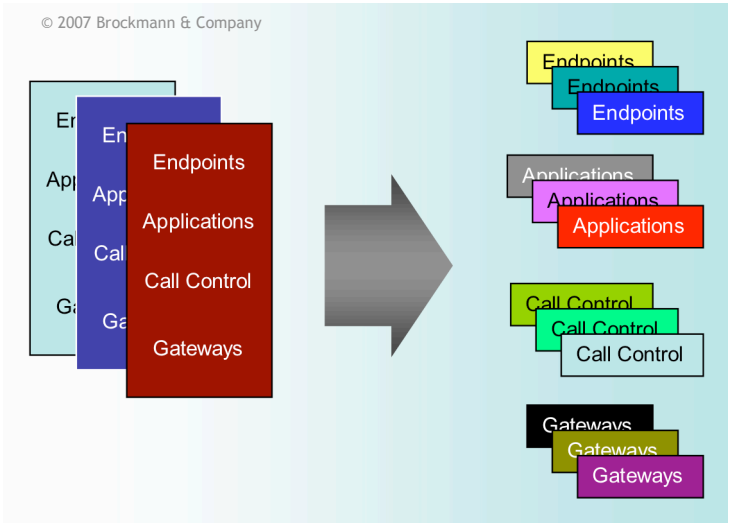


Figure 2 – By disaggregating into horizontal markets, the basis for competition changes enabling both new entrants and established players in adjacent markets to participate.

The best-of-breed specialists joined one or more platform vendor's interoperability program to be assured of access to the latest releases and to gain the benefit of joint marketing. Today, the best-of-breed have offered and continue to offer extensive capabilities across a multi-vendor platform environment. For example, they can enable a broadcast voice message service across heterogeneous telephony systems. This approach to the market continues to yield benefits for users and opportunities for ISVs alike and points to the eventual re-aggregation of the market into interchangeable, horizontal component categories as shown on the right of figure 2 above.

The introduction of the IP PBX in late 1998 enabled a new class of market entrant leveraging an IP-based client-server architecture. Starting with the acquisition of Selsius, Cisco began an intensive effort to create and leverage a third party developer community in a coordinated interoperability and integration program to quickly build up a rich solution set. The competitiveness of the base platform would be years away feature-wise, yet the eco-system of ISVs quickly filled the gaps in messaging, contact center, conferencing and other applications.

So instead of merely tolerating the third party community, Cisco embraced them, encouraged them and delivered unique capabilities that were optimized for third party developers, such as enabling the screens of Cisco phones to be addressable for receiving XML data streams that would present news headlines for example, on the phone. Furthermore, they played a leading role in establishing the endpoint as a separate product category by marketing IP phones with standard SIP control interfaces so that customers could use Cisco endpoints with other call control systems. Similarly, Nortel contributed to this market stratification, by sourcing its IP phone requirements from Aastra Telecom. Polycom also leveraged its position as a leader in conference room phones into a portfolio of IP phones.

Partial Listing of Unified Communications Vendors

Platform vendors
- Avaya
- Cisco
- Nortel
- Siemens
- Skype

Open Source
- Digium
- Fonality
- Pingtel

Adjacent vendors
- IBM
- Microsoft

Best-of-Breed Specialists
- Adomo
- AVST
- Citrix
- Citel
- Genesys (acquired by Lucent)
- Ingate
- InterVoice
- IPcelerate
- Latitude (acquired by Cisco)
- Litescape
- ObjectWorld
- Periphonics (acquired by Nortel)
- Sipera
- Spectel (acquired by Avaya)

Stratification enabled the emergence of open source call control projects notably Asterisk and SipX in 1999.

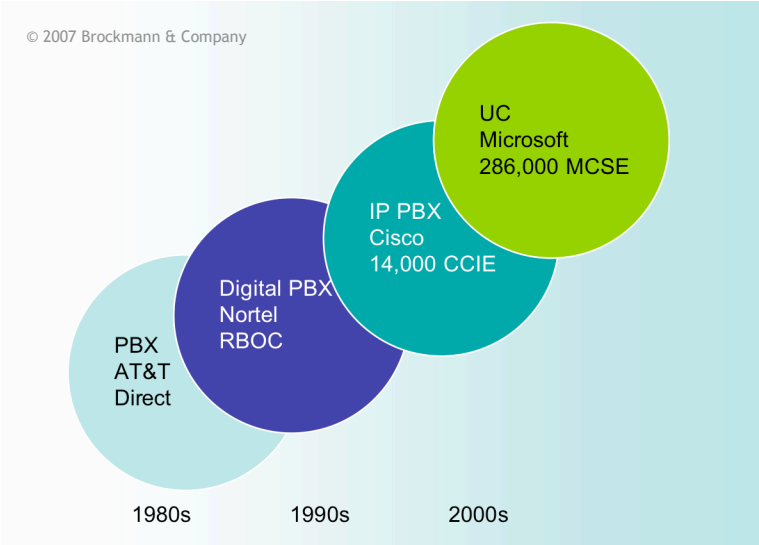
SIP-based applications and services for mobility, presence, instant messaging and conferencing are currently available from many vendors and many categories of vendors. Many of the telephony platform vendors have developed or acquired their offers, a few have integrated their platforms with the capabilities of the large-scale enterprise application vendors such as Microsoft and IBM who are taking steps to subsume telephony vendors into their eco-system. Several best-of-breed ISVs have focused on one or more module's implementation within a small range of related industries and target markets.

As the barriers to creating software-based communications technologies fall, the range of choices for users has exploded. Yet, simply creating the technology is not enough to guarantee success for a vendor. Innovation needs both effective and credible access to the market to achieving market penetration.

Channels Matter

It should come as no surprise that a vendor's success depends strongly on the access to market. New categories of channels to market that have tended to gain enormously by introducing the new, relevant technology to the market.

Figure 3 – Innovation in US communications channels to market.



As shown in figure 3, the Regional Bell Operating Companies, which had been formed in 1984 as a result of the AT&T breakup, chose to compete for enterprise equipment sales with AT&T (later Lucent and then Avaya) by creating equipment resale units. The digital PBX, as introduced by Nortel, was a unique offering at the time. RBOC equipment sales and related services went from zero in 1984 to well over $1 billion by 1995.

With the acquisition of Selsius Systems in 1998, Cisco brought the IP PBX product category to the 14,000 Cisco Certified Internet Engineer (CCIE) customers, and the reseller channels that traditionally served that specialized user community. The telecom service providers in the United States (now primarily AT&T, Verizon and Qwest) aggressively adopted the Cisco IP PBX portfolio as a major component of their enterprise product portfolio.

More recently, with the formation of alliances with Mitel, Siemens and Nortel, Microsoft is taking a leadership role with the unified communications product category of integrated business communications. As Microsoft introduces its new portfolio of Office Communications products, it will be able to leverage its position with the quarter million Microsoft Certified Software Engineers (MCSE), who until now, have not been involved in communications systems decisions – but they will be.

Implications for Users

Choices Grow.

Clearly, the market is rife with technology innovation and new channels. Powerful new enterprise communications capabilities are emerging from a variety of sources, including the platform vendors, the best-of-breed specialists and adjacent market participants. Both Microsoft and IBM see unified communications as major growth vectors for their collaboration and communications units, and are investing in product and alliances to assure their fair/unfair share of that growth. This means enterprise customers will be faced with choices from vendors and service organizations they never had before.

All this competition is good news for the consulting, media and analyst businesses as well as the marketing departments of vendors. Instead of being frozen into a confusing inaction from all this choice, enterprise decision makers will educate themselves about the possible strategic options and then make the best near-term and long-term decisions for their organization. This rewards the innovators with lead customers and growing revenues, and rewards users with higher productivity and higher customer responsiveness.

Lower Prices & Higher Budgets. Appliances Rule.

At the macro-level, the growth in innovations, new entrants and new channels all point to heightened competition and lower prices as communications functionality becomes less complex and more integrate-able. Heightened competition combined with greater interchangeability of functionality will also lead to shortened product lifecycles and more frequent upgrades.

Despite the best efforts of the platform vendors with extensive product portfolios, it is likely that the appliance form-factor will dominate the landscape allowing tighter implementation control for lower support costs and standardized integrations leading to better channel margins through services. That's because appliances concentrate the integration points while enabling scalability across the application somewhat independent of the underlying infrastructure.

Users budgets for communications products however should *not* be expected to decline with prices. In fact, total investment should increase by an amount that more than offsets the price erosion. Users will be willing to pay for new functionality to address demands for greater mobility, the appeal of hosted services and relationship-rich communications services. Equipping customer-facing employees with better and faster communications tools will continue to be the priority.

Simpler Operations. Email Infrastructure Wins.

Architecturally, unified communications systems promise to integrate the user experience and administrative control of communications services. As discussed in the white paper, Beyond Convergence: Communications as an Enterprise Application, April 2006, unified communications

should also integrate common directory, location, administrative and control functions across services.

A forthcoming Brockmann & Company report on the *business applications of email* articulates the supremacy of email as a business communications application. Email is the most important enterprise communications service. The infrastructure – identity control, performance, security and location services – are therefore most appropriate as the foundation for integrating other communications services into a common system to achieve the next level of convergence anticipated in the April 2006 white paper.

Clients Rock.

The client domain will remain highly personalized and even fashion-driven. Just as users show off their smartphones in much the same way they might show off a new car, the mobile endpoint reflects the preferences and personal geekiness (or not) of its user. This is something the mobile device vendors want to encourage, since style justifies a premium and word of mouth is a powerful marketing channel for them.

The role of the desktop telephone is under attack. With the emergence of mobile professionals, realtime-capable PC operating systems and ubiquitous broadband networks, users are readily engaging with USB-attachments and enterprise-mobile converged smartphones, making the fancy IP phone overkill for many desks. In some organizations, the telephone-voip adapter appliance from Citel can extend the life of digital phones already in service.

It is the extension of service functionality into a predictable, logical and context-aware user interface that will be a major value for users.

Conclusion

The future of unified communications promises unprecedented choices in technology innovations from a wide array of vendors and their channels. The UC market will exhibit several attributes important to users, vendors and channels alike:

- Lower prices.
- Modular application appliances.
- Integrated communications services.
- Simpler implementations.
- User-controlled clients.

Some might say that users have seen this movie before. They argue that it is an echo of the enterprise computing market, only 10 years later. The stratification of systems into horizontal component markets attracts the most obvious comparison. Yet, this market promises a much more interesting outcome that is far from certain.

Brockmann & Company

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Peter Brockmann, the author of this report, has 20 years experience in process engineering, business development, corporate marketing, product marketing, competitive analysis, marketing communications, branding and Internet marketing. His career has spanned 3Com, Nortel, three startups, middleware companies and application service providers. Particular technologies he has supported or focused on include unified communications, SIP, MPLS, Ethernet, VoIP, PBX, ATM, wireless LANs, VPN, routers, Internet, public key infrastructure and business process routers.

Prior to 2001, Brockmann held various executive, product marketing, and business development positions at Nortel in customer relationship management software, enterprise data products and enterprise telephony businesses. In 1998 he served as an expert witness before the United States Department of Justice and the European Commission during inquiries into Nortel's acquisition of Bay Networks. Brockmann is a Wikipedia contributor, a past-member of the Microsoft Mobile Partners Advisory Council, a recent participant in the Intel Software Strategies Summit and a frequent commentator on technology and business at www.brockmann.com.

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