Vendor Analysis

Sylantro and IP Centrex: Progressing in a Challenging Market

Abstract: Sylantro is a vendor focusing on application servers and, in particular, an application set known as hosted IP-private branch exchange and IP Centrex.

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Strategic Planning Assumptions

IP Centrex will gain mainstream market acceptance in 2004 (0.8 probability).

Centrex over IP and IP Centrex are different and will continue to merge in terms of functionality and features and eventually will serve the same markets (0.9 probability).

IP Centrex does not need end-to-end IP connections to be successful. TDM transport and termination work fine (0.9 probability).

Enterprises with small user bases, distributed offices or both will continue to outsource, reducing CAPEX and OPEX costs associated with premise-based solutions and devices (0.8 probability).

Large service providers will find wholesale IP centrex models attractive because of CAPEX, OPEX and, particularly, marketing/sales issues in 2003 and 2004 (0.8 probability).
Introduction

Sylantro Systems, founded in late 1998, offers a breed of managed business telephony services and applications using Web and softswitch technologies. Sylantro focuses on carrier-grade telephony technologies and applications hosted in service provider networks. These applications enable service providers to replace legacy, key and private branch exchange (PBX) systems, migrate time division multiplexing (TDM) Centrex accounts to IP Centrex, and win back lost Centrex accounts. Sylantro’s Applications Switch offers a suite of ready-to-deploy hosted telephony services, which include basic-to-premium hosted IP-PBX/IP Centrex services and advanced communications modules delivered over broadband last-mile connections, usually T1 or DSL. Sylantro products are IP-based application servers with the line-side call-control capabilities needed to offer many line-sharing-type PBX functions such as bridged-line appearances and bridged-attendant soft consoles.

The hosted approach to delivering IP/PBX-like functionality places the responsibility of managing and supporting the "services" on the service provider and allows businesses to make common moves, adds and changes on their own through a portal. These services offer an alternative to an IP/PBX, by allowing businesses to reduce the amount of customer premises equipment they buy and manage and turn phone system capital expenditure (CAPEX) into an operating expenditure (OPEX) — a valuable option in our CAPEX-constrained economy.

Sylantro’s platform is an applications development/customization environment, which allows the service provider to customize and brand the interface/portal for their target markets and combine value-added applications into a common portal. The platform is highly extensible, allowing services to be expanded and created using Sylantro’s Web services model and service creation tools. For example, one could combine Sylantro’s business telephony features with conferencing and instant messaging into a single interface, as shown in Figures 1 and 2. The product design reflects a philosophy for rapid development and deployment of business telephony-oriented applications.

The company started shipping its products in late 2000 with the introduction of its first two application modules and has added six application modules since then. Sylantro focuses on incumbent local exchange carriers (ILECs), competitive local exchange carriers, and postal, telegraph and telephone (PTT) services. Currently, 15 service providers are using Sylantro’s platform, either directly or indirectly (through a wholesaler of Sylantro’s applications). Service providers using Sylantro’s platform that offer services directly to businesses include the following:

- GoBeam
- Telia (Swedish PTT)
- Telverse
- Broadvox
- Time Warner Telecom
GoBeam offers, customizes and wholesales the services to other service providers, such as Verizon, Smartcom and Libritas. Telverse tailors Sylantro platform-based services to providers such as Javelin, IDC Americas and Nadir.

**Company Objective and Strategies**

**Company Objective**
Sylantro provides service provider-focused hosted telephony applications and support tools, including proven sales and marketing tools and practices. Its ready-to-deploy applications allow service providers to offer hosted IP-PBX/IP Centrex offerings that can displace on-premise PBX, key and Centrex installations. These applications often generate a higher average revenue per user than those typically associated with Centrex.
Figure 2
Enhanced Sylantro Interface Showing GoBeam Screenshot

Source: GoBeam

Strategies

The following are strategies for Sylantro:

- Product

  Sylantro delivers an ever-expanding suite of readily deployable applications to allow service providers to package a wide range of basic-to-premium hosted IP-PBX/IP Centrex offerings, leading to increased revenue per subscriber. The capabilities are designed to get users to personalize their services, which helps service providers reduce churn. Many complementary modules are available, including automatic call distributor capabilities and tele-working solutions.
Sylantro provides increased usability and has identified compelling features to drive adoption of its applications and applications servers. It offers a wide range of user interfaces, including browser-based portals, MS Outlook integration/toolbar, and customizable phone displays and buttons. Sylantro supports many digital legacy phones (along with analog and IP phones) and actually brings features to these phones via the liquid crystal display and soft keys to encourage end users to move toward hosted services by allowing them to preserve their investment in their phones and faxes.

Sylantro has developed a highly scalable, carrier-grade platform that integrates well with custom local area signaling services (CLASS) 5 switches — which represent the bulk of its deployments — and softswitch-based networks. In these cases, its platform acts as an applications server. Sylantro has the call detail recording, alarming, back-end interfaces and a carrier-styled element management system that service providers require to manage and integrate these solutions with their network infrastructure.

Sylantro supports the Web services model and provides a set of application programming interfaces that enable service providers to offer branding and differentiation in their offerings and allow service providers and third-party developers to modify, extend and add complementary feature-rich applications. Examples of how this Web services model can be used include enabling service providers to tie into third-party applications, such as third-party white pages or sales directories, and develop voice recognition or even wireless portals to support mobile environments. Sylantro is the one of the first to bring the rich Web service model to the telecommunications industry.

Sylantro builds a solution designed to support large-scale multitenant environments with the intention of serving small and midsize businesses and, especially, distributed corporate environments.

Sylantro’s platform supports a wholesale model that lets it gain leverage by allowing service providers to sell to other service providers or value-added resellers that want a customized and uniquely branded offering. The product architecture allows for this separation of offerings on a single platform to be unique, from the data schema to the customizable/brandable portals, billing records and so on.

Market rollout

Sylantro has demonstrated a focus beyond just technology by offering a comprehensive set of best-marketing practices, sales tools and market-launch programs, which are tailored to a given service provider.

Sylantro has established innovative channel strategies by establishing in-place "sales agents" for service providers, hundreds of which are interconnect (that is, PBX) resellers. This has accelerated the success of the service providers selling these hosted services. Their customers are successfully using these agents.
Industry Analysis

The location-independent nature of IP telephony services means that users can be physically located virtually anywhere on the network yet receive the same services as if they were at the same site. Similarly, the systems can be either centrally located or decentralized across multiple sites yet managed as a single site. IP Centrex is divided in the following categories:

- ISDN Centrex, or Centrex IP (Centrex over IP), uses IP as a transport protocol. This is provided using traditional CLASS 5 switching technology and normally uses traditional TDM Centrex phones with either an IP line card or a media gateway in the telecommunications closet that converts the signals to TDM for transit inside the office.

- Next-generation Centrex, or IP Centrex, is based on next-generation technology, including Media Gateway Control Protocol, Session Initiation Protocol and H.323. These methodologies are usually based on IP transport from the handset to the central office (CO), where they may be converted to TDM for transport across the public switched telephone network to the destination. Usually, these solutions make heavy use of Web integration and always use IP phones.

The flexibility of IP Centrex is in the multiple ways in which telephony services can be hosted. One example is a service provider (for example a CO, an Internet service provider or an independent applications service provider — cumulatively termed xSPs) provisioning services from its location, either on client-dedicated or multitenant provisioned servers. An alternative model for large campus settings would be to have the servers at the customer’s premises yet managed by the service provider. Another model would be to have a company’s remote site(s) hosted by a central site, in much the same way that the central site likely hosts the e-mail for its remote sites.

Benefits of Hosted IP Telephony Solutions
One of the key benefits of the different hosting models for IP telephony is that it can help reduce CAPEX by either defraying costs through the centralizing of services, rather than implementing site-specific systems, or by subscribing to services provided by an xSP. While the servers may be located off-site, the system may still be administered on-site if desired, helping to overcome concerns regarding the responsiveness of the xSP or central administrator to local needs regarding timely moves, adds and changes to services. These services can be billed on a per-user basis, allowing more direct relation to staffing levels.

Challenges of Hosted IP Telephony Solutions
Similar to premises-based IP telephony solutions, hosted solutions tout total cost of ownership models showing lowered costs and return on investment models showing rapid investment return, yet without thorough, enterprise-specific benchmarking of cost and service levels, these models hold little weight with enterprise decision makers. Further, many emerging xSPs lack significant financial backing and the services track record to infer stability and reliability. This makes it difficult for
enterprise decision makers to feel comfortable placing their mission-critical, real-time communications in the hands of newer, more nimble xSPs.

However, the incumbent local and long-distance service providers have failed to distinguish themselves as able marketers or provisioners of Centrex services to the larger enterprise market, and little suggests that this will change with the proliferation of IP telephony.

While the hosting of services between enterprise sites is a model that fits well with enterprise communications models (particularly with IT-centric communications applications such as e-mail), the acceptance of hosted provisioning of real-time applications represents a behavioral change in organizational policy. As a result, the installed base will grow more slowly during the next five years.

**Technology Directions**

Sylantro has designed a highly scalable and carrier-grade platform to achieve 99.999 percent uptime. It deploys an open-system environment by running its software on Sun Solaris class servers. Each node can support multiple servers, providing fail-over redundancy for large numbers of users. Sylantro uses lightweight directory access protocol for directory and profile support and open database connectivity-compliant real-time databases to enable high-performance access to the call data required to set up and tear down calls.

The applications are written in a combination of C++, Java and XML to support the need for rapid applications development while balancing the need for a high-speed execution environment. The platform supports Common Object Request Broker Architecture (CORBA) for operations support system (OSS) integration and Simple Network Management Protocol (SNMP) for alarms and alerts. Sylantro supports the following protocols:

- Session Initiation Protocol (SIP)
- Media Gateway Control Protocol (MGCP)
- Web Services Simple Object Access Protocol (SOAP)
- For browsers (HTTP/HTML)
- For Web-enabled mobile phones (HTTP/wireless markup language).
- Customizable announcements/music (SIP/voiceXML)

Sylantro supports the key regulatory requirements that service providers will face and provided capabilities that go beyond that associated with traditional PBXs. As an example, 911 calls are routed to any resource group based on the location of the caller down to the subnet level not a single tenant location as most PBXs do. This resource group can be either a primary rate interface trunk to a specific CLASS 5 switch, which can be owned by the carrier for processing or a centralized automatic message
accounting (CAMA) trunk, directly connected to the public safety answering point (PSAP).

The platform has incorporated support for open standards such as XML and Web services, which allows the integration of best-of-breed communications applications and enterprise applications that are local or network resident services. Their architecture has been optimized for easy application development and integration, helping them not only in their development of applications but, where necessary, their customers' development efforts.

Sylantro's platform is designed to allow for zero service impact during in-system upgrades. The redundant configuration allows for software upgrades to occur with no downtime. Utilities are employed that upgrade tenant equipment (IP phones, adapters and so on) in a background manner, leaving a minimal impact on end users.

Sylantro offers a service-creation environment allowing service providers access to customize and extend the functions and applications of their hosted PBX/IP Centrex offering. Their customers have been successful in adding capabilities to suit their prospective markets and unique business plans. Figure 3 shows the architecture for deployable applications.

Figure 3
Architecture for Deployable Applications

Source: Sylantro
Product and Applications Portfolio

Sylantro’s applications switch includes a suite of deployable modules providing a range of packaging options for hosted IP-PBX/IP Centrex solutions. Additional communications modules give service providers opportunities to charge for incremental value-added services.

Sylantro’s applications server provides critical line-side capabilities. This line-side call control makes it possible for them to drive digital business phones, IP phones and provide PBX-like capabilities such as bridged line appearances, feature interactions with phone displays and button assignments, and so on. Many of these capabilities were why businesses bought PBXs in the first place, so service providers need these capabilities to have competitive hosted offerings. Sylantro’s applications offer IP-PBX-like functions such as click-to-call, directory support and support for online moves, adds and changes.

The Sylantro platform can be deployed with CLASS 5 switches in legacy environments and in next-generation networks. While most of its deployments leverage CLASS 5 environments, the company works with softswitches (such as Sonus) to provide the network-facing softswitch requirements (such as SS7) as well. This modularity allows them to support different network configurations, which service providers may want to implement.

Sylantro’s suite of prepackaged telephony applications are as follows:

- **c-Business** — This core module offers hosted IP-PBX/IP Centrex capabilities with additional advanced services: select mobile phone features (click-to-call, call logs and so on), hosted directory functions and intuitive browser-based capabilities.

- **ComCierge** — This is an application that effectively leverages caller ID, allowing end users to receive single-number services and easily establish personalized call treatments for selected people, family members and so on.

- **ComTraveler** — This is a subset of Sylantro’s PBX-like call management functionality that can be utilized by turning mobile phones into telephony-enabled personal digital assistants (PDAs) through the mobile phone browser, allowing users to return office calls, access their hosted directories and so on.

- **ComMerchant** — This is an informal call center application designed especially for smaller offices to handle peak calling periods during the day, providing queuing, music while on hold and announcement capabilities.

- **ComRIO** — This allows Sylantro functions to be accessed from any remote browser and direct-dial phone (such as a mobile phone) and is targeted at tele-workers, remote office workers and travelers.
■ ComPortal — This is a prepackaged browser-based portal, allowing management and adaptation of the telephony services. There are separate, brandable and customizable portals for end users, office managers and resellers.

■ ComOffice — This module offers comprehensive MS Office integration, allowing subscribers to utilize Sylantro's features via the MS Outlook toolbar, including the ability to apply MS Outlook's sophisticated rules for more advanced users.

■ ComConsole — This module provides a soft receptionist console capability that allows a receptionist or departmental secretary to be located anywhere and still manage incoming calls and see the status of the called party. ComConsole is integrated with instant messaging to provide a rich presence management capability.

■ ComManager — This provides a comprehensive element management system that gives service providers all the mechanisms they need to manage the different aspects of their Sylantro-based telephony services.

Professional Services/Implementation/Technical Support

Sylantro's professional services organization helps ensure telephony services are planned, implemented and integrated successfully within the service provider's infrastructure and then managed and maintained on an ongoing basis after the sale. A dedicated project manager provides a primary point of contact and leads the service provider and the Sylantro project team through the project planning, implementation, installation and integration. Sylantro's service provider account team includes technical system engineers, who assist with the continued deployment, design and maintenance of the Sylantro offering.

For more complex integration and any requested customization requirements, Sylantro either engages an in-house custom solution services (CSS) group to work with the service provider's project team or works with well-known systems integrators such as Accenture, IBM, Bering Point (formerly KPMG), Telcordia and SAIC to help design, implement and deliver integration and application customization development and services.

Financial Analysis

Sylantro has raised US$77 million from top-tier venture capitalists such as Mayfield Fund, Accel Partners, Bowman Capital, Vanguard Venture Partners, J.P. Morgan, Stanford University and Bank of America.
Management

Sylantro has a team of well-seasoned executives that have built successful startups in the past and have service provider and vendor backgrounds. The company employs 100. The Sylantro management team is as follows:

- Pete Bonee — President and CEO
- Mike Gennaro — Vice President of finance and CFO
- David Illing — Senior Vice President of operations and strategy
- Pat O'Malley — Vice President of systems engineering and operations
- Laura Thompson — Vice President of corporate marketing
- John Weald — Vice President of software engineering
- Bruce Wilkerson — Vice President of customer support

Competitive Opportunities and Threats

Sylantro’s product line is in the category of telecommunications applications servers. Sylantro’s primary subcategory would be service provider-hosted PBX services or IP Centrex. Other vendors in this space include Broadsoft, Vocaldata and Longboard.

Sylantro faces some competition from Lucent Technologies and Nortel Networks as incumbent suppliers — some service providers will simply continue deploying legacy solutions or offer solutions that would be characterized as Centrex over IP, as defined earlier.

Impact of External Factors

Sylantro and others in the IP Centrex/Centrex IP category will continue to be challenged by the state of the financial markets and the telecommunications industry in general. These markets may encourage service providers to hold off CAPEX and OPEX, therefore holding off investing in services. Conversely for businesses, downturns in the economy have historically pushed companies to look for ways of extending their resources, and outsourcing is a proven method they have often chosen.

Historically, there has always been a bit of a "wait and see" attitude among large service providers (for example, ILECs and regional Bell operating companies [RBOCs]) when it comes to technology. They don't want to be the first to prove the model or services beneficial. Some service providers are not fond of Centrex because it has never been terribly successful, especially in the United States. This attitude may cause some service providers to delay switching to next-generation technology.
Another problem is Centrex has been costly to sell, especially in the smaller line-size configurations. Sylantro must leverage its customers to represent the needed proof points and continue to add business, increasing the credibility of this market.

Gartner Dataquest Perspective

In a short time, Sylantro has demonstrated what Centrex was always meant to be, and by doing so it has become a leader in one of the few Voice over IP niches that will generate revenue. They have an expanded view of business telephony services, which positions them nicely against the premise-based communications services.

An area that distinguishes Sylantro in this space is they not only focus on technology but have considered how they can help service providers reduce their costs of customer acquisition and retention. Sylantro has an innovative approach to customer support based on the assumption service providers will have a significant learning curve when trying to sell next-generation IP-based Centrex services. Under this philosophy, Sylantro developed a portfolio of service provider sales methodologies, support tools and programs, allowing them to be immediately successful.

A significant challenge Sylantro and its competitors face is industry-related. For IP Centrex to gain hold in the marketplace, adoption among big competitive local exchange carriers and ILECs must occur. These organizations are under significant pressure and are following stringent capital conservation strategies and are delaying spending whenever possible. The upside is numerous RBOCs/ILECs/PTTs have trials under way, and in limited deployment, they are delivering next-generation Centrex services. A good example is the Verizon/GoBeam deal.

These large service providers will be the ones most likely to make IP Centrex a marketplace reality in the long run. They have the sales force and resources to mass market IP Centrex and, for the first time, make it a serious threat to premises-based IP-PBX solutions.

The problem with sales to these large service providers is the sales cycle duration and the complexity of the sale. Many times a prerequisite for selling to an RBOC/ILEC is having previously sold to an ILEC — a paradox that is tough to overcome. Sylantro is leveraging the Telia (Swedish PTT) and GoBeam/Verizon deals with other ILECs and RBOCs as a way of gaining credibility with RBOCs/ILECs.

The most significant area of opportunity for Sylantro is an RBOC-class post-sales support strategy. Post-sales support includes installation, professional services (customization, training, integration and so on), project management, technical assistance, warranty and break-fix. The strategy is based on selling to a limited number of service providers with a lean organization and serving many of the smaller service providers through the IP Centrex wholesalers, which will take on the customization needs of those service providers directly. This may lead to challenges when it comes to scaling up to meet the needs of the larger, more
demanding service providers. Realistically, this is an area most suited to partnering with established customers such as GoBeam and Telverse or professional services organizations such as Accenture, IBM, Bering Point, Telcordia and SAIC. While Sylantro is working with these system integration groups, it is still too early in the market to have worked the kinks out of this model. As a software startup, Sylantro cannot be expected and should not try to build the services infrastructure needed. These integrators can play a significant role.

**Gartner Dataquest Recommendations**

The next generation of IP-based Centrex solutions will be one of the few hot markets in telecommunications from 2003 through 2005, and by 2010, it might finally challenge the PBX as the preferred solution. Sylantro is well-positioned to compete effectively in this space, and with precise execution, a few more strategic partners (especially a professional services partner) and a little luck, Sylantro should become a bona fide success.

**Key Issue**

How will developments in switch technology affect network evolution?
This document has been published to the following Marketplace codes:

TELC-WW-DP-0289