

VENDOR NEEDS AND STRATEGIES

Virtual Network Operator Profile: Virtela

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IDC OPINION

Virtual network operators (VNOs) are telecommunications service providers that own nothing — or nearly so. They deliver customized enterprise VPN solutions through integration and management of multiple carrier networks. IDC finds that:

- ☒ Denver, Colorado-based Virtela is one such VNO making waves in the marketplace today.
 - ☒ The accelerating revenue growth, diversifying customer base, and expanding channels and partnerships of the four year-old Virtela clearly validate that the "asset-less" network business model can work.
 - ☒ Virtela's brand-new MPLS "Service Fabric" enables the extension of Virtela-managed VPNs from an IPSec-based environment to more versatile and richer MPLS-based networks.
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IN THIS STUDY

This IDC study presents and analyzes Virtela, a virtual network operator provider with growing success and expanding opportunities.

SITUATION OVERVIEW

Virtela is a leading VNO based in Denver, Colorado. Founded in 2000, Virtela has raised \$88 million in investment capital. After a final round of \$11 million in June 2003, the company is fully funded. Virtela investors include five venture capital firms — Norwest Venture Partners, New Enterprise Associates, Palomar Ventures, Newton Technology Partners, and North Coast Technology Investors — and two technology companies, Juniper Networks and Symantec. The company has about 130 employees principally located in its datacenters in Denver, Colorado, and Mumbai, India. The founder, chairman, and CEO of Virtela is Vab Goel, who previously built the IP networks for Qwest and Sprint. Since Goel is also a partner at Norwest Venture Partners, a lead investor in Virtela, the company is looking for a new CEO.

Virtela targets multinational companies that want managed network service solutions. IDC estimates that at least 30% of enterprises prefer to buy this way. Virtela does not typically sell to companies that buy à la carte network connectivity and manage it themselves, although it does have an offering, the Do-It-Yourself Toolkit, that allows for Virtela management of pieces of the IP VPN chosen by the customer. Key Virtela solution strengths include DSL VPNs, IP-based videoconferencing, and multinational managed networks. Virtela is experiencing rapid revenue growth and a diversifying customer base, and is aggressively expanding its sales channels and partnerships.

The entire telecommunications industry is trying desperately to migrate from provision of access and transport technologies to delivery of customized managed end-to-end services. This migration occurs in an environment of unrelenting price compression. Virtela was born as a managed services delivery company. End-to-end integration is fundamental to Virtela's approach. From day 1, Virtela has had a single integrated system approach to customer service, network operations management, provisioning, billing, and customer premises equipment (CPE). Because Virtela invests in service delivery and process methodologies, and not in network infrastructure, it is able to deliver highly tailored network solutions. Finally, Virtela's innovative Service Fabric architecture optimizes capacity management on underlying carrier access and transport circuits. This enables Virtela to price its services 20–30% lower than facilities-based managed network service providers for global managed services.

The Virtela Story

Virtela is growing fast. The company recently placed 12th on Deloitte & Touche's annual ranking of the 25 fastest-growing young technology companies North America. According to the Deloitte list, Virtela grew 1,709% from 2001 to 2003.

Virtela is not for everybody. The company targets Fortune 2000 and midsize companies that have global network needs, and prefer to out-task their network

needs to a managed services provider — and companies that prefer to do it with in-house resources with added help from a service provider (Virtela calls this its Do-It-Yourself Toolkit). An attractive growing niche for Virtela consists of venture-funded technology start-up companies, whose investors order them offshore for low-cost operations.

Several of Virtela's original customers were (and remain) high-tech companies such as Arbortext, Extreme Networks, Honeywell, EMC/Documentum, RSA Security, and Pixelworks. Such companies have the propensity to be early adopters in solving their own internal networking and IT needs. An indicator that the Virtela approach is not limited to high-tech early adopters is that Virtela has had success among clients far removed from technology companies, such as the Fuddruckers restaurant chain, Hogan & Hartson Law, Ticketmaster, and the Muscular Dystrophy Association.

Strategic partnerships are key to VNO market growth, and Virtela has been very successful in this respect. For many VNOs, partnerships relate to single-client contracts. Virtela has taken a different approach, cultivating partnerships for multiple-client contracts. IBM was its first partner, and Virtela currently supports approximately 150 customer networks on behalf of IBM; these include Hitachi Global Storage, Sony, and Coca-Cola. Due to the close relationship between IBM and Virtela, the question has been raised: Is Virtela a captive IBM shop? The evidence suggests otherwise, and Virtela is quick to emphasize that IBM is a Virtela customer treated like any other customer.

Virtela has recently extended its partnership program to two very significant new partners:

- ☒ NTT-Verio has added Virtela to its global enterprise network portfolio as the managed VPN solution. This is a private-label relationship where Virtela's managed VPN services provide the underlying service and support infrastructure for NTT Verio's SafeGuard Plus VPN managed services.
- ☒ Singapore Telecom, the incumbent telco in Singapore and owner of Optus, the leading alternative carrier in Australia, has selected Virtela to provide managed VPN services outside SingTel's traditional region. This is a public-label agreement where SingTel's ConnectPlus international data services will be augmented with Virtela managed VPNs for connectivity in the United States and Europe, where SingTel has minimal coverage.

Sales forces for these two large carriers have been trained and are out in the field selling Virtela managed IP VPN solutions. Since August 2004, Virtela has been supporting customers brought in through both of these channels.

Keys to Virtela's Business Model

The keys to Virtela's business model are minimal network infrastructure investment, automated systems, and low-cost service delivery.

Virtela does not own a network, but it delivers carrier diversity with a single point of contact. Virtela's topology consists of services points of presence (POPs), or "policy

centers" for hop-on/hop-off traffic. These are deployed regionally (two or three centers per region) in neutral telecom facilities (i.e., Equinix). Policy centers are routers with some proprietary software. There are at least three trunks from tier 1 IP backbone providers linking each policy center. Virtela has over 200 relationships with services providers for local loops. Virtela works with five or six local loop providers where possible. This is in contrast to the more typical carrier approach of working with one or two local carriers per country, and gives Virtela more flexibility for finding the best price-performance mix.

Virtela's IP Service Fabric (IPSF) network infrastructure is a proprietary software technology in Virtela regional policy centers that intelligently routes customer traffic via the best-performing path over multiple tier 1 IP carrier networks. This insulates customers from potential network failure and/or performance degradation of any single-threaded network. IPSF is central to Virtela's multicarrier approach. This is not simply aggregating and reselling different carrier networks — rather, IPSF dynamically load balances between different carrier networks to gain a very high level of network resiliency. IPSF does this through probes that monitor latency, packet loss, and jitter for all carriers connected to Virtela policy centers. In the event of unacceptable performance degradation for any specific carrier at any specific location, IPSF automatically shifts traffic from the congested carrier to an unencumbered carrier circuit. The effectiveness of IPSF is emphasized in Virtela's aggressive service level agreements (SLAs): 70ms roundtrip delay, less than 0.01% packet loss, and jitter of 1ms or less.

In early October, Virtela introduced a significant enhancement to IPSF called MPLS SF. This extends the Virtela multihomed network platform to MPLS networks and enables Virtela to deliver MPLS VPNs as well as IPSec-based VPNs. MPLS-SF leverages the probe and database infrastructure already in place for IP carrier interconnections, and combines this with a database profiling the MPLS classes of service for each carrier and the SLAs associated with each class of service.

The MPLS-SF system contains preprogrammed determinations about which classes of service on carrier "A" are most closely matched to classes of service on carrier "B." This is a complex process and requires interrelating several levels of static and dynamic information. Static database information includes:

- ☒ Class-of-service configuration for each carrier span connected (e.g., AT&T has three or four classes of service, depending on country; Equant has 5 classes of service, etc.)
- ☒ SLAs within each class of service for each carrier span
- ☒ Mapping disparate carrier classes of service to each other

The dynamic information includes real-time performance monitoring by class-of-service span to verify that each carrier at each site is performing according to SLA specifications. If a site is not performing to SLA specifications, automatic failover is triggered to reroute traffic to the most appropriate alternative carrier's MPLS COS at the troubled link.

MPLS-SF is based on differentiated service control point (DSCP) marking and remarking. DSCP is an IP field that indicates packet priority to the provider edge (PE) router. When the traffic exits the carrier network at the Virtela POP, the Virtela system reads the original DSCP mark and remarks the DSCP to match the class of service of the network that carries the traffic as it exits the Virtela POP. All of this allows Virtela to construct its own MPLS class of service SLAs.

Virtela relies heavily on automated systems for loop prequalification, CPE inventory, circuit ID, ordering, and trouble shooting. The systems for provisioning and inventory, and network management are integrated into Siebel, where the customer information resides. The Siebel system then gives a single integrated interface into the business. The operational systems are tied to a large database of cost and availability by technology (DSL, SDSL, private lines, frame relay, IP, etc.), service provider, and location. Since Virtela has relationships with more than 200 local loop access providers worldwide, this is the largest loop qualification database in the world. This database gives Virtela the ability to deliver a price quote within 48 hours on any access speed in any location. Another measure of the value of this database is that Virtela has a fast-growing consulting business where Fortune 500 companies ask Virtela to perform price benchmarking and create RFP specs for global data networks.

Service delivery is high quality and cost efficient. Customer and network support functions are handled primarily out of Denver and India. Virtela maintains a core service group and NOC in Denver, but is expanding in Mumbai, India, and will soon open facilities in the Philippines. The majority of Virtela technicians have master's degrees or higher. Training is a huge element of Virtela services functions. The Virtela service objective is first-call resolution; this minimizes costs and customer dissatisfaction associated with escalations. A key feature of Virtela's service delivery efficiency is proactive support: 95% of service center calls are outbound, informing customers of events. Virtela has a four-hour hardware replacement guarantee anywhere in the world. Virtela compares its service delivery to Dell Computers, as a highly leveraged model.

Virtela claims that its prices are lower than facilities-based competitors like AT&T, MCI, Infonet, and Equant. Its integrated billing means that Virtela bills are much simpler than those of some carriers.

Virtela Products

Virtela provides a full set of network and management services. These include:

- Site-to-site IP VPNs using either CPE- or network-based VPN configurations, IPSec, and MPLS
- Remote access IP VPNs using IPSec or Secure Sockets Layer (SSL) encryption
- Provisioning and disconnect, and ongoing monitoring of local access loops, including dial-up, ISDN, DSL, WiFi, T1/E1, and metro Ethernet

- ☒ Commissioning, setup, and leasing of CPE and firewalls, intrusion prevention systems (IPSs), and URL filtering devices
- ☒ Network management, in which VirtelaView lets customers view usage and network performance, generate and monitor trouble tickets, and request service changes via a Web-based interface
- ☒ Secure mail services that provide email content filtering, spam blocking, and antivirus services

Virtela also provides a full suite of consulting services to enterprise networks. These include cost and performance benchmarking, RFP management, and network assessments. These services represent a small revenue stream and are not a mainline business for Virtela. However, they are a very effective means of proving the value of Virtela and getting a foot in the door with large corporations.

Beyond network access and transport facilities, Virtela has focused on building solutions sets for specific company needs. Key solution sets for Virtela customers include desktop and conference room IP videoconferencing, VoIP call center connectivity, multicountry broadband access, and Asia/Pacific managed networks.

For IP video, Virtela has a partnership with Avistar Communications Corp., a provider of desktop IP video communication systems for business users. Together, Virtela and Avistar have deployed a global desktop video network for Deutsche Bank, enabling 2,500 bankers worldwide to conduct some 50,000 video calls per day. Using Virtela's IP network for real-time videoconferencing creates a significant advance in cost reduction and represents a performance improvement over traditional ISDN-based videoconferencing.

Virtela has taken a leadership position in deploying international DSL VPNs. Virtela maintains a database on prices, performance, and configuration for business-class DSL services from over 200 providers in 100 countries. This enables Virtela to deliver a single point of contact for global DSL ordering, provisioning, monitoring, billing, and customer care. Multinational customers are turning to DSL as a backup for traditional T1/E1 private lines, or are using DSL as the primary connection for small and regional branch offices. Virtela DSL customers include Cendant Corp., EMC/Documentum, Northwest Airlines, RSA Security Inc., Swissport, and webMethods Inc. EMC/Documentum, the content management solution vendor, uses Virtela's managed DSL service backup connectivity at offices in the United States, Canada, Europe, Singapore, Australia, and Japan.

Virtela has established a strong competence in networking for the Asia/Pacific region, particularly linking call centers in India and the United States. Examples include:

- ☒ Beacon Global Services provides call center services to Marriott, Spinnaker Resorts, and Sunterra resorts. Beacon uses Virtela for full end-to-end connectivity between its call centers in Poughkeepsie, New York, and Hyderabad, India.
- ☒ Pitney-Bowes uses Virtela managed VPN for connecting branch offices in seven Asian countries.

- ☒ Pixelworks uses Virtela to connect locations in China, Taiwan, and the United States. The managed Virtela network includes T1 and E1 circuits with DSL backups.

Virtela is growing its experience and capabilities in India. (The Virtela datacenter in Mumbai employs 30 engineers.) It is attracting India-based customers such as Pearson Education, which uses Virtela to manage several sites in India.

FUTURE OUTLOOK

Virtela is not for everybody. IDC estimates the market for managed network services at about 30% of enterprises. The asset-less managed services model will not displace large incumbent carriers such as AT&T, BT, and Verizon. However, there is a place for an independent provider that addresses a niche market and brings new thinking to solve business problems.

ESSENTIAL GUIDANCE

Customers seeking innovative IP services would do well to look at VNOs like Virtela. While traditional carriers have network infrastructure to maximize — a consideration that leads to service choices they may not otherwise make — VNOs can remain nimble and flexible.

Customers considering VNOs, however, should carefully investigate the financial condition of these companies, especially the newer VNOs. Financially stable companies, either VNOs or traditional carriers, are essentially for companies running WAN traffic over IP networks. The more mission critical the service, the more important the need to qualify the provider's staying power. Given the long list of failed VNOs (Internet Connect, CoreExpress, Velocita, etc.) and the status of many as private companies without published financial statements, customers should carefully select a VNO. However, given the recent history of telecommunications, it goes without saying that published financials and public companies are not guarantees of stability.

End users seeking a global managed IP VPN solution have only a handful of options. Virtela is one of the few VNOs able to give big, traditional carriers a run for their money in this IP VPN niche.

LEARN MORE

Related Research

- ☒ *U.S. IP VPN 2003 Service Provider Shares* (IDC #31833, September 2004)
- ☒ *IP VPN Service Provider Profile: MegaPath* (IDC #31548, July 2004)
- ☒ *U.S. IP VPN Services 2004–2008 Forecast and Analysis* (IDC #31069, April 2004)

- ☒ *IP VPN Service Provider Profile: Netifice* (IDC #31002, March 2004)
- ☒ *IP VPN Definition and Discussion* (IDC #30566, December 2003)
- ☒ *MPLS Guide for Network Executives* (IDC #29649, June 2003)
- ☒ *IP VPN Vertical Market Case Study: Information Services* (IDC #29560, June 2003)
- ☒ *IP VPN Carrier Market Shares and Competitive Analysis* (IDC #28944, February 2003)

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