

## **The Transition in Value Proposition from Utility to Telecommunications Service Provider**

By Paul B. Robinson, Ph.D., CMA, CFM, Vice President  
and David H. Yedwab, Executive Vice President  
The Eastern Management Group, Inc.  
Bedminster, New Jersey

Since the passage of the Telecommunications Act of 1996, utility companies -- power, gas, water -- have slowly emerged as key players in the telecom space. And the pace is quickening. According to the Edison Electric Institute, there are more than 40 electrical utilities launching telecommunications, video and data ventures. Located in Washington, DC, EEI is the association of shareholder-owned electric companies. Also, the Reddy Corporation International's InfoGrid report tracks upwards of 100 utilities that operate in the telecom space or are planning to launch telecom services in the near future. Evidently the relatively higher demand for and profitability of telecom services, coupled with utility deregulation have made the grass look greener elsewhere.

The good news for utility companies is that they possess more of the prerequisites for entry into the telecom space than any other potential new type of competitor. Topping the list is over 150,000 miles of the United States' fiber optic networks (one-third of the total miles), rights-of-way and ownership of FCC licenses. In addition, utilities have good relations with local regulators, deep knowledge of plant equipment, excellent service records and strong brand image, and proven customer interest in buying bundled services. Nonetheless, utilities that want to diversify have hurdles to overcome. Building a sustainable competitive advantage in the telecom space is contingent on operational excellence, customer intimacy and solutions leadership. Utilities, however, lack the expertise in conducting e-business. Less than 1 percent of their interactions with customers are Web-based. Next, utilities are inexperienced in dealing with telecommunications network complexity. And acquiring customers in an already crowded and highly competitive market will be challenging.

### **Entry Options**

If a utility is interested in entering telecom, it must create a strategy that addresses the customer segments it wants to serve, the services and solutions it wants to offer, and the manner in which those services and solutions will be delivered. Many choices abound in all areas.

To minimize the risk of entering the telecom business, utilities may choose to be infrastructure providers to emerging (such as Competitive Local Exchange Carriers and Internet Service Providers) and incumbent service providers (such as inter-exchange carriers). This business model will have little direct impact on the core utility operations. Moreover, it leverages core competencies in network, customer relationship and

technology management, and ownership of key assets, such as, rights-of-way and miles of dark fiber.

Operating as a reseller is another option. One or more telecommunications services can be packaged with such attributes as bundled pricing, service\_level agreements and integrated access. This model may require significant investment, however, in revamping sales, customer service, operations and billing processes as well as new branding efforts.

Network ownership and operation is by far the riskiest venture for a utility company. It requires significant capital investment in addition to the marketing hurdles of resale. As a network operator, the utility may provide both network services and managed multi-service solutions to service providers and enterprise business customers alike. The array of solutions offered can be broad and complex, including network monitoring and optimization, service-level agreements, disaster recovery options, professional services, Web hosting environments, and e-business applications development and delivery.

Alternatively, utilities entering telecom may focus on providing simplified service and network management offerings to small and medium business (SMB) and/or residential customers.

### **Developing The Value Proposition**

The foundation of sustainable competitive advantage, especially in high-tech industries, is the ability to compete effectively on the basis of rapid time to market, price, brand, quality, flexibility, fast and reliable delivery, and after-sales product support. To do so, the organization must intimately understand the value chain, not only within its organization, but also throughout its supply chain and that of its customers.

Understanding the value chain helps the organization secure competitive advantage through an understanding of the sources of:

- Profitability and the relative cost positions of the internal value-creating process
- Differentiation within internal business processes
- Competitive advantage throughout the supply chain and through linkages with the value-creating activities of customers.

High-tech firms optimize their value chains and achieve operational excellence by "virtually integrating" instead of vertically integrating for economies of scope and scale. Agile, next-generation firms focus internally on where they can make world-class contributions to competitive advantage and then leverage the value-creating activities of their partners to supply the rest of the value proposition. The simultaneous acquisition and continuous reevaluation of partners, technologies and organizational structures is a never-ending process. For these companies, a customer-centric business model is table stakes for success in service creation and delivery.

The key to customer-centricity (Figure 1) is giving customers what they want, the way they want it, when they want it, at the price they want to pay. This requires recognition

of customers' business drivers -- profit growth fostered by customer acquisition, new products, rapid time to market and low-cost production; customer care and retention; limited capital requirements; and sustainable competitive differentiation -- and the manner in which the utility's telecom solutions support its value-creating processes.

Follow the Silicon Valley practice of building product portfolios and technology road maps, which define new product and service initiatives within a market and technology context. Starting this way provides a degree of tangibility that helps bring other choices in direction, technology, distribution, and so forth to the surface. But at all costs, hit the market window. That's where serious money can be made. Get early versions to market quickly, obtain user feedback and modify moving forward. This strategy will help avoid either overwhelming or under-whelming the marketplace.

### Critical Success Factors

An integrated technology architecture (Figure 2) allows distribution of real-time common source information instantly within the organization, to customers and across the supply chain. Leveraging that information in a collaborative Web environment built around a well-defined business model distinguishes great companies from average ones.

Information *is* power. Knowing which customers to nurture and which require more effort — even a modification of product and service delivery models — is critical to understanding customer profitability. Making up profit deficiencies “in volume” from one customer set subsidizing another is a prescription for failure in a world of custom products and services.

How does such a collaborative environment work? On the product side, Cisco is the archetypal benchmark. Customers enter orders directly through the Internet. Typically, these orders are for uniquely configured products, which are assembled to order. Because Cisco's suppliers are linked directly to the information system they are immediately alerted of the requirement for components. At the same time, the third-party logistics service provider is informed of the impending shipment requirements. As a result, customized products can be delivered and installed in a compressed timeframe.

Among utilities that have moved into the telecom space, Williams Communications is a standout. Williams differentiates itself as a technology innovator among broadband network connectivity providers. It offers customized Service Level Agreements (SLAs). The trick, here, is to successfully integrate and correlate customer information with network element data. Thus, network operations can be managed by the customer rather than by network element. This is critical to SLA customization. The Company is currently deploying Web-based customer network management systems featuring inventory management, bandwidth management, configuration management, fault isolation and alarm monitoring, which will give customers the ability to monitor network performance and reconfigure their capacity from their own NOCs on essentially a real-time basis.

While building out the telecom infrastructure, it's crucial to recognize that an Operations Support Systems (OSS) strategy that takes advantage of service management functionality will best position the utility to support the processes associated with either a single- or multi-business model focus. Examples of service management functionality include business process control management, electronic interfaces between service providers, Web-enabled customer access, and correlated network-to-customer information.

OSS is the software-based nerve center of any telecom service provider. The integrated OSS architecture must enable and manage a host of advanced services including broadband and advanced IP.

OSS functions allow differentiation by categories of service and the manner in which service-level information is offered to customers. For this very reason OSS investments *must* be viewed as strategic investments because they deliver competitive advantage in terms of differentiable customer solutions as well as low-cost positioning for the long term. And considering the pace of M&A activity in the telecom space, the feature, functionality and interoperability of OSSs is becoming a major determinant of business valuation.

### **Establishing and Evolving the OSS Architecture**

Scale business technology to fit requirements and improve it moving forward.  
Remember, one size doesn't fit all!

Minimally, integration is needed at the data exchange level across both internal applications and those linked to customers and suppliers. This speeds up the data transfer and minimizes compounded errors from continuous re-entry. It also avoids the pain of custom coding the data transforms and linkages otherwise required for cross-OSS interconnection. Understand, however, that these "data integrated" applications still don't cooperate to ensure the complete automation of a business process. It's not possible to automatically launch and manage events and allocate processing resources dynamically based on pre-defined business rules. Actually managing information flow between applications is crucial to long-term success. Automated business process control enables competitive differentiation and provides the wherewithal to efficiently manage change!

Once individual process elements are automated, the process of creating a new service by defining a unique sequence of automated steps becomes manageable. And, more importantly, service creation can be carried out quickly. For example, full flow-through provisioning starting at the customer interface and carrying through order entry, circuit design, and network element provisioning is a defining business characteristic. As Michael Lanier, CIO, Rhythms NetConnections Inc. recently said, "We will create a leading, fully-integrated customer interface to provide end-to-end ordering and flow-through provisioning of DSL-based broadband services." The bottom line is that process

automation enables competitive differentiation, while significantly lowering the initial and ongoing systems integration costs, speeding time-to-service availability and maximizing return on new services.

The distinguishing characteristics of this OSS software application integration backplane architecture are:

- Use of a messaging middleware layer in a central hub or bus architecture controlling all communication between applications, replacing the confusing point-to-point architecture that evolves by connecting applications through their APIs
- Process automation modeling tools to manage the information flow between applications, including workflow modeling, automatic routing, and automatic decision making
- A formatting engine, based on open standards such as XML and HTTP, to convert the data into the structure required by the receiving application
- Transaction integrity checks to insure that data is properly received.

The major players in this area are:

Company	Application Suite	URL
Vitria Technology, Inc.	BusinessWare	<a href="http://www.vitria.com">http://www.vitria.com</a>
TIBCO Software, Inc.	ActiveEnterprise	<a href="http://www.tibco.com">http://www.tibco.com</a>
WebMethods, Inc.	WebMethods Enterprise	<a href="http://www.webmethods.com">http://www.webmethods.com</a>
IBM, Inc.	MQSeries	<a href="http://www.ibm.com/">http://www.ibm.com/</a>
Compuware Corporation, Inc.	Uniface	<a href="http://www.compuware.com/">http://www.compuware.com/</a>
Linguateq Technology, Inc.	DataStream Management Software	<a href="http://www.linguateq.com/">http://www.linguateq.com/</a>
SeeBeyond, Inc.	Egate	<a href="http://www.seebeyond.com/">http://www.seebeyond.com/</a>
New Era of Networks, Inc.	e-Biz Integrator	<a href="http://www.neonsoft.com/">http://www.neonsoft.com/</a>

This middleware is both available as application integration software supporting B2B e-commerce and as a middleware layer in OSS vendor suites facilitating integration with third-party vendor applications. OSS vendors are striving to build a reputation for integration among their own applications and across those of their competitors and best-of-breed partners.

The availability of a middleware layer should be a key consideration in the choice of OSS software. Even if a suite is purchased that covers all aspects of the Telecommunications Management Network (TMN) hierarchy from the business layer through the element management layer, it's likely work will be necessary to integrate the OSS software with legacy ERP, CRM or data warehouses. Even if this isn't the case today, the need to integrate OSS software among newly purchased and legacy systems, or among business acquisitions, or integrating with new supplier partners is always around the corner.

If the decision to purchase OSS software has been made and there is uncertainty as to where to begin, consider partnering with a systems integrator to develop business and technical requirements. The integrator can also provide vendor recommendations and ultimately handle the application integration. Be aware from the start, there's more to purchasing OSS than laying proposals side-by-side and looking for the lowest number.

The full lifecycle cost must be examined! The Eastern Management Group, Inc. has discovered that companies that just looked at first costs have the most disquieting stories to tell. The Eastern Management Group's research revealed the presence of six hidden costs that must be addressed prior to purchase. They are:

- Poor software quality
- Extensive internal support requirements
- Hidden headcount costs because of inadequate flow-through performance
- The high cost of scaling
- Complex interface requirements that may be related to lack of expected interoperability
- Insufficient system functionality that necessitates the purchase of additional OSS modules and/or the need for unanticipated customization.

The bottom line. Do your homework! Demand of your vendors that they:

- Demonstrate empathy for your needs and your "pain"
- Understand your business objectives
- Present a viable product portfolio and technology roadmap
- Present a value proposition offering both low-cost positioning and solutions supporting the value-creating processes of your customers
- Demonstrate the flexibility and fit of the solution relative to the existing environment
- Prove multi-vendor interoperability in both the software and hardware domains.

Remember this is the world of mass customization. There are reputable vendors out there who will give you what you want, the way you want it, when you want it, at a competitive market price. Demand it. It's there for the asking.

### **The ASP Option**

An alternative to purchasing OSS is to outsource to an Application Services Provider (ASP). This is an especially viable option for a start-up telecom service provider.

In this scenario, the ASP owns the OSS as well as supporting software and hardware platforms on which the applications run. The infrastructure is generally housed at a physically separate location from the end user. The ASP solution provides a scalable, usage-sensitive offering that is compatible the back office of incumbent telecom service provider. The ASP solution also supports an early go-to-market strategy with reduced capital investment yielding higher ROI. Emerging telecom service providers, including

CLECs and ISPs, and their venture capitalists recognize the potential value of the ASP option for:

Most efficient, profitable operations	Fastest path to new service introduction	Best way to future-proof network
Increased revenue	Customer churn reduction	Fastest road to e-business
Best-in-class service from a world-class company	Fastest road to next-generation networks	Elimination of need to acquire, expand and maintain OSS

The major factors to consider in choosing an ASP OSS provider are:

Reliability and security of the offering: Buy from an ASP with well-developed reliability and security provisions spelled out in an end-to-end SLA. Your ASP should use a geographically distributed, redundant network architecture including customer access. And the security system should be built around multi-level access rules to the system and its information containing an audit capability of who can access, view or edit the data.

Up-front implementation costs and implementation interval: What does the ASP cost and will existing systems that cost huge amounts of money be displaced? How long will implementation take?

Functionality and scalability: The OSS applications should integrate with legacy systems and be congruent with the business model. For example, in order to outsource an Incumbent Local Exchange Carrier interconnection gateway, the level of functionality of the electronic bonding to the ILEC should mesh with requirements and the applications should scale with business needs.

Partnership: Control is being relinquished to a third party. If the ASP is not an effective business partner, the benefit of ASP outsourcing will not be realized.

#### A New Kind of Third-Party Vendor

An emerging category holds promise for telecom service providers desperate to find and quickly implement an OSS solution. It's called an OSP (operations service provider). Coreon, Inc. ([www.coreon.com](http://www.coreon.com)), with facilities in Staten Island, NY and Fremont, CA, is an early example of the OSP business model.

In addition to operations support solutions, an OSP provides a complete infrastructure of integrated applications solutions, interoperability laboratories and network operations centers. By allowing the OSP to perform its planning and operations functions, a provider is freed to concentrate on its most significant business goals--launching new products, building market share and ensuring customer satisfaction.

OSPs provide an integrated applications infrastructure covering all OSS aspects on a pay-as-you-grow basis and assume responsibility for ongoing OSS design and maintenance to accommodate new products and services. The success of the OSP's business model is directly linked to how well its service provider customers achieve increased revenue and profitability.

Service providers don't have to use every element of the OSP's OSS infrastructure. Instead, the organization can choose the components a la carte and select those that make economic and operational sense, such as billing, provisioning, network operations center or unbundled components of these services. If need be, the OSP can even link directly into the service provider's existing systems. OSPs also are equipped to bring providers immediately into the e-business age, providing customer-facing, Web-enabled applications that allow customers to serve themselves by shopping, ordering services, and receiving and paying bills electronically.

### **Conclusion**

The door is open to telecom competition and utilities are moving into this highly competitive space. As new entrants, utilities are uniquely equipped to compete with core competencies in network, customer relationship and technology management, and ownership of key assets, such as, rights-of-way and miles of dark fiber. Nonetheless, think long and hard on the primary elements of a successful telecom business strategy. These are choice of customers, the services and solutions offered, and their manner of delivery. The bottom line is that a utility's telecom value proposition must rest on the three pillars of operational excellence, customer intimacy, and product leadership.

The ability to integrate and leverage OSS to differentiate via the categories of service offered and the manner in which service-level information is offered to customers is ultimately the difference between success and failure. An early, scalable, go-to-market strategy with minimum capital investment may be found in the ASP and OSP options.

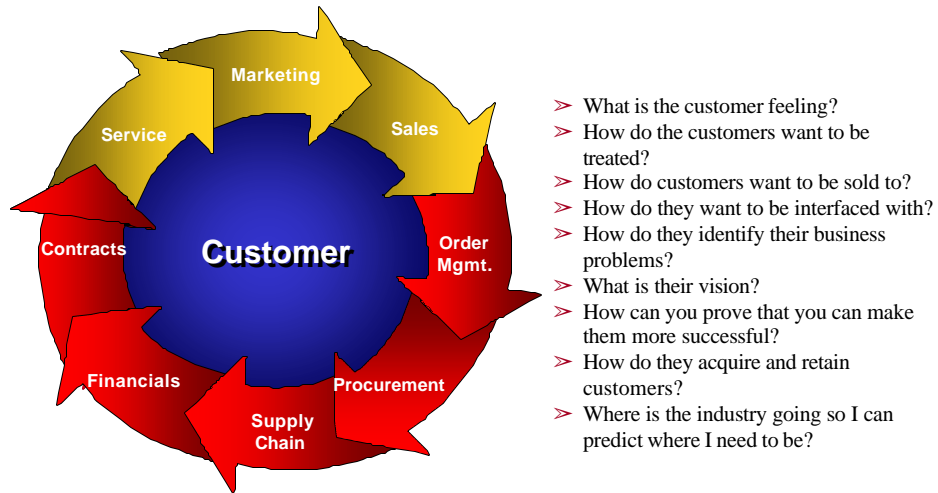
Whatever OSS route is taken, do your homework. Look at full lifecycle cost. Check out vendor reputation and look for partnership. Investigate functionality and scalability of OSS applications. And, above all, when investigating ASPs/OSPs, check for reliability and security of the offering.

###

# Appendix

Figure 1

**The driving force behind the evolution of services, networks and OSSs is not technology but your customer (Service Provider)**



**The customer(s) define the business**

Figure 2

**An integrated technology architecture allows you to distribute real-time common source information instantly within the organization, to customers and across the supply chain**

