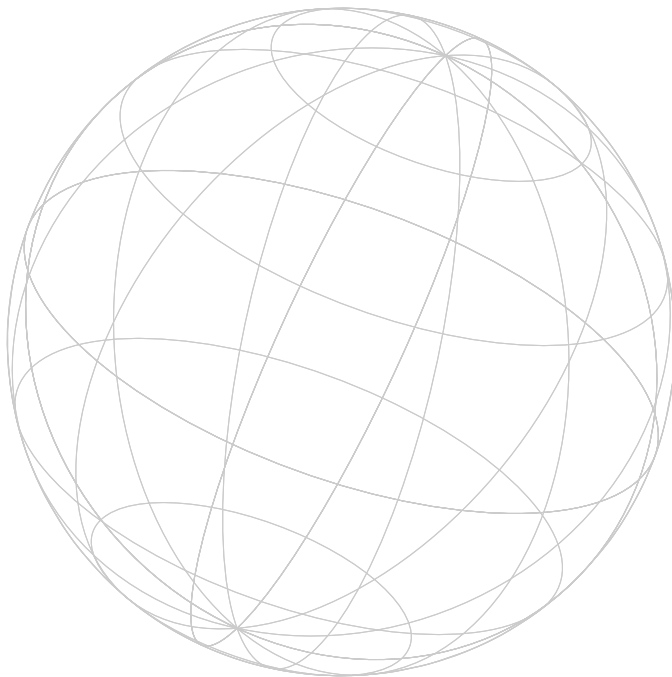
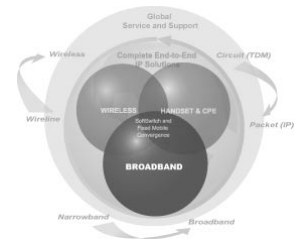




# Realizing the Triple-Play Value Proposition

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In the past few years, “triple play” has probably been the biggest buzz word in telecom. Whichever modifiers have been added before or after “triple play” to create variants, the underlying concept is still the same: boost revenues and reduce churn by offering an array of voice, video and data services. Converged or integrated triple-play delivery is the new opportunity that has been energizing the telecom and mass-media markets. Successful deployment depends on a seamless, end-to-end platform that can draw upon the synergies of the various architectures that are used to deliver voice, video and data.

Incumbent and competitive Telcos see this as an opportunity to recapture their dwindling customer base by offering data and video along with voice services. Similarly, MSO and cable operators are excited about the opportunity to provide voice and data in addition to traditional video offerings.

Ultimately, the potential benefits to the end user are spectacular: a greater choice of services, one-stop shopping for those services, the possibility of ever-greater value versus monthly cost, and unified billing. This win-win situation comes from the maturing of the IP/Ethernet-based core and edge networks that can now be efficiently managed and customized—and these solutions are creating a self-reinforcing cycle of positive feedback that is driving triple play forward.

Looking at the big picture, triple play has a three-part value proposition that will make it worthwhile for service providers. To realize these benefits, service providers must select a delivery platform that helps them address nine key challenges.

### **The Value Proposition**

An integrated triple-play delivery platform adds value on three fronts: revenue opportunities, subscriber management and network utilization.

#### **Increased Revenue Opportunities**

First and foremost, a broader menu of services is the basis for greater revenue opportunities. The biggest payoff from implementing an integrated triple-play delivery platform comes from two potential benefits:

- Increased average revenue per user (ARPU), which can come from the ability to offer additional services to each customer.
- Reduced churn, which can follow from the ability to increase customer loyalty.

An appealing and customizable mix of voice, video and data services may also help attract a larger base of subscribers. The number of services a customer subscribes to also has a direct relationship to churn rate: a customer who subscribes to two or three services from one provider is more likely than a single-service buyer to stick with that service provider.

Implementing triple play with a service-aware architecture offers the additional opportunity to provide service- or content-driven QoS, which in turn can be used to create more tiers of service, perhaps with premium prices at the highest levels.

#### **Integrated Subscriber Service Management**

Two of the biggest advantages in deploying a triple-play architecture are the new opportunities and the greater economies of scale provided by an integrated subscriber service management system. As an example, the integration of the policy server and the

authentication, authorization and accounting (AAA) mechanism helps ensure efficient tracking of bandwidth and network usage and provides the ability to account for (and bill for) different services according to usage. Integrated security management will also help detect and prevent fraud, abuse, and unauthorized access to protected content.

Policy enforcement can help both subscribers and service providers by managing Service Level Agreements (SLAs) and ensuring that a customer has access to subscribed services without consuming excess bandwidth. Greater predictability of network usage will aid in the planning of network resources and capacity. What's more, the statistics and performance reports that can be generated using such an integrated platform can provide invaluable data on customer viewing habits and preferences—and this can be used to further differentiate service offerings.

An additional option, although often a challenge in itself for service providers, is the ability to offer self-management to subscribers. This not only breaks the current paradigm of flat-rate service offerings by giving customers more choice and control, but it also helps service providers by reducing the burden of managing the changing requirements of thousands upon thousands of subscribers.

Beyond customer service functions, a self-service portal can also support marketing and sales initiatives. For example, new service offerings can be advertised on the portals and existing users can be offered valued-added services not only from the service provider but also from partners.

### **Optimized Network Utilization**

By capitalizing on the synergies associated with each service, an integrated triple-play delivery platform enhances the ability to optimize network utilization. As an example, a centralized AAA mechanism that is part of the wider centralized policy management system would eliminate the burden of managing subscriber network usage across a multitude of services. Having the right subscriber management system would allow for flow-through provisioning of all services, accelerating response time for new orders. Flexible service and subscriber management options also can allow service providers to offer discounted services at times of low network usage, thereby optimizing revenue generation

As suggested above, an integrated triple-play delivery platform hinges on three major concepts—the triple play of triple play:

- Service awareness
- Subscriber management
- Policy enforcement

As technology matures, service delivery should be independent from the underlying physical network, be it wireline, wireless or fiber-based. What the subscriber eventually experiences are the services, independent of the medium on which they are delivered. For example, people who are embracing VoIP services are typically not concerned that the service is delivered over DSL lines or the cable plant rather than traditional copper wire. As this concept moves out to other services, it will become necessary to identify exactly what is being provided. This level of service awareness—the first piece of the puzzle—will form the basis of value-added service offerings, and will improve the prospects of increased revenues through the ability to enforce SLAs, offer premium services at premium prices, and so on.

The second piece of the puzzle is management of every service provided over the access architecture. With an integrated triple-play platform, the delivery of customized service offerings will require an intuitive, hierarchical subscriber-management system.

The third and final piece of the puzzle is policy enforcement. Enforcing service- and content-aware QoS mechanisms is the key to offering guaranteed SLAs to the customer. Integrating the policy server with a centralized AAA server provides the ability to have a common login for all services. Integrating the policy server with the billing systems can create the opportunity to provide innovative service offerings based on criteria such as “time of day” or “day of the week”—and this can increase network utilization and generate additional revenue.

## **The Challenges**

While the prospects for an integrated triple-play delivery platform are indeed spectacular, service providers must overcome nine key challenges: technology expertise; business models; content acquisition and management; network scalability; customer expectations; mass customization; service availability; billing systems; and equipment interoperability.

### **Technology Expertise**

Because the core business or core competency of most Telcos has been voice access, a majority of their personnel are technically proficient in the management and operation of large, complicated voice networks. In contrast, when a new integrated triple-play delivery platform is put into service, the infrastructure includes a diverse array of services such as VoIP, TV over IP, video on demand (VoD) and high-speed Internet access (HSIA) with various levels of SLA. These require technical competency that centers on the management of packet-based networks and their related QoS enforcement issues.

### **New Business Models**

New services bring with them the challenge of new business models. To succeed with these new services, the Telcos need to develop or acquire significant expertise in the creation of successful business models built around a broader service offering. In many cases the potential paths to revenue go through territory that is new to the Telcos. Similarly, the accounting issues involved in delivering multiple services over a shared infrastructure will have to be studied and resolved. Expertise will also have to be developed or acquired in a variety of new tasks such as assessing the acquisition of new technologies, acquiring and pricing content, pricing new services, and estimating new ARPU levels.

### **Content Acquisition and Management**

One of the biggest challenges that accompanies a triple-play offering is the acquisition and management of content such as music and video. This function involves a variety of commercial and legal issues that surround contract negotiations with content providers. Once the agreements are in place, the content has to be inventoried and managed in a secure way and in accordance with contractual requirements.

### **Network Scalability**

The data networks that most Telcos have in place are tailored for High Speed Internet Access (HSIA) services. These typically utilize statistical multiplexing to enable 3-Mbps services to groups of 150 customers over a single FE backhaul link. That concept changes with newer services that will be carried by the triple-play delivery network: voice and video services require guaranteed bandwidth as opposed to best-effort delivery of HSIA. Additionally, while HSIA services have typically achieved a take rate of just 18-22%, a complete offering that

includes video and voice can be expected to achieve a higher take rate, possibly in excess of 50%. This potential for much greater demand on the network highlights the importance of scalability in the chosen triple-play solution. This issue applies not only to the access end of the network, but also to backend equipment such as soft switches and IPTV headends.

### **Changes in User Expectations**

Another challenge in dealing with the new base of all-powerful customers is their expectation of instant gratification through immediate access to all services. Customers commonly expect any new device they have at home—TV, gaming console, video recorder—to be plug-and-play compatible with the network. In a similar vein, they likely to demand that any new service be operational in a matter of minutes. Initially, unknown usage patterns for these new services—coupled with an uncertain pricing curve—will make it difficult to estimate network usage demands and thus the revenue potential. With traditional voice services, there are myriad modeling tools such as the Erlang B tables that can be used to dimension networks. Today, however, no such tool exists for video services.

### **Mass Customization of Services**

With the wide variety of options that can be made available to customers, the desire to customize these offerings to suit individual tastes is bound to take center stage. This brings with it the customer requirement to have control over the services they can select from a market basket of available services. The key to overcoming this challenge is the ability to offer customized services on a mass scale.

### **Service Availability and Customer Care**

When a customer subscribes to any mix of triple-play services, they will tend to have a very low tolerance for poor availability of any network or service. Today, customers are already becoming less tolerant of interruptions to their Internet service—and if they were to switch on their TV only to find that they could not watch their favorite programs due to frequent network or service glitches, an erosion of the customer base would be sure to follow. Thus, the challenges of network reliability and service availability are crucial—and, in the event of problems, appropriate staffing of the customer-care function is also essential. Traditionally, the Telcos have experienced peak network usage during normal daytime business hours: the customer care network, call centers and support staff are organized to provide the best support from 8:00 to 8:00 on weekdays rather than during off-peak hours and weekends. With video and data services in the picture, the requirements for customer support coverage change to 24x7 and peak hours coincide with primetime TV viewing and extend on to midnight.

### **Billing Systems**

New billing systems are required to support the new service offering—and these are not canned configurations, but rather are customized for each subscriber. Offering tiered Internet and data services only serves to increase the complexity of billing requirements. Billing for IPTV services will need to be integrated into the existing voice billing systems and new methods must be devised for billing of data traffic.

### **Equipment Interoperability**

In this nascent market, triple-play technology is still evolving—and this often leads to issues with the interoperability of equipment from multiple vendors. For service providers, this can quickly translate into the delayed rollout of these promising new services. To overcome this challenge, service providers may have to forego the notion of picking and choosing best-in-class equipment for every part of the network. Better outcomes in rollout and service delivery

may be possible if they instead focus on single-vendor solutions that provide end-to-end capabilities.

## **Conclusion**

The buzz around triple play is understandable, given all that it can offer service providers and their present and future subscribers. With increased revenue opportunities, integrated subscriber management, and optimized network utilization, the value proposition is strong. The ability to overcome the nine key challenges—through new expertise, new technologies, new support models and more—can help Telcos halt and perhaps reverse recent declines in subscriber growth. The key to success is the selection and deployment of an integrated triple-play delivery platform that enables new services and drives increased loyalty and decreased turnover among subscribers.

The UTStarcom product portfolio includes a series of open platforms that can enable carriers to deploy an integrated triple play delivery platform. The UTStarcom offering includes the following key elements:

- **RollingStream™**: This distributed IPTV streaming, storage and management platform provides a way to offer truly differentiated on-demand TV services
- **mSwitch®**: A high capacity C4/C5 soft switch
- **Netring®**: A metro core multi-service provisioning platform
- **iAN8K B1000**: An integrated access platform that provides legacy TDM as well as next-generation DSL and PON services. These are terminated and delivered to subscribers through an extensive suite of network end points (e.g., STBs, CPEs and ATAs). The iAN8K B1000 combines the functionalities of a DSLAM, a DLC and an Access Media Gateway to form a Multimedia Network Edge (MNE).



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