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The Noble Bit-pipe: The Latest in the Evolving Role of CSPs

By Trevor Hayes

Right at the start of this year's TMF Management World show in Nice, Keith Willetts of the TMF and Simon Torrance of Telco 2.0 joined together on stage to give the telcos a push in the direction of treating over-the-top service providers as customers instead of competitors. Fundamentally, a sound idea; think how many wars could have been avoided if the participants had only looked for a financial opportunity instead of shooting at each other. There really is an opportunity here. Telcos carry bits – for money. OTT service providers offer services that generate bits so telcos can sell bigger pipes. So far, so good.

This is the latest version of the Telco 2.0 "two-sided" business model – telcos serving regular customers on one side, and serving over-the-top service providers on the other. But there's more to this than simply carrying bits. Keith and Simon suggested that Telcos are well placed to offer not just bit transport, but also to provide enabling services such as identity and authentication, security, billing, and quality of service management.

This is a not-too-subtle change from TMF keynotes in previous years. Not too long ago, certain industry leaders were complaining about over-the-top service providers getting a "free ride," so it was the job of carriers to find some way of taxing them for the privilege of having their bits delivered. Carriers were being told that they had to become content providers or become extinct, because carrying bits would just be a commodity service, and the enemy, the OTT service providers, would capture all the profitable revenues. The emphasis was on carriers becoming active participants in the world of content to counter those over-the-top upstarts. "Reaching up into the content layer" was how Keith described it.

Now with very little fanfare, we have an attitude change. Keith Willetts is very good at gently introducing new ideas to industry leaders and picking up the vibes of acceptance or resistance. We can be sure that if Keith is now publicly pushing this view, that many key figures in the industry are already aligned with it. So now, bit-carrying is OK, though hardly anyone is saying that it's a great business to be in, which, in my opinion, it is. And the big new thing is going to be value-added services delivered from the network, paid for by the new customers: the over-the-top service providers.

This is all to be welcomed. Looking for practical revenue opportunities makes more sense than trying to resist OTT growth by making life difficult for them. Collaboration will result in more win-win deals than antagonism. Ultimately, the core business of bit-carriers – carrying bits for money – will be enhanced by working in concert with those companies that create the new ideas for content and applications that encourage people to buy more bandwidth for network access. Imagine a world without search, on-line vendors, download sites, social networking and messaging: how many internet access lines would the bit carriers be able to sell?

However… (There has to be a however) these additional services may not be much of a gold mine. If the attitude change had been around three or four years ago, carriers would have been filling a big gap in the market and maybe they would have become the suppliers of choice for common services such as billing, identity management, quality of service management, and security.

Now they will just be other players in the market place, because smart people at the edge of the network have found ways to do much of this without relying on the bit-carriers.

Take authentication and identity management for example. Just a few years ago, as the Internet was only starting on its path to reshape our personal and business lives, telcos had more information about connected customers than anyone else. They had long-term relationships with their customers, who trusted them, at least as much as they trusted any other big company. Back then, carriers were in a good position to step up and offer identity management and a single-sign on service to their customers and to the over-the-top companies. By registering one time with the access provider, we can easily envisage customers being able to access multiple content sites, pre-authenticated. One identity, multiple destinations.

But service providers didn't think of it then. Actually, I'm fairly sure that some people in the service provider community did think of it, but anything that might encourage over-the-top service providers to grow and make money was maybe not flavor-of-the-year in those days. Now the gap is already being filled, without the help of the carriers. OpenID has gained enormous traction. Microsoft has moved to make LiveID work with OpenID. Just about anybody can become an identity service provider. The carriers themselves, far from entering this market as a service provider, look to others, such as Verisign, (probably the market leader today) to perform these services for them.

How about billing? Carriers have big, complex, highly capable billing systems that surely can be exploited to provide billing as a service for over-the-top companies. True. A few years ago, setting up on-line billing for products and services was a bit of a hassle, and there was certainly an opportunity for a service provider to step in. The carriers looked on while, in a very short time ISPs started to collaborate with third party service providers to provide merchant services – not just customer billing, but the whole process chain including shopping carts, credit card validation, order management, and more.

The TMF Management World presentation by Werner Vogels, CTO of Amazon, illustrated just what carriers who think they can provide billing services for others have to do to catch up. Amazon is no longer simply a retailer of books and CDs. It is now a platform service provider for a vast range of third party on-line merchants selling content, services, and physical goods. Amazon not only looks after all the financial aspects of trading, it can warehouse and deliver the goods. Amazon's platform has been designed to make it easy for others to sell online, safely and efficiently. Amazon learned quickly that working with others enables economies of scale, which is what every infrastructure-based service provider should aim for.

Furthermore, applications running on edge devices can trigger their own billing events and send charges across the network to any billing system anywhere. What can the carriers offer that will attract those transactions to telco billing systems in preference to credit card systems?

Perhaps there's a little more scope there for network-based services in the area of service quality measurement and assurance. Certainly someone needs to know what is going on in the heart of the network and fix problems when they occur. But is this something the bit-carrier should do as a premium paid-for service, or is this just part of the job of moving bits around?

Meantime, smart technology at the edge of the network is continuously improving the ability of over-the-top service providers to deliver good quality, real-time voice and video services. Compression algorithms improve every year, resulting in better quality with lower bandwidth. Smarter DSP can reduce jitter and replace lost bits while actually reducing end-to-end latency by eliminating the need to wait for delayed packets to catch up. As a result, international calls using Internet-based voip can often be just as good as PSTN calls, and will likely be better than a mobile-to-mobile call using "carrier-grade" technology end-to-end. Application-ware VPNs can be set up from the edge, end-to-end, without requiring the network operator to do much other than transport the bits.

The reality is that the carriers no longer have a clear field to offer these services, which at one time were choice plums there for bit-carriers to pick. The opportunities are still there, but there are now other players, who have already set some of the rules of the game. Nothing should prevent the bit-carriers from joining in and competing in these areas; we just have to remember that customers now demand choices and when we offer these ancillary services, we are competing with others. And whatever we do, it mustn't get in the way of that all-important role of delivering the bits.

As we have said before, carrying bits is in itself an honorable trade and a good business to be in. There's a high barrier of entry for competitors in terms of both finance and expertise needed. Connecting people to each other and to service providers has become an indispensable service for consumers and businesses, because it has become part of our developed way of life. The evolution of the cloud will make the carriers' role even more important, and the carriers' new attitude of collaboration is what will make the cloud even more of a success.