


Let's get serious about convergence

Any strategy presentation these days needs an addition to the usual “do-not-forget” keywords of cost-cutting, future-proof, innovation-driven, and profit-accretive. The latest fashion essential is “convergence.” You need this buzzword to prove that you are a thought leader; people attending your strategy powwows will feel better when they hear it. It is a must-have, but few people are really serious about it or know what it means.

 **ONE DEFINITION OF CONVERGENCE STATES:** “In the absence of a more specific context, convergence denotes the approach towards a definite value, as time goes on; or to a definite point, a common view or opinion, or toward a fixed or equilibrium state.”

Are telecoms service providers really serious about finding a fixed or equilibrium state in an industry characterized by rapid technology changes? Well, let's hope they're not, and that what they are really looking for is the synergistic combination of voice (and telephony features), data (and productivity applications), and video on a single network. Having these previously separate technologies able to share resources and interact with each other is expected to create new efficiencies. That should be the focal point of our industry.

Endless arguments about paths towards this focal point can be debated. The fact that many of these paths coexist can often be interpreted as a lack of “vision” for our industry. The argument is that, if there is no unique road that can bring you to the destination, there is no reason to explain why you can't get there. But there are many such reasons, and service providers have to find their own routes to reach this focal point – and it can take years. Convergence is a very long journey.

The first step on the convergence journey is about engineering and network design. The existence of a single focal point for networking environments implies that a common engineering and design language can be developed to describe it, and that a common environment can be built using it. All major telecom stan-

standardization bodies (3GPP, 3GPP2, ETSI, ITU) have embraced this path, defining the future of telecom networking using the IMS framework and terminology. This is important for the future because it is the first time this has happened at the level of the entire service control and service execution network layers. The fact that the first versions of each of the service-level standards of these different bodies uses a common framework in itself means that the focal point they are ready to depict will become reality; it is just a matter of how, and when.

Convergence is about making services accessible independently of network resources. Although this is pretty difficult to do, there are early moves in this direction which show that service providers are eager to embrace this approach to service delivery. Mobile and broadband subscribers now have access to similar services – TV, e-mail, browsing, instant messaging and voice – and they are available at home and on the go. Though this experience is rendered in different ways, the services give end users the same benefits. The next move will involve integrating them more tightly with each other, enabling a seamless transition between each of them, as well as integrating TV into the picture. IMS provides a framework for this to happen.

Avoiding the traps

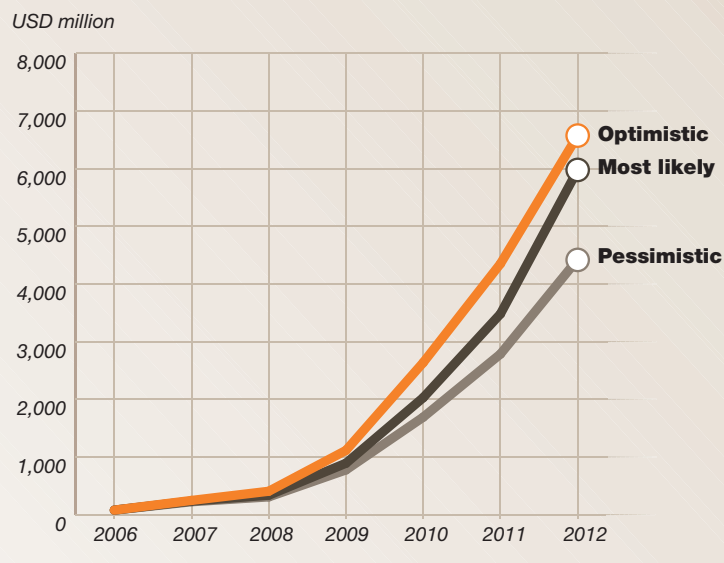
Engineering language and a common view of services are just now defining how the focal point we were describing could take shape. The real pain lies in turning this into action and charting the map for the journey ahead. It took more than four years for some large incumbents in Europe to do it. And there are still lots of issues pending.

First of all, the puzzle of the metropolitan network has to be solved. It is strange to see that this area of networking is the only one remaining where service providers use at least a dozen competing technologies, at all levels of the telecoms stack. Sorting out the puzzle and rationalizing the solutions used is certainly the first headache carriers have to sort out. They must create a certain level of homogeneity in their networks so that a convergent core network can be connected to the metropolitan area. One common answer to this issue – “IP and Ethernet everywhere” – could certainly be seen as a techie mantra. The reality of implementation for Ethernet-based aggregation is more complex, and there are competing mechanisms between layer 2 and layer 3.

Then there is the transport side of the network, where multiple technologies are still used in the metropolitan and aggregation networks. Another mantra here might be the endless “IP-over-MPLS” story. As in the metropolitan area, carriers still face multiple choices here. Implementing them and choosing which of them is to be used plays a large role in designing for convergence, as it determines the engineering choices made in many aspects of the network.

There is also the possibility that some network elements cannot really fit within a converged network. The GGSN, for example, has no real counterpart in the fixed area as a control and registration element. It nevertheless has been an essential control point for

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service providers operating mobile networks, because many of them inspect the structure of the traffic from this network node. Through various active mediation mechanisms, they are providing quality of service (QoS) allocation or differentiated billing.

At a higher level, management of QoS implementation can become tricky. Most mobile services do not support differentiated IP QoS policy management. A convergence strategy would push that functionality to be managed at the edge of the network. But where?

End users want convergence, carriers want it, and vendors want it. As a consequence, network convergence will definitely happen. It is the future of our industry.

The implementation of convergence leaves lots of issues open, and sorting them out is a long and strategic exercise for carriers making the shift to this new world. There is an old proverb that warns that while the future is bright, there could be traps on the road to it. It is best to wish that this industry collectively finds ways to avoid them.



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