

Business Paper

The Stranded Service Provider

Sustaining core value in a changing world



JULY 2009



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The Stranded Service Provider

Foreword from Alan Quayle

“To read the press, you’d think a trillion-dollar telecommunications industry has been shaken to its core by Apple, a \$33B consumer electronics company. In April 2009, Apple app store achieved 1B application downloads in nine months. Estimates vary on the revenue generated by all these downloads, but it is likely a few \$100M (as most of the downloaded apps are free). But contrast that to the global mobile content revenues in 2008 of \$30B — why is there such a kafuffle? Apple has definitely done well, and there are some important lessons in Apple’s success for operators, but as usual hype and fashionable concepts distract the industry from doing what it does best.

We’re ignoring a much bigger number — the mobile voice and messaging revenue of \$600B, which is being left to stagnate, because it’s not fashionable, and this fact should be shaking the telecom industry to its core. Given the amazing end devices now available, and the pervasiveness of web-based access to our information and enterprise processes, you’d think the telecommunications industry would have done something more with voice and messaging. In the past, there was a valid reason — operators were stranded by a 25-year-old operating system (their IN platform), and latterly by the false promises of ‘evolved IN’. Today there are proven technologies that let operators make their core voice and messaging products a ‘spice’ that can be added to every aspect of our day.

Imagine a world of never having to wait for a customer service rep or waste time navigating IVRs, or being able to call to check the status of your order — and being told immediately the call is connected and that it’s being delivered on Tuesday, or with the click of your mouse launching a call with all the friends you were chatting with on IM, and (for me) finally having calls filtered when it’s in the middle of the night! This is possible today; it just requires the telecommunications industry to be brave enough to focus on what it does best, rather than be distracted by hype and fashionable concepts.”

Part 1: Communications Crisis

Crisis of Consolidation

The last five years have seen unprecedented changes in the mobile telecommunications arena. Nowhere have these been more significant or so keenly felt than in the network equipment supply chain. The raft of providers that have built and supported mobile networks for the past quarter of a century have, through merger and acquisition, been reduced to a smaller number of much larger international enterprises.

While we've seen the emergence of powerful new players, in the shape of Huawei and ZTE, consolidation — at least for the 'old guard' European and US NEPs — is very much the order of the day. And such seismic shifts are having a tumultuous impact on the mobile eco-system, as today's NEPs seek to reinvent themselves — moving away from a 'we build everything' model to becoming more open-and-flexible systems integrators of telecommunications solutions.

And with good reason — because while their integrated legacy TDM offerings enabled a communications revolution during the latter part of the 20th century, major markets have been saturated, and the incremental revenue demands of service providers now require a different, more open and flexible approach to solution development and service delivery — one that assures the rapid, reduced-cost delivery of compelling new services to market. IP is still seen as the enabling platform for this, promising to reduce cost, increase innovation and, crucially, deliver more revenue for service providers.

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So, in pursuit of an all-IP future, development in TDM network equipment halted. Research dollars were reassigned to IP solutions and support for legacy kit, like those of the first-generation Intelligent Network (IN), has been end-of-lifed. Consolidation also has left many NEPs with 'two of everything', an unenviable position in any industry under price pressure. As a result, duplicated equipment lines have been terminated and hundreds of legacy-skilled engineers have been 'let go'.

But that was okay, because these new leaner organisations needed software skills as the industry prepared to go 'all-IP'.

Differentiation Dilemma

Amid all this change remains one underlying constant — today's established mobile service providers offer the same set of services. They use the same (or similar) network technologies as their competitors, so differentiation is a major challenge at best. Stealing a march on your competition often comes down to clever marketing and, more often than not, whether you are prepared to give away the newest handsets bundled with more voice minutes than the other guy. Such blurred lines between service providers have led to an incredibly disloyal consumer who, quite rightly, will shop around until they manage to squeeze the best bundle from a service provider.

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IP and IP Multimedia Subsystem (IMS) was exactly the kind of platform that promised to let service providers rapidly deliver a host of new services to consumers, based on their particular preferences. These could be turned on or off depending on their success — almost with the flick of a switch. This would hand the power to differentiate back to the service provider, who, through the delivery of compelling new services, could secure the continued loyalty of an inherently disloyal consumer base.

Going into a Downturn

So, back in 2004-05, the road ahead was IP-based mobile communications services, and the NEPs jumped to create solutions which service providers, looking at an increasingly bleak future for voice (the current number-one revenue generator), enthusiastically accepted. NEPs stopped investing in their legacy TDM equipment entirely, choosing to throw their hat into the IP ring without a backward glance.

But then 2008 came around and the global economy nose-dived. Reducing network capital expenditure (CAPEX) and operational expenditure (OPEX) was always a priority, but now it has become a necessity. Already some years since it arose, the idea of an all-IP network suddenly looks like a very significant risk. Today, 90 percent of all Telco revenues continue to be generated by person-to-person (P2P) communications — voice and SMS delivered over traditional TDM networks. Suddenly, throwing money at an all-IP business model (yet to be proven) doesn't seem like a terribly good idea.

Large-core network projects are being scaled down, migration strategies are heavily scrutinised, and the all-IP future — that the NEPs and service providers had been suiting up for — couldn't be any further away.

Welcome to the Decade of the ‘Stranded Service Provider’...

Part Two: The Stranded Service Provider

Defining the ‘Stranded Service Provider’

The concept of the ‘stranded service provider’ is certainly convincing. Today we have a generation of established providers with an incredibly uncertain future. They are not only facing a lack of budget to replace costly and legacy kit, but the focus on IP means that NEPs no longer retain the specialist skills to enhance existing proprietary infrastructures.

This change in focus to an all-IP future has seen a power shift, within both the NEP and the service provider. Influence (and investment) has now moved away from traditional IN product development and engineering teams, to their new IP counterparts. Seeing little future in TDM product support and development, the former have been broken up, losing over two decades of technical expertise and the deep understanding of the complexity of customers’ networks (which have been so central to the success of the mobile industry) — to natural wastage, redundancy and retraining.

Indeed, with NEPs placing greater emphasis on their systems integrator offerings, with business models built around the delivery of multi-vendor solutions, product development itself has taken a backseat.

So, as a result of having moved R&D into soft switches and internet backbones, NEPs lack the resource infrastructure, the skill and the scale to enhance the capabilities of service providers’ TDM infrastructure, or the IN-enabled services they deliver. And, of course, with business strategies focused on the brave new world of IP, they are understandably unwilling to spend the time or money supporting end-of-line legacy products... and a picture of service provider isolation begins to appear.

Also, consumers aren’t getting any more loyal — financial directors are no longer the only ones scrutinising their mobile bills and looking around for alternative sources. As basic voice services show signs of decline, service providers can no longer differentiate on ‘new-generation content’, and the resultant price war benefits no one.

Service providers are stranded in no-man’s land, between the business imperative to create innovative and compelling services for today’s consumers, and having to (attempt to) do so on existing heritage (and end-of-lived) infrastructure — without either the product support or the in-depth technical understanding of the network that characterised their relationship with the NEP.

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Stranded in the Real World: Profiling the Stranded Service Provider

While younger, smaller players are not immune, it is the incumbent, established, large service provider communities who are becoming stranded — those who have:

- > powerful, market leading brands with millions of subscribers
- > TDM-based core networks with IN platforms sourced from ‘old guard’ NEPs
- > established, proprietary and complex IN services and IN service layer architecture
- > vertically integrated “heavy” service layer platforms
- > historic reliance on expertise of NEP TDM engineering teams
- > the challenges of price competition from new entrants and internet
- > intense CAPEX and OPEX pressure
- > an inability to differentiate service offerings, using existing IN platforms
- > the prospect of all-IP network offerings, differentiating FMC-based services, five or more years away
- > a need to get value from TDM networks today — while having fallen into a ‘skills void’.

Analyst Viewpoint: Alan Quayle

“Service providers are stranded by a 25-year-old operating system. Imagine a web application developer trying to compete in today’s market using Windows 1.0 as its operating system! The truth is, much of the infrastructure supporting today’s networks is stranded in the mid 1980s. Unfortunately for service providers, their customers are living in 2009, and their expectations of service providers are increasingly shaped by services on the web (such as Google, Facebook and Twitter) and consumer equipment providers (such as Apple, Sony and Nintendo). Even evolved IN products only pay lip service to IT and web-based technologies, yet do not enable service providers to play a significant role in the emerging services landscape beyond connectivity.”

Part Three: The (Rip &) Replacement Rescue

So if mobile service providers are unable or unwilling to invest in major infrastructure replacement programmes, and today's consolidated NEPs possess neither the skill nor the product portfolio to enable innovation in heritage networks, there seems little cause for optimism!

However, there is undoubtedly tremendous value in existing networks. Service providers are still managing to buck the global downturn trend...just. Voice commoditisation may be an increasing challenge, yet person-to-person voice and messaging still generate over 90 percent of service provider revenues and, while these are under pressure, they are resilient in terms of ARPU. The challenge then is how to augment the value of this P2P heritage so that, at least in the short and medium term, the revenue curve continues in the right direction.

The economic slowdown has, of course, resulted in severe CAPEX spending restrictions. Any investment must be underpinned by a sound return on investment (ROI) model, and new service delivery strategies must be rolled out at dramatically lower price points. There remains an opportunity, and a strong case for investment, for innovation in the service layer — otherwise, service providers will be forced to deploy only those limited and undifferentiated services already supported by the NEP.

Pragmatic Problem Solving

Such a case can be made for minimal investment in the heritage network precisely because of its two decades of success. Opening up the service layer in the core, by using standards-based, commercial-off-the-shelf (COTS) hardware and software, is a significant step to delivering a new level of service layer agility at the right price.

Indeed, a combination of heritage Telco and new internet technologies creates a pragmatic escape route for the stranded service provider. The very fact that today's evolved IN offerings bridge the Telco and internet worlds — retaining carrier-grade '5-9s' reliability and the flexibility and ease of development of Java programming — allows much-needed service innovation in the short term.

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In this much more pragmatic IN scenario, service providers can achieve significant gain by simply augmenting existing services such as those deployed into the post-paid community, and making these available to a pre-paid audience. VPNs, community calling plans and location-based services are such examples. There is also a persuasive argument that deploying a new-generation intelligent network (IN) will significantly reduce the burden of support required by current expensive proprietary platforms. While replacement may seem a drastic word in today's economic climate, adding an application server — with costs in the tens of thousands (rather than the tens of millions) — will deliver the kind of agility to let service providers extend their P2P portfolios into the 'smart services' arena, building on the undoubted consumer comfort with voice and messaging services, and adding real value.

Getting Smart

The services that will be delivered here will use data the service provider network already owns — users' service preferences, their usage patterns, and extra attributes such as their location and presence information — to provide smarter, more tailored services.

On their own, they won't always create high revenues, but they will be high volume. And, as has been proved time and time again, 'high-volume, low-unit, price-point' services generate extremely high revenues and margins. Furthermore, by combining a number of these capabilities, through (for example) integrating user context and preferences with messaging and voice calling, new high-value services can be created at minimal cost.

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And such innovation is critical. While there is across-the-board agreement that basic voice and basic messaging will continue to be key aspects of the service provider's portfolio, the margin contribution of these services will continue to fall. By utilising the value of additional attributes such as location, personalisation, user preferences and user profiling, extra end-customer value is created in the service as it moves from 'basic' to 'intelligent'.

But, as Alan Quayle's point exemplifies, it is not simply the services themselves that need to adapt and change. Telecoms business models are changing too. The traditional service provider-subscriber model is being complemented by advertising and sponsorship-funded models involving multiple parties.

This is the concept of ‘turning a dumb pipe into a next-generation intelligent network’, based on access and use of subscriber data, to create and deliver more-innovative and more-targeted, revenue-generating P2P services, at a unique new price point.

Part Four: Vox Pops

How Do You Rescue the Stranded Service Provider?

Comment from Graham Francis, Marketing Manager, OpenCloud

“Voice is becoming commoditised, with increasingly large, all-you-can-eat bundles putting pressure on service providers to differentiate through the delivery of a new generation of data and content services. But replacement revenues will not come from non-voice alone. Service providers, and their supporting ecosystem of network equipment providers and application developers, will need to develop new and innovative services that utilise voice and messaging as key ‘enabling’ components. The wider economic slowdown is already resulting in severe CAPEX spending restrictions. This means that new services must be intuitive, simple and compelling enough to encourage mass adoption — and that means enhanced P2P services. The delivery strategy has to be rolled-out at a dramatically lower price point, in an open environment and, in the short term at least, on existing SS7-based network infrastructures.”

Comment from Alan Quayle, Telecoms Analyst and Consultant

“Change can only come from within. For some service providers it will be a stark financial hole in the business model that prompts change, while others will recognise the large gap in their service-innovation ability, from their customers’ perspective. Both will be adopting processes and technologies to enable them to play a part in the emerging services landscape, by understanding developer’s needs, exposing capabilities, enabling service reuse, and leveraging their core voice assets by mashing them up with the web. This will allow them to share in the value created in the new service-delivery landscape, and avoid becoming commoditised pipes to the Net.”

Comment from Keith Dyer, Editor, Mobile Europe

“Service providers stranded up this particular creek will find that there is no such thing as a free paddle. But there is opportunity in understanding the advantages they do have. First, they provide must-have mobile voice, messaging and data services to millions of customers, and usage of these services is still growing. Secondly, they hold the profile, location, usage and preference information of those customers. In time, with the investment in new platforms, it may well be that service providers can expose that information to numerous third parties, building enhanced Telco/web services to the benefit of all (the Telco 2.0 model). But before they do that, they need to ask themselves if they have worked this information as hard as they could have, within their current operating environment. They need to ask if, for a smaller outlay and quicker payback time, they could enhance their existing services — by making more targeted offers, or launching context-aware services, for example. By doing this they could drive

up usage, but more importantly offer mass-market services millions of users would be willing to pay a small extra fee for. There is no quick rescue, but there is a path out of the mire.”



 OpenCloud

OpenCloud's Rhino is a real-time application server for agile development, deployment and efficient management of person-to-person communication services across current and next generation technology. Rhino is a high performance, genuinely carrier-grade service execution environment for realizing a Next Generation Service Delivery Platform (NG-SDP). It uses commercial-off-the-shelf (COTS) hardware and software to deliver service layer agility to TDM and IP-based networks at a radically lower price-point than traditional solutions from network equipment providers.

OpenCloud headquarters are in Cambridge, United Kingdom. R&D, Engineering and Support are located in New Zealand, Spain and there are

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