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Solving the ICT Solutions Bottleneck

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Big Business but no IT

Providing ICT solutions to the world's large enterprises is big business for a sizable number of outsourcers, both network and IT. For the business services division of a network outsourcer, for example, large-scale ICT solutions can account for 40% or more of total revenue despite representing only a tiny proportion of all business services customers. Such a revenue figure is a material contribution to creating shareholder value. For IT outsourcers, ICT solutions represent all, or nearly all revenue.

Globally, ICT solutions revenue is \$150 billion now, and growing rapidly to more than \$210 billion in 2010, according to Gartner. Interestingly, some analysts estimate that nearly half of present and future revenue is likely to move between different solution providers, adding urgency to the task of efficient delivery of ICT solutions. Despite the vast scale and growth of this complex ICT solutions market, solution providers remain worryingly underserved, though one could argue they are in fact not served at all. This is an intersection of commercial drivers, business processes, engineering discipline and software tooling built – a confluence of factors neither well addressed nor seen previously.

The answers are to be found in many areas, including standards-based engineering, best practice business processes, and software automation. One might argue this is not dissimilar from that of IT capabilities or support commonly found elsewhere. Why is that this critical market is so underserved, so neglected?

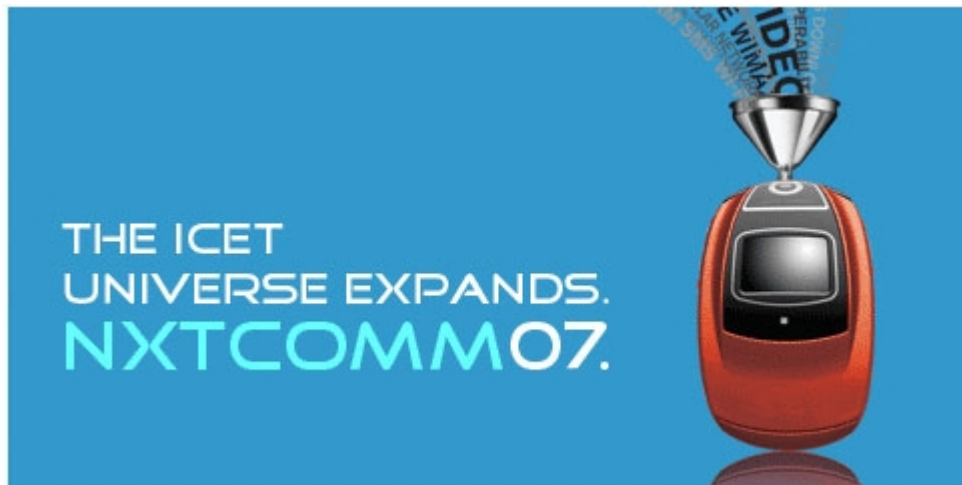
Standards and IT are focused on point services not comprehensive solutions

The simple fact is that, today, standards bodies and OSS vendors are primarily focused on solving a different problem. Their focus is on highly repeatable, standardised, 'factory'-like ICT products and services. Such products and services can be ordered by selecting from templates, fulfilled with flow-through automation and operated using routine operating procedures. Such services are rarely

customised, lending themselves to such standardised tooling.

ICT *solutions*, by contrast, are one-off bespoke collections of services and products that are combined in various ways to meet a holistic enterprise need. Some of these service and product components might also need modification, and will, therefore, deviate from the recognised factory standards. To make things more complicated, many factories will invariably be used to provide the multiple product and service components that comprise a single ICT solution.

The result of this multi-factory, multi-service complexity means that the regular 'factory' order handling, fulfilment and operations environment is not able to directly enable an ICT solution.



Manual crafted solutions practice have not changed for 30 years

For an ICT solution provider today, the state-of-the-art is to provide a highly skilled manual process overlay to coordinate the processes and systems of their factory and extended multi-factory service supply-chain. In the ICT solution space for large enterprises, the fact is that solution providers use solution design techniques that haven't evolved meaningfully over the last 30 years. Worse still, the critical pre-fulfilment decomposition and sequencing of the end-to-end, solution-level design into properly constructed factory-level service component orders is also handcrafted.

It is also accurate to say that the solution design and subsequent decomposition tasks are undertaken by large numbers of staff; this, and the inherent complexity of these tasks, often leads to serious errors, omissions and delays in solutioning and fulfilment. This, in turn, creates nightmare scenarios where service components are missing, improperly configured and solutions are poorly integrated. The resultant time delay in transformation to the new solution has a quite serious negative

financial impact; there are numerous well-known examples of this.

Of course, large-scale ICT solutions such as these are never in a steady state; they are constantly changing as the customer evolves, and at any point in time, some part of a large solution will be undergoing re-design and fulfilment. Unhappily, this inadequacy in manual ICT solutioning, change control process coordination and fulfilment, all too often means that the solution model gradually diverges with what has actually been implemented, leading to steadily decreasing customer satisfaction over time. When the 'master' solution design is no longer relevant to the operating ICT solution, everything – design, fulfilment, operations – becomes ad hoc.

Convergence is making the solutions business non-scalable

As if this isn't painting a bleak enough picture, the current move towards convergence is manifestly bringing the ICT solutioning problem to a head. Until recently, solutions used to be procured and supplied in isolated 'towers', where each 'tower' would comprise many individual service components and products. For instance, enterprises would outsource their voice requirements as one 'tower', which would be separate from their data 'tower' requirements. Alternatively, enterprises would seek an Internet solution or a storage solution, or maybe a compute or security solution; but all of these would be distinct and separate items both in terms of procurement and supply.

Now, however, as these diverse solutions technologically converge on IP, enterprises are procuring and being supplied with solutions that encompass all 'towers' in a single, holistic, end-to-end ICT solution. Traditional voice solutions are being replaced with IP based voice solutions that run over IP data networks. Storage area networks are now as integral a part of the IP data centre as the local area networks, which have long been based on IP, and in some cases these are also integrated with the data network.

Given that a solution is typically sourced from multiple providers, integration of service components is as much a challenge as integration of operations and management. This now means that the design and pre-fulfilment decomposition of solutions, which has hitherto been accepted as a just bearably complex manual process challenge, is set to become a non-scalable business bottleneck in the very immediate future.

Standards and best practices to relieve the bottleneck

After thirty years of status quo, solution integrators are readying themselves for change; a few have already made their move. They can see continued growth in their solutions business and realise it is critical to relieve the impending solutioning and fulfilment bottleneck or risk losing market share to competitors that are building a more scalable solutions business. A new approach is undoubtedly required, but where do solutions providers look for help with things such as new best practices, automation and IT support?

Traditionally, this has been the province of the standards bodies and industry best practice organisations. However, it will come as little surprise that, with the historical focus on single-factory services and products, standards body membership does not attract many participants from the solutions world, consequently reinforcing their non-solution focus.

There are signs that this is beginning to change. In particular, the IT Infrastructure Library (ITIL) will be releasing a much anticipated revision to its IT Service Management (ITSM) framework, and has a much less followed but highly instructive framework via the ICT Infrastructure Management (ICTIM) book. Indeed, some large outsourcers have taken to reorganising the workforce around the best practice process model to remove the impediment of tower-based processes. Also, the TeleManagement Forum (TMF) with its enhanced Telecoms Operations Map (eTOM) that has traditionally focused on operational processes for 'factory' services and products, is beginning to pay attention to the needs of solution providers with large and complex enterprise solution problems.

The IPsphere Forum (IPSF) has recently been established with a sole focus on multi-factory, end-to-end solutions. Its membership comes from all parts of the ICT supply-chain, from content providers through to core network infrastructure providers. The MFA Forum is currently working on an inter-carrier interface (ICI) implementation agreement. This agreement defines the features and implementation requirements for multiple converged IP MPLS based data services to be transported across single inter-operator network to network interfaces. This interface definition will become invaluable for solutions providers looking at the network impact of providing holistic multi-domain ICT solutions to their business services customers.

Conclusion

In all cases, results more relevant to solution providers will come more rapidly if greater energy is provided. This energy must come from business network and IT outsourcer staff themselves rather than the Internet-focused engineers typically found in these groups. The confluence of business process, engineering disciplines and IT systems expertise requires individuals with these skills to be involved. So, it is hoped that commercial and strategy, process and systems people join their engineering brethren to provide needed energy to solve these pressing problems.

Together, they must engage with these organisations, learn from each other, and deliver new convergence-ready best practices that they can deploy, and that IT software vendors can automate. This is the only practical way of enabling effective and efficient ICT solutions for large enterprises – a business bottleneck the industry simply is unable to afford.

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