

## Streamlining the delivery of complex, custom technology solutions to enterprise customers: Automation and integration - key to communications service provider success

by John Breen, Assistant Vice President, Solution Centre of Excellence, AT&T and Steve Bamberger, Chief Operating Officer, Netformx

Solution delivery is getting more complex with the ever-expanding range of multimedia applications, requiring a diverse set of skills. Changes occurring in the lead-time before installation result in solutions not matching requirements. Yet, enterprise customers still demand prompt, efficient and reliable solution delivery, despite falling margins. To resolve the issue, there is an urgent need to automate the design, configuration and integration work. By creating a shared repository of captured requirements, previous experience, templates and history logs, the delivery teams can co-operate better and reduce cost and time significantly.



*John Breen is AVP of AT&T's Solutions Centre of Excellence. He is a twenty-nine year veteran of the computer and data communications industry, sixteen of those years within the family of AT&T's data companies. In his current role, he manages the Solutions Centre of Excellence. This team addresses some of the most complex challenges customers face and provides solutions that can be applied in many countries around the globe.*

*John Breen received his Bachelor of Science degree from John Carroll University in 1984 and proceeded to attain a comprehensive set of engineering certifications such as the Cisco Certified Design Associate (CCDA), Cisco Certified Network Associate, and Cisco Certified Sales Essentials. He also has Nortel's Network Management Specialist certification, Novell CNE, Microsoft MCP, 3com 3Wizard, FORE LAN Certification and IBM ATM Nways certification. John was a member of the ATM Forum for four years with Ambassador Status and has spoken on the topic of ATM technology for both public and private forums. Mr Breen is currently a member of IEEE and participates in the COM SOC society. He has completed ten Harvard Managed Mentor Service Certifications Leadership on-line training.*



*Steve Bamberger is Chief Operating Officer at Netformx, where he has responsibility for global field operations including sales, marketing and customer services. Mr Bamberger came to Netformx in September 2010 from Oracle, where he was vice president of North America sales for Oracle Communications. At Oracle, Mr Bamberger managed Oracle's BSS, OSS, and service delivery platform businesses throughout the United States and Canada.*

*Mr Bamberger is an expert in business, operations, and network enterprise solutions, and at various points in his career has designed, implemented, tested, sold, and marketed those systems throughout the world. He is a nineteen-year veteran of the communications industry. Previously, he spent seven years with Accenture and twelve years with Silicon Valley software companies, where he has held executive positions in sales, marketing, and business development with Clarify (now Amdocs), Cygent (now Convergys), Vitria Technology, Siebel Systems, and Oracle Corporation. Mr Bamberger holds a B.A. in computer science from Duke University.*

Communications service providers (CSPs) deliver connectivity and services to their enterprise customers across locations, devices, and applications. The challenge of service delivery is increasingly complicated by the pressures for security, reliability, and environmental consciousness and by the technology imperatives to modernize, industrialize, and support mobile and employee-owned devices. Perhaps no technology disruption has been greater than cloud-based services, which ironically expose shortcomings in internal infrastructure even as they purport to eliminate it.

The service delivery challenges associated with these demanding business requirements and technology complications are exacerbated as the demands for enterprise-class services are adopted by the mid-market. Technology design and service delivery solutions that could be profitable 'one-offs' in the Fortune 2000, require a much greater level of consistency and automation to provide the same services down-market. Moreover, these mid-tier companies demand the full portfolio of communications solutions, but often do not have the internal expertise or mechanisms to consume them without help. The burden falls on the CSP to chase down thousands of details to ensure that the solution is delivered flawlessly the first time or risk losing revenue, profits, and customers. In order to remain competitive with the added complexity, CSPs must focus on managing network traffic and bandwidth usage, delivering a high-quality experience to end-users, and constantly innovating services while improving time-to-market. To succeed and win new business, in particular, they must determine how to deliver complex technology solutions in a way that is cost-effective, operationally efficient,

and correctly tailored to each customer's unique requirements. This is where solution management automation and integration becomes critical.

**Automation and integration provides distinct competitive advantages**

Today's information, technology, and communications solutions are diverse bundles of network services, computing infrastructure, applications, and managed services. Designing and delivering these solutions can be extremely complex and time-consuming. The ability to automate and integrate the 'requirements-to-order' and 'order-to-cash' processes is critical.

Without Solution Management Automation and Integration, CSPs face lengthy design and sales cycles. Long sales cycles, often lasting as long as six months, can introduce errors in the design, since there may be many changes arising from the first customer discussion to the last. Without a well-orchestrated requirements-to-order process, CSPs must navigate a maze of manual processes and disparate data sources and formats. Critical information is maintained in non-integrated tools across multiple organizations where coordination becomes a bottleneck. An employee who leaves mid-sale takes valuable knowledge with him, creating disruption internally and potentially becoming a competitor overnight. Information about the implementation must be maintained throughout implementation, or any errors generated will simply be fed downstream and persisted within OSS and BSS systems.

Additionally, if internal teams are not able to effectively and efficiently collaborate with one another, they will often fail to gather a complete picture of a customer's requirements and existing environment.

This leads to the introduction of inaccurate specifications and pricing into designs and proposals, which can cause a ripple effect that cannot be easily managed and synchronized across the various design and sales tools. Complicating this collaboration is the fact that while end-customer solutions are often 'best of breed', many sales engineers are specialists in only a single vendor's products. These solutions architects often lack the extensive multi-vendor expertise needed to correctly collect and translate the requirements into an optimal solution.

CSPs require the right solution management in order to easily and efficiently design, redesign, sell and implement complex, custom technology solutions. Centralized design management allows sales and engineering teams to collaborate and seamlessly exchange information with one another. It also provides a centralized mechanism for maintaining customer requirements and design somewhere other than the engineer's laptop. This collaboration results in faster design and quoting, especially when dealing with custom solutions with non-standard equipment, non-standard service offerings or a combination of both for enterprise customers.

**Assessing the cost of design errors**

A Heavy Reading white paper, 'Rethinking Solution Management and Fulfilment for Complex Enterprise IP Services', assessed the costs related to design errors and reconfirmed the need for automation and integration for solution management. For example, according to the analyst's research, 30 to 40 per cent of IP MPLS orders cannot be deployed as sold. These design errors trigger follow-on costs in a variety of areas, from customer care and support to engineering escalations and truck rolls. As shown in Figure 1, Heavy Reading's analysis demonstrates that a CSP could save an average of US\$18.8 million per year in costs for every one million orders processed. Consider the following scenario:

- Forty per cent of customers have ongoing minor problems - US\$12 cost for each customer support call x 400,000 incidents = US\$4.8 million.
- Average fallout rate that results in engineer intervention is estimated at 40 per cent for complex solutions - US\$50 cost for engineer time per incident x 160,000 incidents = US\$8 million.



Figure 1 - Assessment of costs related to design errors

- Ten per cent of provisioning errors will lead to truck rolls - US\$150 cost for each truck roll x 40,000 incidents = US\$6 million

One of the key benefits of solution management automation and integration is an easily accessible, centralized repository for sales and engineering teams. This repository accurately maintains all work-in-progress and retains all previously designed solutions for referencing. Centrally maintained data provides a framework for collaboration, helping to reduce friction in the sales process. Additionally, the re-use of existing solutions lowers sales costs because team members, with less technical expertise, can take advantage of a repository of previously designed solutions and use them as templates.

By using design templates, teams can more quickly respond to complex customer requirements. Design templates feature reusable components for various profile definitions or recommended solutions, enabling sales and engineering teams to more easily and efficiently respond to and meet the needs of enterprise customers. This leads to improved customer satisfaction, more efficient teams, and more closed sales.

AT&T has tackled these challenges head-on and was able to develop an optimal solutions management system that delivers automation and integration. This new system enables them to face the key technical and business challenges required to meet the evolving technology needs of its customers. Their 1,500-person Global Custom Solutions organization is responsible for designing and delivering custom, end-to-end solutions such as hosted VoIP, unified communications and bundled applications that involve all types of networks including MPLS, Frame Relay, PRI, DSL and VSAT.

To most effectively assist their enterprise customers with implementations and transitions to new architectures, the Global Custom Solutions team has automated and integrated their end-to-end design, sales and provisioning processes. Figure 2 provides an overview of how they accelerated their requirements-to-order process.

- Centralized Repository includes previous design solutions and accurate specifications on more than 350,000 networking elements and devices. The

repository accelerates the design process and enables sales teams to quickly craft 'what if' scenarios for customers. The repository also relies on a decision-support software engine with over 2,350,000 rules to automate the process of analyzing and designing solutions.

- Validated Architecture ensures accuracy in designs.
- Design documentation provides a diagrammatic description of the solution and network topology that facilitates collaboration and provisioning.
- Bill of Materials (BOM) provides an Excel-based list of standard and non-standard elements included in the solution, addressing both new and existing equipment.
- Statement of Work (SOW) provides a customer-facing document that attractively presents the final list of services to be sold to the customer along with a diagram of the proposed solution, all in a standard format predefined by the CSP.

This fully automated and integrated solution management process enables them to use 'drag and drop' operations to quickly build solutions. Additionally, using a single keystroke, sales teams can perform a 'one-click' analysis to check for errors, missing information or conflicting definitions. Flags for non-standard components and inaccuracies in the design are highlighted, and numerous options for addressing the errors are immediately available. All information about hardware, software, dependencies, slot and port allocations, and network topology are clearly documented for easy review and implementation.

Guided selling advisors or wizards for intelligent configuration and validation also leverage the repository to steer customer-facing teams in converting customer requirements into detailed configurations. Specialized advisors address VoIP, unified communications, data centre, and security requirements, which help creating winning solutions faster.

Utilizing a fully integrated and automated solution enables a quicker response to customer changes and requests for customized solutions. By consolidating various configuration tools and sales applications, workflows and procedures were dramatically simplified for design and sales teams. The Global Custom Solutions organization has reduced errors by 40 per cent, opened up productive collaboration across teams (a 20-40 per cent improvement) and now more quickly produces cost-effective and operationally efficient solutions. Designed solutions are also better positioned for successful provisioning of add-on services.

Whether sales teams are creating or managing simple networks or providing complex, custom solutions, Solution Management Automation and Integration has enabled AT&T to significantly streamline its processes and realize greater productivity from resources dedicated to sales, support, engineering and provisioning. As a result, they have improved customer satisfaction and are positioned to win more business faster. ●



Figure 2 - Accelerating the Requirements-to-Order Process