

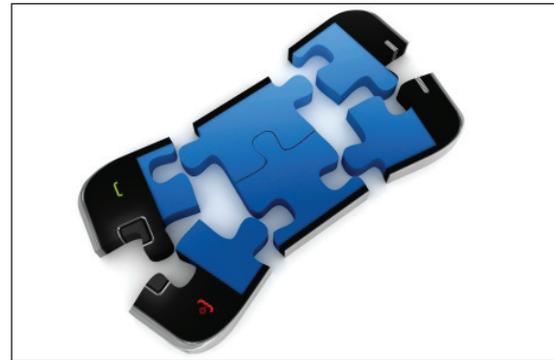
From Bespoke to Standard, Embracing OSS/BSS Standards

By Sanjay Mewada

The pressure for OSS/BSS suppliers to embrace standards has increased as a result of a collective desire on the part of Communications Service Providers (CSPs) to offer more value-added services to a diverse set of industry verticals such as mobile commerce, banking, transportation, and retail. This is the next step in the communications IT evolution from a predominantly bespoke, or custom, software industry; through the COTS, best-of-breed and best-of-suite eras; to a period of predictability and interchangeability where implementation risk and complexity are minimized and where vertical-specific variants of enterprise-grade solutions can be extended to major end users.

Though new to the communications software world, the idea of building multiple product variants off common platforms is not new. Many manufacturing industries, such as commercial aircraft and automobiles, have used this model to great success for many years. In the communications industry itself, the network side has done much better with standardization than IT and operations.

Examples of using standardization to drive down cost and build interoperability are numerous. Starting in the 80's the use of SDH/SONET as the standardized



transport protocol created a foundation for the layering of newer technologies from ATM to Ethernet, to benefit both service providers and users. It also provided vendors with standards they could build to in order to reduce cost and enable interoperability.

Consider GSM as another example. One can definitely make the case that mobile adoption in many parts of the world would not have been as rapid without the GSM standards. The GSM Association estimates that technologies defined in the GSM standards serve 80% of the world's population, encompassing more than 5 billion people in more than 212 countries and territories, making GSM the most ubiquitous of the many standards for cellular networks. With increases in data traffic and packet data, the standard has evolved to accommodate 3G and, ultimately, 4G.

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processes and data models in BSS/OSS. The principles, nevertheless, remain relevant because standardized components, processes, and platforms enable suppliers to create efficiency and predictability in their manufacturing processes, supply chains, and quality without sacrificing much, if anything, in the way of innovation, variation, or personalization. With standardization, CSPs can reap enormous advantages as they deliver a variety of similar services to enterprises that span many industry verticals. They will struggle to realize these benefits, however, if the IT solutions they leverage do not embrace and conform to a range of standards.

The New Business Case for Standardization

Standards and guidelines like TM Forum's Framework, which includes the Business Process (eTOM) and Information (SID) Frameworks, and Carnegie Mellon University's Software Engineering Institute's Capability Maturity Model Integration (CMMI), originally emerged to help drag software development out of the realm of what seemed like black magic, into the more predictable light of proper engineering.

Martin Creaner, TM Forum President and CEO, comments on the value of standards like Framework: "Being a service provider today isn't easy: market saturation and convergence are driving extreme competition, while customers constantly expect more for less. Delivering the right level of service, at the right price — and making a return for your shareholders — is a tall order. As a result, established standards such as TM Forum's Framework enable the development of innovative services and partnerships that ultimately allow businesses to operate with a new level of agility, simplicity, and efficiency."

What makes software standardization so challenging, ironically, is that one of software's strengths is its flexibility. Software allows a talented developer, or development team, to create just about anything it can conceive of with an infinite number of variables for how to achieve the end goal. As a result, the ends — the powerful functionality brought to bear — have often justified the means, like a highly functional software solution that doesn't manage data, present APIs, or exhibit an architecture similar to anything else with which it might someday need to interoperate.

Interestingly, software industries have often rewarded, rather than punished, suppliers for non-standardized approaches. But large enterprises — especially CSPs — have experienced great pain as a result. As their IT infrastructures have evolved, they've suffered many

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failed programs, and billions in excess expense, as they've tried to reconcile disparate architectures, interfaces, and data models in order to create integrated, enterprise-wide IT environments that enable real end-to-end process automation.

In the wake of these expensive pains, standards like TM Forum's Framework and CMMI have gained momentum in terms of suppliers participating in their development and adoption. But many communications IT executives continue to complain about suppliers not driving more widespread adoption of available standards.

Standards like TM Forum's Business Process Framework (eTOM) provide, among other things, structures for defining processes and functionality at a granular level, which makes it far easier for end users to select products, define and automate end-to-end processes, and merge application domains. TM Forum's Information Framework (SID) offers a basis for data and information modeling, which pays dividends in everything from integration and data migration to reporting and real-time analytics. CMMI speaks more to development and implementation methodologies, which are critical for product quality, repeatability, and predictable solution delivery. Ultimately, these standards have the power to free CSPs from the high cost of customization and lack of business agility.

What Software Standards Mean for Business

Taken together, a software supplier's ability to embrace and conform to these kinds of standards is a reasonable measure of that organization's product maturity and quality, its delivery capabilities, and its ability to embrace, overcome, and simplify the extreme complexity inherent in the melding of software and communications business processes. It also sets the stage for CSPs to bring more predictable and flexible offerings to large end users in industry verticals.

The concept for CSPs is similar to that of bringing a line of automobiles to market. All the heavy manufactured parts that require expensive dies and forged steel — like the chassis, drivetrain,

suspension, and engine — are standardized with just a few variables. The same approach is underway for the core architecture, functionality, processes, data models, and implementation methodology in the communications industry. The long history of automobile manufacturing, the collective wisdom of years in perfecting the assembly line, combined with the competitive dictates of the market, have all contributed to the highest level of standardization. In the communications industry, and specifically for BSS/OSS, that confluence of events is now at hand.

Solutions that comply with standards will be functionally well defined, architecturally sound, integration friendly, and more repeatable and predictable through their entire lifecycle — from implementation to retirement. This can free CSPs to engage end users on business issues so the solutions they extend can be tailored and personalized. In addition, CSPs can help their major customers leverage their networks more readily with powerful business capabilities including automated supply chains, secure, global, financial transaction capabilities, and the sophisticated, real-time collaboration needed among the design, engineering, product management, and manufacturing teams that are dispersed around the globe striving to create SONET and GSM equivalents in the BSS/OSS domain.