Next Generation Architectures

Reduce Pressure by Minimising Costs

For the telecom industry, one effect of the recent global economic downturn is more focused management attention on cost reduction and operational efficiency. This has put Billing and Customer Management (B&CM) systems in the spotlight as Communication Service Providers (CSPs) look to decrease their Total Cost of Ownership (TCO).

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Lower the Cost

The resulting pressure to minimise costs must be alleviated without compromising the flexibility and scalability demanded by market evolution and potential growth. It is here that next-generation B&CM system architectures will have a significant impact.

TCO spans both capital and operational cost, and has a number of components. The costs of software, integration, implementation, maintenance, upgrades and operations effort all conspire to increase TCO. Next-generation systems can lower the costs in all these areas.

Service subscribers have lots of choices. They find the right set of features that suit them, passing up those that do not, so they pay only for what they actually use. Service providers who install monolithic B&CM systems are not offered this luxury. Often, the system comprises a single feature set with all the functionality included in the initial price regardless of whether it is used. Next-generation systems are modular – a CSP might choose initially to use the rating component for example, and add billing functionality later. With a modular system, you pay only for what is being used in terms of software, implementation and operational costs, and not the entire package.

Typically, an initial systems implementation is a laborious process. The vast majority of current B&CM systems require customisation to provide the functionality needed for a particular business. The business processes specific to a company are engineered into the system, which requires an in-depth analysis of the business processes followed by a system design exercise, that locks the CSP into a specific business model.

It is quite obvious that customisation adds to the cost of the implementation. It is also typically a lengthy process, and for a CSP rushing to enter a market and start generating revenue, every day spent on the implementation has a direct effect on the bottom line.

Removing this customisation from the equation represents a Holy Grail. One increasingly popular approach is the deployment of rules-based systems. On a basic level, such systems let a CSP easily define its business processes and the business it is in as rules that are executed by the core system, without having to hard code these definitions into the system. With a rules-based system the core software code is the same regardless of the business model. Pre-configured business rules provide the building blocks for any CSP, making implementation as easy as selecting which configuration meets the business need.

Layers of Pre-configuration

The first layer of pre-configuration is a common business framework. This includes the things that every business must do, such as handling late payers. A second layer of business rules then defines the type of business model the CSP operates, for example wireless, IP/data or integrated communications provider. Onto this layered pre-configuration, the CSP has simply to define those rules that make its business unique. As new, unforeseen business models emerge, new rules can be added to support them, without the need to code changes and, if desired, without the need to go back to the system vendor to make the change. Not only does this save money and time, it provides the CSP with the ability to change its business model without having to rework the system at its core level, thereby yielding operational cost and time savings.

System upgrades are today another significant cost. As new versions of the B&CM system are released, CSPs look long and hard at the expense of an upgrade and then weigh up whether the added capability is worth the effort. Upgrades can take months. It is much akin to putting a new, improved tyre on a car but having to rebuild the car to do it. Next-generation systems cut the time needed to facilitate the upgrade to a mere handful of hours. All the business rules, business model configuration and company particulars remain the same. The level of testing effort is then significantly reduced as the existing business rules are run unchanged on the new standard software core, both the business rules and the software core having previously been validated. The only changes that might be needed are those to take better advantage of some specific new function. The upgrade is fast, cheap and relatively painless as compared to that of older systems. Integration, too, can have a major bearing on cost. Integration delivers benefits by raising the level of automation and therefore efficiency of business processes and removing scope for errors associated with re-keying information into stand-alone systems. There are often knock-on effects such as higher staff satisfaction resulting in greater staff retention, which minimises recruitment and re-training costs. However, generally integration solutions are quite proprietary and a change in one of the integrated systems can be a costly and time-consuming process.

Reducing Time

Next-generation systems dramatically reduce the time needed to make integration work. Open Application Program Interfaces (APIs) allow integration with existing legacy OSS so the next-generation B&CM system can interoperate with other components of the OSS portfolio. Furthermore, the next-generation B&CM system's API set can be extended simply by defining new business rules, without the need for code changes. Enterprise Application Integration (EAI) technology then enables integration points to be defined to major providers (Tibco, Vetria, WebMethods and MQSeries, for example) via simple-to-build connectors. Integration of the B&CM system with other OSS components is then handled through business rules (again, this time configured in the EAI tool).

When it comes to day-to-day operations, next-generation B&CM systems also affect cost by improving overall usability. Being business-rules driven, the system is simplified and provides greater throughput. It is also easy to maintain so it requires less manpower. Additionally, the improved usability allows for rapid changes to seize revenue opportunities as they occur. It is possible to add literally hundreds of new services to the billing system in a matter of a few days.

Supporting Customer Self Care

Another feature of next generation B&CM systems is the capability to support customer self-care. Pushing customer-management functions out to the customer provides a "win-win" solution.

The customer's experience is enhanced as they are more in control and able to manage their own affairs. The CSP benefits from greater customer loyalty and increased spending while at the same time reducing its customer-service costs. Unlike legacy systems, next generation B&CM systems take into account rapidly shifting telecommunications business models. They adapt at the pace of the market while legacy systems have to build extensive and expensive bridges to a more dynamic market. The speed, flexibility, adaptability and usability of next-generation B&CM systems all affect TCO. These systems are easy to install, are highly flexible and provide the scalability needed to compete in a vigorous arena. Choosing the right B&CM system is a strategic decision. Next-generation systems not only lower TCO, they position CSPs for the delivery of value-added services which are critical to revenue generation and reducing the TCO of the entire network through greater utilisation. Ultimately, next-generation systems reduce TCO by reducing both direct and indirect costs and adding value. Both are necessary to help CSPs compete successfully.

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