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Service Fulfillment to Span the Gaps in Advanced Video Services

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Communications service providers – telcos – are making major investments to move into the TV business. They decided, essentially, to invent IPTV along the way because, they've argued, it ultimately will deliver more personalization; integrated and interactive content; and advanced advertising options. Contemporaneously, cable operators, or MSOs, are pursuing technologies like OpenCable and Tru2Way aggressively over parallel digital cable and IP networks to deliver similar capabilities and benefits. As they compete, both CSPs and MSOs face similar challenges in enabling these targeted, interactive, integrated, and real-time capabilities. Unified subscriber visibility; the ability to orchestrate processes across product silos; and support for IP real-time service fulfillment will be necessary requirements for making it all work.

Where TV is Headed

Right now, IPTV is still trying to achieve parity with what digital cable already offers. Very quickly, however, the game is shifting toward more advanced video services that go beyond subscription models, mass market advertising and today's set-top boxes. Interactivity and personalization are key next-step capabilities for video offerings. Providers want to enable more forms of on-demand entertainment, premium content, and more on-screen interactivity. They want to drive targeted advertising and promotions to more segmented audiences that are identified through granular data collection and business analytics. They also plan to roll out waves of new set-top boxes that can support multiple sessions, deliver detailed usage data over an IP connection, and support custom screen crawls and electronic program guides (EPGs), among other applications.

All of this architecture is intended to deliver a personalized service experience that can cross multiple domains. For example, providers in Asia-Pacific are already rolling out interactive movie advertisements and services. Viewers can pull up information about a movie; watch the trailer; access multiple theaters' times and seat maps; and purchase their tickets through the TV set. The service then sends their mobile phone a MMS message with a bar code image that replaces a paper ticket and is scanned for admittance at the theater. This kind of service is compelling for providers because it represents multiple revenue streams. There are opportunities to be paid for airing trailers, selling tickets, and for serving the end-

user.

Another common scenario that's on the immediate horizon is where the hard goods world intersects the digital video domain. An example of this includes "lifestyle" packages where a subscription to a certain premium TV channel is part of a bigger offer. For example, with a "Dora the Explorer" lifestyle package, a family would get the backpack, lunchbox, stickers, game, and DVD along with their subscription to all past and present Dora the Explorer programming and perhaps a child-specific cell phone. This kind of offer stretches the fulfillment process out of the purely virtual world and into e-commerce processes that are dependent on physical, manual delivery of the complete product offering. It effectively pulls consumers away from traditional Internet e-commerce and extends service fulfillment processes out of the TV domain and into mobile as well.



Mind the Gaps

There are many challenges in delivering these types of services. They involve interactivity, on-demand content, third-party information and integration, e-commerce financial transactions, and mobile components. The fulfillment process has to account for a number of different sub-processes. First is the on-demand delivery of information about the film, which might include the latest user reviews. It has to provide on-demand video and deliver the correct trailers on request. It has to manage access to the seating chart information and support the seat selection process. In each of these cases, the correct subscriber, authentication and entitlement information needs to be identified and delivered in real-time into whatever systems actually delivers on-demand video and the associated trailer to the set-top box.

The fulfillment process also has to provision a mobile subscription in the lifestyle package, and tell an MMS server to send out a bar code as a movie ticket. In addition, it needs to support and assure the financial transactions, which includes advice of purchase and recovery from transaction failures, credit card denials, and user errors. Once conducted, the process has to be fed into the billing and CRM streams, as well. The whole event must be billed, settled, and supported properly. As well, information about these purchases must be maintained in CRM for follow-up

support and up-sales, and into analytics to help analyze customer propensities.

A fundamental and common challenge for both CSPs and MSOs comes in managing these extremely complex fulfillment processes. Without a centralized point where customer, product, and network information is managed, it becomes very difficult to support real-time systems. Real-time systems execute policy-based processes, but they're only as effective as the systems that support them. Their policies need to be well defined and the information they deliver, or transactions they execute, have to be authorized and completely accurate. The information they need, however, is currently spread across multiple silos that can not and are not designed to support real-time performance.

Find New Requirements

A centralized customer profile, process design and management, and end-to-end fulfillment are critical centerpieces for enabling real-time services. Telcos and MSOs both tend to lack these capabilities or don't have them centralized. Processes are generally designed within and not across silos on separate platforms, so there's no visibility across a process that involves multiple silos. Supporting advanced video services will require an ability to manage process end-to-end across silos. This is necessary because multiple integrated service components need to be orchestrated. Maybe more importantly – a centralized process is easier to design and launch than one that's broken into pieces and spread across silos. The latter already delays time to market for new services and that delay has to be overcome.

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Similarly, customer information is generally spread across product masters, CRM systems, billing platforms and other databases. It is not centralized via data federation into a common profile that can provide a reference point for the fulfillment process. Fulfillment has to execute decisions on the fly that are dictated by customer permissions and policies relating to how different products and services are delivered, for example. Centralizing that information not only enables the real-time process, it also helps support a more streamlined product definition process. A centralized source of customer information is also critical to targeting specific customer segments with “personalized” promotions and advertisements.

As services become more diverse and include hard goods components, integration with third parties becomes a major requirement, as does an extension to the traditional service catalog. Service catalogs will need to be extensible so they can manage services with many components and sub-components that include electronic and tangible third-party products and services. Managing this kind of a micro-supply chain is what enables comprehensive lifestyle sorts of package offerings.

Make Advertising and Interactivity Easier

In the advertising realm, MSOs and CSPs both want to open up more avenues to specific subscriber segments, collect more information that identifies and qualifies their audience, and get a better grip on what people want to see or buy. Initially, this might just involve better targeting of existing adverts, but ultimately it will leverage narrowcasting schemes so that time slots can be sold multiple times and viewers can opt in and out of specific types of ads. Advanced forms of advertising will have their own complex fulfillment requirements and, for example, interactive promotions will be coupled directly with real-time fulfillment processes. The architecture that enables targeted, real-time, and interactive advertising delivery is dependent on centralized customer and service information being available for collection, analysis, correlation, and reporting to support its processes.

Synchronization between the real-time environment and back-office operations will also become a bigger challenge. New information and changes to subscriber profiles will be generated at an accelerating pace as there are more data collection demands from analytics and more transactions viewers can conduct. These changes impact CRM and billing systems that are part of customer service and support processes.

For example, changes from billing relating to customers' account status also need to be communicated seamlessly into the fulfillment process. Real-time service fulfillment depends on communication with billing and charging mechanisms as part of the authentication process. Service fulfillment will execute billable events. In many cases, those events need to be verified or authenticated with a credit card charge or account debit transaction. The record of the user's purchase – the service fulfillment history – also needs to be fed into analytics processes that help to drive up-sales and targeted marketing. This puts a premium on any solution's ability to maintain data integrity between what's happening in the real-time environment and what the back office knows before, during, and after the fact.

In the video world, service fulfillment will enable more complex services to be triggered from the remote. These will combine multiple components from different parties – like order a free sample of a new dishwasher detergent through an interactive TV promotion. One button push can set off multiple fulfillment chains and information exchanges. Service fulfillment needs to open up authorization, entitlement, policy, and services information to third-party partners. Whether those partners are offering applications or hard goods, it needs to be easy for them to on-board new products and access service components they want to bundle with their own. This is a really big gap that service fulfillment needs to span in order to deliver the kinds of interactive video service and advertising environments OpenCable, Tru2Way, and IPTV have promised.

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