

Pipeline

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www.pipelinepub.com Volume 5, Issue 6

Milestones on the Way to IMS *IMS Isn't Necessary...Yet*

By Brian Cappellani

The communications industry's excitement about IMS peaked nearly three years ago, but the technology hasn't become irrelevant. IMS has a future purpose yet to serve, but that purpose hasn't quite arrived yet. IMS, in one form or another, will be a critical enabler for the kind of seamless and ubiquitous service environment found only in futuristic movies today. That ubiquitous service environment is the communications industry's Apollo mission.

We're all working towards the moon landing, but we have a lot to learn and more to fix in order to get there. IMS isn't necessary to enable fundamental service integration in the near term. The Internet, the iPhone, and Skype have already done that. We will need a real-time signaling system that crosses service domains to achieve ubiquity, and IMS is the first attempt at its design. But before we light off the rocket that will shoot us into lunar orbit, there's much to be accomplished back at mission control to make sure the whole thing doesn't explode on the pad.



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Product and Customer Integration

If service ubiquity is the communications industry's Apollo mission, then at best we're in the early stages of the mission. Think about what a ubiquitous environment

entails. It means that subscribers have access to any service from any device at any time. The way things are headed, this set of services will go far beyond communications to span payments, personal preferences, tailored advertisements, rewards program relationships, and all of the privacy and security that will be mandated to go with it.

That's a tall order for an industry that's still struggling to present a single view of customers and product offerings to a contact center agent, to bundle multiple services together, and to present everything on one accurate bill. Most communications providers are still struggling with product and customer information silos that are difficult to integrate and reconcile.

The industry has been working on this problem for nearly a decade, but silos continue to proliferate and examples of successful consolidations are few and most often limited in scope. If service ubiquity is the Apollo mission, then overcoming this specific challenge is akin to developing the Saturn 5 rocket. We're not getting anywhere near the moon without it.

Real-Time Service Fulfillment

Another critical step toward service ubiquity is to achieve real-time service fulfillment. Today we can deliver very specific instances of real-time services. Google can deliver search results and tailored ads in real time to any Internet-capable device. Cable operators can deliver movies and TV episodes on demand from massive content libraries. But IMS promises to give us access to any service connected to any network any time we want it. The problem is IMS only deals with signaling and setting up connectivity and QoS. Something else needs to tell IMS what to do and whether or not to do it.



Policies, permissions, and rules govern the execution of real-time service fulfillment processes. These are impacted by accounting checks; parental controls; privacy factors; the ability of the network and devices in a transaction to do what the user wants; and security authorization and authentication steps that limit or allow access to certain types of information, transactions, or content. Real-time service fulfillment systems are needed to stage all of the information that determines the

“yes” or “no” decisions that make up an executable chain in a fulfillment process. IMS needs that information to function.

Currently, all of that information lives in back-end systems, is constantly changing, and isn't always accurate – which was our initial problem. The related problem is that all of the necessary information isn't accessible online or in a common format. Some SOA projects are attempting to identify this kind of critical information, standardize it, and make it accessible in real time, but these are by no means mature efforts across the entire industry.

Leaders like BT are showing that SOA programs can succeed, but not every CSP is on the SOA bandwagon and of those that are, not all are using the technology for this purpose. Most are using it as another means of creating point-to-point integrations, which will likely replicate the inflexibility problems that already exist in many large, integrated IT environments.

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Customer Profiles and Preferences

The movie *Minority Report* shows us a vision of where personalized advertising might be headed. As Tom Cruise runs through a shopping mall, interactive advertisements call out to him by name and holograms jump out to greet him, offering help and asking him how he liked the sweater he'd bought. What the movie wizards left out was the ability for Tom to say “shut up,” or “go away” or more politely “thanks, but I'm not interested.” This would be an intuitive means of setting user preferences, which will be critical as advertising becomes more personalized.

The cable industry is already moving to a near-term vision of this sort of interaction. Their idea is to drive advertisements and applications to subscribers based on their usage and potentially on their preferences. It makes sense to let people tailor their experience so that the stock ticker shows their portfolio and the weather and traffic overlay relate to their location. It also makes sense to offer people things they might actually want to buy, rather than broadcasting anything and everything to them. DVR uptake has shown that many people prefer to avoid commercial interruptions, but the Internet has demonstrated that “if you like this, you'll love this” advertising can work.

If IMS is going to deliver personalized advertisements, promotions, and information to users, then it needs to operate off of a common customer profile. The profile needs to tell the signaling layer where the user is; what device he or she is using; what he or she is viewing or doing at the time; what his or her preferences are; and summarized information about the user's viewing history. For instance, a male subscriber's profile might indicate that he's a documentary and sports nut who likes James Bond and Western films.

This information would be collected from a variety of places, such as the network, customer care portals, set-top boxes, mobile devices, and billing systems. It would have to be 100 percent accurate and also accessible in real time. The SCTE 130 specification is laying the groundwork for a subscriber information system (SIS) that would provide this kind of functionality, but only within the cable TV domain for now.

Payment Systems and Billing Transparency

Payment systems will represent a key integration point in enabling service ubiquity. Credit cards have already merged with landline, mobile, and Internet services, but not yet in a way that makes every transaction seamless. Retailers are beginning to provide mobile Internet experiences, promotions, and payments through the wireless channel. Interactive TV is close behind. But integrating these services, delivering the "I've been here before" functionality sites like eBay provide, and ensuring privacy across service domains still needs to be accomplished.

New requirements for billing transparency will come along with integrated payments. Though CSPs are often removing usage detail from bills, it doesn't work for credit cards. People won't use the payment channel if they don't feel they can control it, so billing must continue to provide detail. This detail likely will include location and presence or status information.

Security and Privacy

Advice of charge will also be necessary, as it is on the Internet, as part of the payment authorization process. This makes sure your mobile phone doesn't accidentally buy a Ferrari. Delivering an advice of charge message and the charge amount to a user presents another fulfillment process. It will require real-time fulfillment of information from the correct system to the user in the correct format, and may incorporate personalized upsale offers.

Beyond protecting the user from himself, an open mobile payments environment creates new opportunities for crooks to steal identities and account information. Transactions need to be transparent in order to help customers protect themselves and security must be in place to separate the user from personal information. A PayPal-like payments model—where the authentication process is integrated into the fulfillment chain, but the user can choose from multiple payment options through a unified identity—will be an integral component of service ubiquity. The authentication processes around it will need to be unbreakable.

Creating A Place for IMS

Asking whether IMS is necessary is like asking Charles Lindbergh whether he wants

to fly United or American to Paris. It is necessary for the industry to think about how it will solve some big challenges when its future catches up with it. We're in the early stages of this emerging, and financially promising service model, but that's usually when the hardest work is yet to be done.

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