

## Objects in LTE May Be Closer Than They Appear

By Ed Finegold

I think LTE is for real and may be closer than we realize. Usually I am skeptical about emerging trends that tend to be overly hyped. In LTE's case though, I see some key factors that tell me that operators and the market are ready for LTE in many important ways. Perhaps the most important factor, from a business perspective, is that billing is ready and waiting for LTE to catch up.

"(It) isn't just about prepaid and postpaid wireless and wireline, but also about riding through the transition of the networks," says Jennifer Fellows, vice president of product management for Billing & Charging for Intec. Moving to LTE is part of a natural progression we've seen accelerate in the



charging in particular – the 3G environment shows us that current billing technology can handle LTE.

The billing industry has been on the "bill for anything in real-time" path for years now. We see it in the on-demand services that are delivered through mobile devices, set-top boxes, and

past decade. 3G wireless is definitely a precursor to the common vision of the coming LTE environment. There is a lot of work to be done to deploy LTE network architecture and to make it all work, but from a business systems perspective – billing and

broadband access. We also see it in markets where real-time prepaid, value transfer services, and direct-to-bill charging have become or are becoming commonplace.

"We've ridden this wave before," says Fellows of Intec's readiness for the move to LTE. "We've been

offering real time services for seven or eight years now and we have a lot of experience doing this.” Intec and other billing vendors have already delivered content-aware charging and can bill for anything on a service-agnostic basis. They can measure it. They can define it. And hence, they can bill for it. In that sense, billing systems- and in many cases implemented billing infrastructure- is waiting for LTE to catch up.

### The Demand Curve

A critical business question is whether the demand for LTE services is there. I believe it is. When AT&T Wireless has to ask its iPhone users to back off of their data usage because the 3G network can't handle it that tells me there's already growing demand for what LTE is supposed to do. The iPhone is overused as an example, but it shows us

small portion of the mobile market even able to use apps, developers are asking and earning \$50K or more to develop a single, simple iPhone app. When I see every form of messaging, plus full-blown Internet, plus specialized apps, plus capabilities like Skype available on mobile devices, it tells me that our mobile society is ready and maybe even chomping at the bit for what LTE promises.

### What's the Hold Up?

Coming back to reality, we still need to look for barriers to LTE. "It's a matter of managing through the legacy environments to get to that LTE nirvana," says Fellows, "but it's not especially difficult because of LTE." The issue for major telecoms carriers is always how to mesh new offerings, and new networks, with existing assets



that people want a full-blown mobile Internet experience. Personally, I'm excited to see what my new Blackberry Storm 2 can do online as compared to the somewhat disappointing experience I've had with an aging Curve.

From an applications perspective, LTE will only make a growing trend more explosive. Apps development is huge now. Even with a relatively

and infrastructure. This is especially true now because there is so much scrutiny on capital and operational expenditure and a load of pressure to deliver more with restrained resources. The industry can't, and won't, simply throw money and processors at this challenge. But that set of issues isn't specific to LTE, it applies to all initiatives across the industry.

Operators are saying “I don’t want to invest a whole more in servers and such,” says Fellows. They’re asking, “Do you have something that can run on open source and Linux, and is there a nice way for me to evolve to LTE in a cost effective manner?” she says. The good news here is that, once again, billing is ahead of the game. Most major billing platforms are available on lower cost, open source platforms. Fellows says operators’ data centers are already shifting in this direction because they prefer not to be locked into one vendor – Linux gives them freedom – and they love the cost-to-performance benefits they can realize. While LTE’s emergence may not be rushed due to tighter purse strings, that’s probably a benefit. It may be built out right the first time with efficiency, integration, and flexibility in mind.

### **Policy Management and the Death of IMS**

One area where things aren’t smooth, however, is policy management. “It’s a concern for operators who aren’t sure how it all fits in their legacy environment,” says Fellows. She says that most of the confusion “tends to come in as vendors position their solutions as one stop shops, but that may not be applicable.” In a cost-conscious environment, operators want to leverage what they already have and fill in the pieces that are missing. If policy management vendors all claim to do it all, says Fellows, it’s tougher for operators to understand which bits they need and where to find them.

Though Fellows doesn’t necessarily agree with me, I’d like to pin this problem on the death or failure of IMS. I found quite interesting the recent news that the IMS Forum is now officially the NGN Forum. IMS was the hottest phrase in the market a few years back, then met great scrutiny and doubt, and now seems to be taboo. We’ve seen many vendors recast policy management platforms as HSS and other IMS related components, but clearly

there’s a definition problem here. There are many levels of policy management that apply in a real-time service environment and operators need vendors to help sort out one form of policy management from another with good definitions. That doesn’t mean we need a new standards effort, it just means we need some basic agreement on the big animal pictures level.

IMS tried to solve this problem before it emerged, but the spec is awfully complex and still not very well defined. It may have allowed vendors to have too much flexibility and many argue that the standard was hijacked by competing vendors who wanted to push their own interpretations. Now we have a fragmented, post-IMS market that is difficult to navigate. I don’t think the right answer is to try to revive and fix IMS. I think it’s up to operators, through tough contract terms and well defined incentives, to push the vendor community to clarify its offerings and deliver to the actual rather than the philosophical need.

### **Closer Than What?**

To say LTE is “closer than we realize” is admittedly vague. I’m not sure there’s universal agreement on when a real LTE environment would emerge, or what a “real” LTE environment is. To me, LTE means that we have a seamless network, including robust wireless broadband, which supports service mobility across all access devices. It doesn’t necessarily need to be wireless end to end, but it needs to have more potent wireless data capabilities than 3G networks currently offer. There are already examples of out there of opportunistic service layers where services are delivered based on the best available means. In my mind, that’s a critical part of shifting to the LTE vision and it probably presents the biggest challenge for operators’ OSS and BSS infrastructure.

The good news though is that we don’t need to replace the entire network. We also don’t need to

invent a lot of new stuff to make the move to an LTE environment happen. And, we don't have to teach users much that they haven't seen or imagined before. That's why I think LTE is something we'll be using within two years, and will be prevalent in fewer than five. Think about it – no one had an iPhone until June of 2007. Within two and half years, we've been through three iterations of the device and users are already pushing it beyond what the 3G network can deliver. That's the main reason I'm optimistic about LTE. People who spend money, many of whom are people who invest money, want it now. With pressure from Internet competition helping to ensure operators can't drag their feet, and growing demand from high end and influential users, LTE suddenly seems realistic.