



## Advisory Report

# The New Mantra for Operators: The Network is the Phone



**Joe McGarvey**

Principal Analyst, IP Services Infrastructure

September 8, 2009

### ■ Summary

If ever there was a case to be made for the superiority of intelligent end points in a communications system, it is the Apple iPhone. It's virtually impossible to attend a public event without spying a hand, belonging to anyone from 16 to 60, clutched around an iPhone or manipulating one of the several thousand applications the platform now supports. In telecommunications circles, it's the first gotta-have gadget of the 21st century. While many industry observers claim the coming of the iPhone and other smart end-user devices portend the end of the decades-old debate over where computing intelligence and control should reside in a communications network, the reality is that operators should emulate rather than surrender to the iPhone/App Store business model.

By slightly altering an aphorism from the early days of the Internet as a commercial platform – “the network is the computer” – mobile and fixed operators have the opportunity to provide all of the subscribers attached to their networks, regardless of the end devices they use, with an iPhone-like experience. For “the network is the phone” model to gain traction, however, operators will need to open up their infrastructures to a degree in which accessing the functions and resources in a carrier network is as easy as building iPhone applications.

### ■ Current Perspective

It doesn't take a Wall Street wunderkind to draw parallels between the coming build out of mobile data networks and the massive expansion of fixed links to the Internet that began in earnest several years ago. Many of the same economic forces that persisted during the fixed broadband expansion of the Internet are once again at work, as high-speed mobile broadband technologies, such as HSPA and LTE, promise to bring a torrent of bandwidth to devices attached to mobile networks. On several levels, history is repeating itself, as fortunes are to be made and empires built by extending the full force of the Web to potentially billions of wirelessly connected devices. Even the ‘religious’ battles that first flared and then festered in fixed-only settings are being extrapolated to the mobile domain. The most prominent of

## Report:

**The New Mantra  
for Operators:  
The Network is  
the Phone**

IP Services Infrastructure

An operator-based App Store would be considerably richer and broader than a device-oriented App Store, as developers would have access to network-based information.

those holy wars – waged over the issue of whether intelligence and horsepower should be located in the network or in devices – is now being extended to the mobile battleground.

The central argument over where intelligence should reside was most famously framed by Sun Microsystems CEO Scott McNealy in the 1990s, who declared that “the network is the computer.” More than a decade after McNealy uttered that aphorism, both sides of the debate still have their adherents and both sides sense an opportunity to settle the matter once in for all in the wireless venue. For obvious reasons, network operators have a major interest in the outcome of the struggle over the location of intelligence and control in public communications systems. The corollary to the intelligence battle, of course, is the so-called dumb pipe argument. If it turns out that the predominant business model of 21st century communications and entertainment providers is to feed applications and services to intelligent end devices over a passive transport vehicle, telecommunications and cable operators will be relegated to serving as plumbing, a less-than-attractive fate, especially in the context of the all-you-can-eat bandwidth model that consumers now consider a birthright.

It is against this ominous backdrop, then, that network operators should resurrect and revitalize McNeely’s aphorism. Though the Apple iPhone and other intelligent mobile end devices have proven beneficial to the immediate interests of some carriers, in the long-term they pose the biggest threat to operators’ aspirations to grab a share of the service revenue stream beyond being a bandwidth provider. For the sake of their ability to generate new revenue in the future, operators need to rally behind a new spin on an old mantra: “The network is the phone.” The concept behind the motto is simple. If operators are going to provide value on top of the services that traverse their networks they will need to leverage the unique assets of their infrastructures and back-office systems by making them available to third-party partners and developers. There is nothing particularly new about this strategy, which has been advocated over the past year or so by standards bodies and equipment makers under various metaphors and slogans, such as “service enablement,” Network as a Service (NaaS), the “Multimedia Marketplace” and the “Two-sided Business model.”

The thrust of the strategy is for operators to create a new source of revenue beyond that which they glean from providing services to subscribers. Third-party partners, such as advertisers, Internet-based service providers and application developers, the theory goes, will pony up to tap into an operator’s natural resources, such as payment systems, customer profile information (including presence and location data), QoS and policy control capabilities and the operator’s ability to move services between multiple devices. “The network is the phone” approach comes into play as a defensive counter to the popular App Store model that is gaining traction as a method for harvesting hundreds or even thousands of applications that can be used to generate revenue or, moreover, create loyalty for a particular end device, such as the Apple iPhone.

In theory, if operators expose the functionality and richness of the resources contained in their networks in a manner that makes them as readily accessible to the developer community as Apple has made the iPhone, third-party developers will be incentivized to create applications that are compatible with an operator’s (or multiple operators’) network. An operator-based App Store, however, would be considerably richer and broader than a device-oriented App Store, as developers would have access to network-based information and all applications would theoretically be compatible with all devices connected to the operator’s network – not just a single brand of mobile phone.

Admittedly, “the network is the phone” business model is a utopian ideal. Will operators be able to expose all of the functionality of their networks to third parties? Will services

## Report:

## The New Mantra for Operators: The Network is the Phone

IP Services Infrastructure

The longer operators delay opening their networks to developers and other third-parties, the greater the progress over-the-top (OTT) players will make toward capturing subscriber loyalty.

created to run on a network rather than a specific device work on every handset, PC or set-top box connected to an operator's network? Will developers be discouraged if they need to create applications for each operator's network? If operators agree on a standard that will enable developers to target multiple networks by writing to a single API, how will operators differentiate their services? All of these questions point to potential roadblocks in the path toward a network-based application store. But that doesn't mean operators should quit before they even get started. The stakes are high and the timing is urgent. The longer operators delay opening their networks to developers and other third-parties, the greater the progress over-the-top (OTT) players will make toward capturing subscriber loyalty. Identifying a new business model is, of course, a world away from actually realizing it. It's no secret that any major business transformation requires an equally ambitious transformation of a carrier's service delivery infrastructure. Existing telecommunications networks are currently

not set up to accommodate a two-sided business model. Operators have been selling services and building relationships with subscribers for the past 120 years. That side of the two-sided model is old hat. Establishing a sustainable revenue arrangement with hundreds or even thousands of partners, who are consuming network assets rather than services, is completely foreign to most operators. For operators to insert themselves effectively into the revenue streams of third parties they must implement three generic adjustments to the way they currently do business with partners: automate, open and monetize.

- **Automate:** Even the largest carriers can manage only about 50 third-party relationships that are administered on a "manual" basis. As operators move to a business model that requires the establishment of relationships with hundreds or even thousands of partners, they must have business processes in place that handle the management of these relationships and the lifecycle of the services these

partners provide. Operators must now be able to manage millions of subscribers, thousands of services, thousands of partners and hundreds of pricing scenarios. The only way to accomplish this feat is through automation.

- **Open:** Applications that access the underlying functionality of a telecommunications network are currently difficult to build and are based on complex service creation systems. Operators are not able to attract developers or third parties that will pay to tap into their resources if those resources are difficult to incorporate into services or applications. Operators must expose underlying telecommunications functionality and resources, such as payment systems and subscriber data, through easy-to-use and accessible APIs.

- **Monetize:** Operators currently do not have an automated means of making sure they get paid for the assets that are utilized by third-party partners. They desperately want to avoid a repeat of the all-you-can-eat business model that has crippled their transport businesses. Operators must put in place a payment scheme that is favorable to themselves and ensures that they are properly compensated for the value that their networks provide in the service delivery chain.

The destination of a two-sided business model and network-based application store can be reached by multiple routes, which are often overlapping. Accordingly, most operators are likely to pursue the objectives of automating, opening and monetizing their network through a combination of options: service delivery platforms, industry standards and initiatives and outsourcing. While early SDPs were defined primarily based on their ability to facilitate the delivery of services to telecom subscribers through storefronts and content management systems, a crucial addition to the second-generation of SDPs is a focus on the third-party side of the two-sided business model. Nearly all SDPs, from traditional

Report:

**The New Mantra for Operators: The Network is the Phone**

IP Services Infrastructure

telecom vendors, such as Alcatel-Lucent, Ericsson, Huawei and NSN, and IT houses, such as IBM, HP and Oracle, offer capabilities for enabling a wholesale-oriented business model. A common element is a third-party gateway, supporting Parlay X, native and Web services APIs and interfaces, which is primarily used to expose the underlying functionality of the network to advertisers, developers and OTT service providers. It is by combining this gateway/exposure capability with automated lifecycle and device management that operators can form the foundation for a network-based app store.

Playing a supporting role to the expansion of SDPs in building a two-sided business model are industry standards and initiatives. Some industry bodies, such as the Open Mobile Alliance (OMA), are defining common enablers, such as presence servers, that will empower operators with the ability to reuse functionality across multiple processes and establish a horizontally-oriented architecture. Others, such as the TM Forum (TMF), which now encompasses the IPsphere Forum, are dedicated to defining common operational procedures or creating industry standard processes for monetizing relationships between third parties and operators. Though operators are following some of these groups and their recommendations, such as the OMA's efforts to standardize common enablers, they are wisely leery of rushing into a monetization scheme that could potentially favor content providers and third parties.

The all-you-can-eat pricing scheme that these operators must now live with on the transport side has been a major financial burden – as bandwidth demands grow at a much faster rate than revenue. The last thing they want to do is rush into a revenue-sharing scheme with third parties that does not scale as the demand for network services from subscribers in-

creases. A common approach to opening up networks that has found some support in Western Europe is the GSMA's OneAPI initiative, which is being spearheaded by Aepona.

The third option available to operators that are working toward opening up their infrastructure and resources to developers is to outsource the chore to a systems integrator or equipment supplier. Ericsson has established a brokering service that essentially functions as a middleware layer between content providers and operators. Under this model, Ericsson takes on the task of exposing underlying network functionality, such as location information, to third-party content providers.

The major advantage of this model for operators is that they outsource the heavy lifting associated with exposing and monetizing their network assets to a partner. The Ericsson Internet Payment eXchange (IPX) makes great sense for Ericsson, of course, as it enables the equipment supplier to insert itself into the revenue stream between operator and third-party content providers.

The possible trade-offs associated with this outsourcing model is that operators may prefer to make one-time investments in equipment, such as software and products offered by SDP suppliers, to create their own infrastructures for dealing with third-party partners. An operator-created and managed app store would presumably offer the carrier greater latitude for customization and differentiation than an outsource model – not to mention the added benefit of cutting a middleman out of the revenue stream. Regardless of the blueprints operators follow to construct a two-sided business model and application store, the finished projects must provide the carrier with the ability to capture revenue beyond that realized through basic transport services. Unless operators can somehow stuff the all-you-can-eat genie back in its bottle, carriers will continue to be the beasts of burden forced to carry ever-increasing quantities of digitized information for the same \$29.95 a month. It doesn't take a Nobel laureate in economics to recognize that that is not a sustain-

Unless operators can somehow stuff the all-you-can-eat genie back in its bottle, carriers will continue to be the beasts of burden forced to carry ever-increasing quantities of digitized information for the same \$29.95 a month.

## Report:

**The New Mantra  
for Operators:  
The Network is  
the Phone**

IP Services Infrastructure

able business model. Though operators – both mobile and fixed – may never fully realize “the network is the phone” ideal, working toward creating an alternative revenue stream through the monetization of their unique assets is their best bet for obtaining a competitive position among 21st century communications providers.

**Recommended Actions****Recommended Vendor Actions**

- All SDP suppliers need to focus solution development efforts on helping operators expose access to their unique assets and resources, such as payment systems, customer information and QoS/policy control capabilities. This exercise, however, should be done in tight coordination with efforts aimed at enabling operators to monetize their relationships with third-party partners. Exposure and monetization should be thought of as crucial requirements of network transformation and should both be tackled in concert but SDP suppliers.
- All suppliers of SDP solutions need to concentrate on immediate development efforts on the wholesale side of the two-sided business model. Though subscriber-related issues are obviously important to operators, SDP makers should recognize that operators are looking to expand relations with third-party partners well beyond existing relationships, a process that will require significant product and services assistance from their infrastructure equipment suppliers.
- SDP suppliers should find-tune the capabilities of their respective solutions that empower operators to automate common and not-so-common tasks. SDPs must have the facilities to enable operators to expand the number of third-party partners they currently work with and subscriber options they currently offer by several magnitudes, while at the same time reducing operating expenses.
- SDP solution providers need to step up development of offerings to customers that enable the carrier to create an app store that is based on the same model as the highly successful Apple iPhone App Store. Operators should look to extend the Apple model to include multiple devices that attach to their networks, enabling the operator to attract developers by supplying nearly its entire subscriber base (regardless of end user device) with the ability to consume services from the operator-based App Store.
- SDP makers need to follow their customers’ lead in pursuing the adoption of industry standards and industry initiatives. Equipment suppliers should make sure operators are comfortable with proposed standards for opening up or monetizing network assets before putting full support behind these initiatives or standards.
- SDP solutions providers should construct a plan that would enable them to insert themselves into the revenue stream that operators will presumably tap into by opening up their network assets to third parties. Competitors should pursue a brokering or outsourcing solution similar to Ericsson’s IPX as an option for carriers that are looking for a third-party buffer between outside agents and the operators’ network functionality.

**Recommended User Actions**

- Though “the network is the phone” service delivery model represents a utopian ideal, operators should strive to expose their network resources in a manner that will attract third-party partners and developers en masse. By creating an application store that offers services

**Report:****The New Mantra  
for Operators:  
The Network is  
the Phone**

IP Services Infrastructure

that are applicable to most of the devices that are connected to their networks, operators will have success in attracting and retaining subscribers.

- Operators should not give up completely on the prospect of leveraging the assets that differentiate them from over the top service providers, such as payment systems and customer information, to enhance their own service offerings. Though carriers ultimately cannot provide all of their subscribers' services requirements, they should exploit opportunities to deliver services that Internet-based service providers would have a difficult time competing against, such as those that leverage context-based data, such as the customers profile or location.
- Network operators need to closely follow industry standards and initiatives regarding the exposure of network assets and the monetization of those assets. However, operators should exercise great caution in adopting a format or system for remuneration for use of their assets that does not enable operators to realize the true value of their unique assets – now and into the future.
- Operators must weigh the relative merits of building out their own application store through the exposure of network functionality in the form of easy to use APIs against an outsource approach. Operators considering outsourcing the exposure and monetization of internal assets to third parties should closely evaluate Ericsson's IPX offering.
- While operators must put a new focus on building out the wholesale side of a two-sided business model, carriers cannot take their eye off of the subscriber side of the model. Though revenue generation from third-party partners that tap into network resources will make up a significant percentage of an operator's revenue at some point in the future, carriers will glean the vast majority of their revenue from subscriber services for the foreseeable future.