

Mobile Messaging 2.0

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1 Mobile Messaging 2.0

The mobile messaging market, like many others, is in a perpetual state of change, with phenomenal growth that has taken directions few could have predicted. What started a few years ago as the emergence of groundbreaking market shifts is now coalescing into a new vision for using and enabling mobile messaging technology — Mobile Messaging 2.0. This newest addition to the world of 2.0 is surfacing in many areas and has the potential to provide a win-win for mobile operators and subscribers alike.

2 Taking its place with the rest of the 2.0s

When you look at any of the 2.0s – Web 2.0, Enterprise 2.0, Business Intelligence 2.0 – they all have the confluence of certain market-driving trends at their core. Mobile Messaging 2.0 is no different.

One need look no further than the recent evolution of the Internet to see how mobile messaging will evolve in the next year or two. Web 2.0 makes the Internet more of a shared community versus a one-dimensional flow of information between static Web sites and individuals. First-generation Internet networks had limited capacity and capabilities, constraining what users could do. But as throughput became faster and more reliable, and as hardware and software became protocol agnostic, the Internet blossomed into a user-generated forum for exchanging ideas.

The result? Users are discovering new ways to find, produce and share information. For example, personal Web pages and Britannica Online are giving way to blogs and Wikipedia. Multimedia podcasts and blogs make ordinary people on-air personalities and professional writers respectively.

Imagine what users will do with Mobile Messaging 2.0. One by one, technologies, pricing models and vendors have emerged that are dramatically affecting the future of the mobile messaging industry. And now even more revolutionary applications like Twitter are emerging with potential to generate more revenue for operators – if they can determine how to capitalize on the opportunities. Just as with Web 2.0, more powerful networks and more advanced hardware and software that run on them are enabling users to do more with messaging. This new generation of messaging technology is transforming the one-size-fits-all short message service (SMS) to user-defined, rich-media messaging where users have much more control over how they communicate with others.

However, Mobile Messaging 2.0 does not drive benefit only for subscribers. It also incorporates an emerging set of principles that will guide operators in the development of next generation mobile messaging networks. At its heart, it is a fundamental shift away from 'network defined messaging' to 'user defined messaging' that has the potential to benefit everyone.

3 Finally! What took so long?

To understand the mobile messaging industry's future, we need to understand its past. The industry did not define how to build a messaging architecture. Computing power, system availability, and network limitations and restrictions defined the framework and constraints within which we worked.



The mobile messaging market has undergone a series of shifts as it reacts to subscriber usage pattern changes and incorporates newer technologies. The first generation of mobile messaging solutions (notably text messaging) ran on relatively inefficient networks featuring spotty coverage, immature handsets and limited interoperability between networks and devices. These conditions meant that less than 20 percent of text messages were received on the first delivery attempt. These constraints forced operators to deploy massive systems that incorporated not just delivery and elaborate control functions, but also large storage capacities to save the undelivered messages.

Today's networks are much more efficient, coverage in most regions is very complete, and handsets and networks have greater interoperability. As a result, more than 80 percent of text messages are received by the intended subscriber on the first attempt. This improved environment means operators need less storage capacity for undelivered messages. The telco computing environment has also followed Moore's Law providing greater computing capabilities and capacities that provide more and better features than five years ago. Therefore, messaging platforms can now be componentized into access and delivery, storage, control, and application – permitting each to be scaled based upon the performance needed. This transition enables operators to reduce operating expenses (OPEX) and capital expenses (CAPEX.)

4 Messaging for “Me” — not the network

So the networks and technology have reached new levels of maturity. Now what?

It's time for users to start having more control over how they communicate with each other. The fact that *Time* Magazine's Person of the Year for 2007 was 'You,' signals an era of increasingly individualized and powerful demands. The newfound power of 'You' will not only change the world, but also alter the way the world evolves. The mobile industry is no exception and we are already seeing the impact in the mobile messaging demands of subscribers worldwide.

Again, looking at how the mobile messaging industry evolved, there have been numerous milestones, most often measured by visible technology “firsts.” Underlying these technology introductions have been drivers relating to user demand and business imperatives. The introduction of SMS was really driven by the need for a more user-acceptable method of receiving voice messages. Similarly, revenue opportunities available from person-to-person (P2P) SMS began to grow, followed by the emergence of application-to-person (A2P) SMS. The first A2P SMS service was actually an online joke telling service (1996). The connection wasn't via an operator, it was a global system for mobile communications (GSM) mobile phone acting as a transmitter connected to a computer. In 1998 operators started to allow connections from third parties, which then sparked the gateway market's birth. Subsequently, P2P multimedia message service (MMS) then A2P MMS drove the technology development of short message service center (SMSCs), multimedia messaging service center (MMSCs), and eventually combined SMS/MMS gateways.

This interrelationship of operator business needs and subscriber demands dictating technological responses is an important Mobile Messaging 2.0 driver. This dynamic has never been more vivid than now with consumers wielding more power in every area of business – including mobile messaging services. In a world where infinite choices are available in virtually every other facet of life, mobile subscribers' patience for network- or operator-imposed limitations on their choices in mobile messaging has run out.



5 MM 2.0: An important and welcome development

Market pressures on mobile operators are well-documented and often conflicting. Network interoperability, handset diversity and capability, and faster new service deployment all increase infrastructure complexity as well as security threat vulnerability. Dealing with these issues increases costs. To survive, operators need to reduce capital and operating expenses while simultaneously enhancing their networks to support increased messaging traffic with the deployment of additional value-added services. They also need to increase revenues and margins while attracting new subscribers, which often requires heavily discounting services.

Ironically, as operators seek to maintain tighter relationships with their subscribers, number portability and more sophisticated subscribers increase the likelihood of subscriber churn. The number of younger subscribers is constantly growing, meaning there are more customers who are willing to shop for lower prices and better features. They'll be glad to use number portability to make the transition easier.

Mobile operators must adopt more open technologies and architectures to address market demands such as number portability. These architectures will also enable operators to more quickly test, deploy, support and differentiate new services that will provide new revenue streams as well as help retain subscribers. Mobile Messaging 2.0, the next stage in the mobile messaging evolution, defines new business drivers for the latest technology wave and the subsequent set of opportunities for mobile operators to capitalize on the shifting dynamics to establish themselves as the new leaders.

6 You say you want an evolution...

Mobile Messaging 2.0 is arguably the most significant stage in mobile messaging yet, and though the apparent revolution is underway, this change is as much evolutionary as revolutionary. Mobile operators have invested a great deal in their mobile infrastructure that should be leveraged, not disrupted. Beyond the significant financial investments, there are the investments that have been made in testing, integrating various elements, developing and training support staff and procedures. Vendors that suggest replacing that proven infrastructure with new IP multimedia subsystems (IMS) products or other forced replacements are missing the point. Mobile operators need to add required services, capabilities and capacity to enhance their infrastructure, not replace it. In a phased approach, operators should have the option to phase out infrastructure elements as they are no longer needed to reduce operating costs.

The architecture changes recommended by Mobile Messaging 2.0 will not occur as a big-bang deployment but will evolve over several years. First to collapse will be the similar architectures or technologies that are currently connected by bridging gateways, connecting SMS and instant messaging. Next to collapse will be the similar IP architectures of MMS and email architectures that incorporate all multipurpose Internet mail extensions (MIME) types as part of their current end-to-end delivery. Lastly will be voice services that define session and deferred based architectures (i.e. push to talk and voice mail respectively).

7 Moving from silos to tiers – without tears

To begin the evolution to Mobile Messaging 2.0, operators should break previously monolithic infrastructures into tiers. Doing so will allow them to create an underlying messaging



infrastructure that is cheaper to manage and more flexible for service and feature deployment. The tiers include:

- access and delivery – integrating messaging components to the core network via standard interfaces;
- control – providing network and business logic to route messages to subscribers and/or applications;
- storage – storing traffic that isn't delivered on first attempt; and,
- application – executing the logic for high-value combinational messaging services incorporating network enablers (i.e. presence) to execute the end to message.

This tiered architecture allows operators to reduce CAPEX and OPEX. Historically, operators deploying silos of messaging applications had to duplicate access and delivery, storage, control and application capabilities across the infrastructure. Scaling the business to meet increased demand was expensive.

The Mobile Messaging 2.0 architecture allows operators to independently scale any of these four tiers across the infrastructure to support SMS, MMS, and other forms of messaging without incurring the costs of over-buying capacity for any one service or infrastructure tier. Operators providing text, picture and instant messaging can use this type of architecture to create a common notification and delivery system spanning each service, as well as common interfaces and message stores. This approach gives operators a unified view of previously siloed networks, but also provides the ability to add capacity only where needed.

A tiered architecture also allows operators to respond to market conditions more quickly by enabling them to launch new services fast to meet customer demand. New services and features easily plug into the common infrastructure, helping drive revenue without significantly increasing OPEX.

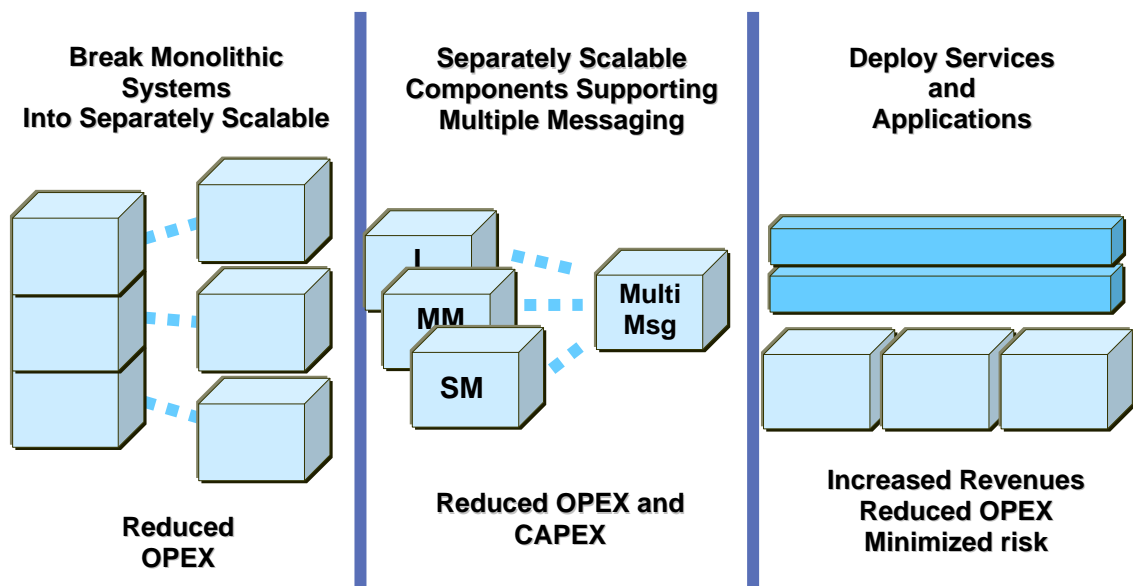


Fig. 1 Mobile Messaging 2.0 A Practical Pathway To Evolve Mobile Infrastructure



8 Benefits all around

The Mobile Messaging 2.0 infrastructure benefits operators, their partners and subscribers. Operators benefit from reduced CAPEX and OPEX using a flexible messaging architecture that allows them to add and scale new services quickly. It also allows operators to generate added revenue by enabling them to deploy and manage third-party mobile virtual network operator (MVNO) content such as customized ring tones, music and video. Offering such services with “wireless smarts” (that enables richer more context sensitive information) allows operators to differentiate themselves, which increases average revenue per user (ARPU) and reduces customer churn.

MVNOs benefit from a tiered architecture that eliminates many of the interoperability issues they previously faced when trying to integrate their services with operators’ monolithic architectures. With Mobile Messaging 2.0 infrastructures, MVNOs can work with operators to launch their services in weeks, not months or years.

Subscribers benefit because they now have more options in terms of service offerings, personalization and price. They can customize their mobile device to ensure they can archive important messages, send video messages to groups and receive voice messages as text. This personalization from Mobile Messaging 2.0-enabled infrastructures empowers users so they remain loyal.

9 Where will this take us?

In five years a typical mobile device will be more like a mini-computer than a phone. It will allow users to better manage both their professional (or academic) and personal lives. One device powered by an always-on network will act as a camera, music player video player, personal organizer, phone and perhaps wallet. Presence-based active address books and calendars integrated with session and deferred based messaging are on the horizon, and will give users even more control over how they are contacted. Operators will have to rely on their Mobile Messaging 2.0 infrastructures to bridge the gap between networks that support presence-based communications and those that only support SMS and voice.



10 Conclusion

Mobile Messaging 2.0 is a blueprint for mobile operators to design their infrastructures going forward, giving subscribers more control over their messaging experience while cutting costs and growing revenue. It's the difference between network-controlled messaging and user-controlled messaging.

A common characteristic throughout the evolution of the messaging industry has been early launches of proprietary implementations of technology, followed by attempts to adapt proprietary designs to more open networks. Through all of these phases has been the recurring need for openness and the importance of the underlying infrastructure that streamlines new service deployment and adoption.

Operators who adopt a Mobile Messaging 2.0 approach will acquire early leadership in this rapidly emerging applications market and will have created a manageable, cost-efficient wireless network for value-added service providers and enterprise customers to use.

In Mobile Messaging 1.0, the network defined the user experience; that is, how and when they received messages. Mobile Messaging 2.0 shifts the power to users, who can determine the manner in which they are contacted. They also have more compelling options for sending messages to others. Aside from strengthening customer loyalty, mobile operators also reap higher revenues.

After all, as with Web 2.0, Mobile Messaging 2.0's success hinges on empowering users.

