White Paper

Seeking Growth from New Markets:
Redefining the Mobile Subscriber

Cisco Internet Business Solutions Group (IBSG)

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Seeking Growth from New Markets:
Redefining the Mobile Subscriber

All companies at one time or another have been faced with the challenge of growing their business. Many of these companies have looked to adjacent markets for growth. One example that should resonate with anyone comes from the automotive industry.

In the early '90s, driven by a billion dollar-plus Army contract, AM General saw tremendous growth in its military vehicle known at that time as the HMMWV (pronounced Hum-Vee). After it was acquired by Renco Corp., AM General began to rethink its growth options, not because the company was losing business, but because it had the military market wrapped up and wanted to find new markets. In doing so, AM took a big chance: While continuing to serve the predictable government sector, the military vehicle maker put its money into the fickle, but alluring and quite sizable consumer sector. In 1992, AM General introduced a civilian version of the HMMWV called the Hummer, and the rest is history. Shifting gears has surely paid off.

The mobile service provider (SP) industry is faced with the same dilemma: searching for creative new ways to boost business in a saturated market, and looking to adjacent markets for new opportunities. In AM General's case, the company not only achieved success with the initial launch of the Hummer into the consumer market, but it carried that momentum into unexpected wins with the launch of the H2 and H3. AM General proved that even the earliest market assessments can be surpassed with the right combination of market choice, timing, and determination. Of course, for any company, moving into an adjacent market does not come without challenges.

Expanding in a Saturated Market

Although there are 2.5 billion mobile subscribers worldwide—most of whom are consumers—growth continues to slow and subscriber prices continue to decline in most parts of the world. Western Europe, for example, has penetration rates of more than 100 percent, and the United States is close to 80 percent saturation. Meanwhile, mobile voice pricing is beginning to decline worldwide.

Yet Wall Street continues to measure the success of service providers—and it does so using a fairly simplistic "P times Q" model where P represents ongoing average revenue per user (ARPU) and "Q" represents mobile subscribers. The upside is that this equation is not hard to solve, as AM General learned. The company basically adjusted the Q portion of the equation to continue on its quest for growth. In the mobile SP industry, service providers are actually trying to adjust both levers of the equation simultaneously, at the risk of doing neither particularly well. With respect to P, or ARPU, mobile SPs are launching new data services to offset the loss of voice ARPU. This is a risky move for them, however, due to the tremendous capital investments required, and to unknown interest on the part of their subscribers.

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Moreover, the other side of the equation, the Q, or subscriber forecast, is becoming more and more marginal. Targeting low-usage customers may bring subscribers onto the network, but these users are less profitable. We see evidence of this in the consumer market where services, such as family calling plans and kid-friendly cell phones like the LG Migo and Verizon Firefly, are offered.

This paper argues that the mobile industry cannot continue to grow by making slight adjustments to the P and Q in the model. Instead, SPs should look to enter markets that bring new, highly profitable customers. One answer lies in the machine-to-machine market, which quite possibly could be the new frontier for the mobile service provider industry.

Today, the mobile industry is uniquely positioned to capitalize on opportunities in this space. The rollout of third-generation technology/services boasting near-broadband speeds, providing access to a broader spectrum of machines, and providing availability of highly reliable yet cost-effective air cards has positioned the SP community for success against current alternatives.

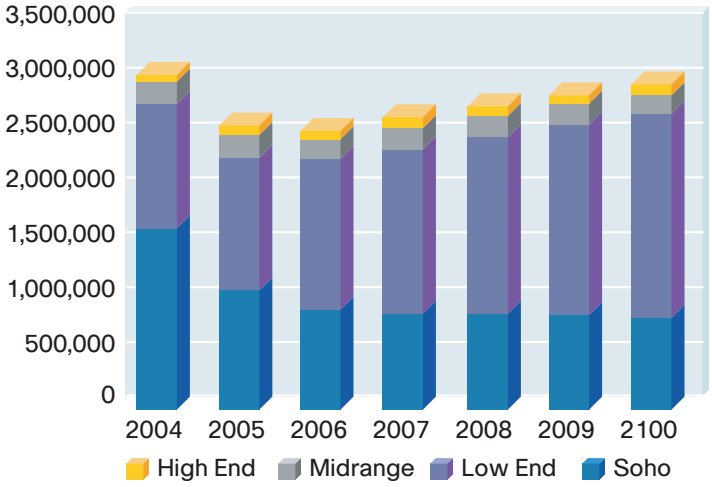
Make Way for the Not-So-Traditional Mobile Subscriber

There are some 500 million computers, 1.5 billion cell phones and personal digital assistants (PDAs), and more than 38 billion other electronic devices in the world that contain information—and some, or all, at some time connect to one another. The ability to connect creates a base of new, nonhuman users called machine-to-machine (M2M) subscribers, which are made up of devices, software, networks, and service markets. This new market is expected to grow rapidly, with some estimates suggesting revenue of US$300 billion worldwide by 2010. The opportunity for SPs is to connect and integrate the information in these devices to corporations, governments, and institutions.

Examples of M2M subscribers include client/server applications, such as radio frequency identification (RFID) readers and automated diagnostics. In addition, and just as important, a significant subset of the M2M market includes enterprise routers. Figure 1 shows the current global forecast of the cumulative router market by business size through 2010.

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Figure 1. Worldwide Router Forecast



(Source: International Data Corp., with analysis from Cisco, 2006)

If the M2M market represents potentially new mobile subscribers, then routers represent some of the most advanced machine-based customers. Interestingly, from a segmentation perspective, these new subscribers are not your low-usage customers in the depressed human voice market. Instead, routers are part of the massive, growing global IT segment. In terms of P times Q, this market is less price-sensitive and represents a significant population. In fact, it is reasonable to assume that by creating this new user base, the mobile industry could add to its total market valuation.

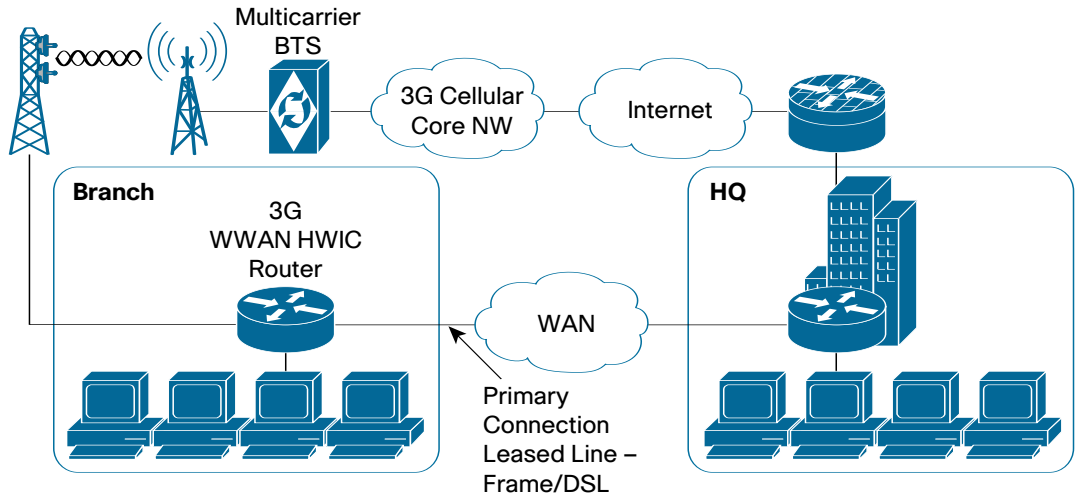
This paper does not discuss the entire M2M market, however, but rather one piece: the wireless backup market for routers. There certainly is an untapped market here with little competition and a host of adjacent services to provide. Moreover, there is a $7.2 billion opportunity annually, based on a $50-per-month revenue stream, according to industry reports.

Wireless Backup: A Desirable Service for Routers

Now that we have redefined the mobile subscriber, an exciting opportunity for the mobile SP in the M2M space is to offer wireless backup to the embedded base of enterprise routers. Historically, wide area network (WAN) backup has been provided by services such as ISDN, satellite, and even dial-up. Today, a backup solution allows an enterprise to make sure that applications remain online even in the event of a primary WAN link failure. Some of these applications might include point of sale, Internet access, and client/server applications for sales and inventory tracking. Figure 2 shows the wireless alternative to a traditional fixed backup connection for an enterprise-based router.

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Figure 2. Architectural View of Wireless Backup to an Enterprise Router



(Source: Cisco, 2007)

Inhibitors to Mobile SP Success in Delivering Router Backup

Despite the multibillion dollar potential looming on the horizon, this new market is wrought with with product and go-to-market challenges for today's service providers. Specifically, SPs will need to address five areas:

M2M offerings—The machine-to-machine space is new and evolving. There are few solutions available today from service providers, and even fewer that fit the demanding needs of enterprise IT decision makers; point products that allow some capabilities to exist, however, are making their way to market, where truly integrated services are lagging.

Enterprise segmentation—Although SPs are quite knowledgeable about consumer segmentation, which has been the core of their business for the past 20 years, understanding the subtle differences in each industry's needs is increasingly important. Each industry has different processes and procedures that will define its likelihood of purchase and invariably help prioritize and tailor the service provider's sales and marketing efforts.

Distribution relationships—Retail channels are certainly one of the mobile service provider's greatest strengths. Fixed operators are quite successful selling directly to the enterprise; however, neither one is particularly skilled at managing the broad network of value-added resellers (VARs), distributors, and systems integrators that the IT industry has evolved into over time.

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Adequate processes—The M2M market is completely new to the SP community. The SPs' current operating models will not work because the end user is not limited to a human who can communicate problems and concerns. Issues such as network monitoring, customer service, and troubleshooting will need to be augmented to handle the new complexities.

Sales-force education—The vast majority of mobile sales professionals are nontechnical. To be effective in selling to the IT community, the sales team will need to understand not only the mobile requirements for their products, but also how to communicate with a very technical buyer. This is a rare combination of skills across any organization.

Individually, these challenges are concerning. Collectively they will prevent the market from reaching its potential. Service providers must understand the impact of each and look for ways to resolve them.

Establishing the Value Proposition

Clearly, mobile SPs will need to have a compelling initial offering to justify the investment required to resolve the issues presented by this immature market. Once the first offering is established, however, future M2M introductions can be launched with less incremental effort. With that said, we believe that a wireless router backup solution is the best place to start because it is the most compelling for customers. A wireless WAN solution can address many concerns that plague today's current WAN backup services—such as cost, capacity, diversity, and portability—and become the preferred choice of the enterprise for WAN backup.

Cost can be defined as the initial and recurring charges associated with the solution. A wireless WAN backup solution can offer a lower cost overall when compared to other backup offerings.

Capacity is the amount of bandwidth that can be made available to an application during a backup situation represented in kilobits per second. The wireless WAN solution brings a higher capacity to the enterprise than many other solutions.

Diversity describes the probability that the backup link will also be affected in the event there is an outage to the primary link. For instance, if an enterprise uses a physical connection, such as a T1 line, and that connection is uprooted by a company doing construction roadwork with a backhoe, the enterprise reverts to a backup line at another physical location that doesn't go through the same conduit as the original T1 connection. This diversity is expensive and impossible to ensure, whereas wireless networks are not affected by disruptions from backhoes and the like. The mobile network is physically separate from the fixed network and, therefore, provides an advantage—if a physical connection gets cut the mobile connection is available.

Finally, portability is the degree to which making moves, adds, and changes quickly across various locations becomes important. The wireless WAN solution can be installed in hours and relocated easily, which also opens up new venues for wireless installations, such as solutions within public services, retail, and banking industries.

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Figure 3 summarizes the comparison of wireless WAN solutions versus alternative backup technologies.

Figure 3. Comparison of WAN Backup Solutions

		Terrestrial		Wireless	
		Analog	ISDN	Satellite	Cellular
Speeds	Kbps	56	64–128+	512–1 Mbps+	128–512+
Cost Range	Monthly	$50–$75	$75–$100	$50–$200+	$50–$100+
Initial Cost	Installation	Low	Low	Medium	Low
Reliability During:					
– Local Disruptions	Maintenance, SW Upgrades, etc.	✔ (Dual Home)	✔ (Dual Home)	✔	✔
– Local Outages	Cable Cuts	✘	✘	✔	✔
– Metro Outages	Fiber Ring	✘	✘	✔	✔
– Regional Outages	Natural Disasters	✘	✘	✔	✘
– National Outages	SP Network Outage	✔ (Dual SP)	✔ (Dual SP)	✔ (Dual SP)	✔ (Dual SP)
Risk of Congestion	During Failures	Low	Low	Low–Medium	Medium–High
ISR Support	Available Modules	Now	Now	Now	Coming Soon

(Source: Cisco, 2007)

An important consideration for the enterprise IT organization is the ease of integrating the solution into basic business processes. Therefore, whatever the backup method, integration with the router software is essential. This allows the staff to monitor the backup link as if it were part of the network, which saves time and improves overall reliability, versus an adjunct device, which is external to the enterprise network and not part of the router's operating system and routing tables.

Now that the mobile provider has a solution like this that transcends the domain of the purchasing department, the IT organization becomes much more accessible. And, once the IT group is educated about the benefits of this solution and how it can benefit their business overall, they will certainly look to their systems integrator or VAR to supply it.

The channel is an obvious opportunity for the SP to tap, but the problem is that systems integrators and VARs do not have established relationships with the mobile SP and, therefore, cannot sell the solution. Moreover, to identify the best channel partner to service its customers, the SP requires a detailed segmentation of its market and a mapping to channels that distribute to the customer effectively. Figure 4 summarizes some major segments to target based on interest in the key components of the value proposition.

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Figure 4. Major Market Segments of the Value Proposition

Vertical Industry (Application in Use)	Examples
Convenience Stores ▪ Credit Card, POS Results ▪ ATM/Kiosk	7-Eleven, Exxon
Dept. Stores/Big-Box Retailers ▪ Credit Card, POS Results ▪ Supply-Chain Integration	Wal-Mart, Best Buy
Retail Banking ▪ ATM Transactions ▪ Retail Banking Applications	Deutsche Bank, Bank of America
Freight and Cargo Operators ▪ Package Tracking ▪ Logistics	UPS, FedEx
Hotels ▪ Reservations and Back Office ▪ Guest Access	Hilton, Marriott

(Source: Cisco, 2007)

To understand the value of partnering with various distribution channels in the sale of wireless WAN backup solutions, it becomes clear that there are differences in market position in terms of volume of router sales. Unfortunately, the mobile SP may have a few established relationships with every channel member but not enough to be successful, and certain channels are already consolidated and difficult to infiltrate. Furthermore, the VAR channel, in particular, is extremely fragmented and may need to be avoided initially because the number of VARs is extremely high. Figure 5 shows various channels of distribution.

Figure 5. Distribution for Cisco Router Market by Channel in the United States

Distribution Channel (Definition)	Examples
Distributors Large aggregators of networking hardware supplied to other distribution members that do not buy directly from the manufacturer.	Ingram Micro, Tech Data
Systems Integrators Provide consulting, support, hardware, and software development to bring an end-to-end solution to their customers.	EDS, IBM
Traditional Service Providers ILECs and MSOs that have built a business reselling, installing, and maintaining enterprise-networking equipment.	at&t, BT
Value-Added Resellers (VARs) Smaller niche or regional resellers of networking equipment that work primarily with the SMB/SME market on various IT projects.	Insight, Dimension Data

(Source: Cisco, 2007)

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Wireless WAN Solution: A Sure Thing

Given that the U.S. market share of routers sold through the channel is high compared to routers sold direct, it appears that an M2M strategy that begins with a wireless WAN backup solution is exactly what the mobile service provider industry needs to continue growth. This solution provides an excellent entry point for the mobile SP to offer value to the enterprise IT organization and a reusable organizational foundation for continued mobile data solution deployment. As a result, the mobile SP will get a seat at the CIO's table and can impact solution strategy as mobile data technology continues to evolve.

With a new infrastructure in place to grow their business, mobile service providers do not have to stop with the enterprise market. Many new opportunities abound, such as the consumer space, where routers can be used in homes as a primary connection, which opens a whole new set of possibilities. Not only is this exciting, but it also changes the game for the wireless industry and for distribution channels that sell these products.

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Notes

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More Information

The Cisco Internet Business Solutions Group (IBSG), the global strategic consulting arm of Cisco, helps Global Fortune 500 companies and public organizations transform the way they do business—first by designing innovative business processes, and then by integrating advanced technologies into visionary roadmaps that improve customer experience and revenue growth.

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