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MRM Market Dynamics

TODAY'S MRM MARKETPLACE

Industry Overview

Today's enterprises can thank a U.S. government mandate for the existence of handset-based MRM solutions. Since 2002, mobile operators in the U.S. have been legally required by the FCC's E911 Phase II mandate to provide real-time location data to emergency response agencies when a cell phone user calls "911." Wireless carriers began commercializing this location capability as: 1) a means of recouping their \$x billion-plus E911 investments, and 2) a way to establish a new – and potentially significant – supplement to their current data revenue stream. Both consumer and business applications were developed, with Nextel's location-enabled, handset-based MRM services being the first to earn significant market share.

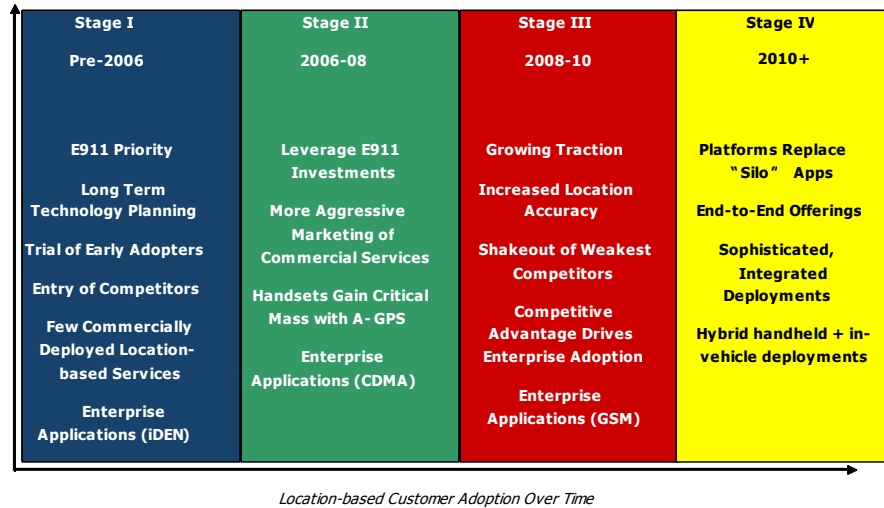
An array of MRM workforce management solutions exists in today's marketplace—and are available through a number of different channels. As a still-emerging application, the North American market remains under-penetrated. The category has steadily gained traction and legitimacy; however, the current economic climate has slowed the growth rate for now. Despite economic woes, total carrier-generated revenues for location-enabled FFM/FSA applications are projected to increase to more than \$xxx million by 2014. Fueling the growth in revenues and subscribers will be an attractive ROI story, the wireless carriers' continuing search for data revenue opportunities, more and better mobile devices, and the increased mobilization of various vertical industries.

The MRM category resides in Stage III of a long and dynamic market development process.

Chart 2.1 outlines the evolution of U.S. location-based services in the mobile resource management market from 2002 through 2010+.

CHART 2.1

Mobile Resource Management Market: Evolution of Location-based Services (U.S.), 2002-2010+



Source: Frost & Sullivan

Solutions are becoming more verticalized as channels and developers focus on their key targets, search for competitive differentiation, and hopefully generate new revenue sources. In terms of high-potential customer targets, the Transportation and Logistics, Utilities, Telecom/Broadband, Public Sector, Construction, and Home Health Care industries have traditionally been viewed as key opportunities; however, the Transportation and Construction verticals have suffered mightily during 2008 and 2009, and are expected to continue hurting through 2010.

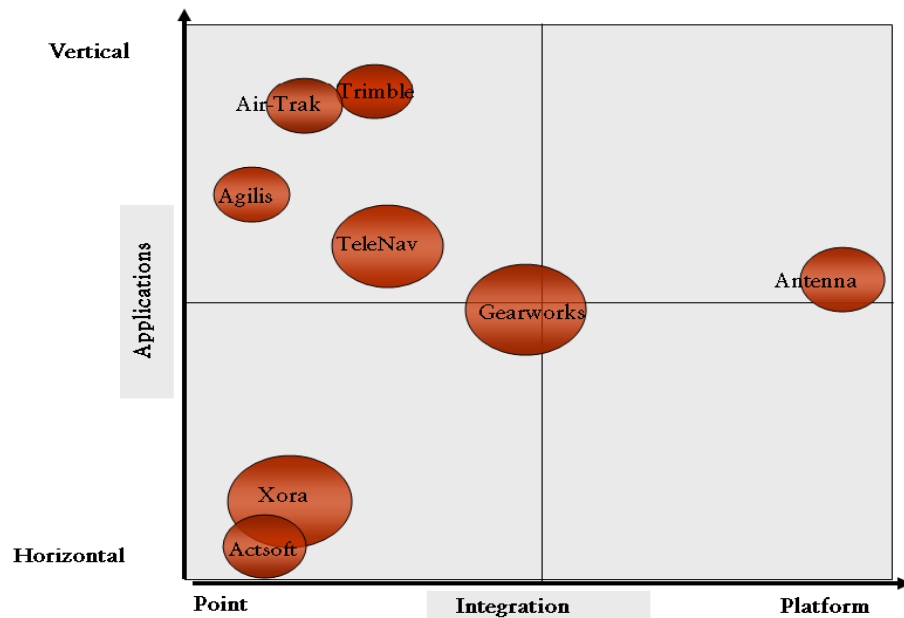
MRM services are designed to appeal to all sizes of companies, with the SMB segment focused on pre-packaged point solutions, instant connectivity, and fast ROI. Larger businesses are interested in richer workflows, scalability, more robust integration with multiple backend systems, and – often – Windows Mobile O/S in their employees' MRM handhelds. The largest industries prefer to work directly with a particular API and just build their own solutions.

Today's MRM application and mobile middleware vendors are solidifying their business strategies as the sector evolves and partnerships are strengthened. Major issues that are being resolved by each vendor include: 1) whether and how to begin selling more deeply into specific vertical industries, 2) whether to position themselves as providers of standalone point solutions or move up the food chain to act as platform providers that can assimilate and manage multiple applications, devices, and O/S, 3) how deeply to depend on the U.S. wireless carrier channel, and 4) whether to pursue potential business in other geographical markets. A subset of these application developers that are not being courted by the wireless carriers as direct partners are reevaluating their value proposition and moving toward different business models—for example, expanding into overseas markets (which are just beginning to enter this solution area) or adopting a wholesale model with an expanded group of partners.

Chart 2.2 displays the 2009 positioning of key application vendors in the North American mobile resource management market.

CHART 2.2

Mobile Resource Management Market: Application Vendor Positioning (North America), 2009



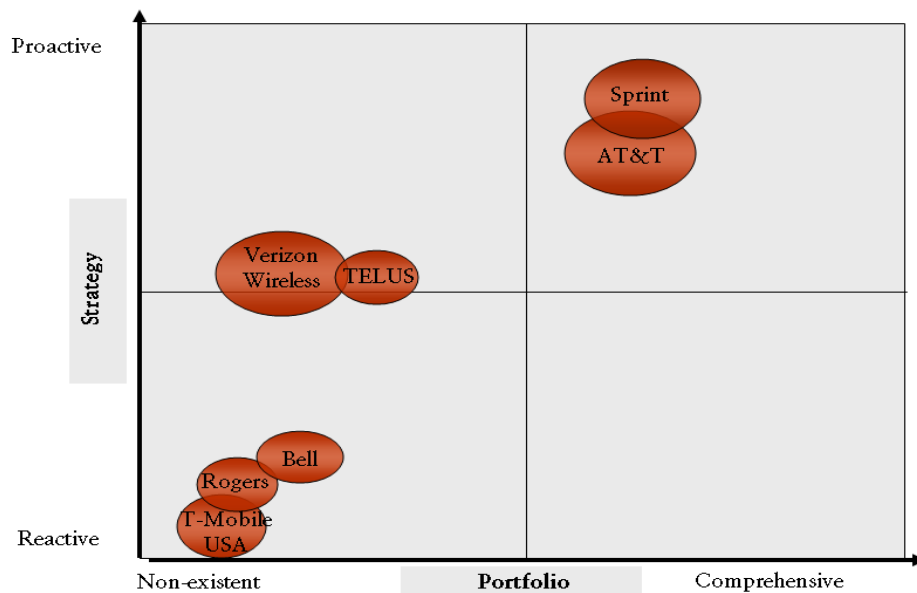
Source: Frost & Sullivan

The wireless carriers remain the major distribution channel and will continue as such through the Frost & Sullivan forecast period. Our four major U.S. wireless carriers continue to each take a different path into the handset-based MRM opportunity. T-Mobile USA persists in its role of non-participation, although it will assist a customer in certifying and implementing a solution if requested. Sprint, despite periodic culling, presents the widest and most duplicative selection of field mobility applications. Verizon Wireless maintains its consumer focus, offering a single FFM/FSA point solution for businesses—but reportedly looking to expand and improve its mobile applications effort and performance in the enterprise sector. Finally, AT&T is in full-participation mode and is building a comprehensive portfolio, now that A-GPS technology has been deployed throughout its network. In Canada, Bell Mobility and TELUS have focused on offering a limited set of basic point solutions. Rogers Wireless remains strongly consumer-focused, with only a consumer navigation solution to offer its business customers.

Chart 2.3 illustrates the 2009 positioning of wireless carriers in the North American mobile resource management market.

CHART 2.3

Mobile Resource Management Market: Wireless Carrier Positioning (North America), 2009



Source: Frost & Sullivan

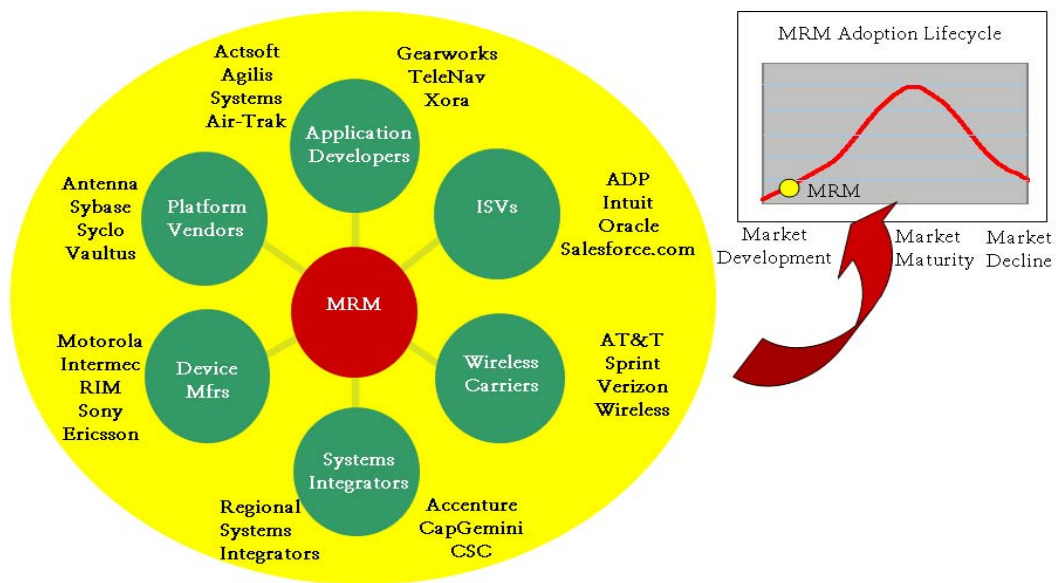
The wireless carrier is a natural “go to” channel for handset-based MRM prospects; however, a sub-set of application vendors are concerned that the carrier sales force is not sufficiently incentivized or trained on how to prospect and sell more complex data solutions. They also see danger in aligning too closely with any one particular carrier, since large enterprises tend to forge multiple carrier relationships. As a result, large enterprise customers are often approached directly by the application vendor or a vertical-specific partner. As the customers' MRM rationale becomes more sophisticated and extensive, Systems Integrators and major ISVs (Independent Software Vendors) are becoming increasingly involved with the more complex MRM deployments. Larger corporate software vendors such as Oracle and SAP have recognized the market expansion benefits of mobilizing their solutions, and have initiated their own in-house mobilization efforts. However, they are also partnering up with best-in-class mobile middleware vendors to provide their customers with increased expertise and expanded options.

The MRM solution category continues to reside far to the left on the macro product adoption curve. Consistent with its still-early stage of market adoption, the MRM ecosystem remains fragmented and dynamic, with an abundance of players jostling for position and share.

Chart 2.4 provides the ecosystem and adoption stage in the U.S. for the mobile resource management market during 2009.

CHART 2.4

Mobile Resource Management Market: Ecosystem and Adoption Stage (U.S.), 2009



Source: Frost & Sullivan

Customer-facing members of the MRM value chain include:

- **Application and Content Developers**—These developers focus on creating horizontal and/or vertical versions of their solution. Innovation and partnering are key priorities. The goal of many developers is to be included on the wireless carrier deck as part of the operators' growing mobile data services portfolio. Actsoft, Agilis Systems, Air-Trak, Gearworks, TeleNav, and Xora are examples of key participants in this stakeholder group.
- **Independent Software Vendors**—To provide real value, an MRM solution has to be able to integrate back into the customer's back-office systems (payroll, dispatch, CRM, inventory management, etc.). Application Developers, Carriers, and Middleware Vendors partner up with corporate software vendors to provide out-of-the-box integration with popular business software such as QuickBooks and salesforce.com. The ISV will also often preside over more complex integration and customization projects, with or without partners. Key participants in this group include ADP, Oracle, and Intuit.
- **Wireless Carriers**—Wireless carriers have assumed a major role in legitimizing MRM solutions to potential customers. The carriers bestow "bill-on-behalf-of" status to a select few application partners—i.e., including the charge for an application on their monthly phone bill to the enterprise customer and working closely to develop new offers. Qualified remaining application developers are relegated to a pool of "certified" solutions.
- **Systems Integrators**—Large and smaller Systems Integrators work with larger businesses to deploy MRM applications and provide seamless integration with backend systems. In the case of MRM, SIs are still often trying to determine how to make real money. Many of the larger Systems Integrators have already established working relationships with the wireless carriers. Many of the more local and regional SIs have forged direct relationships with the application developers. Sample Systems Integrators include Accenture, CapGemini, and CSC. DecisionPoint is an example of a more regional Integrator.
- **Mobile Device Manufacturers**—Mobile device manufacturers have embedded various capabilities into an increasing number of phones and mobile computing devices, including GPS, barcode scanning, and signature and image capture. Emphasis has also been placed on increasing processing power, lengthening battery life, ruggedizing the form factor, making the device more intuitive, and providing large, sharp display screens. Key participants in this group include Intermec, Motorola, and RIM.
- **Mobile Platform Vendors**—Platform vendors continue to develop enterprise-class platforms that can support multiple types of mobile applications, devices, and operating systems. A key mobile middleware issue is addressing management and security concerns around devices and software. Platform players include Antenna Software, Sybase, and Vaultus. This sector has consolidated significantly during the past 12 months, with Antenna Systems acquiring both Vetro assets and the entire Dexterra business.