# Mobile Virtual Network Operators and The Future of Mobile Business:

## Off to the Races or Back to the Starting Gate?

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Proceedings

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## Executive Summary

On September 26, 2001, the Silicon Valley World Internet Center held a Think Tank Session on the future of mobile business, specifically addressing the emergence of Mobile Virtual Network Operators (MVNOs) and whether MVNOs are capable of moving the mobile service business forward in the United States. At this Session, 22 participants discussed the market potential and its impact on telecommunication companies (telcos).

Participants identified both the facilitating factors and the challenges for MVNO business models in which the virtual operator delivers highly branded mobile communications services to the end user over the infrastructure of an existing telco. Overall, the group agreed that highly-focused branding and marketing are the keys to successful MVNO adoption. This marketing, a result of research defining a clear understanding of consumer needs and their wireless usage patterns, facilitates targeted offerings based on real market factors, not best guess.

Session participants emphasized that the first operators to market will have a competitive advantage and be in the best position for revenue generation through marketing and sales of new services associated with highly known brands such as Virgin, the NFL and MTV. Participants currently working with large telcos in Europe, Asia and the U.S. reinforced that many telcos are committed to the MVNO model with or without brand-related partners. Many participants, however, believe that U.S. carriers lack the will to make the necessary investments in MVNO infrastructure, fearing that higher customer churn (customer turnover) would result. In Europe, however, where churn is 50 percent, the customer often ends up on the same carrier network they just left, due to the carrier's partner relationship with the MVNO who delivers the service. For instance, the customer may move from MVNO "A" to MVNO "B" and never leave the telco. This model reduces the impact of churn to the bottom line of the carrier who shares in the MVNO revenue stream.

Telcos have taken on huge debt as a result of wireless spectrum licenses, especially 3G, and are committed to recouping these investments. The opportunities for telcos that arise from entering the MVNO market provide an alternative to voice services for incremental revenue and cash flow. For instance, cash is generated by leasing infrastructure capacity to MVNOs and from revenue sharing from partnerships with consumer brands on MVNO services. This model is similar to the approach of NTT DoCoMo in Japan.

Another key element of the MVNO opportunity is the addition of identity and profile management which allows companies to build upon brand relationships with customers through private-label offerings. An interesting theme that surfaced from the breakout session was the importance of fan-based services in the sports domain, where loyalty is already assumed. Services could be used as a foundation for enhancing the fan-team relationship with logo handsets and highly customized information services and applications. Services could also incorporate location-based technology to further enhance the interaction with customers at event venues.

As was the case in the previous Think Tank Sessions on m-Commerce, the group identified two-way messaging as a key data application supporting early MVNO business models in the next 12 to 18 months. The recognition of multiple-carrier network interoperability remains a major issue for all carriers. Similarly, it was suggested that conventional Internet applications should be portable and utilize common user interfaces and profiles across device types, networks, and regions. These applications should also support contextual mobility as users move through their daily lives from business domains to automotive domains to home domains. The youth market also remained a major theme through all of the 2001 mobile related Think Tank Sessions, MVNOs being no exception.

## Introduction

The Think Tank Session held at the Silicon Valley World Internet Center on September 26, 2001, was a result of interest generated at the Mobile Commerce Think Tank Session held a month earlier at the Center. Participants rallied around the m-Commerce subject in August only to realize that traditional carriers are a major issue holding back mCommerce. A look toward Europe and Asia indicated that carriers abroad are more willing to extend their business indirectly through partnerships and new business models, leaving behind the monolithic voice-centric approach which has slowed movement in the U.S. mobile market.

MVNOs were discussed on August 29, but it was clear there was much more to learn and debate on the topic. For the September 26 Think Tank Session, a Mobile Virtual Network Operator was defined as "A mobile wireless service provider of voice and data services that uses (or leases capacity of) the wireless communications network of a third-party carrier." Although some participants attempted to include 802.11 in the overall definition of a wireless mobile network, it was agreed by the group that the discussion would be limited to 2.5G and 3G mobile wireless networks utilizing mobile handsets. PC-based network access was eliminated from the day's discussions.

Participating companies in the Session included 3COM; Bay Analytics; Black Ink Media; Cable & Wireless; Coopetition, Inc.; Cowave Networks; DaimlerChrysler Research and Technology North America; Ericsson; Etrieve; Hereuare Comm; Interactive Wireless Company; ME; OnWow; Openwave Systems, Inc.; RedKnee, Inc.; Research/Strategy/Business; SAP; Sky Pilot Network; Sun Microsystems; and independent consultants Dr. William Cureton, Mr. Daniel Divine, Mr. Paul Johnson, Mr Dave Menconi and Mr Robert Noakes who facilited the Session.

## A Global Perspective on MVNOs

To gain an understanding of the opportunities that may exist in the U.S. market, an assessment of the European and Asian markets was first presented by Patric Carlsson from Research|Strategy|Business. Carlsson defined the MVNO business model as one where traditional carriers provide the mobile telecommunications infrastructure while the MVNOs provide the customer interface. In Europe there are four to five major mobile carriers operating their networks under the same standards with little or no obvious differentiation of their service offerings. As a result aggressive upstarts decided to market around the large carriers, which was discussed in August as a major weakness for traditional carriers. "[Traditional carriers] do not know how to market," said one participant. Another feature of the European market is the near saturation of mobile in some markets. This is particularly true in Northern Europe where 100 percent mobile penetration exists, leaving little or no room for growth for the established mobile carriers.

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Although Europe is currently booming with mobile growth, the issue of over-capacity is a real problem for carriers. The environment is right for a potential shake-out of those carriers that cannot monetize that capacity effectively. Smart carriers, however, recognize that they do not necessarily need to fill this capacity with their own brands. This is where the opportunity for MVNO models exists, in the effective utilization of network capacity under new revenue models with new partners.

The ubiquitous development of the wireless space will involve the interoperability of networks along with devices capable of accessing all of those networks seamlessly. German carriers appear to have the lead in the European MVNO space with Deutsche Telecom taking an aggressive stance toward MVNO models.

The European market is not homogenous. It can be characterized with at least ten highly penetrated mobile markets, four to five infrastructure carriers, the incorporation of standards (GSM/GPRS) with international roaming and interoperability and from two to six MVNOs in each of the 10 mobile markets. Voice and data are the main MVNO markets in Europe, while in Asia MVNO market development is not as visible as in Europe. Part of the reason for this lack of visibility is the high profile of NTT DoCoMo with their i-Mode offering. However there are MVNOs emerging in Asia where Virgin Mobile is the leading pioneer. The risk for customer churn is lower in Asia than in Europe. There is also high potential for new markets within Asia, but in some areas there is no infrastructure in place. The challenge here for both carriers and MVNOs is to identify who will invest in building the infrastructure.

Carlsson emphasized that U.S. carriers are, indeed, upgrading their networks to support new product and service delivery that will extend conventional voice carriers more deeply into the data application environment.

In the U.S., WorldCom can be considered an MVNO, as it does not own any of its infrastructure, but rather leases it from other carriers including Sprint. Other U.S. landline carriers are in a similar situation, but the mobile MVNO market in the U.S. is mainly populated with pure data providers such as GoAmerica, Motient, Palm.net and OmniSky. Carlsson emphasized that U.S. carriers are, indeed, upgrading their networks to support new product and service delivery that will extend conventional voice carriers more deeply into the data application environment. Although the bursting of the Internet bubble might be expected to dramatically slow investments, carriers continue the trend toward network upgrades. This is especially true on the East Coast. However, devices that take advantage of these upgrades are just beginning to be marketed, limiting availability in the short-term.

That being said, one participant asked if carriers were going to support new handsets, and members of the group indicated that carriers are actively partnering with handset manufacturers. The leading handset manufacturer, Nokia of Finland, has partnered with AT&T. The linkage between handset manufacturers and carrier brand has always been an important factor in determining service cost structure and subscriber subsidized handsets. When considering MVNO models, however, carrier brand will likely take a back seat to stronger consumer brands. Among handset manufacturers in the U.S. market, Ericsson is known for its quality and robust products, while Sony could leverage their strong brand position in an MVNO offering.

## Virgin Mobile: A Case Study

Carlsson then presented a case study of Virgin Mobile to highlight one successful implementation of an MVNO business model. Virgin commanded attention in the United Kingdom by reselling services of Orange and Vodafone, ultimately becoming the fastest growing provider of wireless services in that country last year. Virgin Mobile's "Basics" service offering incorporates pre-paid services, targets 18 to 33 year olds, and features a low average revenue per user (ARPU) target. At the same time, it allows more flexibility for roaming than many carriers. By setting low ARPU targets, Virgin has created an affordable wireless program for the young adopter which allows easy access to enhanced services known as "Virgin

Extras" when customers wish to take advantage of mobile Internet, messaging and other data services. Launched in the United Kingdom in 1999, Virgin Mobile reached 1 million customers by summer of 2001.

The company utilized traditional mobile carrier Points of Presence (POPS). Targeted at the younger generation of trendsetters, 50 percent of its 1 million-strong customer base comes from churn. This churn factor could be a concern for traditional carriers, but the partnering approach Virgin offers often churns customers right back into the same carrier network.

Brand loyalty programs in the United Kingdom are so hot that some consumers carry two to three devices for separate loyalty programs.

Given Virgin's strong branding, Virgin Mobile is utilized to push the parent company's existing services and products, including travel, music and banking. Virgin has employed market research to understand its customers and recognizes the importance of target marketing to leverage the research; their services and products are all about branding. Brand loyalty programs in the United Kingdom are so hot that some consumers carry two to three devices for separate loyalty programs.

Those companies that are most successful at integrating multiple services may gain control of the SIM (subscriber identity module) cards, the modular element of GSM mobile phones that can be moved between devices. SIM cards contain subscriber data, profiles and technology elements that are transparent to the user. They make it simple to change handsets at will, a feature mainly absent in the U.S. market. SIM-card control could result in handset consolidation for multiple handset users and maximize the revenue opportunity for the strongest brands, with Virgin in Europe in a leading position along this path.

In Australasia, Virgin Mobile partners with Optus and Cable & Wireless in Australia, which was an early investor in Virgin Mobile, and with Singtel in Singapore. Virgin has just entered the U.S. market and has chosen Sprint as its first carrier partner there. Will the model that delivered success for Virgin in Europe have a similar result in the U.S and Asia? Some participants argued that the Virgin brand does not carry the weight in U.S. markets that it does in Europe and Asia. This may reduce their impact on the competitive landscape. It will be a few years before the final outcome is known for Virgin in the U.S. and Asia.

The watchwords for the Virgin discussion were "profile" and "communicate." Virgin's success has been based on their having done the primary research necessary to determine customer wants and then to develop a marketing communications program that effectively highlights those products or services. Some participants noted that this sort of lifestyle marketing development is not incorporated into the marketing strategies of U.S. carriers. This critical lack of market strategy may necessitate carrier brands deferring to the consumer brands that are much more skillful at marketing. One participant suggested that devices carry a brand logo, a definite change to the current approach in the U.S. market.

## The Trends and Business Case for the Next 12 to 18 Months

If the Virgin model were the correct one for U.S. carriers and consumer brands, the key to MVNO success in the U.S. could be to focus on target marketing. Session facilitator Robert Noakes suggested four sequential elements for entry of the MVNO business in the U.S. market – communications, information, commerce and entertainment.

Based on the findings of the mCommerce Think Tank Session of August, commerce is expected to become a strong opportunity in the mobile market by 2004. This is dependent upon carriers staying focused on the first two elements over the next 12 to 18 months in order to generate substantial competitive impact for mobile players, including MVNOs. Although Virgin did enter the market with a voice focus, they quickly branched into data and information services to enhance revenue generation in support of their other businesses. The group arrived at a consensus that extending the communications element beyond voice into the messaging domain will be the next real opportunity in the U.S. market, assuming that the carriers can support these services quickly.

The largest base of instant text messaging services in the U.S. is currently exercised online with conventional ISPs such as AOL, MSN and Yahoo. These ISPs could enter the MVNO market by leveraging their strong consumer brands. One participant suggested that AOL is in the strongest position to use its brand in this way, but another indicated that the lack of location-based capabilities might cause AOL to sit on the sidelines of the MVNO opportunity.

## The MVNO Impact on Telcos

Just how telcos will handle the MVNO issue was a topic of lively discussion, with the bottom line being the defining factor. More than one participant stated that incumbent carriers are not unaware of the MVNO opportunity, that there is really nothing new about the model, and carriers are fully prepared to enter the market. Yet another participant contended that if independent brands do not move into the MVNO space soon, carriers will move first, but this statement was met with doubt by many in the group who recognized the conservative nature and slow movement of traditional carriers.

The majority consensus, however indicated that telcos are committed to the MVNO market, with or without the existence of independent MVNOs in the marketplace. Telcos have spent too much money on licensing and infrastructure to leave the market to chance. If MVNOs do not rush into this market space, telcos will develop their own market-branded portals for selling products and services as Telia has done in Sweden. But, in most cases, the telco may need to subvert its brand to the better-recognized consumer brand of a MVNO. Will telcos do it? The group agreed that telcos will give up brand position for revenue generation to recoup past investments.

But perhaps telcos have an enhanced role to play that they have not envisioned to date as infrastructure provider and network enabler. One participant suggested the provocative idea that telcos are actually MVNEs (Mobile Virtual Network Enablers), and their best opprotunity is to focus on building the infrastructure to support the MVNOs. Another participant believed MVNEs would create a potential spinoff business for telcos, although the market climate does not currently appear to support this. The counter to this idea is the opinion that the MVNE model is already the core business of telcos. A look toward Japan and DoCoMo, however, provides support for the idea of isolating new infrastructure services into a vertical business segment as was done with i-Mode. This segment could include voice and data systems integration, application hosting and billing systems specifically tailored to the MVNO market.

Dr. William Cureton, an independent consultant, represent his thoughts on how the telcos will ultimately fare in the marketplace by drawing a bell curve on the white board. The drawing showed the short window of opportunity for MVNOs to enter and grow their businesses during the proliferation phase, while the telcos inevitably consolidate MVNOs into their companies in the long run. An interesting data point to support his assumptions comes from the FCC regulations that instituted a “Sunset Clause” for wireless carriers. This clause becomes effective in November, 2002, and eliminates the regulatory need for wireless licensees to resell their services to third parties. This policy in essence eliminates competition from new entrants into the MVNO space after that date. In the DSL market, even though landline carriers were required to resell their services to third parties, primarily CLECs (Competitive Local Exchange Carriers), the landline carriers made it economically unfeasible for CLECs to make a profit. The same outcome could be in store for MVNOs, unless carriers have enough incentive to help MVNOs succeed.

### Device Challenges

Telecommunications and data communications have not yet converged in the psyche of most companies producing mobile devices. Exceptions include Kyocera with their SmartPhone, as well as Handspring and Samsung with their Palm-based mobile phone/PDA combinations, but at $400-500 each, these devices are out of reach of all but the earliest adopters and corporate users. Companies have yet to market a single device that handles all consumers needs. Digital mobile phones provide basic data capabilities that may be sufficient in the short-term, including text messaging which is anticipated to drive data growth in the U.S. more than any other application in the foreseeable future.

Passionate arguments were voiced on both sides regarding device convergence. Some participants had used converged devices with great success, primarily taking advantage of basic information services on the data side including stock quotes, movie listings and driving directions. Still others argued that there would never be a single device that provides all mobile services in one neat package. They concluded that users are more likely to carry specialized devices for specialized functions. One participant missed the simplicity of her two-way text pager, highlighting how difficult it is to type on a mobile phone keypad in comparison to the miniaturized full keyboard of dedicated text devices. Youth adopters in Europe and Asia are quite proficient at this text entry method, however, indicating that the keyboard issue is less of a factor for this most desirable target market.

I-Mode phones in Japan have introduced a successful form factor that still uses a conventional mobile phone keypad, but adds a large color screen, neon lights and sound. This package attracts the youth market where revenue is as high as $100 per month per user, but the phones are quite expensive relative to the U.S. The U.S. market has mainly subsidized handsets, but as devices have become more robust, the price points have also risen to where the subsidies have less benefit for consumers. One participant opined that a 2 by 2 inch screen will never offer the usability required for data applications, regardless of the price point. Another attendee thought that a device that integrated a color screen, full keyboard and voice recognition in a form factor similar to the Nokia Communicator would be successful once the price reached a reasonable level.

### Enterprise Customers versus Consumers

Some participants believed that the greatest short-term opportunities for launching the MVNO concept in the U.S. are in the enterprise market, while others argued that American teenagers and young adults have an abundance of discretionary income available for spending in the MVNO arena for branded products and services. The group was in majority agreement, however, that even with the industry in its infancy with obvious limitations in current services and products, two-way messaging is the most viable application for enterprise or consumer users. There was a single loud protester against this notion, stating that the industry must not focus on the application, but on the needs of the users, which vary greatly. One participant suggested that separating consumers and enterprise users is a flawed strategy because all users are ultimately consumers. This thought has been proven out in previous technology product deployment, including PCs, Internet access, and, more recently, wireless networking. Consumers will bring technology home from the office and begin to have a need for seamless mobility between work and home life.

This need for seamless or transparent mobility led to discussion about location-based services as a key part of mobile services expansion. Carriers have been slow in moving on this opportunity except for the regulatory requirements for enhanced 911, but the MVNOs could readily take advantage of the underlying location technology to offer valuable services in which carriers are not yet willing to risk investment. Some grassroots activities are occurring in vertical markets, including convention centers and hotels. These venues are capitalizing on the need of business communities for high availability of voice and data communications in normally difficult environments for wireless devices.

## Breakout Session

*Identifying Business Models*

The large-group discussions were a catalyst for the breakout session, in which particpants highlighted key market opportunities and challenges for real world MVNO scenarios. The goal for each scenario was to select a target group and build a business model that penetrated at least 60 percent of that target market. As was learned in previous m-Commerce Think Tank Sessions, target marketing will be a key enabler of movement in the mobile market.

The main assumptions going into the breakout session were that agreements were already in place with carriers and that customer support, technical and service infrastructure were already created. This allowed participants to focus on the business model. Each group was given one hour to identify the target group, services offered, branding strategy, necessary partnerships and any revenue sharing agreements in support of the business model. Following is the output from this high-energy session which each group presented at the end of the breakout session.

### Group I

**Target Group:** Enterprise Fortune 200 Companies
**Profile:** Business professionals (employees and customers)
**Branding:** Enterprise brand / co-brand
**Partnerships:** Affiliate programs
**Revenue Sharing:** Affiliate percentage of sales

Group I viewed the enterprise vehicle by which to deploy new services through large companies' value chains. This scenario assumes that if a Fortune 200 company provides a private-label mobile service to their employees, the natural loyalty of employees to their employer would manifest itself. If the company supplies a suite of services, including a corporate portal available anytime at work, at home, or in the car, the necessary hardware and software and value added services (VAS's) available at additional cost for less work-centric features, employees would be likely to use and be loyal to this service.

Carrying this model outside the company, similar services could be offered to customers but with a CRM focus. If the brand is powerful enough, customer loyalty programs linked to the MVNO service could create more consistent and useful interaction with customers.

Carrying this model outside the company, similar services could be offered to customers but with a CRM focus. If the brand is powerful enough, customer loyalty programs linked to the MVNO service could create more consistent and useful interaction with customers. Customers would be nearly as empowered as the employees for certain applications such as order placement, tracking and problem resolution, while also taking advantage of premium data services that are personalized to each individual user of the service.

The scenario proposed by this group included 'Branding All Over Them," meaning that the mobile devices, the applications, the services; virtually everything would carry the enterprise brand. The affiliate services would be co-branded with third-party service providers with the following list of services as examples:

- Voice Recognition / VXML
- Messaging
- Corporate Portal Access
- VoIP (Voice over IP)
- Voice Telephone Service with hardware
- Access to Personal Services
- Security Applications and Privacy

The MVNO in this scenario could also extend its model through channel development activities. The MVNO enterprise would package its entire offering for resale through another major brand, UPS for example, in essence making UPS the OEM of the enterprise MVNO service. Channel selling has proven to be an efficient means of expanding a customer base for enterprise companies, and the carrier who is at the foundation of this value chain would benefit by letting the marketers do the marketing while the carriers act as MVNEs (Mobile Virtual Network Enablers). The entire MVNO value chain for this scenario starts with the carrier, which enables the enterprise to build a branded MVNO service. This service then offers this same package to other enterprises, either co-branded or private label, with every participant getting a share of the revenue.

Group I proposed that the first MVNO to develop industry standard VASs to enterprise professionals may capture a large share of the market by being first out of the box. One company that seems well positioned for this approach is IBM with a strong corporate portal strategy that could be extended into the mobile arena.

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## Group II

**Target Group:** Sports fans
**Profile:** Large addressable market with regionality, male 18-34
**Branding:** ESPN “Plus Wireless”
**Partnerships:** Major sports leagues & organizations, ticket companies, stadiums
**Revenue Sharing:** Licensing fee on “official logo” products

The first of two groups to target the sports fan, Group II highlighted the importance of recognizing the staunch loyalty of sports fans as an opportunity to leverage an existing target market. Sports fanatics are a common denominator around the world, with the U.S. market being no exception. Baseball, basketball, football, auto racing and many other sports enjoy consistent loyalty that lasts the lifetime of their fan. While each sport has a large addressable target audience, each region can narrow that focus even further, creating opportunities for locally targeted sub segments.

The ESPN brand was used as an example of an entity that could enable all of the leagues and teams with co-branded services in the wireless domain. In the television medium ESPN enjoys strong brand loyalty among most major types of sports fans and offers multiple channels of content. ESPN could extend its presence into the wireless space by creating ESPN “Plus Wireless” service in the major sports markets and a “Your Team, Anywhere, Anytime” service. The basis of all sports is data, and the mobile phone would be a good tool to deliver timely statistics, scores and news related to a specific fan’s personal profile.

Other suggestions included an SMS messaging service, which could be used between fans of the same team, private groups created by fans, or even for bantering between supporters of different teams. As fans travel to other markets, the natural roaming feature of mobile devices could engage location-based services for out-of-town fans, creating new commerce and advertising opportunities. These features could be built on exclusive partnerships with entities affiliated with the teams or the leagues. The revenue could be shared based on usage of branded services or sales of branded products.

**GROUP III**
**Target Group:** Business professional / financial consumer
**Profile:** 25-45, High income, highly mobile, early adopter
**Branding:** CNN
**Partnerships:** Banks, trading companies, financial content providers
**Revenue Sharing:** Wireless access reseller channel

The business professional was the focus of this group, but with a different approach from Group I. In this scenario the target audience is supported by a media brand, not the enterprise employer. The primary interest of the target group is financial success, paying particular attention to the high-end professional who travels often, earns at the high-end of the income spectrum and likes to use the latest technology.

Group III chose CNN as the brand for a couple of reasons. CNN is already heavily into electronic media, offering many Internet-based services to their audience, has a strong association with the finance industry, offers a neutral platform for partnerships and offers possible routes to other markets once they become established in the finance vertical of the MVNO opportunity.

The message that participants in this group proposed was centered around personal success, the opportunity to get ahead financially by using highly focused tools, and to demonstrate that success by flashing the latest equipment with the latest services.

Partnerships in this scenario were completely focused on the finance domain, the group suggesting that major brands would benefit by partnering with CNN. In every case, they contended that the most notable brands must be part of the package offering examples that included Bank of America and Wells Fargo for banking, Charles Schwab and Merrill Lynch for investment services and well known financial content companies like the Wall Street Journal for news and data. No specific examples were given for e-Commerce partners. Revenue would-simply come from CNN reselling the wireless services of the carrier as the wholesaler or MVNE.

**GROUP IV**
**Target Group:** NFL Sports Fanatics
**Profile:** Broad demographic, rabid fans, traveling fans
**Branding:** Oakland Raiders
**Partnerships:** NFL, travel companies, beer makers, concessions
**Revenue Sharing:** MVNO shares in branded supplier revenues

> The key success factor highlighted by this group was the premise that the carrier must stay focused on a whole-sale business model and allow the brand to carry the weight of the marketing, the carrier remaining in the MVNE role.

While Group IV also used the sports fan as a ripe target for MVNO services, they focused on the regional loyalty by selecting a specific team in a specific market in the NFL (National Football League). Each team carries a strong brand and strong affinity within each market which could enable the mobile carrier in the local market to tap into that affinity as the MVNE for local sports teams.

This group looked at the target market with less focus on age and sex, instead believing that most sports fans have common interests when it comes to their team. They created the message "Play along with your team" as a way to tag interactive mobile services. The services brainstormed in Group IV included interactive real-time games, ticket sales, statistics, merchandising, gambling, chat, custom ring tones, face plates and SMS voting. The key success factor highlighted by this group was the premise that the carrier must stay focused on a wholesale business model, and allow the brand to carry the weight of the marketing, the carrier remaining in the MVNE role. The carrier could also get into the MVNO revenue stream by taking a percentage of the brand's revenue.

## Business Model Components for the U.S. Market

As a group exercise, participants brainstormed a list of components that could be incorporated into successful MVNO business models.

- Sponsored services subsidized by brands
- A single device that can access all applications; carriers will leverage their infrastructure for profit models
- Provides access to desktop applications such as email
- Vertical market opportunities include 1) field services support, 2) sales support for mobile users, and 3) access for specific vendor applications such as Oracle, SAP & Siebel
- Bell curve thesis: Within the next 24 to 48 months, the curve wil rise on proliferation and fall on consolidation; if this proves true then 1) there may be a limited-term opportunity to set up a business as a provider of custom MVNOs, 2) they may be near term business opportunities in the enabling space for MVNOs, and 3) the long-term prospect may suggest that the carriers should focus more energy on this opportunity
- Hands-free mobile telephony; most Americans access their mobile phones in the car
- Loyalty programs w/MOUs as the currency for use of the phone and accompanying credit card; bill and rewards come from one brand/bill
- MVNO is a VAR that owns a customer's customer base; it will sell services from multiple types of networks run by multiple operators
- Focus on and understand WHO your customer is and what he/she wants; THEN adapt the service offerings
- Free phones
- Short Messaging Services (SMS)
- Location-based
- Info-entertainment
- Co-branding
- VAR services
- A two- and three-tier delivery model which was very unsuccessful for DSL wholesalers may apply here
- Group data content for each specific "Interest Group" and bundle an adequate (price, volume) plan with it into a package; focus on the Identity and "psyche" of the group
- Ability to spread customer acquisition costs & relationship management costs across multiple "product/service" areas
- Possible business models: 1) multi-channel consumer - Example: Geneva & Virgin, 2) hybrid - Example: Nokia, 3) UPN Analog - Example: Enterprise Defense, and 4) Parasitic - Example: Nomadic, HighlyTuned, 3Com Park

## Key Enablers to Move the MVNO Market in the U.S.

The group also provided ideas for key enablers to move the MVNO market in the U.S. over the next 12 to 18 months.

- Pre-paid data, such as SMS
- Carriers changing their mindset that they must own the customer relationship
- Mobile data applications offered from existing Internet applications will allow carriers to sit between customers and their information
- Middleware: API Gateway interface between desktop application and mobile devices such as PDA, mobile phone, pager
- Bandwidth technologies - new ways to utilize band width to deliver rich content without the need for 3G infrastructure.
- New devices & products for push & pull strategies
- Marketing / lifestyle message through brands
- Infrastructure

- Proliferation of network-enabled devices
- Roaming & billing and other support services
- Providing people with ability to attach one identity to all services and devices
- Excess capacity from carriers
- Brand owners participation
- Ability to provide more value added data services than the carriers can. Will show unique value
- Location (GPS, enhanced 911)
- Receiving & storing data while "off"
- Low-cost barrier to entry; phones are still very expensive when you add all of the accessories; larger subsidies to kick start the market
- Strong, competitive wholesalers of the communications infrastructure, analogous to what generic e-Commerce backend offered to retailers
- Improved user interface methods to interact with a device in a digitized way
- Privately sharable location-based services

## Challenges to Overcome for MVNO Adoption by the U.S. Market

Participants identified some of the key challenges to the successful launch of the MVNO market in the next 12 to 18 months. These challenges, in turn, indicate potential market opportunities.

- The "control" mentality of the carriers
- The lack of network and device capabilities
- Lack of a "Killer Application" (though some participants believed two-way text messaging was THE killer application)
- U.S. networks not compatible/interoperable with one another
- out of U.S. infrastructure for 3G
- Allocation of frequency, specifically, military use and applications in the range that business and enterprise needs
- Meeting consumer expectations of acceptable performance and customer intimacy in a cost-effective way
- Cost
- Technology
- Quality of Service
- Lack of better functioning connectivity
- Competing U.S. standards / lack of standards for
- bridging communications across a hybrid of carrier networks
- Wireless coverage
- MNO & MVNO 50/50 models assume brands are constant; impacts flexibility of VNO brand to move
- Technology-driven mind sets and solutions
- Ability of an MVNO to reach a significant market size based on their "Affinity" factor for brand-driven customer acquisition

## Conclusion

The highlights of the day included the consensus that effective targeted marketing would separate the successful MVNOs from the losers and that carriers are not likely to succeed on their own because of their lack of marketing savvy, relegating them to MVNE status. It seems that a bouquet of services customized to the different audience groups will be a good start, with SMS as a key enabling application for MVNOs

The network interoperability issue remains a sticky and difficult challenge for all players in the U.S., carriers and MVNOs alike. Following the model of Virgin indicates that lifestyle of the users will reveal the kinds of products and services to offer the different target groups, with enterprise users having one set of needs, while sports fans have another and commuters yet another. Where one is located becomes as important as who one is in mobile business models, and the MVNO opportunities suggested by the Think Tank Session participants seemed to support that idea.

## The Last Word

At the end of the Session, participants were asked to identify one word considered key to MVNO market adoption.  The results are below and include an asterisk adjacent to the words for each vote received from the group. Brand and identity topped the list as the most critical element of a successful MVNO strategy, once again reflecting the obvious success of the Virgin model and the very weakness of traditional mobile carriers.

- Brand **********
- Identity *****
- Applications **
- Services **
- ARPU (Average Revenue Per User) **
- Syndication **
- Revenue **
- Loyalty *
- Profit
- Speed
- Focus
- Standards
- Access
- Cash Flow
- Churn
- Leverage

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*These proceedings were written by Robert Noakes.*