



**Continental Automated Buildings Association**

# Information Series



**IS 2008-66**

**The Six Competitive Factors for Hot Spot Success**



# The Six Competitive Factors for Hot Spot Success

Reprint Date: June 2008

This report was developed by MultiMedia Intelligence and is published by CABA with permission from MultiMedia Intelligence. CABA expresses its appreciation to MultiMedia Intelligence for making this report available to be included as part of CABA's INFORMATION SERIES.

Neither MultiMedia Intelligence, nor CABA, nor any other person acting on their behalf assumes any liability with respect to: the use of, or for damages resulting from the use of, any information, equipment, product, method or process disclosed in this report.

This full report and other INFORMATION SERIES reports appear on CABA's Web site "Members' Lounge": (<http://www.caba.org>), and are available to CABA Members. This information is also keyword searchable. Contact the CABA office if you do not have the passwords to access this material by email [caba@caba.org](mailto:caba@caba.org) or phone 1-888-798-CABA [2222]. CABA requests that its express written consent be obtained prior to the reproduction, in whole or in part, of any of its INFORMATION SERIES publications.



*IP Video to the Nth Screen*

# The Six Competitive Factors for Hot Spot Success

A MultiMedia Intelligence Whitepaper

Published Date: January 2008  
Author: Amy Cravens  
Phone: 602-770-8346  
Email: amy@multimedaiintelligence.com  
Report #: MMI080101WP

### ***Whitepaper Copyright and Usage Policy***

MultiMedia Intelligence encourages the copying or editorial usage of all or part of this editorial, provided that MultiMedia Intelligence is cited in subsequent publications. The text can also be summarized, paraphrased and/or quoted, with quotes attributed to Mark Kirstein, President of MultiMedia Intelligence. The full whitepaper can be posted for internal corporate access or emailed directly among individuals. Publications & Blogs may post the full whitepaper online for general distribution with permission. Please contact MultiMedia Intelligence for details. Contact us directly for exclusive commentary and quotes.

This report is the property of Multimedia Intelligence. Multimedia Intelligence grants you this individual, limited, non-exclusive, non-transferable, non-assignable license solely to use the report in print and electronic form. The information presented in this report is believed to be accurate and complete. The information represents the good faith analysis and interpretation of industry information. However, the information is provided “as is” without warranty, either expressed or implied.

© Copyright Multimedia Intelligence, 2008. All rights reserved.

## In the Beginning . . .

---

Hotspot access has not achieved the ubiquity in coverage, the consistency in quality of service, nor the frequency in usage anticipated when the market initially began to expand in 2001. However, the market for public Wi-Fi access remains a vital market with continued network and usage expansion. Shifts in the market that have begun to transpire over the past several years will be the key to future revenue growth in the hotspot market.

The hotspot market has grown from a network of fewer than 100 venues and a handful of players in 2001 to an anticipated 180,000 locations worldwide by end of 2007. Hotspots are available in numerous location types, but for classification purposes, MultiMedia Intelligence groups venues into 9 distinct categories including airports, cafés, convention centers, hotels, marinas, public, retail, RV park, and transportation. The most common venue types in terms of quantity or frequency of usage are airports, cafés, and hotels.

The players in the hotspot market vary almost as much as the location types. Initially the hotspot market was developed by remote access providers delivering wired broadband access to business travelers, which then morphed into wireless access as Wi-Fi became prevalent. Leading mobile and fixed line telecom providers quickly entered the market either through acquisition of existing hotspot networks or organic network deployment. In the US market, many of these players soon exited the market, or chose to provide hotspot access to their customers through wholesale arrangements. Internationally, large operators continued to be the primary hotspot providers: however, the European market is now moving more to the wholesale model.

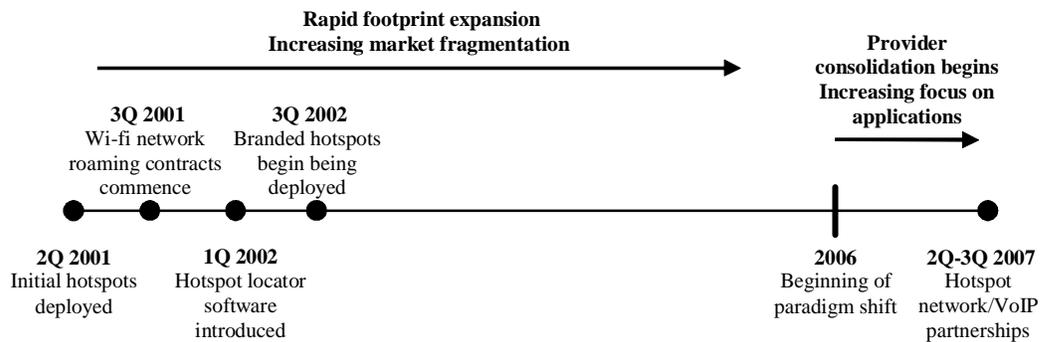
Simultaneous to network growth, the universe of hotspot providers expanded rapidly over the initial years of the hotspot market, with thousands of small providers operating networks. To address the growing hotspot fragmentation, roaming providers emerged in 2001 to consolidate the numerous independent networks under a single access subscription. Roaming providers either sold access to this consolidated network to enterprises, individuals, or wholesale.

The market continued to develop under this paradigm of increasing market fragmentation and rapid footprint expansion. Some element of consistency was introduced to footprint expansion in 2002 with the introduction of “branded” hotspots. Hotspot network providers began entering into arrangements with leading venue brands such as Starbucks, Borders, and McDonalds, to provide service across all the brand’s store locations. This allowed the hotspot user some element of expected coverage in certain venues.

# Paradigm Shifts in Deployments

Despite the enormous growth in hotspot footprint over the past several years, coverage is still limited to certain venues. While universal hot spot coverage has not occurred, an important shift has happened. There is a shift from quantity of locations to quality of locations, which will have significant implications on usage. The principle elements of this paradigm shift are a trend toward provider consolidation and an increasing focus on network quality.

Figure 1. Hotspot Market Development 2001-Present



Source: MultiMedia Intelligence, 09/07

Provider consolidation is occurring among both the small “mom and pop” operations as well as among the major telecom operators. The smaller providers are finding it difficult to compete against the increasingly sophisticated service offerings of the more established providers and are thus selling off their footprint or simply exiting the market. Some of the telecom operators previously operating hotspot networks have determined that purchasing access through wholesale relationships is the better model.

The second element of this paradigm shift is network improvements. Providers are enhancing their networks to better sustain higher traffic loads and multiple traffic types. Backhaul is being upgraded to support increasing usage as well as to support dual direction traffic. Traffic management capabilities are being implemented to assign priority levels to traffic, a capability that will be important for the emerging opportunity for VoIP carried over hotspot networks. The paradigm shift of consolidation and network enhancement was set in motion in 2006, but is still in its initial stages. Only a small portion of providers have implemented network upgrades, and the effect of these upgrades is yet to be fully realized. As this new paradigm for the hotspot market transpires, new opportunities emerge as do challenges.

# Growth Enablers & Opportunities

---

- Availability: Footprint remains a key driver in usage; thus, it bodes well for market development that network operators anticipate continued network expansion.
- Market consolidation: Network expansion for many providers will partially result from company acquisitions as the market consolidates. Market fragmentation has always been a barrier to usage; thus, a move toward greater consistency will enhance hotspot usability.
- Broadening consumer base: Hotspots have largely been a service catering to the business traveler, but a shift in market focus towards consumers is eminent as access equipment and pricing components necessary for a consumer play begin to fall in place.
- Emerging applications: In addition to the legacy services, hotspot providers are generating revenue from developing applications, particularly VoIP, but also gaming and other entertainment services. Distinct pricing plans for these emerging applications are beginning to appear, a trend which is expected to continue.
- Expanding revenue opportunities: In addition to customer subscriptions, roaming and resale revenues, network operators are pursuing additional revenue opportunities including emerging user applications and location based advertising.
- Back office services: This aspect of the hotspot market is on the cusp of becoming a realized potential for hotspot networks. The concept of using a guest network for back office purposes has long been discussed, particularly in the hospitality market, but only over the past year has this notion began to be expanded upon, commercialized, and implemented. There are seemingly limitless uses for Wi-Fi for operational purposes such as customer ordering, cashless payment, VoFi (Voice over Wi-Fi), and environmental monitoring.
- Network enhancements: To support a broadening base of network uses and users, leading network operators have, over the past year, focused on implementing necessary network enhancements.

## Recommended Actions for Providers to Accelerate Market

To capitalize on the impending hotspot market opportunity, providers must position their networks and service offerings to address the new hotspot opportunity. A portion of this effort is through continued network expansion. Research shows that growth in usage is still closely tied with continued footprint

expansion. Targeted footprint expansion, selective in venue and cohesive through branded deployments, will have the greatest impact on increasing usage. Given the opportunities for market consolidation, footprint expansion is likely to encompass both organic growth as well as acquisition of high value venue real estate.

Pricing strategy is a key element in determining usage rates for new and existing venues. Pricing as it currently stands is targeted to business users, with the exception of the Asia Pacific market which from the inception of the hotspot market priced and marketed the Wi-Fi service for consumer usage. In Europe and North America, providers need to incorporate a consumer targeted pricing strategy. Consumer hotspot offerings, however, must be distinguished from a business class offering.

The third element to an effective provider strategy is a focus on applications. Significant investment has been made in laying the foundation for hotspot service with network hardware and software capabilities. Providers are now positioned to leverage that investment by layering applications on top of basic user connectivity. Business, consumer, and back office applications present a host of opportunities to bolster basic access fees. In the uncertain light of future pricing for hotspot access, the additional revenue from applications may become particularly significant in coming years. These networks have been created and should be used to their maximum potential, which for the most part, they currently are not.

## **Growth Inhibitors & Threats**

---

- **Competitive networks:** Despite the complimentary element of 3G, it does cannibalize a portion of hotspot Wi-Fi usage. Additionally, over time, WiMAX could pose an additional challenge to Wi-Fi usage.
- **Network consistency:** The hotspot market, with its restricted coverage compared to 3G networks, has suffered from fragmentation and uncertain availability.
- **User friendly:** Another thorn for hotspot service has been the relatively complicated process of connecting. Additionally, the process of connecting varies from venue to venue, and once connected, the user experience is often as varying as the connection process.
- **Marketing strategy:** Other than site-based advertising, there has been very little marketing surrounding the hotspot market. While this was less critical with a business audience who tended to seek out hotspots, providers cannot rely on consumers to be so self-guided.

## Recommended Actions to Overcome Inhibitors

Roaming arrangements and branded deployments have done a great deal to provide consistency to users. There is consistency in where access is available, and a similar experience from one usage session to the next. As the hotspot market embraces consumers; however, it will be increasingly important to step-up marketing and awareness initiatives and bring hotspot networks into general consciousness. To promote usage among consumer audiences, they will need to become much more aware of the service, an initiative MMI believes will best be addressed by both the branded venues (McDonalds, Starbucks) as well as the service provider selling to the consumer (ISP, mobile operator).

## Competitive Success Factors for Providers

---

For a hot spot provider to be success, there are six key success factors that need to be addressed in an offering. Comprehensive execution on the factors means market success. Failure leads to a company becoming the acquired.

1. Widespread Coverage—**The more locations, the better.** Significant coverage, whether through footprint or roaming arrangements, is the foundation of the hotspot market and directly effects usage rates. Usage remains tied to number of venues, and growth in usage is a largely tied to growth in venues. Thus, at this point in market development, without continues venue expansion, growth in usage would slow.
2. Venue composition—Size of footprint alone does not determine operator success. **Type of venue is very significant** in that some venue types, such as hotels and airports, experience much higher usage rates compared to cafés and retail. Network composition must include a large number of high traffic venues to drive success. Many of the failed providers in the market to date have focused exclusively on the café market, which did not have the usage rates to support the service.
3. Branded—Branded deployments, such as Starbucks, McDonalds, and Borders, as discussed in later sections, provide location consistency across an operator’s network. With the disparate coverage inherent to the hotspot market, **branded deployments guide users** to well known hotspot venues where access is assured.
4. Multiple pricing plans—Frequency of hotspot usage varies significantly, with some only rarely accessing such networks, while “road warrior” types may access quite frequently. It is important that a provider **offer a one time access fee in addition to subscription rates.** While the market is still largely dependent on one time, or pay-as-you-go, payment plans, subscriptions are a more attractive and consistent revenue source; thus, strategies to promote subscription purchase are highly desirable.

5. Bundling—Bundling is one strategy to promote subscription purchase. **Bundled or add-on services leverages an existing base of subscribers** to up sell an additional service. Operators that have a subscriber base to which they can introduce such offers are at a significant advantage. Hotspot bundling initiatives to date have principally targeted residential broadband, mobile services and VoIP.
6. Alternative device strategy—Several providers have launched usage and pricing strategies for non-PC devices. Such devices may include handheld gaming devices, cameras, or phones with Wi-Fi access capabilities. **Wi-Fi phones present the greatest opportunity** to develop an entirely new usage market based on the hotspot market.

Consumer strategy—Hotspot access to date has principally been a business user-oriented market given the focus on laptop access and the relatively high access cost. However, with the introduction of Wi-Fi enabled handheld devices, particularly phones, the device market is beginning to open to consumers. As handheld device prices drop with wider market adoption, there will be a large market of Wi-Fi equipment carrying consumers for hotspot providers to target. The challenge will be for these providers to develop service offerings, and pricing, that will cater to these users.

## Market Trends & Predictions

---

### *Consolidation*

There are thousands of small operators in the hotspot market providing service to a handful of venues. As networks become more sophisticated to support a growing array of applications as demanded by the users, smaller providers will less likely be able to compete effectively. The hotspot market is maturing and is poised for further consolidations as leading providers absorb smaller networks. Nevertheless, this will be a slow and incomplete process, and thus it is MultiMedia Intelligence's (MMI) anticipation that there will continue to be a need for third party roaming providers to create a bridge among the various isolated network.

### *Bundled Offerings*

MMI believes that the most effective players to market hotspot services are those that can include hotspot service in a bundle of services. As the market branches from the individual business user, both upstream to corporate level contracts, as well as downstream to the consumer market, success will best be achieved by packaging hotspot access with either mobile or broadband services. This is a strategy that is well developed in South Korea and has resulted in a well developed and utilized hotspot market.

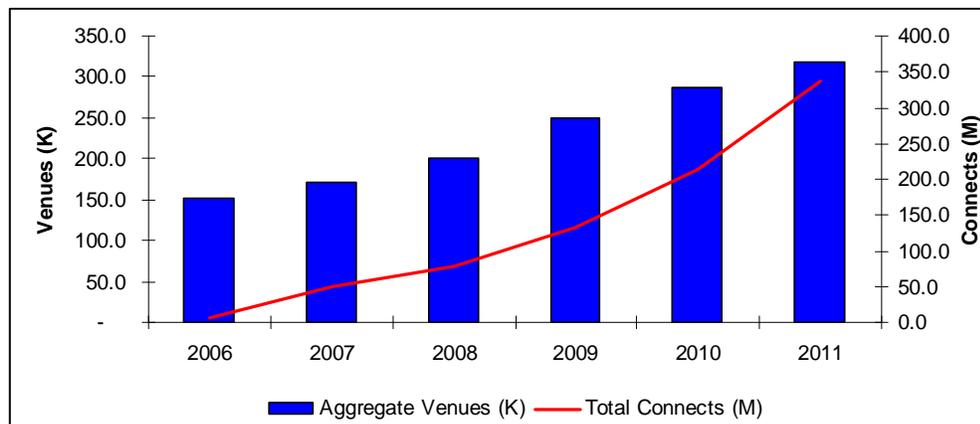
## Handhelds

MMI anticipates handhelds to account for 50% of hotspot sessions within the next two years. This will have dramatic implications on who uses hotspots, for what purposes they are being used, and the duration of session. All of these transitions will require providers to have a specific pricing strategy for handheld usage, because it will truly be a completely different service than laptop-based hotspot service.

## Consumer Usage

The hotspot market is poised for a surge in usage growth due to MMI's expectation for consumer adoption. MMI anticipates to consumer usage to impact growth in connects in 2008, but will have the greatest impact in 2009. Consumer usage will be driven by: the increasing availability and deteriorating price points of dual-mode phones, new hotspot pricing models, and consumer focused applications.

Figure 2. Worldwide Hotspot Venues and Paid Connects 2006-2011



Source: Multimedia Intelligence

---

MultiMedia Intelligence contributes their expertise of both media and technology to help companies capture these opportunities and others. We provide market research, consulting and other market development services help our customers.

This whitepaper is based on MultiMedia Intelligence's new Hotspot research.

# Hotspots: The Next Generation

Consumers...Handsets...VoFi

**Published Date: November 2007**

**Author: Amy Cravens**

**Pages: 42**

**Phone: 480-213-4151**

**Email: [Amy@multimediantelligence.com](mailto:Amy@multimediantelligence.com)**

**Report#: MMI070402IBM**

The business market for hotspot usage is well understood, but how do hotspot operators drive usage to the next level? The hotspot market is moving beyond just business travelers accessing airport and hotel hotspots on a laptop. There is an impending revolution in the hotspot market characterized by consumer usage, handheld access, and new applications, especially Voice over Wi-Fi (VoFi).

But hotspot services, as they exist today, are a barrier to such evolution. Providers must redesign hotspot offerings, everything from pricing to device interface, to cater to the consumer market. How can providers embrace consumers without discounting their existing, high margin, business offering? How can providers capitalize on the \$5 billion revenue opportunity MMI forecasts by 2011?

The hotspot market is also challenged with the potential competitive threat presented by WiMAX initiatives. What effect will WiMAX have on hotspot offerings? How will the introduction of VoFi change the competitive balance of cellular and hotspot services?

With the hotspot market on the cusp of significant transformation, many of the standards in the hotspot market are being brought into question again. This report will provide a perspective of the hotspot market, where it began and where it is now. It will examine issues of venue, pricing, and marketing strategies and provide perspective on moving hotspot services into the new generation. This report will provide detailed competitive analysis of hotspot operators, resellers, and roaming providers and discuss key success factors going forward. Finally, a detailed forecast is provided including venue forecasts by region and venue type as well as usage and revenue forecasts segmented by region, venue type, access device, user type (consumer versus business), and payment method (subscription versus pay-as-you-go).

**For More information on these reports, visit:**

[www.MultiMediaIntelligence.com](http://www.MultiMediaIntelligence.com)

or [Click here to Purchase](#) the report.



## Table of Contents

- Executive Summary*
- Introduction & Methodology*
- Market/Industry Assessment*
  - Overview**
  - Growth Enablers & Opportunities**
    - Recommended actions to accelerate market
  - Growth Inhibitors & Threats**
    - Recommended actions to overcome inhibitors
- Market Structure*
  - Hotspot Operators**
  - Roaming Providers**
  - Branded Resellers**
- Competitive factors: Company level*
  - Success factors:**
- Market Trends & Predictions*
  - Consolidation**
  - Bundled Offerings**
  - Handhelds**
  - Consumer Usage**
- Physical Aspects of Deployment*
  - Hotspot Network Deployment**
    - Hotspot Network Components
- Technology Assessment*
  - 802.11 WLAN Overview**
    - 802.11a
      - Strengths
      - Weakness
    - 802.11b:
      - Strengths
      - Weaknesses
    - 802.11g
      - Strengths
      - Weaknesses
  - A Coexistence of Standards**
  - Security**
- Competitive/Complimentary Technologies*
  - Wi-Fi vs. 3G**
  - Wi-Fi vs WiMAX**
- Venue Analysis*
  - Tier Classification**
  - Commercial vs. Free**
  - Branded**
- A Fragmented Market Seeking Consolidation*
- Competitive Analysis of Roaming Providers*
  - Boingo**
    - Network
    - Pricing Plans
    - Customer Focus
    - Usage
    - Initiatives
  - iPass**
    - Network
    - Pricing Plans
    - Customer Focus

- Usage
- Initiatives
- Trustive**
  - Network
  - Pricing Plans
  - Customer focus
  - Usage
  - Initiatives
- WeRoam**
  - Network
  - Pricing Plans
  - Customer Focus
  - Usage
  - Initiatives
- Customer Assessment*
  - Customer Segmentation**
    - End customers
      - Business Users
        - Psychographic Profile
        - Usage demands
        - Usability Assessment
        - Opportunity
        - Segment Recommendations
    - Consumers
      - Psychographic profile
      - Usage demands
      - Usability Assessment
      - Opportunity
      - Segment Recommendations
- Emerging Network Applications*
  - Consumer Applications**
    - VoFi
    - Gaming
  - Back Office Applications**
- Business Models*
  - Model Considerations**
    - Paid versus Free Access
    - Consistency of revenue stream
    - Customer segmentation
    - Wholesale versus Resale
  - A Balance of Models for Hotspot Sustainability**
- Market Sizing & Forecasts*
  - Venue Growth**
    - Growth by Type of Venue
    - Growth by Region
      - Asia Pacific
      - Europe
      - North America
  - Usage Growth**

## List of Tables

- [Table 1. Leading Hotspot Provider Comparative Analysis](#)  
[Table 2. 802.11 Protocol Comparison](#)  
[Table 3. 3G/Wi-Fi Comparison](#)  
[Table 4. WiMAX/Wi-Fi Comparison](#)  
[Table 5. Growth in Worldwide Hotspot Footprint \(K\), 2006-2011](#)  
[Table 6. Growth in Worldwide Aggregate Hotspots by Type of Venue, 2006-2011](#)  
[Table 7. Asia Pacific Aggregate and Annual Hotspot Deployments, 2006-2011](#)  
[Table 8. European Aggregate and Annual Hotspot Deployments, 2006-2011](#)  
[Table 9. North American Aggregate and Annual Hotspot Deployments, 2006-2011](#)  
[Table 10. Worldwide Hotspots Connects per Month by Region \(in Thousands\), 2006-2011](#)  
[Table 11. Worldwide Hotspot Annual User Revenues by Region \(US \\$ in Million\), 2006-2011](#)  
[Table 12. Subscription \(pre-paid\) Vs. Pay-As-You-Go User Revenue by Region \(US \\$ in Million\), 2006-2012](#)  
[Table 13. Worldwide Monthly Hotspot Connects per Month by User Type, 2006-2011](#)  
[Table 14. Worldwide Monthly Paid Hotspot Connects per Month by Venue Type, 2006-2011](#)

## List of Figures

- [Figure 1. Worldwide Hotspot Venues and Paid Connects 2006-2011](#)  
[Figure 2. Hotspot Market Development 2001-Present](#)  
[Figure 3. Hot Spot Market Structure](#)  
[Figure 4. Universe of Hotspot Roaming Relationships](#)  
[Figure 5. Typical Hotspot Architecture](#)  
[Figure 6. Hotspot Classification](#)  
[Figure 7. Growth in Worldwide Hotspot Footprint, 2006-2011](#)  
[Figure 8. Worldwide Hotspot Deployment by Venue Type, 2007 & 2011](#)  
[Figure 9. Growth in Worldwide Aggregate Hotspots by Region, 2006-2011](#)  
[Figure 10. Worldwide Annual Hotspots Connects \(in Millions\), 2006-2011](#)  
[Figure 11. Average Session Time for Laptop Connects & Worldwide Total Monthly Minutes Connected-Laptop Only \(M\), 2006-2011](#)  
[Figure 12. Worldwide Hotspot Connects by Access Device, 2006-2011](#)

## Companies Noted in the Research

Aptilo	FON	Lotteria	Swisscom
AT&T	Google	MagiNet	Telefonica
Barnes and Nobles	Hard Rock Café	McDonald's	Telenor
BeeNet	Hertz	Nintendo Wi-Fi	Tengo Internet
Best Western	Hilton Hotels	Nokia	The Cloud
Boingo	Holiday Inn	Novotel	Time Warner
Borders	House of Blues	NTT	T-Mobile
BT Openzone	Hyatt	O2	TrueMobile
China Mobile	iBAHN	Orange	Trustive
China Netcom	IHOP	PCCW	Verizon Business
China Telecom	Inspired Gaming Group	Portugal Telecom	Vocera
Coffee Bean & Tea Leaf	Intercontinental Hotels	RoadChef	Vodafone
Colubris	iPass	Samsung	Vonage
CredEcard	Japan Telecom	Skype	Wayport
EarthLink	JiWire	Sofitel	WeRoam
ePLDT	KPN	Sprint	
Espresso House	KT Nespot	Starbucks	
FedEx Kinkos	Livedoor	StayOnline	



## About Multimedia Intelligence

MultiMedia Intelligence specializes on the markets and technologies for delivering IP-based video to the 'nth' screen. The company provides a comprehensive set of marketing & business development services to its customers. We look beyond the classic 'three screens', which include TVs, mobile handsets, and computers. We put markets into the broader context of the industry ecosystems that are converging and changing traditional business models. MultiMedia Intelligence provides a unique, comprehensive perspective.

MultiMedia Intelligence is founded by industry veterans.

### **Mark Kirstein** — President

Mark has a proven track record in the market research field. Prior to forming MultiMedia Intelligence, Mr. Kirstein founded the multimedia research coverage for *iSuppli*, as VP of Multimedia Content & Services. Previously, Mark was Vice President and General Manager of *In-Stat* with full P&L responsibility. He led business strategy, sales, operations, business development and market analysis.

### **Frank Dickson** — Chief Research Officer

Frank has over a decade of industry and market research experience. Frank is the former General Manager of MicroDesign Resources and Publisher of *Microprocessor Report* and Microprocessor Forum. Frank was also a former Vice President with In-Stat. Responsible for In-Stat's Convergence Group, he directed the firm's multimedia and convergence research.

### **Rick Sizemore** — Chief Development & Strategy Officer

Rick contributes over 25 years of technology experience, strategic marketing/business development, product development as well as market research. Rick previously worked for leading technology suppliers including *Intel*, *Burr Brown*, *STMicroelectronics (STM)*, and *TCL*. Mr. Sizemore also founded consulting firm, TRIMM (Total Research in MultiMedia) in the early 1990s, contributing to the success of pioneering companies in the early digital video and audio space.

