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The Changing Face of IFE: The Re-launch of In-Flight Broadband

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The Changing Face of IFE: The Re-launch of In-Flight Broadband

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The Changing Face of IFE: The Re-launch of In-Flight Broadband

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The Changing Face of IFE

For the past 20 years airlines and passengers have had relatively limited options in regards to In-Flight Entertainment (IFE). Systems were clunky, with existing IFE systems on the majority of aircraft weighing up to 1000 pounds. Additionally the systems only supported limited, singular functionality (non-real time video). Airlines have had a strained relationship with traditional IFE providers, including a history of dissatisfaction with available solutions.

Much in the IFE world has failed. Given the regulatory and technical requirements, it is very difficult to make IFE viable, and is thus a complex arena to forge change. Over the past several years, there have been numerous attempts to deliver new in-flight entertainment and/or communication services. All have come at great cost: most have failed. However, this ***scenario appears to finally have evolved and MMI believes that IFE is entering into a period of rapid deployment.***

Driven to Evolve

Driving this evolution is a series of factors, including passenger, airline, and technology impetus. Passenger demands are ultimately what these emerging solutions seek to satisfy. Among the passenger trends influencing IFE evolution are:

- **Decreasing usage of traditional IFE offerings**. Passengers are opting less and less to partake of traditional in-flight offerings, namely the in-flight movie.

- **Increasing usage of personal devices during flight**. More and more passengers are bringing personal devices, including laptops, DVD players, and gaming devices, on board. This makes the already antiquated traditional offering even less compelling.

- **Passenger expectations are changing**. With the introduction of real-time TV programming launched by LiveTV, passengers are cognizant of emerging alternatives to traditional IFE offerings.

Airlines view upgrading IFE systems as a part of a larger effort to enhance customer experience. In-flight entertainment and passenger communication services have become a key part of medium and long haul air travel. While airlines, for the most part, remain noncommittal to any particular solution, they are exploring IFE options and are enthusiastic about emerging solutions. There is, however, remaining uncertainty about which applications and which technology to pursue. Nevertheless, many airlines share the philosophy of transforming IFE. This lends support to the growing initiative.

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Finally, there is the technology. The new generation of IFE solutions has corrected many of the faults of former solutions. Emerging IFE solutions are:

- **Lighter**: typically weighing around 150 pounds (or less) versus former systems weighing 1000 pounds

- **Less expensive**: current median pricing ranges around $150,000 per plane for infrastructure, as compared to previous systems costing several multiples higher

- **Quicker to implement**: minimal downtime for implementation of several days. This is a fraction of former implementation schedules.

The convergence of these three drivers (passenger behavior, airline enthusiasm, and technology improvement) creates an environment supporting change in the field of IFE. It is the coordinating effect of these multiple factors that leads MMI to believe that the environment is finally conducive to support the changing face of IFE. The remainder of this report will explore the emerging IFE options, focusing in particular on in-flight connectivity.

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Why Now? The Market Changes Since Connexion by Boeing

Given the vast resources backing Connexion by Boeing and the eventual failure of the initiative, it may be questioned why we are going down the in-flight broadband road again. How can start-up providers make this service work when an industry giant such as Boeing was not able to do so? Even though it has only been a little over a year since Connexion shut down, much has changed in the market that lends a more optimistic view of current initiatives.

Cost Is a Four Letter Word

From a technology perspective, the difference between Connexion and second generation solutions is night and day. **Bottom-line: current solutions are priced at a fraction of what Connexion cost.** Boeing had invested so heavily in preliminary infrastructure costs, to the amount of $1.5 billion, that when the solution was ready for market, the necessary price tag was exorbitant. Few airlines could consider implementing. This, coupled with the devastating effect of 9/11 on the airline industry, made the Connexion solution completely impractical. Current solutions cost less than half the cost of Connexion's per plane $500,000 price tag. Row 44 is quoting an installation cost of $200,000 per plane, and the company anticipates that with increased volume, this figure could fall to $100,000 over the course of the next several years.

Table 1. Comparison: Connexion vs. Now

	Connexion by Boeing	Now
Cost	$500,000	$200,000
Time to Implement	1 week+	2 overnights
Weight	1000 lbs	150 lbs
Passenger fee	$20-$30	$9-$12
Wi-Fi devices	laptops	laptops & handhelds

Source: MultiMedia Intelligence

There is also a cost savings with current solutions from decreased fuel burn. Traditional IFE solutions, including Connexion weighed nearly 1000 pounds. Current solutions weigh just 100 to 200 pounds. Table 3 summarizes the advantage, in terms of reduced fuel burn, of these lighter weight solutions. The table assumes an average weight of current solutions of 150 pounds. Fuel cost is estimated at $3.88 per gallon, which was the price of fuel as of May 2008.

Given these assumptions, these lighter weight systems will save an airline over $30 per plane per 1000 miles of flight. These calculations are based on narrow body planes (Airbus models A319, A320, and A321) which have approximately 125 to 175 seats per plane. The savings per plane per year is over $45,000. **On a fleet wide basis, assuming a fleet of approximately 400 planes, narrow body**

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and wide body jets, the annual savings is nearly $15 million. Additionally, air-to-ground (ATG) solutions, such as Aircell, do not create aerodynamic drag from an exterior antenna, which can add an additional 50 to 100 pounds of drag, which significantly increases fuel burn and with current oil prices at nearly $130 per barrel, adds materially to an airline's costs.

Table 2. Cost savings to Airlines: Connexion versus Now

	Connexion	Now
Weight (in pounds)	1000	150
Fuel cost (as of May 2008)	3.88/USG	3.88/USG
Increased fuel cost across fleet per day*	$48,100	$7,200
Increased annual fleet wide fuel cost (in Millions)	$17.6	$2.6
Increased fuel cost per plane per year**	$54,700	$8,200
Increased fuel cost/1000 miles (narrow body plane)	$37.68	$5.65

*assumes fleet of ~400 planes, multiple aircraft models

**Assumption based on narrowbody plane w/ an average of 150 seats

Source: MultiMedia Intelligence

A final cost savings to the airlines is implementation time. Current ATG and satellite solution providers are advancing that planes can be retrofitted with no disruption to regularly scheduled flights. Solutions, in theory, can be implemented in one or two Remain Overnight sessions (RONs), although the airlines are planning for several days (3-5) of downtime initially. Nevertheless, current solutions require less time for the plane to be out of service (several days versus several weeks) and thus have less impact on lost passenger revenue.

Revenue Is Not a Four Letter Word

While costs are coming down, airlines are also more willing to spend. As part of a large initiative to improve passenger experience, carriers are beginning to invest millions into upgrading their cabins. Airlines are showing a renewed interest in connectivity services as well as solutions that will support new forms of service and advertising. Airline willingness to invest in these solutions, however, could be mitigated by a slowing economy and rising fuel costs which are significantly weakening margins.

In addition to changes in technology and implementation, passenger behaviors and perceptions have also shifted. An increasing number of passengers are boarding the plane with Wi-Fi enabled devices. This includes not only laptops, but handheld devices as well. Wi-Fi is finding its way into a growing number of devices, from phones to gaming devices, which is broadening the base of potential users.

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The Drive to Monetize the Cabin

Connexion charged $25-$30 per flight for access. Airlines can now profitably offer passenger pricing for $10-$13, with prices as low as $8 on some flights. More discussion on pricing will follow in the consumer strategy section. Thus, the offering becomes appealing to both consumer and business travelers, greatly increasing the potential market.

In addition to lower price points driving increased usage, MMI believes that in-flight broadband will be supported by the larger trend among airlines to "monetize the cabin." There has been a dramatic shift over the past several years away from airlines offering free amenities, such as in-flight meals. In addition to meals, it is expected that airlines will soon charge for other items, such as beverages and blankets and pillow sets, as airlines move away from the amenity mentality.

There is a broad effort in the airline industry to create ancillary revenue, particularly in an environment of $115 per barrel oil. This is being accomplished by turning the airline cabin into a "flying merchandise mart" which is in effect changing passenger perception and willingness to purchase additional products in-flight. Rather than boarding a plane with no expectation of making a purchase, passengers are increasingly accustomed to pulling out their wallet during the course of a flight. If the general mindset is conducive to spending money on board, the usage rates for in-flight communications is also anticipated to rise.

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Market Opportunity

MultiMedia Intelligence (MMI) anticipates that given a projected 2H 2008 launch of revenue service (initially trials, with full launches ensuing). The in-flight broadband market will generate $6.6 million worldwide in passenger revenues in 2008. This is anticipated to grow to nearly $1 billion in revenues by 2012. It should be stated that these estimations do not include narrowband service nor do they account for ancillary services such as voice that may be delivered over the in-flight broadband system.

Growth Enablers & Opportunities

- Compared to Connexion, the cost for implementation and the weight of the solution are much improved
- Passenger fees have declined significantly, to the tune of half of Connexion's pricing structure
- Industry trend to introduce revenue-generating products and services into the cabin supports introduction of in-flight broadband
- Increased penetration of Wi-Fi devices, both laptops and handheld devices
- Emerging partnerships with hotspot roaming providers will drive in-flight Wi-Fi usage

Growth Inhibitors & Threats

- Large initial investment when provider owns access link (ex. Aircell)
- Significant red tape which will impede time-to-market and impede the ability to keep pace with the fast changing technology market
- Potential passenger disappointment when service does not meet expectations
- Uncontrolled hidden costs
- Frequent inefficient use of infrastructure
- Impact on aircraft operating economics (weight of solution, drag, etc.)
- Consistency in availability and passenger experience

This whitepaper is a summary of MultiMedia Intelligence's detailed market research report, Broadband In Flight: Wi-Fi and Direct Broadcast Video become Next-Generation of In-Flight Entertainment (IFE). This research report is available for purchase immediately. Additional information is below, or visit www.MultiMediaIntelligence.com

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Broadband in Flight: Wi-Fi and Direct Broadcast Video Become the Next Generation of In Flight Entertainment

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In-flight broadband is entering a new era. In addition to growth in DBS offering on-board flights, the past six months have seen announcements and strategic positioning as industry players prepare to re-launch in-flight service in the wake of Connexion by Boeing's failure.

With the imminent re-launch of in-flight Internet service, strategic positioning focuses on two core areas: bandwidth and technology choice. Competitors differ whether to offer a less costly narrowband solution, or a more costly, but more robust and future-proof, broadband solution. Within the broadband space there is also positioning between the two camps of in-flight broadband solution providers, those employing air-to-ground (ATG) technologies and those using satellite-based technologies.

Despite industry plight, airlines are continuing to invest in new entertainment services due to their potential for additional revenue generation. However, if fuel prices continue to escalate, cash for such projects may be in jeopardy. MultiMedia Intelligence (MMI) anticipates that with a projected 2H 2008 revenue service launch, the in-flight broadband market will grow to over $1 billion by 2012.

Broadband in Flight: Wi-Fi and Direct Broadcast Video Become the Next Generation of In Flight Entertainment examines the market for next generation in-flight entertainment (IFE), with a focus on in-flight broadband services. The market research report identifies the global market potential, usage, business models, and competitive analysis for the in-flight broadband market. Next generation IFE services are segmented by access technology (GSM, satellite, air-to-ground), as well as application (voice, video, and data). Forecasts include planes installed, installation revenue, and usage revenue. Key competitors are characterized, as well as the pros and cons of satellite compared to air-to-ground. The research was conducted by Senior Analyst Amy Cravens, who has many years of research and market expertise and is considered among the most authoritative sources on public broadband markets.

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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.

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