



## Market Roundup

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December 7, 2001

This Week

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### Connexion by Boeing Loses Equity Partners, Gains Uncle Sam

*By Charles King*

In-flight broadband service developer Connexion by Boeing has announced that United Airlines, American Airlines and Delta Air Lines have decided to suspend their planned equity investments in Connexion due to financial difficulties in the airline industry. All three airlines declared their continuing support of Connexion, as well as their interest in purchasing services at some future date, and Boeing is moving ahead to finish a prototype Connexion installation for Lufthansa Airlines by early 2003. An unrelated news report stated that Connexion has also contracted to install in-flight broadband solutions in an unspecified number of U.S. government aircraft. Connexion stated that it believed the contract with the government is likely to help drive future sales because government use of such technologies "will have driven the risk out."

Given the continuing hammering of the U.S. economy in general and travel-related businesses in particular, the decision by United, Delta and American to step away from investing in Connexion is no surprise. For that matter, we harbor serious doubts about the popularity Connexion services might actually generate, since its eventual sign-on costs, currently estimated to be between \$20-30 per hour, will be prohibitive for anyone but First Class or Business travelers with beefy expense accounts. That said, there is also little surprise in the U.S. government's apparently serious intent to deploy Connexion solutions. Since September 11, interest in technologies to provide in-flight security monitoring has skyrocketed, and the possibility of using Connexion for real-time video transmissions makes it a natural sell. In-flight connectivity should also enhance access to the private and secure Internet for which the U.S. government recently solicited RFPs. Besides, how else will a fun-loving chief of state satisfy a late-night hankering to play Doom online while seven miles over Kansas City?

Beyond Connexion's economic and commercial viability, and its use for security purposes, we find a notable irony in the center of this story. In 1965, the U.S. government's Advanced Projects Research Agency (ARPA) sponsored a study on a cooperative network of time-sharing computers, which eventually led to the commissioning of the ARPANET by the Department of Defense for research into computer networking. The U.S. government and its research laboratories provided notable, critical support to ARPANET, USENet, NSFNet and a host of other Internet precursors, and it can be successfully argued that the Internet would not exist in its present (or any other) form without that crucial first generation

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developmental assistance. Fast-forward to the present. While the government will certainly utilize Connexion's solutions for its own ends, we agree that successful deployments on military and government could assist in the eventual acceptance and success of in-flight broadband access. However, considering ARPANET's similarities to the current Internet, we believe Connexion's current solution set is but a precursor to what will likely be a far more sophisticated and hopefully better, faster and cheaper commercial solution.

## And Liberty for All? AOL/AMEX Join Liberty Alliance

*By Charles King*

In separate announcements, America Online and American Express voiced their intentions to join the Liberty Alliance Project as charter members. The Alliance describes Project Liberty as a collaborative effort to develop and deploy an open standards-based, federated, single sign-on network identity solution for Internet commerce. Companies involved in the Liberty Alliance include founding member Sun Microsystems, RealNetworks, eBay, the Apache Software Foundation, Sony, Bank of America, Verisign, Fidelity Investments, Dun and Bradstreet and Intuit.

To understand the full import of these announcements, a bit of background information is necessary. Project Liberty is the brainchild of Sun Microsystems, and is designed to create a single sign-on ecommerce technology that will compete directly with Microsoft's Passport. After the launch of the Liberty Alliance in September 2001, Microsoft derided the project as a simple outgrowth of Sun's position as head cheerleader in the ABM fan club. This was not an unreasonable assumption, given the two companies' mutual enmity and Sun's positioning of Project Liberty as a cornerstone of Sun's .ONE, which is poised to compete directly with Microsoft's .NET. For the sake of convenience, the members of the Liberty Alliance can be broken into a few technology companies with products that compete directly with Microsoft offerings (Sun, RealNetworks, eBay, Sony and Intuit) and a much larger group of generally agnostic ecommerce players, many of whom also work closely with Microsoft. The presence of the Apache Software Foundation, a lynchpin of the Linux/open source community, lends some veracity to the Alliance's professed intention to develop a standards-based solution.

What do AMEX and AOL add to the mix? As the Alliance's first major credit card provider, AMEX brings a certain weight to Project Liberty, but casts a far leaner shadow than would either Visa or MasterCard. AOL's presence offers the Alliance far more legitimacy, since the 32 million users the company brings to the party might actually be affected by Project Liberty some day. However, considering AOL's long-standing avoidance of sharing their proprietary Instant Messaging technologies (and users) with any other IM players, we view the company's involvement in the open-standards-focused Alliance as proof that God does indeed have a sense of humor. So after the dust settles, where do these announcements leave Microsoft? Curiously enough, in a position to deal. Microsoft could join Project Liberty and offer to open its Passport technology to members, in which case the Alliance would gain instant access to a ready-made application and Microsoft would retain development control over the *de facto* industry standard for single sign-on. Or the company could pursue a partnership with Visa, offering to integrate the credit card company's new "Verified by Visa" technology onto Passport. Whatever happens, expect the result to be more merchant- than customer-friendly. Despite the pro-consumer maundering in Project Liberty's mission statement, the eventual result will likely be a solution designed to effectively wring the largest number of ecommerce transaction fees out of the largest number of customers.

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## Better Crypto: Who Gets It?

*By Jim Balderston*

The Department of Commerce has announced the Federal government's approval of the Advanced Encryption Standard (AES), which will be used by the government to protect the transmission of storage of sensitive information. The new AES is based on the Rijndael mathematical formula, and is a 128-bit block cipher that will support key sizes of 128, 192 and 256 bits. These key sizes are substantially larger than the existing standard, the 56-bit Data Encryption Standard (DES) that has been in use for 24 years. A stopgap measure, known as triple DES, has been used in recent years. Triple DES, however, requires much more computational power than the AES for encryption and decryption, slowing down the transfer of sensitive data. Rijndael was chosen over other encryption methods during a four-year competition. It is expected that private industry will adopt the AES as well, just as it widely adopted DES.

While the venerable DES encryption schema was a workhorse in its day, it was eventually cracked using parallel network computing attacks and special anti-DES software. While such cracking efforts require humongous computing resources that are available to a very small circle of people or governments, the fact is that DES is crackable. And with computing power continuing its relentless march to ever more power in ever-smaller packages, it was inevitable that DES would soon be made obsolete. The AES standard is less computation-intensive, yet its security is magnitudes of order higher than DES. For now, it is effectively unbreakable. It is of interest to note that private industry is on a path to adopt AES, applying it to sensitive data that would be worth millions of dollars if it were intercepted or in some fashion compromised. AES will not be appearing on desktops for credit card transactions in the immediate future, but will undoubtedly make its way into broader use in the coming years. We do wonder, however, just how the Bush administration is going to handle this new encryption technology. Will they move to limit its export? Prior efforts to do so were notable failures; attempts to limit the distribution of earlier encryption schemas were circumvented with the smallest efforts of even the most technically backward of computer users. The World Wide Web makes the control of electronic material very hard at best; AES will certainly test the efforts of lawmakers against technology infrastructure. While we believe it was time for the retirement of DES and the arrival of AES, we hope it is also time for the retirement of political grandstanding of politicians where encryption exports are concerned. It is a world economy and encryption is an important tool within that world, and you don't need to be a mathematical genius to recognize this fact.

## As the World Turns: An AT&T Soap Opera

*By Jim Balderston*

AT&T announced this week that it has pulled out of its offer to buy Excite@Home for some \$300+ million and in turn is also collecting bids for its cable service operation. AT&T has transferred most of its 850,000 subscribers off of the @Home network to its own cable system, which boasts some 14 million broadband customers nationwide. AT&T opted for the transfer strategy over the buyout option, even though it was a large investor in @Home. The bidding for AT&T's cable operations, which has been underway for months now, is expected to reach a conclusion in the next few weeks or so. Among the bidders: AOL/Time-Warner and a host of cable companies. Also in the mix is AOL archrival Microsoft, which is trying to bolster cable company bids for AT&T's broadband assets by cutting deals, characterized as minority investments, with the two non-AOL bidders, Cox Communications and Comcast. AT&T may decide not to divest the cable system, according to many reports, if an adequate bid is not received.

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Looking at the piteous demise of Excite@Home, we can't help but shake our heads at the near monstrous stupidity and outright greed that pervaded this company and its investors. Major cable companies had sizable investments in @Home, and the company's stock was actually worth something and had the distinct chance of continuing to be worth something if left alone. Four million subscribers of @Home provided the revenue stream necessary to carry a company forward, if, of course, the company's resources were carefully spent and saved. But this was not the case at @Home. Drunken sailor bids for things like Excite, along with cable companies deciding it was worth it to build around @Home and offer their own services, doomed the once highflying @Home to oblivion. Even staid old AT&T, an investor, decided it was going to deal from the bottom of the deck to @Home and simply moved its customers to its own network in surprisingly short amounts of time during the past month, leaving @Home out of luck. AT&T apparently has other fish to fry here, with suitors piling up in the driveway with flowers, candy and sweet songs about eternal love (or perhaps just cash).

AOL/TW is in a difficult spot *vis-à-vis* AT&T cable. When AOL and TW merged, regulators seemed poised to bring the hammer down but were restrained. An AOL/TW purchase of AT&T cable would test the restraint of even the most ardent pro-monopoly regulators; one even suspects the Bush administration would frown on such an acquisition. But AOL/TW does not want to take a complete pass on the deal; it does not want Microsoft to get exclusive rights to 14 million subscribers in the AT&T broadband infrastructure. These, combined with MSN's 7 million, would allow Microsoft to gain real ground on AOL's 32 million customer base. If AOL buys back the AT&T stake in AOL/TW, it might stave off AT&T's sale of its cable operations. We suspect all the jockeying on this amongst the elephants is far from over, and Comcast, which was rejected by earlier this year by AT&T, may come out of the fray with AT&T's cable subscribers firmly hooked on its long tusks if AOL/TW doesn't pony up enough cash for the investment buy-back.

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