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NOTE FROM THE EDITOR

A Blessing or a Menace?



It's official, private investment firms have pulled off the trifecta—acquiring three of the largest satellite operators in the world in just the last few months.

By now everyone is familiar with the details. It all started with the purchase of the third largest operator which pioneered the commercialization of the industry, PanAmSat, by the equity firm of Kohlberg Kravis Roberts & Co. (KKR), The Carlyle Group and Providence Equity Partners, Inc. last April for \$4.5 Billion. That deal received regulatory approval and was finalized last month (after deducting \$200 million from the price due to the Galaxy 10R failure).

This was followed by The Hague-based New Skies Satellites, the Intelsat spinoff, acquired by the Blackstone Group for almost \$1 Billion.

And finally the granddaddy of them all—Intelsat, was acquired August 16 by Zeus Holdings Limited, a company formed by a consortium of funds advised by Apax Partners, Apollo Management, Madison Dearborn Partners and Permira Advisers for \$ 5 Billion.

Private equity firms now control all but one of the satellite operators with global coverage—leaving only Luxembourg-based SES Global (it is not for sale). If you count the acquisition of global maritime satellite operator, Inmarsat at the end of last year by Apax and Permira, private investment firms have really got a corner on the global satellite business.

The jury is still out, however, on what effect the influx of private equity firms will have on the industry. Initial reactions are very positive. In a survey conducted by Futron Corp. of over 700 satellite executives that attended the recent ISCe 2004, 88% said that an increase in financial/ equity investment in the industry is a positive development.

Reactions are mixed, however, among industry watchers. Northern Sky Research aptly headlined a recent release “Private Equity Firms: A Blessing or a Menace for the Satellite Industry?”

The New Skies and Intelsat deals are still subjected to regulatory approval. There are, however some telltale signs to the deals that consolidation is in the offing. Some analysts are pointing out that Apax and Permira figuring in both the Inmarsat and Intelsat deals may pose a conflict of interest.

So stay tuned. We will be following developments in this story very closely.

Virgil Labrador

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September 28- 30 St. Pete Beach, Florida, USA **SUIRG CONFERENCE 2004** Tel. and fax: +1-941-575-1277
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INDUSTRY NEWS

FCC OKs Sale of PanAmSat to Equity Firms; Price Cut by \$200 Million Because of Galaxy Failure



The launch of DirecTV-5 on May 7, 2002 aboard a Proton rocket. (ILS photo)

The Federal Communications Commission has approved the sale of PanAmSat to affiliates of Kohlberg Kravis Roberts & Co., L.P., The Carlyle Group and Providence Equity Partners, Inc. The FCC approval, obtained last August 11, was the last in a series of regulatory approvals needed for the completion of the transaction.

DirecTV also said it had cut the price on the sale of in

PanAmSat to the three private equity firms by \$200 million to approximately \$2.6 billion following the failure of a PanAmSat satellite. The price reduction resolves the effect of the xenon ion propulsion failure of Galaxy 10R PanAmSat satellite last August 3. PanAmSat said the agreement does not affect the \$23.50 per share purchase price to be paid to the other PanAmSat shareholders.

“Now that we have received all necessary approvals, we are looking forward to the ultimate completion of the deal next week,” said Joe Wright, president and CEO of PanAmSat. “We look forward to a great future with our new owners.”

PanAmSat expects its shareholders to approve the transaction at their annual meeting today, which will permit the parties to close the merger with a subsidiary of the DirecTV Group on Wednesday, August 18, and the purchase of stock from DirecTV Group on Friday, August 20, assuming the satisfaction of other closing conditions.

“All the pieces are in place to close the transactions next week,” said Chase Carey, president and CEO of the DirecTV Group. “This transaction continues to be a good value for our shareholders and enables us to take one more step toward our goal of focusing resources and management time on our core DirecTV business.”

Alexander Navab, a partner of Kohlberg Kravis Roberts & Co. L.P., said the equity sponsor partners continue to be excited about owning PanAmSat and that they are pleased with the rapid resolution of these issues.

Private Investors Buy Intelsat for \$5 Billion

Intelsat, Ltd was sold last August 16 to a consortium of four private investors for US\$5 billion marking the completion of the company’s transformation to a private company.

In a transaction unanimously approved by the company’s Board of Directors, Intelsat signed a definitive agreement that provides for the amalgamation under Bermuda law of Intelsat and a subsidiary of Zeus Holdings Limited, a company formed by a consortium of private equity groups: Apax Partners, Apollo Management, Madison Dearborn Partners and Permira Advisers.



Intelsat Global Service Corp. Headquarters in Washington, DC

The total value of the transaction, including approximately \$2 billion of existing debt, is approximately \$5 billion.

Intelsat for most of its 40 years, it has been owned and governed by companies representing 145 governments around the world. It is mostly known for transmitting the world’s first satellite phone call, for carrying live international television broadcasts of the Olympics, and for transmitting the 1969 Apollo 11 moon landing around the world.

If the deal wins regulatory and shareholder approval, Zeus will be acquiring Intelsat, and Intelsat’s current shareholders will be entitled to receive \$18.75 for each Intelsat share issued, according to an Intelsat news release. Intelsat expects to obtain all required approvals and closing to occur as early as the end of 2004.

“This transaction comes at a time when Intelsat is successfully executing on its strategies for market leadership in the fixed satellite services sector. We believe that the acquisition of Intelsat by this consortium of well-respected private equity investors represents the best opportunity for Intelsat to achieve its strategic goals,” said Intelsat, Ltd. Chief Executive Officer Conny Kullman.

INDUSTRY NEWS

Report Says Customer Satisfaction Among Satellite Subscribers Continues to Top Cable



Overall customer satisfaction among satellite TV service subscribers outpaces that of cable customers, as satellite penetration continues to grow, according to the J.D. Power and Associates 2004 Residential Cable/Satellite TV Customer Satisfaction Study

released last month.

Although cable subscriptions still dominate the industry, satellite market penetration continues a steady eight-year climb, with nearly one in four households now subscribing to satellite pay TV.

The study is based on responses from 8,668 U.S. households who evaluated their satellite or cable TV providers.

Satellite received an overall customer satisfaction index score of 723 (on a 1,000-point scale), compared to 659 for digital cable and 621 for analog cable, with strong performance across all measures of customer satisfaction. Despite this outcome, cable narrowed the gap in overall satisfaction versus satellite, improving at nearly twice the rate of satellite (3.1% vs. 1.6%).

Both satellite providers included in the study received the two highest customer satisfaction rankings among the 13 largest providers of cable/satellite TV service. Dish Network regained its highest ranking from 2000, receiving top ratings from customers in three of the six factors that drive overall satisfaction: billing, cost of service, and offerings and promotions.

EchoStar Adds 340,000 New Subscribers; Decreases Net Income \$ 85 Million in 2nd Quarter

EchoStar Communications Corp. added 340,000 new subscribers for the quarter, increasing the company's Dish Network satellite television subscribers to 10.125 million as of June 30, 2004.

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INDUSTRY NEWS



In a statement, EchoStar said it had total revenue of \$1.78 billion for the quarter ended June 30, 2004, a 26 percent increase, compared to \$1.41 billion for the corresponding period in 2003. It said net income totaled \$85 million for the quarter compared to net income of \$129 million during the corresponding period in 2003. Basic

earnings per share was \$0.18 for the quarter, compared to basic earnings per share of \$0.27 last year.

EchoStar also announced that its board of directors has authorized the repurchase of an aggregate of up to an additional \$1 billion of EchoStar's Class A Common Stock.

XM Reports a Wider Loss But Adds 418,449 Subs In Quarter

XM Satellite Radio Holdings Inc. ([NASDAQ:XMSR](#)) has posted a wider net loss of \$166.1 million for the second quarter compared to \$161.9 million loss in the second quarter of last year. But XM redeemed itself by reporting 2,100,352 subscribers, or an addition of 418,449 for the quarter, more than double net subscriber additions of 209,178 subscribers in second quarter 2003.

For second quarter 2004, XM reported quarterly revenue of \$53.0 million, nearly tripling the \$18.3 million reported in the second quarter 2003. Revenue for the second quarter 2004 also represented a 23 percent increase compared to revenue of \$43.0 million reported in the first quarter 2004.

XM reported an EBITDA loss of (\$107.8) million for the second quarter 2004, compared to (\$95.8) million for the second quarter 2003. On a per share basis, however, losses narrowed to 84 cents from \$1.38.

Because of the subscriber growth, XM increased its revenue and subscriber forecast for the full year to \$220 million and 3.1 million, respectively. The company had previously forecast 2.8 million subscribers by the end of the year.

"With our programming, marketing and new product initiatives, we feel confident increasing our year-end 2004 subscriber guidance to 3.1 million," said Hugh Panero, XM CEO and President.

ILS Proton Successfully Launches Amazonas Satellite

The Proton launch vehicle roared from pad 39 at the Baikonur Cosmodrome at 4:32 a.m. on August 5 (6:32 p.m. EDT, Aug. 4) carrying the Amazonas satellite for customers Hispasat and Hispamar and manufacturer EADS Astrium. The rocket's Breeze M upper stage placed the satellite into a transfer orbit 9 hours and 11 minutes later.

The launch vehicle was built by Khrunichev State Research and Production Space Center of Moscow, a partner in the ILS joint venture along with Lockheed Martin Corp. [NYSE:LMT]. This was the third Proton launch of the year for ILS, and the seventh mission overall for the company in 2004.

With 51 transponders, Amazonas satellite will provide a full range of telecommunications services to Brazil, North and South America, and a transatlantic link for Europe.

The Amazonas Latin American satellite will operate in geostationary orbit, at the 61°W orbital position over the Amazon basin, and will provide both fixed and broadcast communications services through 32 simultaneous operational transponders in Ku-band and 19 simultaneous operational transponders in C-band, over a 17.5-year mission lifetime. The services offered will include TV broadcasting, business services including VSAT and data broadcasting.

Amazonas is the third Eurostar E3000 to be shipped to the launch pad in only four months. It fulfills Hispasat and Hispamar time to market expectations for Latin America.

Antoine Bouvier, CEO of EADS Astrium said Hispasat is a long standing and important customer to EADS Astrium. "We have built their first-generation satellites, an important milestone in the development of our Eurostar product line on the world market. Now we deliver their most powerful satellite on schedule to meet their needs and support their expansion in Brazil and Latin American market."

Northrop Grumman Awarded \$1.04 Billion For X-47B Unmanned Combat Air Systems Program

Northrop Grumman Corp. (NYSE: NOC) has been awarded a contract from the Defense Advanced Research Projects Agency (DARPA) to continue work on the X-47B portion of the Joint Unmanned Combat Air Systems (J-UCAS) demonstration program. Valued at up to \$1.04 billion over five years for the

INDUSTRY NEWS

program's operational assessment phase, the award includes initial funding of \$30 million.

The J-UCAS program is an effort by DARPA, the U.S. Air Force and U.S. Navy to demonstrate the technical feasibility, military utility and operational value of networked, unmanned, air-combat systems to suppress enemy air defenses, perform electronic attack, conduct intelligence, surveillance and reconnaissance missions, and perform precision strike attacks.

In this phase, Northrop Grumman will produce and flight-test three X-47B unmanned demonstration vehicles with associated mission-control stations and logistical support elements. Flight demonstrations are expected to begin in 2007.

Northrop Grumman's Integrated Systems sector leads a J-UCAS team that includes Lockheed Martin Corp., and Pratt & Whitney. Work will be performed at facilities in El Segundo, Palmdale and San Diego, Calif., and East Hartford, Conn.

The three objectives of the J-UCAS operational assessment program are to demonstrate the technical feasibility of developing a family of network-centric J-UCAS systems — managed by a common operating system — for operation from land or an aircraft carrier; to assess the joint operational utility of the J-UCAS concept in the mission areas of suppressing enemy air defenses, strike, electronic attack and penetrating surveillance and reconnaissance; and to develop production system concepts for the Navy and Air Force. **SM**

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EXECUTIVE MOVES

Ball Aerospace Selects Bill Townsend to Lead Civil Space Systems

Ball Aerospace & Technologies Corp. has named William F. Townsend as vice president and general manager of civil space systems. Townsend is expected to guide the company's NASA and NOAA programs to successful delivery. Ball Aerospace currently has many missions in various stages of completion including Deep Impact, Cloudsat, CALIPSO, HiRISE, Kepler and the optical subsystem for the James Webb Space Telescope.

David L. Taylor, president and CEO of Ball Aerospace & Technologies Corp., said Townsend's proven track record at successfully executing complex programs strengthens Ball Aerospace's ability to deliver outstanding space systems to our customers. "He will work to ensure that the spacecraft and instruments we deliver to NASA and NOAA meet mission cost, schedule and quality requirements," Taylor added.

Prior to joining Ball Aerospace, Townsend had a distinguished 40-year career with NASA, most recently at Goddard Space Flight Center. At Goddard, he shared responsibility for executive leadership and management of the Center and all its programs as Deputy Director. Prior to that position, Townsend served as Deputy Associate Administrator (Programs) for the NASA's Office of Earth Science, where he directed earth science flight programs. He was also acting Associate Administrator for the Earth Science Enterprise. He was responsible for numerous successful programs during his NASA career, including the SeaSat Radar Altimeter and TOPEX/Poseidon missions. In total, Townsend has been associated with 59 missions.

Townsend's accomplishments have been recognized with numerous awards including the NASA Distinguished Service Medal, the Presidential Rank Award of Meritorious Executive, the NASA Exceptional Service Medal and the French Space Agency's Bronze Medal. Townsend holds an electrical engineering degree with honors from Virginia Polytechnic Institute.

Patrick K. Brant Named President of Loral Skynet



that should allow it to emerge from bankruptcy before the end of the year.

Loral Skynet owns and operates a fleet of four telecommunications satellites that, in combination with its established hybrid VSAT/fiber global network infrastructure, provides secure, high-quality video broadcasting, broadband data transmission, Internet services and other value-added communications services to commercial and government customers.

Brant served as an executive at Loral Cyberstar from 1999 to 2003, ultimately as its president and CEO. He was a leading participant in Cyberstar's integration into Loral Skynet in 2003. His strong sales, marketing and business development background includes senior management positions at satellite companies, including Orbital Communications and American Mobile Satellite Corporation. He holds a Bachelor of Science degree in Economics from the University of Maryland.

Loral Space & Communications named Patrick K. Brant as president of subsidiary Loral Skynet succeeding Terry Hart. Brant, 53, takes the helm at Loral Skynet as Loral prepares to file a plan of reorganization

PanAmSat Promotes Mike Antonovich to Executive VP of Global Sales & Marketing



Mike Antonovich

PanAmSat Corp. has promoted Mike Antonovich to executive vice president of global sales and marketing. In this role, Antonovich is expected to aggressively lead the company's global sales and marketing program which includes: program distribution, broadcast contribution, telecommunications and networking services.

"Over the past 15 years, Mike's insight and expertise in the broadcast and satellite industries have been critical in the development of PanAmSat's customer portfolio and service offerings. He has been a key force in shaping the direction of the organization and helping it become one of the world's leading satellite operators," said PanAmSat CEO Jim Frownfelter.

Since joining PanAmSat in 1989 as a manager of broadcast services, Antonovich has served in a wide variety of senior leadership positions including in North American sales, Pacific Ocean Region sales, global sales and most recently, assumed the responsibility of leading the Company's marketing initiatives worldwide, serving as senior vice president of global sales and marketing.

EXECUTIVE MOVES

Prior to his tenure with PanAmSat, Antonovich worked for Group W Satellite Communications and the ESPN sports network in a variety of production, post-production and operations positions. His experience in the broadcast and satellite industries spans over 25 years.

Peter Chernin Signs New Five-Year Employment Pact



News Corp. has signed a new, five-year employment pact with Peter Chernin, the company's President and Chief Operating Officer, since 1996.

Rupert Murdoch, Chairman and CEO said described Peter as a close and trusted colleague for more than a decade adding he is delighted that News Corp. will continue to have the benefit of his dynamic qualities for many years to come. "He has done a superb job growing and operating our core entertainment businesses in an increasingly challenging global marketplace. Peter is respected throughout our company and the industry for his intelligence, drive and leadership," he said.

Chernin joined News Corp. in 1989 and has been President and COO for the past eight years. He joined the company as President of Entertainment of the Fox Broadcasting Company, a position he held for three years. Under his leadership the network launched such hits as The

Simpsons, In Living Color and Beverly Hills 90210. From 1992 to 1996, he served as Chief Executive Officer of Fox Filmed Entertainment, and oversaw such blockbusters as Speed, Independence Day and Titanic.

Stratos Appoints Rich Harris as Senior Vice President and Chief Legal Officer

Stratos Global Corp. has appointed Rich Harris as Senior Vice President and Chief Legal Officer, effective August 9, 2004. He will report to President and CEO, Jim Parm, and will oversee all corporate legal activities, including the provision of legal guidance to Stratos' senior management and staff, and participating in critical commercial, regulatory and acquisition activities.

A graduate of the University of Pennsylvania and Yale Law School, Harris comes to Stratos from Worldwide Retail Exchange, a joint business-to-business venture where he served as General Counsel. He also has an extensive background in international satellite communications gained with Comsat International, in Maryland, and Kokua Communications, in London.

"Rich's familiarity with the satellite industry, including experience with international mergers and acquisitions and legal negotiations involving major satellite operators and providers, as well as his background in international regulatory and licensing issues, is exactly what we were looking for to fill this important position as part of Stratos' senior management team," Jim Parm, Stratos' president and CEO said.

Harris will be based in Stratos' corporate headquarters in Bethesda, MD.

Lockheed Martin Board Elects Robert J. Stevens as President and CEO



**Robert J. Stevens,
Lockheed Martin
President and CEO**

The Lockheed Martin [NYSE: LMT] board of directors has elected Robert J. Stevens as President and CEO last week replacing Vance Coffman's who retired after 37 years with the company, including

seven years as CEO. Coffman will serve as the board of director's non-employee Chairman until April 2005. Stevens assumes his new duties as CEO while retaining his position as President.

Stevens has held a variety of increasingly responsible executive positions including COO, CFO, and head of Strategic Planning through a career that has included experience in program management, finance, manufacturing, and operations.

Stevens is a Fellow of the American Astronautical Society, and an Associate Fellow of the American Institute of Aeronautics and Astronautics. He serves on the International Advisory Board of the British-American Business Council, and on the Executive Committee of the Aerospace Industries Association. He is a member of the Council on Foreign Relations, and is Presiding Director of the Monsanto Company. During 2001 and 2002, Mr. Stevens also served on President Bush's Commission to Examine the Future of the United States Aerospace Industry.

NEW PRODUCTS

This year's IBC2004 exhibition to be held in Amsterdam from September 10-14 will, as in previous years, showcase the latest tickets products and services for the broadcasting and allied industries. Here are some of them:



training and maintenance expense,” says ILC President and CEO Richard Graham.

“MaxView is uniquely suited to the trend of NOC (network operations center) consolidation and centralized control that many broadcast facilities are undergoing, because it manages any equipment type, regardless of brand or protocol,” explains ILC Senior Vice President Mark Krikorian. “For example, MaxView eliminates the inefficient practice of consulting separate management systems when service goes down, instead helping operations staff to quickly isolate the cause of an outage and automatically restore service.”

MaxView for Broadcasters solutions – including 2004 new

ILC to Demonstrate MaxView for Broadcast™ solutions at IBC

Network control software developer ILC will be demonstrating its *MaxView for Broadcast™* solutions at IBC 2004 stand 1.441. ILC will be showing broadcasters how they can control the entire broadcast facility, from station to uplink to transmitter site, with one system. *MaxView for Broadcast™* solutions manage ingest, studio, playout, transmitter, satellite and IT infrastructure and environmentals to provide advanced control capabilities such as scheduling, service auto-recovery, carrier monitoring, diversity site switching, transmitter remote control and trouble ticketing.

“At IBC, we will challenge conventional thinking by explaining to broadcasters how they can integrate operations that they have typically viewed as separate. *MaxView for Broadcast™* solutions eliminate the common scenario in which each segment of the broadcast chain requires an additional software product,

releases **MaxView CMS™ carrier monitoring system** and **MaxView Chorus™ trouble ticketing system** — will be on display at ILC stand 1.441, where visitors can learn more about this suite of graphical tools that enables point-and-click operations, drag-and-drop user screen and automation scenario creation, and rapid system expansion without programming.

Inmedia to Launch New Remote Playout & Distribution Solution

Inmedia will launch its new Remote Playout & Distribution solution at IBC 2004. This new service uses Inmedia developed technology to dramatically reduce playout and distribution costs and is particularly aimed at channels that want to distribute regionally tailored content. By making it cheaper and easier for the channel owner to extend their services, this innovative solution will ensure that Inmedia keeps its position as the UK's most successful independent playout provider – with over 35 channels and counting.

NEW PRODUCTS

Targeted Television...

Inmedia's Remote Payout and Distribution service opens up new markets around the world. In one operation you can select your content, choose the appropriate audio track, add the correct subtitles, upload, and schedule the remote payout of multiple TV channels almost anywhere. The efficiency savings and reduction in access costs to remote markets are dramatic.

Starting from a centrally held pool of digital assets, programming for each remote TV channel is created and scheduled directly from your desktop. Content is delivered in non-real time via satellite multicast or the Internet to remote payout servers for onward local distribution to your precisely targeted audience. So if you only have the rights to programming in certain regions, you can run schedules containing only the content you have purchased.

Inmedia's Sales Director for Broadcast Services, Matthew Ivey, says: "The Remote Payout and Distribution service is a prime example of Inmedia's continuing drive to make running a TV channel more affordable. This innovative new application will allow operators to target new customers in new markets and has huge potential to get new TV channels onto platforms that would until now have been too expensive to access. Our calculations show that after a low start up cost, our remote

service makes it possible for a content owner to add an additional TV territory for as little as £30K per annum, ideal if you want to target ex-pats in the Algarve or Japanese businessmen in London."

Each Remote Payout & Distribution device can select the correct audio channels for the targeted audience, run individual schedules, insert audience specific subtitles and insert a graphic to help identify the channel. The Remote Payout and Distribution device is located at a cable or satellite head-end.

TANDBERG Television Will Launch Flexible, Open Cable VoD Platform

IBC 2004 will see the public debut of TANDBERG Television's open Video on Demand (VoD) platform. The platform has been designed to provide European cable operators with the freedom to choose best of breed technologies and to avoid proprietary architectures with all the associated downsides of vendor lock-in, non-competitive pricing schedules and higher support costs. By combining zero compromise solutions from leading equipment vendors, cable companies can benefit from demonstrably lower cost of entry into the VoD space and reduced operational expenditure, as well as create a dynamic on demand environment to support future growth and meet changing consumer needs.

From the manufacturers of the DKET comes Bayonet, an advanced BLOS IP comms fly-away terminal delivering reliable voice and data connectivity in theater today.



SET-UP TIME	<30 MIN
ANTENNA SIZE	1.5M / 2.4M
MIL AIR CASES	5 / 11
IP NETWORK TOPOGRAPHY	MESH / STAR
MAXIMUM IP THROUGHPUT	5.4 MBPS
VOIP / VTC READY	YES
PBX INTERFACE READY	YES
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	3DES, AES
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NEW PRODUCTS

At TANDBERG Television's IBC stand (Hall 1:461) visitors will be able to see the on demand content platform in operation, including live demos of the OpenStream™ digital services platform from N2 Broadband. As an open, standards-based system, OpenStream allows cable operators to easily deploy on demand services using VoD servers, applications, billing systems, and other system components of their choice. TANDBERG Television recently signed an exclusive agreement to market OpenStream throughout EMEA, as well as to work with N2 Broadband to provide Euro-centric solutions for the content on demand marketplace.

"In a financial environment of increasing constraints on capital, it is imperative that new technologies are available at the lowest possible total cost of ownership. That is why we have developed our VoD platform to utilise open architectures, without sacrificing performance, security, privacy, or freedom of choice," says Eric Cooney, CEO of TANDBERG Television. "N2 Broadband's OpenStream platform is the only standards based, completely open architecture solution for Video on Demand back office management. Its open approach compliments our own commitment to non-proprietary architectures and combined with Entone's VOD servers, we are providing the optimal solution for flexible, low-cost VOD deployment."

TANDBERG Television has worked with N2 Broadband to modify OpenStream for the European market, including consideration for core network differences, multilingual support and conditional access, as well as geographical and cultural differ-

ences. TANDBERG Television's position as the market-leading cable head-end provider in Europe means the company brings considerable in-depth experience of many of the practical solutions that have allowed Europe's major cable companies such as Auna, KDG, and Telenet to deliver class-leading services in a highly competitive market.

"As European cable operators start to roll-out VoD services, they are in a position to benefit from the lessons learned in the US and to avoid the pitfalls of proprietary technology. By working with Europe's leading cable technology provider, TANDBERG Television, we can rapidly extend the benefits of open systems to the European market," says Reggie Bradford, president and chief executive officer of N2 Broadband.

ND SATCOM Launches new SkyRAY Compact

ND Satcom is launching a new generation of aerodynamic SNG antenna solutions at IBC, stand 1.359. Fixed on the standard roof mounts of the vehicle the compact Jet Box like casing houses a 1.5m high performance SNG antenna. Further more the system is designed to accommodate the state-of-the-art ND SatCom high power 400W TWT amplifier or a redundant SSPA configuration. With this approach expensive modifications of the vehicle's roof are no longer needed and in case of a vehicle's breakdown, the system can be moved to another vehicle within a short period of

time and therefore avoid long service downtimes.

The design of the carbon fibre casing, which acts as an integral environmental protection during travel, has a height above roof of only 55cm.

The new SkyRAY Compact combines the need for a powerful uplink with the smart dimensions of a roof top box.

SM



ND SATCOM's new SkyRAY Compact

FEATURED EVENT

ISCe 2004: Going from Strength to Strength



ISCe 2004 attracted a very high quality of senior level participants including these panelists in the CEO Roundtable. Seated from left to right, Dean Olmstead of SES Americom, Mark Dankberg of ViaSat, Michael Butler of Inmarsat, Carmen Lloyd of Iridium, Saeed Al Hamli of Thuraya and Arnold Friedman of Space Systems Loral. Standing, on the podium is the moderator, Warren Ferster of Space News.

Only on its third year, the ISCe 2004 Conference and Expo held in Long Beach, California last June 1-3 was a resounding success. The event was attended by over 1,000 participants representing a cross-section of the satellite industry worldwide.

"We are very pleased with the progress we have made and the quality of the event," said the conference chairman, Art Paredes of Hannover Fairs, USA, the principal organizer of ISCe. "ISCe provides an ideal venue to meet senior executives in an intimate setting to discuss business opportunities and networking," he added.

The three-day event had a conference and exhibition component organized around several fora such as Defense and Security, Global Navigation, Next-Generation Capabilities, US-Asia Business, Satellite Entertainment/DBS and many others.

The event also included an industry leaders' roundtable discussion featuring the CEOs of SES Americom, ViaSat, Inmarsat, Iridium, and senior representatives from Thuraya and Loral discussing trends in the industry and affirmed that the military use of satellites will continue to grow in the future.

On the issue of whether recent deployments of military satellites by the government would reduce reliance on the commercial satellites sector for services, the executives agreed that this would have little or no impact and in fact military demand for commercial satellite services would continue to grow significantly.

With VSAT leader Hughes Network Systems up for sale, there was some discussion of the future directions of the VSAT Market.

According to Dean Olmstead of SES, "The value proposition has to shift from hardware to services." He noted that SES

FEATURED EVENT



The "Satellites and Natural Disasters" panel at ISCe featured from left, Steve Vaughn--California Department of Forestry and Fire Protection, Virgil Labrador-SatMagazine, Tom Bleier--Quakefinder, David Gray--Lyman Bros. and Rob Knabe--Brookstone Equipment.

has pushed for and supported open standards development, like DVB-RCS so that hardware prices go down, interoperability goes up and consumer price points move forward.

DVB-RCS is a standard for the physical communications link layer, which uses DVB for the outbound carrier and multicarrier TDMA as the inbound.

VSAT manufacturer ViaSat's CEO, Mark Dankberg, said "manufacturers will follow customer demands" and added "All satellite operators are saying we want an open standard for VSAT"

Olmstead offered a suggestion "that the military could, as a large buyer, force VSAT manufacturers to become standards compliant and interoperable in its procurement"

Dankberg agreed, and said "The biggest issue is open standards for encryption systems for the US military use of VSATs for broadband communications."

Satnews Managing editor, Virgil Labrador chaired a session on "Earthquakes, Fires and Floods: Satellites to the Rescue" focussing on the role of satellite technology in natural disasters. The panelists included Tom Bleier of Quakefinder, Steve Vaughn of the California Department of Forestry and Fire Protection, Rob Knabe of Brookstone

Equipment, and David Gray of Lyman Brothers.

What's in Store for 2005

Organizers announced that the next ISCe will be held May 31-June 2, 2005 at the Hyatt Regency Long Beach Hotel. Paredes said that they are paying close attention to participants' feedback and will make exciting changes in the program designed to increase participants' return on their investment and provide additional opportunities to develop commercial and government including military business at the show.

Hannover Fairs also announced that The Carmel Group's highly popular Satellite Entertainment and DBS conference "The Five Burning Questions" will be held concurrently for the first time at ISCe 2005.

There will also be new Governmental and DOD-Satellite Requirements Forum at ISCe 2005 aimed at leveraging near- and long-term business opportunities in the government and military sectors, according to Paredes.

Joachim Schafer, President of Hannover Fairs USA, Inc., said "Hannover Fairs will continue in its efforts to support the success of the satellite industry through events such as ISCe, which offers a unique forum for a productive information exchange among key industry stakeholders, vendors and users alike."

Sounds like a great plan. See you all at ISCe 2005!



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COVER STORY



By Virgil Labrador

The satellite industry may have reason to be more optimistic. At the recently-concluded ISCe 2004 show in Long Beach, California, the Satellite Industry Association (SIA) released its annual “State of the Satellite Industry” report and the findings were indeed very encouraging.

The study was conducted for the SIA by Futron Corporation with the cooperation of the Global VSAT Forum (GVF) and the Satellite Broadcasting and Communications Association (SBCA).

For the eighth year in a row since 1996, when the SIA and Futron began tracking the industry, world satellite revenues have increased every year at an average rate of 13 percent. In 2003, the world satellite industry grew a modest six percent (the highest growth experienced was 30% in 1997).

The most significant finding of the study, however, was that revenues from satellite services have continued to grow—increasing from 42% of total revenues in 1996 to over 60% in 2003. This means that satellite services comprised the largest revenue stream for the industry as a whole. In fact, the satellite services sector has more than tripled in size from 1996 to 2003.

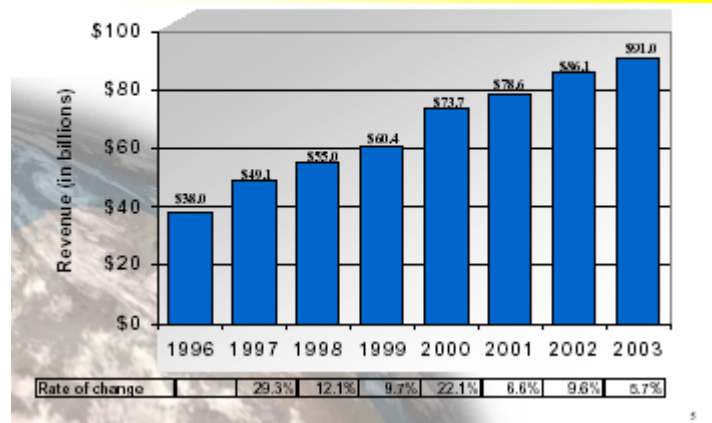
There are some bad news, of course. Satellite manufacturing and launch segments continue to suffer huge losses and the prospect of recovery are dim for the near-term. But for an industry plagued with overcapacity and falling transponder rates, the news that satellite services sector is growing is a

welcome relief. Transponder leasing after posting losses for two consecutive years, finally experience a turnaround in 2003, gaining a modest seven percent increase.

According to the study, Direct-to-Home (DTH) services are driving the overall growth of the services sector. Satellite Radio, on the other hand, experienced a 400% revenue growth in 2003 (although this still accounts for less than one percent of overall satellite revenues).



World Satellite Industry Revenues

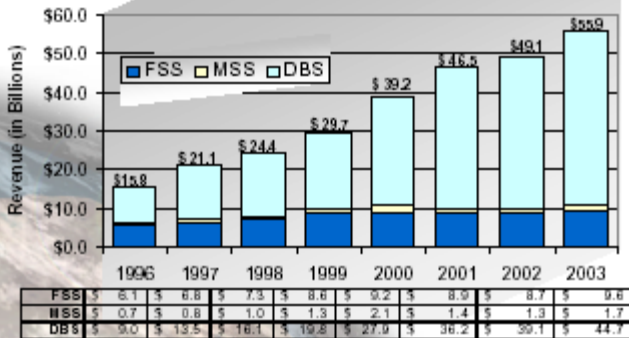


Source: State of the Satellite Industry 2003, SIA/Futron.

COVER STORY



World Satellite Services Revenue



FSS-VSAT services, remote sensing, and transponder leasing
 MSS-Mobile telephone and mobile data
 DBS-DARS-DTH TV, DARS, and Broadband

Source: State of the Satellite Industry 2003, SIA/Futron.

Participants of the recently-concluded ISCe 2004 expo shared the optimism about the future growth of the satellite industry in general and the services sector in particular. In a trends survey conducted by Futron Corporation and ISCe organizer, Hannover Fairs USA, Inc. during the show, Sixty-nine percent (69%) of respondents anticipate the strongest revenue growth in satellite services, followed by ground equipment manufacturing (17%) and satellite manufacturing (10% of respondents).

The survey, in which 63% of ISCe delegates participated, revealed that the greatest revenue growth in satellite services is expected from broadband (39% of respondents), followed by direct-to-home television (22%), satellite radio (20%) and mobile (15%). Growth in VSAT networks and applications is seen as a primary growth area by 5% of survey respondents.

Driving the growth of the services sector is increased government and military spending. This trend is expected to continue for the next 3-5 years.

But the growth in services is coming from various sectors. A recent report by the Communications Center revealed that use of occasional video services in North America grew by 51% in the second quarter of 2004. Occasional use of transponders are primarily used for satellite newsgathering, teleconferencing, sports and distance education. The report also said that while an oversupply of transponders still exists in North America, the inventory of unused or inactive C-band transponders decreased in the same quarter from 132 to 115, and unused or inactive Ku-band supply declined from 113 to 86.

According to Northern Sky Research' study Global Assessment of Satellite Demand, within the video services

markets, standard definition digital channel and feed growth will continue to be the main demand driver for new capacity leases. The global number of standard definition digital channels and feeds broadcast is anticipated to increase to over 17,500 in 2009, up from about 10,500 in 2003, according to the study.

So the signs are certainly pointing to the right direction. As the newly-appointed executive director of the SIA David Cavossa

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COVER STORY

said “the strong growth in consumer satellite service revenues offset losses in other sectors hindered by overcapacity.”

Capitalizing on the increasing consumer demand for satellite services, the Hong Kong-based operator, Asia Satellite Telecommunications Holdings (AsiaSat) is reported to be planning its own DTH pay-TV service for the Hong Kong, Taiwan and Macau market. The move into DTH is aimed at boosting its transponder utilization rate—which varies from 41% for its AsiaSat 2 satellite, 74 percent for its AsiaSat 3S satellite and only 18 percent for its newest satellite, AsiaSat 4. The DTH service is expected to be launched by the end of the year.

The choice of Asia is obvious. Asia is experiencing phenomenal growth in consumer satellite services. The Cable and Satellite Broadcasting Association of Asia (CASBAA) estimates that there are currently 190 million multichannel households (defined as those that receive satellite or cable services) in Asia.

The encouraging growth figures in satellite services from 2003 seem to be continuing into 2004. If this holds up in the next few years, the industry will be on the full road to recovery.

As David Hartshorn, secretary general of the GVF, which participated in the SIA/Futron study said: “while the satellite industry is still fighting its way out of the telecom downturn, companies from every major region and across each sector—are

reporting to us that business is improving...we project a continuation of this promising trend.”

The growth in the satellite services and the ground equipment sectors offset the losses in the satellite manufacturing and launch sectors, thus enabling the whole industry to post a modest growth rate in 2003. If this trend continues, eventually the increase in satellite services will lead to a revival of the ailing manufacturing and launch sectors. It follows that the more transponders are utilized, the more satellites will need to be ordered and launched.

And that’s good for the *entire* industry. **SM**



Virgil Labrador is the Managing Editor of SatMagazine and Editor of the Daily and Weekly editions of Satnews. He has worked for the last 16 years in various capacities in the satellite industry, most recently as marketing director of a full-service teleport in Singapore then owned by the US broadcasting company, CBS. He can be reached at virgil@satnews.com

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Narrowcasting: Capturing Audiences from space By Dan Freyer

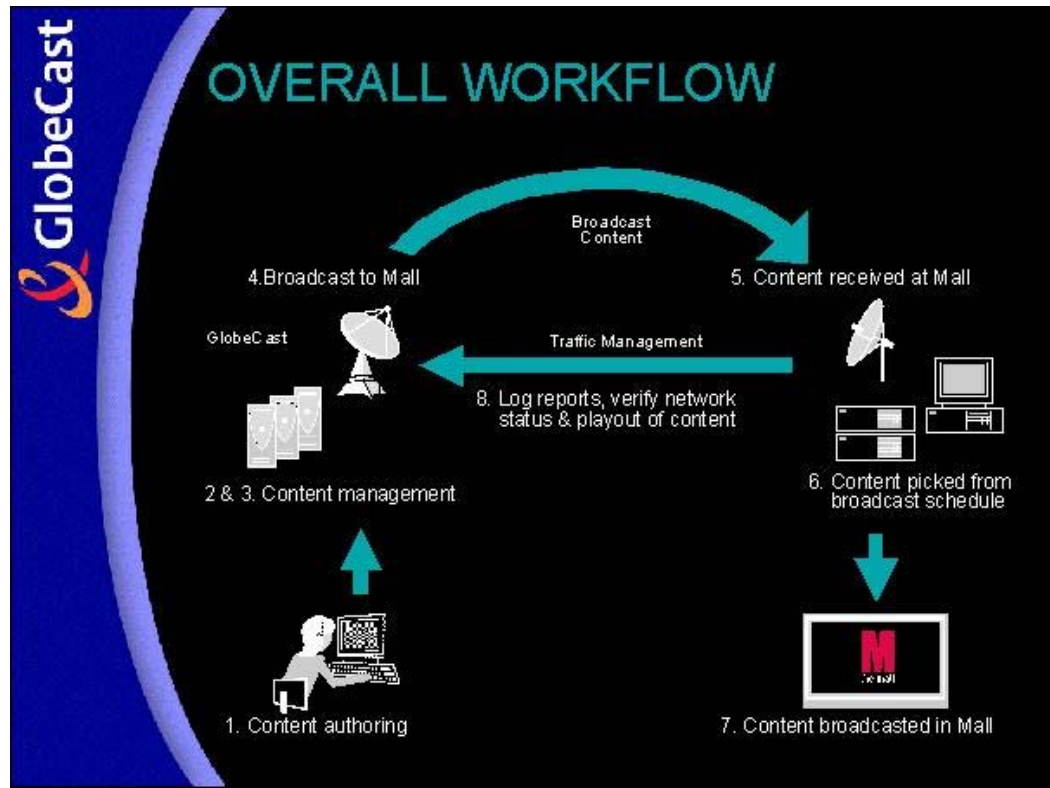
CAPTIVATING SHOPPERS AND EMPLOYEES WITH MESSAGES FROM OUTER SPACE

Even if it does take your content to outer space, as a “one-to-many” medium, satellite is the best technology available today for the simultaneous broadcast distribution of TV and broadband content to large numbers of locations, be they corporate sites or stores. File-based IP delivery of content over satellite enables a whole new range of advanced broadcast and multicast solutions to global corporate and retail communications challenges, thanks to the protocol’s video file store-and-forward applications.

BUSINESS TV – MEET AT YOUR DESKTOP

Traditional satellite-based business television (BTV) networks are migrating from proprietary or MPEG video transmission to IP to enable desktop viewing, which extends the network to more end users and creates new possibilities to view content live or on-demand. An example: thanks to a satellite IP-to-the-desktop solution from leading satellite service provider GlobeCast, more employees of Square D, a unit of global electrical supply manufacturer Schneider Electronics are plugged in to their company. By upgrading Square D’s Business Television network to an IP-based platform, GlobeCast is helping Square D take corporate training and communications beyond conference rooms to individual workers’ desktops.

As a result, more employees than ever before can catch or cache live video



Workflow of Captive Audience Retail Trial in UK

streams of important internal broadcasts. Square D’s employees, spread across 117 sites around the US, will be able to easily record and replay missed broadcasts because GlobeCast’s solution includes a sophisticated video library cataloguing system to manage the storage and file-based transfer of video programs to employee rooms and desktops. Square D entrusted GlobeCast — its existing network provider — with the job of supplying a complete network upgrade to IP. As is typical in the case of Enterprise customers, SquareD required everything from site surveys, to hardware purchase and site installation, to ongoing network monitoring and maintenance, nationwide

field support, and broadcast event management support including a helpdesk.

CUSTOMIZING VIDEO NETWORKS WITH IP TECHNOLOGY

Companies have mainly used business television for internal training and marketing (new product launches, company announcements, etc.). But with the advantages that IP technology brings, a broader range of enterprise applications are gaining a foothold — new services which are fully integrated in company production, and marketing processes. For

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**Satellite-Delivered
Digital Signage Content
Attracts a UK Shopper
(Photo Courtesy of
GlobeCast).**

£12 million in extra space or refurbishments in order to achieve the same sales volume. GlobeCast provided the technology and transmission components for the study, including its content management and file delivery system controlled by a web-based network management and scheduling tool. This customer interface ensured content delivery and scheduling across the twenty-two Panasonic plasma screen network.

CAPTIVATING NEWS

instance, IP file-based ad-insertion allows retailers to create highly targeted Captive Audience Networks (CANs) through digital signage displays.

CAPTIVE AUDIENCE NETWORKS

The U.S. retail industry spends over \$5 billion annually on printed promotional signage and graphics alone according to CAP Ventures' Norman McLeod, who says "digital delivery of visual content through a network of displays in an out-of-home setting that is centrally managed and controlled," is the newest advertising channel. Springing up at shopping malls, airport lounges and retail outlets worldwide, Captive Audience Networks are set for huge growth according to industry observers. Advertisers use screen media delivered via satellite to target consumers at the point of sale, thus providing retailers an effective tool to increase turnover and generate revenue through media sales.

What's the case for CANs? Marketers can create greater message impact by using full-motion, full-color video and adding sound, and marketers can change visual messaging faster, more easily, and less expensively compared with replacing printed signage. What's more, marketers can change the message based on time of day, day of week — even the weather, and provide regional, local, and even site-specific versioning efficiently and inexpensively. The lead-time to launch new in store promo campaigns can be slashed compared to physical delivery of signs or tapes.

In fact, a recent field study in the UK sponsored by GlobeCast and conducted by the media strategy firm How and Why found that shoppers responded to shopping area video screens programmed via a satellite CAN and spent more as a result. The study estimated that 1.5% lift in sales was generated as a result of perceived improvements to the retail environment. That impact is significant in retail. It translates for large a UK shopping centre to an investment of around

IP file transfer technology integrated by GlobeCast on a full-time satellite network in the US allows one customer to deliver its Captive Audience Network (CAN) programming as a live stream while pushing customer-specific advertising to specific sites on the network. The company's Captive Audience Network provides retailer and product marketers with the opportunity to create new revenue streams, improve consumers' shopping experiences, and promote new products and services while shortening perceived waiting time.

The company needed a partner to build, install and manage a state-of-the-art satellite-based network that could deliver IP-based live streams and files to thousands of retail locations across the US to launch its service for corporate public display sites, waiting rooms and other public dwell spaces. It also wanted a flexible partner with the ability to provide network design, build out, and deployment as a one-stop-shop using small 90 cm type antennas, and who could help them sell or co-sell integration and site

FEATURES

services. With this GlobeCast-operated Captive Audience Network, a retail chain can receive a customized version of the video network showing tailored content during ad and other breaks. This helps to promote the retailers' products and brand around TV programming that draws viewers. Ads can be replaced across an entire retail chain network, or addressable at individual receive sites. Triggers in the IP stream cause the receiver hard drive to play retailer ads, so for example, a manufacturer's ad would play in its distributors' retail sites. GlobeCast's Enterprise Group is providing IP encoding, satellite transmission and receive site installation and management.

SATELLITE'S ADVANTAGES

For organizations delivering full-motion video to more than a dozen sites — such as CANs, BTV and training networks — satellite IP solutions deliver advantages over terrestrial webcast networking. Network availability is much higher and easier to track on satellite. Terrestrial webcast solutions, particularly if over the public Internet, only provide best-effort delivery of packets at each



Captive Audience Networks are Springing up in Public Viewing Places
(Photo Courtesy of GlobeCast).

routing point on each route. Satellite provides dedicated bandwidth up to full broadcast quality video at an economical price, while affordable terrestrial solutions are limited from 128 Kbps to 1.5 Mbps depending on the type of connection available at a particular home, field office or retail site and the amount of traffic on the connection.

Keven Cahoon, VP of GlobeCast's Enterprise Services Group in America puts it this way "If a trainee's career depends on successful training, then Webcasting's

jerky, grainy video, audio-drop-outs and frame-locks are not acceptable. If you were the person requiring training to keep your job certification and paycheck, would you want to rely on poor video and intermittent audio of a Webcast? ". A similar point applies to CANs says Cahoon "If a retail outlet video clip display of a new clothing line lacks sufficient image clarity, consumer impulse buying isn't likely to result".

EARTHLY REWARDS

To help them leverage the power of satellite and IP technology for their business, most companies need a satellite service and technology partner that delivers a total package of reliable, responsive service — from network design, to site equipment installation and maintenance, to network operation and support. But at the end of the day, it's all about getting the right content to the people that matter at the right time – even if it beams through heaven's gates and back to get to there. **SM**



Dan Freyer is Marketing Director in America for GlobeCast, the world's leading satellite services company, operating a global network of satellite distribution platforms for broadcast and advanced content delivery. He is President of the Society of Satellite Professionals International (SSPI), Southern California. He can be reached at Daniel.freyer@globecastna.com. The views in this article are not necessarily those of GlobeCast.

FEATURES

ArabSat relaunch imminent

“Time to stop the bleeding”

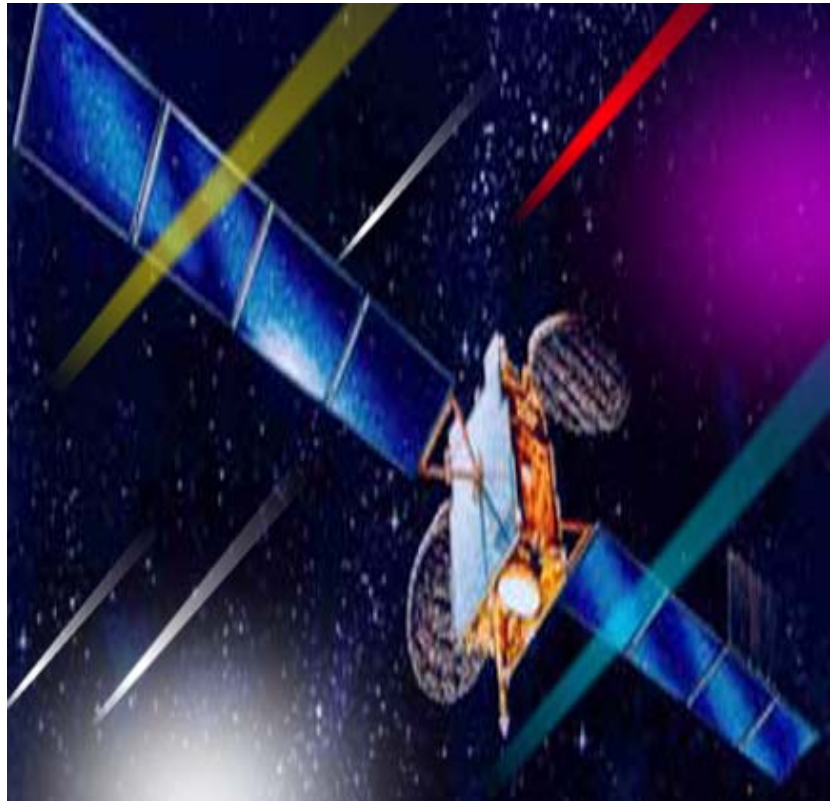
By Chris Forrester

Riyadh, Saudi Arabia-based ArabSat has made some senior management changes ahead of a major relaunch of its services. The alterations are more than just cosmetic, although new logos, brochures and boosted presence at upcoming trade shows are deliberately designed to raise ArabSat's profile dramatically. “We were too sleepy,” says Craig Moll, formerly of PanAmSat, and now advising ArabSat's senior management. “We have had the benefit of a thorough management consultant's study, and this has given us a fresh baseline for the business, and focus, so that we can stop the bleeding.”

ArabSat also has another pair of reasons to get its house in order: Two new satellites, from lead contractor Astrium, ArabSat 4A and 4B, the first of which comes on stream in Q4/2005, and then Q1/2006. “The upshot of these changes is a substantial restructuring, and others which will happen during September and October. New bodies have been hired, and the logic is to plan our marketing campaigns for the rest of this year and next.”

Moll says ArabSat's brand recognition, while perhaps a little tarnished, still has great value in the wider Middle East. “But the new look, and marketing effort, is but the first step, and we have to translate this into effort on fresh customer focus. We want to see a huge leap forward in terms of our commercial appeal. The only way we can succeed in this to prove it via improved customer service and action.”

ArabSat has had its engineering problems in the past, not least the near-catastrophic failure of its Alcatel-built ArabSat 3A (at 26 deg East) back in late 2002. This prompted the company to take an urgent lease on an older PAS craft, and later a large portion of Eutelsat's 'old' HotBird 5 (EuroBird 2) craft, now dubbed ArabSat 2D, at 26 deg East. There have even been rumours that despite the upcoming pair of new satellites, the company is looking to secure additional fleet capacity. It's also likely that once 4A has been deployed, ArabSat will free up a satellite to the currently unused 20 deg East slot. Moll says existing customers will have the option to move up to the more powerful 4A, “but at market rates” says Moll.



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ARABSAT

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Despite the growth of newcomer NileSat (also looking to add a satellite) and the signals that encroach into the Middle East from players like Eutelsat, Turksat, AsiaSat and others, ArabSat remains the dominant player in its local market. “We have more customers, more eyeballs viewing us, and we are the only full service company operating in the region. We have a good story to tell. We're waking up; we know we are in a fight. We were born in a more gentle time as a means to share resources and costs amongst our member states. Today's game is very different and we need to respond to today's conditions.”

ArabSat's move is not a moment too soon. Eutelsat increasingly sees the Middle East and Africa as prime hunting ground for new business. SES has long sought some sort of action in the region, and has made no secret that it would like to acquire a bird/slot in the neighbourhood, and should any part of PanAmSat's fleet end up being sold off piecemeal, SES might

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“We have had the benefit of a thorough management consultant’s study, and this has given us a fresh baseline for the business...” --Craig Moll, ArabSat

be in the market to pick up a craft. There’s also the possibility of one or other of these players forming a joint-venture or some sort of cooperation agreement on a satellite. NileSat has been looking for such a scheme to help fund its NileSat 103 craft. ArabSat could also now be a willing player in a similar enterprise. **SM**



London-based Chris Forrester, a well-known broadcasting journalist is the Editor for Europe, Middle East and Africa for SATMAGAZINE. He reports on all aspects of the industry with special emphasis on content, the business of television and emerging technologies. He has a unique knowledge of the Middle East broadcasting scene, having interviewed at length the operational heads of each of the main channels and pay-TV platforms. He can be reached at chrisforrester@compuserve.com



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Building Entrepreneurial Enterprises: Lessons from AT&T and Enron

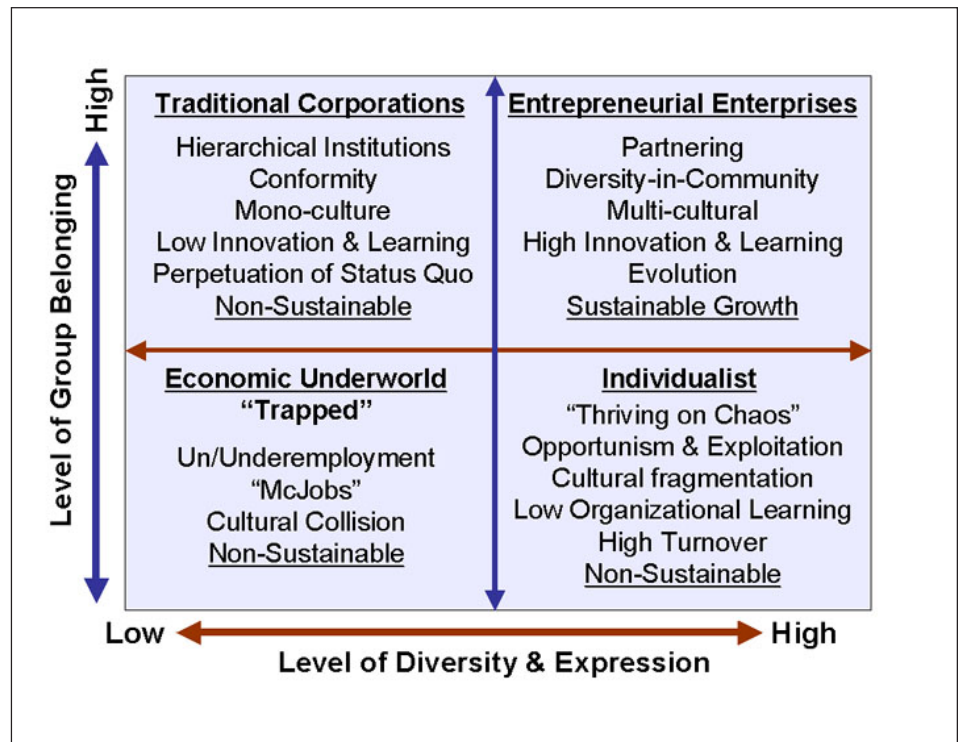
By Dr. Dean Robb

More than ever before, sustaining success in today's marketplace demands that every company build capability for sustainable entrepreneurship. Yet this capability seems to be extremely elusive. Why? When studied from the right perspective, some real lessons can be gained from looking into the failures of AT&T and Enron. Enron saw itself as an entrepreneurial enterprise, but it collapsed. AT&T is a very old, bureaucratic company that has been struggling - with little success - to become more entrepreneurial ever since divestiture of its local operating companies in 1984.

Each company illustrates a very different kind of problem. However, both failures can be understood using a simple 'model' of societies and organizations developed by anthropologists and sociologists (shown below). The model also provides some critical insights into how to create sustainable entrepreneurial enterprises.

The model is based on: 1) the degree to which members of a society or organization have a sense of group belonging and are interconnected; and 2) the degree of diversity, individuality and expression that's acceptable in that society.

The upper-left zone describes societies and organizations with a high level of group belonging, but a low tolerance for internal diversity, individuality or expressive freedom. Such groups always form into hierarchies with centralized power and control, for the purpose of perpetuating an embedded tradition and



protecting the status quo. In such organizations, every action and expression must be considered carefully - they must be "in synch" with prevailing expectations and the culture. There is little room for independent action or spontaneous expression. This is the zone of "keeping up appearances" and the "stiff upper lip."

Such organizations operate well in stable or slowly changing environments, but operate poorly in dynamically changing environments. And, it is in their very nature to stifle the entrepreneurial spirit - they can't help themselves! Entrepreneurship requires freedom to

explore, experiment and openly express. It requires internal diversity as a source of learning, innovation and growth. And it requires ongoing questioning of traditions, strategies, values and everything else. All of these go deeply against the grain of this kind of organization!

This zone describes AT&T to a tee. When divestiture (and the seeds of deregulation) began in 1984, AT&T had a very long history, a deeply embedded tradition, a steeply hierarchical, bureaucratic organization, and a rigid mono-culture. Overcoming this legacy would have required a revolutionary, charismatic and powerful CEO with a genuinely new

FEATURES

vision and the power to carry it out - someone like Jack Welch. Instead, AT&T chose Bob Allen, a caretaker/manager type - a true son of the tradition - who lacked real leadership skills, a compelling vision or any sense of innovation. Allen led AT&T down the wrong path for quite a long time, and eventually into a real no-win situation, structurally. They've been stuck there ever since.

Enron's story is different because it fits more into the lower-right zone - the complete opposite of AT&T. In fact, our whole economy fits into this zone right now. In this zone, societies and organizations are characterized by exaggerated individualism, low social cohesion, unpredictable changes in markets, and constant organizational restructuring, downsizing and closings. The rules change constantly. Since there is low group belonging, people are thrown back on their own individual wits and resources. Operating in this environment is somewhat like living in a chaotic jungle or swimming in a pack of sharks.

This zone breeds charismatic personalities, hucksters - and companies - that play opportunistic, short-term business games with the environment. These individuals and companies manipulate and exploit emerging, short-term structural or market discontinuities to their own advantage. The model is one of "thriving on chaos" or "day trading" on a huge scale. Enron is a case in point. Enron played this game, and played it well, for a while.

But Enron collapsed. Its business practices practically guaranteed it. Continuously finding and successfully exploiting short-term discontinuities and opportunities is extraordinarily difficult to sustain over any significant period of time. This "business model" is fertile ground for the growth of unethical financial and accounting games necessary to paper over the inevitable misread-

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ing of constantly changing environmental "rules." If a company manages to gain a series of big wins, hubris can easily take root and get out of control, like a gambler who has a string of big wins and begins to think that he or she can't lose. Inevitably they do lose, however, and if they bet the farm, they go down the tubes. Enron is a quintessential example of this phenomenon.

"Thriving on chaos" is a myth. Can it be done for a short time? Yes, absolutely. Can it yield sustainable business growth over the long-term? The odds are extremely poor.

In changing times, the most effective strategy for sustainable entrepreneurship is to move into the upper-right corner of the model by building enterprises that are

FEATURES

highly inclusive, and embrace high levels of diversity, individuality and expression. This zone is “primed” for high levels of organizational experimentation, learning, creativity, innovation, change and growth. This zone breeds highly innovative, entrepreneurial organizations and enterprises that can grow relatively rapidly, but not chaotically. Such enterprises are capable of creating, and recreating, internal order within a turbulent external environment. It is a zone of rapid evolution, not revolution or chaos.

Here are two reasons why: Embracing internal diversity and individuality overcomes the conformity and perpetuation of the status quo endemic to traditional bureaucracies. The other reason is more subtle: One of Enron’s key problems is that its INTERNAL, social environment mirrored the “pool of sharks” dynamic of the EXTERNAL environment. Just like the external market,

Enron’s internal world was one of individualistic opportunism and exploitation. This is a huge mistake. When the external environment is fragmented, the internal social world of a sustainable entrepreneurial enterprise should be coordinated and act with an organic, focused unity.

That requires a high sense of internal belonging, interconnectedness and coherence.

Our ingrained belief is that it’s impossible or unrealistic to build organizations with BOTH high belonging AND high diversity. This belief system devastates all possibilities for creating sustain-

able growth in turbulent times. It’s also a defense mechanism. The truth is that it is possible to build highly inclusive/diverse workplaces. If we are honest with ourselves, we will recognize that the real problem is that many of us simply are not willing to make the transformational changes needed to do it. We want to hang on to our old ways, but get different results. Somebody once told me that this is a working definition of insanity! If we can get past our resistance, the model provides insight into the path forward.

Enterprises in the “Entrepreneurial Zone” have low differentials in power and status between the “top” and the “bottom” of the organization. In other words, they are relatively flat. Traditional command-and-control practices are replaced by an emerging “partnership” model based on adult-to-adult (peer) relationships.

Traditionally, organizational alignment is gained through subtle (or not-so-subtle), coercive cultural pressures, and through extrinsic, social rewards like power and status. The goal is behavioral compliance. These methods fit firmly into the “AT&T zone” - and don’t work anymore. In entrepreneurial enterprises, alignment is gained by building individual-level, authentic commitment. Each enterprise member is managed uniquely by tapping into individual, intrinsic motivations and strengths, and leveraging those for

maximum enterprise advantage. As opposed to the bureaucratic “cog in the machine” model, employees feel - and act - like valued enterprise members.

The entrepreneurial spirit is “activated” by constructively harnessing internal variety and differences as the raw fuel for continuous experimentation, innovation, learning and growth. We instinctively resist this because allowing internal differences to surface can initially seem like a descent into chaos. However, while repressing differences might feel comfortable and “safe”, it is actually a dangerous strategy in a changing world. It yields only stagnation, loss of innovation, and potential extinction.

On the other side of perceived chaos is a vibrant, dynamic and diverse community of employees, each of whom is valued as a unique individual and encouraged to contribute and create. To get there, new leadership and management practices are required that foster safety, trust, honesty, integrity, accountability, mutuality and partnering.

This calls for a more sophisticated level of leadership and management competency, wisdom and maturity. This is the real reason why creating diverse, inclusive enterprises is resisted. It’s hard work, and it falls outside of the traditional business leadership “comfort zone.” It calls upon our leaders to significantly “ratchet up” their level of interpersonal, relational maturity. Knowing the “business side” alone is insufficient to build sustainable enterprise entrepreneurship. The key to a future of sustainable growth lies in combining business acumen with community-building skills. **SM**



Dr. Dean Robb is President of The Resilience Group. For over a decade, he has been helping domestic and foreign business leaders build high-performing, innovative, entrepreneurial enterprises. His expertise combines 16 years of practical, real-world corporate experience with in-depth doctoral research in Human and Organizational Systems. He can be reached at drobb@resiliencegroup.com or at (908) 757-4721.

REGIONAL UPDATE

PCM thrives in Hong Kong's "Wild East"

By Chris Forrester



Not so very long ago Hong Kong-based broadcast and satellite services provider Pacific Century Matrix (PCM) was a highly challenged company. It suffered from some of the fall-out over local media-mogul Richard Li Tzar-kai's bold plans to propel his Pacific Century CyberWorks (PCCW) telco into the then booming dot-com era. PCCW was backing the ambitious Network of the World (NOW) concept (along with the late sports agent Mark McCormack and London-based TWI), with PCM used for the transmission and satellite-delivery of the planned bouquet of NOW channels and broadband content. Those plans were shelved, although NOW continues. Today, one television channel is on air with licensed service into Mainland China, and the NOW Broadband TV service, delivered via PCCW's extensive DSL network, is taken by around 300,000 subscribers within Hong Kong.

September 2004

Founded in 1999 PCM was initially a 70/30 joint venture between Pacific Century Group and Germany's DaimlerChrysler Aerospace (DASA, which later became part of EADS). Based on NOW's projections, PCM once had bullish plans to launch its own satellites. Those plans were scrubbed in 2002,

and under CEO Guenter Kring the business refocused into more realistic satellite-based broadcast and broadband services.

Scepticism about the likely turn-around of the company was abundant, admits Kring. With its new focus, PCM was also seen by its shareholder EADS to be outside its core business. Closure might have been an option, but Kring

emphasizes it was Pacific Century who gave the company and his team the chance to manage the turn-around. Li's privately held group decided to take over EADS' shares, making PCM a wholly owned subsidiary and paving the way to recovery. "We were given the chance, we picked it up and I believe we delivered the first milestone by reaching breakeven. Now we are moving on and will deliver returns," says Kring.

Two years ago PCM had plush offices in Hong Kong's premier business district. Today operates out of perfectly adequate premises on the Eastern side of the island, in industrial Chai Wan. The impressive dish farm facilities are on the roof, and business is good, despite what Kring freely describes as the toughest of tough times throughout the region.

"The region we mainly serve is jokingly called the 'Wild East'. There are by and large no rules. But during the past two difficult years we have achieved positive cash-flow, and are beginning to see growth again." Expansion is now very much the order of the day, and part of that success is down to AsiaSat. "We have a

VideoLink Explained

"Muslim TV is fed from London into Hong Kong via PCM's VideoLink product, which takes a live feed over a managed IP network direct into PCM's Hong Kong facility. "It lets us take our broadcast platform to our customer's doorsteps. The customer can be anywhere in the world. We connect at his facility and can handle live broadcast quality delivery up to 180 Mbps of bandwidth, using our global managed network. It is simple, cost effective, and it works. " Patrick Yeung, PCM's SVP Sales and Business Development.

REGIONAL UPDATE

“The services PCM offer in their own back yard make it easy for us to work together. We are competitors in some regards, but there’s also room for us to work together.”

Darby Sanchez, CEO GlobeCast Asia, Singapore

long-standing relationship with AsiaSat, which anyone who is serious about accessing the Asia-Pacific market has to use. AsiaSat 3S (105.5 deg E) is the undoubted hot bird for the region. It’s powerful and has a great community of some 95m connected households through cable and satellite. All the main channels, from suppliers like Star TV and Zee are present,” says Kring. “We also look at AsiaSat 2 (100.5) and SinoSat (110.5). We are just now planning a new C-band broadcast platform on AsiaSat 2, complete with uplink directly from our Chai Wan facility. Again a full transponder MCPC platform, like the one we have on AsiaSat 3S. It’s just the best a broadcaster can get around here. SinoSat C-band we use for satellite-based Internet access.”

Kring says AsiaSat 2 has excellent coverage, and a good neighbourhood, almost as good as AsiaSat 3S. “The broadcast market is a premium professional market, and 3S provides maximum value. But 3S was never going to be perfect for all customers. It’s marvellous for international channels, and those broadcasters who recognise and can fully utilize the premium value. That still leaves others, which for whatever reason prefer not to pay or simply do not have the budget for pole position but still want reasonable coverage for a specific region and superior service quality.”

“We have cases where clients look at rather more budget-driven solutions, using ThaiCom perhaps. That’s not necessarily our market. Others, like the Indus TV Network group of channels out of Pakistan, are perhaps borderline in that they want quality and maximum distribution, but are not entirely able yet to exploit the full potential of AsiaSat 3S. It’s all very well for clients like Indus to be on the hot bird, but they still have to get people on the ground to tie up cable distribution deals to push the channels into the mass market, which they are doing. We try to help in such cases.”

With PCM’s support, the Indus TV Network has grown from a single channel (Indus Vision) launched in 2000 to a bouquet of services, now including Indus Music, Indus News and lately Indus Plus. Another new channel is rumoured for launch within weeks.

Kring says broadcast services on its AsiaSat 2 platform benefit from lower prices. “The new full-transponder platform offers tier 1 quality, at tier 2 price levels. We want to make the new platform a hot one, like the present one on 3S, only in a different customer segment. Our new VideoLink network seamlessly connects broadcasters worldwide with our satellite platforms, turnkey and real-time. That’s how we can attract bouquets from abroad, like from Europe and from America.”

The AsiaSat 4 satellite (at 122 deg E) is also up and running. “AsiaSat 4 can absolutely become a hot bird, but it’s not there yet. It has an interesting coverage, but not yet the sort of neighbourhood that 2 and 3S has. Our focus at PCM is very much on our own platforms on 3S and the development of AsiaSat 2. A next step may be AsiaSat 4.”

PCM’s Internet and VoIP clients, Kring says politely, are not the most profitable parts of his business, “but they contribute. We are happy to supply and support these businesses even though it

“We have about two years of content-rich material in our archive, covering movies, sport, animation and entertainment programming. We are going to develop our networks with PCM, and through them target and build to the rest of Asia.”

Ghazanfar Ali, CEO Indus Vision, Karachi.

is a highly volatile sector. It generates cost contribution to our overheads.” Kring says that some 35% of PCM’s revenues come from non-broadcast IP based activity.

One of PCM’s longest-standing clients is Bloomberg, and Kring says they are typical of major broadcasters, which want a highly customised service. “They need competitive prices, of course, but a rate card is never going to suit a client like Bloomberg which frequently needs a raft of specialised services,” says Kring. “Presently we are taking the existing NTSC signal, turning it around and converting it into PAL and uplinking it onto our 3S platform. They want the most perfect pictures, and need a clean sharp image with fluid motion of the scroll text information.”

PCM also has a close working relationship with GlobeCast, and through them has developed a rapport with Muslim TV out of London. “They were on AsiaSat 2, but they especially wanted to reach their viewers on the Fiji islands and this meant a shift to 3S.” Muslim TV was PCM’s launch customer for its VideoLink managed network product. “We did a world’s first, really long distance trans

Continued to page 35

VIEWPOINT

Satellite Services - From Supply Push to Demand Pull

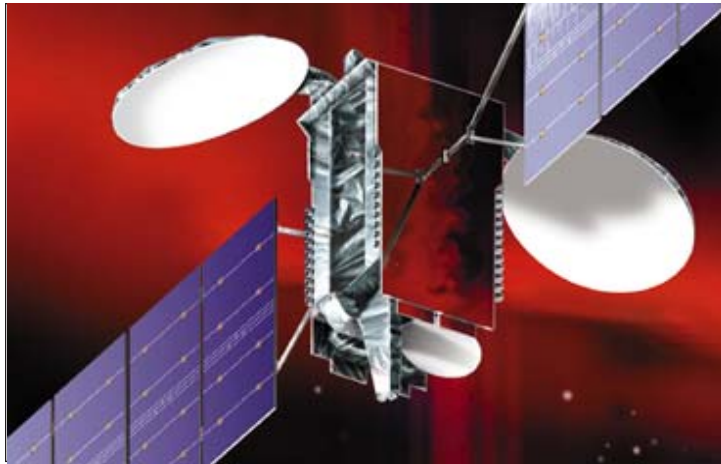
By Bruce Elbert

President, Application Technology Strategy, Inc.

The SIA survey quoted by Virgil Labrador shows the growth and dominance of DBS TV services over other segments of our industry. This is as much an outgrowth of consumer acceptance as it is the surplus transponder supply at geostationary orbit. Getting into the DBS business now requires investment measured in the billions of US dollars, while the best slots and markets having been taken. Growth of the services segment from here would seem to involve applications which either are emerging or yet to appear. So, how do we uncover these requirements, from where will they come, and with what technology may we address them?

Stepping back, the Internet and Telecom boom emboldened many startups and existing operators to invest in risky systems with money that seemed plentiful. Now that we approach the middle of the first decade of the second millennium, satellite operators and service providers are much more realistic and far less willing to bet on the come. Instead, we look for customers who have quantifiable requirements and the financial muscle to back them. I would expect that many large organizations in major industry segments outside of telecommunications and IT are evaluating new strategies to put themselves ahead of competitors. Included here are members of the defense segment who already consume large blocks of transponders. They and their commercial counterparts are always interested in ways to gain control of spending and better manage their IT infrastructures.

In the past, satellite services were reserved for those who already understood them. Corporations and government agencies which lacked satellite expertise tended to rely on the major carriers who, in turn, provided conventional voice and



data services over landlines. Thanks to the aforementioned DBS as well as satellite digital audio radio service (S-DARS), global positioning satellite (GPS) and the familiar but unnatural voice quality of satellite mobile phones, most of the planners and managers of broad-based IT have a familiarity with satellites. This is good news for the services side of the business because we can look to the once-unfamiliar user for the new demand we need.

Converting such latent demand into profitable revenues is a challenge, representing the kind of “rain-making” common in the professional services/consulting field. What rain-makers understand is that it takes a lot of time and nurturing of relationships to produce the business. Good rain-makers have a quality that Joseph Conrad ascribed to his fictional Lord Jim, which he called simply “the Ability”. Please excuse my abstraction here but I want to make the point that creating customers is possible, but comes with person-to-person networking as a life-long endeavor. For further reading, see the excellent books by Harvey McKay on networking and David Maister on rain-making.

A good approach for uncovering service demand is to heed the advice of an IT executive at Kodak, whose name I cannot recall but who was a key figure in American industry’s first massive IT outsourcing project. He complained that traditional vendors provided what fall into the category of “partial solutions”; yet what he wanted to see from these companies were “solutioneers” who would listen to needs and propose responsive systems and technology.

This all begs the question, “What do companies and government agencies really need?” Often, they are no better today at verbalizing or communicating what their needs are. Worse still, they may put up barriers to this communication that prevent us from doing the necessary fact-finding that could result

VIEWPOINT

in a solution. Back we come to the role of the rain-maker with “the Ability” to break through barriers, learn what is needed, and manage the “solutioneering” process.

Coming back to the “what” question in the first paragraph of this article, I have presented listings in past SatMagazine articles of the systems and technologies that have been borne of a decade of innovation. For example, MPEG broadcasting gives us the ability to distribute multimedia content to remote locations, and TDMA the ability to return “solutioneer”. Just recently, I received emails from technical staff on different sides of the planet at solid organizations - with the simple question, “should I use a star network or a mesh network?” They also wanted to know how to choose the right equipment to implement the architecture.

This coincidence seems to me to be a symptom of the confusion out there among potential users of satellite services who know that satellite technology is an answer. However, they

lack the knowledge to compile their requirements sufficiently to conduct trade studies and proceed with implementation. As we learn how to communicate with these needy users, we gain “the Ability” to create the revenues needed for growth and profit.



SM

Bruce Elbert has over 30 years of experience in satellite communications and is the President of Application Technology Strategy, Inc., which assists satellite operators, network providers and users in the public and private sectors. He is an author and educator in these fields, having produced seven titles and conducted technical and business training around the world. During 25 years with Hughes Electronics, he directed major technical projects and led business activities in the U.S. and overseas.

He is the author of The Satellite Communication Applications Handbook, second edition (Artech House, 2004). Web site: www.applicationstrategy.com / Email: bruce@applicationstrategy.com

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EXECUTIVE SPOTLIGHT

Interview with ILC Senior VP & COO Mark Krikorian

SatMagazine Managing Editor Virgil Labrador recently spoke with ILC's Senior Vice-President and COO, Mark Krikorian. Atlanta, GA-based satellite network monitoring and control company ILC has been quietly making waves in it's market sector—posting an average growth rate of 40 percent in the last two years. Excerpts of the interview:

Q. Your company used to be known as "Industrial Logic Corp." can you briefly explain for the benefit of our readers how you evolved from basically an industrial company to the more focused networks services company that you are today?

A. ILC was originally founded as an industrial automation company to improve production for mailing envelope plants. The objective was to monitor factory equipment to stop production problems and eliminate raw material waste caused by either equipment failures or operator error. To address our customers' needs, we created graphical Windows based software and hardware that also worked as a general monitor and control system. Most people new us as ILC, and since we have not been in the industrial automation market we made the name change official.

Through contacts in the Atlanta area we learned that our products had much more value in the satellite industry than in industrial plants. Our configurable software allowed us to demonstrate our first prototype satellite earth station monitor and control system in less time than the existing M&C producers could deploy their production version. We began selling our new software immediately, and have maintained our philosophy of ease of use and configurability ever since.

Q. To what do you attribute your success in the last few years, growing at a such a phenomenal rate?

A. We have increased our market share and market size by showing our customers how to improve revenue and profits by using MaxView. We design MaxView as a toolset that helps our customers supply more services with optimum equipment and staff while simultaneously improving reliability. We accomplish this because of the two concepts:

Everyone knows you can only fix a problem if you know it exists. We were the only company in our industry to recognize that a monitor and control system fails if it cannot monitor all devices in the network. To address that issue, we created a driver development kit that we use to create drivers for any type of equipment faster than any of our competitors. By doing so, MaxView eliminates the blind spots that other products produce. MaxView monitors and controls networks more thoroughly than any other product.

We believe monitor and control is just the beginning of what we do. We utilize our products to detect and solve



Mark Krikorian

network problems and to automate network operation. Our customers want the freedom to define how to best use MaxView to do that. We have taken a tools approach to empower our customers to set MaxView up themselves, customizing the system to solve their problems and improve their service. MaxView's graphical point-and-click operation enables them to adapt their systems without employing software engineers or calling ILC.

ILC Revenues				
(Amounts in thousands)				
Year	2003	2002	2001	2000
Revenue	\$9,339	6,574	3,608	4,384
Percent increase (from previous year)	42%	82%	-17%	

EXECUTIVE SPOTLIGHT

Q. What is your current market share? How do you differentiate yourself from your competitors?

A. ILC is the market leader in satellite monitor and control. Of the overall network control software market, we have a market share of less than 1%.

1. The core difference between other network management, monitor and control products and MaxView is that MaxView interfaces to any type of equipment or system, regardless of brand or technology. That is why customers are able to install, customize and expand their network control systems from ILC at a fraction of the cost and time they anticipate.

2. MaxView builds on total equipment control to give our customers capabilities that far exceed traditional monitor and control functionality, including:

- Network and facilities management, monitoring and control
- Automated fault management and auto-recovery
- Graphical and browser-based remote control
- Historical and real-time report generation
- Event booking, reservation and resource scheduling
- Trouble ticketing
- Service provisioning
- Alarm correlation

Q. How much increase in your market share are you projecting for say, the next three years? How do you plan to achieve that?

A. We expect to increase our market share by 150% over the next three years. Our expected growth is largely tied to the growing trend of converging networks. As service providers merge their hybrid

networks, we are ready with a solution that helps them reduce their operating expenses by consolidating hybrid

Continued on page 35...

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MARKET INTELLIGENCE

Satellite Voice over IP: A Market for New Links in Africa's ICT Chain

By **Martin Jarrold, Director, International Programs, GVF**

Across Africa there is an expanding awareness of satellite-based Internet telephony, a growing realization among the telecommunications hungry population of the Continent that the “dollars and cents” of disposable income go further over Voice over Internet Protocol (VoIP). Moreover there are now clear signs that VoIP services are now looked upon with greater favor by a new generation of more independent telecoms regulators, in distinct contrast to their still recent predecessors.

VoIP is a technology which can increase the capacity of telephone networks by compressing and routing calls for typically 50% of the cost of traditional switched services, and it came in 2001-02 to be acknowledged as offering “carrier-grade” reliability.

As a growing number of governments have recognized that VoIP – rather than being a by-pass mechanism which presents a major revenue threat to an incumbent telco – can help achieve essential economic and social development goals, this has helped to encourage and foster more enlightened regulatory frameworks. Thus, VoIP has now been legalised to some extent even in some of the world's most tightly regulated telecommunications markets, such as China, India and South Africa.

In South Africa, according to a major new report entitled “**Open & Closed Skies: Satellite Access in Africa**”*, new licensees are permitted to deliver VoIP from low-density areas, but these had yet to be implemented as of end-July 2004. In many other countries, VoIP is not clearly

addressed by regulation, which may prohibit new providers of circuit-switched but not of packet-switched voice services because the latter had not been invented or was not taken seriously when the relevant laws were written. At the beginning of 2004, Mauritius took a lead and launched a number of legal, international VoIP services, and became the first African nation to take this major step and establish a precedent for the Continental mainland to follow.

The International Telecommunication Union (ITU) estimates that international VoIP traffic accounted for 7.3% of international outgoing minutes as far back as 2001; TeleGeography Inc. in 2002 estimated that VoIP traffic would double during the year, to 18 billion minutes.

The lower deployment cost of packet telephone lines make these services especially attractive, as carriers face increased competition and the need to provide expanded access to Information and Communications Technology (ICT) solutions. Internet telephony has been a significant

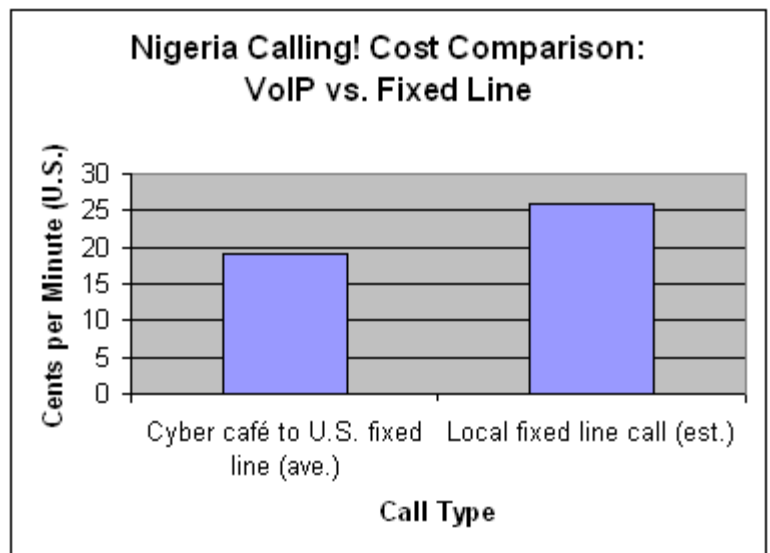


Presented by the
Global VSAT Forum

satellite application since 2000, when closed-user-group VSAT networks began providing telephone services, with their other data traffic. Trunking via satellite offers natural advantages to VoIP in countries with limited backbone capacity where it is sold as a cut-price service, or used by new entrants as a way to quickly begin providing services.

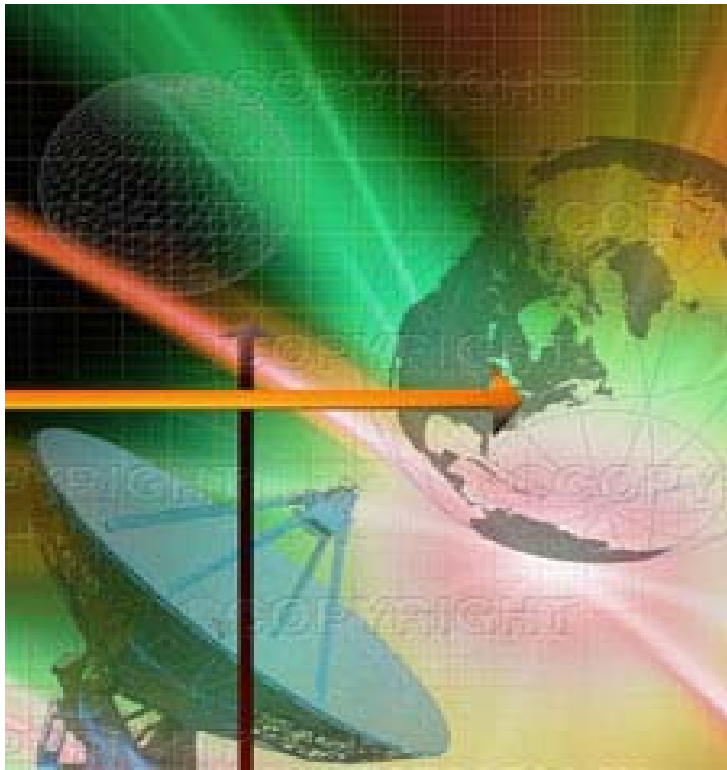
In Africa, VoIP also has important implications for expanded access to services provided in cyber cafés. In a proprietors' survey conducted for “**Open & Closed Skies: Satellite Access in Africa**”¹, 80% of those interviewed in Nigeria reported that voice was a growth

Figure 1: VoIP with a price-competitive edge.



MARKET INTELLIGENCE

area for international calls. Call charges using traditional networks are perceived as too expensive, resulting in high demand for VoIP. For example, at a cyber café it costs 20-30 Naira (US\$0.16-0.23) per minute to call a fixed-line telephone in the U.S.A. The cost of a local fixed-line call, by contrast, is estimated to be 35 Naira (US\$0.26), see Figure 1. The downward pressure this is exerting on international call rates is helping to push the incumbent fixed and mobile PTOs to reduce their rates as well, often by adopting the same technology. In April 2004 mobile operator M-tel dropped its international call rates to 50 Naira/minute (US\$0.37).



but it can be bundled with other applications such as distance learning and/or can become a source of call-termination revenues.

NOTES

¹“Open & Closed Skies: Satellite Access in Africa” will be launched at the ACT 2004 Summit in Mauritius, September 7-10 2004. It was made possible through support from the International Development Research Centre of Canada (IDRC). As part of its program of assistance for developing countries, IDRC has carried out a Pan-

Africa Satellite Survey and selected country case studies that provide the basis for this report. The report supports the Catalysing Access to ICTs in Africa (CATIA) programme of the U.K. Department for International Development (DfID). It draws upon a broad base of experts and resources in the field of communications, both in Africa and throughout the world and was prepared by a drafting group led jointly by David Hartshorn and Mike Jensen. Key contributions were made by Geoff Daniell Communications Consulting and Stephen Esselaar of LinkCentre. The report also draws upon recent work conducted by the International Telecommunication Union’s Study Question 17-1: “*Satellite regulation in developing countries*”, the GVF’s “*Satellite Policy & Regulatory Guideline*”, a World Bank-funded report conducted by DeTeCon International for the African Virtual

University (AVU) on “*Low Cost VSAT Technologies and Licensing Regimes*”, as well as legal expertise from Squire, Sanders & Dempsey and Coudert Brothers, and consulting by Access Partnership, COMSYS, DeTeCon, DTT Consulting, Euroconsult and Northern Sky Research.

² **Balancing Act – “African Internet Country Market Profiles, Part 1: West Africa”**. Further details at www.balancingact-africa.com **SM**

According to one of the authors of a report on the Internet and VoIP services across West Africa, grey markets in international VoIP calling have grown up almost everywhere across the Continent. Also citing the example of cyber cafés, “**African Internet Country Market Profiles, Part 1: West Africa**”², reports that these Internet entrepreneurs can offer calls more cheaply than incumbent telephone companies and *still* make a profit. In most African countries the grey market is estimated to be 10-20 per cent of the overall telecommunications market. However, in Nigeria – as reported by Balancing Act – the CEO of telephone incumbent Nitel estimated that before he put in place cuts in international calling rates, 90 per cent of international calls were in the gray market.

For satellite operators, VoIP is still a marginal source of demand for capacity

Martin Jarrold is the Director, International Programs of the Global VSAT Forum. He can be reached at martin.jarrold@gvf.org For more information on the GVF go to www.gvf.org



PCM thrives in Hong Kong's "Wild East"

Continued from page 28

portation of full-time live broadcast over a managed private network, over 13,000 miles and across four different networks. It's exciting, and a great advantage for quality transport on budget friendly terms" added Kring.

PCM is generally offering TV services on a guaranteed bandwidth basis, however a StatMux pool is also an option. Kring admits there's plenty of price-sensitive competition on his patch. "We step back if price expectations are simply too foolish. And there have been some foolish loss-making prices given by others! I do not believe it is worth being that desperate. Our customers want good prices, of course, and we try to do the best we reasonably can. But what point is there in selling a high value, high cost Mercedes for the price of a Toyota?"

Kring also points out that if you fall into the trap of price-cutting, then word quickly gets around. "Peter Jackson [CEO at AsiaSat] is the perfect example for doing it right. When times were tough he resisted the downward slide in prices. His satellites have a great value and he has maintained that value, on the level, and today he is still in business with a high-price high-value platform. We might not wholly care for the prices, but where is his business and his service quality going to be if he matches the \$500,000 per transponder costs that some rivals have been charging?"

Downward price pressures remain, "but they're at a more acceptable level, and more manageable today. There is more demand so lower rates are compensated for by increased demand. But caution is also important because of the "no rule" rule, where countries don't recognise signed contracts, and contracts are often unenforceable anyway, and the same applies to debts."

China is the region's great hope, but Kring says even here realism is important. "AsiaSat has a massive distribution into China, especially on AsiaSat 3S, and we have high expectations. But billions of dollars have gone into China, and we are well past the period when everyone was rushing blindly into China. Down the road it will without any doubt be exceptional, but predicting any timeline for this future is very difficult. Our China links through Pacific Century Group are naturally useful."

PCM has strengthened its sales team by appointing Sean Langston as Director of Business Development, and another prompt business win from the 'Living Asia' channel, out of the Philippines, to be exclusively distributed on 3S this October. Others are in the pipeline. "Living Asia is but the tip of the iceberg, and will prove to be a case-study for the way to do things going forward. The goal is going to be for us to bring more channels out of region into Asia. We're looking at Europe, the US and greater Asia, and we can be flexible where it makes commercial sense, even to include participation in management of the channel's distribution contracts with cable operators. A strong, successful relationship helps bind both parties together." **SM**

Interview with ILC's Mark Krikorian

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network operations under one control environment. And our current product development plan includes new capabilities that further our objective of improving our customers' businesses.

Q. What are the driving forces in your segment of the market ?

A. All our target markets (satellite, government, broadcast and telecom) are getting pushed to manage larger, converged networks with fewer people. At the same time the trend toward larger converged networks drives the need for

more comprehensive network control. Our approach is to supply one software platform that works with all types of networks and improves operations efficiencies.

Specifically, we've seen a push across government agencies towards "network-centric operations", an Information Age type of warfare that relies heavily on easily adapted, reliable networks. While many commercial vendors in the satellite industry recently began targeting the government for sales when the Department of Homeland Security was created, ILC began forming relationships with the government more than four years ago. We did this through various channels, including through third party integrators with the necessary security clearances. This has helped us grow our contacts within this market and position ourselves as a resource to government agencies as they research "future-proof" network control methodologies.

Q. Where do you see the biggest growth in your market?

A. We see the biggest growth in the telecom market.

Q. What's in store for ILC in the next few years?

A. We foresee continued growth with stronger market awareness, allowing us to continually improve products through consistent investment in research and development. This will enable us to expand the breadth of our product offering, always focusing on network control software to detect and solve network problems and automate network operations. However, we will have some surprises for our customers as we extend their sphere of control with tools that they may not expect a network control software company to package in its product offering (like this year's trouble ticketing and carrier monitoring releases).

SM

STOCK MONITOR

Company	Symbol	Price (Sept. 1)	52-week Range
APT SATELLITE HOLDINGS	ATS	1.42	1.32 - 3.50
ANDREW CORP.	ANDW	11.07	9.30 - 21.67
ASIASAT	SAT	17.75	14.31 - 22.80
BALL AEROSPACE	BLL	37.50	25.32 - 37.59
BOEING	BA	52.39	33.66 - 52.82
BRITISH SKY BROADCASTING	BSY	34.66	33.22 - 59.24
CALIFORNIA AMPLIFIER, INC.	CAMP	5.68	4.05 - 17.20
COM DEV INTL	CDV.TO	2.80	1.71 - 3.80
COMTECH TELECOMMUNICATIONS.	CMTL	18.02	14.93 - 39.52
DIRECTV GROUP	DTV	15.94	14.70 - 18.81
ECHOSTAR	DISH	30.68	26.95 - 41.00
FREQUENCY ELECTRONICS INC.	FEI	11.56	9.52 - 17.13
GILAT SATELLITE NETWORKS	GILTF	4.77	3.95 - 9.86
GLOBECOMM SYSTEMS INC	GCOM	5.73	3.25 - 7.29
HARRIS CORPORATION	HRS	48.95	33.23 - 51.19
HONEYWELL SPACE SYSTEMS	HON	36.00	25.94 - 38.46
INTEGRAL SYSTEMS INC	ISYS	17.43	15.35 - 22.12
KVH INDUSTRIES INC	KVHI	7.80	6.61 - 34.729
L3 COMMUNICATIONS	LLL	63.90	41.63 - 66.90
LOCKHEED MARTIN	LMT	54.27	43.10 - 55.48
NEW SKIES SATELLITES	NSK	7.80	5.20 - 8.16
NEWS CORP	NWS	31.14	30.61 - 39.74
NORSAT INTERNATIONAL INC.	NSATF.OB	0.54	0.38 - 0.95
NTL	NTLI	54.24	39.99 - 73.81
ORBITAL SCIENCES CORPORATION	ORB	10.77	8.56 - 14.19
PANAMSAT	SPOT	23.45	13.80 - 26.01
PASIFIK SATELIT NUSANTARA	PSNRY.PK	0.09	0.00 - 0.00
PEGASUS COMMUNICATIONS	PGTV	10.11	5.185 - 25.50
QUALCOMM, INC.	QCOM	37.99	20.08 - 38.85
RADYNE COMSTREAM	RADN	7.06	3.15 - 13.426
SCIENTIFIC-ATLANTA	SFA	27.66	25.39 - 38.59
SIRIUS SATELLITE RADIO INC.	SIRI	2.27	1.55 - 4.20
SES GLOBAL	SDSFa.F	6.80	6.00 - 8.85
TRIMBLE NAVIGATION	TRMB	27.11	13.4867 - 29.50
VIASAT	VSAT	20.05	15.30 - 28.91
XM SATELLITE RADIO	XMSR	28.00	13.35 - 30.96

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