

Pay TV Piracy: A Global Challenge

by Peter Galace

It's a serious problem bedeviling the industry far too long now. Last year, in Asia alone, the estimated revenue losses were pegged at almost US\$2 billion. Operators warn that the plague, if left unchecked, could destroy the whole industry—not just in Asia but the entire global Pay-TV market. So how Asia is grappling with this persistent problem could be instructive for the rest of the world as new markets are opening up in places such as the Middle East, Africa and Latin America.

In Asia, Pay TV piracy affects rich and poor countries alike -- Australia, New Zealand, Taiwan, Hong Kong, China, Vietnam, Thailand, Philippines -- and in fact, there seems to be no country immune to it. There have been many solutions introduced to clamp it down like digitization, law enforcement, etc. But the solutions continue to face many obstacles and challenges and with Internet online services, the problem is made even worse. And so the cat and mouse game continues to rage. The latest solution being dangled: a new international treaty.

The problem of pay-TV content piracy across the Asia Pacific, said Cable & Satellite Broadcasting Association of Asia (CASBAA) executive director Anjan Mitra, is currently the most significant barrier to investment and innovation in the pay-TV industry. During a forum held in July this year in India, Mitra presented case studies in the Philippines, Australia, China and Vietnam where he claimed the pay-TV industry is discouraged to produce premium content for consumers or are reluctant to release premium content because of fear the content will be distributed illegally.

CASBAA, which represents more than 130 channel programmers, pay-TV operators and technology providers, describes pay TV piracy as any of the following: unauthorized redistribution of broadcast content by other broadcast organizations, unauthorized

reception and distribution of entire multi-channel bouquets, by cable operators, unauthorized commercial use of satellite broadcasts, facilitated penetration of pay-TV systems to allow unauthorized access, and unauthorized distribution of broadcast content on the Internet.

But other types of piracy include under-declaration of subscribers by operators in an attempt to lower licensing fees from channel operators, and ad masking, the practice of operators selling local advertising space over advertising already sold by the channel operator.



CASBAA believes Internet piracy can be kept under control if governments and the industry work together as strategic partners with governments putting in place effective criminal laws and law enforcement. CASBAA says governments and industry together can support by providing consistent messaging: visible endorsement of IP rights, with clear and sustained public statements and actions against piracy.

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Piracy Must be Nipped in the Bud to Ensure Sustained Growth



In this issue we address the problem of Pay TV piracy or “revenue leakage” as they call it in Asia. The problem cost the industry almost US\$ 2 Billion last year in lost revenues in Asia alone, the largest Pay-TV market with almost half the subscribers globally. Our Editor for Asia-Pacific, Peter Galace examines the problem in depth and the efforts to curtail it by the industry. How Asia tackles the problem could be instructive to the rest of the world as Pay TV services begin to take root in emerging markets in the Middle East, Africa and Latin America.

Currently, Pay TV subscribers in the Middle East and Africa consist only one percent respectively of the world’s total. Latin America accounts for only five percent. This number is certain to grow as satellite operators expand in these markets and develop Direct-to-Home satellite services and extend cable distribution in these regions. However, conditions similar to Asia may also encourage piracy on a scale that will stunt the growth of Pay TV services in these markets. This is where the Asian experience can be instructive.

Content piracy is not a unique problem to Asia. It exists in every part of the world including the mature markets of Europe and North America. There are many lessons to be learned from how Asian countries are tackling this pernicious problem. How some individual Asian countries overhaul their antiquated regulatory regimes to keep up with 21st century technology would be interesting to watch. It does help to have industry associations such as CASBAA, GVF and APSCC among others, aggressively pushing the regulatory agenda.

Technology plays an important role in the battle against piracy. Upgrading security systems regularly has certainly proven to be very effective in curbing content piracy in North America and Europe and in some parts of Asia as well. Technology alone, however, is not enough. Piracy has been growing in Asia mainly because the perpetrators have been keeping one step ahead of technology. Technical innovation can only be effective if combined with a rational regulatory framework and effective enforcement.

This month the focus will be at the IBC show in Amsterdam which will showcase the latest developments in conditional access and digital asset management technologies, among others. If you are attending IBC this year, check out our guide to the show on pages 14-16 and do drop by the Satellite Markets and Research booth in the publications area between Hall 8 and 9, stand no. 51. We look forward to seeing you there.

Errata: In an early version of the July-August issue of the *Satellite Executive Briefing*, a caption to an image of the Viasat-1 satellite was wrongly attributed to another manufacturer. Viasat-1 is being built by Space Systems Loral. The article also mentioned that the Viasat-1 uses Ground-Based Beam Forming. It does not. To view an updated version of the article click here: <http://www.satellitemarkets.com/pdf/aug10.pdf>



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...Pay-TV Piracy... from page 1

This is the reason why the Hong-Kong based CASBAA is supporting a powerful World Intellectual Property Organization (WIPO) treaty, which it believes can equip broadcasters with the needed tools they need to fight pay-TV piracy. WIPO is a United Nations agency tasked to encourage creative activity and promote the protection of intellectual property throughout the world by eliciting state cooperation.

Lack of laws hamper fight vs. piracy

But fighting piracy in many Asian countries today is difficult mainly because of deficient national laws that make it illegal to use or downlink other broadcasters' contents. CASBAA admits regulations have not kept up. That is why the group's work now includes educating and persuading individuals, operators and regulators in 15 different Asian governments that today's digital entertainment industry is different from the TV industry that they have known and worked with for many years.

John Medeiros, CASBAA deputy chief executive officer who oversees the group's anti-piracy and regulatory activities, says governments' regulatory paradigm has to shift. "Unfortunately for some of the governments in the region, regulators are still dealing with laws that were passed in a previous generation," he said in a recent forum.

In the Philippines, for example, broadcasters have few laws that could protect their operations. The country's old laws have yet to define and penalize the act of stealing satellite signal piracy, hence the difficulty of prosecuting offenders. Under existing Philippine laws, only movable properties that have physical or material existence, and can be carried from the place they are found, are sub-

ject of the crime of theft. Thus television signals, being intangible, cannot be the subject of theft! Until more specific laws that seek to curb cable or satellite signal piracy pending in Philippine Congress are passed, channel providers have to invoke the Intellectual Property (IP) Code, which gives them protection as copyright owners. Thus, broadcasting organizations are filing cases for infringement under the IP Code, although the protection leaves much to be desired.

In Australia, according to Mitra, investigators found a shop in West Australia actively promoting ways to penetrate Foxtel's satellite TV system. When this

on Chinese web servers in perfect digital form and on a very timely manner. Some companies have launched numerous court actions against websites hosting their pirated programs but courts in China assess only small fines. Worse, legal costs for each action are even higher than the damages recovered so there is no deterrent effect on the illegal behavior, said Mitra.

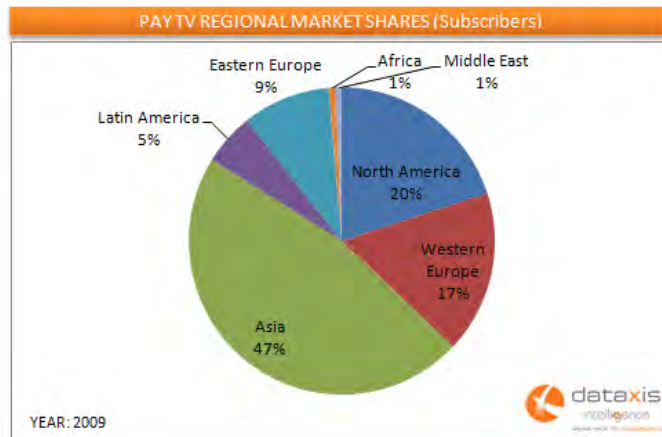
Unfortunately, these situations are not unique in the Philippines, Australia and China and are also prevalent in other Asian countries in varying degrees. So until national laws are first amended or stricter laws banning and penalizing pay-TV piracy are passed, going after the bandits will remain very difficult. And will remain very difficult indeed, considering the enormously long time it usually takes legislative bodies to pass a law.

The problem is manageable

One of the most important new tools being employed to curb pay-TV piracy is digitization and thankfully, the ongoing digitization program in most Asian countries is showing tremendous success. A majority of networks throughout the region are still analog but the digitization process is moving rapidly in several countries, including India and China, which, in the past, have enjoyed the distinction of having the highest piracy rates in the region.

According to a CASBAA report published late last year, there are an estimated 326 million pay-TV homes in the Asia-Pacific region in 2009. This is a growth of 26 million homes, or 8.66 percent growth from 2008 with digital pay-TV subscription households now accounting for over 115 million homes.

CASBAA estimates, backed by global data, that subscription television in Asia Pacific now reaches more homes than the rest of the world combined.



Asia accounts for nearly half of all Pay TV subscribers worldwide. How Asia handles the piracy problem will have an impact on the future growth of Pay TV in emerging markets in the Middle East, Africa and Latin America. (Source: Dataxis)

operation was discovered, such acts carried no criminal penalties, although the Australian law had, since then, been updated and improved. Foxtel, the Australian pay TV operator, was able to sue only because Australian copyright law gave specific rights to broadcaster to protect their encryption devices and their signals.

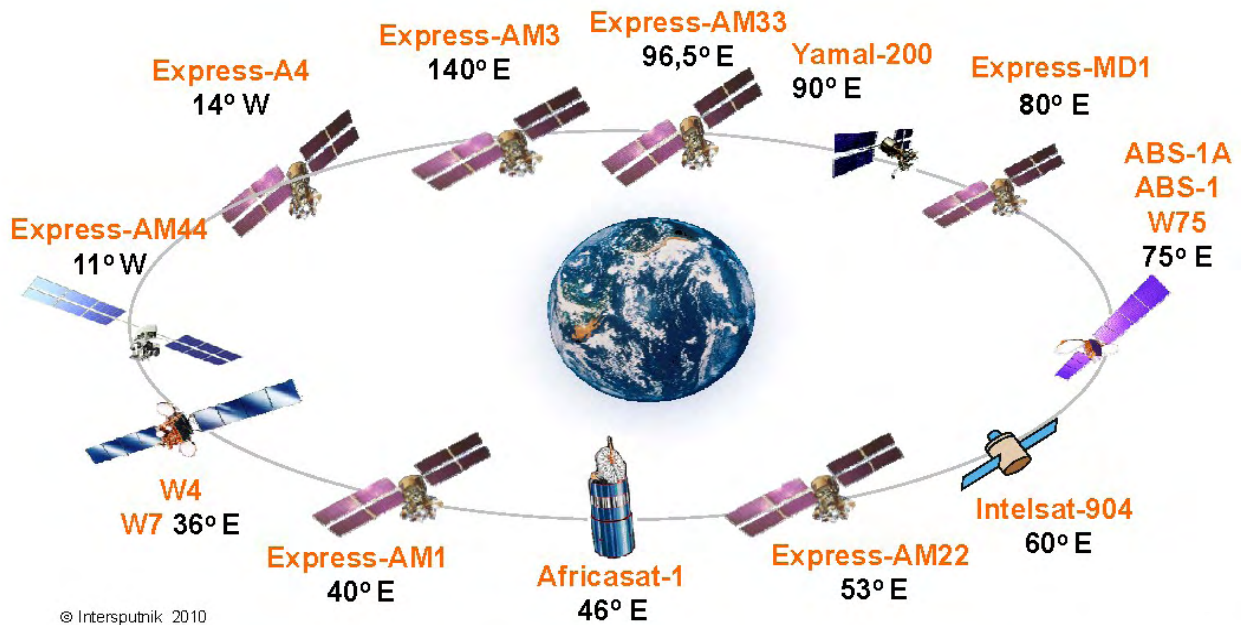
The problem is worse in China where digital broadcasting signals from Hong Kong can easily be received in South China. For example, Hong Kong TVB Pay Vision's popular series are routinely pirated and uploaded immediately



The **Intersputnik International Organization of Space Communications** was established on November 15, 1971. Today, **Intersputnik** has 25 member states in practically all parts of the world from Latin America to Southeast Asia and from Europe to the south of the Arabian peninsula.

Intersputnik's core business is to make satellite capacity available to telecommunications operators, broadcasters and corporate customers under agreements with partner operators and to offer full-scale services via its subsidiary **Intersputnik Holding, Ltd.** for the purpose of installing and operating satellite telecommunications networks. Such full-scale services include access to internet backbones, uplink services, switching and digital platform services as well as supply and integration of ground equipment. The Russian satellite telecommunications operator **Isatel LLC**, which is part of the Intersputnik Holding, Ltd.

Intersputnik Satellite Fleet Overview



group, offers Russian and international telecommunications operators and corporate customers the required technological platform for the establishment of satellite telecommunications networks and provision of telecommunications services based on this platform.

Today, Intersputnik provides to its customers the resource of telecommunications satellites located in the geostationary orbit from 14W to 140E. One of our key partners is the **Russian Satellite Communications Company**, which owns a fleet of advanced Express-series satellites. Also, Intersputnik enjoys the status of the official distributor of Eutelsat's satellite resource and Measat's resource on the AFRICASAT-1 satellite. It markets and sells Intelsat's satellite capacity and offers service on the ABS-1 (LMI-1) satellite.

Intersputnik distinctive feature and main advantage is that it is an all-purpose supplier of satellite capacity and technological solutions. This is why Intersputnik's government and private customers in over 40 countries have a very wide choice of satellite resources in various systems operating on the global market and can receive all kinds of information from a single source.

Intersputnik's principal asset is its long-standing experience while the availability of its own orbit and spectrum resource guarantees its successful development. Using this resource, Intersputnik is implementing projects aimed at procuring and deploying spacecraft in its own orbital positions to provide service in the most rapidly developing regions with growing demand for satellite telecommunications services. For more information go to: www.intersputnik.com

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Medeiros says Asia has reached the tipping point when it comes to digitization.

Industry analysts are encouraged by the report because the Asian pay-TV markets with the lowest level of piracy are generally those with the highest percentages of digital deployment.

In Australia, Hong Kong, Malaysia, Japan, Singapore and New Zealand, which are all almost 100 percent digital, piracy levels are at the lowest. This is according to the results of a CASBAA survey in 2008 done in collaboration with the Creative Industries Division of Standard Chartered Bank. In contrast, India, which suffers from heavy government regulations and a lack of digital infrastructure, remained the country with the most revenue leakages linked to piracy in 2008.

Broadcasters treaty

Despite the successes in the digitization

program, CASBAA still believes in pushing for the approval of the WIPO Broadcasting Treaty that would give broadcasters intellectual property rights over their signals, in addition to the copyrights held by the creators of the works. Although the treaty is still in the discussion stage, its framers are billing it as an update of the Rome Convention, a 1961 treaty designed to protect broadcasters from piracy. Proponents say the treaty simply and innocuously applies to technologies that weren't included in 1961, like cable rebroadcasting, satellite rebroadcasting, and Internet rebroadcasting.

But the treaty is in for a rough sailing and is facing legal challenges worldwide. In fact, it is being "exposed" as a power grab by broadcasters. Public Knowledge, a Washington, D.C.-based public interest group working to defend citizens' rights in the emerging digital culture, says the treaty would give broadcasters the ability to prevent even copyright holders from accessing and

using broadcasts made of their own works.

"The treaty also does not require countries to balance the rights of broadcasters with the rights of users in the same way that copyright laws do (through doctrines like fair use). As such, the treaty will have a number of negative consequences for copyright holders, Internet service providers, technology companies and consumers," Public Knowledge asserts in its website.

Public Knowledge said signal theft could be addressed simply by signing a treaty that simply prohibits intentional misappropriation and theft of broadcasters' signals. Such a treaty would be consistent with U.S. law, unlike the treaty's current creation of a property right never before recognized within domestic copyright law, the group says. The Electronic Frontier Foundation (EFF), another consumer rights advocate, has even more scathing remarks about the proposed treaty calling it "a



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protection racket for middlemen in the TV and Internet worlds.”

EFF said the WIPO treaty would give broadcasters 50 years of copyright-like control over the content of their broadcasts, even when they have no copyright in what they show. It warns that “A TV channel broadcasting your Creative Commons-licensed movie could legally demand that no one record or redistribute it—and sue anyone who does. And TV companies could use their new rights to go after TiVo or MythTV for daring to let you skip advertisements or record programs in DRM-free formats.”

EFF condemned some countries’ support of an expanded version of the treaty to cover the Net, warning that anyone who feeds any combination of “sound and images” through a web server would have a right to meddle with what you do with the webcast simply because they serve as the middleman between you and the creator. “If the material is already under copyright, you would be forced to clear rights with multiple sets of rights holders. Not only would this hurt innovation and threaten citizens’ access to information, it would change the nature of the Internet as a communication medium.”

Although EFF says it is clearly against signal piracy, the draft broadcasters treaty goes well beyond that and creates rights to control “fixations” of broadcasts that only apply after you’ve received and recorded a signal.

Asia Pay-TV subscription soars

Despite the piracy issues, the consumption of pay-TV and broadband is strong in Asia in 2009, even though it was a recessionary year for most segments of Asia media. According to Media Partners Asia (MPA), the pay-TV sector added 26.6 million new subscribers in 2009. Total pay-TV subscribers reached 340 million, up 9 percent year-on-year

Asia; and IPTV in North Asia. High definition television (HDTV) is growing, reaching 7 million pay-TV homes in 2009 while personal video recorders (PVRs) were installed in 2.4 million pay-TV homes.

Another forecast by Informa Telecoms and Media said the Asia Pacific region will have 784 million TV households by 2015 and Pay TV will increase to more than 400 million subscribers by that time. The analyst company said the 2015 figure would be an increase of more than 94 million compared to 2009. It said that TV households will have an average 1.4 TV sets per home, leading to over 1.1 billion sets across the region by 2015.



Satellite TV dot the landscape in Asia s evidenced here in apartment complexes in Dubai, but piracy threatens continued growth and innovation in the industry.

and representing 46 percent penetration of TV homes. In 2009, pay-TV industry sales increased by 8.6 percent to US\$32 billion, a sharp deceleration from 15 percent growth in 2008 with 10 percent subscription revenue growth offset by a modest 3 percent advertising increase amidst the economic downturn.

MPA’s report said the market for digital pay-TV reached a critical mass in 2009 as technology costs fell with scale driven deployments. Total digital pay-TV subscribers reached 116 million, 16 percent of total TV homes and 34 percent of total pay-TV homes. The pace of digital growth was driven by the cable operators in China and Japan; DTH satellite pay-TV in India and Southeast

these would be subscribed to cable. According to the report, Pay TV will have more than 400 million subscribers by 2015, which the company said would generate over \$40 billion.

Despite all the solutions being imposed, for sure the pay-TV piracy issue will continue to rage in the coming years. Knowing the sophistication of pirates, it is only a matter of time when they can find ways to beat digitization and other systems being put in place by pay-TV companies. Paraphrasing Uncle Remus: “Pay-TV piracy can’t run away from trouble. There ain’t no place that far.” Thus, the industry might just have to embrace the problem and as much as possible try to limit its effect on it.



Peter I. Galace is editor for Asia Pacific of *Satellite Markets and Research*. He writes extensively on telecommunications and satellite developments in Asia for numerous publications and research firms. He can be reached at: peter@satellitemarkets.com

How to Get the Most Out of IP-based Satellite Bandwidth

by Marc Goodman

Network and application infrastructure continues to get more complicated with new technology advancements, with the ever-increasing deployment of general-purpose Web applications and new advanced Web applications. Adding to the complexity are enterprise initiatives to centralize IT resources, while the decentralization of employees in remote offices, telecommuters and mobile workers continues to increase. And just

latency. For IP-based satellite links, TCP and web application protocol inefficiencies and traffic volumes only compound the problems.

Fortunately, WAN optimization solutions are addressing these problems, by alleviating the adverse effects that satellite WANs can have on application performance. These solutions are referred to as WAN Optimization Controllers (WOCs), branch office optimization appliances and Application Delivery Controllers (ADCs).

symmetric (bi-directional or two-sided), because they usually have an appliance in both the head-end and at each remote site, or on mobile user devices. Branch office optimization solutions improve the performance of applications that are sent from the head-end to remote offices, to remote individuals with computers, laptops and mobile devices. A wide variety of acceleration technologies are used within branch office optimization solutions.

The second solution is called an Appli-

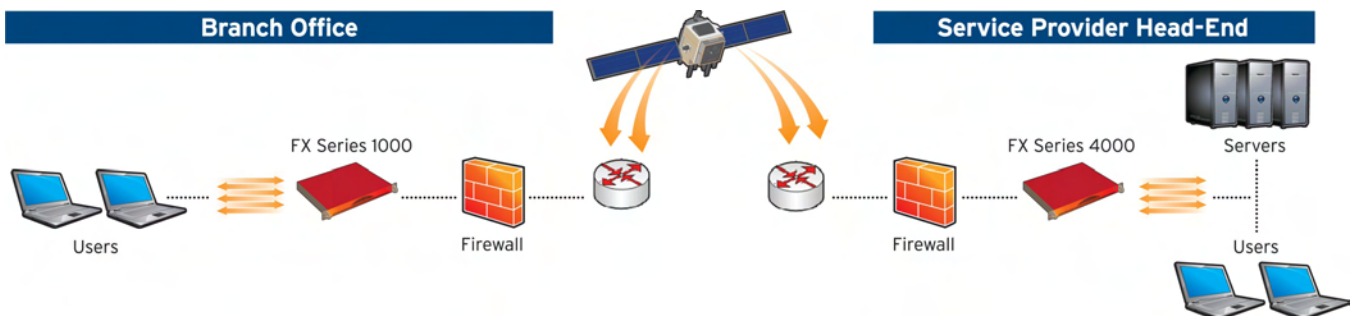


Figure 1. This diagram shows a WOC at the head-end, and a WOC Branch Office appliance at the remote site providing two-sided WAN optimization and application acceleration.

when you think you have it figured out, something new is certain to come along.

For virtually all IT organizations, there are business imperatives to ensure economical utilization of Internet connectivity and overall IT infrastructure. When remote offices and mobile users are located in places where terrestrial network links such as cable, DSL and T1 links are either too expensive, or have limited or no availability, organizations look to satellite Internet broadband communications. However, satellite connectivity has inherent problems due to bandwidth constraints and high-

Enter WAN optimization and application acceleration

There are two types of solutions that address these problems. The first are acceleration appliances that reside at the head-end, that work together with acceleration appliances located at each remote site. These products provide two-sided WAN optimization and acceleration to alleviate the adverse effects that the WAN has upon application performance. They are referred to as WAN Optimization Controllers (WOCs), and branch office optimization appliances. These solutions are considered to be

Application Delivery Controller (ADC). These devices accelerate application delivery and reduce the amount of non-essential traffic sent over the WAN. ADCs are a single-sided (asymmetric) solution, requiring an appliance only in the head-end. The devices work as front-end processors to offload tasks from Web and application servers. ADCs free up processing power on web and application servers by performing tasks such as SSL termination, caching and compressing data. They also have server load balancing capabilities to efficiently manage traffic among multiple servers, and offload server resources.

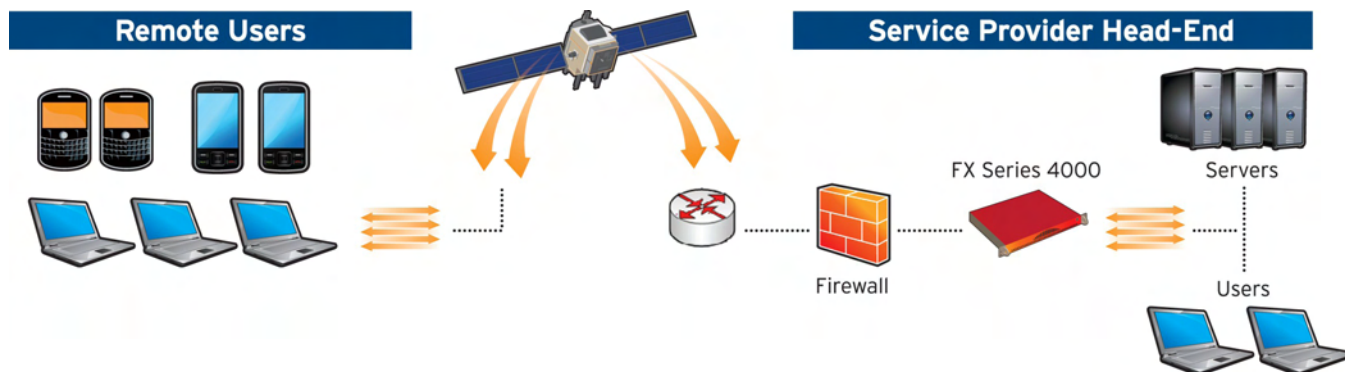


Figure 2. This diagram shows a single WAN optimization appliance at the head-end providing single-sided acceleration to remote users.

With a single-sided solution, the ADC serves as a proxy for TCP management, acceleration and offloading server resources for out-bound traffic. TCP acceleration removes the time, quantity and complexity associated with multiple short-lived connections that slow network performance and add overhead to web server CPU resources. The ADC terminates the client-side TCP session requests, and multiplexes many short-lived sessions into a single longer-lived session between the ADC and the Web servers. ADCs also offload Web servers using various data compression techniques, and utilize caching to maintain copies of routinely accessed data to eliminate unnecessary requests to the Web servers. Some ADCs can also terminate SSL sessions from clients, removing the compute-intensive task of encryption from the web servers - freeing up valuable processing resources.

The more advanced WAN optimization vendors offer a variety of head-end and remote site deployment options that don't require hardware at remote sites. Figure 3 (next page) shows three deployment options using both hardware and remote software clients. An acceleration appliance is deployed at the head-end. The remote sites have either a remote acceleration appliance, or client software deployed on user devices. This can be accomplished by installing acceleration software on remote com-

puters and devices, or by automatically injecting the appropriate acceleration technologies into the remote user computers and mobile devices - without installing software on the user devices.

WAN optimization and application acceleration techniques improve WAN performance - the ability to both fill the satellite link, and optimize traffic throughput.

Some of the key benefits:

- Reduce the amount of non-essential data sent over the satellite WAN
- Reduce the number of TCP and application turns (handshakes) required to complete a transaction
- Offload computationally intensive tasks from clients and servers

Problem	How WAN optimization solves it
Inadequate bandwidth	Data reduction Cache differencing Caching Pre-caching Byte-level caching Static and bi-directional compression
High latency	TCP acceleration Application protocol acceleration Session multiplexing HTTP / HTTPS CIFS FTP SMTP POP3 TCP Optimization
Packet loss	Congestion control Forward Error Correction
Network contention	QoS – traffic prioritization
Server utilization	Server offload Server load balancing SSL termination (client-side and server-side) Connection management
Security	Application firewall

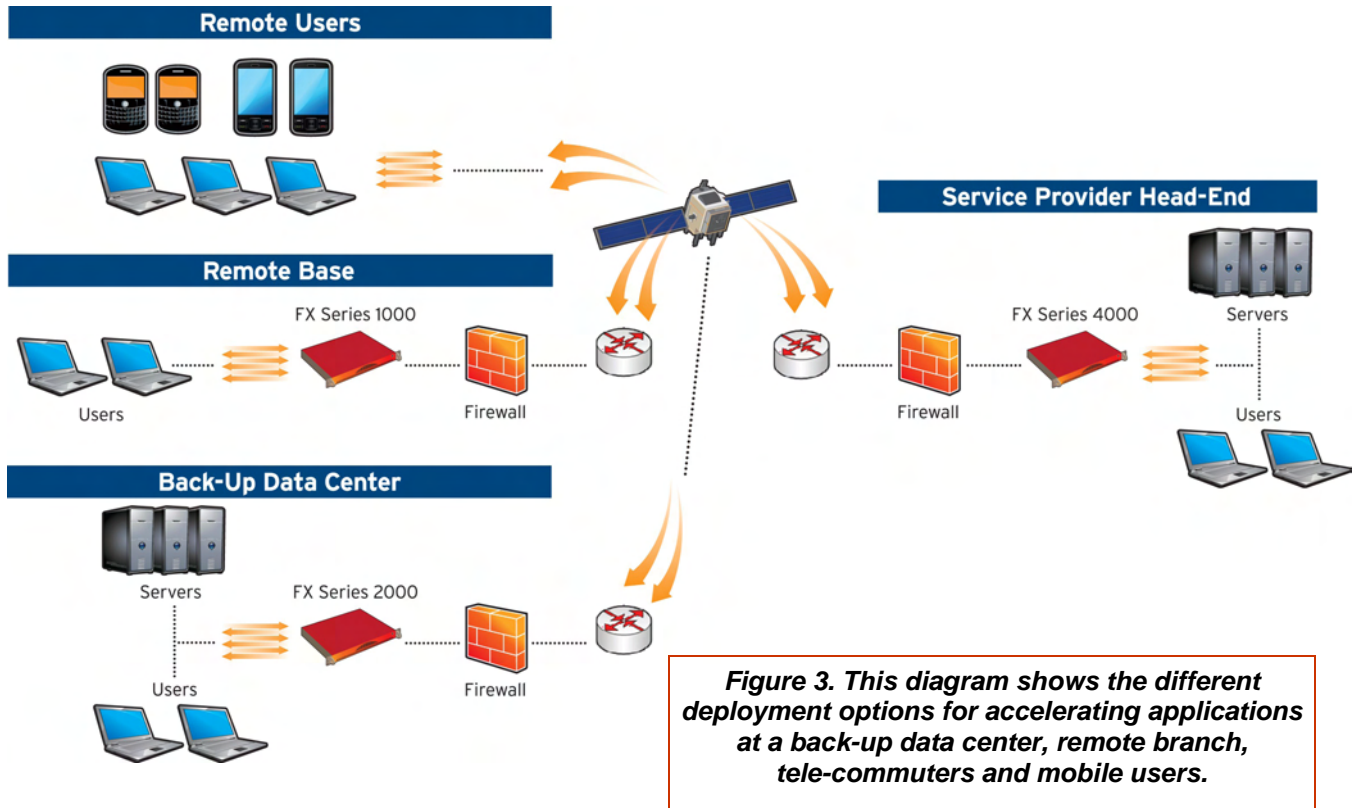


Figure 3. This diagram shows the different deployment options for accelerating applications at a back-up data center, remote branch, tele-commuters and mobile users.

Summary

As IT infrastructure gets more complicated with new technology advancements, and enterprise IT departments are supporting a greater number of diverse remote workers, more IP-based satellite links are being used to deliver applications and information to workers located in places where bandwidth is scarce and expensive.

Employees in remote offices, telecommuters and mobile workers are becoming a larger part of the workforce. Business imperatives are being handed down to ensure economical utilization of Internet technology, and to provide faster delivery and security for enterprise applications to users no matter where they are, with anytime access. Unfortunately, there are some roadblocks that can make delivering on these business imperatives a challenge.

There are myriad problems caused by high-latency, TCP, web application and content delivery inefficiencies, and adverse environmental conditions when using IP-based satellite communications.

Fortunately, WAN optimization solutions are addressing all of these problems. These solutions provide single-sided and two-sided WAN optimization

and acceleration technologies to alleviate the adverse effects that the WAN has on application performance.



Marc Goodman has over 30 years marketing experience in the technology industry, with a history of building industry leading brands for emerging companies, managing marketing communications and product marketing. Marc has been working with Stampede Technologies since January 2010, managing the company's overall marketing efforts. For the last twelve years, he has focused on the WAN optimization and application delivery market, working with companies such as Array Networks, Coyote Point, KEMP Technologies, F5 Networks, Radware and others. He can be reached at: marcgo@comcast.net

Tackling the Problem of Satellite Interference



by **Martin Coleman**

As technology moves on, so do the demands on our media infrastructure. In the world of satellite that is as true as everywhere. Satellites are being used for a whole plethora of activity, from broadcasting to powering navigation across the globe. This increased demand has a negative effect however on the feed to the satellite in the form of radio frequency interference, meaning, for broadcasters in particular, a less than perfect television viewing experience.

Carrier ID

Using ID on any service is nothing unusual but surprisingly this has not been applied to today's satellite transmissions. The Carrier ID initiative, being led by the Satellite Users Interference Reduction Group (SUIRG), will significantly reduce the time taken to track and correct day-to-day interference. Many of the problems stem from the fact that no-one knows who is causing the interference in the first place. If two transmitted carriers attempt to use the same frequency, who is right? The problem can be simple or complex. ID tries to eliminate the obvious.

Having an ID assigned to each transmission makes sense of course, but fast resolution is a must and making it easy to determine the cause of the problem and speedier resolution, in turn, will lead to less interference and therefore less downtime for the broadcaster or other affected services.

As with any initiative, the challenge has always been getting support and involvement from supply companies involved in the process of satellite transmission and the broadcaster or service provider. SUIRG has put a great deal of effort into fostering these relations where in late 2009, three working groups covering Video, Data and VSAT were created. On the Video front this has been easier to implement as specifications and mandates had been setup some years before. Taking Video transmission as the example, we are now at a point where encoder manufacturers are preparing and in many cases, have achieved the goal of making Carrier ID available on all video encoders for the single transmit chain scenario.

Effort is currently being directed towards the inclusion of multiplexed transmission streams by using the uplink modulator to embed that same ID. In addition, discussions continue with major broadcasters in all main regions with specific input from the Americas, Asia and Europe looking at cost effective ways to integrate ID in such services in this more complex service structure. This has led to looking at the multiplexer itself as another way to embed ID, something

that had initially been avoided, but following discussion, is now being revisited.

Being in Control


Of course, better than reduced interference, would be no interference at all. I have personally always been a great advocate of automation or simplifying the operation of any transmission system to avoid both equipment and human error. Using proper, well defined automation leads to transmission schedules being met, errors reduced and therefore interference avoided.

The most vulnerable systems are those of the SNG vehicle and Flyaway terminal. It is all too easy for operational errors to occur on a typical SNG vehicle, for example. However, by providing automated step-by-step task management of the operations carried out by the transmission equipment of that vehicle, those errors can be drastically reduced, if not eradicated. Less mistakes leads to efficient operation and a significant reduction in interference. Add to this proper scheduling, then planning of transmission services is simplified and conflicts avoided.

In addition, with good infrastructure, the broadcast control center should be part of that automated management and include any ground station transmission centers they may have. In other words, integrate your automation.

In addition to ID and automation, there is a real need to integrate more tools within any terminal's functionality. These tools could range from simple task of logging of events and operations, to transmissions times (thus automating billing) and eventual sophistication allowing any terminal to self-monitor and take appropriate action to avoid such incidents as dual illumination interference (a very common problem) and report this quickly and simply to operations personnel.

Staying in Control

In order for SUIRG to be successful in its bid to minimize satellite interference, broadcasters and satellite users across the globe need to be on board with these initiatives. There are many ways in which we can achieve this aim, but it needs to be driven by the industry as a whole. 

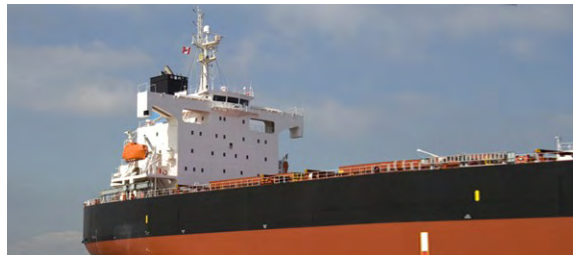
Martin Coleman is Managing Director of Colem and Chairman of the SUIRG Video Working Group, he can be reached at martin.coleman@colem.co.uk

Global Maritime Satcoms Market Passed US\$ 1 Billion

Euroconsult forecasts that the number of satellite communications terminals aboard commercial and private ships will more than double over the next decade as demand for bandwidth on the high seas continues to surge.

In a new report, “Maritime Telecom Solutions by Satellite: Global Market Analysis & Forecasts,” Euroconsult provides an in-depth view of the dynamics determining growth in the maritime sector, along with analysis and forecasts for the maritime satcom market. The report also offers a detailed review of the merchant shipping, fishing, passenger ship, leisure vessel and offshore segments. The breakdown between MSS and VSAT is explored through each of these sections.

“Increasing onboard bandwidth requirements are driving the maritime market in a direction that is beneficial to satellite communications,” said Pacôme Revillon, CEO of Euroconsult. “Real-time monitoring, remote diagnostics, maintenance, route planning and electronic port declaration are just a few of the applications generating huge capacity demand at sea,” he added.



Euroconsult said the number of terminals used for global maritime satellite communications grew at around 11% in 2009, while wholesale capacity revenues from the sector increased more than 15%. The total size of the market reached about 295,000 active terminals in 2009 that generated more than \$1.3 billion in revenues at the tier-1 service provider level. Established MSS services and the emerging VSAT business both contributed to the overall growth of the maritime satellite communications market.

Despite a drop in global maritime activity due to declining economic conditions, increasing demand for operational bandwidth aboard ships as well as Internet connectivity required by crews and passengers have been driving growth. One VSAT provider cited in the report said customers’ monthly data transmission per ship increased from 9.1 gigabytes in April 2009 to 19.7 gigabytes in April 2010.

The global market has been growing rapidly since 2005, with a 14% compound annual growth rate (CAGR) in satellite capacity revenues; nearly 4% CAGR in the equipment sales; and 8% CAGR for the global tier-1 service providers.

The fastest growth – 24% annually since 2005 -- has been for

“...Real-time monitoring, remote diagnostics, maintenance, route planning and electronic port declaration are just a few of the applications generating huge capacity demand at sea...”

VSAT services. While VSAT services are not compliant with safety communications needs, they are the mainstay of crew communications and satisfy the increasingly demanding passenger communications needs aboard cruise ships and luxury yachts. Traditional MSS services that operate in the L-band at lower data rates than VSAT terminals (using the C- and Ku-bands) still allow for smaller and cheaper equipment and remain important for safety communications and regulatory obligations.

MSS accounted for 97% of the maritime terminals in 2009, but only 52% of service revenues. Euroconsult projects that by 2020, the VSAT market will account for the majority of satellite-based

maritime communications revenues generating close to \$1 billion in revenues for service providers in 2020.

The report also suggests that the proliferation of new Ka-band based services, which allow much faster upload and download speed than either traditional VSAT or MSS, could expand the maritime market further. Inmarsat, the largest MSS operator, has recently announced the contract for a new constellation of three Ka-band satellites planned to be operational by 2014/2015.

Euroconsult predicts that the maritime satcom market will grow at a healthy rate over the next decade, but not as rapidly as in recent years. Total maritime satcom terminals are expected to grow at a CAGR of about 6% over 2010-2020 while maritime satellite service provider revenues should grow at around 4% annually over the same period, with revenues somewhat impacted by decreasing equipment revenues.

The report, “Maritime Telecom Solutions by Satellite, Global Market Analysis & Forecasts” provides an in-depth view of the sector dynamics, analysis and forecasts for the maritime satcom market. For more information go to:

www.euroconsult-ec.com



U.S. Multichannel Market Declines for the First Time

Economic factors such as high unemployment and the weak housing market led to weak performance in second-quarter 2010

A new analysis by SNL Kagan reveals that the U.S. multichannel market delivered its worst performance on record in the second quarter, losing 216,000 customers compared to a 378,000 gain in the same period last year.

SNL Kagan data shows that full subscriber counts for cable, DBS and telco video dropped to 100.1 million in the second quarter. Cable suffered its worst quarterly video loss to date, plunging by 711,000 subscribers, with six of the eight MSOs reporting their worst quarterly video losses as well. DBS and telco managed to add 81,000 and 414,000 subscribers, respectively.

Cable MSO's share of combined video subscribers dropped to 61%, versus 63.6% in second-quarter 2009. Telcos con-

tinue to take market share in the video business, growing from 4.3% in second-quarter 2009 to 6.0% in second-quarter 2010. Although the DBS industry expanded market share over the past year, the gains have been modest at less than 1%.

“Although it is tempting to point to over-the-top video as a potential culprit, we believe economic factors such as low housing formation and a high unemployment rate contributed to subscriber declines in the second quarter,” said SNL Kagan Analyst Mariam Rondeli. “We are also seeing churn resulting from the broadcast digital transition, which boosted video uptake early last year, as many have abandoned their paid subscriptions once initial promotional contracts expired,” she added.



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MSS Market Stretched But Sees Fortunes Turning Around

NSR's annual in-depth analysis of the Mobile Satellite Services (MSS) market found the industry remained generally stable over the past 12 months amidst turmoil surrounding the global economy. By focusing on a core suite of unique applications and customers, in addition to funding and building the next generation of satellites to enable a new era in MSS provisioning, the MSS industry continues to trudge forward and plan for its next growth phase.

"The MSS industry has weathered a storm in the past 18 to 24 months and held on despite a general investor confidence crisis and the economic recession", stated Claude Rousseau, Senior Analyst for NSR and author of the report. "With government funding and private investors supporting the industry, it has continued to show growth in traffic while targeting a larger set of customers in the maritime, land-mobile and aeronautical markets," he added.

The industry grew by a few percentage points in 2009 despite some hiccups as subscribers stopped using airtime or even delayed upgrades or purchase of new products, while some operators delayed new equipment purchases. NSR forecasts the global market for mobile satellite services will grow from \$4.2 billion in retail revenue in 2009 to \$10.9 billion in 2019.

The NSR in-service units forecast shows a growth from 1.9 million units in 2009 to more than 5.7 million in 2019 at a compound annual growth rate of 11.6%. The MSS-ATC/CGC segment, which is taking on a whole new shape, appears to be a bright spot. Its fortune is the spectrum allocated

to MSS operators who hold it, and whose value to terrestrial operators, busting at the seams with backhaul traffic and facing coverage deficiencies, has recently been recognized. The issue of finding the right business model, with or without satellite, will tell if the MSS portion will survive or remain a niche market offering.



One challenge is that expected consolidation in the MSS industry has not happened yet, despite the market not being adverse to it. There are still too many players vying for a piece of a relatively small pie compared to other telecommunications markets, which stretches an already fragmented industry, especially in the legacy maritime sector. The MSS killer application, data services, is unfortunately a low airtime consumption market. However, data is also raising more awareness of the quality of mobile satellite connectivity and its importance, and acceptance, should grow with increased capabilities and integration with positioning, navigation, safety of life, security and movement, and tracking applications.

[Mobile Satellite Services, 6th Edition](#) is a multi-client report now available from NSR. The report provides a complete and comprehensive analysis of demand trends for the MSS market today and over the next 10 years, covering eight regions and forecasts for equipment and services as well as transponder demand in the satellite handheld, maritime, land-mobile and aeronautical markets, as well as for MSS-ATC/CGC, for the period 2009-2019. For additional information on this report go to: www.nsr.com or call NSR at +1-617-576-5771.



Calendar of Events

September 6-9, 2010 **World Satellite Business Week 2010**, The Westin Paris, Paris, France, Tel: +33-1-49 23 75 30
E-mail: whitfield@euroconsult-ec.com web: www.satellite-business.com

September 9-14, 2010 **IBC 2010**, RAI Convention Center, Amsterdam, The Netherlands, Tel: +44 (0) 2078324100
web: www.ibc.org

September 28-30, 2010 **7th Annual Satellite Interference Conference**, San Francisco, Calif., USA, Contact: Bob Ames, President, SUIRG, Tel. +1-941-575-1277 e-mail: bobames@suirg.org web: www.suirg.org/2010_conference.shtml

October 5-7, 2010 **APSCC Broadcasting and Space Conference and Exhibition 2010** Tokyo, Japan Tel: +82 31 7836246 E-mail: info@apscc.or.kr web: www.apscc.or.kr

October 13-14, 2010 **SATCON 2010** Javits Convention Center, New York City, USA, Tel: +1 (203) 371-6322
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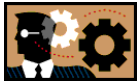


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- A guide to key products and services showcased at the IBC 2010 exhibition in Amsterdam, Netherlands from September 10-14.



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The AMOS-5i satellite, is the latest addition to the AMOS fleet. With a position at 17°E, a new orbital position, Spacecom's coverage is expanding to Africa. AMOS-5i provides powerful C-band and Ku-band coverage over Africa and is serving as an interim satellite until the AMOS-5 satellite's scheduled launch in mid-2011. Once operational, the AMOS-5 satellite will replace the AMOS-5i in its orbital position, expanding both coverage areas and capacity, to deliver high-power C-band and Ku-band capacity to the entire African continent. AMOS-5 and AMOS-5i complement Spacecom's existing satellite fleet consisting of AMOS-2 and AMOS-3, and together with AMOS-4, slated for launch in 2012 to serve Asia, will establish Spacecom as a true global satellite operator.

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CET also offers competitive pricing for services within the T11N (37.5°W) satellite footprint. The iDirect Evolution® platform delivers significant gains in bandwidth efficiency and data throughput and uses the integrated features of iDirect's Intelligent Platform™ to support enterprise and government applications.

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Gazprom Space Systems (formerly Gascom) –is a private commercial, non-governmental satellite operator based in Russia. The main shareholder is Gazprom, one of the largest energy companies in the world. Gazprom Space Systems' orbital fleet consists of three mid-size satellites under the Yamal brand. Gazprom Space Systems' ground infrastructure consists of four teleports in the city of Moscow and in the surrounding Moscow region, which are connected to the main telecom backbones by means of fiber-optic lines. The company also has a wide network of earth stations across Russia. In Russia Gazprom Space Systems is not only a satellite operator but also a service provider and system integrator. Within Russia, along with satellite capacity, it provides satellite services including satellite links, video distribution, Internet access and network development and management.

Gazprom Space Systems has more than 200 clients in Russia and abroad. One fourth of Gazprom Space Systems' revenues come from the international markets. By 2015 the company intends to increase its satellite capacity by 400 percent from current levels and to build a new teleport in the Moscow region. Currently, the new Yamal-300K and Yamal-401&402 satellites are under construction.

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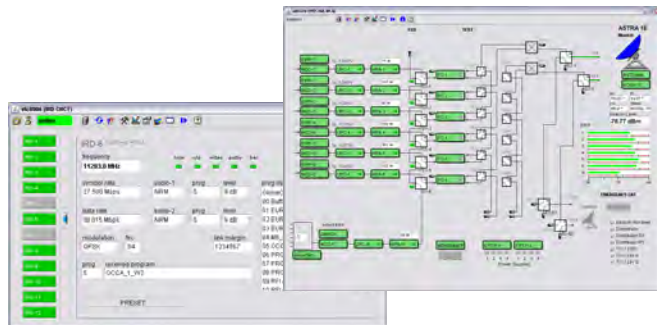
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Gazprom Space Systems' orbital fleet consists of three mid-size satellites under the Yamal brand. The Yamal-100 and Yamal-201 satellites are co-located in 90E position. These satellites serve mainly the Russian/CIS market. The Yamal-202 satellite operating in 49E orbital slot has a wide service area covering most of the Eastern Hemisphere and caters to the international satellite market. The Yamal-300K, 401 and 402 satellites are under construction, while the Yamal-601 is in development.

Gazprom Space Systems' ground infrastructure consists of four teleports in the city of Moscow and in the surrounding Moscow region, which are connected to the main telecom backbones by means of fiber-optic lines. The company also has a wide network of earth stations across Russia.

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A Conversation on Creativity and Leadership In the Satellite Industry

by Lou Zacharilla

Dizzy Gillespie is credited with revolutionizing the jazz industry with his invention of “bebop.” To the uninitiated, bebop is a musical genre best identified by jolting rhythmic shifts created through improvisation. Think of Michael Jordan on a fast break. Improvisation, like most great art or ideas, relies on a structure. Yet like a satellite, it ultimately produces something innovative and wonderful when it breaks free from gravity and ascends into its own orbit.

Innovation leads us to a new frontier each time it ascends. Engineers beware: there was nothing deliberate in Gillespie’s creation of bebop, although it made many record producers wealthy and many other jazz club owners famous. It has assumed its place in musical history alongside rock ‘n’ roll, the blues, gospel music and, my favorite, singing in the shower. Innovation is a product of working with what you are given, but doing it with your imagination on fire.

When once asked to define bebop, the zany, but truly gifted Dizzy characteristically replied, “Man, if you don’t know what it is, you shouldn’t mess with it!”

I am not quite sure what he meant by that, but I do know that in the satellite industry many have said the same thing when asked about creativity and innovation. Creativity, it is often thought, is the domain of the jazz musician or the painter.

But things are changing at the speed of bebop. Thanks in part to Apple, or perhaps because the nature of the economy is today so defined by the introduction of shorter product development cycles and services, innovation is taking its rightful place in the C-suite. In a new poll taken by IBM, 1500 CEOs surveyed were asked what the number one leadership competency for the future will be. The majority replied that it is “Creativity.”

Surprisingly, creativity scores in the United States have been declining since 1990. Europe, collectively a culture that prides itself on great acts of the imagination (and I do not mean the final bill after a stay in a Parisian hotel!), is increasingly aware of the economic mandate to generate ROI in a knowledge economy. Sweden ranked #1 on the planet in “e-readiness” in the 2010 Economist Digital Economy rankings. According to Professor Mel Horwitch, who heads the school of Innovation, Technology and Enterprise (ITE) at

“...Leadership ensures that creativity is not something that happens by coincidence. Creativity is a process embedded in our organization through what we call the ‘Newtec Innovation Framework’...”



Serge van Herck, CEO, Newtec

the Polytechnic Institute of New York University, notes that Asia cannot get enough scholarship on creativity. “It simply takes your breath away,” said Horwitch, who spends a time teaching technology management in China.

Bruce Alberts, Editor-in-Chief of *Science* magazine said that Asian schools and businesses are moving away from rote learning and linear educational processes in order to stimulate innovative thinking, while in America there has been a trend in the opposite direction.

Innovation and creativity are like oxygen to the modern economy. As writer Thomas Friedman said, “The iPad is manufactured in China, but it was dreamed in America.”

Who’s right? And what are satellite industry CEOs encouraging employees and product teams to dream about? With the World Summit for Satellite Financing in Paris a few days away, I decided to go back and forth with three who will be on the panel I was invited to moderate on the 9th of September at the Westin in Paris.

I posed this question to Gilat’s Executive Vice-President for Business Development and Strategy **Joshua Levinberg**, Newtec’s CEO **Serge van Herck** and EADS Astrium CEO for Telecommunication Services **Malcolm Peto**:

“In a recent IBM poll and subsequent article in Newsweek Magazine, 1500 CEOs identified creativity as the number one leadership competency for the future. Do you agree that creativity is a key leadership competency in your organization?”

Levinberg: I agree. Creativity is more critical to the success of the satellite industry than most industries. Creativity is certainly a key factor at Gilat, and it has been for a long time.

Van Herck: Oh yes. Creativity is a top priority at Newtec. It is part of our DNA.

Peto: Creativity is a principal competency in Astrium's business and, as the poll suggests, it is evident that all successful businesses feel this way.

Lou Zacharilla (LZ): So we all agree. The question now is how to use the foundational strengths of your businesses, and the strengths of the satellite industry, creatively. How can our industry consistently produce something new, profitable and useful for customers?

Peto: I think here you need to say that there is a difference between creativity and leadership. Leadership is clearly knowing where a company is headed, and making sure it goes there.

LZ: So can we say that good leadership allows a company to feel comfortable enough to create?

Peto: Right. Without excellent leadership it is impossible to harness creativity and transform new ideas into business opportunities.

Levinberg: Leadership must also use innovation for market advantage. Gilat is leading the industry in satcoms on the move as a result of very deliberate creative process we have.

LZ: So creativity must be sustained and be part of an operational process? Isn't this kind of like keeping lighting going on command?

Van Herck: Leadership ensures that creativity is not something that happens by coincidence. Creativity is a process embedded in our organization through

what we call the 'Newtec Innovation Framework'.

LZ: That is interesting. We should talk more about Newtec's innovation framework in detail. But what is the essence of it?

Van Herck: Essentially we believe that creativity is not confined

only to the product development group. We knock down walls and let ideas flow. The framework enabled us to grow revenues by 20%

LZ: That is what the audience in Paris will want to hear. Satellite has unique strengths and advantages, but it is not always apparent how to deploy them within industries that initially have no compelling need for them. Are there examples where, through creative thinking, you produced something new and ultimately profitable?

Levinberg: The most striking example is the way we Gilat fundamentally invented the second largest communications application on earth for VSATs. I am talking about the satellite networks we built for Lottery applications. There are more than 100,000 terminals deployed today, including many national lotteries. We determined that satellite's unique benefits, dynamic bandwidth, multicasting and wide coverage, when combined with a set of applications, would produce something brand new.

LZ: It has obviously paid off. You invented an application that led to a new market for satellite providers.

Peto: In our case my business unit, Paradigm, looked at the market and determined that a type of financing that was required to create customers did not exist.

"...Creativity is more critical to the success of the satellite industry than most industries. Creativity is certainly a key factor at Gilat, and it has been for a long time..."



Joshua Levinberg, EVP, Gilat Satellite Networks

LZ: So you invented it?

Peto: We looked at our customers requirements with an innovative financing and service proposition and created a billion dollar business opportunity from scratch.

LZ: And as we'll find out during your presentation on September 9th, the bottom line looks great as a result.

Van Herck: Our DualFlow solution enabled "a big advance in productivity and versatility in DSNG," as evidenced by its performance during our client's Tour de France coverage. By the way, those are not my words. They belong to our client. So it is clear that a technology company that does not focus on product design and customer service creatively has no chance to survive.

LZ: I recall being taught that Darwin's theory maintained not that the strong survive, but that those who adapt do. That is how to win the battle of evolution. See you at the Summit in Paris.



Lou Zacharilla is the Director of Development of the Society for Satellite Professionals International (SSPI). He can be reached at lzacharilla@sspi.org

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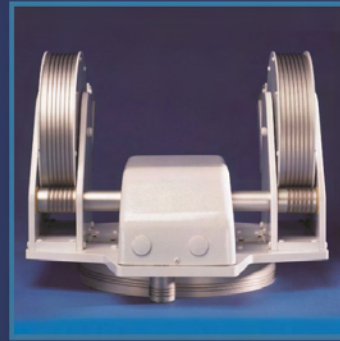
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GVF Maritime Satcom Forum



by Martin Jarrold

The satellite industry is taking a positive step forward in supporting the maritime community through the creation of the GVF Maritime Satcom Forum. This new working group, being spearheaded by the GVF, includes the top manufacturers, network operators and service providers in the industry.

Over the past five years demand for data services and the transfer of digital information on board vessels has dramatically increased and as a result the use of satellite technology has rapidly expanded. We have seen a number of GVF members begin to support this growing market and offer solutions to increase the communications capabilities on board vessels. Predictions for continued growth are significant and a number of factors are helping to drive this expansion:

- Ship owners/Operators are treating vessels as an extension of the office
- Increased demand for on-board business applications
- Decrease in hardware/service costs
- Increase in satellite coverage over ocean routes
- Smaller antennas
- Standardization of products
- Increased focus on services and solutions, not just hardware

Despite the increase in demand for new networks and services satellite technology faces a major challenge in communicating its value proposition to the end customers (Ship owners/Operators/Leasing Companies). The increased demand for satcom solutions has resulted in a multitude of network operators and service providers launching varying levels of services into the market place. This has impacted the value proposition of satellite technology as increased levels of competition have resulted in large amounts of misinformation reaching the end customer.

“As the satellite communications industry and the maritime industry become more dependent on each other it is essential that we work together,” states David Hartshorn, Secretary General at GVF. “We need to eliminate the confusion and help the maritime industry successfully adopt satellite technology to solve their business challenges.” “It is our hope that the new GVF Maritime Satcom Forum will be the first step.”

The objectives of the GVF Maritime Satcom Forum are as follows:

- To create a unified organization that presents a single voice for promoting satellite technology in the maritime industry.
- To expand the deployment of satellite technology through training and education at the end customer level.
- To create a forum where satellite equipment manufacturers, service providers and satellite operators can discuss the current market status, industry trends and future developments of the maritime communications industry

The GVF's Maritime Satcom Forum is the first in a series of groups that will target key vertical markets. The strategy will be to heighten awareness of satellite solutions in the maritime sector, strengthen advocacy efforts, expand delivery of training, facilitate new projects, and more.

A primary focus of the Forum will be to promote the use of satellite technology to the shipping industry. This will be accomplished through a number of different activities including Public Relations, Conferences & other Trade Events, liaison with Maritime Industry Associations, Advocacy, and Training.

GVF is an experienced, non-profit association that is recognised as being perfectly suited to create a more focused program to promote satellite technology deeper into the maritime vertical. Over the past few years they have hosted a series of conferences in various regions focused on key elements of maritime satellite communications. The Maritime Satcom Forum will utilize the structure and support of the GVF, combined with the experience and knowledge of industry experts to promote, educate and train the maritime industry on the value of satellite communication. GVF is pleased to invite wide industry participation in this newly-formed group.

An initial meeting of the GVF Maritime Satcom Forum will take place on 17th September at the Waldorf Hilton Hotel in London, following the conclusion of the Comsys ‘VSAT 2010’ conference. GVF Members interested in supporting this initiative or taking a leadership role as part of the advisory board are invited to contact the GVF Secretary General at david.hartshorn@gvf.org

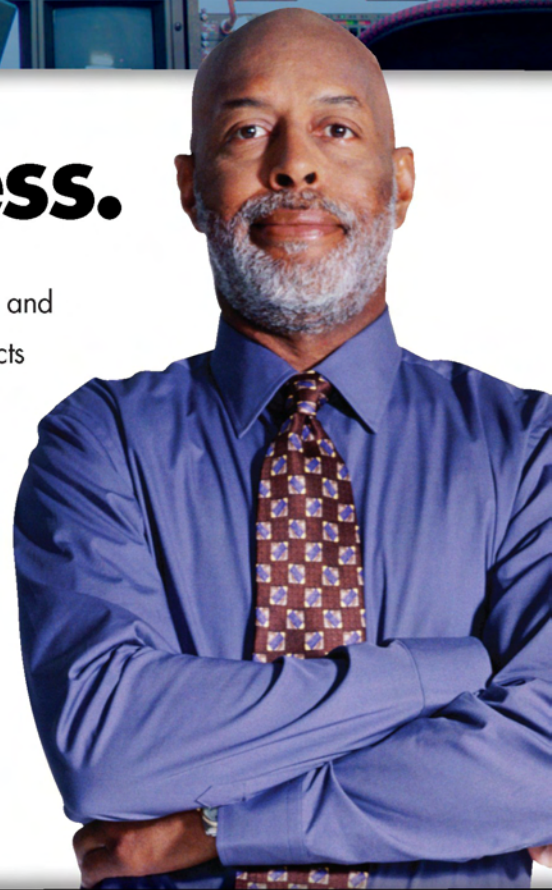
Martin Jarrold is Director of International Programs of the GVF. He can be reached at martin.jarrold@gvf.org





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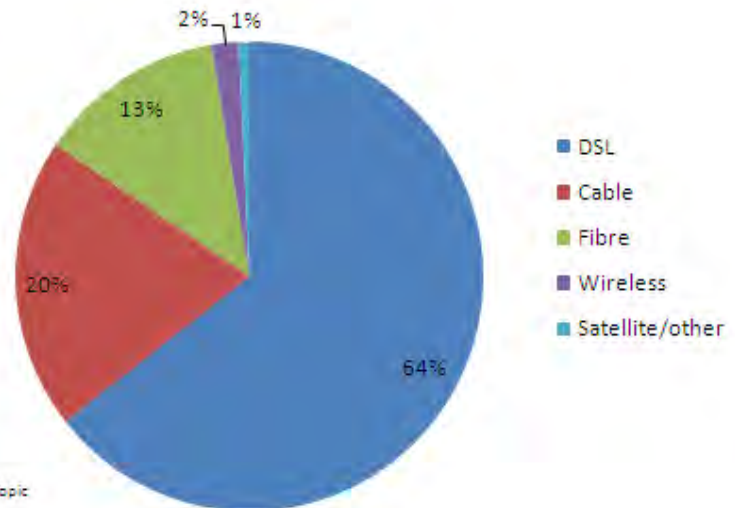
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Vital Statistics

Everyone is talking about broadband being the future. But currently only one percent of broadband connections are via satellite. This is understandable, since broadband connections are concentrated in urban areas well served by terrestrial networks. However, there is certainly a lot of room for satellite broadband technology to increase its share of this vital market.

Broadband Market Share by Technology



Source: Point Topic

Source: Point Topic/ World Broadband Forum.

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The Satellite Markets 25 Index™

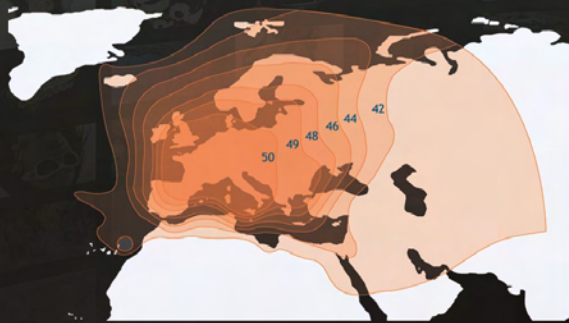
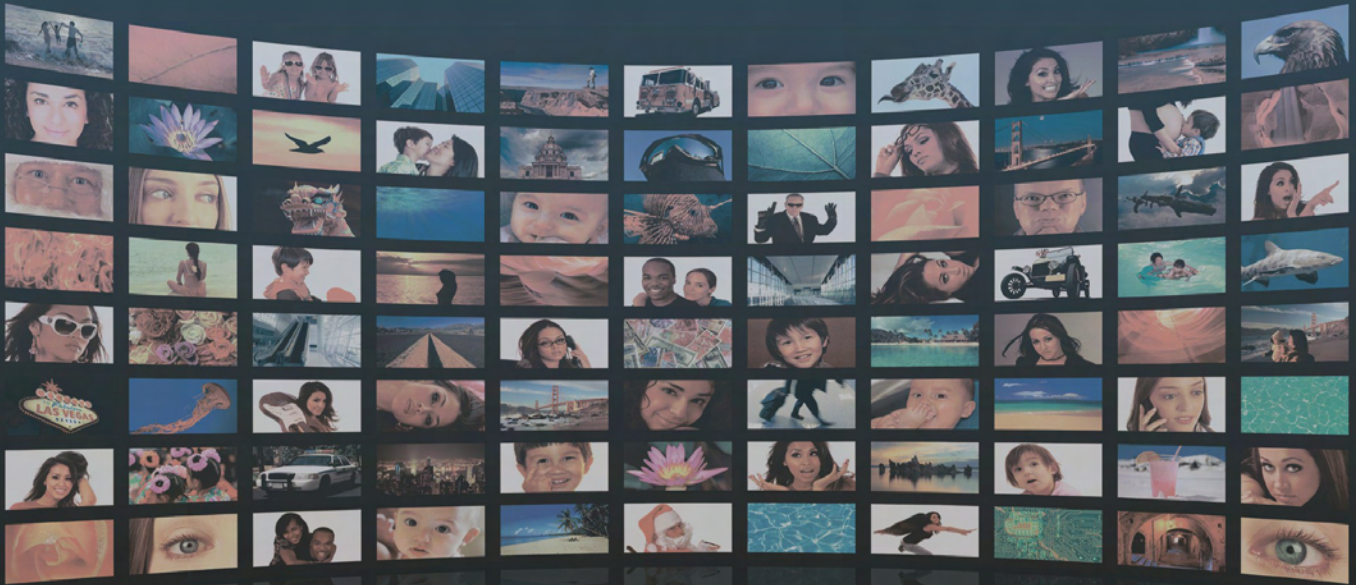
Company Name	Symbol	Price (Aug 31)	% Change from 2-Weeks Ago	52-wk Range	% change from 52-wk High
Satellite Operators					
Asia Satellite	1135.HK	12.60	5.18%	9.80 - 12.90	↓ 2.33%
Eutelsat Communications	ETL.PA	28.91	2.01%	18.42 - 29.49	↓ 1.98%
Hughes Communications Inc.	HUGH	23.74	-5.34%	21.19 - 31.52	↓ 24.68%
Inmarsat	ISAT.L	700.50	-4.95%	503.00 - 831.00	↓ 15.70%
SES Global FDR	SES.F	18.23	1.96%	13.43 - 19.01	↓ 4.08%
Satellite and Component Manufacturers					
Boeing Company (The)	BA	62.85	-7.76%	47.18 - 76.00	↓ 17.29%
COM DEV International	CDV.TO	1.75	-16.27%	1.61 - 4.15	↓ 57.83%
Lockheed Martin Corporation Com	LMT	70.20	-6.59%	67.39 - 87.18	↓ 19.48%
Loral Space and Communications	LORL	54.16	13.21%	19.27 - 56.85	↓ 4.73%
Orbital Sciences Corporation Co	ORB	13.29	-9.22%	12.38 - 19.63	↓ 32.30%
Ground Equipment Manufacturers					
C-COM Satellite Systems Inc.	CMLV	0.28	-5.08%	0.26 - 0.36	↓ 22.22%
Comtech Telecommunications Corp.	CMTL	20.88	-3.20%	20.19 - 38.39	↓ 45.61%
CPI International, Inc.	CPII	14.26	1.35%	9.12 - 16.20	↓ 12.01%
EMS Technologies, Inc.	ELMG	15.05	-9.56%	12.00 - 21.33	↓ 29.44%
ViaSat, Inc.	VSAT	35.79	-0.97%	23.94 - 38.19	↓ 6.28%
Satellite Service Providers					
Gilat Satellite Networks Ltd.	GILT	4.93	-6.63%	3.95 - 6.25	↓ 21.12%
Globecom Systems Inc.	GCOM	6.81	-17.25%	6.36 - 8.99	↓ 24.25%
International Datacasting	IDC.TO	0.24	-5.88%	0.22 - 0.34	↓ 29.41%
ORBCOMM Inc.	ORBC	1.89	0.53%	1.64 - 3.23	↓ 41.49%
RRSat Global Communications Net	RRST	7.30	-16.09%	7.02 - 13.21	↓ 44.74%
Consumer Satellite Services					
British Sky Ads	BSYBY.PK	43.75	-2.54%	30.54 - 45.87	↑ 11.98%
DIRECTV	DTV	38.32	3.12%	24.20 - 39.89	↓ 3.91%
DISH Network Corporation	DISH	18.38	-8.47%	15.67 - 24.16	↓ 23.92%
Globalstar, Inc.	GSAT	1.63	-7.39%	0.61 - 2.11	↓ 22.75%
Sirius XM Radio Inc.	SIRI	0.9786	-4.99%	0.51 - 1.25	↓ 21.70%

The Satellite Markets 25 Index™ is a composite of 25 publicly-traded satellite companies worldwide with five companies representing each major market segment of the industry: satellite operators; satellite and component manufacturers; ground equipment manufacturers; satellite service providers and consumer satellite services. The base data for the Satellite Market Index is January 2, 2008--the first day of operation for Satellite Market and Research. The Index equals 1,000. The Satellite Market Index™ provides an investment benchmark to gauge the overall health of the satellite industry.

INDEX	Index Value (August 31)	% Change 2 Weeks Ago	% Change Jan. 2010	% Change Jan. 2008
Satellite Markets 25 Index™	1185.58	+ 0.93%	+17.64%	+13.84%
S & P 500	1078.16	- 1.27%	- 3.43%	-25.23%

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Arabsat



Founded in 1976 by the 21 member-states of the Arab League, **Arabsat** has been serving the growing needs of the Arab world for over 30 years. Now ranked as the world's 10th larg-

est satellite operator & by far the leading satellite services provider in the ME & Africa, it reaches millions of homes in over 100 countries across the ME, Africa & Europe; including more than 164 million people within the 21 Arab countries.

Operating a growing fleet of owned satellites at the 26° East and 30.5° East positions of the geostationary orbit, Arabsat is the only satellite operator in the MENA region offering the full spectrum of Broadcast, Telecommunications and Broadband services. This capacity will continue to expand with the launch of new satellites from 2010 to 2012, making the Arabsat satellite fleet the youngest in the region with the highest possible reliability coupled to ultimate flexibility. This translates to a now unrivalled in-orbit backup, as well as more space capacity than any other player in the region for more TV and radio broadcasting services, professional data network solutions, telephony and IP trunking backbone connectivity, and broadband Internet access for media and entertainment companies, corporate customers and government entities.

Arabsat also maintains strategic partnerships with most of the world's leading satellite companies and VAS integrators, allowing customers to reach farther than ever and deliver content or state-of-the-art solutions to any end-viewers audience or business partner around the world.

Arabsat is committed to staying at the forefront of satellite services in the region, continuously expanding its range of customer oriented solutions with an unparalleled level of quality, bringing in cutting-edge technology, and providing the largest ever amount of capacity to meet the growing and evolving needs of its customers across the Arab world - and beyond. To support this ambition,

Arabsat has announced that, after launching two new Satellites in 2007 & 2008, Arabsat will continue to launch one new satellite every year over the coming four years.

Satellites

From a technical perspective, Arabsat currently operates capacity on five owned satellites at its 26° East and 30.5° East orbital positions.

- **Arabsat BADR-4**, 26°E Direct-to-Home (DTH) "Hot Spot" in Ku-band.
- **Arabsat BADR-6**, 26°E Direct-to-Home (DTH) "Hot Spot" in Ku-band; and C-band for Telecommunications.
- **Arabsat BADR-5**, 26°E Direct-to-Home (DTH) "Hot Spot" in Ku-band & Ka-band.
- **Arabsat-2B**, 30.5°E essentially carrying Telecommunications services in both C-band & Ku-band, and it will be moved to 20° E once 5-A is launched.
- **Arabsat-5A**, 30.5°E, Telecommunication services in both C-band & Ku-band, covering the African continent.

This variety of satellites enables Arabsat to provide the highest downlink power and the widest coverage area over the MEA (Middle East & Africa) region compared to any other satellite operator. In addition, with its new state-of-the-art BADR-6 & BADR-5, and Arabsat 5-A, Arabsat will have by far the youngest, and therefore the most reliable fleet in the region.

Also, through a series of strategic partnerships with the world leaders in satellite communications, Arabsat also provides seamless complementary connectivity with the rest of the world via its "Global Arabic Bouquet" digital platforms, enabling its Broadcast customers to reach their final audiences 24/7, wherever they are.

Services

Arabsat customers use its satellites for

two main ranges of services:

Broadcasting

- Digital Direct-to-Home TV & Radio broadcasting (DTH). An Arabic digital bouquet of channels to Arab viewers in Europe, Africa, North & South America, and Asia;
- Video Distribution;
- Backhauling links from content-origination sites to multiplexing and uplinking sites;
- Video Contribution;
- Occasional Use: program exchanges and feeds, e.g. News, Sports, and Special Events.

Telecommunications

- Voice & Data trunking;
- Regional Telephony;
- Internet backbone connectivity;
- Data networks;
- Public/Government networks, mostly domestic;
- Private networks, either intra-regional or domestic.

Locations

We are now closer to our customers with four active regional offices in Dubai (UAE), Cairo (Egypt), and Paris (France), in addition to our headquarters in Riyadh (Saudi Arabia) and two control earth stations in Riyadh and Tunis. Also, Arabsat now offers One-Stop-Shop services available by partnering with Media hubs & Teleports (Lebanon, Jordan, Egypt, UAE, Kuwait, and Spain).

For further information, please contact: Arab Satellite Communications Organization P.O. Box: 1038, Diplomatic Quarter, Riyadh 11431, Kingdom of Saudi Arabia. Fax: +966 1 483 0940
Email: info@arabsat.com or go to: www.arabsat.com

