



ITU announces first global set of standards for IPTV

SWITZERLAND

The International Telecommunication Union has announced the first set of global standards for Internet Protocol TV (IPTV). The standards were built with technical contributions from leading service providers and manufacturers from the information and communication technology (ICT) sector and cement ITU's role as the global leader in IPTV standards development.

IPTV is one of the most highly visible services to emerge as part of the development of next-generation networks (NGN). Indeed, it is seen as both the business case and principal driver for accelerating deployment of NGN.

The new standards were developed by the Focus Group on IPTV (FG IPTV) in ITU's Telecommunication Standardization Sector (ITU-T).

Malcolm Johnson, Director of ITU's Telecommunication Standardization Bureau said, "Standards are crucial for IPTV to reach its market potential and global audience. They are necessary in order to give service providers — whether traditional broadcasters, ISPs, cable operators or telecoms service providers — control over their platforms and their offerings. Standards here will encourage innovation, help mask the complexity of services, guarantee quality of service, ensure interoperability and, ultimately, help players remain competitive."

This announcement follows the seventh and final meeting of FG IPTV hosted in Malta by the Maltese Ministry for Competitiveness and Communications. Censu Galea, Minister for Competitiveness and Communications said, "The stage of work that sees completion this week lays the groundwork for an area of ICT that some predict could attract up to 100 million subscribers in the next three years. It's easy to see why so many of the world's key ICT companies have been keen to progress this work in ITU. Malta is proud to host this

event and play a part in advancing this important technology."

Contained within the documents produced by the Focus Group are the high-level architecture and frameworks needed by service providers in order to rollout IPTV services. ITU's next phase of IPTV work — IPTV-GSI (global standards initiative) — will centre on the speedy preparation of standards based on documents produced by FG IPTV as well as on the detailed protocols required.

The 2006-2007 period has seen numerous physical and electronic meetings and workshops progressing work on IPTV around the world. Twenty-one documents covering IPTV requirements, architecture, quality of service (QoS), security, digital rights management (DRM), unicast and multicast, protocols, metadata, middleware and

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home networks will be submitted to the ITU-T Study Group charged with progressing and distributing the work. The IPTV-GSI will build on the momentum generated over the past 20 months, and it is foreseen that contributions and participation will continue to increase.

Operators consider IPTV a key element of a triple-play package of voice, video and data services. Standardization is imperative if service providers are to offer high quality products with value-additions, such as video-

on-demand services that will inevitably drive the market. A combination of voice, Internet and video services over a single broadband link and from a single provider is foreseen as the ultimate goal of the broadband revolution. FG IPTV benefited from collaboration with all ITU-T Study Groups and other forums and regional standards bodies, including ATIS IPTV Interoperability Forum (IIF), DSL Forum, the DVB project, ETSI TISPAN and the Home Gateway Initiative (HGI). ■



Malcolm Johnson, Director of ITU's Telecommunication Standardization Bureau. Source: ITU / J.M. Ferré



iDirect hubs become industry standard

SINGAPORE

Singapore Technologies Electronics Limited's (ST Electronics) US satellite communication company, iDirect announced that it has increased its global market share of total TDMA (Time Division Multiple Access) satellite hub sales to 47 percent in 2006, according to new market data compiled by Comsys, the satellite industry's leading analyst firm. iDirect is a world leader

in satellite-based broadband communications technology. ST Electronics is the electronics arm of Singapore Technologies Engineering Ltd (ST Engineering). The market share statistic follows Comsys' 2007 VSAT industry report that names iDirect as the second largest company in enterprise TDMA hardware sales. In addition, the report shows that iDirect recorded the

fastest growth in enterprise terminals shipped in 2006, increasing by almost 50 percent over 2005 figures and totalling nearly 10 percent of overall market share.

"iDirect's cost-effective and innovative hub solutions have become almost a de facto standard across many vertical markets. iDirect's technology is making it possible for leading service

providers and new market entrants to grow their business with limited capital expenses. At the same time, the company's highly flexible and functional platform enables service providers to serve more affordably traditional satellite needs and meet a rapidly growing list of emerging customer demands from mobility to business continuity to multimedia." ■

WORLDSPACE Satellite Radio secures US\$40 million financing facility

US

WORLDSPACE Satellite Radio, one of the world leaders in satellite-based digital radio services, announced it has secured a financing facility for up to US\$40 million of subordinated financing effective immediately, from Yenura Pte. Ltd., a company controlled by Mr. Noah Samara, Chairman and CEO of WORLDSPACE. The Company also announced it had secured a waiver of certain pre-payment obligations owed to the holders of its existing debt.

The facility supports the Company's preparations for the launch of its European mobile service in the Italian market and business development activities

in selected markets, while the Company continues to seek to secure additional financing from a variety of sources, including existing and new investors.

The facility is being made available to WORLDSPACE pursuant to a facility agreement with Yenura. Under terms of the facility agreement, Yenura will make up to \$40 million available to WORLDSPACE which the Company must draw down on or prior to January 31, 2008.

The Company will issue subordinated convertible notes in the principal amount of each draw down in consideration for the funding.

The new subordinated con-

vertible notes will have a five year maturity from the issuance date of the first note. The notes will carry interest at eight percent per annum (payable annually in arrears as additional principal amount and not cash) and the price at which the notes may be converted into the Company's Class A Common Stock has been set at \$4.25 per share. The new notes are subordinated in all respect to the Company's existing indebtedness.

Under the debt restructuring agreement dated June 1, 2007 between the Company and its senior secured noteholders, the Company agreed to prepay up to \$45 million of its first line debt

with any new debt or equity capital it raised. In connection with this new facility, the secured noteholders will receive a pre-payment of \$10 million (all of which will be paid on or prior to January 31, 2008) but have waived their pre-payment right with respect to the remaining \$30 million of availability under the facility agreement.

Yenura is a special purpose entity established by Mr. Samara and Mr. Salah Idris to invest in WORLDSPACE. Mr. Samara holds all of the voting shares in Yenura. Mr. Idris, through his ownership of non-voting shares, holds the major economic interest in Yenura. ■

Boeing TSAT Technology Passes Spiral Testing

Boeing has successfully completed the third demonstration of its next generation processor/router (NGPR) technologies for the Transformational Satellite Communications System Space Segment (TSAT SS). The NGPR Spiral tests used realistic, operational scenarios designed to show increased functionality and performance of Boeing's Path-to-Flight NGPR Brassboard, which replicates the function and configuration of the operational space segment payload.

Boeing collaborated with the Massachusetts Institute of Technology's Lincoln Laboratory to conduct the tests in September and October, which are part of Boeing's Risk Reduction System Definition phase contract. Previous demonstrations of the router include NGPR-1 in March 2006 and NGPR-2 in February 2007.

"With this successful third NGPR demonstration, we are bringing TSAT closer to functional operation," said Howard Chambers, Vice President and General Manager of Boeing Space and Intelligence Systems. "We showed our US Air Force customer and end-users that TSAT's breakthrough capabilities are real and achievable, and we are now poised to move on to the next step, which is to begin building the TSAT system."

Boeing's TEAM TSAT completed the spiral demonstration ahead of schedule, allowing additional tests to be conducted and extending the risk reduction value of the demonstration.

Boeing's TEAM TSAT consists of Cisco, Hughes, IBM, Harris Corp., Ball Aerospace & Technologies Corp., LGS Innovations, Raytheon, General Dynamics C4 Systems, L-3 Communications, BBN Technologies, EMS Technologies, SAIC and Innovative Communications Engineering (ICE). The Boeing team submitted its TSAT Space Segment proposal to the Air Force on July 30. The Air Force is expected to announce the winner of the multi-billion-dollar TSAT space segment contract in 2008.



Boeing to build a sixth wideband global SATCOM satellite

US/AUSTRALIA

The Boeing Company announced that the US Air Force has exercised an option for a sixth Wideband Global SATCOM (WGS) satellite and has authorized Boeing to begin construction. The Commonwealth of Australia is funding the procurement as part of a cooperative agreement between the US and Australian governments. The satellite is expected to launch in the fourth quarter of 2012.

"This is a unique, win-win arrangement between the Australian and US governments, and Boeing is honoured to support it," said Howard Chambers, Vice President and General Manager of Boeing Space and Intelligence Systems. "A sixth WGS satellite adds to the system's overall capacity and flexibility and will benefit both US armed forces and our allies."

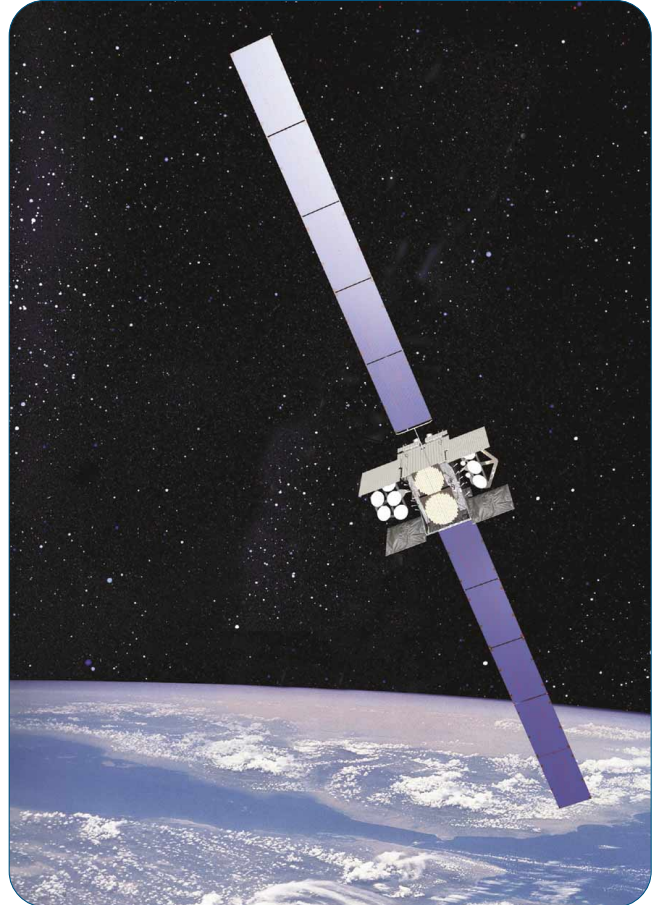
A memorandum of understanding signed by both governments on Nov. 14 adds Australian Defence Force access to WGS services worldwide in exchange for funding the constellation's sixth satellite. The advance procurement contract enables Boeing to obtain long-lead materials for the satellite. The six WGS satellites are valued at US\$1.8 billion, which includes associated ground-based payload command and control

systems, mission unique software and databases, satellite simulators, logistics support and operator training. Boeing also performs final satellite processing and preparations for launch, as well as initial orbital operations and on-orbit testing.

"The WGS program office is very excited about this new partnership," said Col. Donald W. Robbins, US Air Force Commander, Wideband SATCOM Group. "We look forward to fielding the sixth WGS satellite."

The sixth WGS satellite, a Block II version, will carry the radio frequency (RF) bypass capability designed to support airborne intelligence, surveillance and reconnaissance platforms requiring additional bandwidth. The RF bypass supports data rates of up to 311 Megabits per second, more than 200 times faster than most cable or DSL connections. Boeing will design and manufacture the 702 model spacecraft at its satellite factory in El Segundo, Calif.

A United Launch Alliance Atlas V rocket successfully launched the first WGS satellite on October 10 from Cape Canaveral Air Force Base, Fla. It is now in geosynchronous orbit undergoing rigorous testing and is expected to begin service in the first quarter of 2008. ■



Wideband Gapfiller satellites will give warfighters 10 times the capacity of the spacecraft they replace. Photo courtesy of Boeing Company.

Intelsat and JSAT relationship reaches new milestone

US/Japan

Intelsat announced that the Horizons 2 satellite was successfully launched aboard Arianespace's Ariane 5 rocket. The satellite is owned by a joint venture between Intelsat and JSAT International, was built by Orbital Sciences Corporation, will operate from 74° W and will carry a payload of 20 Ku-band transponders.

Horizons 2 will provide oc-

casional use video and IP-based content distribution for the continental United States, the Caribbean and parts of Canada. Through a specialized capability, the satellite will support a number of comms-on-the-move applications for government customers.

Its unique boomerang beam will support littoral water operations off the US eastern sea-

board for homeland security, ship-to-shore communications and cargo tracking.

"The successful launch of Horizons 2 now takes our business relationship to a new level," said JSAT CEO Kiyoshi Isozaki. "JSAT and Intelsat's goal is to provide customers with the best combined satellite distribution solutions available to satisfy the growing demand for media and

network content distribution services in the competitive North American region."

"Horizons 2 is a testament to Intelsat's drive for creative partnerships that fuel business growth and industry innovation," said David McGlade, Intelsat, Ltd. CEO. "We are pleased with the outcome of today's launch and look forward to a successful venture with JSAT." ■



IPSTAR delivers its 100,000 user terminal

THAILAND

Shin Satellite Public Company Limited the operator of the IPSTAR satellite broadband system, announced that the Company has achieved a key milestone of delivering 100,000 IPSTAR User Terminals at the end of 2007. The IPSTAR User Terminal consists of the satellite modem and antenna and is used to send and receive high speed data at the end user site. After the successful launch of the THAICOM-4 (IPSTAR) satellite

in August 2005, the largest commercial satellite ever launched into space, the Company has been continuously expanding its IPSTAR broadband satellite services throughout Asia-Pacific.

"This is one of the major milestones of the IPSTAR project. We have been developing the IPSTAR User Terminal since 1997 and the first product was introduced back in the year 2000. Our latest product, the iCON, is a third generation prod-

uct which has been well received by our customers," said Dr. Dumrong Kasemset, Executive Chairman of Shin Satellite Plc.

"This year will be another challenging year for us since we are planning to establish the rest of the IPSTAR gateways to cover all 14 territories in Asia-Pacific, which is another important milestone.

"In addition, we will work closely together with our partners to aggressively expand the

IPSTAR services in all these markets," added Dr. Dumrong.

Currently, IPSTAR provides full nationwide broadband satellite services in 8 countries with 11 gateways including: Australia, Cambodia, China, Laos, Thailand, Myanmar, New Zealand, and Vietnam. The Malaysian, Filipino and Indonesian gateways are now under construction. IPSTAR will continue to expand its service coverage to the rest of Asia-Pacific in 2008. ■

Hughes selects Trillium Wireless Protocol software and Trillium Professional services

US

Continuous Computing®, global provider of integrated systems and services that enable telecom equipment manufacturers to rapidly deploy Next Generation Networks (NGN), announced that Hughes Network Systems, LLC (HUGHES), the global leader in satellite broadband networks and services, selected Trillium® Wireless protocol software for its new mobile 3G satellite base station subsystem (SBSS). Continuous Computing's standards-based and integrated Trillium 3G / 4G wireless software will leverage 3GPP standardised cellular technology - typically used in cellular base stations to meet the requirements of a satellite system - in the development of Hughes' SBSS product line. Specifically, Trillium GTP, RANAP, PDCP, and SIGTRAN protocol software will be used for the satellite base station environment.

"Hughes is a leader in developing standards-based 2G / 3G and 4G solutions for the converging mobile satellite and cellular markets, including satellite base station subsystems (SBSS) and a variety of handheld and transportable terminals," said Matthew Mohebbi, Vice President of the MobileSat Division of Hughes. "Our ETSI-

standard GMR1 air interface is an industry flagship and follows cellular's 2G / 3G and 4G standards roadmap. By choosing Trillium's wireless protocol software and Continuous Computing's expertise in 3G / 4G wireless technology, we not only ensure standards compatibility, but also accelerate time-to-market and improve product reliability."

Hughes' selection of Continuous Computing's standards-based wireless technology underscores an emerging industry trend of telecommunications equipment manufacturers selecting commercial, off-the-shelf (COTS) solutions for their time-to-market, cost, and performance benefits. This approach is becoming increasingly appealing to equipment manufacturers over solutions built in-house which require development from the ground up, necessitating additional internal resources, time, and costs. Continuous Computing's Trillium 3G / 4G wireless software provides proven functionality for facilitating mobile communications along with customised support.

"We worked with Hughes throughout the entire development process in order to understand their specific architecture and customise a solution to best

fit their needs," said Mike Dagenais, President and Chief Executive Officer at Continuous Computing. "Continuous Computing is eager to embrace this emerging industry trend by applying our robust Trillium software and professional service solutions to new, exciting markets, such as the satellite and government sectors."

Continuous Computing's Trillium 3G / 4G wireless software enables the rapid development of wireless network equipment

while reducing project risk, complexity, and cost and accelerating time-to-market. Coupled with Trillium Professional Services, this portfolio encompasses all of the requirements of 3G and emerging 4G architectures. Trillium 3G / 4G wireless software represents a robust, proven, and flexible solution that can meet the demanding and specific requirements of communications networks, including the Hughes mobile 3G satellite base station subsystem. ■

Globecomm Systems awarded service contract renewal from a major US Government prime contractor

Globecomm Systems announced that the Company's wholly-owned subsidiary, Globecomm Services Maryland (GSM), has been awarded a service contract renewal from a major US Government prime contractor valued at up to US\$42.4 million over four years, if all options are exercised.

The contract, which includes four option years, is to provide satellite, data, voice and microwave services to several locations in the Middle East, Africa and Asia as well as certain Pacific and Caribbean islands. The scope of work specifies that GSM will provide fully managed engineering support, teleport services, and equipment, complete with installation and maintenance. Each option year must be incrementally funded and further includes additional options to increase the scope of work for both locations and services offerings.

Bill Raney, Vice President and General Manager of Globecomm Services Maryland, said: "This contract leverages the core strengths and expertise of our people, products and services."



Arianespace to build on 2007 success

FRANCE

Arianespace will retain its industry leadership in 2008, relying on a three-pronged strategy of meeting the company's on-time mission commitments to customers, utilizing Ariane 5 launchers that are built to a standardized configuration, and maintaining a clearly defined commercial/industrial organization for its Service & Solutions offer.

Speaking to journalists at its traditional New Year's press conference in Paris, Chairman & CEO Jean-Yves Le Gall said the launch marketplace continues to recognize Arianespace's quality and performance, expanding the



order book to record levels - which is being met by a continued ramp-up in mission rate.

"Our record year in 2007 clearly shows that quality is recognized within the launch services marketplace," Le Gall told international reporters. "With Ariane 5's accelerating launch rate, and the future introduction of Soyuz and Vega to our family of vehicles, I can reassure the satellite industry that Arianespace will have no shortage of launch capacity for our customers when they sign contracts with us."

The six Ariane 5 missions and three Soyuz flights conducted last year lofted a total of 21 payloads, placing more than 50 metric tons into orbit. During the same period, Arianespace signed 13 new Service & Solutions contracts for missions to geostationary transfer orbit, and

four additional orders for launches of satellites into low Earth orbit.

Arianespace is targeting seven to eight Ariane 5 missions in 2008, with payloads that include the first Automated Transfer Vehicle re-supply spacecraft for the International Space Station, the Herschel and Planck space science spacecraft, and TerreStar I - the largest commercial geostationary communications satellite ever built.

Le Gall stressed the importance of Arianespace's organizational structure in today's competitive marketplace, which guarantees customers a single point of contact from the moment a contract is signed until the payload is in orbit.

Arianespace takes full commercial responsibility, overseeing the Ariane industrial network that is tasked with delivering mission-ready launchers to the company.

"We see customers insisting more and more on this point, the value of which was evident once again in 2007 - when some of our competitors encountered problems," he added. "As one US client told us, at Arianespace, 'launches speak louder than words,' while other players in the industry 'take the money and run'."

The production of Ariane 5 vehicles in a standardized configuration is another key to Arianespace's success, ensuring repeatability in the production cycle for a high level of quality.

"Our commercial offer is based on the heavy-lift Ariane 5 ECA configuration, which is built the same way, each and every time, without change," Le Gall added.

As a result of these factors, Arianespace continues to respect its customers' mission timing requirements, a fact demonstrated by the six Ariane 5 launches performed last year. "It's important to note that in 2007, we orbited no less than three satellites originally planned for competitors' launchers, but

which simply were not available when they had been promised," he said.

Looking to the future, Arianespace is on track to ramp Ariane 5's launch rate to eight missions annually by 2008, while the medium-lift Soyuz and light-weight Vega are being readied for their commercial service introductions in 2009.

Le Gall said Arianespace has 20 more Ariane 5s remaining from the PA production batch ordered three years ago, providing launcher continuity through 2010. The next batch will cover 35 more Ariane 5s, with a full production agreement for these vehicles being inked in the first half of 2008 (as a follow-on to

the agreement for long-lead production items signed last summer). "This new production batch will produce Ariane 5s through 2015, so Arianespace clearly will have the launch capacity it needs."

For Soyuz, Arianespace has ordered six launchers for operation from the Spaceport in French Guiana, with negotiations underway for 10-15 more.

These additional vehicles will serve in particular to orbit spacecraft for Europe's Galileo satellite-based navigation system.

Vega is continuing its development, and a first production order is being planned for these launchers, Le Gall said. ■



Photo courtesy of Arianespace.



High octane mobile TV summit

HONG KONG

A Mobile TV CXO Summit, jointly organised by the Cable & Satellite Broadcasting Association of Asia (CASBAA) and the Mobile Entertainment Forum (MEF) was held in Hong Kong on December 3rd.

The highly interactive Summit successfully connected 40 senior content owners, mobile communications carriers and service providers in an informal and innovative environment allowing participants to brainstorm on how best to nurture the growth of mobile TV in Asia.

Participants included Sony Pictures Television International, STAR Group, Turner International, Bloomberg Television, Discovery Networks, Granada International and Walt Disney Television. Regional and international mobile network service providers and technology specialists such as SwissCom Mobile, Telia Sonera, MediaQuest, PCCW, StarHub, Smartone, Hutchinson Telecom, CSL and 3 Hong Kong, along with Nokia, Qualcomm, Irdeto, NagraVision, NDS, Speedcast, ITSun, Dada Asia, IMG, MIH and PricewaterhouseCoopers were also among the Summit participants.

According to a summary of the series of meetings in groups of 10 during the day, "ultimately mobile TV could be a huge revenue source for network operators, TV content owners, technology services providers and advertising agencies.

"Nevertheless, the jury is still out. There are many issues that still need to be addressed before getting a clear direction on the future development of mobile TV in Asia."

The event opened with an introductory presentation based on a report for CASBAA Members by consultant Mike Walsh, which highlights "Ten essential items for a successful Mobile TV platform in Asia". This was followed by four tightly moderated roundtable sessions during which three topics were debated: The mobile TV business model; Content creation & management

and Marketing & monetizing mobile TV.

During the Summit, it was widely agreed that two major challenges remain before securing mass consumer adoption of mobile TV services: "User experience and Content".

According to the summary: "Although the capability to deliver content is there, user experience is very much dependent on technology being able to provide better networks with higher video quality and resolution; better devices with larger screens; longer battery life and affordable handsets across a widely varying Asian landscape."

Content is the other critical factor and much debate took place as to what genre of content will work in Asia. Some saw News and Sports as driver genres, while others claimed that experience shows that "entertainment drives as much as 80 percent of take up."

Content localisation is also a key factor as content preferences differ from market to market and is "very much driven by consumer lifestyles". Thus, a well thought out and highly targeted marketing plan is central to launching mobile TV services successfully.

"We believe we achieved the

objective of the Mobile TV CXO Summit, which was to provide a high octane, low burn interactive platform for industry players. However, it remains clear that network operators and content providers have yet to agree on what kind of business model works," said Simon Twiston Davies, CEO of CASBAA.

The Mobile TV CXO Summit was organised by CASBAA and the MEF to engender the much-needed conversations necessary for the growth of mobile TV in Asia.

"We have made a start. That's all. There is much work to be done," said Twiston Davies. ■

Space System Loral to supply high-capacity broadband satellite

Loral Space & Communications has announced that its subsidiary, Space Systems/Loral, was selected to provide a high capacity broadband satellite for ViaSat Inc. ViaSat-1 is expected to be the world's highest capacity broadband satellite.

Loral also announced that it is investing in the Canadian coverage portion of the satellite in anticipation of Telesat Canada (which is 64 percent owned by Loral) utilizing the capacity for Canadian services. The satellite is planned for Telesat's 115 West longitude orbital slot and Telesat will also provide telemetry, tracking & control (TT&C) operations for the satellite.

"A major reason we chose to work with Space Systems/Loral is SS/L's significant experience with Ka-band technology," said Mark Dankberg, Chairman and CEO of ViaSat. "Loral has been very successful in delivering broadband satellites that are providing high-speed access right now in North America and in Asia. We are very pleased to have a company with SS/L's long history of reliability and great performance on our team."

The new spacecraft is scheduled to launch in 2011 and is expected to provide more than 15 years of service life. It employs SS/L's space-proven 1300 platform and high-capacity Ka-band spot beam technology to ultimately service more broadband users at faster data rates than any previous satellite.

ViaSat-1 involves a collaborative effort between ViaSat, Loral, Telesat and Eutelsat, which is working with ViaSat on the networking system and a common wholesale business model that works through existing ISPs, telecommunication companies, and pay TV providers to serve subscribers.

Astrium to build new-generation Ka-band satellite for Eutelsat

EUROPE

Astrium has been selected by Eutelsat Communications, to deliver a satellite, currently designated as KA-SAT, the first European multi-beam satellite to operate exclusively in the Ka-band and dedicated to providing broadband and broadcast services. KA-SAT will be launched in

2010 and positioned at 13 degrees East in geostationary orbit. The new satellite marks a material step forward in multi-beam satellites that are already demonstrating their efficiency in the market for broadband Internet access, HDTV and local and regional television for

users located in rural areas in North America.

Based on the Eurostar E3000 platform developed by Astrium, KA-SAT will operate more than 80 spot beams simultaneously, which makes it the largest multi-beam Ka-band satellite ever ordered worldwide. ■



ITU highlights role of ICT in reducing greenhouse gas emissions

SWITZERLAND

The International Telecommunication Union made a statement at the UN Conference on Climate Change in Bali, Indonesia, demonstrating the part played by information and communication technologies (ICT) as both a cause and a potential cure for climate change.

Highlighting activities that address climate change, ITU stated that ICT can play a vital role in combating climate change. They can be used for remote monitoring of climate change and gathering important scientific data - for instance, using telemetry or remote sensing by satellite.

Furthermore, smart technologies can usher in a whole new generation of energy-efficient products, notably in next-generation networks (NGN) where ITU's Standardization sector (ITU-T) is carrying out vital specialized work.

The Conference, was held on 3-14 December and hosted by the Government of Indonesia, bringing together representatives of over 180 countries together with observers from inter-governmental and non-governmental organizations, as well as the media.

ITU pointed out that the proliferation of ICT products in homes and offices, and their deployment throughout the world, places an increasingly heavy burden on energy consumption. The late night glow in homes and offices emanating from computers, DVD players, TVs and battery chargers is all too familiar. And the move to "always-on" services, like broadband or mobile phones on standby, has greatly increased energy consumption compared with fixed-line telephones, which do not require an independent power source. Energy demands caused by high-tech lifestyles in some countries are now being replicated in others.

ITU underlined an active commitment to promote the use of ICT as a positive force to re-

duce greenhouse emissions and to find ways to mitigate the effects of climate change. ITU can support and facilitate scientific studies aimed at implementation of new measures against the negative effects of climate change. As part of a unified effort of the UN system, ITU can contribute in its areas of expertise to support Member States and to foster partnerships with the private sector to develop more energy-efficient technologies.

During his visit to ITU in July last year, UN Secretary-General Mr Ban Ki-moon stated that ITU is providing the basic groundwork for the international community and should contribute to global agendas such as climate change, which would have long-term implications for the future of humankind. "ITU is one of the very important stakeholders in the area of climate change," he said.

Key ITU activities that address climate change

An international symposium in April 2008 organized as part of ITU's Technology Watch function will raise awareness of the role that ICT play in climate change. One aim will be to identify new areas for standardization work which is acknowledged to be of key importance.

Coordination of the orbital and frequency resources for satellites which play a vital role in gathering data on climate change, such as earth-observation and global climate observation systems (GCOS).

Standardization work on reducing power requirements of telecommunication equipment, including terminal devices and networking equipment that will have the additional environmental benefit of reducing the production of greenhouse gases and global warming.

Standards for next-generation networks (NGN), being developed at ITU, should bring about a 40 per cent saving in

energy consumption compared with today's telecommunication networks.

High-level policy review and guidelines to help developing countries take full advantage of ICT applications for environmental management and sustainable development.

ITU's Telecommunication Standardization Advisory Group (TSAG), in December 2007, strongly backed the hosting of an international symposium calling for a systematic review of all of its standards (ITU-T Recommendations) in the light of climate change. A checklist to ensure that climate change mitigation is taken into account at an early stage of standards development to avoid retrofitting.

Two specific technologies under the standardization spotlight - Radio Frequency Identification (RFID) and Ubiquitous Sensor Networks (USNs) - can help reduce consumption of fossil fuels, by using motion sensors that switch on lights only when necessary or by automatically adjusting heating requirements.

Significant work on the use of ICT for disaster preparedness (monitoring, detection and prediction) aimed at mitigating the negative effects of climate change, and providing solutions for disaster relief

In this context, ITU hosted a "Global Forum to Save Lives, on the Effective Use of Telecommunications/ICT for disaster management" in Geneva, 10-12 December 2007.

Active participation in efforts to move toward a climate-neutral UN

The Union has pioneered online working tools that facilitate virtual meetings and remote delivery of services. Increasingly, senior management meetings and major conferences take place in a paperless environment with facilities for remote participation.

The carbon emissions from ITU's own participation in the Bali conference (around 3,187 kg) have been rendered climate-neutral, along with that of the rest of the UN, through offsets in the Clean Development Mechanism of the Kyoto Protocol.

The thirteenth Conference of the 192 Parties to the United Nations Framework Convention on Climate Change (UNFCCC) and the third meeting of the 176 Parties to the Kyoto Protocol are expected to form a roadmap for a future international agreement on enhanced global action to fight climate change for the period post-2012, the year the first phase of the Kyoto Protocol expires. ■

Boeing selected to help develop new US Air Force GPS Ground System

Boeing has been selected to participate in the development of the next-generation Global Positioning System (GPS) ground system for the US Air Force. Known as OCX, the system will complement the Air Force's future GPS III spacecraft by offering better positioning service than today's system as well as improved anti-jamming capabilities for the warfighter. Boeing is a subcontractor to Raytheon Company which was awarded the \$160 million, 18-month contract by the Air Force Space and Missile Systems Center in November. The first phase of the OCX contract progresses the program through a system design review and the concurrent development of a ground system prototype engineering model. The model will demonstrate improved mission capabilities for the warfighter as well as integration and compatibility across GPS satellite models operating today and in the future, including GPS IIF and GPS III.



Cisco announces comprehensive IPTV strategy for Asia-Pacific

SINGAPORE

Cisco® announced its strategy to help service providers in Asia-Pacific deliver an end-to-end Internet Protocol television (IPTV) solution. The solution, which delivers high quality video with optimal service reliability, was demonstrated at its booth at the IPTV World Forum Asia 2007. Cisco was the Diamond Sponsor of IPTV World Forum Asia 2007, which ran from December 5-7 in Singapore.

"Cisco is perhaps the only technology vendor today who can provide the products, solutions, applications and expertise to help operators deliver a 'Connected Life' experience for consumers. We've brought that capability to Asia-Pacific and have started to engage with several providers around the region,"

said Peter Papaioannou, Operations Director, Video and Cable Solutions Group, Asia-Pacific, Cisco.

Cisco is seeing strong momentum for its IPTV solutions. Among its recent customers are Deutsche Telecom, FastWeb, Free, SES Americom, T-Com Montenegro, T-HT Croatia and Lithuanian provider TEO.

Cisco's IPTV solutions deliver the three key building blocks that providers need to enable enhanced video experiences for consumers: defining the IPTV experience, preserving the IPTV experience, and realizing the IPTV experience.

Defining the IPTV experience: First, service providers have to define the experience that differentiates them from

competitors. The basic video experience encompasses many dimensions, including standard and high-definition content, stunning picture quality in spite of any access-bandwidth limitations, and a choice of compression techniques.

The experience is also defined by a variety of next-generation video services like interactivity, time-shifted video, video on demand (VoD), network-based personal video recording (nPVR), and targeted ad insertion. Cisco offers highly scalable headend and content delivery systems to define the IPTV experience.

Preserve the IPTV experience: The next step is to preserve the video experience as video traffic is transported

across the IP infrastructure. Service providers need a carrier-class IP network that can effectively preserve the video content and experience all the way from the headend to the consumer device and deliver it to the subscribers exactly as intended. Cisco's IP-based Next Generation Network (IP-NGN) infrastructure solution is intelligent and video aware to preserve the consumer IPTV experience.

Realize the IPTV experience: An outstanding video experience requires excellent solutions in the customer home to decode, decrypt, share and display the content the way it was intended. Cisco's IP-STB and connected home products are the foundation to realize the IPTV experience. ■

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AZURE SHINE INTERNATIONAL INC.
No. 1000, Gwang Fu Road, Pa Teh City, Taoyuan, 33455 Taiwan, R.O.C.
Http:// www.azureshine.com.tw/ E-mail: azure.shine@azureshine.com.tw
Tel: 886-3-3611393 Fax: 886-3-3615877