

THE STANDARD

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ETSI Newsletter • September 2011

Welcome to the World of Standards



I am delighted to introduce the latest edition of 'The Standard' which is in fact the first edition in my new role as Director General of ETSI. As this newsletter is specifically aimed at providing an information platform to ETSI Members and to inform you of the latest developments I welcomed The Standard's initiative when they invited me to conduct a short interview in the very early days of my new appointment. This edition also features an article by the Chairman of

our General Assembly who looks at the Institute's long-term strategy and European issues. On the topic of European issues, you will find an informative article on the newly introduced Standardization Package which should be of interest to anyone involved in the world of

standards - whether for ICT or other domains. Developments in the TETRA standard for advanced data are covered by the Chairman of TC TETRA and our series on success stories in testing and validation also looks at the TETRA Association's interoperability certification programme. As always the newsletter is packed with other articles, too many to list here.

I hope that you enjoy this edition.

Luis Jorge Romero Saro
Director General, ETSI

'The Standard' provides an information platform for ETSI Members, to inform you of the latest developments - both within our technical committees and the Secretariat - and offers a space for our Members to communicate with each other.

News from the Content Delivery Cluster



The content delivery cluster is all about serving content users across different business areas. Standardization of broadcast and telecommunications has traditionally followed different paths, due to differing commercial requirements. Recent developments in areas such as the internet, mobile communications and broadcasting have led to a convergence of these traditional communities, in which content delivery has become common ground. Aligning the existing and diverse technical specifications

is a prime requirement, as is the need to harmonize solutions for the benefit of the business communities and end-users.

Latest Developments in...

...Content Delivery Networks

The objective of Content Delivery Networks (CDN) is to offer end-users fast access to media content whilst optimizing network resources. ETSI addresses two issues in CDN standardization: CDN architecture and CDN interconnection. The CDN architecture

(TS 182 019) was published in June 2011. The protocol definition is under way and planned for publication early in 2012. The CDN interconnection use cases and requirements have reached stable status while new work on the CDN interconnection architecture was initiated in July.

...CA/DRM Interoperability

ETSI's Technical Committee for Media Content Distribution (TC MCD) is running an analysis for interoperable CA/DRM (Conditional Access/Digital Rights Management) solutions. The ultimate goal is two-fold: to enable end-users to keep their customer premises equipment whatever the service provider and whatever the CA/DRM system used; and to allow content providers to distribute their content to a wide community of end-users independent of access technologies and technical platforms.

...MHEG-5

ETSI is delivering several solutions for interactive TV: DVB-MHP and DVB-GEM, Hybrid Broadcast Broadband TV and MHEG-5

Broadcast profile (ES 202 184). Regarding MHEG-5 - demoed on the ETSI booth during IBC - the specification is compatible with DVB transmission systems. The first specification was published in 2004 and since then two revisions were published (March 2010 and March 2011). The first revision was a major change with extensions to the existing profile enabling HD operation and connection to a broadband interaction channel. It also included additional features such as enhanced font rendering, support for interaction with PVRs and the DVB-CI, and character repertoire required for Chinese and Polish languages, amongst others. The latest revision mainly includes support for encrypted content delivery by back channel.

MHEG-5 Video on Demand demo on the ETSI booth during IBC!

Meet ETSI at IBC 2011 from 9 to 13 September at the RAI, Amsterdam. Find us in hall 2, booth # C29. We look forward to seeing you there!

See page 2 for more details.

Meet ETSI @ IBC 2011

Exhibition 9-13 September 2011, RAI, Amsterdam, Netherlands



ETSI will once again be exhibiting at IBC 2011, the International Broadcasting Convention event, held at the RAI Centre in Amsterdam from 9 to 13 September. During the event we shall be promoting our work in the traditional broadcasting domain, as well as in a growing number of related areas, including content delivery, content protection, converged networks, IPTV, Mobile TV, and our role in support of regulation and frequency allocation. Our stand will feature a Video on Demand demo using ETSI MHEG-5 and MHEG Interaction Channel, courtesy of the ETSI Members 'The Digital TV Group' (DTG) and 'Strategy & Technology Ltd' from the UK.

You are cordially invited to join us for a number of expert live presentations at our stand (# 2.C29) - see invitation card below for details. Should you be at the show this year, we look forward to seeing you on the ETSI stand!



ETSI is pleased to offer you FREE Entry to IBC 2011

ETSI @ IBC 2011

Stand Number: 2.C29

Customer Ticket Code: 12313

Simply register on-line by entering the customer ticket code and you will be able to register for free at IBC2011 by bringing your code with you. Log on to www.ibc.org/registration and enter the customer ticket code: 12313. With your ticket you will also receive a 5-day travel pass.



ETSI World Class Standards 

ETSI proudly presents:
LIVE PRESENTATIONS on
CA/DRM - CDN - MHEG-5
Saturday, 10th September
Conditional Access / Digital Rights Management Interoperability
by Dr. Klaus Illgner of Institut für Rundfunktechnik (IRT), DE. ETSI Member

Sunday, 11th September
Content Delivery Networks
by Dr. Oskar van Deventer of TNO, NL. ETSI Member

Monday, 12th September
Interactive TV: MHEG-5
by Mr. David Cutts of Strategy & Technology Ltd., UK. ETSI Member

Presentations take place at 17:00 at the ETSI booth: Hall 2.C29

ETSI Standards for Content Delivery CD-ROM

The CD-ROM contains the ETSI published standards and reports relating to Content Delivery. Deliverables are classified by technical committee and then by numerical order. The versions present on this CD-ROM are those available in July 2011.

Pick up your free copy at IBC 2011 (stand # 2.C29) or send an email to newsletter@etsi.org to request your free copy.

Note that quantities are limited to 500 copies. Strictly one CD-ROM per person.



GET YOUR FREE COPY NOW!

Open Letter to Members



Telecommunications equipment and infrastructure can operate correctly and reliably if all aspects of the operating environment are duly considered.

ETSI's Technical Committee "Environmental Engineering" (TC EE) is responsible for defining the environmental and infrastructural aspects for telecommunications equipment in various types of installations.

The engineering aspects managed by TC EE include:

- Environmental conditions (climatic, thermal, acoustic, etc)
- Equipment (physical requirements of racks, sub-racks and cabinets including thermal matters)
- Power supply and grounding requirements
- Eco-environmental matters (energy efficiency, environmental impact analysis, alternative energy sources)

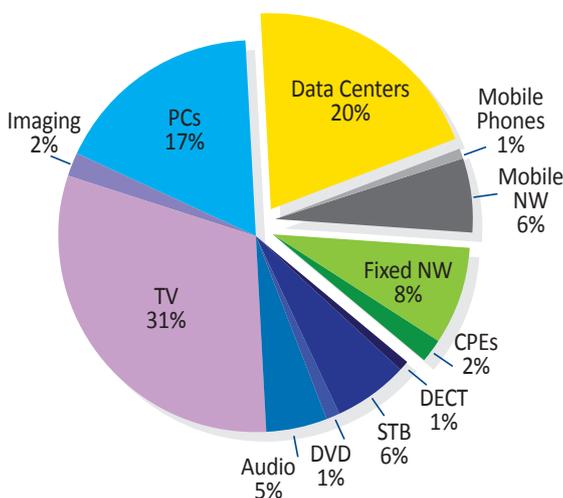
The environmental standards of the EN 300 019 series have been consolidated for more than 15 years and are used worldwide to classify the environmental requirements of telecommunications equipment in different types of installations (e.g. weather protected locations, outdoor locations etc). These standards also define test methods to assess the ability of the equipment to operate in the specified environment for which it was designed. A maintenance activity of these EN 300 019 series standards has been initiated to update the test methods in accordance with the latest IEC standards.

Other TC EE standards are undergoing maintenance (e.g. power supply interface requirements for 48V DC distribution) but the main activities in this technical body address eco-environmental matters focusing on:

- Reduction of power consumption of telecommunications equipment and related infrastructure
- Determination of environmental impact of telecommunications equipment

This work has been requested by ETSI Members but is also driven by European Commission initiatives to meet the objectives defined in the Commission Recommendation of 9 October 2009 on "Mobilising Information and Communications Technologies to facilitate the transition to an energy-efficient, low-carbon economy". This objective, known as "20 - 20 by 2020", is to save 20% of the EU's energy consumption compared with projections for 2020 and endorses the target of a 20% reduction of greenhouse gas emissions by 2020.

According to the studies by the European Commission, the energy used by ICT equipment and services represents about 8% of electrical power consumption in the EU, and about 2% of carbon emissions. The pie chart below shows the breakdown of carbon emissions associated with different types of ICT equipment.



ETSI is actively contributing to achieve this "20 - 20 by 2020" target. TC EE is working on specific specifications which support this target and offer a common methodology to measure energy efficiency and assess carbon emissions of ICT equipment. Some of these specifications are related to reducing power consumption. They span from measurement methods and metrics to determine energy efficiency of telecommunications equipment and telecom infrastructure, to improvement of energy efficiency of power architectures in telecommunication centers.

A set of standards to determine the energy efficiency of fixed and wireless access telecommunications equipment is already published and being maintained. Other related standards are in preparation, covering transport, switching, core network and customer premises equipment. These standards will be adopted under the European Commission mandate M/462: "ICT to enable efficient energy use in fixed and mobile information and communication networks". The standardization programme for this mandate is currently being jointly prepared by CEN, CENELEC and ETSI; ETSI's TC EE and TC ATTM are deeply involved in this work.

Other deliverables related to energy efficiency improvements include the standards of the EN 300 132-3 series, currently under revision, that define a new power architecture with improved energy efficiency, and the standards of the ES 202 336 series that cover monitoring and control of different parameters in telecommunications networks, including power consumption.

TC EE is producing a Technical Specification (TS 103 199) for the Life Cycle Assessment of telecommunications equipment, networks and services, in order to determine their environmental impact and evaluate carbon emissions. The specification is based on the ISO standards 14040 and 14044 with customization for the telecommunications field. This is another deliverable that is addressing a European Commission mandate: mandate M/478 for the development of "EU technical standards in the field of greenhouse gas emissions".

As the work programme of TC EE touches different aspects of telecommunications equipment and infrastructure, cooperation with other Technical Bodies and with external organizations is fundamental. Coordination within ETSI is managed through the Operational Coordination Group (OCG) and several external liaisons have been established with standardization bodies including IEC, CENELEC, ANSI-ATIS and the ITU-T, and other organizations such as fora and research projects. With the help of all involved parties, TC EE will continue to serve the telecommunications arena as a technical body of reference for the definition of environmental requirements applicable to telecommunications equipment and infrastructure.

Beniamino Gorini,
Chairman ETSI Technical Committee
for Environmental Engineering

"Our standards are used world-wide to classify the environmental requirements of telecommunications equipment in different types of installations. TC EE is a technical body of reference for the definition of environmental requirements applicable to telecommunications equipment and infrastructure!"

EC launches its new "Standardization Package"

By Gavin Craik, Senior Partnership Professional at ETSI



On the 1st of June the EC finally announced the much-awaited publication of its new "Standardization Package" - comprising a draft Commission Communication and Council Regulation. The draft Commission Communication sets out a vision for standardization in Europe until 2020 while the proposed Regulation provides the consolidated legal basis for EU standardization by replacing parts of Directive 98/34/EC and replacing the outdated ICT Decision (87/95/EC) and Decision

1673/2006/EC related to financing (plus amendments to a number of other directives relating to formal objections to Harmonized Standards). The draft proposals can be accessed at the following link (see COM(2011)311 and COM(2011)315):

http://ec.europa.eu/enterprise/policies/european-standards/standardisation-policy/index_en.htm

The package will have a significant impact on ETSI in the coming years - especially the new ICT standardization element which is the big change under the proposals made. The package is now to be adopted by the European Parliament and Council following advice from the European Economic and Social Affairs Committee and national Parliaments (the ordinary legislative procedure). This review is taking place from July until the end of November before a final version is made available for adoption, so as to enter into force as of 1st January 2013.

The EC is presenting this package as an evolution rather than a revolution - taking the best of the existing system and building upon it (standards are to remain voluntary, market-led, the national delegation principle is to remain as a cornerstone and the recognition of the three European Standardization Organizations (ESOs) remains unaltered).

The partnership with the three ESOs is of essential importance to the EU but there is a desire to see the processes accelerated and simplified. Of most significance is the acceptance by the EC of the reality of the role of ICT standards from fora and consortia to support public procurement.

The draft Communication is a political document with a very broad scope. Emphasis is given to the belief that European standards will play a stronger role in a wide variety of policy areas in the coming 10-20 years, to enhance growth in the EU economy as well as to meet key societal challenges (e.g. consumer protection, improved access for the disabled and the elderly, climate change, energy efficiency, security and civil protection and protection of personal data and individual privacy). The need to clarify and strengthen the links between standardization and research is to be addressed along with awareness and education on standardization. However, proposals related to increasing the representation of different societal stakeholders in standardization may be a controversial issue.

Of most significance is the acceptance by the EC of the reality of the role of ICT standards from fora and consortia to support public procurement.

The goal of a single market for services is included in the scope of the new regulation which will result in standardization mandates for the development of voluntary standards for the services sector. A High Level Group on Business Services will examine the standardization issues.

A major objective is to speed up the development time to produce standards and improve the efficiency of the system. The ESOs are requested to simplify and accelerate their procedures in order to achieve a 50% cut in the development time for the elaboration of their deliverables by 2020. The EC proposes to tie their financial support to the ESOs with improvements in their efficiency - making EC funding conditional upon the fulfilment of performance criteria and set objectives.

The key change is in relation to ICT. There is a recognition that the majority of specifications do not come from the ESOs but from fora and consortia (often global). The EU aims to reap the full benefit from ICT using a system of referencing ICT standards developed by fora and consortia in support of public procurement as long as they comply with certain criteria. The EC foresees an increasing use of selected ICT standards to ensure interoperability in support of EU policies. The need for stronger cooperation between the ESOs and fora and consortia is also emphasized. A Multi-Stakeholder Platform will be created to assist the EC in the implementation of their ICT standardization policy.

The draft Regulation amends Directive 98/34/EC by:

- Extending its definitions and scope to services
- Ensuring cooperation between NSBs on their draft standards and work programmes
- Increasing stakeholder participation
- Increasing stakeholder organization criteria
- Recognizing ICT standards for public procurement. Such standards can be suggested by Member States or the Commission. The Platform will give advice and the criteria for evaluation of such "standards" will be set out
- The 98/34/EC committee will be replaced by a new committee with a formal role (objections to Harmonized Standards) and an informal role (advising on standardization issues)

The Finance Decision is amended to set out ESO activities eligible to receive EC funding.

ETSI will provide written comments to the EC and to the EU Working Groups reviewing the drafts.

ETSI M2M Workshop: from Standards to Implementation

This year's ETSI M2M workshop entitled 'Machine-to-Machine (M2M): from Standards to Implementation' will take place on 26 and 27 October 2011 in Sophia Antipolis, France.

The objectives of the workshop are to present the completed ETSI TC M2M Release 1 specifications

and explain their relevance to the industry, to study in greater depth the strategic and technical challenges, that all of the main actors in the M2M industry are facing, and to examine the integration of the M2M service platform into existing and future networks.

Please refer to <http://www.etsi.org/m2mworkshop> for the final agenda and to register.

Interview with ETSI's new Director General, Luis Jorge Romero

On the 1st of July, Luis Jorge Romero took up office as the fourth Director General of ETSI. 'The Standard' had the chance to interview him in his first couple of months in his new role.

The Standard (TS): Welcome to ETSI, Luis Jorge!

Luis Jorge Romero (LJR): Thank you. First of all, I am very pleased to have joined ETSI. I consider it an honour that ETSI Members put their trust in me at the General Assembly in April, and I am excited to be leading the ETSI Secretariat where a multicultural team works together with our Members to create 'world class standards'.

TS: What did you do before you joined ETSI?

LJR: My background is in telecommunications having spent over 20 years in Telefónica in various senior management positions, working in Spain, Mexico, Morocco and Romania. Among these roles, as 'Director of Innovation and Standards' I led Telefónica's standards work and was the company's key representative in international standards organizations and associations in the sector. In the mid-90s I gained an MBA degree to compliment my technical background, which equipped me well for the various management roles I have held.

TS: Tell us about your plans for the first 90 days in your new role.

LJR: During the course of the first months I have been primarily in 'listening mode' as there still has been a lot for me to learn about ETSI. I am receiving great insights and suggestions from my team in the Secretariat and from ETSI Members. I am looking to meet in person with as many of them as possible.

TS: What key areas have you identified that require your attention?

LJR: I could say that my attention has from the start been focused in 3 areas. First and foremost, people. Get to know the Secretariat, start engaging with them, making myself available, trying to understand them... ETSI's team! Then, I have also spent quite a lot of my time dealing with the budget, understanding the needs and helping the

team work on it. Last though not least, I have already started my relationships with Brussels, and already made my first trip there so as to meet with the Commission and also our colleagues from CEN/CENELEC. But, of course, there is a lot more to come!

TS: How would you describe your management style?

LJR: I am a great believer in the consultative management style. Involving employees in decision-making creates a sense of belonging and motivates individuals. I practice an 'open door policy'. As the term implies, employees are encouraged to stop by my office whenever they feel the need to speak to me - face-to-face, rather than by other means, such as email or voice mail. It is clear that ETSI has a very important role to play and each member of the Secretariat has an important contribution to make. As well as being accessible to the Secretariat staff, I want to pay particular attention to what the Members have to say, to be available to them and responsive to their needs.

TS: What's your take on ICT technologies in the future?

LJR: ICT is more and more important each day in our lives. You can find ICT in almost anything you do today, and my belief is that we will see this importance growing and growing, and our dependency on it higher and higher. And ETSI is an important part of this picture. We need to work together to have ETSI leading this bright ICT future. Let's make it happen!

I am a great believer in the consultative management style. Involving employees in decision-making creates a sense of belonging and motivates individuals

The Reinvigoration of ETSI



Mobile Communications has been a major pillar for ETSI since its inception, and definitively remains a focus area. But the telecommunications industry has changed significantly in the last decade, moving closely together with the IT industry. And nowadays ICT is increasingly an enabler for many other industries. These developments have a strong impact on the standardization landscape as they increase the need for cooperation with new partners and

offer industry wider options to choose the best suited standardization organization for specific projects.

The European Commission initiatives 'Europe 2020' and 'the Digital Agenda' illustrate the need for standards to support long-term investment and innovation. The digital economy will require more cross-sector ICT standards as we encounter ever growing needs in fields such as transport and automotive, healthcare, energy and education.

Another aspect influencing the standardization landscape is the current review of the European Standardization System (ESS). The legal basis for ICT standardization in Europe dates from 1987 and for the ESS it dates from 1998. After five years of discussion and consultation, on the 1st of June 2011 the European Commission issued a Communication and draft Regulation with the aim of modernizing the system. While reconfirming the crucial role European standardization will play in an even wider variety of areas than today, it keeps the basic structure, but adds a number of new elements to the system. Examples are additional performance-related criteria introduced in the financing system and the acceptance of carefully selected standards from fora and consortia for use in public procurement. This also influences ETSI as one of the three recognized European Standardization Organizations (ESOs), and we will have to accompany and contribute to discussions in the European Institutions such as the Parliament and Council, to protect the interests of

ETSI and its Members.

The ETSI Board has a regular strategy activity analyzing specific challenges. However the time is now ripe to look at ETSI's overall strategy, and the Board has therefore created a Long Term Strategy group led by the Board Chairman Mike Walker. This group will develop ETSI's strategy for the future.

“ We know that the only constant in our industry is change, and ETSI is addressing the needs of all our stakeholders to once again reinvigorate itself. ”

The ETSI General Assembly of April 2011 asked for a review of the ETSI governance structure and procedures to evaluate if they were still fit-for-purpose and to identify elements which could be improved. The meeting also elected a new Director General, Luis Jorge Romero Saro. Since July he has been having a fresh look at the Secretariat and the positioning of the Institute.

We know that the only constant in our industry is change, and with all the above elements ETSI is addressing the needs of all our stakeholders to once again reinvigorate itself.

Dirk Weller
Chairman of the General Assembly,
Chairman of the IPR Special Committee, ETSI

Developments in the TETRA standard for advanced data

by David Chater-Lea, Chairman ETSI TC TETRA WG4

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TETRA - Terrestrial Trunked Radio - is standardized in ETSI to enable a competitive, interoperable market for digital Professional Mobile Radio (PMR) equipment. Although designed with the requirements of the European market in mind, TETRA has found world-wide adoption and is present in more than 117 countries around the globe with over 2.5 million terminals sold.

The standard was built on requirements from the entire PMR industry to serve a variety of markets - Public Safety, Transport, Industrial and Commercial users - and because of this wide range of inputs, TETRA offers probably the richest functionality of any published digital radio communications standard in existence. However the most important features which make it attractive in these professional markets are the high performance group and individual voice communications services and its full integration with a variety of data services, so that one radio terminal can provide many services - for example voice communications with drivers, emergency announcements to passengers, exchange of telemetry and signalling data and so on.

TETRA has been particularly successful in the transport industry because of its integrated services, because of the highly competitive marketplace with a variety of different terminal devices on offer, and because it offers economical radio coverage in UHF frequencies. It can be found in metro systems, bus systems and even main line rail systems around the world.

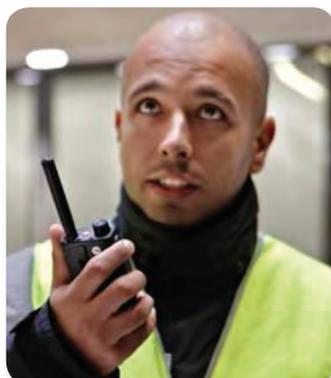
TETRA - continuous development

The original Release 1 of the TETRA standard by ETSI was published in the mid 1990's. However the TETRA standard has not been static since then - far from it. The Technical Committee responsible for TETRA in ETSI (TC TETRA) remains active today, to continuously develop TETRA to keep pace with the needs of the industries that it serves. Updates to the standard are regularly published by ETSI as the technology is enhanced.

Standards development is a user driven process. Requirements for new standardization work are collected through a users' working group and through workshops, and then are passed to technical working groups who construct the standard. Specialist working groups who have particular expertise in protocols, in data and in security write the standards which are then thoroughly reviewed within the TETRA community, and through a wider

The TETRA standard was built on requirements from the entire PMR industry to serve a variety of markets - Public Safety, Transport, Industrial and Commercial users.

Because of this wide range of inputs, TETRA offers probably the richest functionality of any published digital radio communications standard in existence.



Public Enquiry via National Standards Organizations before publication as European standards.

The TETRA standard provides the foundations on which applications for different markets are built. It is the enabler, with standardized speech and data services and standardized interfaces to terminal equipment, for the applications which serve markets such as the transport market. Applications and further services are standardized on top of TETRA, and the TETRA Association Technical Forum has written a range of specifications which both provide interoperability at the TETRA service level, and also which offer further services using TETRA's data capabilities. Examples of these are the Location Information Protocol, which is a standardized exchange format for location data and on which applications which track bus movement and positions can be built, and the Radio User Assignment protocol which allows users or roles to be associated to radios, allowing a bus or train radio to be called directly by running number or route.



Data development

The development of data services is probably the most important aspect of ETSI TC TETRA's work for the transport market. Efficient data transfer is the key to developing applications which allow intelligent positioning systems, passenger information services, on board telemetry and more advanced applications such as video surveillance and safety critical signalling systems. Most applications will be built on top of the Internet Protocol (IP), and the open interfaces provided by TETRA terminals and systems are designed to simplify integration of these applications with TETRA.

TETRA always has offered simple data services as well more extensive data bearer services - the Status and Short Data Services both provide very efficient means of sending small amounts of data, and SDS provides the foundation for services such as Vehicle Location, text messaging, user identification and running number assignment. The IP packet data services were later additions to TETRA and on the TETRA Release 1 platform offer single slot and multislot packet data - TETRA uses Time Division Multiplexing with four timeslots per carrier (radio frequency pair), and whereas a user would only be allocated one timeslot for speech communications, multiple slots can be assigned to data transfers, allowing a greater speed.

The IP packet data service is an enabler for applications where a data bearer is needed, such as the telemetry and signalling applications mentioned previously. However it also enables services internal to the TETRA radio - for example browsers using WAP (Wireless Application Protocol) which can provide access to information such as timetables or can be used for form filling for reports. Specialist data terminals such as PDAs and tablets have also been created around the TETRA data services to allow users to access organizational data while remaining within the secure boundaries of their own network.

TEDS - the TETRA Advanced Data Service

The TETRA Release 2 programme included a number of new features, of which the headline was the TETRA Advanced Data Service, TEDS. Other

additions include extended operating range, primarily to improve air to ground operation, but also applicable to any land based application where the original 58km range limitation of TETRA was a problem.

The TEDS high speed data service allows higher data speeds through the use of more complex modulation schemes, in particular Quadrature Amplitude Modulation (QAM), and different channel bandwidths. The system is adaptive, and can be tailored to give the best data throughput by sending data in the best modulation scheme for each terminal according to the quality of its signal. The scheme can pack a lot of energy into each of the data bits, giving a relatively low throughput but excellent range, or when the range is less it can send more bits using the same transmitter energy, which raises the throughput. Wider bandwidths allow more bits to be transmitted, and the widest data channel supported by the current standard (150kHz) allows data speeds of up to 500kbps to be sent. The first TEDS implementations are already on the market, concentrating on the 25 and 50kHz channel options due to the current difficulties in obtaining spectrum for wider bandwidth channels.

TEDS, like TETRA, has been designed to fit into existing spectrum by maintaining excellent adjacent channel performance - i.e. minimizing the interference to neighbours in the next radio channels - so that it can be used in frequency spectrum shared with analogue and TETRA 1 services. This is a big advantage over technologies designed for 3G and 4G public cellular use as they require wider bandwidths in which to operate, and more 'guard bands' either side to protect against interference. TEDS is therefore the optimal solution for private high speed data networks in narrow band spectrum.

The higher data rates of TEDS provide many advantages in the transport market. Lower latencies - i.e. faster transfer of data - makes TEDS more suitable for time critical data exchange, such as signalling information. The higher bandwidths enable more capacity - for example, if TEDS was used for location reporting, more positional updates could be sent from each vehicle allowing better location accuracy. It can also be used for pictures - either still pictures or medium quality video, for example for surveillance cameras at either fixed or on-board locations.

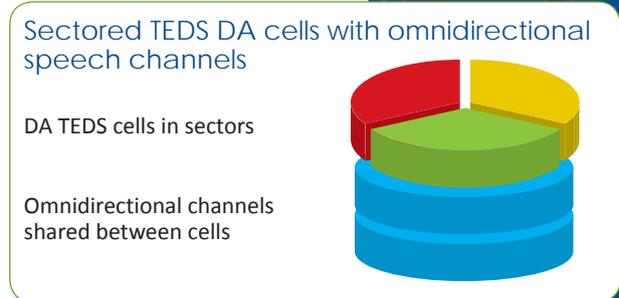
Direct Access TEDS

The first release of TEDS (TETRA Release 2.0) required the TEDS data channels to be tethered to TETRA 1 cells, and behave similarly to single and multislot packet data channels. This means that when a terminal moves between cells all signalling takes place on the TETRA 1 control channels: this is known as Conventional Access. The next release of the TETRA standard, TETRA Release 2.1, which will be published later in 2011, introduces a new feature called Direct Access to TEDS. Direct Access allows the TEDS data channels to be used directly as control channels: this will allow TEDS cells to break free from TETRA 1 cells and operate as standalone cells - or to give more flexibility in how TEDS is integrated into a TETRA network.

In a Direct Access cell, a TEDS QAM data channel acts as the Main Control Channel. This allows a mobile station to join a cell directly on the TEDS channel, which allows a much more efficient cell to cell handoff process as no time is wasted in moving through TETRA 1 conventional control channels. Voice calls are set up from the TEDS channel, moving the radios to conventional TETRA 1 speech channels for the duration of a call, then returning them to the TEDS channel afterwards. It allows terminals to be far more data centric, and to move around a network remaining on TEDS channels where available, and this of course also reduces the load on the conventional TETRA 1 control channels which can continue to be used for voice centric terminals. This enhanced performance for data centric terminals will be a big advantage in transport applications, where much of the information sent over the radio is data, and voice calls between driver and dispatcher are infrequent. However the integration between voice and data remains, so

that voice calls can still be set up immediately, pre-empting data sessions in progress if necessary in an emergency.

Direct access allows many useful scenarios in planning a network, and will allow different densities of cells dedicated to high speed data compared with densities of cells carrying conventional speech and data. Channels can be shared between cells, and this will allow scenarios such as sectored



TEDS data cells to increase data capacity at a cell site which can still use omnidirectional TETRA 1 channels for speech calls.

Beyond Direct Access

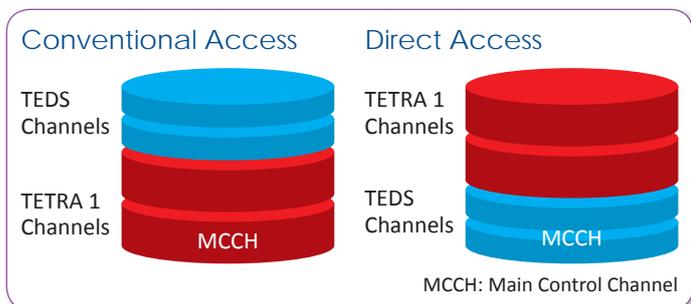
Once TETRA terminals are capable of Direct Access to TEDS QAM channels, it raises the possibility of carrying voice calls on the same QAM channels as data to improve efficiency. This would allow closer integration of voice and data in a Direct Access TEDS world, as separate channels to carry the conventional voice channels would no longer be needed. It would also allow some of the benefits of TEDS, in particular the ability to optimize the tradeoff between bit rate (capacity) and range to be applied to voice calls - for example use the low rate, high range service to gain increased rural coverage or to increase site spacing along a railway track, or the high rate, low range



service for increased voice capacity at locations with high volumes of traffic. This is one extension to the standard currently under discussion.

Higher data speeds

Although the higher speed TEDS services are starting to be deployed now, it is clear that in the future TETRA users will require increasing data speeds. There will be a mixture of reasons for this: new working practices based around new data applications will drive a need for more capacity, and there is also an increasing demand for video transmission which needs to be satisfied. Some of the capacity improvements can



Continued overleaf >

Developments in the TETRA standard for advanced data

Continued

be achieved by deploying the higher bandwidths of TEDS that already exist in the standard, and ETSI TC TETRA is continuously looking at ways to improve throughput, efficiency and range of TEDS. However it is also apparent that Broadband data speeds will be required for some applications, and the TETRA working groups are actively looking at standardizing a broadband addition to the TETRA standard. An obvious question is "why look at a special technology for TETRA broadband, when there are already existing commercial standards in place?" The answer is that TETRA has some unique characteristics which make it suitable for the professional market - group call communications, fast call set up, high levels of security, full integration of voice and data and so on, and it is important that any broadband technology selected has the same attributes. At the moment, the TETRA community is both actively looking at the requirements for wideband and broadband data, and researching the technology options in order to ensure that the finally selected, standardized technology has the best fit to provide the fully integrated service in the future that the TETRA market demands. However one challenge to implementing broadband technologies is the spectrum required especially at low (UHF) frequencies where radio coverage is best, which may mean that TEDS remains the preferred solution for high speed data for the next few years.

About the author David Chater-Lea



Fellow of the Technical Staff, TETRA World Wide Solutions Development, Motorola Solutions UK.

David is a senior technologist working for Motorola Solutions in the areas of advanced system architecture and design. He is Chairman of ETSI TC TETRA WG4, responsible for advanced air interfaces, and is also a specialist in wireless communication system security and Vice-Chairman of TC TETRA WG6, responsible for secu-

rity, and a founder member of the TETRA Association Security and Fraud Prevention Group.

David holds a BSc in Electronic and Electrical Engineering from the University of Birmingham, England; and is a Chartered Engineer and a Fellow of the IET. He holds a number of patents in the field of radio communications systems.

ISG LIS: New ETSI Industry Specification Group on Localization Industry Standards established

Specifications for common data formats are required by any industry which engages in data exchange. The Localization industry is no exception to this, having built up a number of data formats used in computer-assisted translation. With the recent closure of the Localization Industry Standards Association (LISA), a number of ETSI members involved in the LISA work have

decided to establish a new group at ETSI using the Industry Specification Group model. They have founded the new ETSI Industry Specification Group (ISG) for Localization Industry Standards (LIS). The new group will develop XML-based specifications for information exchange in the computer-assisted translation industry.

The ISG is open to participation

from outside the ETSI membership. Interested parties should contact the ETSI secretariat.

Should you have any questions regarding this ISG please contact Patrick Guillemin
patrick.guillemin@etsi.org

Machine-to-machine communications are now a key part of network operator plans, as mass-market machine-type applications bring both big business opportunities and big operational challenges.

Machines & Mobile

3GPP Release 11 gets to grips with Machine-Type Communications

by Kevin Flynn, 3GPP Marketing & Communications Officer



A GLOBAL INITIATIVE

As the potential for communication between machines stretches into every corner of the connected world, it is not surprising that 3GPP has started work to ensure that the 'network of everything' grows smoothly alongside existing mobile services.

Machine-to-machine communications are now a key part of network operator plans, as mass-market machine-type applications bring both big business opportu-

nities and big operational challenges to the network resources available for them.

3GPP is actively coordinating the Machine-Type Communications (MTC) work with other standards bodies, including ETSI TC M2M who are developing an overall end-to-end architecture for machine-to-machine communications.

On the mobile side, 3GPP has identified key service requirements for MTC in the 3GPP specification TS 22.368. This technical specification was first published in Release 10, but is set to receive closer attention in Release 11 as LTE and LTE-Advanced specifications develop; thus providing a mobile network capable of coping with the massive increase in data

traffic that will become a reality in the machine-to-machine age.

The most recent plenary meeting of the 3GPP specifications groups approved the principle that MTC work should aim to address the key 'building blocks' of reachability, signalling, charging, power consumption and security. Work on these building blocks started in Release 11 which is set for completion during 2012.

For more information about 3GPP and its work programme, please visit www.3gpp.org

Introducing the **Connecting Things** Cluster



TC M2M is developing an end-to-end architecture to support multiple machine-to-machine type applications.

The Connecting Things cluster is all about object integration to create new networked services and technology enabling the transparent interaction between people and things. ETSI's activities on 'connecting things' address the various aspects of integrating potentially billions of 'smart objects' into a communications network.

A large part of the work is led by the Technical Committee M2M which is developing an end-to-end architecture to support multiple machine-to-machine type applications. The group is producing standards and specifications to fill identified gaps whilst avoiding duplication of work already completed or ongoing in other standards organizations. Applications currently being examined by TC M2M include smart metering; where the committee is coordinating ETSI's response to the European Commission Mandate (M/441) for the creation of European Standards that will enable interoperability of utility meters for water, gas, electricity and heat. These meters will enhance users' awareness of their actual consumption.

ETSI's Technical Committee M2M is developing connected consumer use cases in order to ensure consumer-specific requirements are met by the M2M high-level architecture. Such scenarios include photo sharing, eBook file synchronization, video surveillance and home automation applications.

TC M2M is also working on use cases for automotive applications in close collaboration with ETSI's Technical Committee for Intelligent Transport Systems (ITS).

With regards to Smart Grid, TC M2M is examining the potential impact on the M2M multiservice platform. In April 2011 ETSI organized its first Workshop on Smart Grids which attracted a lot of interest both in terms of contributions and participants. ETSI welcomed 250 delegates from all over the world and from diverse industrial sectors to its event, including participants from partners such as NIST, T&D Europe, CEN, CENELEC, Smart Grid Department of State Grid China and the Korean Smart Grids coordinator, and provided an ideal platform for a high level international dialogue. The workshop addressed some of the key aspects of standards development with an architectural approach, from understanding the requirements and the underlying use cases to the long-term challenges posed to research.

The ETSI Project eHealth provides the 'horizontal' focus for the coordination of ETSI's activities in the ICT for health domain and cooperates closely with other entities in ETSI and 3GPP, as well as external organizations. ERM Task Group 30 develops product-specific standards for radio communications equipment for medical devices. It also handles specifications and standards for medical telemetry transmitting devices and medical implant telemetry devices.

The interests of the RFID industry within ETSI for all RFID products and devices are represented by ERM Task Group 34. The group develops deliverables for future RFID technologies and products not covered by current generic standards. RFID security and privacy protection with specific reference to the Internet of Things and to RFID/Near Field Communication needs are addressed by TISPAN Working Group 7. Part of the work is in response to the European Commission Mandate (M/436).

SCOPE
Object integration to create new networked services

VISION
Technology enabling the transparent interaction between people and things

ETSI's Vision of a Connected World

ETSI's cluster concept aims to provide a simplified, yet comprehensive, introduction to our activities in ICT standardization. Clusters facilitate access to ETSI's diverse work enabling the identification of areas of interest based on business relevance or application domain rather than purely on technical work areas.

Each cluster represents a major component of a global ICT architecture and encapsulates the work of a number of Technical Committees (TCs) and associated Working Groups (WGs) that share a common technological scope and vision.



ETSI and UPU strengthen their collaboration



In May 2011 ETSI and the Universal Postal Union agreed to strengthen their cooperation in the areas of secure electronic communication services and radio frequency identification interoperability. The two organizations will work specifically on standards for postal electronic registered mail and electronic postal certification marks and agreed to exchange knowledge and expertise and attend each other's meetings.

Several postal services already offer these services, which are the electronic equivalent of the

registered letter and the postmark normally found on physical letters.

"With registered e-mail, we not only need to exchange messages but also exchange them reliably for irrefutable evidence that messages have arrived and been read" said Michael Sharpe, ETSI's Vice-President of standardization projects, who signed the Memorandum of Understanding with the UPU's Director General, Edouard Dayan.

Dayan said the collaboration is part of the UPU's consistent actions to place the postal sector in the electronic world: "It will ensure that work on standards is not duplicated and that standards are interoperable."

"The collaboration between ETSI and UPU will ensure that work on standards is not duplicated and that standards are interoperable."

Edouard Dayan, Director General of UPU

Faster, Higher, Stronger with ETSI



Patricia Martigne, France Telecom delegate to TC M2M, sporting ETSI colours, receives her category-winning trophy at the 9th Col de Vence hill-climb on the 1st of May 2011. The road-race climbs 620m over 11.8km, and Patricia ran it in 59'09", being the fifth woman overall to finish and winning the V1F category.

If any other sportsmen and sportswomen among our readers would like an ETSI t-shirt too, please contact the ETSI communications team (communications@etsi.org). We only request in exchange that you make a podium-level finish each time you compete in ETSI colours and send us the photograph!

ETSI and OASIS coordinate standardization for electronic signatures, energy market information for Smart Grid, emergency management and other areas.

ETSI and OASIS extend strategic partnership on standards

ETSI and OASIS, the Organization for the Advancement of Structured Information Standards have been strategic partners since 2007 when the two organizations first signed a Memorandum of Understanding. In Spring 2011, they decided to extend this agreement for a further three years and expand its scope to additional technical areas. OASIS is a global organization that drives standardization in Cloud computing, security, identity, e-business, and in e-Government and the public sector. ETSI's range of standardization activities covers all aspects of communications systems including fixed, mobile, radio, broadcast and convergent technologies.

ETSI and OASIS have been liaising on standards for electronic signatures and better-authenticated email, two common topics where the exchange of information between the organizations has been fruitful. Collaboration will now extend to OASIS activity on Emergency Interoperability (which includes the Common

Alerting Protocol (CAP) OASIS Standard and ETSI's standardization work on Emergency Communications), and globally useful data standards for the Smart Grid and sustainability, among other topics.



"ETSI has developed a network of partnerships with industry associations and standards consortia. Today's agreement demonstrates our recognition of the importance of the work of OASIS and the role they play in the industry, and our appreciation of our relations with OASIS over the past three years."

Dirk Weiler, Chairman of the ETSI General Assembly

"We value ETSI's partnership, admire their strong competency in testing, and deeply appreciate their forward-looking, collaborative orientation towards market-aware standards and cross-industry cooperation. OASIS looks forward to a very productive next three years, working together to help supply solutions for some of the global information society's most acute challenges."

Laurent Liscia, OASIS Executive Director

ETSI Future Network Technologies workshop

26-27 September 2011, Sophia Antipolis, France

ETSI will be hosting its second workshop on Future Network Technologies on 26 and 27 September 2011 in Sophia Antipolis, France. The objective of the workshop is to identify potential subjects for standardization or

pre-standardization of Future Network Technologies at ETSI.

The event will include sessions on architecture, content centric network, taking care of the end-user, autonomic network management and network virtu-

alization, and will conclude with a panel discussion on the next steps for standardization in the field of future networks.

The event is free and is open to all upon registration.

Please visit www.etsi.org/FUTURENETWORKTECHNOLOGIES to view the agenda of the workshop and register for the event.

Follow us on
twitter

ETSI is now on twitter. Follow us!
www.twitter.com/ETSI_Standards

Sponsorship opportunities:

ETSI has put in place a sponsorship programme to enable the Secretariat to offset some of the costs of our increasingly successful workshops and also to provide ETSI Members with the opportunity to benefit from the brand visibility offered by sponsoring our events. Packages are offered on a first-come-first-served-basis. Should you wish to receive more details on the sponsorship packages, please contact events@etsi.org.

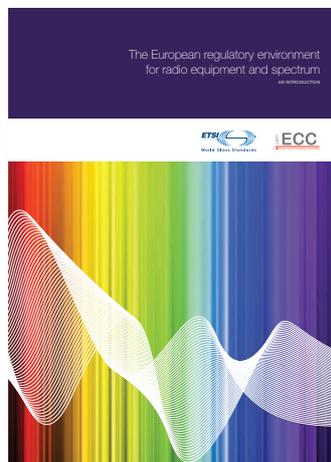
NEW BROCHURE

An introduction to the regulatory environment in Europe for radio equipment and spectrum

ETSI and the Electronic Communications Committee (ECC) have jointly published a brochure which provides an introduction to the regulatory environment in Europe for radio equipment and spectrum including useful information for newcomers.

The brochure explains the regulatory system and the mechanisms and cooperation in place between the European Commission (EC), the ECC, and ETSI. It also addresses the Radio Spectrum Regulatory Framework within the European Union and CEPT. Newcomers will find practical guidance on how to place equipment on the European market and how to provide a new service which uses radio spectrum.

An interactive version is available at <http://www.etsi.org/e-brochure/radio>.

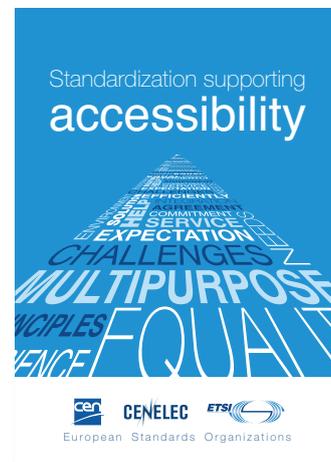


NEW BROCHURE

Standardization supporting accessibility

A better inclusion of disabled persons and an ageing population are major challenges for Europe and beyond. CEN, CENELEC and ETSI have jointly published a brochure which describes how the European Standards Organizations are integrating accessibility in their standards.

An interactive version is available at <http://www.etsi.org/e-brochure/accessibility>.



ETSI is progressively launching its brochures in e-book format. This attractive presentation tool reproduces the physical brochure format on screen. The e-book application also offers you the choice of directly downloading a PDF version of each brochure.

Hardcopies are available from the ETSI Secretariat upon request at info@etsi.org.

1st International ETSI MBT User Conference 2011

The first ETSI MBT User Conference will be held at Fraunhofer Forum Berlin, Germany, on 18th to 20th October 2011. This event is coorganized by ETSI in cooperation with the Fraunhofer institutes FIRST and FOKUS in Berlin.

Driven by technological advances and by an ever-growing need for higher quality, model-based testing (MBT) has matured in the last decade from a topic of research into an industrial technology. It has been successful in a wide span of application areas, including information and communications technology, internet protocols, information systems, embedded systems, and medical systems. This trend is reflected in the availability of multiple commercial-grade tools, and growing standardization activities related to MBT - in particular in ETSI's Technical Committee Methods for Testing & Specification (TC MTS).

The ETSI MBT User Conference will include sessions on:

- Experience reports and case studies about applying model-based testing in different application domains and different types of testing in industry
- Evaluations of industrial model-based testing deployments
- Standardization efforts related to model-based testing
- Latest tools and techniques

Please refer to

<http://www.model-based-testing.de/mbtuc11/>

to view the agenda of the workshop and register for the event.

With 32 new members, ETSI increases membership to 751

At its 57th General Assembly, we formally accepted the application of 32 new members. In total ETSI now counts 751 Members, from a total of 62 countries. Ten of these 32 new members are small or medium-sized enterprises (SME), demonstrating that SMEs find significant value through direct participation in the organization's standardization committees. Indeed over 25% of all of ETSI's members are SMEs.

Membership of ETSI is open to legal entities (associations, companies, organizations or public authorities) which commit themselves to contribute to ETSI's work; to make use, to the extent practicable, of relevant ETSI standards, and to support those standards for use as the basis for world standards and recommendations. Members participate directly in the work of the Institute, decide on the technical work programme and on the content of ETSI standards.

2nd FOKUS FUSECO Forum 2011 on Future Seamless Communication

17 & 18 November 2011, Fraunhofer Institute FOKUS, Berlin, DE

The FOKUS FUSECO Forum is continuing the well-established FOKUS IMS Workshop series by concentrating on a key enabling technology for future communication and hence devoted to 'Business and Technical Challenges of Seamless Service Provision in Converging Next Generation Fixed and Mobile Networks'.

ETSI is endorsing the event and Giulio Maggiore, Chairman of ETSI TC INT, will be one of the key speakers of the workshop. Having presented 'The Challenge of EPC and IMS Interoperability' at the 2010 event, in 2011 Giulio will provide a follow-up on work of ETSI's TC INT regarding IMS & EPC interoperability.

For more information please visit: www.fokus.fraunhofer.de/en/fokus_events/ngni/fuseco_forum_2011/index.html

“ETSI has demonstrated its capability to bring together Smart Grid decision-makers from several continents at a single, well-focused and productive event. We are waiting for a follow-up now!”

**Filip Gluszak,
GridPocket**

“One of the best international, or in fact global, events on architectures and standards for smart grid.”

**Mark Ossel,
Echelon**

Addressing the challenges of Smart Grid standardization

ETSI's first Smart Grid workshop, held in Sophia Antipolis in April 2011, attracted over 250 participants from Europe, China, Japan, Korea and North America. Representatives of the power and ICT industries came together to address the challenges they face in standardizing Smart Grid technology.

The Smart Grid is a prime example of where Information and Communications Technologies (ICT) can be applied to other industry sectors, enabling new solutions and leading to more efficient delivery of services. Developing and deploying the Smart Grid requires close collaboration between the power industry and the ICT industry, using the best experience from both. Smart Grid will contain a mix of legacy and new technologies integrated into a common architecture, enabling new services and applications such as integration of renewable energy sources, widespread adoption of electric vehicles and better energy consumption

management. In fact many of the challenges Smart Grid operators will face in deploying, managing and evolving Smart Grids will be familiar to ETSI's members.

The European Commission has recognized the importance of Smart Grid development to Europe's economic future, establishing a Smart Grids Task Force and issuing a mandate to the three European Standards Organizations (ETSI, CEN and CENELEC) to develop standards for Smart Grid. The three standards bodies are responding by working in partnership to coordinate their activities and take account of all industry needs. Partnership at a global level will also be required in order to develop Smart Grid technologies. This was clearly demonstrated by the strong international presence at this workshop, with representation from standards bodies, research institutes and industry from China, Japan, Korea and North America.

The two-day workshop provided an update on the status of

Smart Grid standardization in the industry standards bodies, including ETSI. It considered proposals for architectures, communications technologies, data and information management, privacy and security, integration of the Smart Grid into homes, and collected feedback from a number of pilot projects.

All presentations, including conclusions, speaker biographies and photographs are available for download from the ETSI website: www.etsi.org/WebSite/NewsandEvents/2011_SMARTGRIDWS.aspx

New standard for secure electronic data archives

At a time when the developing field of Cloud Computing is grabbing headlines, a quiet revolution is already underway in businesses and public service providers across Europe. Organizations are turning towards online data archiving services to manage their ever-increasing data storage requirements. With the growth of electronic transactions, online VAT and tax returns, and additional legal obligations for data retention relating to e-mail records for example, such archiving services are becoming a necessity. Public authorities and health services are also generating enormous amounts of data and records annually which must be stored securely.

Dependence on these services prompts customers to ask a number of questions: "Will my data be secure, in order that

nobody has unauthorized access? Will I be able to access it whenever I need to? Can my data be audited, to verify nobody has modified it? Can I be certain it will still exist in 8 or 10 years' time? Will I be able to read and interpret my data files then?"

ETSI's Technical Committee for Electronic Signatures and Infrastructures (TC ESI) has developed and published a new specification which can help to answer these questions. ETSI TS 101 533-1 specifies security requirements for Information Preservation Service Providers. This new Technical Specification focuses on the security aspects of providing electronic data archiving services, and applies the provisions of ISO/IEC 27001 to this important industry.

In addition, ETSI TC ESI has also published a Technical Report, TR 101 533-2, to provide guidelines

to enable assessors to review and audit the security of Information Preservation Services.

The publication of these two documents by ETSI will provide clear indication to service providers of the security requirements they need to comply with. Auditors and assessors now have clear guidelines on how to verify compliance with these requirements. Together, these will encourage the availability of certified, audited Information Preservation Services. Customers, whether in industry or in the public sector, will now be able to choose an electronic data archiving service provider with confidence.

Copies of these documents, developed with funding from a European Commission Standardization Action Grant, are available for free from the ETSI website www.etsi.org.

ETSI TC ESI has published a new standard, TS 101 533-1, detailing security requirements for Information Preservation Service Providers, or electronic data archiving services, applying the provisions of ISO/IEC 27001.

ETSI partners with T&D Europe to drive Smart Grid standards

ETSI and T&D Europe, the European association of the electricity transmission & distribution equipment and services industry, have signed a Memorandum of Understanding to collaborate on standards for Smart Grid.

ETSI's recent Smart Grid workshop, which was organized in partnership with T&D Europe, highlighted the importance of standardization in this emerging field. Through this agreement, T&D Europe will provide input and requirements from the electricity transmission and distribution industry to ETSI's Smart Grid standardization activities. T&D Europe's members will be able to validate ETSI's standards, ensuring that they

meet the needs of the Smart Grid industry.

Mr Ralf Christian, President of T&D Europe, commented: 'T&D Europe is contributing to the international and European works of Smart Grids on a broad front and we fundamentally support with ETSI the coordinated development of standards, which should be in line with the current international standards framework to foster the deployment of Smart Grids.'

Apps World 2011: Singapore, New York and London



Apps World - Models, Strategies, Technologies, Development and Marketing of Apps via Mobile, TV & Internet.

ETSI is pleased to be endorsing the Apps World Series which are being co-hosted with the Social Media World Forum in Singapore on 1-2 September, New York on 1-2 November and London on 29-30 November 2011.

Apps World Europe, a two-day event taking place in November in London, has been designed to create a unique platform to bring together the next generation of this rapidly developing sector. This is an event for App Developers, Network Operators, OS Vendors, Brand & Marketing Managers and Technology providers; looking to connect, build partnerships and network whilst becoming educated and inspired by the latest developments within this exciting industry.

For more information please visit <http://www.apps-world.net/>
ETSI Members qualify for a 15% discount quoting the code ETSI15 when registering.

Happy Birthday!



10 YEARS ANNIVERSARY

ETSI's Centre of Testing & Interoperability (CTI) coorganized the 2011 TTCN-3 User Conference (2011T3UC) in June in Bled, Slovenia, together with the NGN interoperability test centre Sintesis. On this occasion we celebrated the 10th anniversary of TTCN-3. Key experts, who over the years have contributed to the development and maintenance of this testing language standardized by ETSI TC MTS, were honoured at the event.

Testing is now a key issue in any serious software and system development process. TTCN-3, Testing and Test Control Notation version 3, has become the reference standardized test language, with global deployment in telecommunications, transportation, internet, medical, web-based services, distributed systems etc. Its versatility ensures it an effective role in functional conformance testing, load testing, performance testing and interoperability testing.

New Standard to deliver NGN Services over Broadband Satellite Multimedia networks

Recently published ETSI TC SES specification describes how broadband satellite multimedia networks can be integrated into the Next Generation Network architecture.

The Next Generation Networks (NGN) concept standardized by ETSI presents an opportunity for satellites to take a more integrated role in global telecommunications networks. The NGN architecture can be used to provide seamless integration between fixed satellite networks and terrestrial networks as part of a wider fixed and mobile network convergence. A new technical specification has been issued by ETSI's Technical Committee for Satellite Earth stations and Systems (TC SES) that explores the technical challenges for satellite networks to adopt this new network model.

This new specification defines the integration and interoperability of Broadband Satellite Multimedia networks with the emerging terrestrial Next Generation Network architecture. The evolution of existing broadband satellite systems towards an NGN infrastructure will be crucial for the successful integration of satellite systems in new converged telecommunications networks.

As an example of the technical challenges, one of the main objectives of the NGN is to provide end-to-end Quality of Service (QoS) guarantees to individual multimedia services / applications over a multitude of network technologies. Successful integration of satellite networks requires taking into account the specific features and constraints of satellite networks compared to terrestrial networks.

This specification, ETSI TS 102 855, "Interworking and Integration of BSM in Next Generation Networks", was developed by the TC SES Working Group on Broadband Satellite Multimedia (BSM) with funding provided by the EC and EFTA.

ETSI completes first batch of Identity Management specifications

As a step towards bringing IT and network worlds closer, ETSI completed its first batch of Identity Management specifications in spring 2011 supporting interoperability and access control. The specifications can be used to simplify how users get authorized access to services and data beyond enterprise boundaries. They also support more privacy

thus reducing the concerns in deploying these technologies.

Completion of this series of five pre-standardization specifications (known as Group Specifications) marks the end of the first phase of a successful transfer of R&D results from European Commission 6th and 7th Framework Programme projects into specifications for industrial use. The specifications were created by ETSI's Industry Specification Group on "Identity and access management for Networks and Services" (ISG INS).

This first set of group specifications supports interoperability and incorporate privacy into the telecoms services and networks domain. For example, Group Specification GS INS 001 on Identity Management (IdM) interoperability between Operators or Internet Service Providers (ISPs) and Enterprise provides mechanisms, interfaces and protocols allowing scenarios where third party providers share attributes with the operator, or reuse its authentication. A typical instance is Single Sign-On, a procedure by which a user gains access to all authorized communication services, thus avoiding the need for repeated authentication. GS INS 003 on distributed user profiles defines the relationship between access control and societal privacy needs and the associated legal framework.

AmardeoSarma, Chairman of ETSI's ISG INS, said: "This framework will further ease the transparent use of applications and services within and across enterprises and public networks. It addresses IT and telecommunications services and

provides key specifications for the upcoming cloud environment." New work items, which will lead to further specifications, have been defined for other highly relevant areas. These include establishing an enforcement framework to ensure that key actions are carried out when accessing data and processes, as well as for establishing user consent.

An example of R&D results that were transferred into the specifications is those from the EU project SWIFT that focused on extending identity functions and federation to the network. SWIFT had developed and validated a cross-layer Identity Framework to improve users' Single Sign-On experience while supporting privacy and protecting data. The ISG's future work foresees the participation of several other EU projects, thus ensuring that the transfer of R&D results into standards continues.

The current members of ISG INS are: Alcatel-Lucent, CNIT, Deutsche Telekom AG, Fraunhofer Institute for Secure Information Technology SIT, NEC Europe Ltd., Nokia Siemens Networks, Portugal Telecom, Telefonica, Telenor ASA, Waterford Institute of Technology (WIT), University of Murcia, Spain and University of Patras, Greece.

Other companies are welcome to join the ISG.

The efficiency with which the task of producing this batch of Identity Management specifications was achieved is further evidence of the effectiveness of this new form of ETSI committee, the Industry Specification Group, in fulfilling its promise to quickly develop pre-standardization specifications based on industrial interest.

About ETSI Industry Specification Groups

The Industry Specification Group (ISG) is an innovative and flexible standards mechanism offered by ETSI, which builds upon the strengths of ETSI's established processes, the professional support provided via the ETSI Portal, and its industry-leading IPR (Intellectual Property Rights) regime. ETSI Industry Specification Groups operate alongside the existing structure of Technical Committees and Working Groups and supplement ETSI's conventional standards development process. ISGs provide a mechanism for the speedy preparation of technical requirements or specifications for well-defined, specific issues, typically in response to a need expressed by a subset of the ETSI membership. ETSI has established seven ISGs during the past three years.

Success Stories in validation and testing

Solving the challenge of interoperability...

success stories in validation and testing

One of the main aims of global standardization is to enable interoperability in a multi-vendor, multi-network, multi-service environment. With converging technologies, ICT systems are becoming more and more complex. In many cases the multiple standards that specify these technologies are often delivered by different standard bodies. These factors can lead to potential cases of non-interoperability.

ETSI believes that validation and testing are key tools to deliver interoperable standards and products. With over 20 years of experience, the ETSI Centre for Testing and Interoperability (CTI) provides support to the ETSI Technical Committees on all aspects of protocol specification, standards validation, interoperability events and testing.

At ETSI the development of standards and standardized test specifications typically follows well established methodologies. On a regular basis, 'The Standard' will introduce success stories featuring examples of successful validation and testing projects which demonstrate the benefits of a systematic test approach.

In this issue, Theofanis Vassiliou-Gioles, CEO of Testing Technologies IST GmbH and Harald Ludwig, Chairman of the TETRA Association's Technical Forum, outline how the TETRA Association addresses the interoperability challenge and drastically reduces testing time in certification testing.

Reduce testing time by up to 80% in certification testing? - How the TETRA Association addresses the interoperability challenge!

About the TETRA Association and the Technical Forum

The TETRA Association was established as a forum for all interested parties in the area of TETRA. TETRA (TErrestrial TRunked RAdio) is an open standard developed by ETSI for Professional Mobile Radio. The main objectives of the TETRA Association, representing users, manufacturers, application providers and integrators but also operators, test houses and telecom agencies are to promote the TETRA standard and to ensure multi-vendor equipment interoperability. The TETRA Association has developed the Interoperability Certification process, which is managed by its Technical Forum (TF).



Harald Ludwig



Theofanis Vassiliou-Gioles

The Challenge

The TETRA Interoperability Certificate is based on results which are derived from the evaluation of information exchange between real TETRA terminals in a live TETRA infrastructure. The interoperability (IOP) certification testing is done in a multi-vendor environment where different brands of equipment are interacting with each other.

With the increased success of TETRA more and more vendors and equipment are participating in the IOP certification testing process. In fact, today the process has reached the limits of its capacity. A single IOP certification testing session can last up to three months and involve up to 60-man weeks of resources. The main reason for this is that more than 1000 test cases have to be successfully executed in order to receive the TETRA Interoperability Certificate. The testing is currently done manually and involves executing the end-to-end scenarios as well as analyzing the signalling between the TETRA terminals and the infrastructure by visual inspection of the signalling traces.

The Goal

The main bottlenecks in the current IOP certification testing process are the long testing periods coupled with the relatively large amount of human resources required for the manual test execution and analysis of the results. Therefore the current goal of the TETRA Association is to reduce the testing time for one particular TETRA terminal by 80%. A reduction of this magnitude can only be achieved if test automation is used.

The Solution: Testing Technologies' TTCN-3 Environment for test automation

In an open tender process, where more than 100 requirements defined the expectations for a modern and future proof test automation platform, Testing Technologies TWorkbench was named the platform of choice for the TETRA Association's future test automation activities.

In addition to TWorkbench's modular extension concepts and extensive result analysis capabilities, one of the key reasons for being selected was its consistent usage of TTCN-3, the Testing and Test Control Notation standardized and maintained by ETSI.

Today, the TETRA test automation platform consists of two key extensions to TWorkbench: the PEI scripting engine and the trace file analysis tool.

The PEI scripting engine has been developed to automate the execution of the 1000+ end-to-end test cases by controlling the TETRA terminals at the standardized Peripheral Equipment Interface (PEI). While this exercise alone has proven to be of value for the whole TETRA community, the most important time and cost reduction will come from the automated trace file analysis. This feature enables the automated analysis of observed communication between TETRA equipment in IOP testing.

The TETRA Association is currently in the process of automating more than 100 test cases in a first phase. More TTCN-3 based test automation scripts are expected to follow in the near future.

The PEI scripting engine extension for TWorkbench, a test execution environment, as well as all released TTCN-3 test scripts are available free of charge for all TETRA Association members directly from the TETRA Association.

Should you have a success story showcasing best practice in testing that you would like to see included in 'The Standard', please contact:
testing-success-stories@etsi.org

ETSI EVENTS CALENDAR - What's on?

2011		
1 - 2 September	Apps World 2011 (Asia)	Singapore, SG
9 - 13 September	ETSI @ IBC 2011 Booth #: 2.C29	Amsterdam, NL
26 - 27 September	ETSI Future Network Technologies Workshop	Sophia Antipolis, FR
28 - 29 September	ETSI Workshop: Standards in the Cloud- A Transatlantic Mindshare	Sophia Antipolis, FR
28 - 30 September	3rd CAT-iq 2.6 Plugtests Event	Munich, DE
28 - 30 September	7th International Conference on Standardization and Innovation in Information Technology (SIIT 2011)	Berlin, DE
3 - 7 October	X-GPON Plugtests Event	Lannion, FR
4 - 5 October	3rd ETSI Business Innovation Summit - The Wireless Network of the Future	London, UK
18 - 20 October	International ETSI Model-Based Testing User Conference (MBTUC) 2011	Berlin, DE
24 - 28 October	SIPIT 29 Plugtests Event	Monte Carlo, MC
26 - 27 October	ETSI M2M Workshop	Sophia Antipolis, FR
1 - 2 November	Apps World 2011 (North America)	New York, US
8 - 10 November	Intelligent Cities Expo 2011	Hamburg, DE
9 - 16 November	IMS Plugtests 4	Berlin, DE
14 - 18 November	Cooperative Mobility Services Plugtests Event	Helmond, NL
17 - 18 November	2nd FOKUS FUSECO Forum 2011 on Future Seamless Communication	Berlin, DE
29 - 30 November	Apps World 2011 (Europe)	London, UK
2012		
18 - 19 January	7th ETSI Security Workshop	Sophia Antipolis, FR
7 - 9 February	4th ETSI ITS Workshop	Doha, Qatar
6 - 8 March	ETSI @ ATC Global 2012 Booth # D130	Amsterdam, NL

Please visit the events section of our website for further details

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