ITU Conformity and Interoperability Programme: Pillars 1 and 2

ITU Forum on Conformity and Interoperability for the Americas region
Brasilia, Brazil, 12 – 15 June 2012

Paolo Rosa
Head, WPD, Telecommunication
Standardization Bureau, ITU

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ITU provides Broadband Access

- Copper:
  - ➤ Hundreds of millions use ITU'S XDSL
  - ➤ Up to 200Mbit/s aggregate with VDSL 2

- Cable:
  - ➤ IPCablecom

- Optical access:
  - ➤ ITU's GPON allows up to 2.5Gbit/s
  - ➤ New types of optical fibre for access networks

GPON interoperability pavilion
Nxtcomm, Chicago, 2007

Interoperability for the 21st century global digital economy

- Developing countries experiencing huge interoperability problems and **rising frustration** and demand action by the ITU to redress the **interoperability dilemma**

- Results in **delays** in full participation in the **global digital economy** and impact on social development

- Delivery of e-services requires global standards and **secure interoperable transport platforms**
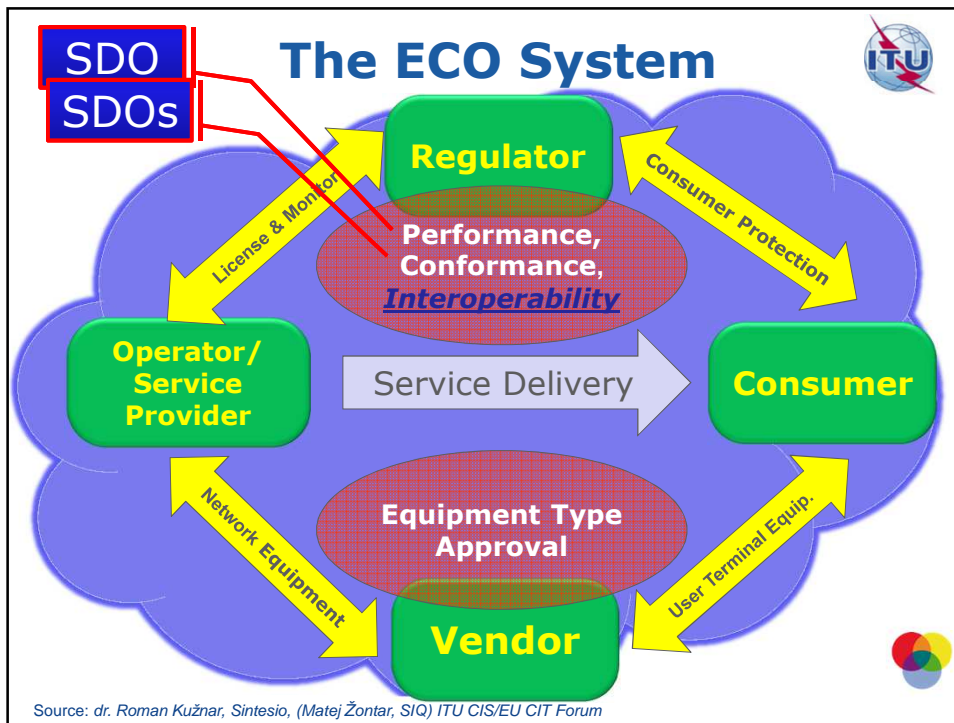
Interoperability for a true Access to Broadband

- ITU's global responsibility to **ensure the interoperability** and efficiency of international telecommunications;

- Growing **concerns** about and evidence of **non-compliance** with ITU-T Recommendations on **performance, safety and interoperability**;

- **Counterfeit or illegally imported** non-compliant and poor quality products, in particular in developing countries;

- Need to **facilitate market penetration** by avoiding multiple testing and certification, resulting from **regulatory and customer reactions to the risks of non-compliance**

The ECO System

SDO
SDOs

Regulator

Performance, Conformance, *Interoperability*

License & Monitor

Consumer Protection

Operator/ Service Provider

Service Delivery

Consumer

Network Equipment

Equipment Type Approval

User Terminal Equip.

Vendor

Source: *dr. Roman Kužnar, Sintesio, (Matej Žontar, SIQ) ITU CIS/EU CIT Forum*

Lack of Interoperability: Network Integrator

Equip. Category	Problem	Main Reasons	Effects
Analog Voice Gateway	Can't forward dialed digits to next devise.	Feature not supported and not mentioned on Data Sheet although it is basic requirements for operation.	Another device should be used.
Voice interface Card	Caller ID feature is not working on certain mode of operation although it is globally mentioned on Spec. Sheet that it is supported.	New hardware interface card should be used.	The customer was unsatisfied and switched to another vendor.
Data Switch	Per Packet load sharing on multi-trunk lines is not working although it is mentioned in the Spec. Sheet	Function not available in current software release.	Additional devices need to be used to support the required function.
WiMAX Base-station	Antenna diversity should be supported... It is available on the configuration menu but not working.	The diversity is actually not working when it was enabled on the software	support Team stated that the diversity is not working in the current software and may be active in next version

Source: ITU consultation mtg - Nairobi, Kenya, 30 – 31 July 2010

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Authority for Action from all the ITU's highest decision making bodies

- ITU World Telecommunication Standardization Assembly (WTSA-08) **Resolution 76**

- ITU World Telecommunication Development Conference (WTDC-10) **Resolution 47**

- ITU Plenipotentiary Conference (PP-10) **Resolution 177**

- Radiocommunication Assembly 2012 **Resolution 62**

- ITU **Council Decisions** **(**2009 and 2010)

The ITU 4 "Pillars"

The Standardization Sector side

❖ Conformity Assessment

❖ Interoperability Events

The Development Sector side

❖ Capacity building

❖ Establishment of test centres in developing countries.

Need of Conformance to Standards

- *Conformity key to **increase the probability of interoperability***

- *SDOs to consider conformity and interoperability issues*

- *Improve **quality of standards** to increase quality of services/experience*

- *increase **market opportunities***

- ***reduce costs** for operators, service providers, end users*

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C&I testing and ITU Recommendations

- Guidelines to Study Groups for test suites studies

- Study Groups: What to test?
  - ➢ eligible Recommendations/technologies
  - ➢ "minimum set of interoperability-related parameters"

- Missing test suites: ITU Study Groups also in coordination with other SDOs

- Minimize as much as possible the need of external resources and relevant funding sources.
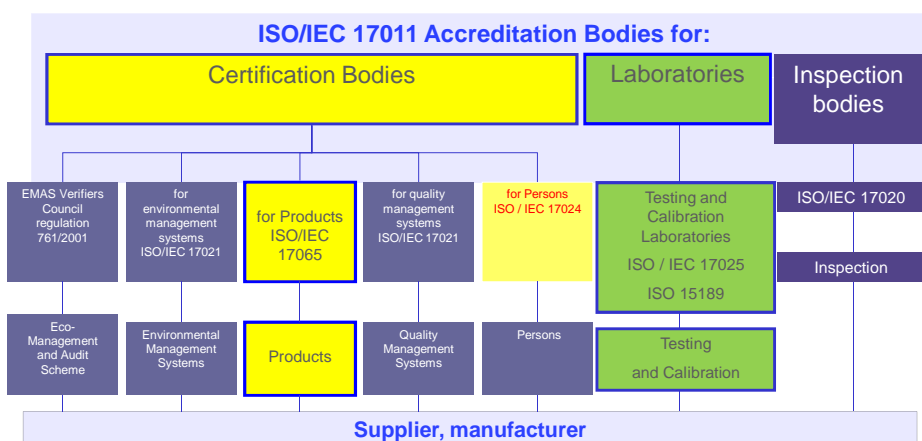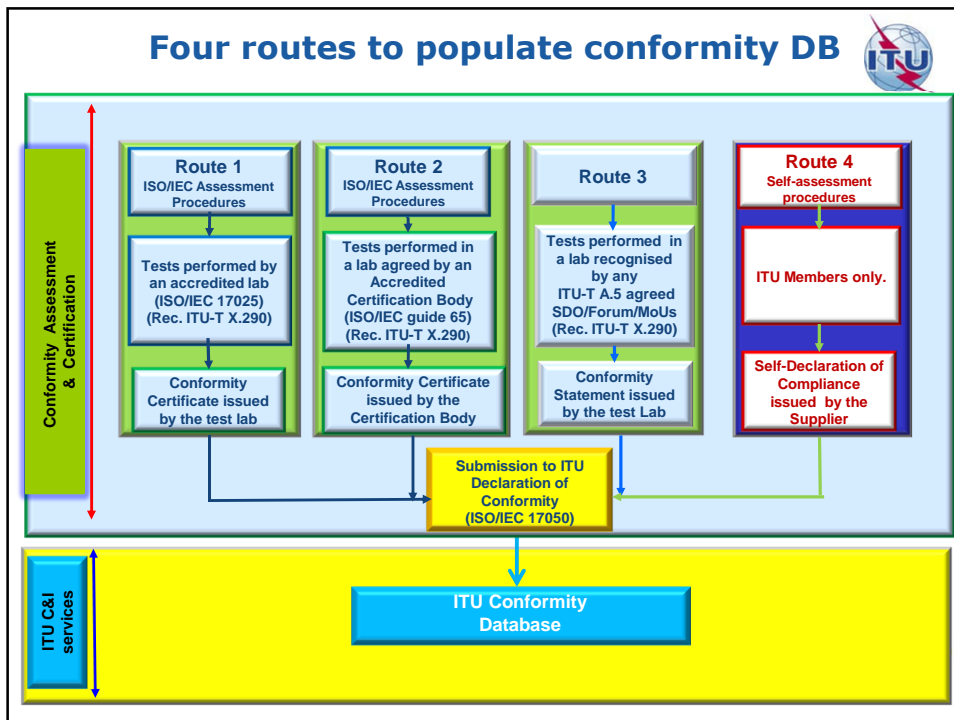
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The ITU Conformity Database

- *Informative and voluntary database* **open both to** *members and non-members* **for conforming products**

- **Adoption of international** *ISO/IEC standards* **and guidelines or self-assessment approach**

- *On-line inputs* **directly made by Companies**

- *ITU Liability*: **ITU is not participating in any testing/certification activities**

- **Products conforming to standards** *increase* **the** *probability of interoperability*

Standards for Accreditation

ISO/IEC 17011 Accreditation Bodies for:

Certification Bodies	Laboratories	Inspection bodies

| EMAS Verifiers Council regulation 761/2001 | for environmental management systems ISO/IEC 17021 | for Products ISO/IEC 17065 | for quality management systems ISO/IEC 17021 | for Persons ISO / IEC 17024 | Testing and Calibration Laboratories ISO / IEC 17025 ISO 15189 | ISO/IEC 17020 |

| Eco-Management and Audit Scheme | Environmental Management Systems | Products | Quality Management Systems | Persons | Testing and Calibration | Inspection |

Supplier, manufacturer

Four routes to populate conformity DB

Conformity Assessment & Certification

Route 1
ISO/IEC Assessment Procedures

Tests performed by an accredited lab (ISO/IEC 17025) (Rec. ITU-T X.290)

Conformity Certificate issued by the test lab

Route 2
ISO/IEC Assessment Procedures

Tests performed in a lab agreed by an Accredited Certification Body (ISO/IEC guide 65) (Rec. ITU-T X.290)

Conformity Certificate issued by the Certification Body

Route 3

Tests performed in a lab recognised by any ITU-T A.5 agreed SDO/Forum/MoUs (Rec. ITU-T X.290)

Conformity Statement issued by the test Lab

Route 4
Self-assessment procedures

ITU Members only.

Self-Declaration of Compliance issued by the Supplier

Submission to ITU Declaration of Conformity (ISO/IEC 17050)

ITU C&I services

ITU Conformity Database

How it appears the Database

Company Name	ITU Code	Testing Route	Product	Category	ITU-T Recommendation(s)	SDOs
Company	ITU-T-C3-0000154	3	DSL-wifi Modem X3/1234	ADSL	ITU-T G.992.2 (1999-07) ITU-T G.992.5 (2009-01) ITU-T G.994.1 (2007-02)	DSL Forum, ATIS (Alliance for Telecommunications Industry Solutions), IEEE (Institute of Electrical and Electronics Engineers)

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Search in the database

DISCLAIMER
This database is not certified to be either accurate or complete, but only reflects the information that has been communicated to the ITU secretariat. The ITU secretariat has not verified the veracity or accuracy of such information, nor the relevance of the products to ITU Recommendations

Search here

Company:	- All -
Product Category:	- All -
Testing Route:	- All -
ITU Code:	
Product Name:	
ITU-T Recommendation:	
SDOs:	

Search   Reset

Labs Search

DISCLAIMER
This database is not certified to be either accurate or complete, but only reflects the information that has been communicated to the ITU secretariat. The ITU secretariat has not verified the veracity or accuracy of such information. For additional information please contact the laboratory directly.

Search here

Laboratory Name:	- All -
Country:	- All -
Categories of tested products:	- All -
ITU-T Recommendation(s) Implemented:	
Product Name:	
Accreditation Status:	- ALL -
MRAs Status:	- ALL -

Search   Reset

About Benefits Certification

➢ **ICTs services – Digital inclusion in the day-by-day human life**

➢ **Fighting Counterfeit products**

➢ **Certification following validation of conformity assessment test results**

➢ **Accreditation and MRAs are a rigorous peer to peer process able to demonstrate the competence of conformity assessment bodies in their field of activity**

IPTV Interop event

ITU-T Interop Event on IPTV 20 to 23 July 2010 Geneva, Switzerland

The first ITU-T Interop Event will demonstrate the state of maturity and industry adoption of ITU-T standards for IPTV.

Manufacturers of set top boxes, content servers and other equipment are invited to showcase their products and to test for interoperability.

Testing will take place 20-21 July, with vendors showcasing interoperability to potential customers (broadcasters and content providers) 22-23 July.

Internet Protocol Television, or IPTV, is a major business opportunity for telcos, content providers and existing broadcasters.

ITU's IPTV Global Standards Initiative has created standards that will encourage innovation, mask the complexity of services, guarantee QoS, ensure interoperability and ultimately help players remain competitive

For more information visit:
itu.int/itu-t/gsi/iptv
itu.int/interop

What is an ITU-T Interop event?

ITU-T Interop events bring together developer engineers to test the interoperability of ITU-T standards and relevant prototypes, while a standard is being drafted. Bugs and glitches in the standard and prototypes are therefore identified and resolved early in the standard development process. Participants can then showcase their products and interoperability with the products of other vendors.

What standards?

Targeted ITU-T Recommendations include: ITU-T H.701, H.721, H.740, H.750, H.761, H.762, H.770

Write to us about this or future ITU-T Interop events at: tsbinterop@itu.int

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ITU Interop events

- Interoperability as the ability of **two or more systems** or applications or network management products and services from different suppliers or vendors to **exchange information and mutually to make use of it**.

- Interop events where **various manufacturers cross-connect** products to identify interoperability performance

- Interoperability issues requires the **evaluation of all the stakeholders on a case by case basis**

- In case of different vendors **common "interfaces",** interoperability testing may result in **end to end performance** both for commercial services that for network monitoring and maintenance from the points of view of **QoS** and **QoE**

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Interop Events and promotional events

- ❖ **IPTV Testing**
    - ❖ **1st Event: Geneva, ITU headquarters, 20-23 July 2010**
    - ❖ **2nd Event: Singapore, 23-24 and 27 September 2010**
    - ❖ **3rd Event: Pune, India, 14-17 December 2010**
    - ❖ **4th Event: Rio de Janeiro, Brazil, 18-22 July 2011**
- ❖ **G.hn Testing: Geneva, Switzerland, 23-27 May 2011**
- ❖ **Promotional Events:**
    - ❖ **Showcasings: Dubai, UAE, 20-22 September 2011 and Telecom World-2011, Geneva, Switzerland, 24-27 October 2011**
    - ❖ **1st IPTV Application Challenge**

Future ITU Interop Events

❖ **Planned Events in 2012**

   ❖ Interop Showcasing in WTSA-12, Dubai, UAE, November

   ❖ Possible IPTV Interop events (TBC)

❖ **Future events**

   ❖ IPTV, G.hn Interops to continue

   ❖ More possible topics, e.g. GPON, e-Health, etc.

   ❖ Further collaboration with other International Organizations

❖ **ITU Customized Services for Interop Events**

   ❖ Event, technical and communication management

ITU Customized Services for Interop Events

▪ **Event Management**:

   ➢ Local arrangements (arranging sites with hosts, shipment, hotels, networking opportunities, visa support, etc.), Logistical arrangements (registration/payment, legal aspects (NDAs), etc.)

▪ **Technical Management:**

   ➢ IT support, test bed, test session scheduling, etc.

▪ **Communication Management:**

   ➢ Promotion, media involvement, press releases, event website, inviting prospective customers, etc.

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**Photos taken during the 1st event, Geneva July 2010
Kick-off meeting**

The ITU Global C&I Portal Come in...

ITU Conformity Database

Interoperability and ITU Interop Events

Laboratories

The ITU C&I Programme Concepts and Guidance

Vendors Industry Testing

Capacity Building & Guidelines for establishing test centres

SDOs and Int'l Organizations
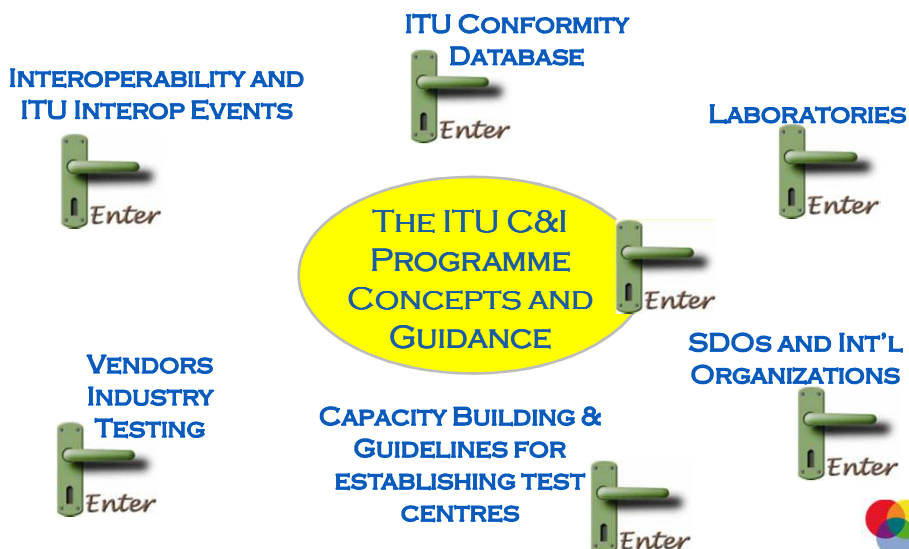
The ITU Global C&I Portal (one-stop shop)

- **Basic C&I Concepts**

  - The ITU C&I Governing Rules: Resolutions

  - Terminology and definitions (accreditation, certification, inspection, calibration)

  - Roles of National Accreditation Bodies, Certification Bodies MRAs and MLAs concepts

  - International applicable standards

The ITU Global C&I Portal (one-stop shop)

- **The ITU-T C&I Programme**
  - The ITU approach to C&I and to ITU Conformity Database
  - The ITU Interop activities
  - Capacity Building opportunities and Regional Test Centres
  - What to test
  - ITU Study Groups test suites development
  - Worldwide Testing Labs database
  - Talks on an ITU certification scheme

- **Cooperation**
  - ISO-CASCO, IEC ILAC/IAF, BIPM, UNIDO, WTO, DCMAS, Accreditation Bodies, Regulators, best practices for conformity testing schemes and surveillance, labs accreditation / Products certification
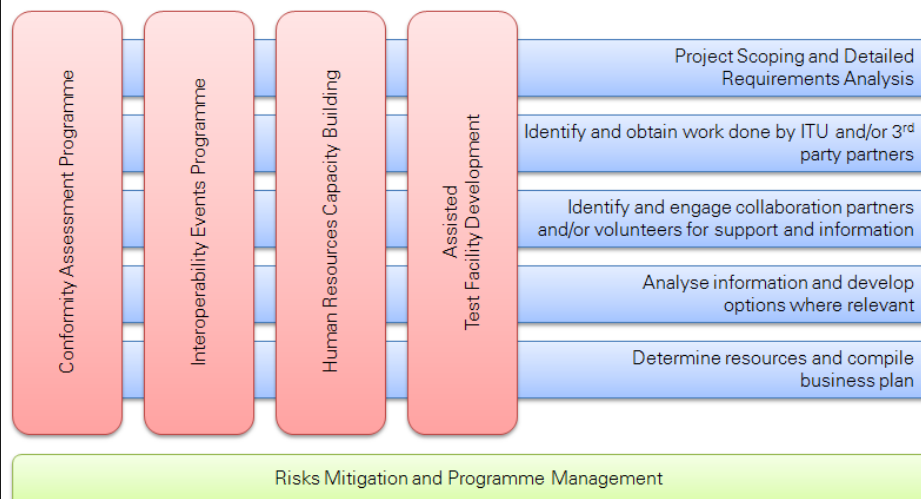
KPMG: Long-term Business Plan

- Business plan based on the **4 "Pillars"** and on the current ITU activities and SGs' expertise on testing development, on capacity building opportunities and regional test centres

- The Business Plan is also addressing the **impact** that the **database** on BGS and on the effect and potential liability that it may have on Member States, Sector Members and stakeholders such as other SDOs

- Possible future ITU Conformity Mark programme

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BP: Preparation Strategy

Conformity Assessment Programme	Interoperability Events Programme	Human Resources Capacity Building	Assisted Test Facility Development	Project Scoping and Detailed Requirements Analysis
				Identify and obtain work done by ITU and/or 3rd party partners
				Identify and engage collaboration partners and/or volunteers for support and information
				Analyse information and develop options where relevant
				Determine resources and compile business plan

Risks Mitigation and Programme Management

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Some elements of the Business Plan

❖ **AS-IS Analysis**

❖ **SWOT and Gap Analysis**

❖ **Options and Risk analysis**

❖ **Human Resource Model**

❖ **Roadmap for 2012 – 2016**

❖ **Budget/Finance**

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The "ITU Conformity Mark" issue

- Mark and labels, as well as conformity databases, are helpful to give immediate visibility of the "goodness" of *"certified"* products available on the market, independently from the mandatory or voluntary aspects of requirements:

- The use of an ITU conformity mark may be granted when a product is demonstrated to have been *successfully tested and certified* against ITU Recommendations according to international *conformity assessment procedures*
- The ITU conformity mark could be a general one or "dedicated" to a specific technology or recommendation
- The *ITU is not involved*, and not liable, in any step of the accreditation,
  32 testing and/or certification process.

Risks To Act

- **Resources to**
    - **manage** the conformity **database**
    - **Study Groups to develop test suites**
    - **Negotiate for partnerships and organization of** "**interop events"**

- Ability to effectively create needed expertise/capacity and **test labs in developing countries** in a timely way

Risks Not to Act

- **Concerns** from developing countries remain **unaddressed** and a **fundamental ITU mission** goal will be missed

- Members could go to **competitive SDOs**

- Continue the **erosion of the ITU's position** due to lack of the essential C&I elements in its program

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You and ITU Cooperation

Be part of the C&I Programme

Cooperating in the establishment and gathering of test suites information

Contribute to selection of the minimum set of parameters for interoperability performance for ITU-T Recs

Promotion & Population of the ITU Conformity Databases

Participation in Capacity Building activities, accreditation and certification

Participation in the creation of regional test laboratories

Participation in / Assistance for ITU interop events

Further steps :

  ➤ ITU "Recognition" of Labs performing conformity testing
  ➤ Interleave C&I databases equipment / ITU Standard / Test suite references /Laboratories/...

www.itu.int

Thank You !

More? ➔ Riccardo Passerini and Paolo Rosa - ITU

The FCC-Administrative Council for Terminal Attachment (ACTA) Database
Ref. FCC 00-400 of 21 December 2000

- **(item 108)** the database "will permit interested parties such as the Commission, providers of telecommunications, and consumers to track and identify suppliers or importers of non-compliant equipment. As such, **the database should ameliorate concerns regarding the potentially adverse impact of non-compliant terminal equipment on the PSTN by ensuring that suppliers are held accountable for any damage their equipment may cause to the PSTN**"

Registration Numbering and Labeling

- **(Item 81)** As stated previously, when the Commission determines that a piece of terminal equipment meets the technical requirements for that equipment, the Commission assigns a unique registration number to that piece of equipment. We tentatively conclude that although the Commission will no longer be responsible for CPE registration, some form of unique identifying label must be applied to all terminal equipment. **This identifying label is necessary to adequately identify CPE as an approved piece of terminal equipment that customers are entitled to connect to the PSTN** (omissis)

What To Test ?

- Only Parameters that may impact interoperability requirements of functionalities as needed by the end users and the market:

  - Reducing time to approval
  - Reducing testing costs
  - Mutual recognition to widen protfolio and market opportunities

- ITU Study Groups to establish a minimum set of parameters as needed

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ITU's Interop Events on IPTV comprise two parts

❖ **1st part: Testing – closed event**

  ❖ Two types of testing carried out

    ❖ Conformance testing: each company tests against a checklist

    ❖ Interoperability testing: one-on-one testing

❖ **2nd part: Showcasing – open event**

  ❖ Prospective customers invited

  ❖ Film crew, photographer and media team on site

  ❖ Workshops provide up-to-date information and know-how, etc.

ITU Customized Services for Interop Events

- **Event Management**:
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The GCF – Certification explained

- Manufacturers who certify their mobile devices to GCF rules and procedures are assured that:

  - ➢ **their products will benefit from a high degree of interoperability**
  - ➢ **time-to-market for new products is reduced using this respected 'one-stop' verification process**
  - ➢ **expensive and time-consuming duplication of testing effort can be avoided**

- With GCF's 'tested once, use anywhere' maxim, manufacturers can significantly reduce the requirement for operator acceptance testing if presenting GCF certified devices.

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