

The background of the slide is a dark blue world map with a subtle, lighter blue grid. The map is centered on the Atlantic Ocean, showing the continents of North America, South America, Europe, and Africa.

# Some experience in running interoperability events

## An Overview

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# Standards for **Business**

## **ETSI White Paper No. 3 Achieving Technical Interoperability - the ETSI Approach**

**Download from:**

**<http://www.etsi.org/WebSite/technologies/WhitePapers.aspx>**

**October 2006**

## ETSI Means Interoperability!

❑ Interoperability is the ultimate aim of ICT standardisation

- Complex technologies covered by multiple standards
- The market

❑ For ETSI, interoperability is the entire starting point

- Not something to be added at the end

❑ ETSI philosophy

- Interoperability
- Good project management
- Use of best practices
- Standardisation

Proven by experience:

GSM

UMTS

WiMAX

OMA

IPv6

etc.

... leading through the process

... to the end

... (and testing) development



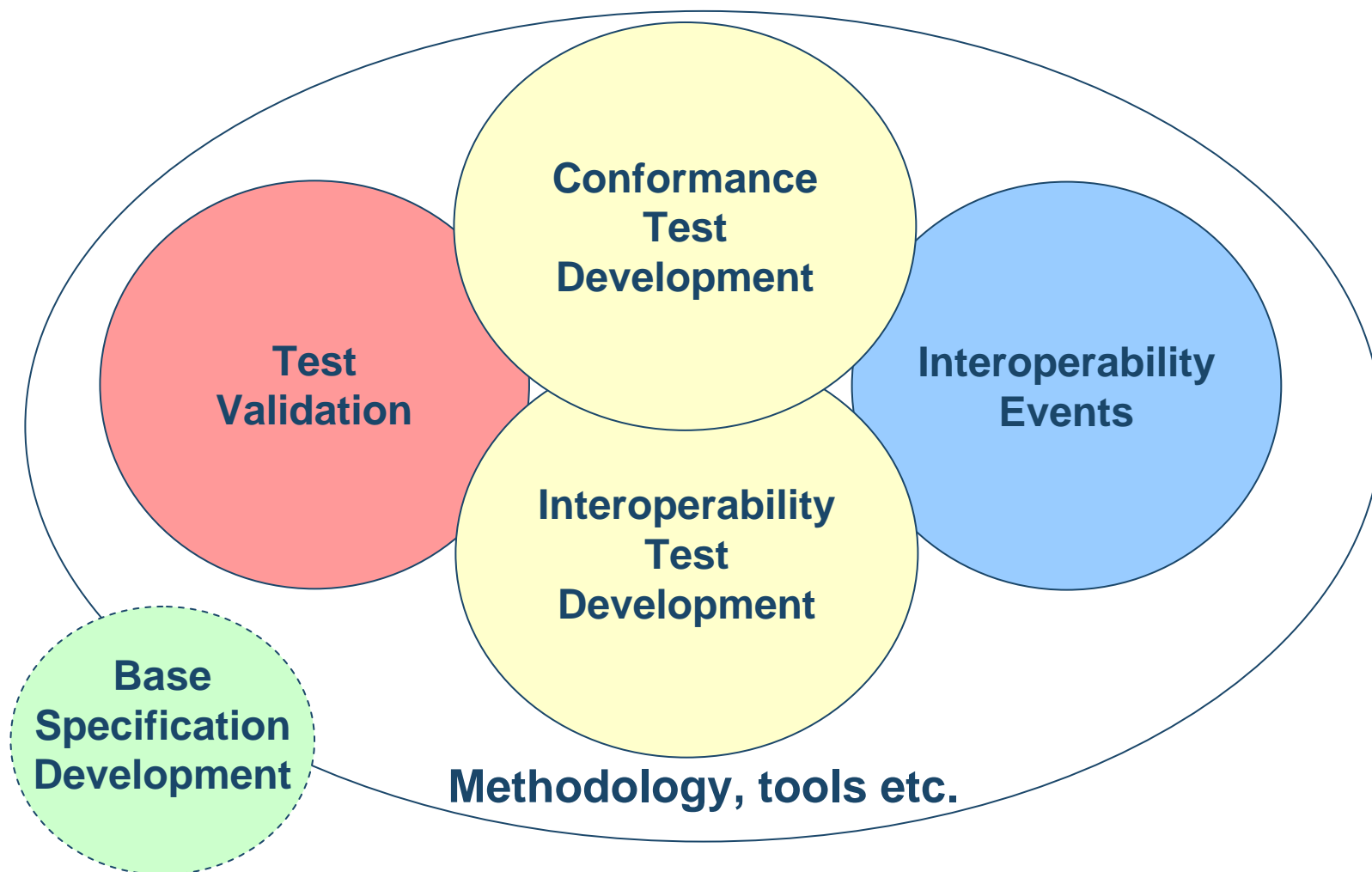
❑ ETSI Experience

- Test specification development + Interoperability Events

## ETSI initiatives and support for interoperability

- ❑ **ETSI Board Champion for Interoperability**
  - Co-ordination for interoperability issues
  - Chair of OCG-IOP ad hoc interest group
  
- ❑ **ETSI Technical Committee MTS**
  - **Methods for Testing and Specification**
  - **Standardised frameworks and methodologies**
  - **Making Better Standards:** <http://portal.etsi.org/mbs>
  
- ❑ **ETSI Centre for Testing and Interoperability (CTI)**
  - **Direct support to ETSI Technical Bodies [72%]**
  - **Commercial activities with Fora and other external bodies [9%]**
  - **Organisation and coordination of interoperability events [19%]**

## ETSI CTI Main Working Areas

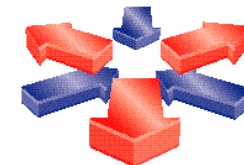


## Services for Test Specification development

- Conformance and Interoperability tests**
- Advice on testing strategy, planning, processes, certification**
- Assistance with application of methodology, techniques, tools**
- Development of test architectures and test design**
- Development of Requirements Catalogues**
- Development of ICS (and similar)**
- Development of Test Purposes**
- Development of Test Descriptions**
- Detailed coding of Test Cases (mainly TTCN-3)**
- Packaging of Test Cases into full Test Suites**
- Synergy with interoperability events (Plugtests)**
- Participation in validation of the tests (feedback)**
- Advice on test implementation and links to test tool providers**

## Typical Test Specification Projects

- Cellular: **GSM, 3G UMTS**
- WiFi: **HiperMAN, HiperACCESS, WiMax**
- VoIP: **H.323, IETF SIP, SIGTRAN**
- Service Creation: **OSA/Parlay (API, IDL, Java)**
- IPv6: **Core, Security, Mobility, v4-v6**
- Radio communications: **TETRA, DECT, DMR**
- Access terminals: **FSK, SMS**
- Broadband: **ISDN, DSL**
- Smartcards: **Readers, cards, security modules**
- Intelligent Transport Systems (ITS): **DSRC**
- NGN: **IMS, GRID**
- Security: **LI, Electronic Signature**
- Broadcast: **BCAST**



BROADBAND RADIO  
ACCESS NETWORKS  
AN ETSI PROJECT



WiMAX  
FORUM



**SiPit**  
SIP interoperability test event



## Plugtest Events in 2008

- 5th SQTE – January/June (Herzogenrath, Germany)
- 1st GSM/UMTS - VoIP – January/June (Herzogenrath, Germany)
- HDMI – February (ETSI)
- XAdES – March (Remote)
- GPON – March (Turin, Italy)
- EUROCAE – VoIP April (ETSI)
- 3Play & AUTOCONFIG – May (Lannion, France)
- RFID – June (Düsseldorf, Germany)
- FMCA – June (ETSI)
- B2B – July (ETSI)
- SIPIT – October (Lannion, France)
- ITS – October (Dudenhofen, Germany)
- GRID – October (Sophia-Antipolis, France)
- IMS - November (Bled, Slovenia)



## Conformance and Interoperability Testing are Complementary

- ❑ **ETSI experience**
  - **Lower layer protocols, infrastructure**
    - Emphasis on conformance
  - **Middleware, enablers**
    - Combination of Conformance + Interoperability testing
  - **Services, applications, systems**
    - Emphasis on interoperability testing
- ❑ **Conformance testing should be as a pre-requisite to interoperability testing**
  - **Ensure interoperability through standardised interfaces**
- ❑ **Interoperability testing with conformance checking**
  - **Monitor and check key standardized interfaces during interoperability testing**
  - **Is cheaper but does not replace need for conformance testing**

## Conclusions on the overall approach

- Standards can be designed for interoperability
- Standards should be engineered not hacked
- Plan for validation and testing (early)
- Do the right kind of testing and test in parallel
- Interoperability events: Plugtests™
- CTI can help you achieve the above!

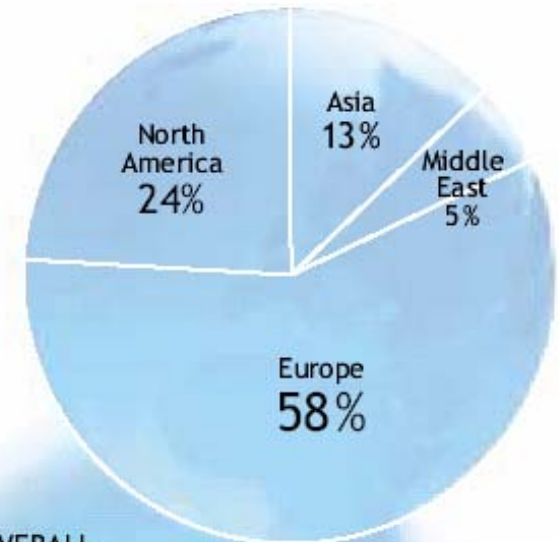
**We organise “Plugfests” , unplugfests, (bake-off) with Plugtests™ , our professional ETSI service**

- Created in 1999, specialized in the organization of interoperability test events**
- Cost neutral**
- Skilled ETSI Staff managing test events**
- Experts from ETSI and other technical communities**
- Neutral and open to all organisations**
- Synergy Conformance & Interoperability**

- Approx. 100 events organised !!!!**
- 3000 participants surveyed ranked usefulness at 4.3/5 and Service satisfaction 4.35/5**

## Who attends Plugtests™ events?

- ❑ Participants do NOT have to be ETSI members
- ❑ Plugtests™ are addressed to any company developing a product such as operators, vendors or equipment manufacturers, content or application providers
- ❑ Plugtests™ also welcome Universities and other Research Institutes
- ❑ Standardization bodies, Fora or interest groups may also attend



OVERALL  
GEOGRAPHIC REPARTITION  
OF PARTICIPATING COMPANIES  
SINCE JANUARY 2001

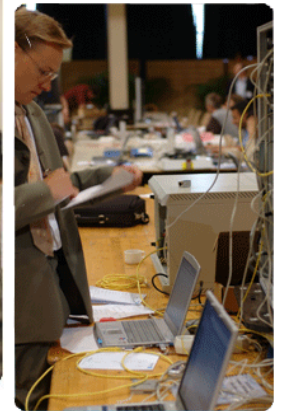
## Interoperability Events

### □ Event Management

- Dedicated event coordinator
- Event website
- Logistical arrangements
- Online registration & payment
- Legal aspects (NDA)
- Promotional material
- Press releases

### □ Technical Support

- Test session scheduling & supervision
- Test infrastructure design, installation & teardown
- IT support
- Final test report



<http://www.etsi.org/plugtests>

## Areas of Interest

### TELECOM

- DSL
- SMS/MMS
- Speech Quality
- HiperLAN2

### SERVICES & APPLICATIONS

- J2ME
- OSA-PARLAY
- Video over DSL
- OMA IMPS
- SyncML

### HOT TOPICS

- Grid Computing
- LAN/WMAN
- Security
- ebXML
- RFID

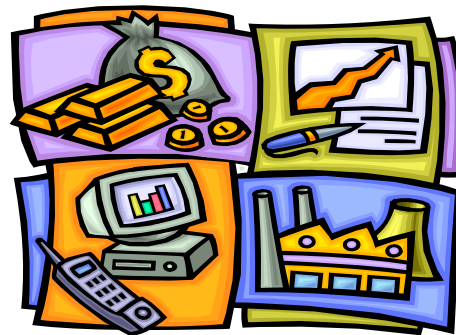
### IP

- IPv6 & Mobile IPv6
- MPLS
- SIGTRAN
- SIP



## Why?

- Provides useful feedback to the standardization process
- Accelerates time to market via quick product debugging
- Improves both quality and features of implementations
- Helps to ensure end users' satisfaction
- Reduces deployment costs
- Allows networking with the market key players



**COST & TIME SAVING!**

## Who are coming



**Operators, Vendors or Equipment Manufacturers, Content Providers, Application Providers...**

- > who is about to place a product on the market
- > who wants to be sure of the interoperability of a product
- > who feels comfortable with the technologies but still wants to improve its know-how.



**standardization bodies (ETSI, IETF, ITU, etc.) or any forum or interest groups**

- > that is developing an important standard or specification
- > that wants to check the coherence of the specifications implemented
- > that needs to check progress in using its specifications
- > that wants to let its members get useful feedback



**Come to a neutral place**  
**Debug your implementations in one week**  
**Meet your partners**  
**Meet your competitors**  
**Meet other experts**  
**Speed up the standardization process**  
**Promote interoperability**

## Plugtests look like this...

DSL & GPON



*Des experts en télécommunications venus de toute la planète testent entre eux aux Ursulines les produits qui seront demain sur le marché.*

## SIPIT ( SIP Interop Testing event)



## IPv6 interop at Brussels



## Another SIPIT



# World Class Standards

Bluetooth UPF

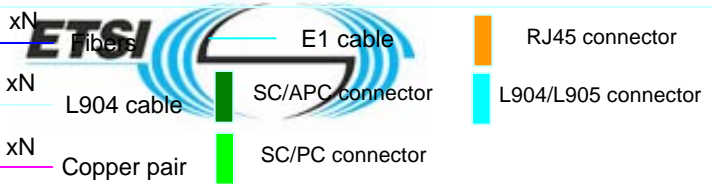
458 participants !!



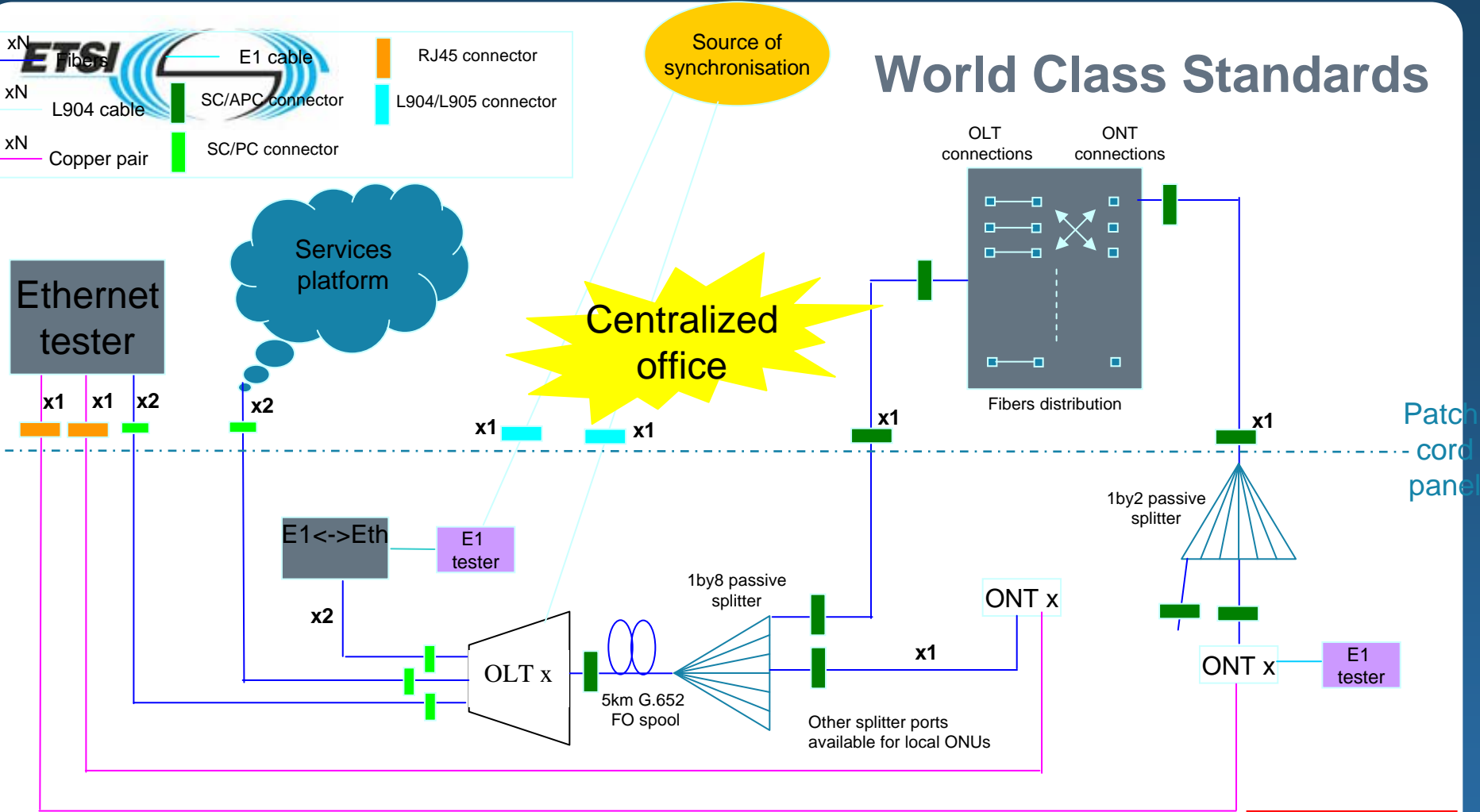
## Plugtests Set up?

- Participants – Implementations – standards or specifications – and Experts
- Test case and Test bed at ETSI ?
- Scheduling – Test Plan
- Rules of engagements





# World Class Standards



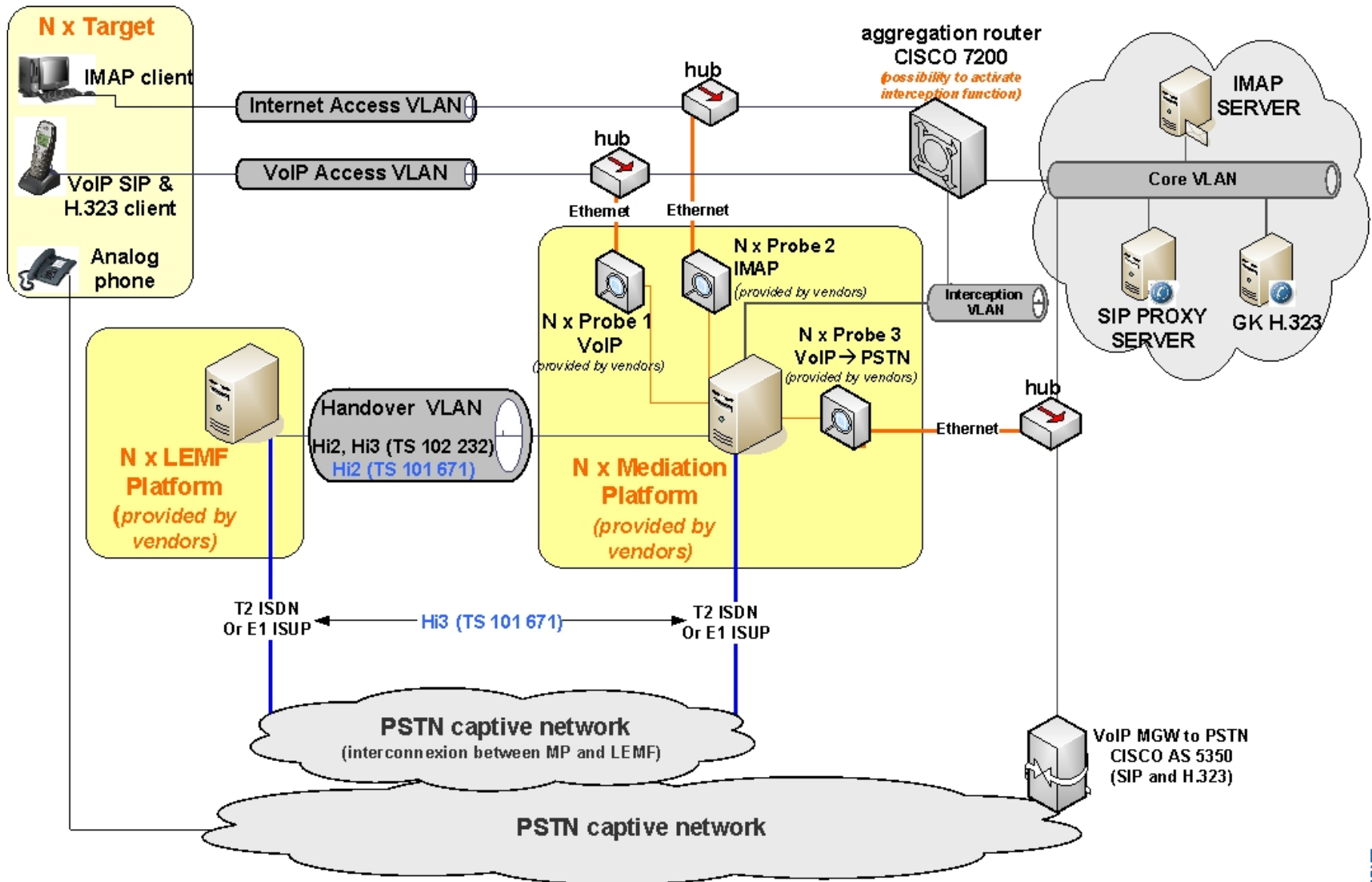
Mains: 230V ~ 14 plugs

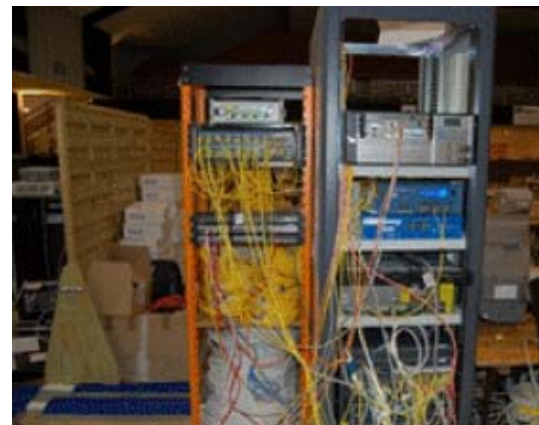
Triple play demo set:  
 RGW  
 HDTV, STB  
 phone  
 PC  
 ClassB+ attenuation  
 between OLT and ONTs

## Work position OLT+ONT x

Note: uncertainty on the E1/Ethernet equipment location,  
 equipment centralized or not,  
 if centralized, we will use the fibers used by the Ethernet tester







## They came and said...

*“Plugtests is still the champion of interoperability testing for handsets and smartcards!”*

IAIN MAXWELL - ASPECTS, SIM HANDSET - 2007

*“Remote Plugtest is a great service to exchange implementation experience. Plugtest proved that XAdES implementations are ‘almost’ interoperable. Thanks to Plugtest each participant can find out what must be improved to make an application really interoperable”*

EC2Ltd, XAdES 1 - 2008

*“This is a well planned /organised event; test cases are well written and acceptance criteria were clearly defined. Certainly a hugely successful event and I gained a great understanding of the maturity of products and the standards.”*

Nihal Samaraweera , Vodafone UK, IMS - 2007

## Feedback from ebXML interop 2004

- ❑ These plugtests allowed twelve participants coming from Asia, Europe and the United States to test the ebXML Message service solution in real cases and to share experience, knowledge and know-how.
- ❑ The main success of this week was the benefits offered by the event to the different participants.
- ❑ Product developers could improve their MSH when checking its conformance against the ebXML Message Service specification and its ability to interoperate.
- ❑ Test bed developers had the opportunity to verify the good operating of their conformance and interoperability test material and enhance it when necessary.
- ❑ The OASIS IIC committee could verify the applicability of their test suites and get feedback.
- ❑ Designers got feedback from the tests in order to refine the specifications.
- ❑ The participants thanked ETSI for the good infrastructure and the friendly and professional support provided during this week of intensive tests.

## Other feedbacks

- ❑ "A great opportunity to ascertain our products performance with other stack developers & test suite developers." Praveen Rajendran SAMSUNG . IPv6
- ❑ "“Worldwide adoption of SIP is steadily increasing. The SIPITs are an essential part of refining the level of interoperability as new implementations appear and existing implementations are improved.
- ❑ The excellent testing environment provided by ETSI Plugtests allowed the SIPIT 14 participants to focus on rigorous testing of the core protocols and the important ways SIP is used in deployed networks. Many participants are also getting to test advanced functionality, from IPv4/IPv6 translation to video conferencing.”Robert Sparks, Dynamicsoft, Member of SIP Forum Board of Directors
- ❑ "It's a dance party of technology and information!" Chuang Li Chung, CCL/ITRI
- ❑ "All your interop requirements in one place, on time !" Eyabane Patasse, Nextone Com

## Other feedbacks ( con'td)

- ❑ **"SIM Interoperability Plugtests is the best opportunity to verify that your applet is really interoperable. Having all the right people together saves a lot of time and effort." G. Huijsen, Privacom**
- ❑ **Plugtests is a key to deliver quality service to the end user, as it helps assure compatibility between the CPE and CO before deployment. Thanks to ETSI and Cetecom for arranging this. Veda Krishnan, Extandon Inc**
- ❑ **"Ericsson is pleased to be at the second OSA/Parlay Plugtests event and to be successfully testing our standard-compliant solutions with those of many other excellent companies. The ETSI OSA/Parlay Plugtests enable the application development community to test their applications and to identify the necessary standard specification improvements."**

- ❑ **"If you have knowledge, let other light their candles at it" - Margaret Fuller**

**Thank you!**

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