



Welcome to the World of Standards



AN UPDATE ON MCPTT PLUGTESTS

28th Nov 2017

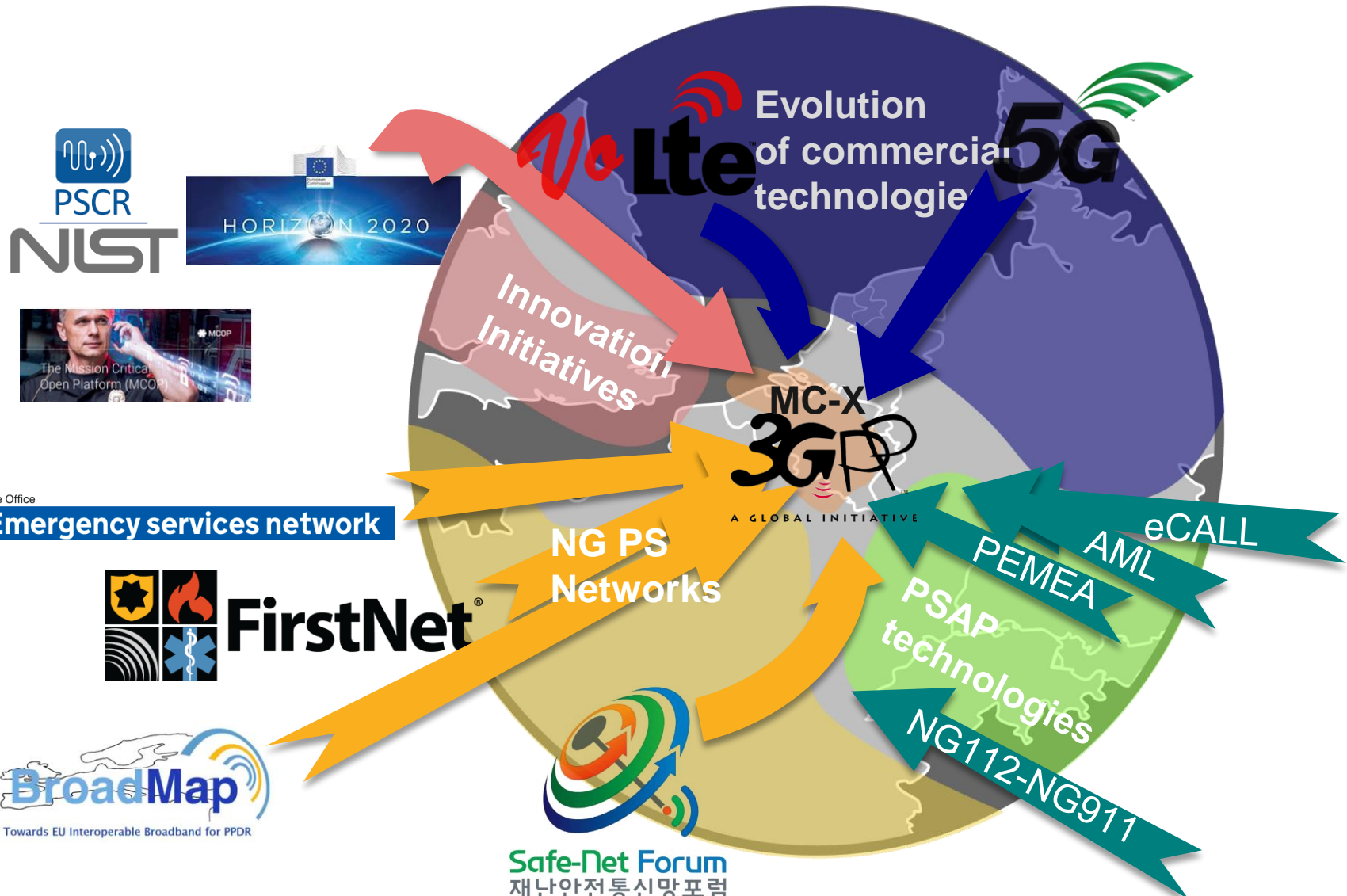
Fidel Liberal -University of the Basque Country- (UPV/EHU)

Expert in 1st MCPTT Plugtest

- Most so-called Mission Critical Push-To-Talk solutions and products presented and rolled-out used to be **proprietary or partially compliant** with a subset of standards of different organizations
 - 3GPP Release 13 was finalized in 2016
 - Note: the term “MCPTT” should only be used for standard-based implementations
- Activities towards Interoperable, **standard-based** solutions:
 - 3GPP RAN5 Work Item for MCPTT-Conformance Tests
 - ETSI MCPTT Plugtests Events (first event in June 2017, second June 2018)

- **Less dependency** on one vendor
 - **Wide choice** of compatible equipment
 - **Lower prices** and **higher quality**
 - Continuous and fast **product innovation** and **genuine competition**
- **Industry benefits:**
 - Wider Market, Bigger Volumes
 - More possibility to invest – faster product creation
 - Longer lifetime of market

Relevant initiatives in NG Emergency networks



What is Interoperability?



Interoperability ensures, that equipment from one vendor is working with equipment from another vendor, and vice versa

- Gives Confidence that Purchased Equipment Works with Equipment from other Vendors
- Ensures Open Standard
- Enables Multi-Vendor Market



- ETSI produces globally-applicable standards for Information and Communications Technologies (ICT).
- ETSI is officially recognized by the European Union as a European Standards Organization.
- ETSI is a not-for-profit organization with more than 800 member organizations worldwide, drawn from 68 countries and five continents. Members include the world's leading companies and innovative R&D organizations.
- ETSI is heavily involved in 3GPP standardisation.

Motivation and Test Methodology in a plugtest

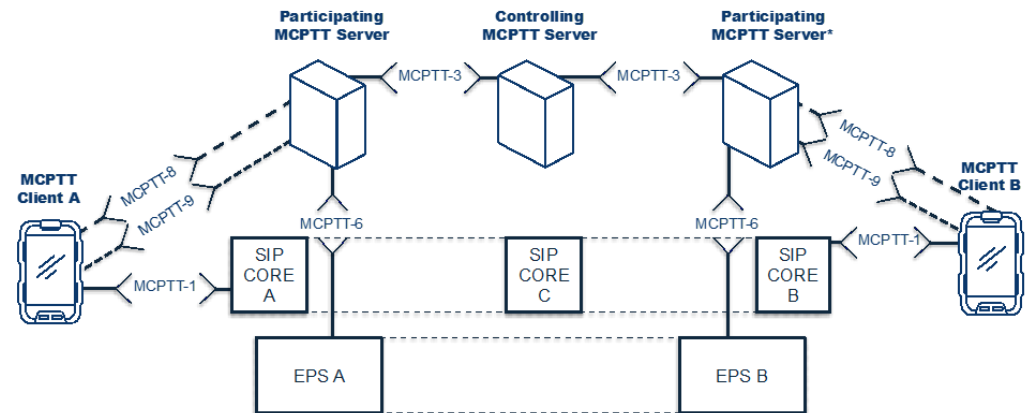


- Unique opportunity for implementers
 - To **validate** their understanding of the 3GPP's MC-X features
 - To test with other **real** implementations
 - To **debug** their prototype implementations (early bug fixing)
- Contribute to the standards validation effort
 - Plugtests Result will be used to **improve** 3GPP Specifications
- Support vendors, operators and users
 - To **promote** the standards-based and interoperable Mission Critical Push To Talk (MCPTT) Service and its eco-system
 - To demonstrate end-to-end **interoperability**
- Complemented with conformance testing
 - 3GPP RAN5 MCPTT Conformance test cases expected by 2018

What type of tests are run in a Plugtest ?

- Interoperability tests are executed
 - validate end-to-end functionality between communicating systems
- Focus lies on many different test pairings
 - The same setup will be run with different vendor combinations
 - A vendor is NOT required to implement all the interfaces

Session1 LTE Unicast	Session2 LTE Unicast	Session3 LTE Unicast
EPS A	EPS B	EPS C
SIP Core X	SIP Core X	SIP Core X
MCPTT Server 3	MCPTT Server 1	MCPTT Server 2
UE1	UE4	UE1
UE2	UE5	UE4
UE3	UE6	UE5



Test Results



ETSI Test Reporting Tool

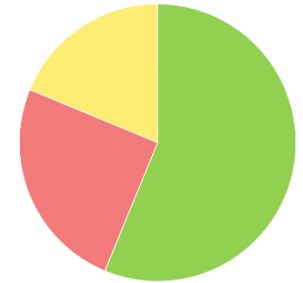
Settings Reports Statistics Session Plan

Silvia Almagia (Manager) Event timezone (Europe/P) Small-Cell-LTE-Remote-P logout

id	status	date	duration	area	config	participants	commands
737	👍	2015-04-13 09:00	180	Athonet #2	HeNB	Node B - HeNB Cisco - HeNB-GW Athonet - ePC one2many - CBC	
738	👍	2015-04-13 09:00	180	Cisco	eNB	Ericsson - eNB	
740	👍	2015-04-13 14:00	180	Cisco			
741	👍	2015-04-13 14:00	180	Athonet #2			
742	👍	2015-04-13 09:00	180	Cisco #2			
743	👍	2015-04-14 09:00	180	Aricent			
744	👍	2015-04-14 06:00	180	Aricent			
745	👍	2015-04-14 09:00	180	Athonet	eNB	Aricent - ePC one2many - CBC Sistellbanda - eNB Athonet - ePC one2many - CBC	
746	👍	2015-04-14 09:00	180	Cisco #2	eNB	Accelleran - eNB Cisco - ePC one2many - CBC	
747	👍	2015-04-14 14:00	180	Athonet #2	HeNB	Accelleran - HeNB	

Test groups: SON

Test ID	Summary	Result	Comment
DSON/PCI/05	PCI Conflict / Confusion Detection: Detect PCI Confusion with X2 Neighbor Cells	OK NO NA OT	
DSON/PCI/08	PCI Conflict / Confusion Resolution: PCI Confusion Resolution with X2 Neighbor Cells	OK NO NA OT	Comments here
DSON/ANR/01	ANR in existing network with one LTE Macro Cell	OK NO NA OT	
DSON/MRO/01	Basic Too Late Handover Test Case: Vendor A is a Small Cell eNB: Radio Link Failure occurs in Small Cell eNB (Cell 1)	OK NO NA OT	
DSON/MRO/02	Basic Too Late Handover Test Case: Radio Link Failure occurs in Macro Cell eNB (Cell 2)	OK NO NA OT	





Summary of 1st MCPTT Plugtests event 2017



Some pictures



MCPTT AS:

- Airbus
- Alea
- Genaker
- Harris
- Hytera
- Nemergent
- TASSTA
- ZTE

MCPTT Clients:

- Airbus
- Alea
- Armour
- Etelm (in TETRA BS)
- Frequentis (in Control Room)
- Funkwerk
- Genaker
- Harris
- Hytera
- Nemergent
- Spirent
- TASSTA
- ZTE

User Equipment:

- Bittium
- Funkwerk

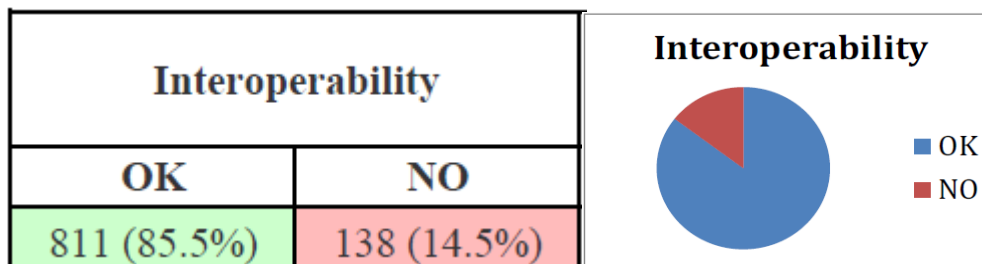
LTE Network (EPC, eNB, MBMS):

- Athonet
- Ericsson
- Expway
- Huawei
- One2many

IMS:

- Athonet

- ETSI developed a test specification with 47 test cases including features like: Group Call, Affiliations and Floor Control.
- During the Plugtests event, a total of 160 Test Sessions were run: that is, 160 different combinations based on different configurations in Test Scope.
- More than 900 tests were conducted, with a success rate of 85%. The failed tests give the vendors valuable information to improve their implementations.
- The final tests of the MCPTT Plugtests event included pre-arranged and chat mode Group Calls, which involved several MCPTT clients, a Control Room, a LTE cab radio and a TETRA radio.



ETSI TS 103 564 V1.1.1 (2017-10)



TETRA and Critical Communications Evolution (TCCE);
Testing;
Plugtest™ scenarios
for Mission Critical Push To Talk (MCPTT)

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

ETSI Plugtests Report

V1.0.0 (2017-07)

1st ETSI MCPTT Plugtests
Sophia Antipolis, France
19 – 23 June 2017



<http://bit.ly/2tRkrmq>

Second MCPTT Plugtests Event in June 2018



Provisional Planning



	Nov-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	
Conf Calls	WEBINAR	16 Jan, 2PM CET	every two weeks						
Registration		16/01/2018 - 23/02/2018							
Integration					16/04/2018 - 31/05/2017				
Pre-testing						21/05/2018 - 22/6/2018			
Plugtests							25 - 29/6/2018		
Post-testing								2/7 - 6/7/2018	

- Setup of VPN tunnels between remote labs
- Running test before the Plugtests event according to a test schedule
- Reduce ramp-up time at Plugtests.

Internet Access
Two internet accesses (200Mb/s and 100Mb/s)

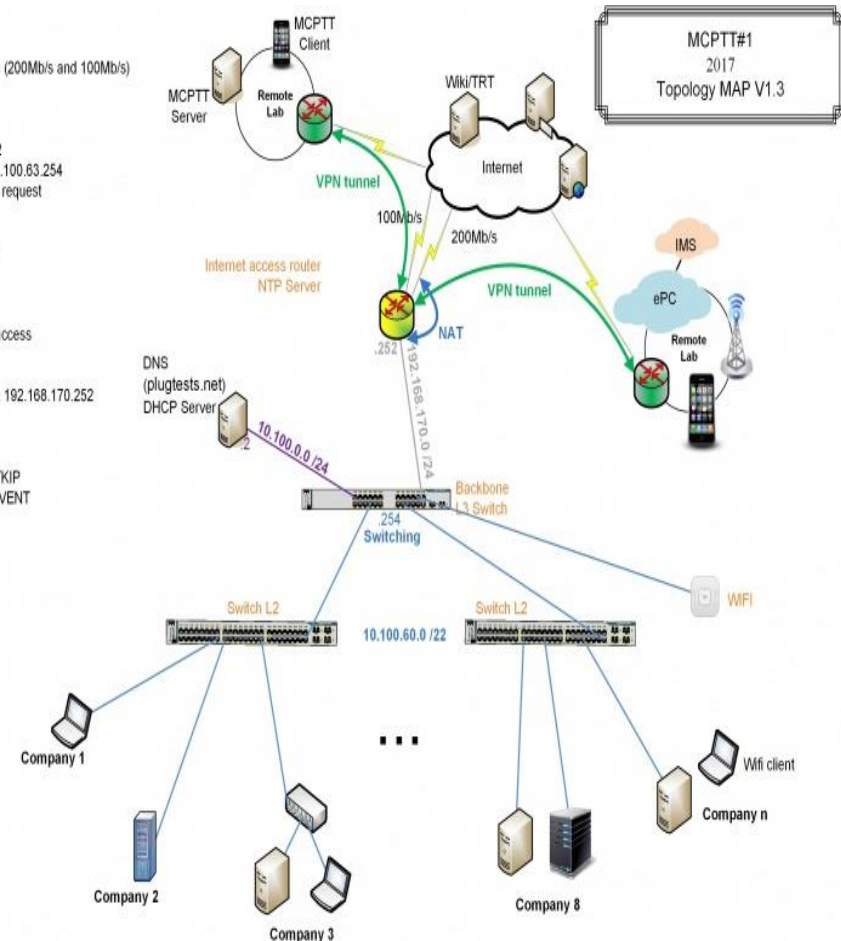
IP Address:
DHCP available:
IPv4: 10.100.60.0 /22
Default Gateway: 10.100.63.254
FIXED IP available on request

DNS
Domain: plugtests.net
Server: 10.100.0.2

NAT
NAT only for internet access

NTP Server:
Internet access router: 192.168.170.252

Wifi: 802.11b&g,a,n
SSID: PLUGTESTS
WPA2 : AES-CCM, TKIP
Key: PLUGTESTS-EVENT




Logistics 2018



- When?
 - 25 – 29 June 2018
- Where?
 - Planned to be hosted by NIST, US **(to be confirmed)**
- Registration opens in January 2018
- Each participant needs to register
 - Only companies who have registered participants, can attend the conference calls and access the event WIKI
 - Names of attending engineers can still be modified until late
- Upon registration you will
 - receive a NDA which you need to return signed
 - once NDA is signed we send you the WIKI credentials
 - Add you to the Plugtests mailing list MCPTT_PLUGTEST@list.etsi.org

Next Steps



-  Help to define the test scope (Scope not defined Yet)
 - Industry is interested in MCPTT Security, MCDATA and MCVIDEO.
 - Send your contribution to the test scope by email to saurav.arora@etsi.org.
 - Review existing test spec , and provide feedback on the new test scope via the email list.

- Join the open conference call
 - 16 January 2018 2PM CET
- Register to the event
- Sign the NDA
- Participate to the conference calls (2 weekly basis)
 - Test Scope
 - Test Infrastructure
 - Test Scenarios
- Target: final draft of test document available by end of March

MCPTT 1st Plugtest Team



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