Air Traffic Management – Compliance Testing – VoIP Standardization

Global Standardization of Voice over IP in the World of Air Traffic Management – Reaching a Milestone with the VOTER Test Tool

About EUROCONTROL

EUROCONTROL, the European Organization for the Safety of Air Navigation, is an intergovernmental organization composing of 39 member states and the European Community. Together with its partners, EUROCONTROL is committed to building a Single European Sky that will help to meet the safety, capacity and performance challenges of European aviation in the 21st century and beyond.

Founded in 1960, this civil-military organization has developed into a vital European repository of air traffic management (ATM) excellence, both leading and supporting ATM improvements across Europe.

Project Description

Object of this project is to achieve a global standard on Voice over Internet Protocol (VoIP) in Air Traffic Management (ATM). Behind the technology migration, VoIP will help to significantly reduce overall communication costs by cutting the expensive maintenance and operational cost of analogue voice circuits. In addition it will bring the appropriate flexibility required for the implementation of the FAB (Functional Airspace Blocks) by enabling dynamic sectoral solutions.

Working in close collaboration with key partners like ICAO, EUROCAE, FAA, ANSPs and Industry, the VOTER test tool has been developed within the framework of the VoIP Task Force set up by EUROCONTROL (VOTE). VOTER releases were evaluated by task force members representing both ATM Industry and Air Navigation Service Providers (ANSPs).

About the Test Suite

VOTER is a test software which provides the means to test the VoIP in ATM implementations based on Voice Communication Systems (VCS), Ground Radio Stations (GRS) and Voice Recorders (REC) products developed according to the EUROCAE Interoperability Standards for VoIP ATM components (ED137B).

Additionally, VOTER has the capability of executing timing performance measurements between VoIP in ATM components across IP networks.

How End-Users Benefit from VOTER

With VOTER, air navigation service providers verify their implementations of VoIP in ATM services. Industrial manufactures test their Voice Communication Systems (VCS), Ground Radio Stations (GRS) and Voice Recorders (REC) products against the standard.

Generally speaking, VOTER users benefit from the confidence they will have in their implementations and equipment as well as from saving time by performing automated testing.

Acceptance of the Project by the ATM Community

Currently, twenty companies and organizations from the European and non-European ATM Community are licensed by EUROCONTROL for using VOTER. The test suite is recognized as the reference for VoIP in ATM implementations, thus the user community is constantly expanding.

Reasons for Choosing Testing Technologies as Technology Partner

Testing Technologies' core activity is based on telecommunication testing having reliable experience in the field. They develop and promote efficient test tools while supporting their evolution based on standardized platforms. Also, the provided technical support is highly rated in terms of effectiveness and short response times.

Why did you go for TTCN-3?

The standardized test language TTCN-3 was specifically designed for testing and certification and allows us maximum flexibility in creating our test solutions. It can be used for conformance testing of communicating systems and infrastructures which is essential for securing the evolution of VOTER.

Future Prospects

As the European VoIP in ATM deployment is planned to be completed within the next 7 years, the VOTER test tool community will constantly expand. Non-European users are already licensed and it is expected that their number will grow too, following VoIP implementations in accordance with the ICAO Global Navigation Plan.
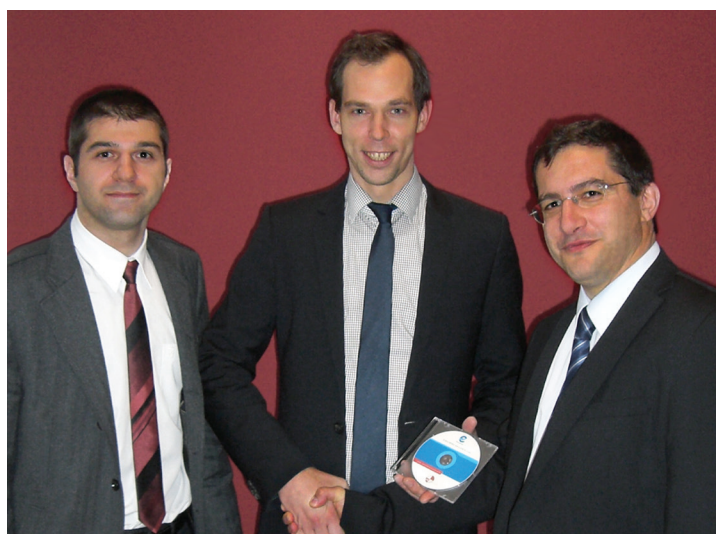
Beyond checking compliance to the standard, VOTER's strength is also based on its capability to evolve by adding new functionalities which enable automated interoperability testing, troubleshooting, on-line monitoring etc.

Related Links

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www.eurocontrol.int/communications/atm-voice
www.eurocontrol.int/news/global-standardisation-voice-over-ip-world-air-traffic-management

"Testing Technologies was able to address the project in an open and committed way and is providing reliable support for the maintenance and the evolution of the VOTER test tool. The company was able to join and understand the ATM community and has delivered a high quality product. VOTER is a milestone on the way to the global implementation of Voice over IP services in the world of Air Traffic Management.", says Liviu POPESCU, Senior Expert, Directorate Network Management at EUROCONTROL"