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Avitech AG
(non listed stock corporation)

Summary of FIRST trials



Ramada Bintang, Bali, Indonesia, 26-30 April 2004

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FIRST



**Multipartite International Realisation of
ICAO SARP's
AMHS Trials**

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Introduction

→ The Civil Air Navigation Service Providers (ANSPs) of Germany and Spain, DFS and Aena, and the Military ANSP of Germany, AFSBW (BATSO) have exercised interoperability trials between their Aeronautical Message Handling Systems (AMHS). The respective manufacturers of those systems are

- Avitech for the AFSBW system,
- Comsoft for the DFS system
- Telefonica Soluciones for the Aena system

→ The basic interoperability trials were successfully concluded and closed with a workshop in Rüdelsheim am Rhein in the State of Hessen, in Germany, on 2-3 December 2003.

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Objectives

→ The objectives of the working group:

- Test the interoperability of the AMHS systems in Frankfurt/Langen (CIV), Frankfurt/Hausen (MIL) and Madrid,
- Prepare for operational use.

→ Common working group between ANSPs / CAAs and manufacturers,

→ Development of reference test documentation based on:

- Available documents and initiatives,
- Closing of existing gaps,
- Validation of test cases,
- Publication of a reference test documentations.

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Agreements

→ The AMHS FIRST Team agreed to make available to the AFSG Planning Group the following

- The documented results of the trials,
- The Test Cases used during the trials.

And the summary results of the

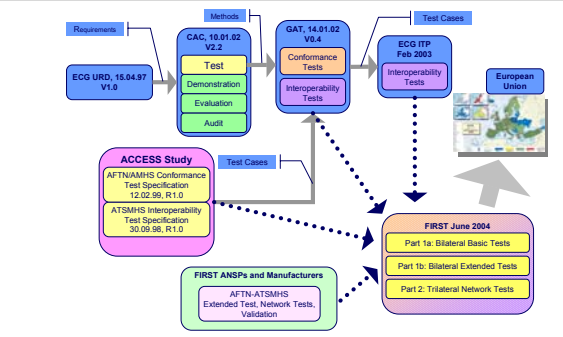
- FIRST Initial Trials between Aena and BATSO
- FIRST Initial Trials between BATSO and DFS
- FIRST Initial Trials between Aena and DFS
- FIRST Test Cases Part 1a: Bilateral Basic Tests
- Further Planning for Phase 2

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FIRST Road Map



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Workshops

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- Workshop- FIRST 01 was held on the Island of Reichenau in Lake Constance 25-26 June 2003.
- Workshop- FIRST 02 was held in Ruedesheim am Rhein 2-3 December 2003.
- AdHocMeeting 01 was held in Brussels at Eurocontrol HQ on 1 April 2004.
- Workshop – FIRST 03 is planned to be held in Spain in April or May 2004, location to be agreed.
- Workshop – FIRST 04 is envisaged to be held but not yet planned.

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Configuration

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- The three test configurations for the tests between AENA-DFS, DFS-BATSO and AENA-BATSO were as follows:
 - The IPAX TCP/IP test-network was used as underlying network to perform the AMHS trials between AENA and DFS.
 - The tests between DFS and BATSO were performed by using the underlying DFS PSN and the BATSO PSN (DFS provided the router for BATSO).
 - The tests between AENA and BATSO were performed over the combination of the networks as described above.
- As a first step a number of AMHS messages were exchanged in order to verify the test configurations. During this phase a number of problems with the configuration of the three test systems were encountered.

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Configuration

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- In all three test configurations the beginning of the testing (connectivity) was the most difficult part with much telephone co-ordination.
- This was caused by a configuration error or wrong interpretation of the configuration. Also, the initial problems with the network caused some delay.
- The tests themselves (observation AENA-DFS, AENA-BATSO and BATSO-DFS) went smoothly, with the majority of the tests performed by co-ordination via AMHS
- The test script did not cause any errors / interpretation differences during the test.

Note - The basic set of tests (65 test cases) were conducted for 3-4 days per configuration. After establishment of the configuration the tests were performed without telephone co-ordination in 2 working days.

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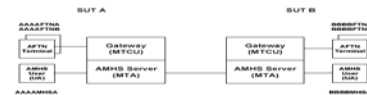
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Configuration

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4.1 Platform Configuration (Basic Tests)



Main ITP Functional Configurations

Configuration	From SUT	To SUT
Configuration-1 (Message-Path-1)	Gateway (AFTN)	Gateway (AFTN)
Configuration-2 (Message-Path-2)	Gateway (AFTN)	Message Server (AMHS)
Configuration-3 (Message-Path-3)	Message Server (AMHS)	Gateway (AFTN)

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Summary

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- The TRIALS have demonstrated that the three systems are able to exchange
 - - AMHS messages between AMHS UAs,
 - - AFTN / AMHS messages between AFTN terminals and AMHS UAs via an AFTN/ AMHS Gateway,
 - - AFTN messages between AFTN terminals via two AFTN / AMHS Gateways.
- Detailed trials results have been made available to the AFSG Planning Group

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Work Completed 2nd Half 2003

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- Inauguration Meeting (FIRST/01),
- Development of:
 - Test Strategy,
 - Basic Test Cases,
- Development of Network Test Cases,
- Go/No Go Tests between all sites,
- Basic Interoperability Tests,
- Documentation of the Tests,
- Validation of the Test Cases,
- Final Version of the Basic Tests,
- Providing of the test results to:
 - ICAO EUR AMHS Seminar,
 - ICAO EUR AFSG PG/14,
- FIRST/02 Meeting.

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Work Completed 1st Half of 2004



- Development of Extended Test Cases,
- Extended Interoperability Tests,
- Documentation of the Tests,
- Validation of the Test Cases,
- Providing of the test results to:
 - ICAO EUR AFSG PG/15,
 - ICAO EUR AFSG/7.

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Work to be completed 2nd half 2004



- Network Interoperability Tests,
- Documentation of the Tests,
- Validation of the Test Cases,
- Final Version of Extended Tests,
- Final Version of Network Tests,
- Providing of the test results to:
 - ICAO EUR,
 - Eurocontrol AMHS Briefing Days (14 & 15 June 2004),
- Outline of AMHS Ops User Manual,
- FIRST/03 Meeting.

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Avitech AG Assistance to the FIRST team



- Avitech provides the team:
 - Internal website for documentation and information purposes of team members,
 - Website to collect problem reports,
 - E-mail distribution list,
 - Office support
 - Overall co ordination support.
- Avitech AG is a founder member of the "First Multipartite International Realisation of ICAO SARPs AMHS TRIALS (FIRST)"

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