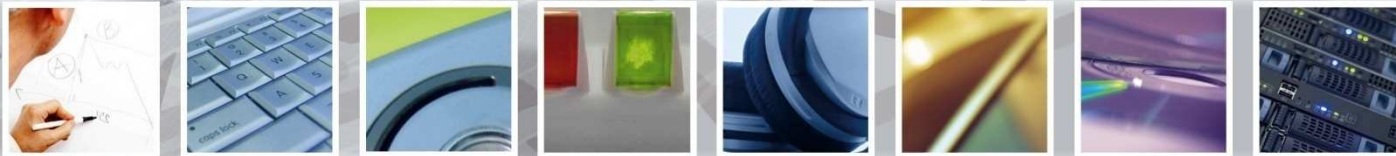


# Walter Automation Demo

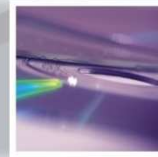
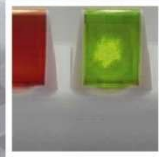
Peter Liepa CSR

Sophia Antipolis 7th October 2009



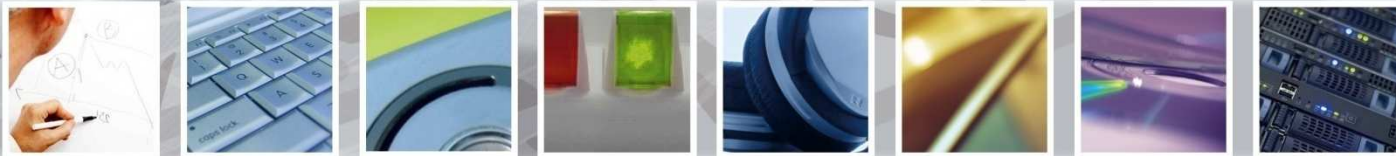
# Contents

- ✓ Walter
- ✓ Solution
- ✓ Implementation
- ✓ AT4 wireless Test Manager
- ✓ Demonstration



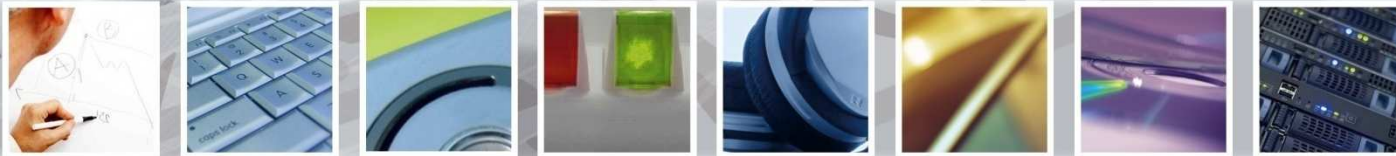
Walter

- ✓ Work Package 5 Networked Laboratory Integration And Validation
- ✓ 5.3 Software Integration – “Software able to manage, orchestrate and control all elements within the testbed”



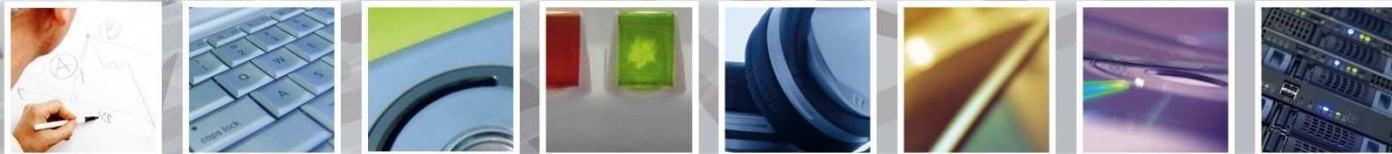
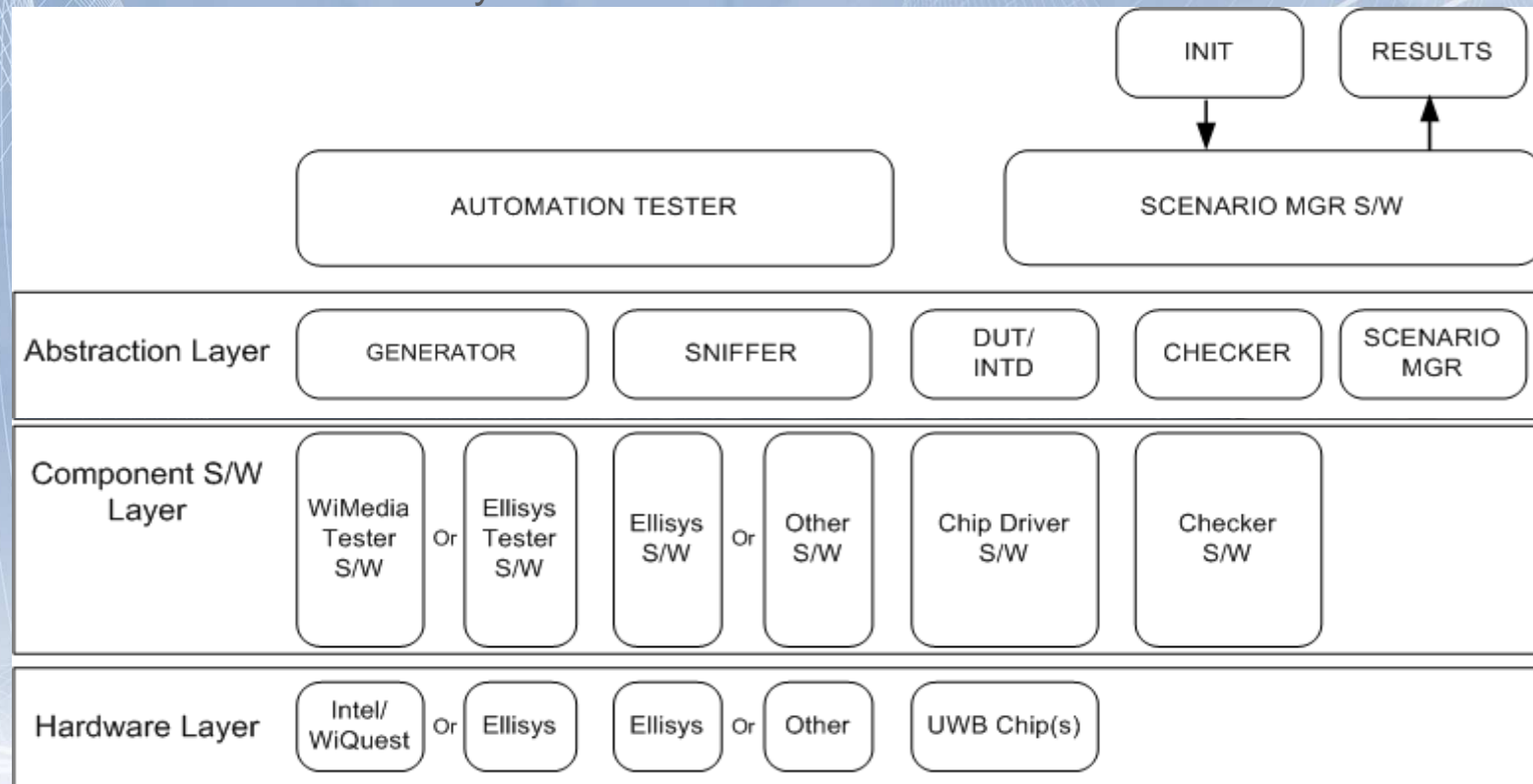
# Walter

- ✓ Problem:  
MAC tests are very manual, time consuming and prone to operator error.
- ✓ Solution:  
One s/w utility to control the test system.  
A defined abstraction layer enabling different components to be used.  
Ability to define campaigns and produce summaries.



# Solution

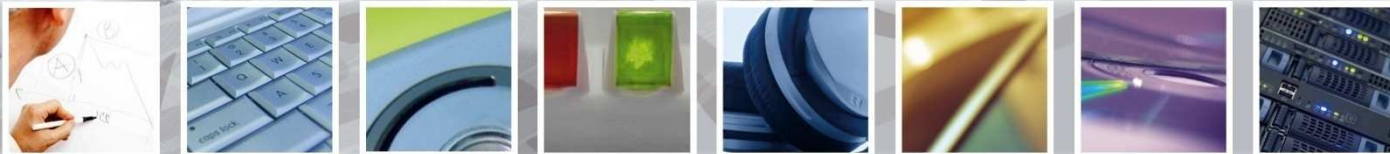
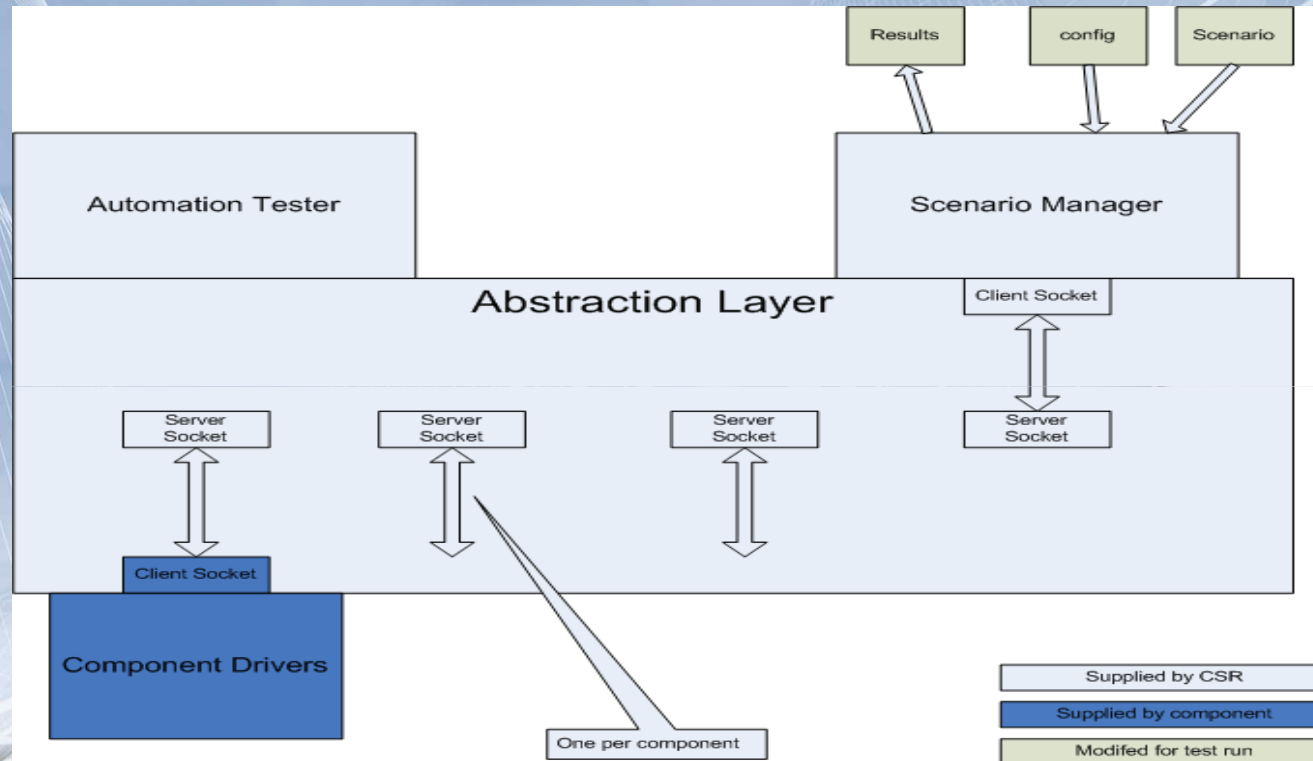
✓ Solution : Abstraction Layer



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# CSR Implementation

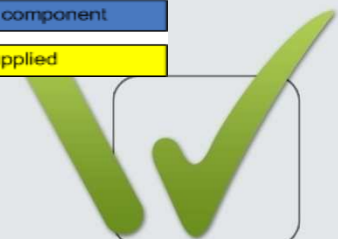
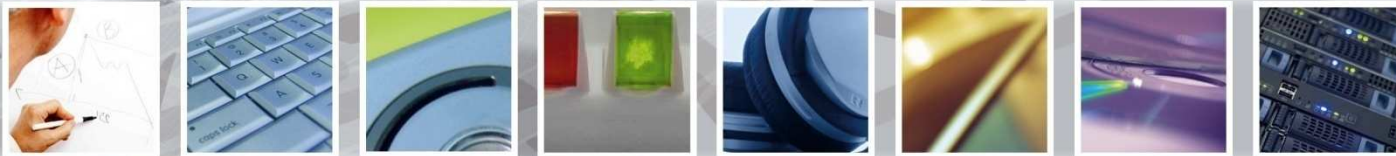
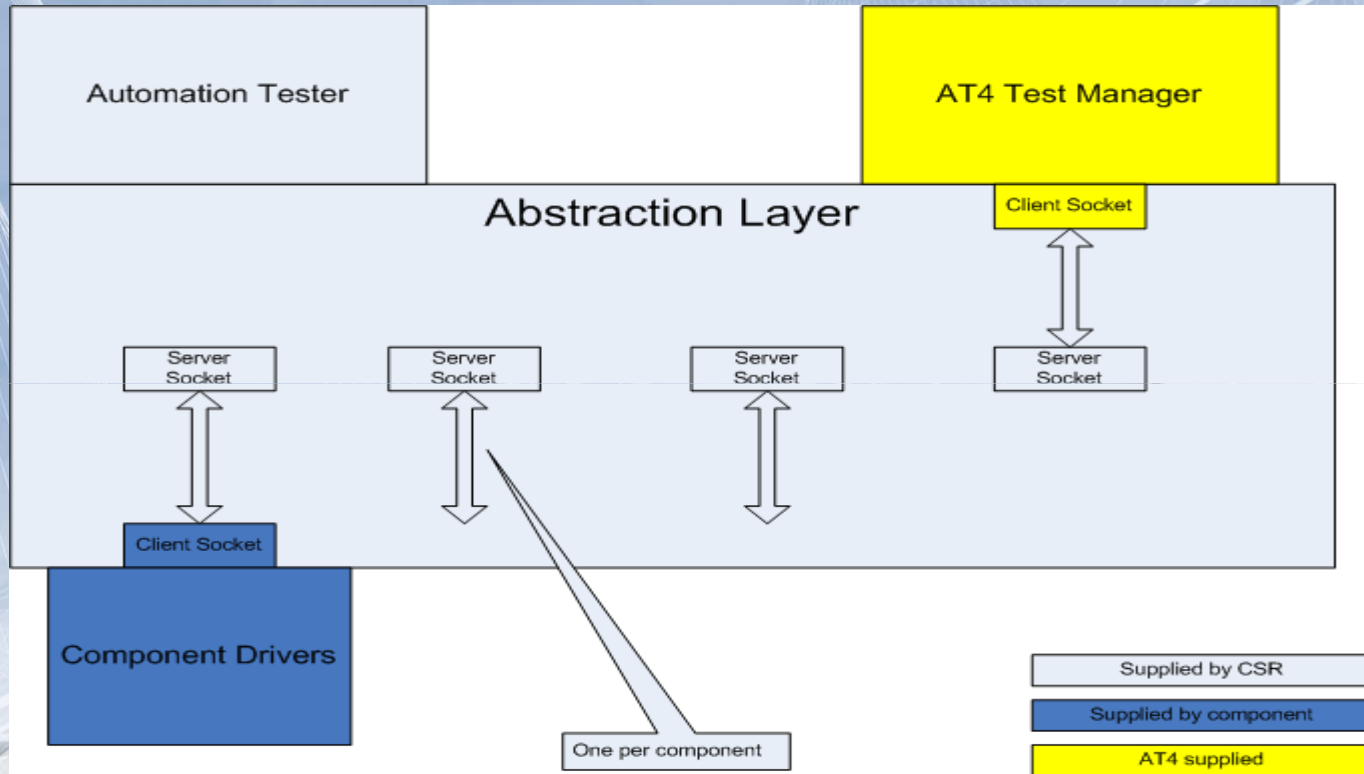
Implementation with CSR Scenario Manager



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# AT4 Test Manager Implementation

✓ Implementation with AT4 Test Manager



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# Test Manager for WALTER MAC Automation Tester

Manuel García Fuertes (AT4 wireless)  
Sophia Antipolis (Nice, France)  
2009-10-07





# Overview

- ✓ Test Manager is the **user interface and project management tool** developed by AT4 wireless to be used with its test systems (BT, WiMAX, GSM/UMTS, RFID, etc.)
- ✓ It assists test operators during the test campaign, from the **project definition** to the **test report generation**
- ✓ The current version (2.0.60.67) **compiles all improvements suggested by customers**



**TestManager 2.0**

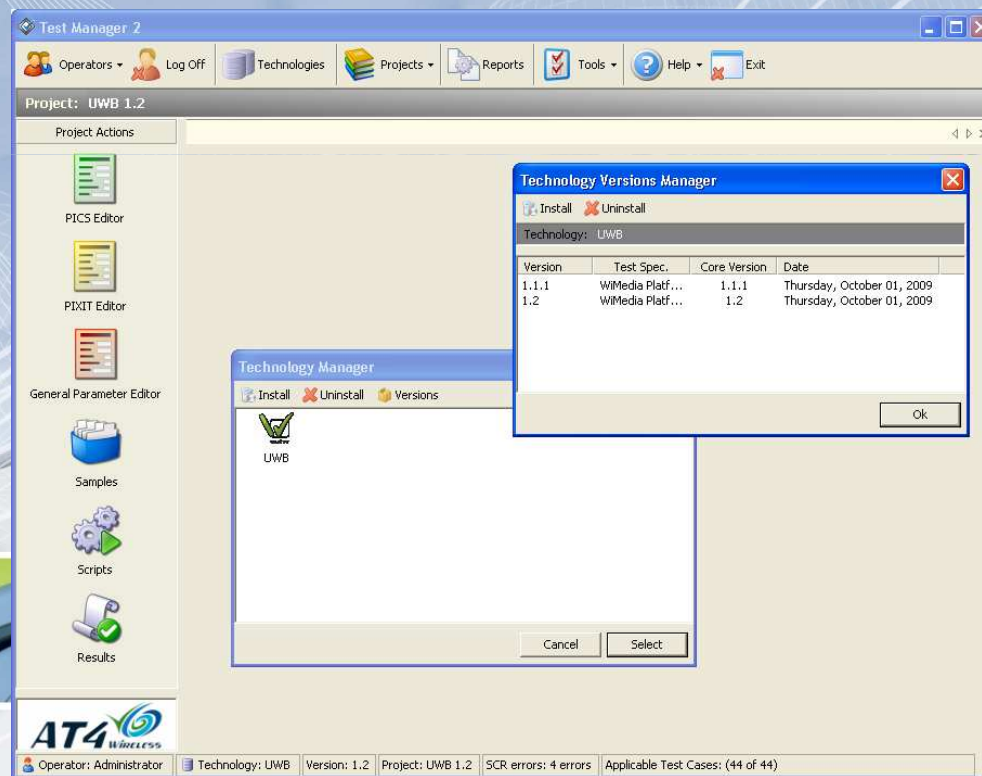


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# Key features

- ✓ Controls different technologies installed in the test platform. A single PC can control several test systems



# Key features

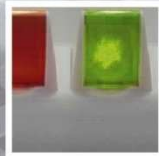
## ✓ Project Manager

- Easy project data handling
- Samples management
- PICS and PIXIT data input and validation
- Import/export PICS and PIXIT data from/to a CSV file
- Improved Static Conformance Review

The screenshot displays the Test Manager 2 software interface. The main window is titled "PICS Editor" and shows a table of test cases. The table has columns for "Ref.", "Mandatory", "PICS", "Value", "Value Ex.", and "SCR". The test cases are grouped into several categories:

- PHY\_Data\_Rates - 8 Item(s)**: D.1.A through D.1.H, all with "TRUE" values.
- TFCs - 2 Item(s)**: T.2.A and T.2.B, both with "TRUE" values.
- Band\_Groups - 6 Item(s)**: G.3.A through G.3.F, all with "TRUE" values.
- Support - 14 Item(s)**: S.4 through S.25, all with "TRUE" values.
- Beacon\_Protocol - 6 Item(s)**: B.5.A through B.5.F, all with "TRUE" values.
- MAC\_Policies - 5 Item(s)**: M.11.A through M.24.A, all with "TRUE" values.

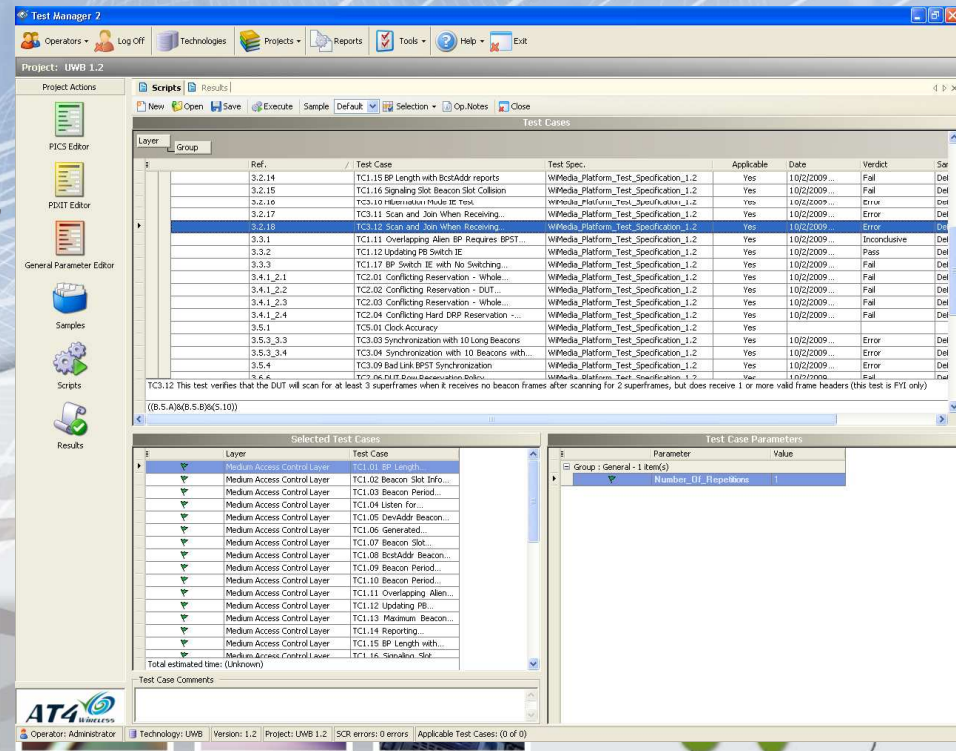
The interface also includes a sidebar with icons for "PICS Editor", "PIXIT Editor", "General Parameter Editor", "Samples", "Scripts", and "Results". A "Parameter Details" panel on the right shows details for the selected test case, including "Reference", "Group", "Title", "Internal Name", and "Type".



# Key features

## ✓ Test Campaign Editor

- Test Case applicability calculated in “real time”
- Powerful Test Case parameters data input and validation
- Operator notes
- Filtering (by applicability, result, etc)



The screenshot displays the Test Manager 2 software interface. The main window shows a table of test cases with columns for Ref., Test Case, Test Spec., Applicable, Date, and Verdict. The table lists various test cases such as TC1.15 BP Length with BcAddr reports, TC1.16 Signaling Slot Collision, and TC3.12 Scan and Join When Receiving. The results column shows various statuses like Fail, Error, Inconclusive, and Pass.

Ref.	Test Case	Test Spec.	Applicable	Date	Verdict
3.2.14	TC1.15 BP Length with BcAddr reports	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Fail
3.2.15	TC1.16 Signaling Slot Collision	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Fail
3.2.16	TC3.10 Hibernation Wake Up Test	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Error
3.2.17	TC3.11 Scan and Join When Receiving	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Error
3.2.18	TC3.12 Scan and Join When Receiving	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Error
3.3.1	TC1.11 Overlapping Alien BP Requires BPST	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Inconclusive
3.3.2	TC1.12 Updating PB Switch IE	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Pass
3.3.3	TC1.17 BP Switch IE with No Switching	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Fail
3.4.1_2.1	TC2.01 Conflicting Reservation - Whole	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Fail
3.4.1_2.2	TC2.02 Conflicting Reservation - DUT	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Fail
3.4.1_2.3	TC2.03 Conflicting Reservation - Whole	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Fail
3.4.1_2.4	TC2.04 Conflicting Hard DRP Reservation	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Fail
3.5.1	TC3.01 Clock Accuracy	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Fail
3.5.3_3.3	TC3.03 Synchronization with 10 Long Beacons	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Error
3.5.3_3.4	TC3.04 Synchronization with 10 Beacons with	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Error
3.5.4	TC3.09 Bad Link BPST Synchronization	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Error
3.4.4	TC2.06 BT 2.0 Synchronization Between	WMedia_Platform_Test_Specification_1.2	Yes	10/2/2009	Fail

The interface also includes a sidebar with icons for Project Actions, PICCS Editor, PKT Editor, General Parameter Editor, Samples, Scripts, and Results. At the bottom, there is a status bar showing the operator as Administrator, technology as UWB, version as 1.2, and project as UWB 1.2. The AT4 logo is visible in the bottom left corner.



# Key features

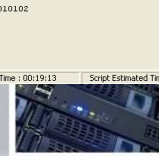
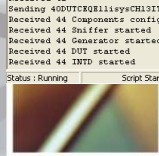
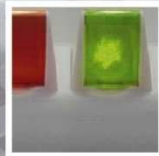
## ✓ Results Management

- Result Statistics
- Results Comments
- Results can be changed and checked (purpose achieved but test case failed)
- Results can be grouped by several categories

The screenshot displays the Test Manager Sequencer [v2.9.9.7] interface. The main window shows a table of test case sessions with columns for Reference, Test Case, Start Time, Duration, Estimated Time, and Result. The results are categorized as Unknown, Pass, or Fail. A detailed log for test case TC1.11 is visible in the bottom pane, showing the execution process from component configuration to the start of the INTD test.

Reference	Test Case	Start Time	Duration	Estimated Time	Result
3.2.3	TC1.01 BP Length Expansion	02/10/2009 11:52:21	00:01:16	Unknown	Fail
3.2.1	TC1.02 Beacon Slot Info Test	02/10/2009 11:53:37	00:02:01	Unknown	Pass
3.2.5	TC1.03 Beacon Period Length Extension by Test Sy	02/10/2009 11:55:37	00:02:26	Unknown	Pass
3.2.6	TC1.04 Listen for Required Portion of a Slot Test	02/10/2009 11:58:03	00:02:27	Unknown	Fail
3.2.7	TC1.05 BestAddr Beacon Slot Collision	02/10/2009 12:00:31	00:02:08	Unknown	Pass
3.2.2	TC1.06 Generated DevAddr Conflict Test	02/10/2009 12:02:39	00:01:49	Unknown	Pass
3.2.9	TC1.07 Beacon Slot Collision after Stopped Transm	02/10/2009 12:04:28	00:01:55	Unknown	Pass
3.2.8	TC1.08 BestAddr Beacon Slot Collision (Optional)	02/10/2009 12:06:22	00:01:42	Unknown	Pass
3.2.10	TC1.09 Beacon Period Contraction in Move Cases	02/10/2009 12:08:05	00:01:37	Unknown	Pass
3.2.11	TC1.10 Beacon Period Contraction Where Move Is I	02/10/2009 12:09:42	00:01:36	Unknown	Pass
3.3.1	TC1.11 Overlapping Alien BP Requires BPST Realign	02/10/2009 12:11:18	00:00:15	Unknown	Unknown
3.3.2	TC1.12 Updating PS Switch IE	None	00:00:00	Unknown	Unknown
4. Test Case 1.13	TC1.13 Maximum Beacon Slot Usage	None	00:00:00	Unknown	Unknown
3.2.13	TC1.14 Reporting Unaligned Beacon frame in BPOII	None	00:00:00	Unknown	Unknown
3.2.14	TC1.15 BP Length with BestAddr reports	None	00:00:00	Unknown	Unknown
3.2.15	TC1.16 Signaling Slot Beacon Slot Collision	None	00:00:00	Unknown	Unknown
3.3.3	TC1.17 BP Switch IE with No Switching Neighbour 1	None	00:00:00	Unknown	Unknown
3.4.1_2.1	TC2.01 Conflicting Reservation - Whole Superframe	None	00:00:00	Unknown	Unknown
3.4.1_2.2	TC2.02 Conflicting Reservation - DUT Reservation I	None	00:00:00	Unknown	Unknown
3.4.1_2.3	TC2.03 Conflicting Reservation - Whole Superframe	None	00:00:00	Unknown	Unknown
3.4.1_2.4	TC2.04 Conflicting Hard DRP Reservation - DUT/IN	None	00:00:00	Unknown	Unknown
Multiple_Localizatio	TC2.05 Existing Reservation	None	00:00:00	Unknown	Unknown
3.5.6	TC2.06 DUT Row Reservation Policy	None	00:00:00	Unknown	Unknown
3.5.7	TC2.07 Column Reservation Policy	None	00:00:00	Unknown	Unknown
3.2.4	TC3.01 Beacon Join With BP Length Extension	None	00:00:00	Unknown	Unknown
5. Test Case 3.2	TC3.02 BPST Adjustment Limit	None	00:00:00	Unknown	Unknown
3.5.3_3.3	TC3.03 Synchronization with 10 Long Beacons	None	00:00:00	Unknown	Unknown
3.5.3_3.4	TC3.04 Synchronization with 10 Beacons with the l	None	00:00:00	Unknown	Unknown
5. Test Case 3.5	TC3.05 Slowly Drifting Alien BP Requires Repeated	None	00:00:00	Unknown	Unknown
5. Test Case 3.6	TC3.06 Lots of Small Traffic Join Test	None	00:00:00	Unknown	Unknown
5. Test Case 3.7	TC3.07 Lots of Large Traffic Join Test	None	00:00:00	Unknown	Unknown
3.2.12	TC3.08 Information Elements and Reserved Fields	None	00:00:00	Unknown	Unknown
3.5.4	TC3.09 Revised BPST Synchronization	None	00:00:00	Unknown	Unknown

----- End of test case execution -----  
----- Begin test case TC1.11 Overlapping Alien BP Requires BPST Realignment execution -----  
Begin TC1.11 Overlapping Alien BP Requires BPST Realignment execution.  
Deleting 2 file(s) from test cases temp folder.  
Received 41  
Sending 40DUTCRCR0111sysCH13111TC0111MAC12ID024465010101ID024465010102  
Received 44 Components configured  
Received 44 Sniffer started  
Received 44 Generator started  
Received 44 DUT started  
Received 44 INTD started  
Status : Running    Script Start Time: 02/10/2009 11:52:21    Script Time : 00:19:13    Script Estimated Time: Unknown    Sample: Default



# Key features

## ✓ Results Analysis

- Logs are generated in XML format
- Besides web browser, *Tview* can be used
- *Tview* can be installed separately
- *Tview* makes text plain PDUs readable for the operator
- Custom filters can be created

The screenshot displays the Trace Viewer application window. The top section shows a table of headers with the following data:

Name	Value
Title	TC0111
Technology	LWB
Layer	MAC
Verdict	OK
TestDate	02/10/2009 12:13:13
TechVersion	1.2
TestSpec	
Comments	C:\Archivos de programa\Test Manager...

The middle section shows a table of rows with the following data:

ID	B	T	Time	EventName	Component	Summary
22			105.633	summary	Scripting	Summary Data (1.11)

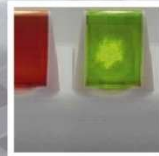
The bottom section shows a detailed view of the event, including the following text:

**Beacon Slot Info Bitmap Errors:**

**Signal Slot Usage:**  
024465010101: slot: 0 = 0 / slot: 1 = 0  
024465010102: slot: 0 = 0 / slot: 1 = 0

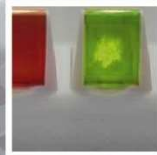
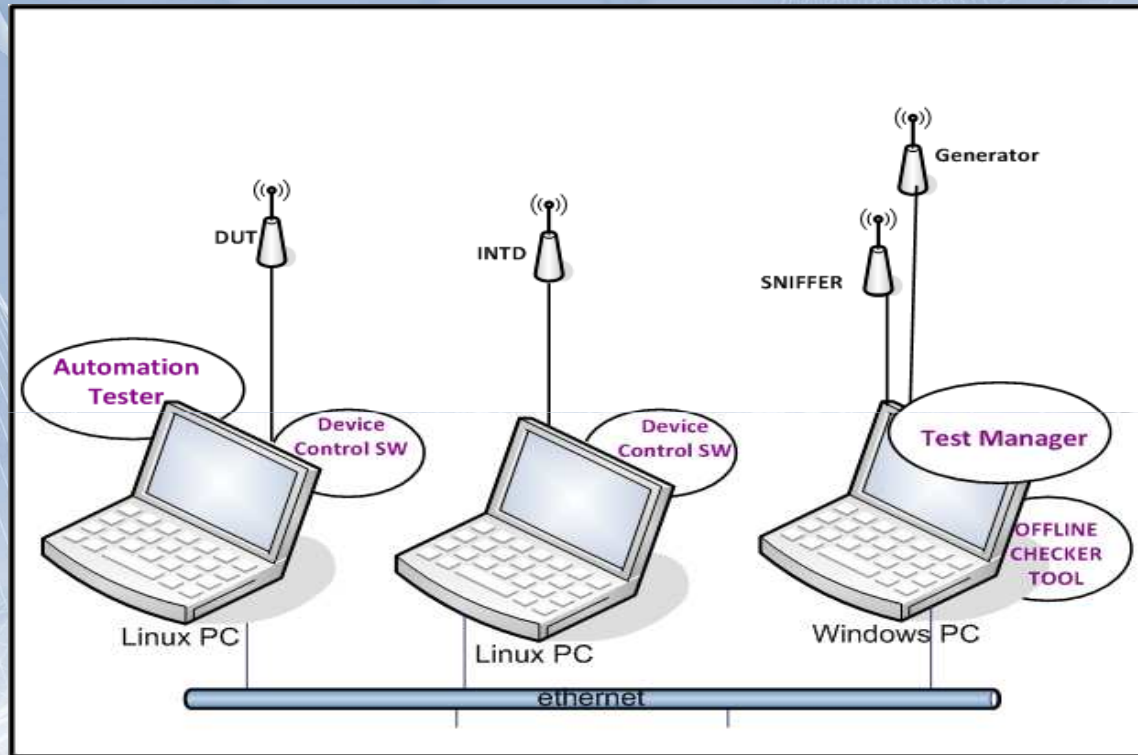
**Error Summary:**  
Warning Summary:  
2 Warning: PP: Device moved to higher slot without conflict.

**Program Statistics:**  
0 => Number of superframes missed.  
906 => Total number of superframes processed.  
175773 => Total number of frames processed.



# Demonstration

## ✓ Demonstration Configuration



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# Contacts

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