



**ALLSEEN
ALLIANCE**

Certification Test Tool (CTT)

Diego Bartolome
CTT Project Manager
AT4 wireless





Agenda

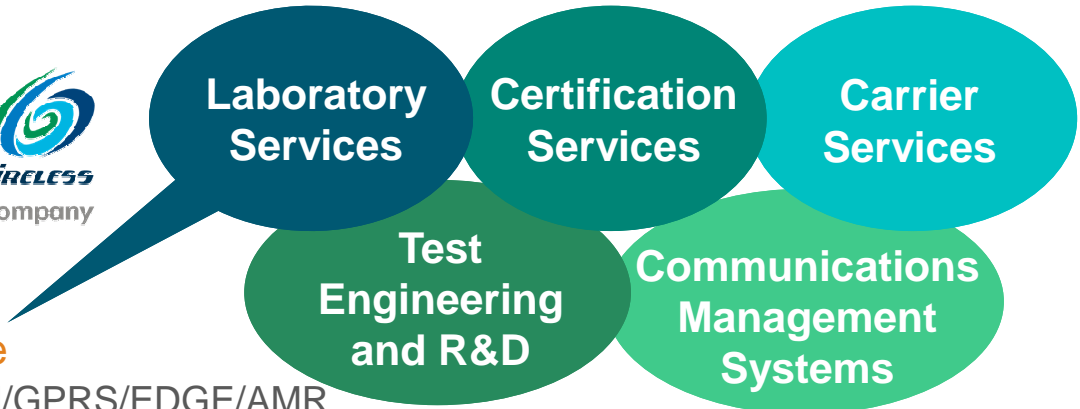
1. AT4 wireless
2. Overview
3. Architecture
4. Certification Test Tool Web Server
5. Certification Test Tool Local Agent
6. Related Links



AT4 wireless

AllSeen Alliance Authorized Lab

AT4 wireless



- Telecommunications
- Automotive/Connected Car
- Safety
- Medical & Health
- Smart Home/Smart Grid
- Smart Cities
- M2M/IoT
- Defense/Military
- Consumer Electronics
- Appliances
- Aerospace, Naval & Railway
- Game & Slot Machines
- Green Energies
- Engineering

Mobile

- GSM/GPRS/EDGE/AMR
- UMTS
- HSPA+
- SIM/USIM
- LTE

Wireless

- Wi-Fi™
- Bluetooth®
- AllSeen Alliance
- Wireless Power
- NFC/RFID
- EMV ®
- ULE
- Mobile Payment
- Mirrorlink (Connect. Car)
- Continua (Health)

Internet of Things (IoT)

Industry / Regulatory

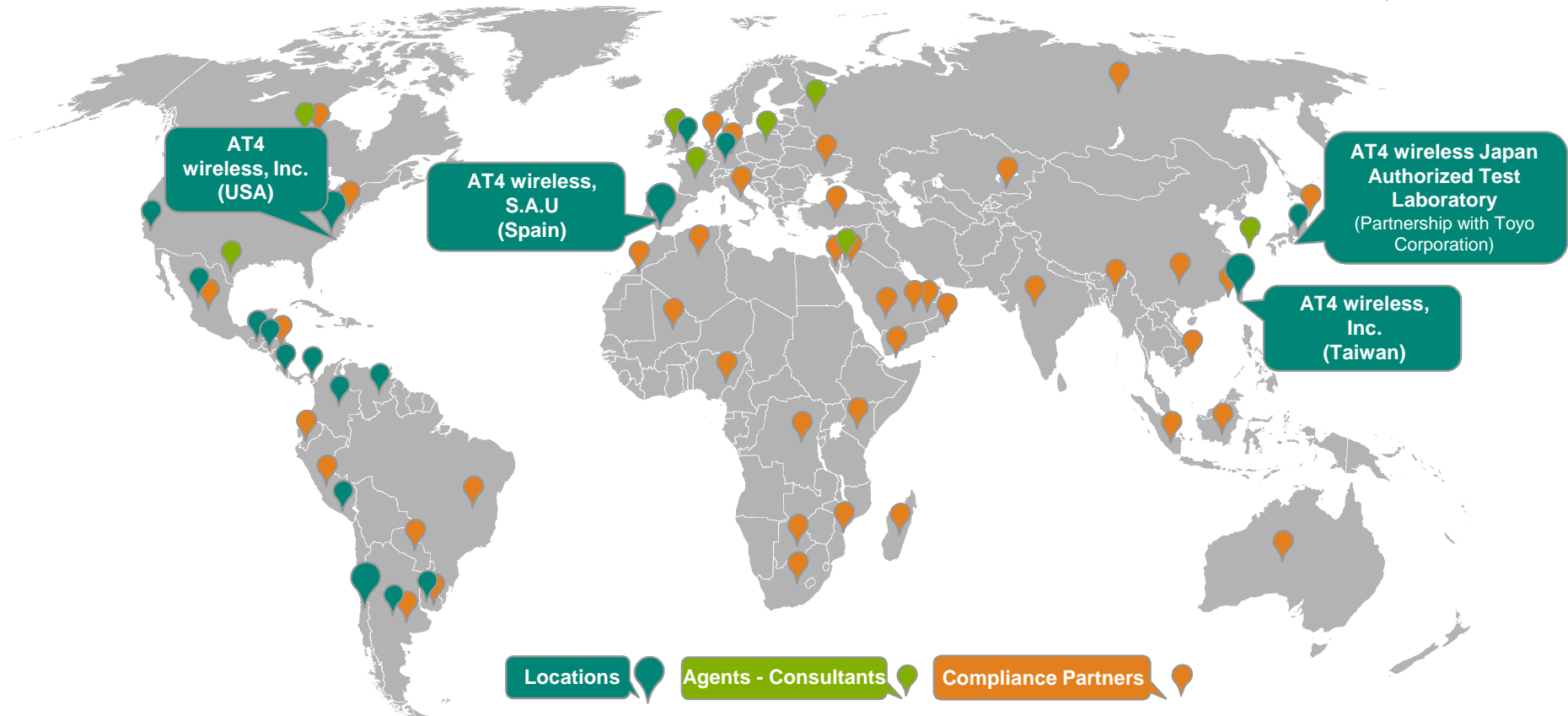
- EMC
- RF
- Over-The-Air (OTA)
- SAR
- Audio/Acoustics
- Automotive
- Defense/Military
- Medical
- Batteries
- Smarthome
- Smartcities
- Photovoltaic
- Lighting
- Electrical Safety
- Environmental
- Calibration



AT4 wireless Locations



*more than 100
Worldwide Partners
and over 6.500
Compliance
Certificates achieved*





Overview

Certification Test Tool

2. Overview

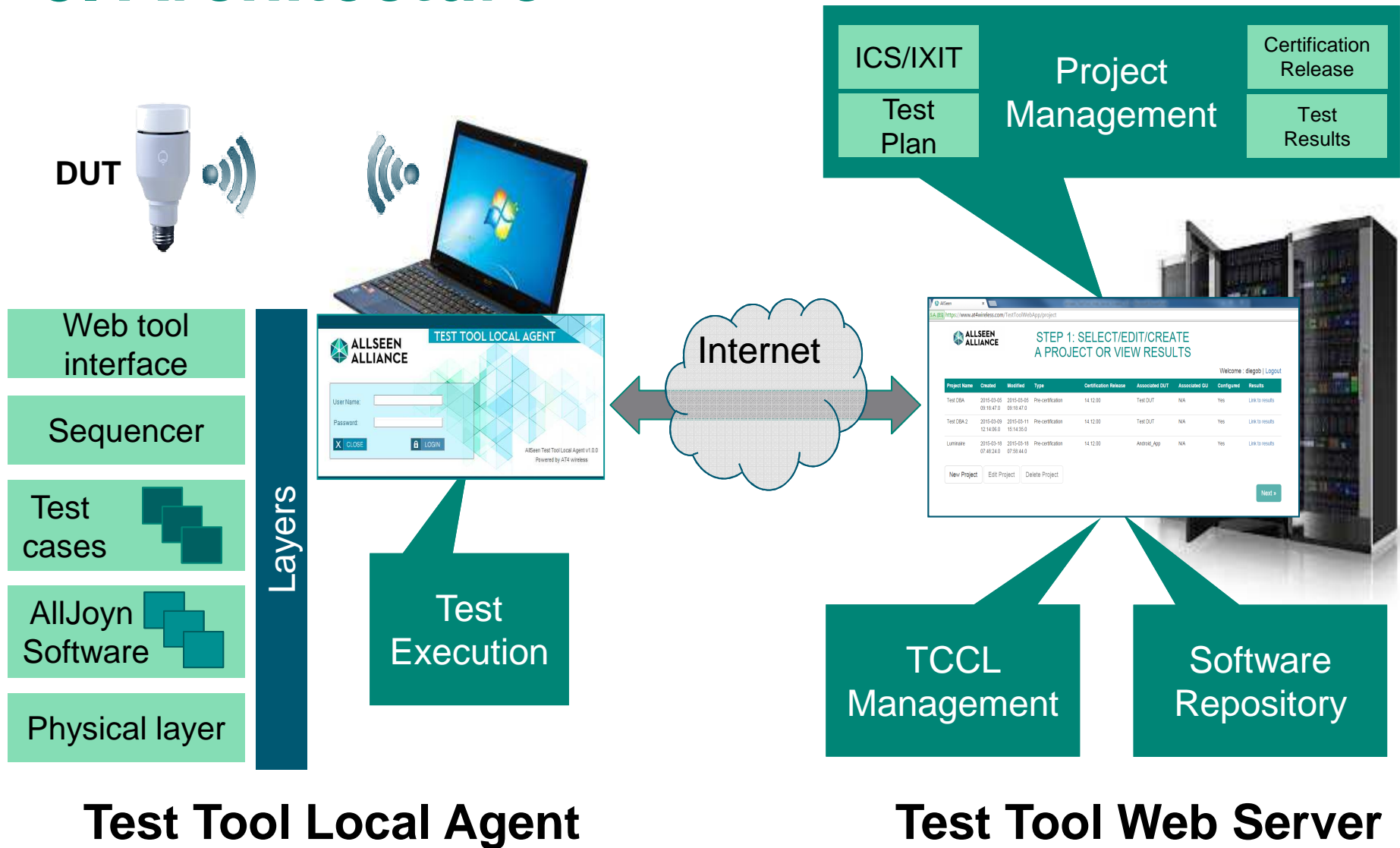
- Scope:
 - **Conformance Testing**: performing test cases in an automatic way.
 - **Interoperability Testing**: guiding user step by step to perform test cases.
- Verifies the correct implementation of the AllJoyn features and Service Frameworks.
- Private domain, access required.
- Stores test results and testing evidences.
- Created for Product Certification but also suitable for product development verification and pre-certification testing.



Architecture

Certification Test Tool

3. Architecture





CTT Web Server

Certification Test Tool

4. Test Tool Web Server

- Web application that provides the repository of information related to the Testing Process.
- Main functionalities:
 - **Project Management:** Creation and edition of testing projects, managing all the related information : DUT, Samples, ICS/IXIT, Test Plan, etc.
 - **Software repository:** It stores and manages downloading of all the software components needed to deploy the Test Tool Local Agent, including the updated test cases packages corresponding to the different Certification Releases.
 - **TCCL Management:** Management of the Test Case Control Lists used by AllSeen to define test cases certification scope within every Certification Release.

4. Test Tool Web Server. Project Management

- Project Identification, Versioning and Results.
- Device Under Test (DUT) description.
- Sample identification.
- Golden Unit identification (for Interoperability Projects).
- Fill in ICS, IXIT and General Parameters.
- Run Static Conformance Review (SCR) to check ICS integrity.
- Test Plan generation (Conformance and/or Interoperability Test Cases).
- Test Results management.

4. Test Tool Web Server. CAS Login

MEMBERS LOGIN

Connect to the Linux Foundation to continue



1

0

Connect

LINUX FOUNDATION

LOG IN » RETURN TO 192.168.110.50

I already have a Linux Foundation ID

I need to create a Linux Foundation ID

2

0

Username

Password

Log in

Request new password

ALLSEEN ALLIANCE

STEP 1: SELECT/EDIT/CREATE A PROJECT OR VIEW RESULTS

Generate CTT Local Agent Key

Welcome : diegob | Logout

Project Name	Created	Modified	Type	Certification Release	TCCL	Supported Services	DUT	GU	CRI	Configured	Results
New Project Edit Project Delete Project											

Next »

ALLSEEN ALLIANCE

STEP 1: SELECT/EDIT/CREATE A PROJECT OR VIEW RESULTS

Generate CTT Local Agent Key

Your CTT Local Agent Key is:
769251
Please copy it because it cannot be retrieved

0

3

0

Close

Project Name	Created	Modified	Type	Certification Release	TCCL	Supported Services	DUT	GU	CRI	Configured	Results
Test DBA	2015-05-14 12:12:22	2015-05-14 12:35:20	Interoperability					12.00b_v			

ALLSEEN ALLIANCE

TEST TOOL LOCAL AGENT

4

0

User Name: diegob

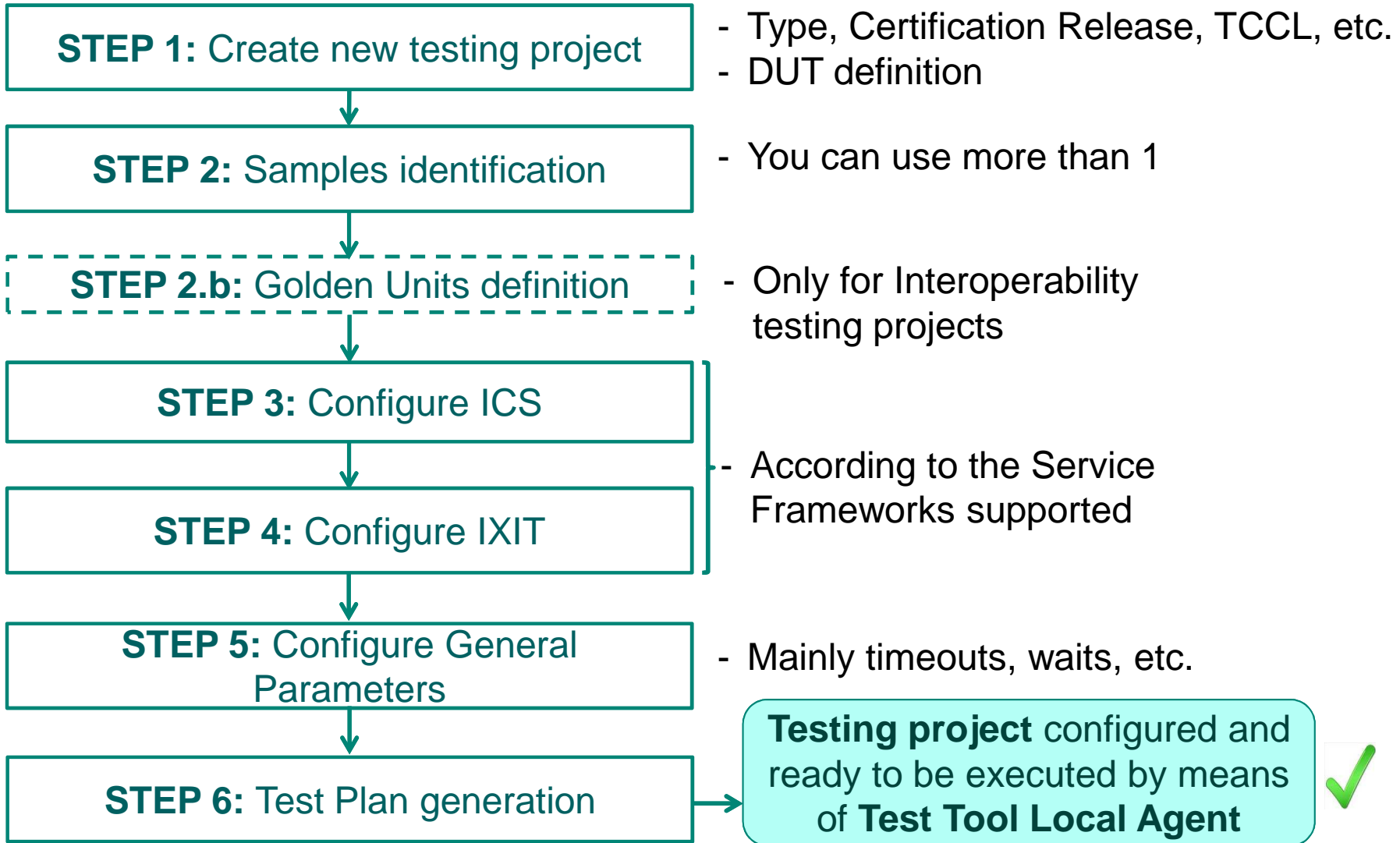
Password: *****

LOGIN

Close

AllSeen Test Tool Local Agent v1.1.0
Powered by AT4 wireless

4. Test Tool Web Server. Project Creation Workflow



4. CTT Web Server. Project Management



STEP 1: SELECT/EDIT/CREATE A PROJECT OR VIEW RESULTS

Generate CTT Local Agent Password Download CTT Local Agent

Welcome : diegob | [Logout](#)

Show entries Search:

	Project Name	Modified	Type	Certification Release	Supported Services	Configured	Results
+	Test_DBA	2015-09-21 07:40:30	Conformance	v15.04.00b	Core Interface	Yes	Link to results
+	Test_DBA 2	2015-08-10 09:45:31	Conformance	v14.06.00a	Core Interface	Yes	Link to results
+	Test_DBA 3	2015-08-10 09:46:20	Conformance	v14.12.00a	Core Interface	Yes	Link to results
+	Test_DBA 4	2015-08-10 09:46:54	Conformance	v14.12.00b	Core Interface	Yes	Link to results
+	Test_DBA 5	2015-08-10 09:47:48	Conformance	v15.04.00	Core Interface	Yes	Link to results
+	Test_DBA 6	2015-08-10 10:14:24	Conformance	v14.12.00	Core Interface	Yes	Link to results
+	Test_DBA 7	2015-10-09 19:49:30	Interoperability	v15.04.00b	Core Interface	Yes	Link to results

Showing 1 to 7 of 7 entries

[First](#) [Previous](#) **1** [Next](#) [Last](#)

[New Project](#) [Edit Project](#) [Delete Project](#)

[Next Step »](#)

4. CTT Web Server. DUT Selection



STEP 2: SELECT/EDIT/CREATE A DEVICE UNDER TEST (DUT)

Project: Test_DBA

Welcome : diegob | [Logout](#)

Show entries

Search:

DUT Name	Created	Modified	OEM	Model	Description	Samples
Test_DUT	2015-06-26 18:31:42	2015-06-26 18:31:42	AT4 wireless	AT4	Testing DUT selection	Samples
Luminaire-d90f5	2015-07-02 11:36:03	2015-09-17 14:10:33	Qualcomm Connected Experien...	001	DUT for testing purposes	Samples
Testing_LIFX	2015-07-08 11:14:12	2015-07-08 11:14:12	Lifx	test	Lamp @110VAC	Samples
test	2015-09-21 11:33:04	2015-09-21 11:33:04	test	test	test	Samples

Showing 1 to 4 of 4 entries

[First](#) [Previous](#) **1** [Next](#) [Last](#)

[New DUT](#)

[Edit DUT](#)

[Delete DUT](#)

[« Previous Step](#)

[Next Step »](#)

4. CTT Web Server. Sample Selection

ALLSEEN ALLIA

STEP 2: SELECT/EDIT/CREATE

Project: Test_DUT

Show 10

DUT Name

Test_DUT

Device ID	App ID	Sw Ver	Hw Ver
1006803f08d0900f5000000000000000	1006803f-08d0-900f-5000-000000000000	15.09.00 Tag "v15.09.00"	15.09.00 Tag "v15.09.00"

Back Add Sample Edit Sample Delete Sample

DUT Name	Created	Updated	App	Version	Sample
Luminaire-d90f5	2015-07-02 11:36:03	2015-09-17 14:10:33	Qualcomm Connected Experien...	001	DUT for testing purposes
Testing_LIFX	2015-07-08 11:14:12	2015-07-08 11:14:12	Lifx	test	Lamp @110VAC
test	2015-09-21 11:33:04	2015-09-21 11:33:04	test	test	test

Showing 1 to 4 of 4 entries

First Previous 1 Next Last

New DUT Edit DUT Delete DUT

« Previous Step Next Step »

4. CTT Web Server. Golden Unit Selection



STEP 3: SELECT/EDIT/CREATE A GOLDEN UNIT (GU)

Project: Test_DBA / DUT: Luminaire-d90f5

Welcome : diegob | [Logout](#)

Show entries

Search:

GU Name	Created	Modified	Category	OEM	Model	SW Ver	HW Ver	Description
GU_1	2015-06-26 18:32:29	2015-07-06 14:05:15	Category 5.2 AllJoyn Devi...	AT4 wireless	AT4	0.1	1.0	Golden Unit for debugging...
GU_2	2015-06-26 18:32:59	2015-07-06 14:02:44	Category 2 AllJoyn Devic...	AT4 wireless	AT4	0.1	1.0	Golden Unit for debugging...
GU_3	2015-06-26 18:33:29	2015-07-06 14:04:22	Category 4.1 AllJoyn Devi...	AT4 wireless	AT4	0.1	1.0	Golden Unit for debugging...
Test_DBA_GU	2015-10-09 19:50:11	2015-10-09 19:50:11	Category 5.1 AllJoyn Devi...	AT4 wireless	AT4	1.0	1.0	Golden Unit for debugging...

Showing 1 to 4 of 4 entries

First Previous **1** Next Last

4. CTT Web Server. ICS Selection



STEP 4: CONFIGURE YOUR ICS

Project: Test_DBA / DUT: Luminaire-d90f5 / GUs: GU_2, GU_3, Test_DBA_GU

Welcome : diegob | [Logout](#)

Core Interface

Id	Name	Description	Value
1	ICSCO_DateOfManufacture	Support of About Interface GetAboutData method DateOfManufacture data field	true ▼
2	ICSCO_HardwareVersion	Support of About Interface GetAboutData method HardwareVersion data field	true ▼
3	ICSCO_SupportUrl	Support of About Interface GetAboutData method SupportUrl data field	true ▼
4	ICSCO_IconInterface	Support of Icon Interface	true ▼
86	ICSCO_DeviceName	Support of About Interface GetAboutData method DeviceName data field	true ▼

« Previous Step

Change All Service ICS

SCR

Next Step »

It is necessary to perform SCR prior to go to the next Step

4. CTT Web Server. IXIT Selection



STEP 5: CONFIGURE YOUR IXIT

Project: Test_DBA / DUT: Luminaire-d90f5 / GUs: GU_2, GU_3, Test_DBA_GU

Welcome : diegob | Logout

Core Interface

Id	Name	Description	Value
1	IXITCO_AboutVersion	About Interface version number	<input type="text" value="1"/>
2	IXITCO_AppId	The globally unique identifier for the application	<input type="text" value="1006803f-08d0-900f-500"/>
3	IXITCO_DefaultLanguage	The default language supported by the device. Specified as a IETF language tag listed in RF...	<input type="text"/>
4	IXITCO_DeviceName	Name of the device set by platform-specific means (such as Linux and Android).	<input type="text" value="Luminaire-d90f5"/>
5	IXITCO_DeviceId	Device identifier set by platform-specific means.	<input type="text" value="1006803f08d0900f5000c"/>
6	IXITCO_AppName	Application name assigned by the app manufacturer (developer or the OEM)	<input type="text"/>
7	IXITCO_Manufacturer	The manufacturer's name of the app.	<input type="text" value="Qualcomm Connected E"/>

« Previous Step

Next Step »

Values provided in Step 2 are blocked here to avoid confusions

4. CTT Web Server. General Parameters



STEP 6: CONFIGURE YOUR GENERAL PARAMETERS

Project: Test_DBA / DUT: Luminaire-d90f5 / GUs: GU_2, GU_3, Test_DBA_GU

Welcome : diegob | [Logout](#)

Id	Name	Description	Value
1	GPCO_AnnouncementTimeout	About announcement timeout in seconds	<input type="text" value="30"/>
2	GPON_WaitSoftAP	Onboarding Service Framework time to wait for Soft AP in ms	<input type="text" value="12000"/>
3	GPON_ConnectSoftAP	Onboarding Service Framework time to wait to connect to Soft AP in ms	<input type="text" value="60000"/>
4	GPON_WaitSoftAPAfterOffboard	Onboarding Service Framework time to wait for Soft AP after offboard in ms	<input type="text" value="15000"/>
5	GPON_ConnectPersonalAP	Onboarding Service Framework time to wait to connect to Personal AP in ms	<input type="text" value="60000"/>
6	GPON_Disconnect	Onboarding Service Framework time to wait for disconnect in ms	<input type="text" value="30000"/>
7	GPON_NextAnnouncement	Onboarding Service Framework time to wait for next device announcement in ms	<input type="text" value="180000"/>

[« Previous Step](#) [Next Step »](#)

Typically they are timers

4. CTT Web Server. Test Plan Generation



STEP 7: TEST PLAN GENERATION

Project: Test_DBA / DUT: Luminaire-d90f5 / GUs: GU_2, GU_3, Test_DBA_GU

Welcome : diegob | [Logout](#)

Test Case	Description	Select
About-v1-01	About announcement received	<input checked="" type="checkbox"/>
About-v1-02	Version property consistent with the About announcement	<input checked="" type="checkbox"/>
About-v1-03	GetObjectDescription() consistent with the About announcement	<input checked="" type="checkbox"/>
About-v1-04	Bus objects consistent with the About announcement	<input checked="" type="checkbox"/>
About-v1-05	Standardized interfaces match definitions	<input checked="" type="checkbox"/>
About-v1-06	GetAboutData() with default language	<input checked="" type="checkbox"/>
About-v1-07	GetAboutData() with each supported language	<input checked="" type="checkbox"/>
About-v1-08	GetAboutData() without a specified language	<input checked="" type="checkbox"/>
About-v1-09	GetAboutData() for an unsupported language	<input checked="" type="checkbox"/>

Select All (*)

Deselect All

(*) Mandatory for Certification purpose

« Previous Step

Next Step »

Applicable Test Cases are marked. User can change unless TCs blocked by TCCL



CTT Local Agent

Certification Test Tool

5. Test Tool Local Agent

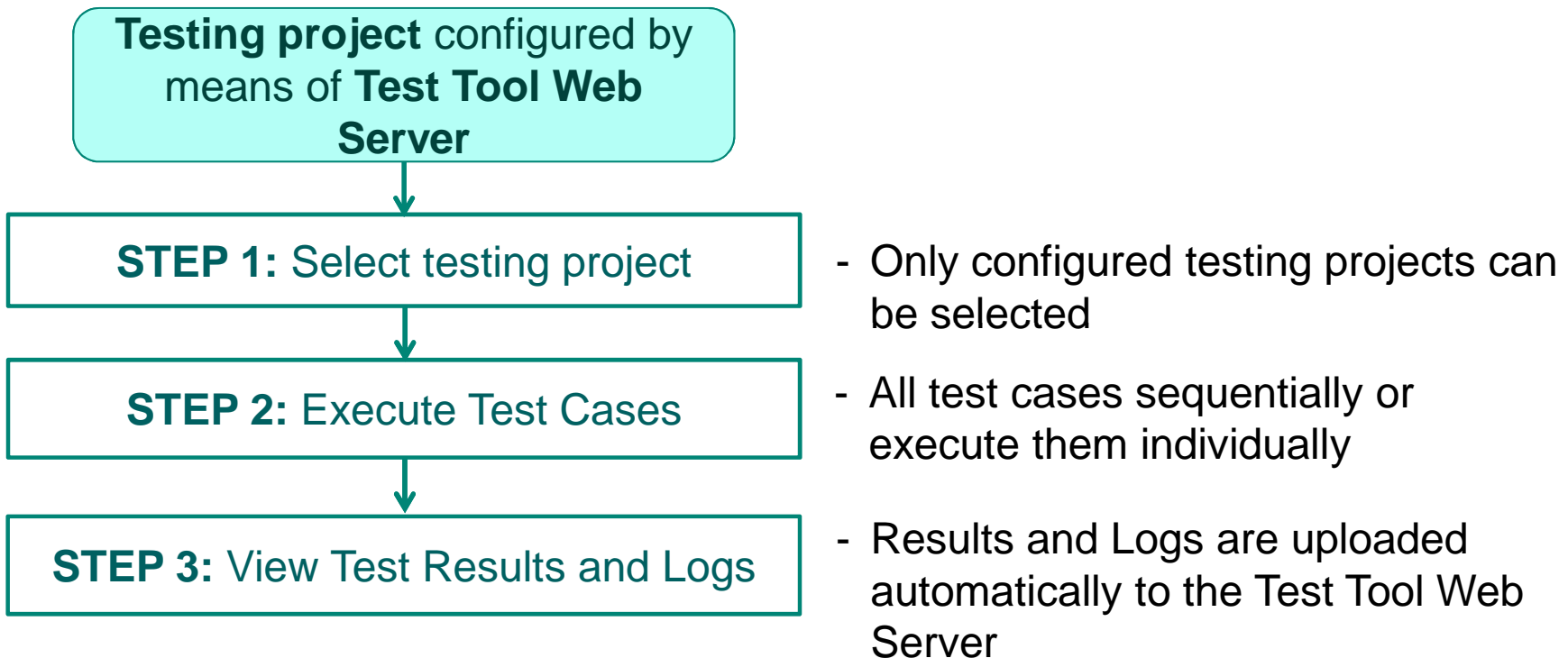
- Downloaded from the Test Tool Web Server.
- Local application installed on a Windows computer.
- Launches the software modules responsible for executing the Test Cases.
- Executes test cases according to the Test Case Specifications.
- Communicates with the Test Tool Web Server to:
 - Download the testing project information (Test Plan, ICS/IXIT, etc.).
 - Uploads Test Results and logs.

5. Test Tool Local Agent

- Developed in JAVA 8.
- Fully verified under Windows 7.
- Wi-Fi is the physical layer for communicating with the DUT.
- Fully support of Conformance and IoP testing.
- Interoperability testing:
 - Step by step guide to support the test operator during the execution of the interoperability Test Plan.
 - Test Results management.

Project Name	Type	Created	Modified	Certification Rele...	Associated DUT	Associated GU	Configured	Results
Test_DBA	Conformance	2015-07-22 06:15:09	2015-10-09 12:53:59	v15.09.00	Luminaire-d90f5	Test_GU1, Test_GU2...	Yes	RESULTS
Test 1	Interoperability	2015-09-22 03:14:32	2015-10-09 08:21:19	v15.04.00b	Test_DBA	Test_GU1, Test_GU2...	Yes	RESULTS
Test2	Conformance and In...	2015-09-22 07:01:37	2015-10-09 08:26:15	v15.09.00	Luminaire-d90f5	Test_GU1, Test_GU2...	No	RESULTS
otro_test	Conformance and In...	2015-10-14 03:37:47	2015-10-14 03:46:13	v15.09.00	Test_DBA	Test_GU1, Test_GU2...	Yes	RESULTS

5. Test Tool Local Agent. Test Execution Workflow



5. CTT Local Agent. Login

STEP 1: SELECT/EDIT/CREATE A PROJECT OR VIEW RESULTS

Generate CTT Local Agent Key

Welcome : diegob | Logout

Project Name	Created	Modified	Type	Certification Release	TCCL	Supported Services	DUT	GU	CRI	Configured	Results

New Project Edit Project Delete Project

Next »

ALLSEEN ALLIANCE

Generate CTT Local Agent Key

Your CTT Local Agent Key is:
769251
Please copy it because it cannot be retrieved

Close

Project name	Created	Modified			
Test DBA	2015-05-14 12:12:22	2015-05-14 12:35:20	Interoperability	12.00b_v	0.1

ALLSEEN ALLIANCE

TEST TOOL LOCAL A

User Name:

Password:

X CLOSE LOGIN

AllSeen Test Tool Local Agent v1.8.0
Powered by AT4 wireless

5. CTT Local Agent. Project List



The screenshot shows the 'CTT Local Agent' window. At the top left is the 'ALLSEEN ALLIANCE' logo. To its right is a blue banner with the text 'TEST TOOL LOCAL AGENT'. Below this is a table with the following columns: Project Name, Type, Created, Modified, Certification Rel..., Associated DUT, Associated GU, Configured, and Results. The table contains four rows of data. At the bottom of the window, there are 'REFRESH' and 'NEXT' buttons, and a footer that reads 'AllSeen Test Tool Local Agent v1.8.0 Powered by AT4 wireless'.

Project Name	Type	Created	Modified	Certification Rel...	Associated DUT	Associated GU	Configured	Results
Test_DBA	Conformance	2015-07-22 06:15:09	2015-10-09 12:53:59	v15.09.00	Luminaire-d90f5	Test_GU1, Test_GU2...	Yes	RESULTS
Test 1	Interoperability	2015-09-22 03:14:32	2015-10-09 08:21:19	v15.04.00b	Test_DBA	Test_GU1, Test_GU2...	Yes	RESULTS
Test2	Conformance and In...	2015-09-22 07:01:37	2015-10-09 08:26:15	v15.09.00	Luminaire-d90f5	Test_GU1, Test_GU2...	No	RESULTS
otro_test	Conformance and In...	2015-10-14 03:37:47	2015-10-14 03:46:13	v15.09.00	Test_DBA	Test_GU1, Test_GU2...	Yes	RESULTS

5. CTT Local Agent. Project Results

CTT Local Agent

ALLSEEN ALLIANCE TEST TOOL LOCAL AGENT

Name	Description	Date and Time execution	Certification Release	Final Verdict	Full Log
IOP_About-v1-01	Device detected	2015-07-23 07:38:15	15.04.00a	INCONC	LOG
IOP_About-v1-02	Reception of About Announcement	2015-07-23 07:38:20	15.04.00a	PASS	LOG
IOP_About-v1-03	Reception of GetAboutData inform...	2015-07-23 07:38:28	15.04.00a	PASS	LOG
IOP_About-v1-04	Support of DeviceIcon Object	2015-07-23 07:38:39	15.04.00a	PASS	LOG
IOP_About-v1-02	Reception of About Announcement	2015-07-23 09:24:28	15.04.00a	PASS	LOG
About-v1-01	About announcement received	2015-07-23 09:30:01	15.04.00a	INCONC	LOG
About-v1-01	About announcement received	2015-09-22 12:51:39	15.04.00a	INCONC	LOG
About-v1-01	About announcement received	2015-09-22 14:30:01	15.04.00a	FAIL	LOG
About-v1-02	Version property consistent with t...	2015-09-22 14:30:09	15.04.00a	PASS	LOG

← BACK

AllSeen Test Tool Local Agent v1.8.0
Powered by AT4 wireless

5. CTT Local Agent. Logs

Log of Test Case IOP_About-v1-01

ALLSEEN ALLIANCE TEST TOOL LOCAL AGENT

=====
Test Name: IOP_About-v1-01
Description: Device detected
=====

2015-07-23 07:38:15.083:I/TestRunner(2948):started:IOP_About-v1-01
=====

Golden Unit 1 name: Test_GU1
Golden Unit 1 Type: Category 1 AllJoyn Device (About)
Golden Unit 2 name: Test_GU2
Golden Unit 2 Type: Category 3 AllJoyn Device (Onboarding)
Golden Unit 3 name: Test_GU3
Golden Unit 3 Type: Category 6.1 AllJoyn Device (Audio Source)
ICSCO_DateOfManufacture: true
ICSCO_HardwareVersion: true
ICSCO_SupportUrl: true
ICSCO_IconInterface: true
ICSCO_DeviceName: true
IXITCO_AboutVersion: 1
IXITCO_AppId: 12345678-9abc-1def-8012-000000000000
IXITCO_DefaultLanguage:
IXITCO_DeviceName: Test_DBA
IXITCO_DeviceId: 12345678-9abc-1def-8012-000000000000
IXITCO_ApGpName:
IXITCO_Manufacturer: AT4 wireless

← BACK

5. CTT Local Agent. Running Test Cases

The screenshot displays the 'CTT Local Agent' application window. The title bar reads 'CTT Local Agent'. The main interface features the AllSeen Alliance logo on the left and a blue banner with the text 'TEST TOOL LOCAL AGENT'. Below the banner is a table listing test cases. Each row includes a 'Test Case' ID, a 'Description', an 'Action' button (a play icon followed by 'RUN'), a 'Last Verdict' (all are 'INCONC'), and a 'Date & Time' stamp. At the bottom of the table area, there are two buttons: 'RUN ALL' and 'BACK'. In the bottom right corner, the text reads 'AllSeen Test Tool Local Agent v1.8.0 Powered by AT4 wireless'.

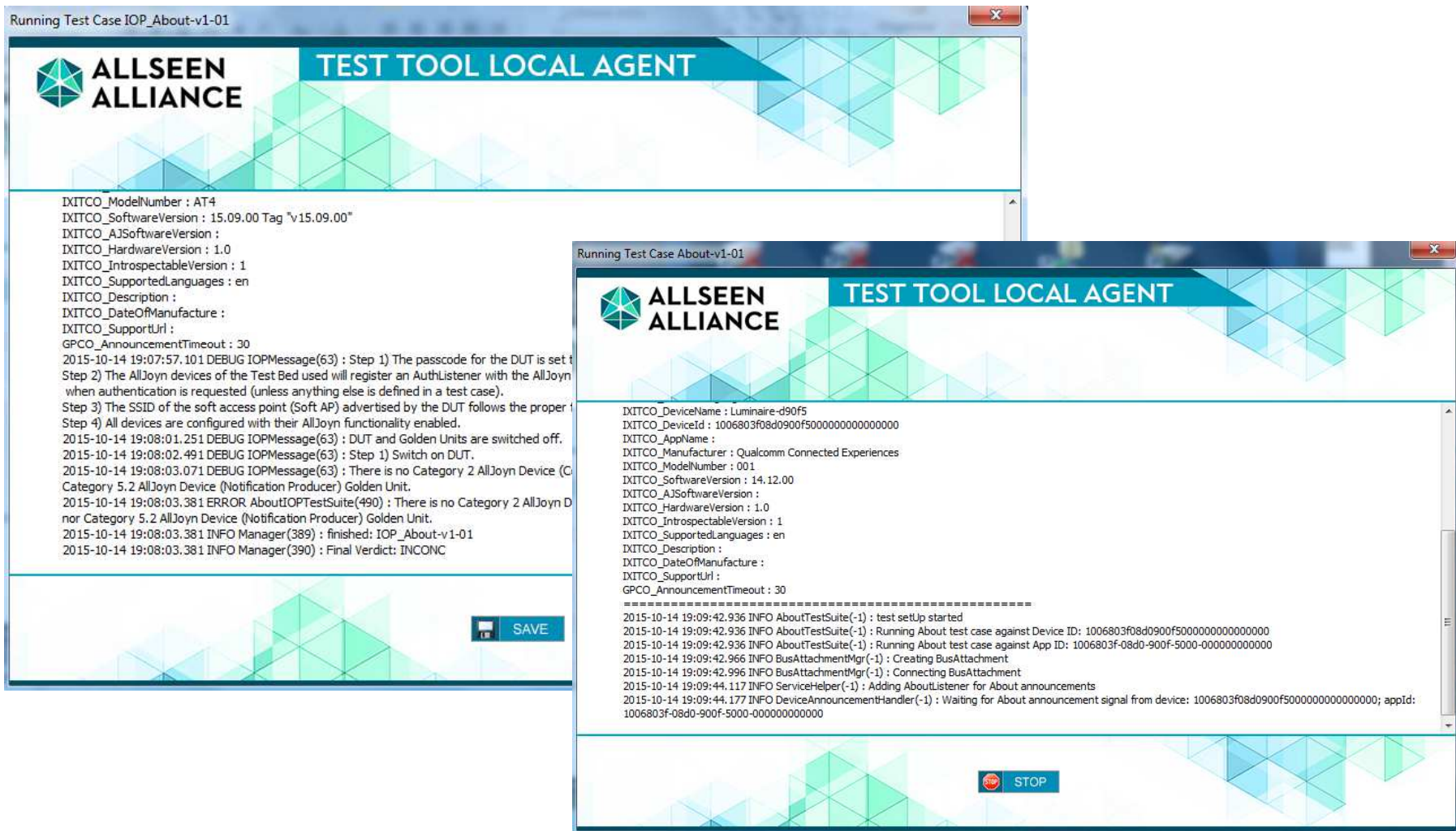
Test Case	Description	Action	Last Verdict	Date & Time
About-v1-01	About announcement received	▶ RUN	INCONC	2015-10-02 15:21:49
About-v1-02	Version property consistent with the About ...	▶ RUN	INCONC	2015-10-02 14:33:20
About-v1-03	GetObjectDescription() consistent with the ...	▶ RUN	INCONC	2015-10-02 14:33:56
About-v1-04	Bus objects consistent with the About anno...	▶ RUN	INCONC	2015-10-02 14:34:31
About-v1-05	Standardized interfaces match definitions	▶ RUN	INCONC	2015-10-02 14:35:07
About-v1-06	GetAboutData() with default language	▶ RUN	INCONC	2015-10-02 14:35:42
About-v1-07	GetAboutData() with each supported langu...	▶ RUN	INCONC	2015-10-02 14:36:18
About-v1-08	GetAboutData() without a specified language	▶ RUN	INCONC	2015-10-02 14:36:53
About-v1-09	GetAboutData() for an unsupported language	▶ RUN	INCONC	2015-10-02 14:37:29

5. CTT Local Agent. Selecting a Sample

The screenshot shows the 'CTT Local Agent' application window. A modal dialog box titled 'Select a sample' is open, displaying the 'ALLSEEN ALLIANCE TEST TOOL LOCAL AGENT' logo and a table of device samples. The table has four columns: DeviceId, AppId, Software Version, and Hardware Version. Below the table are 'BACK' and 'NEXT' navigation buttons. The background interface shows a sidebar with 'Test Cases' and a main area with a table of test results.

DeviceId	AppId	Software Version	Hardware Version
12345678-9abc-1def-8012-000000...	12345678-9abc-1def-8012-000000...	15.09.00 Tag "v15.09.00"	1.0
1006803f08d0900f50000000000000...	1006803f-08d0-900f-5000-000000...	2.0	2.0

5. CTT Local Agent. Save Results or Cancel the Test Case execution





Related Links

Certification Test Tool

6. Related Links

Test Tool Web Server:

- Available at <https://certification-tool.allseenalliance.org/>
- Create a Linux Foundation ID

Related documents in



- **Causeway:**
https://allseen.causewaynow.com/wg/CC_Committee/document/folder/120
- **Wiki:** https://wiki.allseenalliance.org/members_private/certify/

JIRA Tickets: <https://jira.allseenalliance.org/browse/ASACOMP>

CBI: <https://allseenalliance.org/compliance>



Thank you

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