

COMPRION

COMPRION Device Test Center



Software for UT³ Platform, Prove 2 and CL Verify A





All-in-One Control Station: Test Plan Management, Monitoring and Test Result Analysis

The complexity of the mobile ecosystem is steadily growing. Consequently, comprehensive testing of a handset leads to an increasing number of tests if you want to cover all relevant interfaces.

COMPRION Device Test Center was especially designed to speed up your formerly time-consuming test efforts. Here is the functional scope at a glance:

- Simultaneous test and analysis of UICC interfaces (ISO/IEC 7816, SWP/HCI, IC-USB) and contactless (NFC) interfaces
- Vast number of test bench packages covering 3GPP, EMVCo, ETSI, GlobalPlatform, GSMA, NFC Forum, and SIMalliance test standards
- Common software for running identical test cases either on a validated conformance platform (UT³ Platform) or on pre-conformance platforms (Prove 2 and CL Verify A) MIFARE®

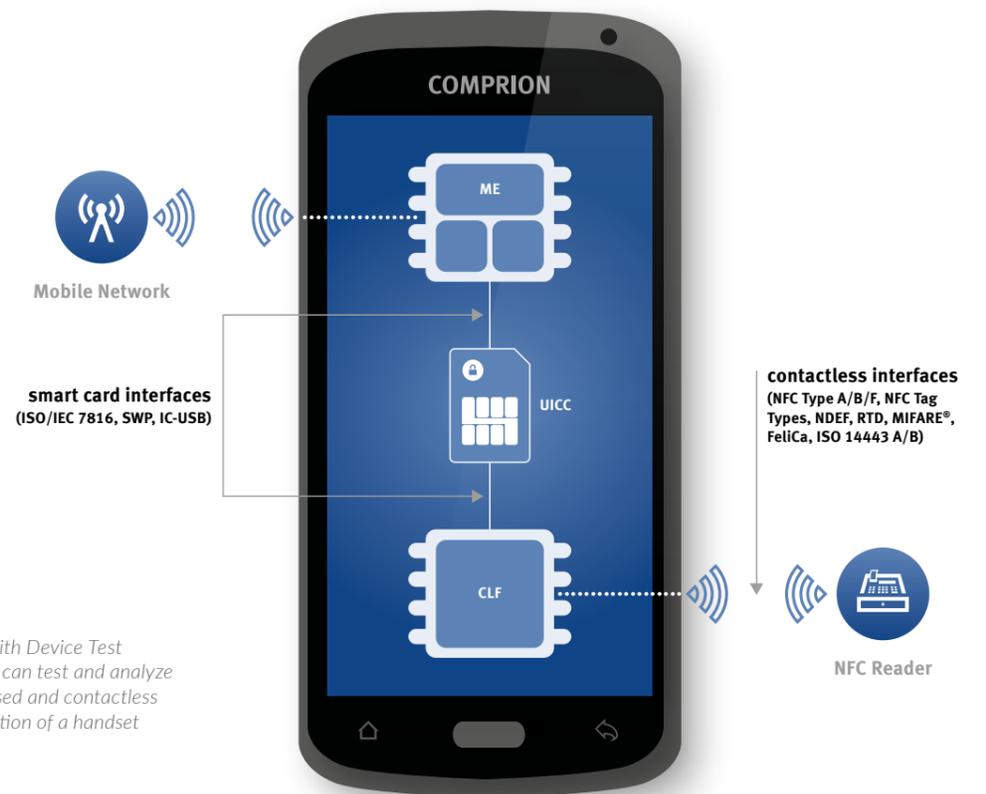


Figure 1: With Device Test Center, you can test and analyze contact-based and contactless communication of a handset

Designed for the development of contact-based smart card interfaces as well as NFC interfaces, it offers

- Comprehensive test plan management
- Powerful test reporting features
- Signal analysis with integrated oscilloscope
- Monitoring and log file generation

Test Plan Management

Defining the Implementation Under Test – Easy to Setup & Easy to Handle

The configuration and operation of multiple so-called “implementations under test” (IUT, also known as Device under Test/DUT) with different characteristics is very easy. The Device Test Center provides

- Step-by-step instructions to define all parameters of the implementation under test
- Automatism, which enables test case parameters and applicability being adapted to each IUT
- Comprehensive features like creating, duplicating, deleting, exporting or importing IUTs

Integrated Test Plan Management – Structuring and Controlling the Whole Test Setup

The unique Device Test Center test case management abilities

- Guide you through the generation of comprehensive test plans
- Offer automated test plan generation based on the set IUT features
- Support management of requirements, test plans and test cases

Efficient Test Automation Helps You to Speed up Testing

In combination with other test tools, Device Test Center automates terminal and network testing. This automation of complete test suites enables you to concentrate on the analysis of the executed test cases.

- Network Simulator Automation enables you to use COMPRION SIMfony, the most common system for comprehensive 3GPP handset testing validated at GCF and PTCRB; a test solution in combination with a network simulator also controlled by the Device Test Center.
- Terminal Automation with or without automation hardware (robot) enables the test operator to select test cases and start batch tests so that even frequent regression testing becomes feasible. Hence, testing is free of handling errors and results are highly reliable.

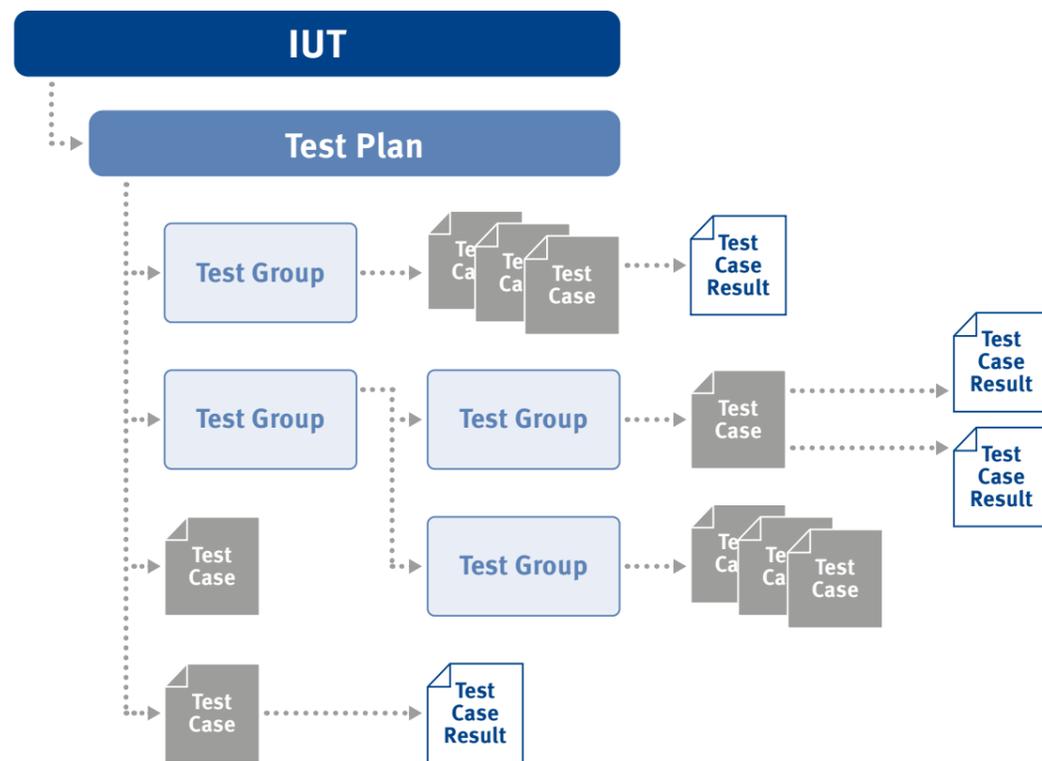


Figure 2: Complete control thanks to the clear test plan tree structure

The state-of-the-art test organization tool helps to organize, execute and document all test cases with the same user interface. Consequently, all team members must only handle one single tool for testing, storing, reporting and analyzing the results.

Besides working directly with the desktop GUI, the Device Test Center offers Remote Server, a built-in remote simulation interface that enables you to access COMPRION platforms like the UT³ Platform, Prove 2 or CL Verify A without manually clicking the Device Test Center user interface. It is possible to use a .NET or C++ API or a command line interface even from a remote location.

This means that test case execution and reporting can be automated completely, thus integrating COMPRION test systems easily in your already existing environment.

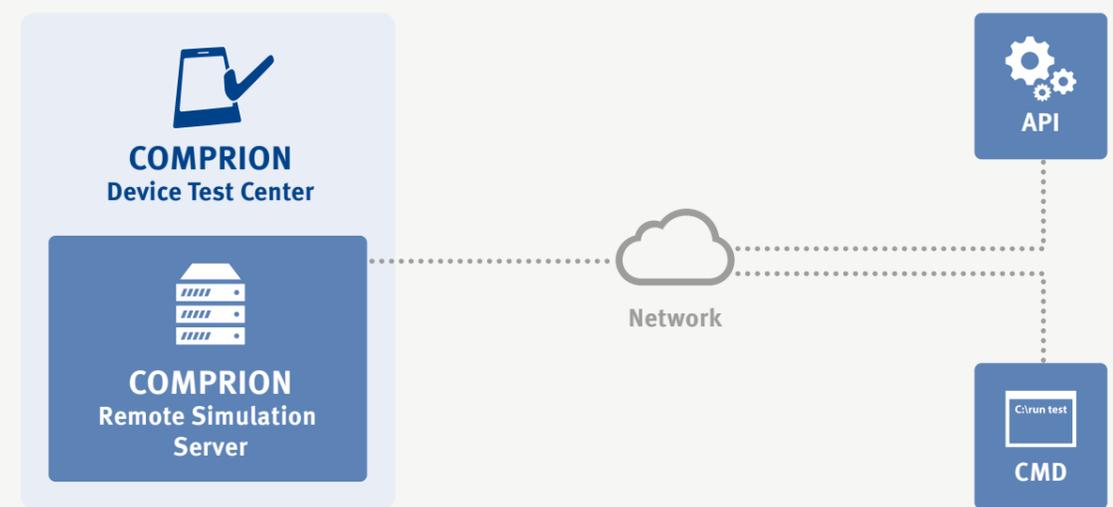
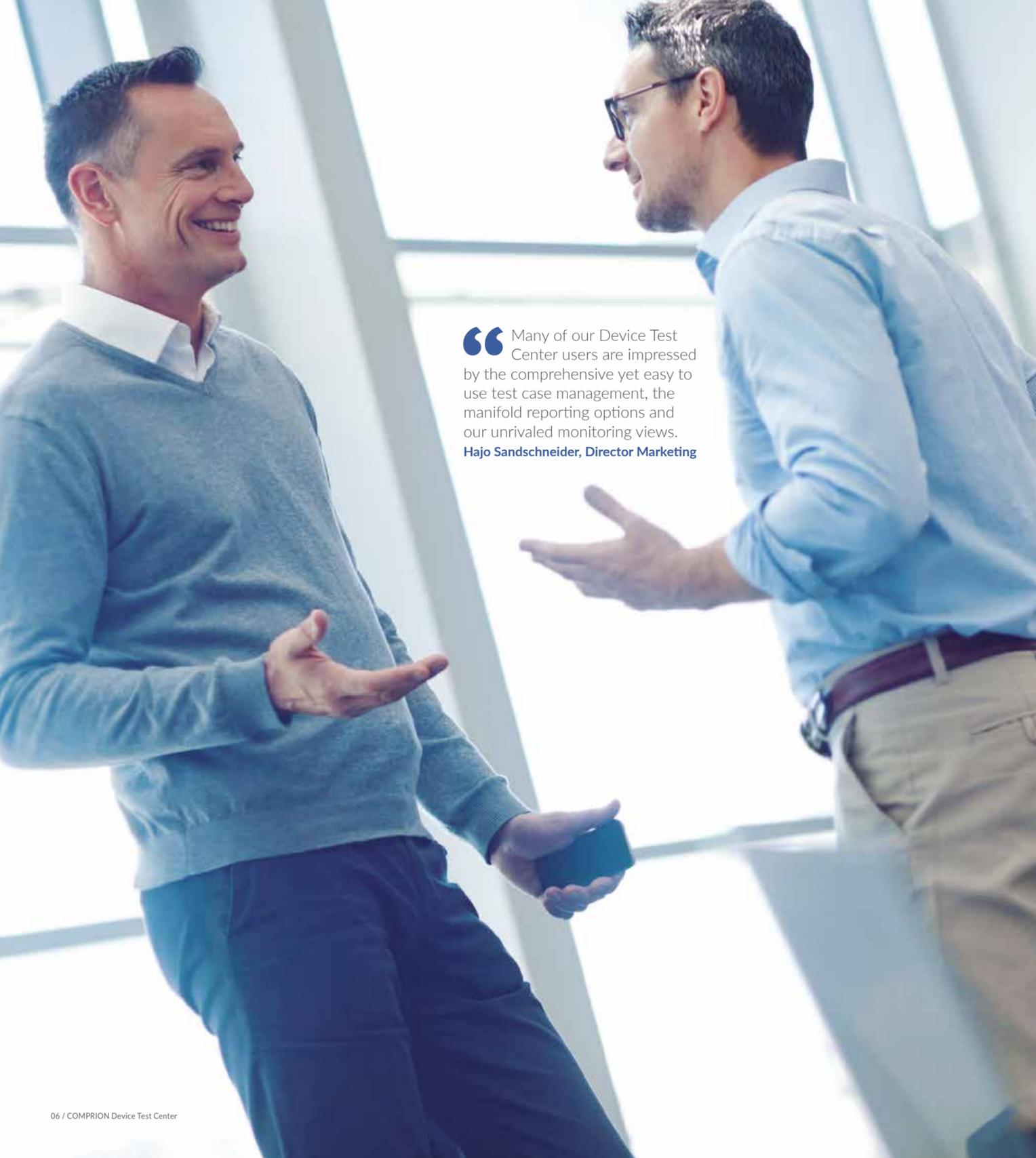


Figure 3: Remote access at a glance



“ Many of our Device Test Center users are impressed by the comprehensive yet easy to use test case management, the manifold reporting options and our unrivaled monitoring views.
Hajo Sandschneider, Director Marketing

Test Reporting and Analysis

Device Test Center is a powerful test tool that provides you with the big picture as well as with detailed insights into all results of your testing. Numerous options speed up analysis and bug fixing significantly.

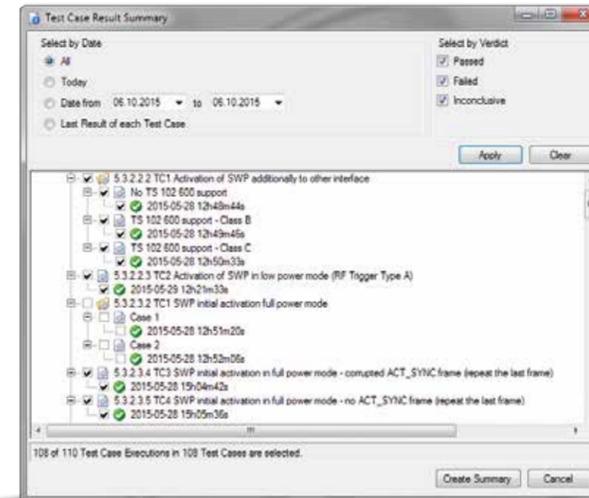


Figure 6: Easy to navigate – the result summary in a tree structure

You are able to:

- View single test results of the recorded communication details
- Customize individual analysis with step-by-step instructions
- Generate detailed test results or summary reports for an IUT or a test plan
- Create test reports specific to certification body requirements by simply choosing in the context menu

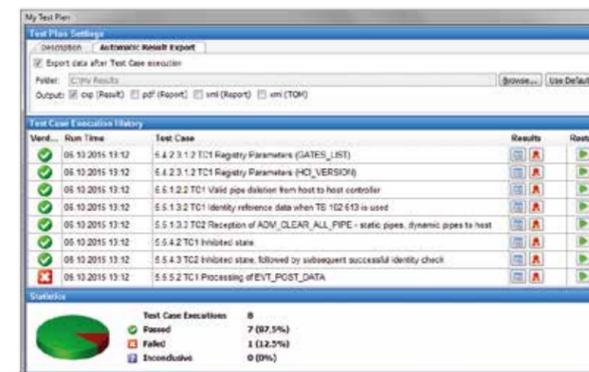


Figure 7: Step-by-step test case execution

Troubleshooting with Analog Scope

The Analog Scope is the optimal tool for analyzing and resolving errors on the signaling level. It is an oscilloscope and offers three main functionalities:

- Recording of analog data using special functions of the UT³ Platform / Prove 2 / CL Verify A hardware
- Visualizing of analog measurement data using the Analog Scope Viewer
- Quick measurements provide waveform characteristics by a single mouse click (see figure 8)

In order to ease troubleshooting or to indicate how good an IUT performed a passed test case run can be visualized by means of the Analog Scope Viewer, which allows the evaluation of the measurement results, such as the measurement of time intervals. Independent of any test case execution, Analog Scope can be also used within discrete monitoring sessions.



Figure 8: With a single mouse click, you can carry out predefined quick measurements. This function provides you with information on the waveform characteristics such as the modulation index and the frequency spectrum. It also supports you with detailed comments explaining why a test has failed.

Monitoring – The Unrivaled Look into Data Communication on All Layers

Monitoring by COMPRION means that the recorded data is processed in different layers – starting on the bits and bytes level up to the application level. This works with the data recorded during test case execution and during discrete trace

sessions. The layer views are loosely based on the OSI model. The monitoring results for each layer will be displayed in a separate window as easily interpretable results.

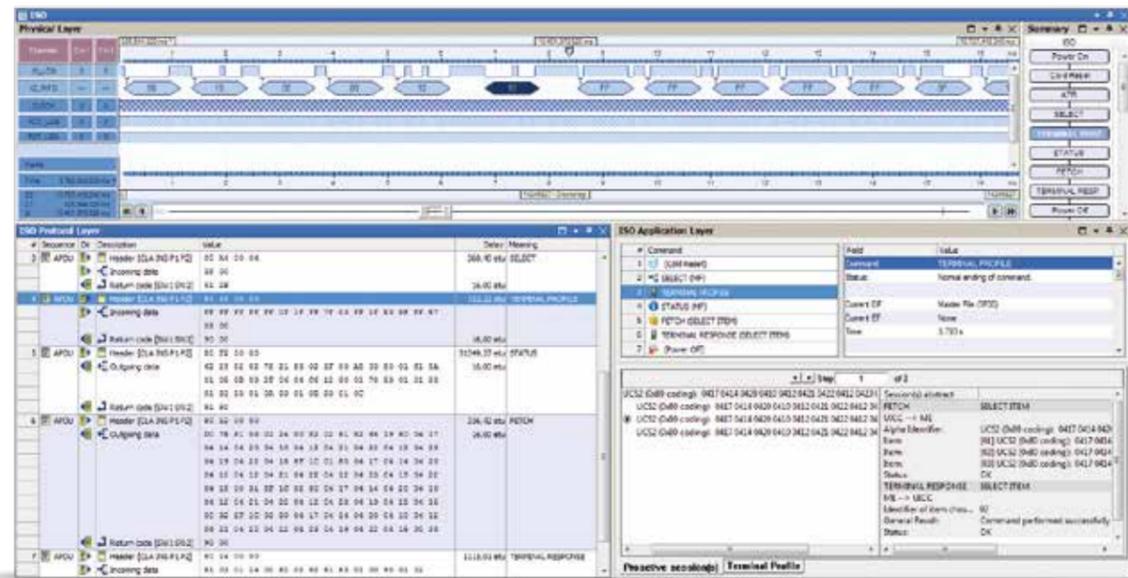


Figure 4: One window for an overview of all layers

Your benefits:

- The complete data stream at a single glance
- Bits and bytes are translated into the appropriate format for all layers so that the recorded data can be easily understood
- Fast orientation in the recorded log file due to synchronization of the individual layer views: Selected content within one layer synchronizes the views of all layers automatically.
- Zoom features allowing close-ups of incidents on the physical layer

These features speed up troubleshooting and consequently, the whole development process.

The Summary View – a Complete Monitoring Session at a Glance

The unique summary view is a protocol-spanning top-level overview of a monitoring session. It eases navigation of the traced data as all monitored interfaces are displayed in one sequence using the same time line. It enables quick determination of time intervals between the displayed events for one protocol and across protocols, as shown in the adjacent figure: Once you select the respective events by mouse click (clock icons 1 and 2) the resulting time values are indicated at the bottom. Click on an event in the summary view to synchronize the content shown in all other layer views and vice versa.

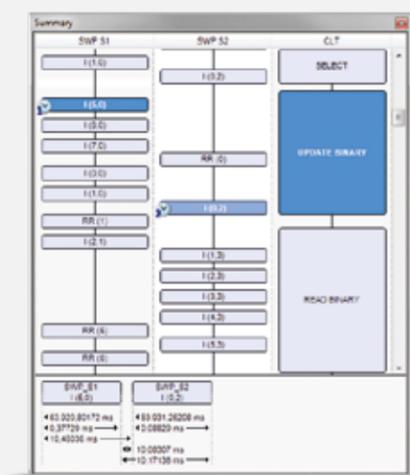


Figure 5: Summary view

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