OSA-RTS
END-TO-END
DEMONSTRATION

OSA-RTS DEMONSTRATION

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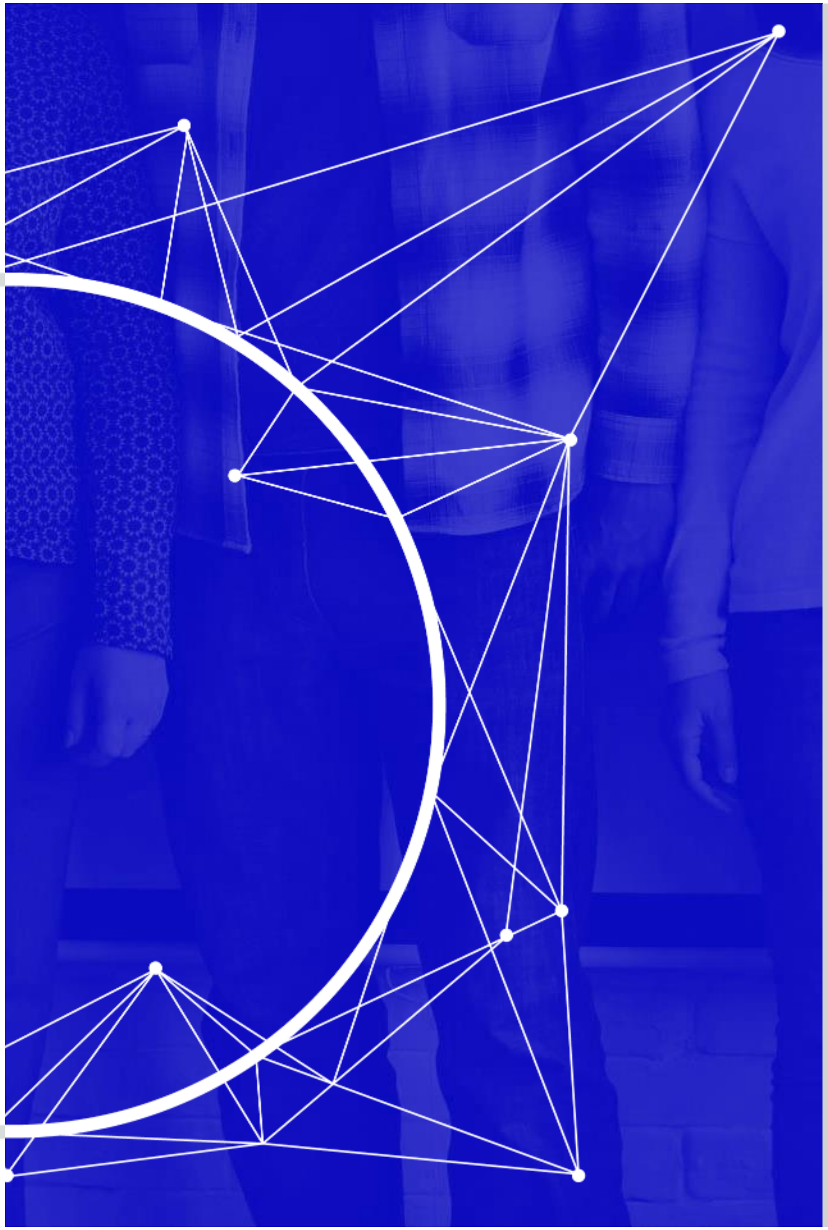
OUTLINE

OSA-RTS DEMONSTRATION

- OSA-RTS Introduction
- ATML UUT Description
- ATML Test Description
- Osa-rts Demonstration
- Osa-rts Demonstration– Results



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OSA-RTS INTRODUCTION

OSA-RTS INTRODUCTION

- The Open System Architecture Runtime System (OSA-RTS) provides a common framework of shared ATS components that implement ATML solutions for translating Test Descriptions and Test Equipment Descriptions into “run-able” test programs.

- The current OSA-RTS framework has been designed for the C, C++ and C# textual programming languages and extended to the graphical programming environments:
  - LabWindows / CVI
  - LabVIEW
  - TPL (using project selected carrier language)

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ATML UUT DESCRIPTION

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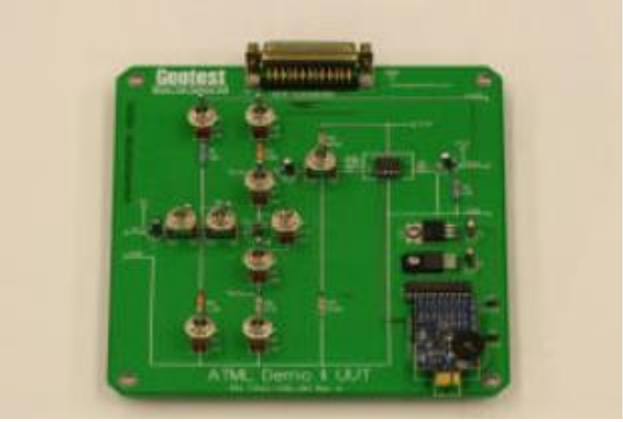
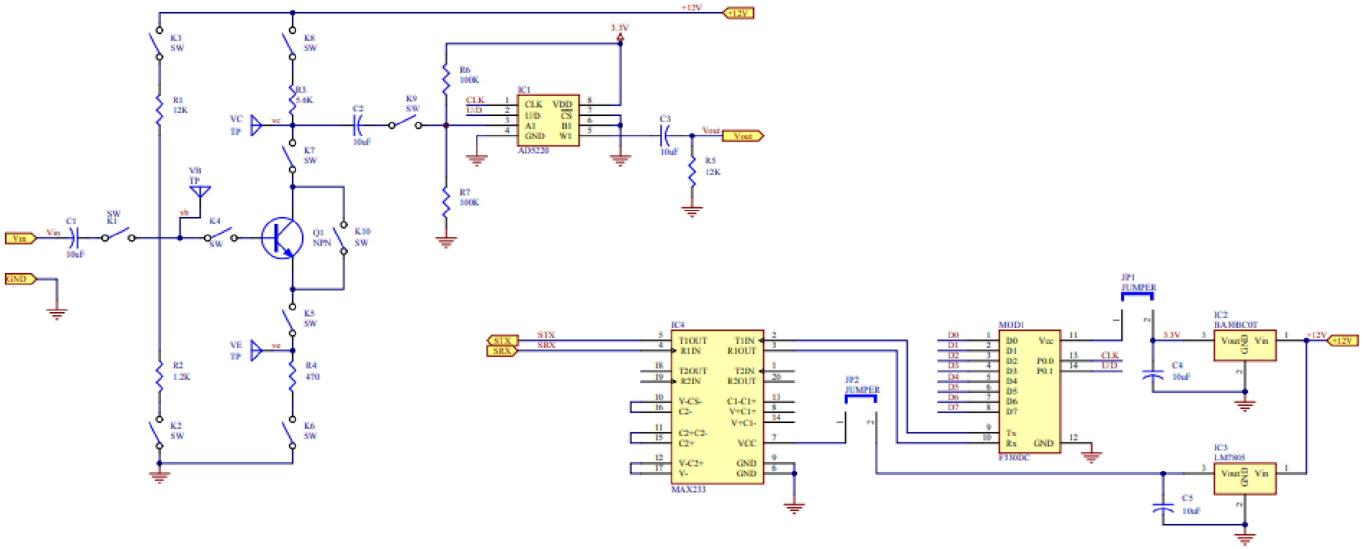
ATML TEST DESCRIPTION





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ATML TEST DESCRIPTION

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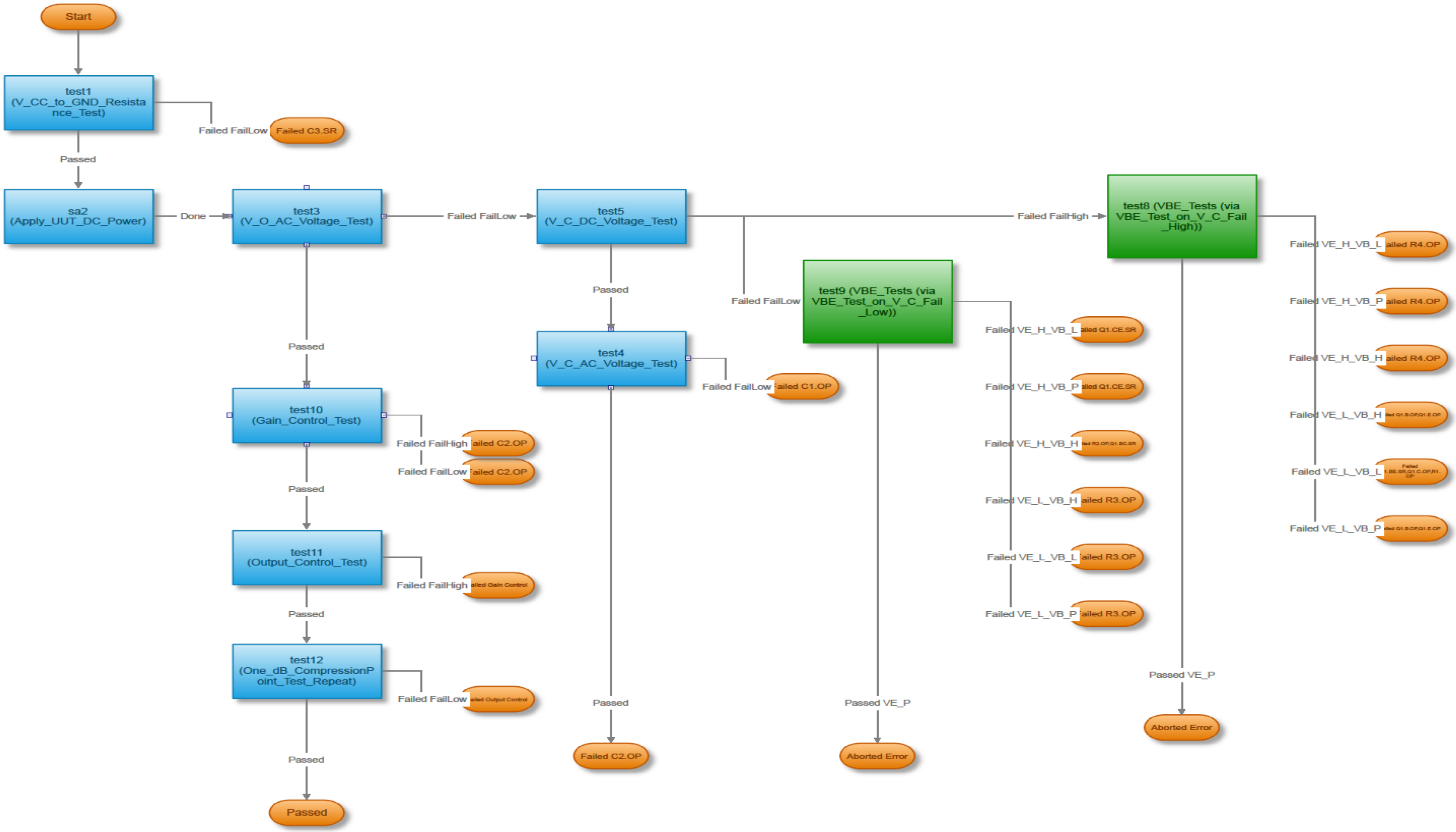
ATML TEST DESCRIPTION



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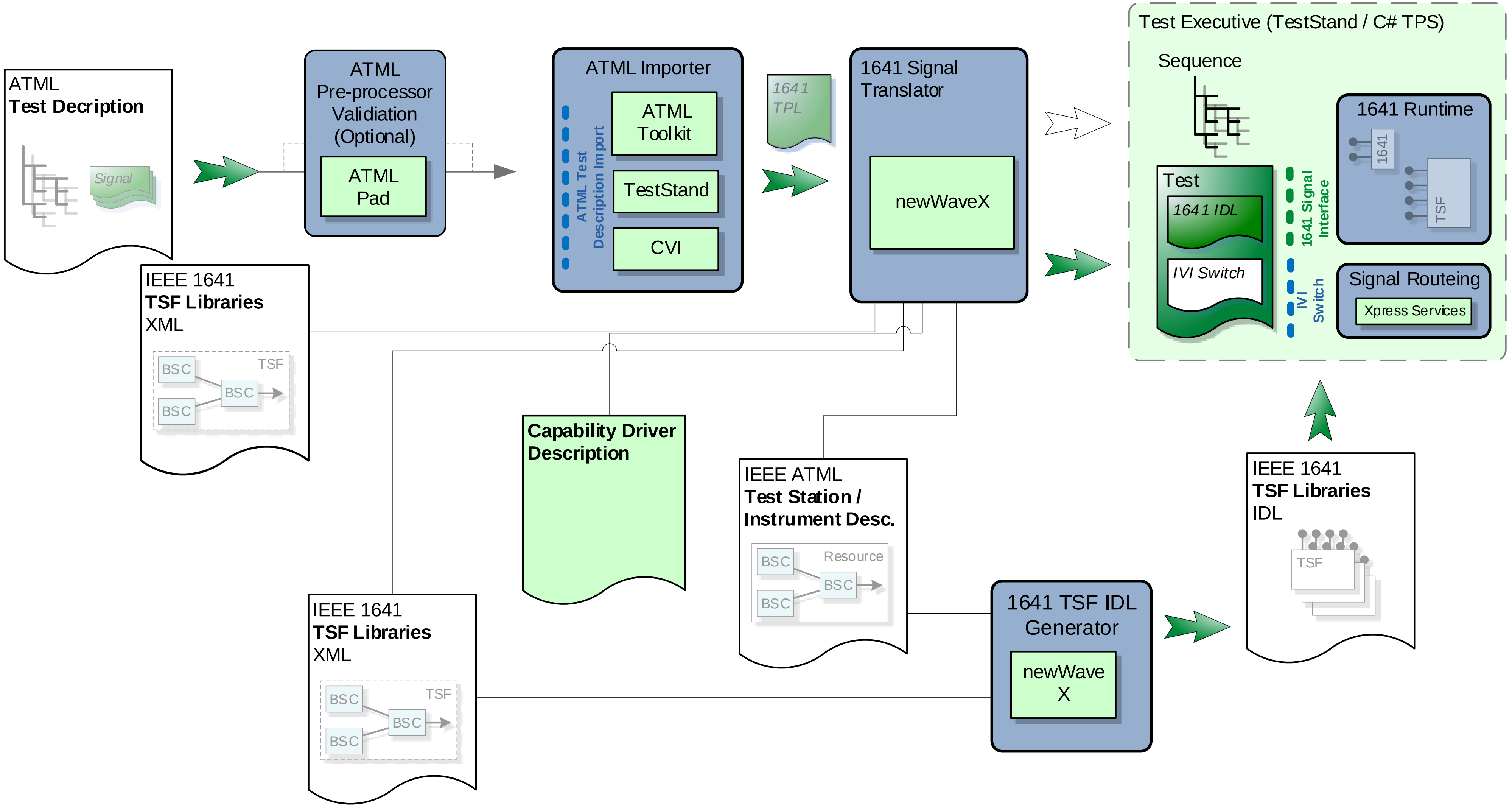
OSA-RTS DEMONSTRATION

COMPONENTS AND FLOW - LABWINDOWS / CVI ENVIRONMENTS



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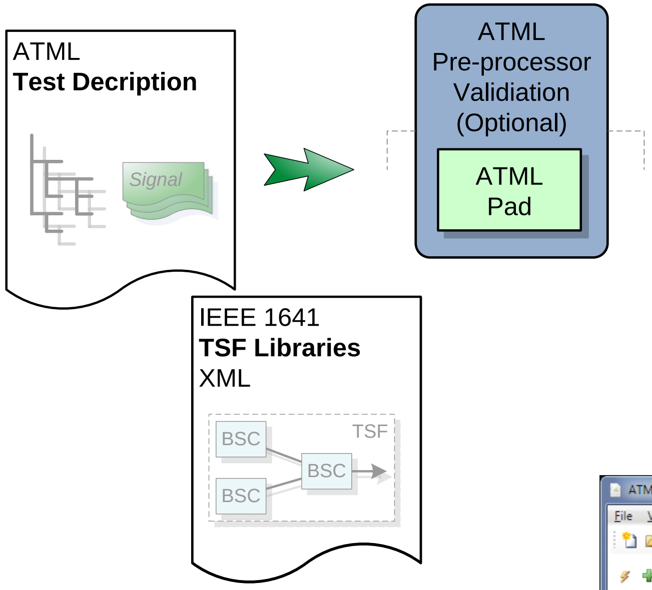
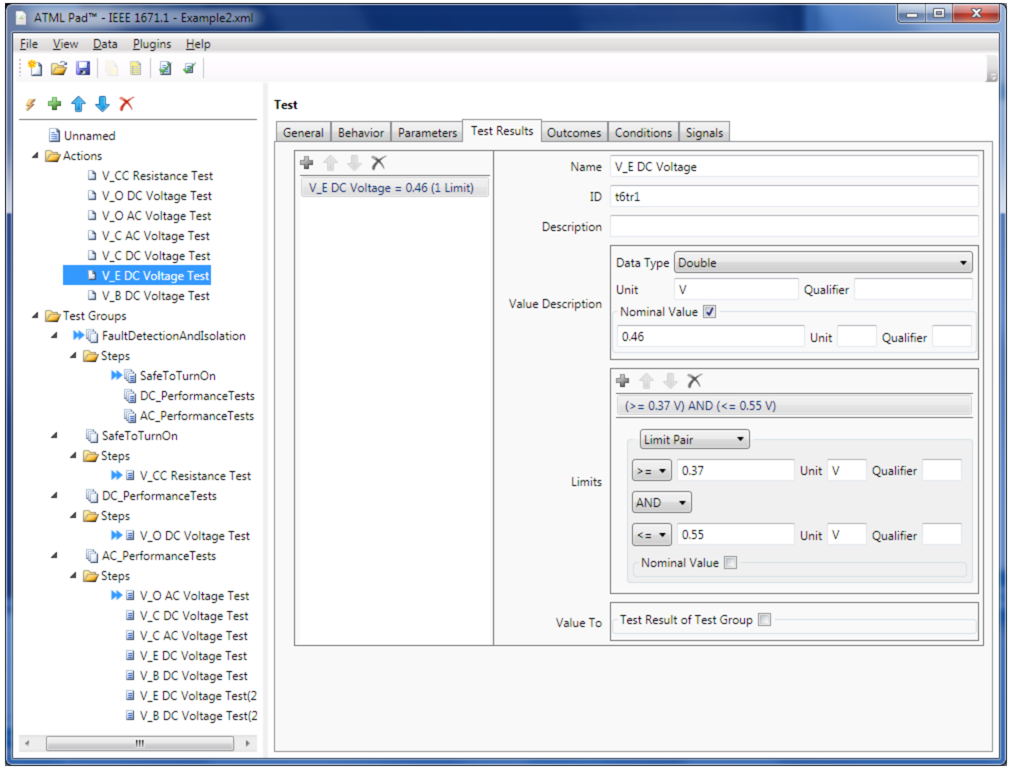
OSA-RTS DEMONSTRATION

COMPONENT – ATML PAD



- Visual editor for ATML
- **Comprehensive ATML data validation**
- Integrated with TestStand ATML Translator
- Plug-in importer architecture
    - Conversion to standard ATML format



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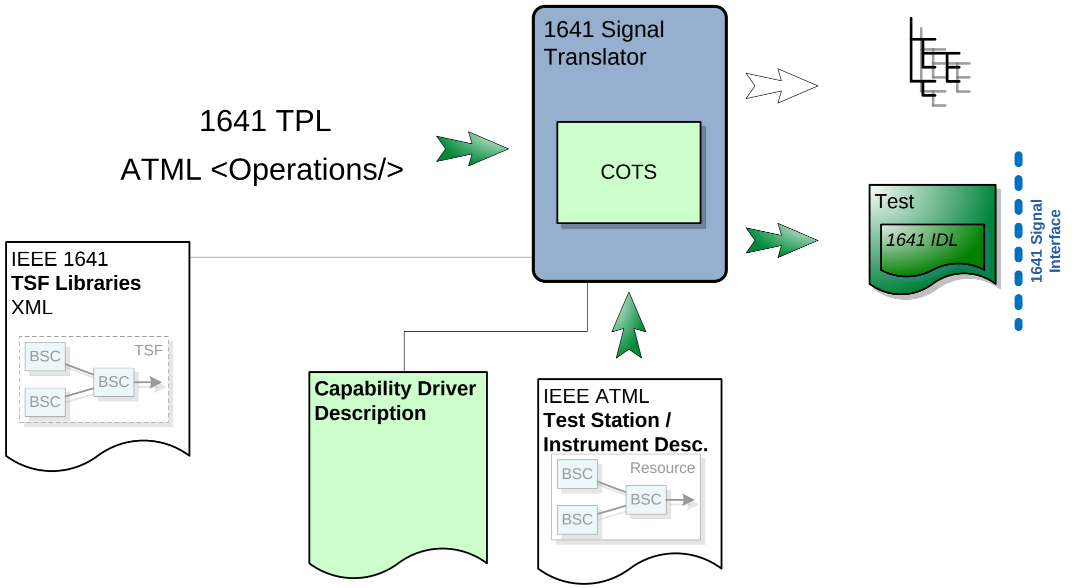
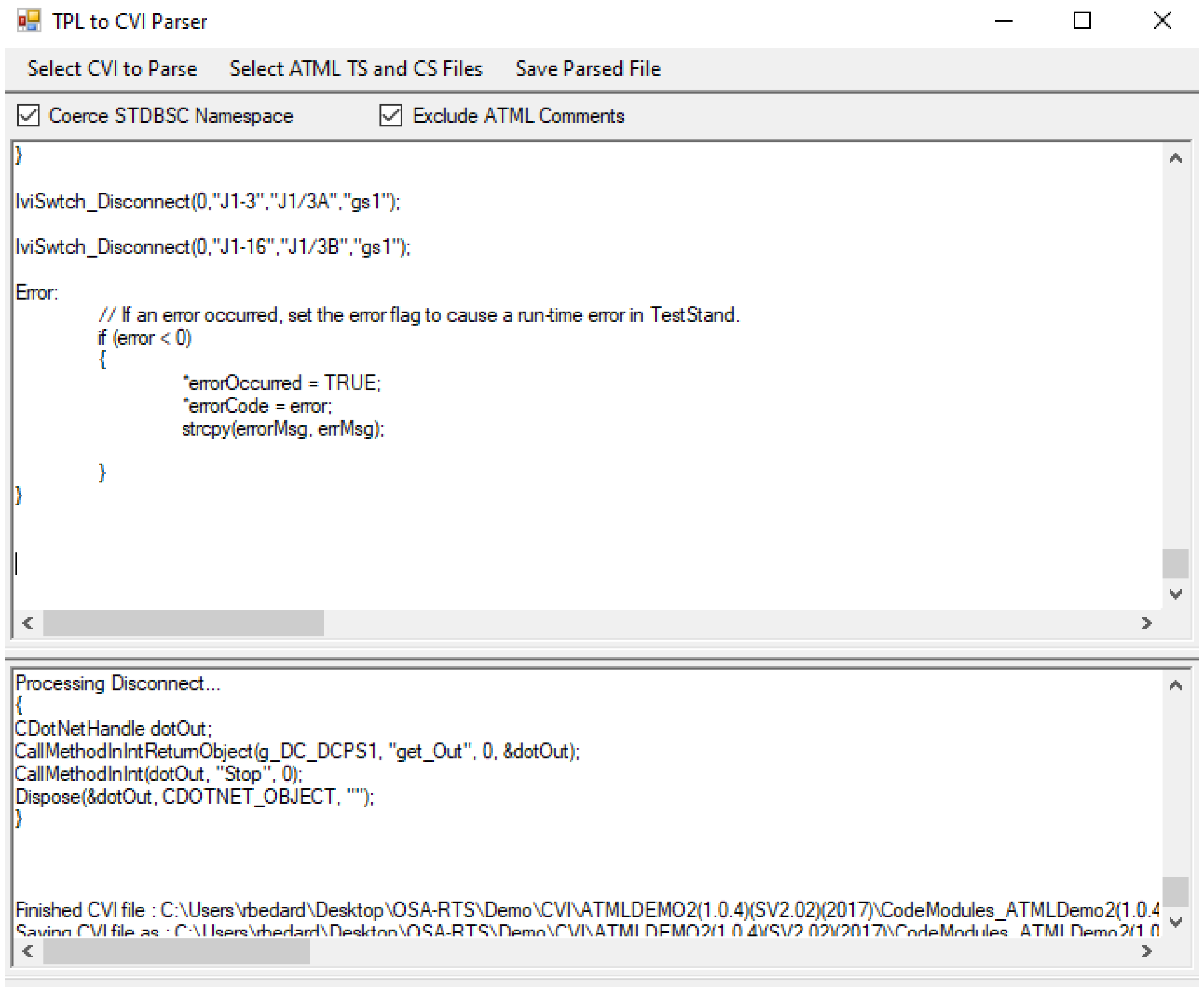
OSA-RTS DEMONSTRATION

COMPONENT – 1641 SIGNAL TRANSLATOR





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OSA-RTS TEST STATION RESOURCES

COMPONENT – 1641 SIGNAL TRANSLATOR

Test Station Description

1. The Test Station Description is an XML file with associated schema (IEEE 1671.6) , that is used to describe the Test Resources and their Capabilities for an ATE.
2. The OSA-RTS uses the Test Station Description to assign/allocate test resource capabilities to test signals ATML operations.

Capability Driver Description

1. The Capability Driver Description is an XML file with associated schema, that is used to generate Template Driver Code calls to the runtime system.
2. In the OSA-RTS ATML example, the Template Driver Code is targeted specifically to LabWindows/CVI, but is also utilised by the TPL demonstration.
3. The template code is inserted into the CVISrcFile.c by the 1641 Signal Translator.
4. The Capability Driver Description file is currently generated manually.

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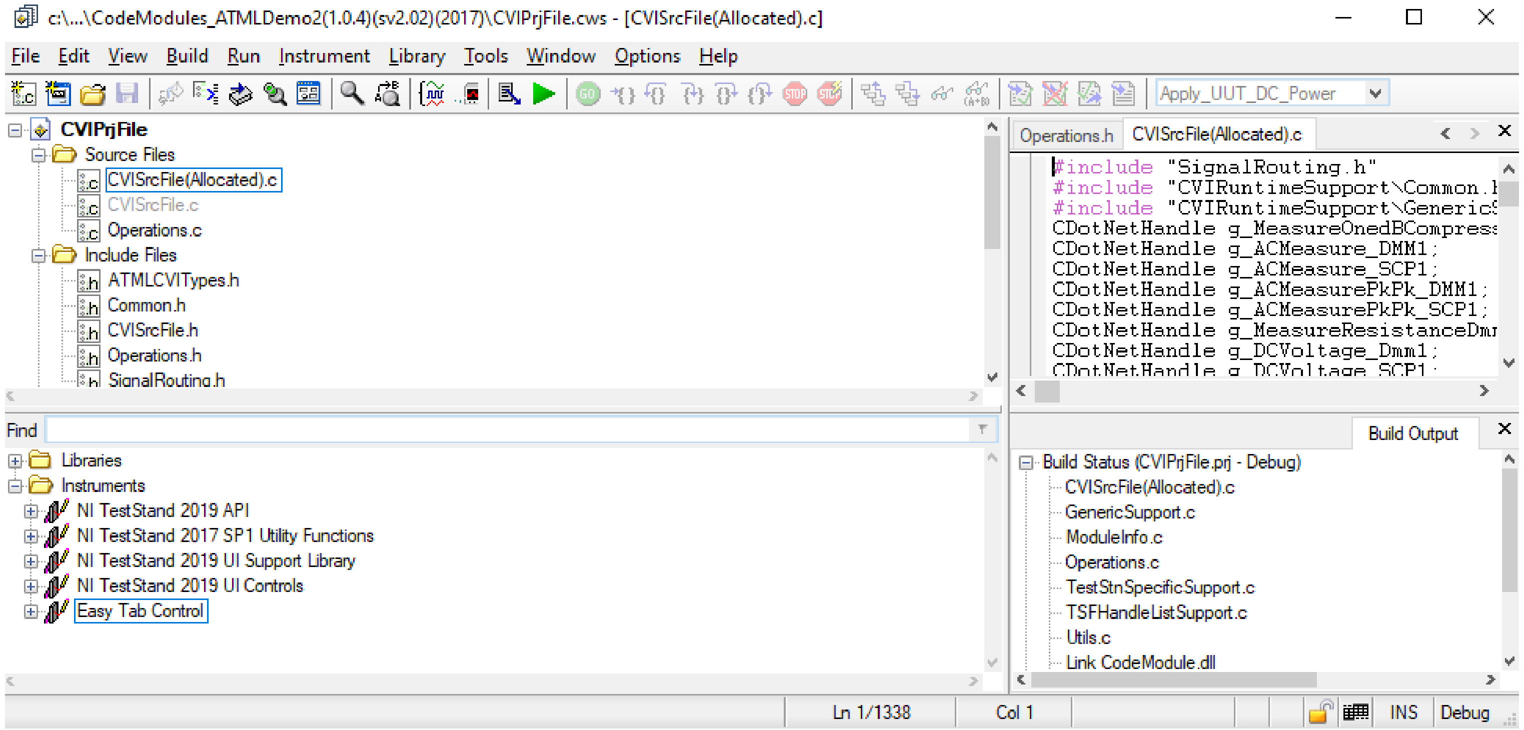
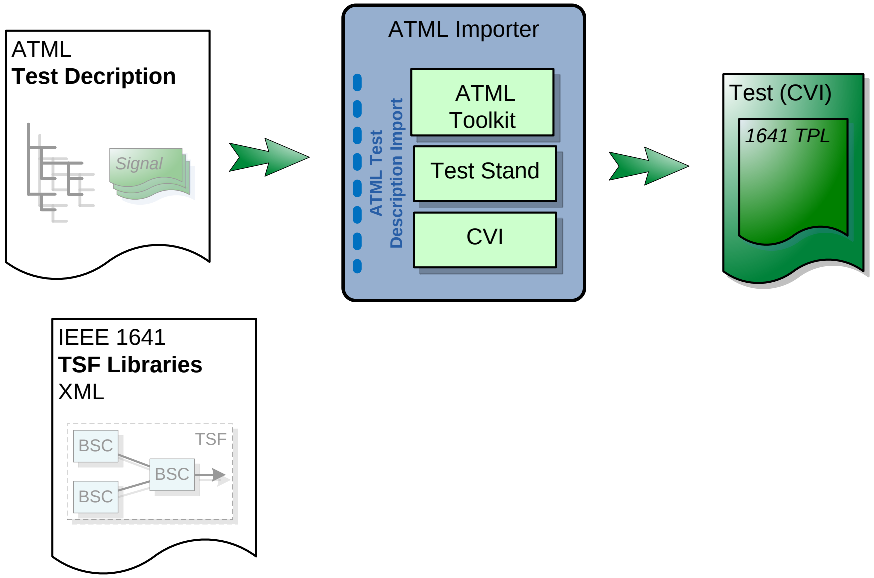
COMPONENT – ATML IMPORTER (LABWINDOWS/CVI)

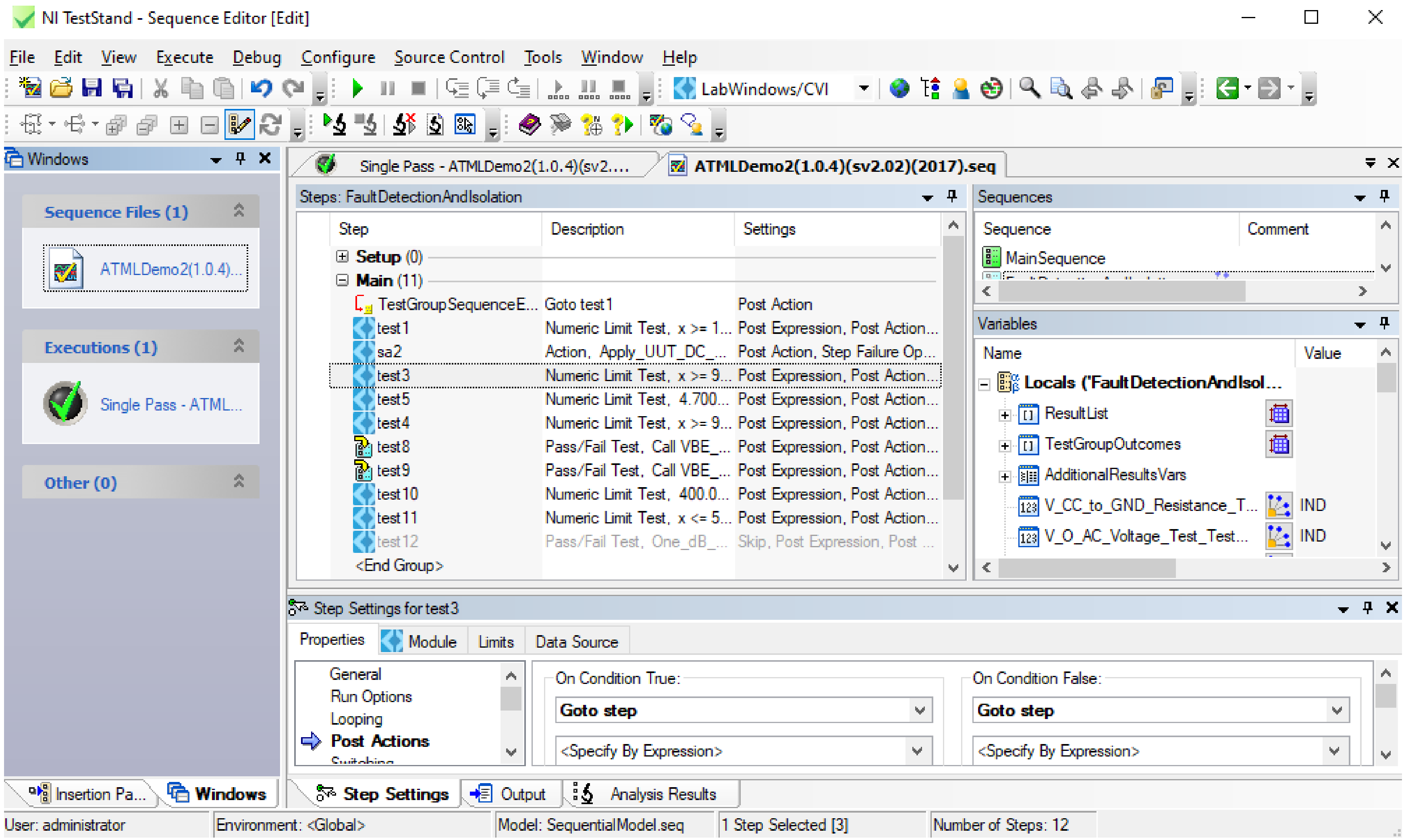




- Proven ANSI C development environment for test and measurement for more than 20 years.
- Provides C carrier language and access to driver code
- Hardware configuration assistants, built-in measurement libraries, comprehensive debugging tools, interactive execution capabilities used during design along with advanced analysis and scientific user interface tools.
- Used for high performance applications in military, aerospace, telecommunications and automotive industries.

OSA-RTS DEMONSTRATION

ATML SEQUENCE EDITOR



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OSA-RTS DEMONSTRATION– RESULTS

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OSA-RTS DEMONSTRATION– RESULTS

C:\Users\rbedard\Desktop\OSA-RTS\Demo\CVI\ATMLDEMO2(1.0.4)(SV2.02)(2017)\Ten

Search...

Report

UUT Report

Station ID	STL_WINDOWS10
Serial Number	NONE
Date	17 March 2021
Time	13:22:29
Operator	administrator
Execution Time	1.67896 seconds
Number of Results	9
UUT Result	Passed

Expand / Collapse MainSequence

Begin Sequence: MainSequence
(C:\Users\rbedard\Desktop\OSA-RTS\Demo\CVI\ATMLDEMO2(1.0.4)(SV2.02)(2017)\ATMLDemo2(1.0.4)(sv2.02)(2017).seq)

Step	Status	Measurement	Units	Limits			
				Nominal Value	Low Limit	High Limit	Comparison Type
SequenceCall	Passed						

Begin Sequence: FaultDetectionAndIsolation
(C:\Users\rbedard\Desktop\OSA-RTS\Demo\CVI\ATMLDEMO2(1.0.4)(SV2.02)(2017)\ATMLDemo2(1.0.4)(sv2.02)(2017).seq)

Step	Status	Measurement	Units	Limits			
				Nominal Value	Low Limit	High Limit	Comparison Type

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OSA-RTS DEMONSTRATION

COTS SOFTWARE

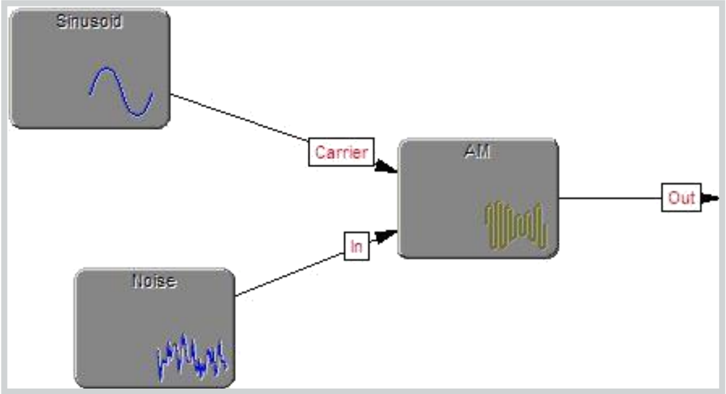
newWaveX® IEEE 1641™ Signal-based T&M software tools:

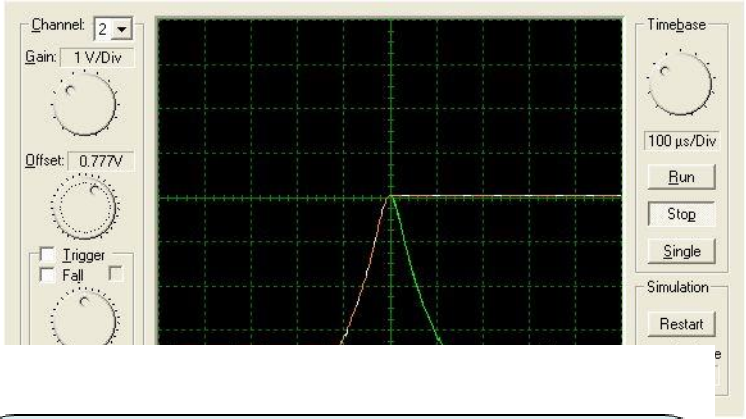
newWaveX SD (Signal Development)

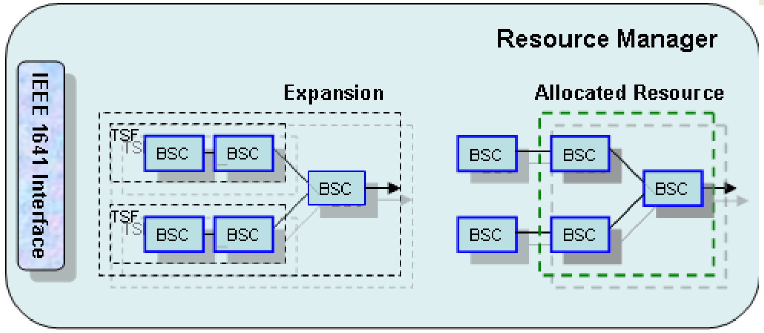
- Complete graphical signal modelling & simulation environment .
- Compliant with IEEE 1641 and IEEE 1671 standards.
- Supports the creation and editing of IEEE 1641 Signals & TSF libraries; XML, XSD, IDL and HTML file formats for storage, interface specification and documentation.
- ActiveX controls enable easy embedding into third-party applications.

newWaveX PD (Platform Development)

- Test platform integration toolset, targeted at getting ATML test signals to real test pins.
- IEEE Std.1671 ATML Instrument and Test Station Description resource (instrument) description and validation environment.
- Compile-time resource manager/translator using IEEE 1641 IDL and TPL signal orientated test program descriptions to generate IEEE 1671 ATML Test Description. driver orientated test code.







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