

AUTOMATED TEST BENCH FOR NON-REGRESSION TEST FOR FIRMWARE VALIDATION

Discover a new smarter effective way to implement non-regression test

TRADITIONAL APPROACHS

The traditional implementation of non-regression test is performed manually by an operator or through the use of physical sensors/actuators and vision using camera, lens and illuminator. The first approach is very long (it requires weeks) and subject to errors. The second one requires a complex and very precise mechanical fixture, while the test is influenced by environmental conditions, by hardware conditions and has very long set up time

IPSES SOLUTION

IPSES developed a new approach, which implements the test by interfacing the hardware using its electrical signals. The display and the related messages are reconstructed thanks to DUT interfacing and sniffing its bus.

The system is defined according your hardware needs. Since the purpose of the test is the firmware validation, IPSES approach bypasses the hardware influence, reducing dramatically the time to test while increasing the trustability.

The platform has a low cost if compared to vision approach, besides it is able to integrate new firmware versions

NO specific Software license is required

AUTOMATIC METHODS COMPARED	Camera vision method	IPSES bus sniffer method
Influenced by environmental conditions	YES	NO
Requiring complex fixture	YES	NO
Requiring specific light and environmental condition	YES	NO
Set up time	Very long	Short
DUT pixel accuracy	Difficult to obtain	Always guaranteed
Acquiring time	Medium/high	Low
Influenced by physical condition of display	YES	NO
Software licenses	required	generally not



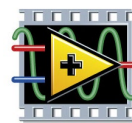
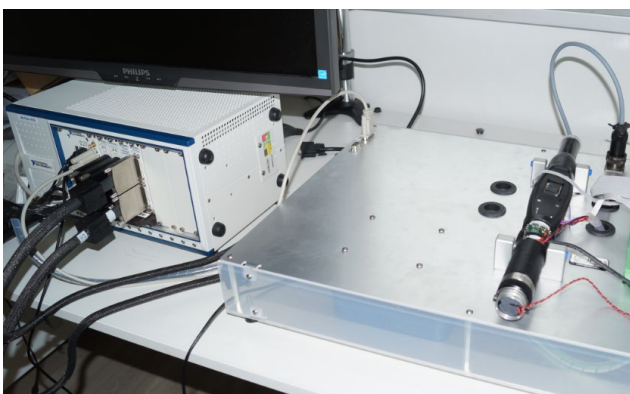
NI PXI

- FlexRIO
- Embedded controller
- DAQ
- SMU with SourceAdapt Technology
- Digital I/O

HARDWARE RESOURCES

ARCHITECTURE

Hardware architecture is modular, fully configurable and can be based on PXI or cRIO



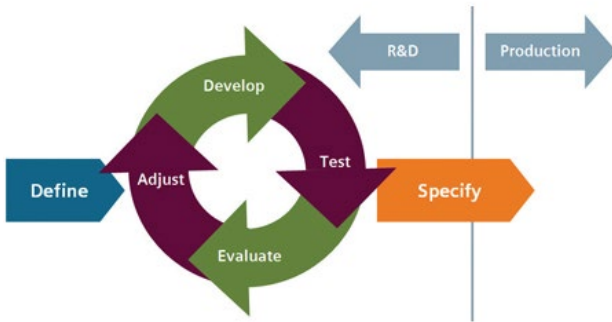
SOFTWARE

(NI LabVIEW- LabVIEW FPGA and TestStand)

Integrated test environment capable to

- Define test cases
- Launch test cases
- Acquire test results
- Generate test reports
- Support different types of device under test

RESULTS



Launch and define test cases

Test environment can communicate with input boards/drivers to properly stimulate the Device Under Tests

Such boards/drivers should be based on commercial devices for reliability and durability

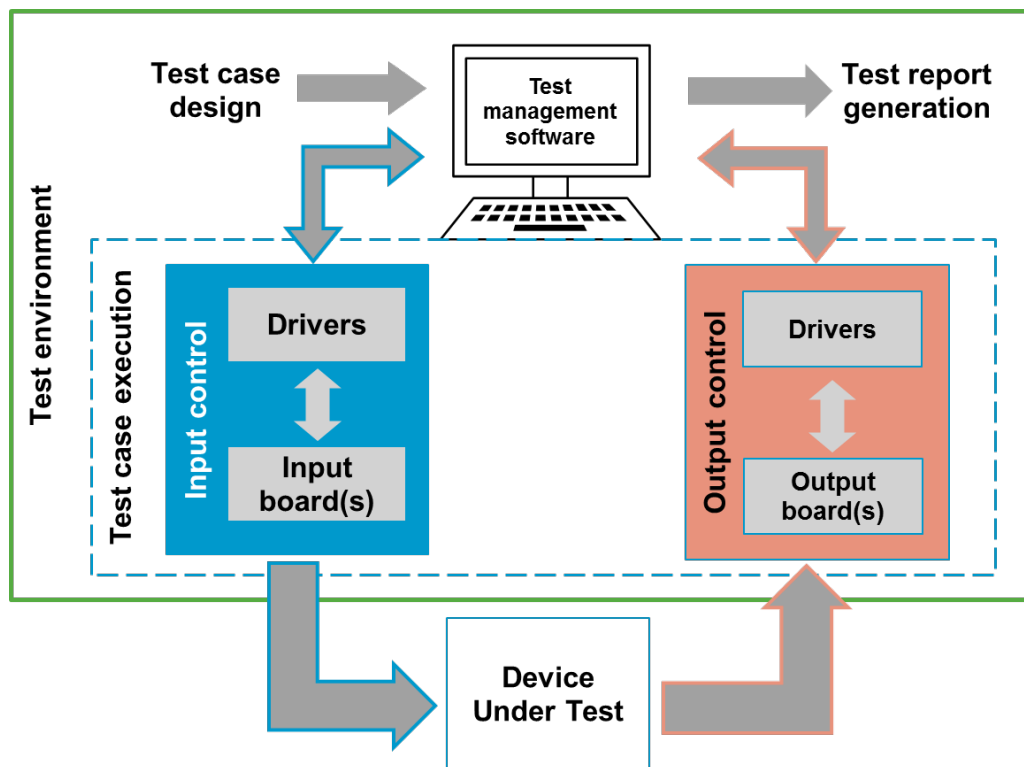
Acquire test results

Test environment can communicate with output boards/drivers capable to read the outputs of the Device Under Tests

Such boards/drivers are based on commercial devices (NI) for reliability and durability

Different device types

Inputs and outputs boards and drivers should be capable to manage different device types



BENEFITS

SHORT TERMS

- Solution perfectly matches client's needs
- Reduced and known time to deliver it
- Short setup time
- High reliability
- Standard parts composing the system
- Easy integration in client's environment
- Reduce test time

MEDIUM AND LONG TERMS

- Easy maintenance
- Possibility of services with high reactivity
- Trustability
- Reduce risk to stop and minimize time of stop
- Reduce cost and time for integrating new versions
- Low obsolescence
- Easy upgrade
- Possibility of reconfiguration



CONTACTS

Address Via Suor Lazzarotto, 10
20020 Cesate (MI) - Italy

phone +39 02 39449519
+39 02 32 06 29 547

mail info@ipses.com

Web www.ipses.com

