



Interchangeable Virtual Instruments Foundation

IVI Foundation

Delivering Interchangeability and More

AutoTestCon

Salt Lake City, Utah

September 2008

Agenda

- Goals, membership and user benefits
- IVI architecture
- Specifications
- Continuing efforts
- Questions and Open Discussion



IVI Foundation Overview

- Open consortium
 - End-users
 - System integrators
 - Instrument and software vendors
- Founded in August 1998, incorporated in March 2001
- 32 member companies
- Consolidated home for many SW standards
 - Synthetic Instruments
 - LXI Synchronization
 - *VXIplug&play* Systems Alliance
 - SCPI Consortium



Membership Benefits

- Influence the development of instrument class standards
- Participate in and access future architectural standards
- Share ideas with developers, users, system integrators and vendors
- Access source code for shared components
- Participate in interoperability sessions
- Network with test and measurement industry leaders



The Problem

“Test systems are difficult and expensive to develop and maintain”



IVI Solution

- IVI drivers define a new level of quality, completeness, usability, and functionality that reduces the cost of test system development and ownership
- IVI drivers simplify upgrading or replacing components in complex test systems intended to be used over a long period of time

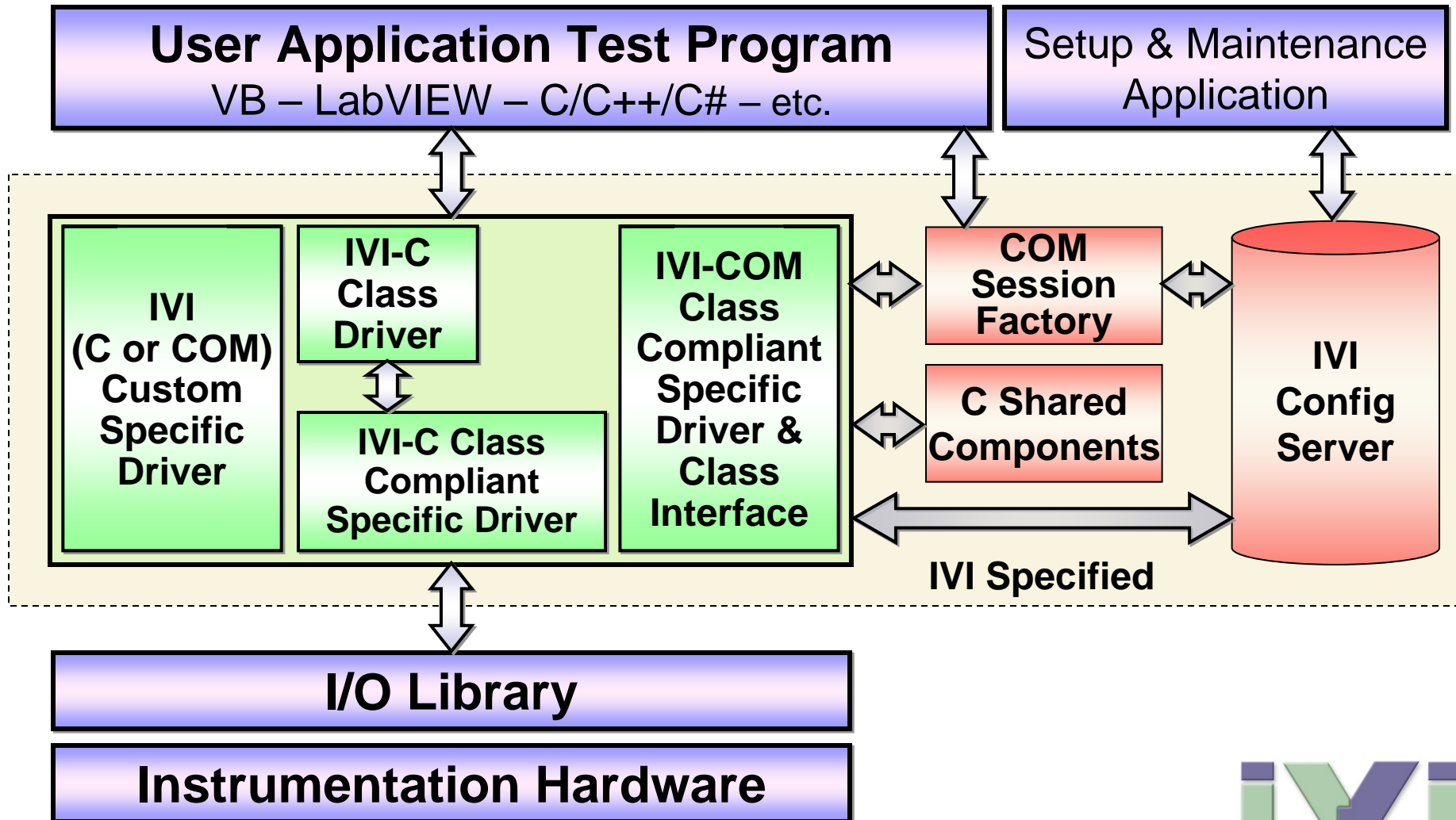


User Benefits

- **Hardware Interchangeability** – Protect test software investment and reduce lifecycle costs with instrument interchangeability
- **Software Interoperability** – Leverage software between common programming environments, ease multi-vendor software integration and enhance maintainability
- **Reduced Test Development Effort** – Additional features such as instrument I/O simulation make building test systems easier.
- **Quality** – Improved performance and consistency



IVI Architecture



IVI Foundation Working Groups

- To achieve desired benefits, working groups in two focus areas
 - Architecture and technology specifications
 - Instrument class specifications



IVI Foundation Working Groups

Architecture & Technology Specifications

Spec #	Spec Name
IVI-3.1	Driver architecture specification
IVI-3.2	Inherent capabilities specification
IVI-3.3	Standard cross-class capabilities specification
IVI-3.4	API style guide
IVI-3.5	Configuration server specification
IVI-3.6	COM session factory specification
IVI-3.9	C shared components specification
IVI-3.10	Measurement and stimulus subsystems specification
IVI-3.12	Floating-point services specification
IVI-3.14	Primary Interop Assembly
IVI-3.15	IviLXiSync specification



IVI Foundation Working Groups

Instrument Class Specifications

Spec #	Spec Name
IVI-4.1	Oscilloscope class specification
IVI-4.2	DMM class specification
IVI-4.3	Function generator/Arb class specification
IVI-4.4	DC power supply class specification
IVI-4.6	Switch class specification
IVI-4.7	Power meter class specification
IVI-4.8	Spectrum analyzer class specification
IVI-4.10	RF signal generator class specification



Specs Under Development

- Class specifications
 - Frequency Translation
 - Data Conversion
 - AC Power Supply
 - Counter Timer
- Architecture and technology specifications
 - .NET architecture for IVI
 - VISTA and 64-bit support



Additional Information

■ For more information or to join:

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■ Additional Resources:

IVI Overview Tri-fold:

- http://www.ivifoundation.org/docs/IVI_TriFold_Brochure_Final.pdf

IVI Getting Started Guide:

- http://www.ivifoundation.org/downloads/IVI_GSG_v_1.0.pdf





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QUESTIONS?