IVI Instrument Driver Development Course

Overview

The IVI Instrument Driver Development course provides in-depth and specific training on developing IVI (Interchangeable Virtual Instrument) compliant instrument drivers using LabWindows™/CVI. The course discusses architecture and operation of IVI drivers, thus enabling a student to gain a full understanding behind their design and implementation. During the course you develop an actual instrument driver for a digital multimeter (DMM), reinforcing the course topics.

Duration

Three (3) Days

Audience

- Engineers and programmers needing to develop or modify IVI compliant instrument drivers
- Instrument vendors developing instrument drivers

Prerequisites

- LabWindows/CVI Basics I knowledge

NI Products Used During the Course

- LabWindows/CVI

After attending this course, you will be able to:

- Understand the architecture and benefits of IVI instrument drivers
    - IVI Class driver specification capability groups
    - Configuration of IVI drivers in Measurement and Automation Explorer
- Increase the performance of your instrument driver using state caching
- Use the IVI wizard to quickly create generic instrument driver shells
- Develop IVI instrument drivers capable of running in simulation mode where measured data is simulated
- Maximize software reuse in developing instrument control applications

Registration

Register online at ni.com/training or
call (800)433-3488 Fax: (512)683-9300
info@ni.com

Outside North America, contact your local NI Office.
Worldwide Contact Info: ni.com/global

Part Number

910556-xx

-01 NI Corporate or Branch
-11Regional
-21 Onsite (at your facility)

IVI Instrument Driver Development Course Outline

Using IVI Drivers

- IVI background and overview
- Developing interchangeable applications with IVI drivers
- Overview of attribute model concept
- Class drivers and IVI driver library
- Simulation tools
- Interchangeability considerations

Writing IVI Drivers

- Specific driver development process overview/roadmap
- IVI instrument driver wizard
- Attribute editor
- Range tables and range checking
- Common IVI library functions and error handling macros
- Attribute read and write callbacks
- Dependent attributes
- Range table callbacks
- Attribute invalidation
- Editing and creating function panels/ finishing DMM driver
- Adding/removing attributes

Discussion Topics

- Optimizing DMM driver (hidden attributes)
- Dynamic range tables
- Advanced Topics: string attributes, range check and coerce callbacks, attribute flags
- Other tools: IVI Installer Creator, Attribute Editor, and LabVIEW Interface Generator for LabWindows/CVI Instrument Drivers