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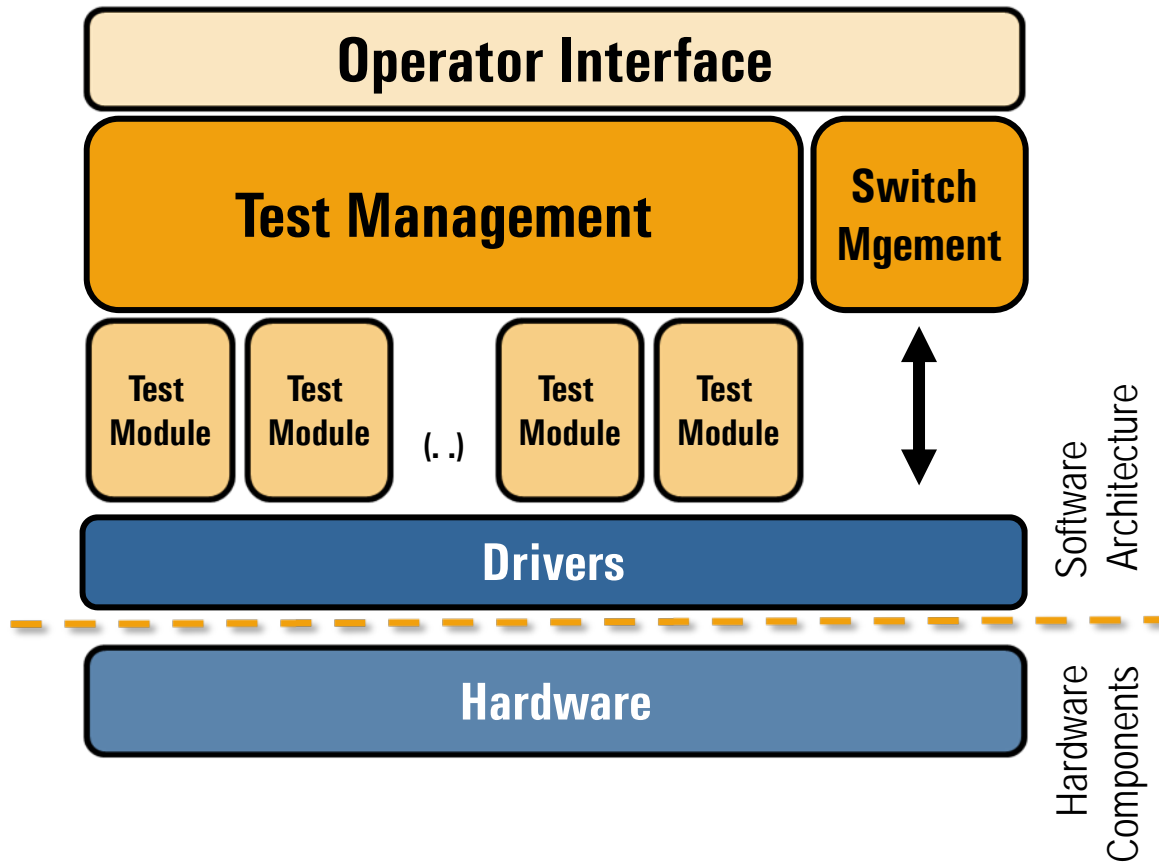
ni.com/nidays



HANDS-ON: DEVELOPING AUTOMATED TEST SYSTEMS WITH LABVIEW AND TESTSTAND

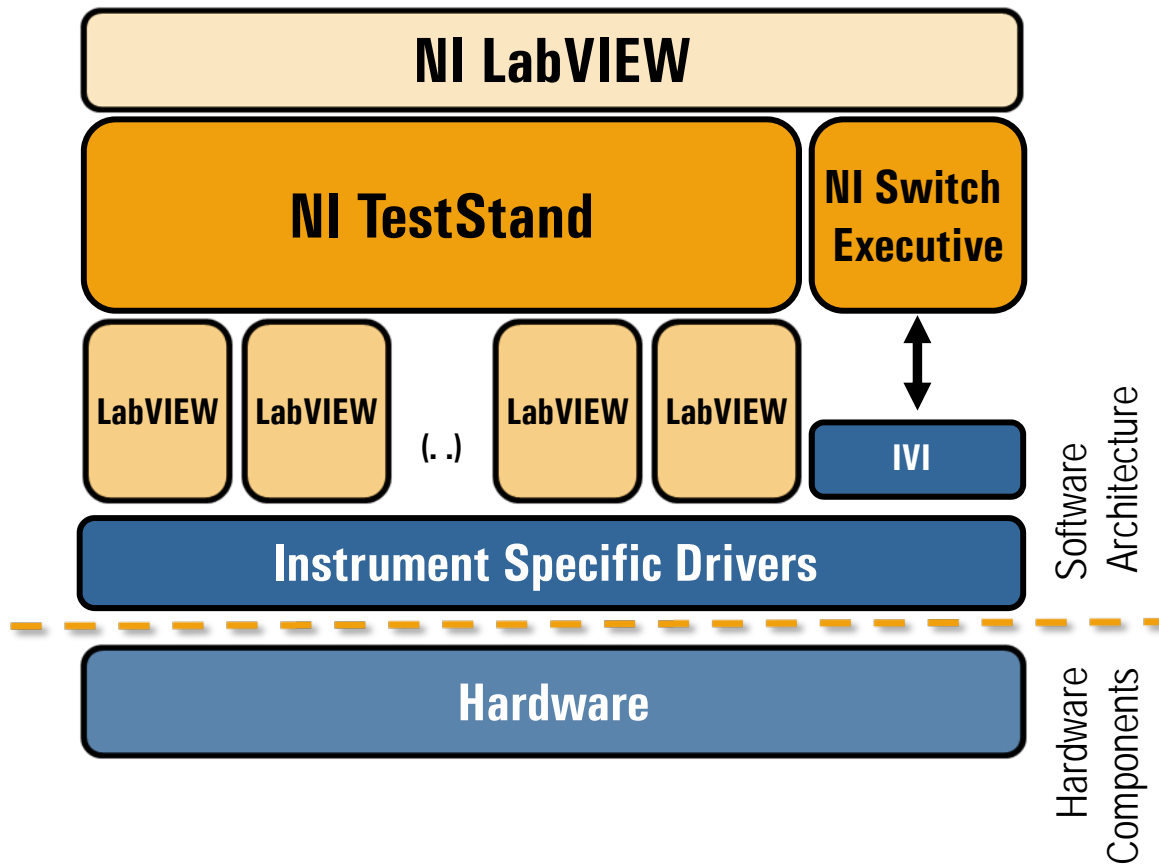
Required Elements for Test System Design

- Test executive
- Test development software
- Instrument drivers
- Test instruments



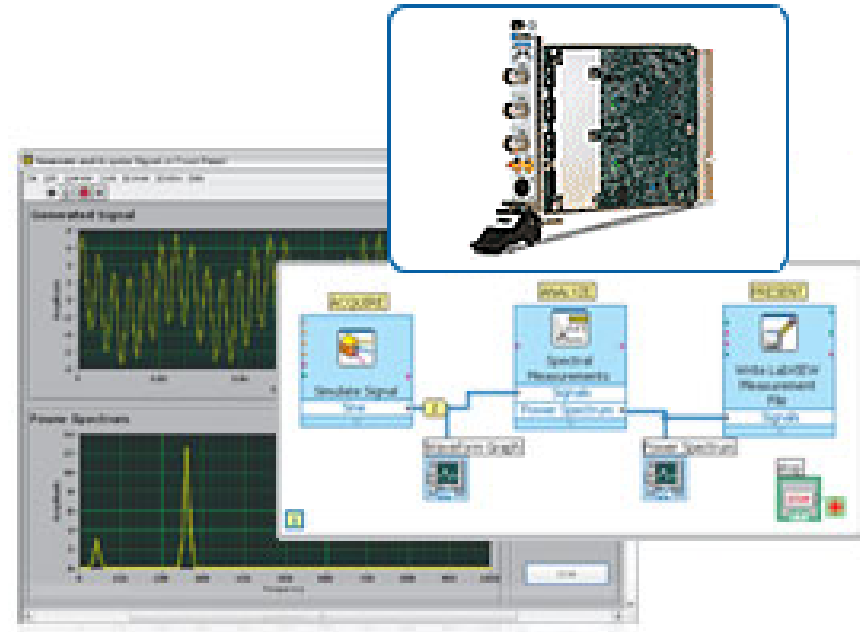
Required Elements for Test System Design

- Test executive
- Test development software
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What Do We Need in a Programming IDE?

- **Faster/Easier Development and Debugging**
- **High-Performance Execution**
- **Components**
- **Designed for Engineers**

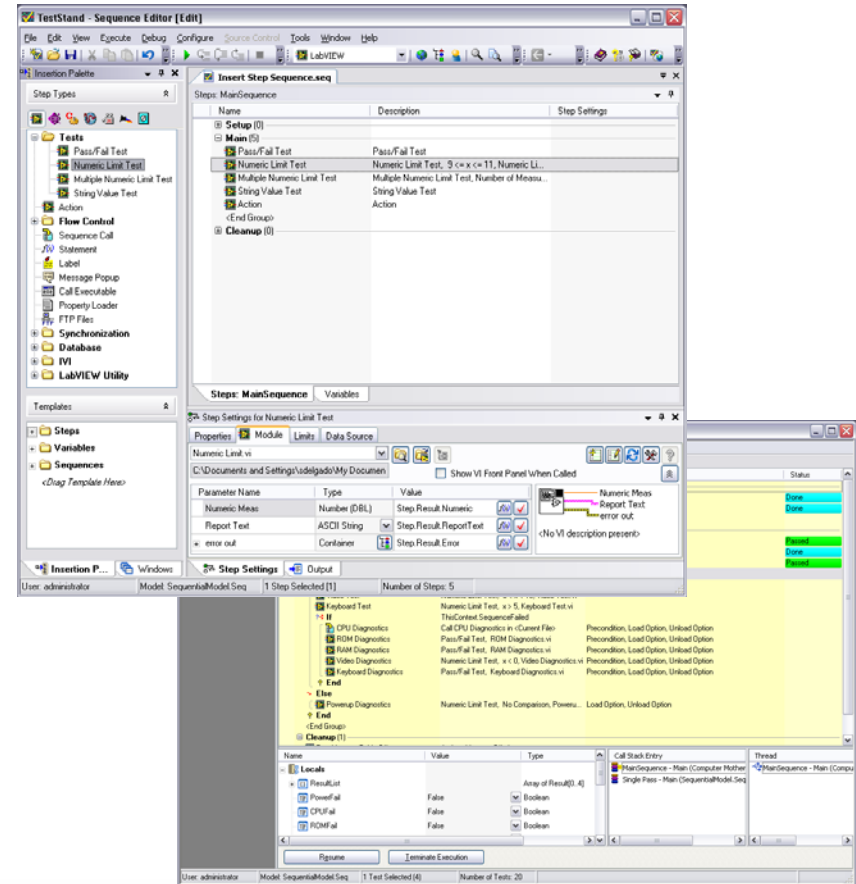


What Do We Need in a Test Executive?

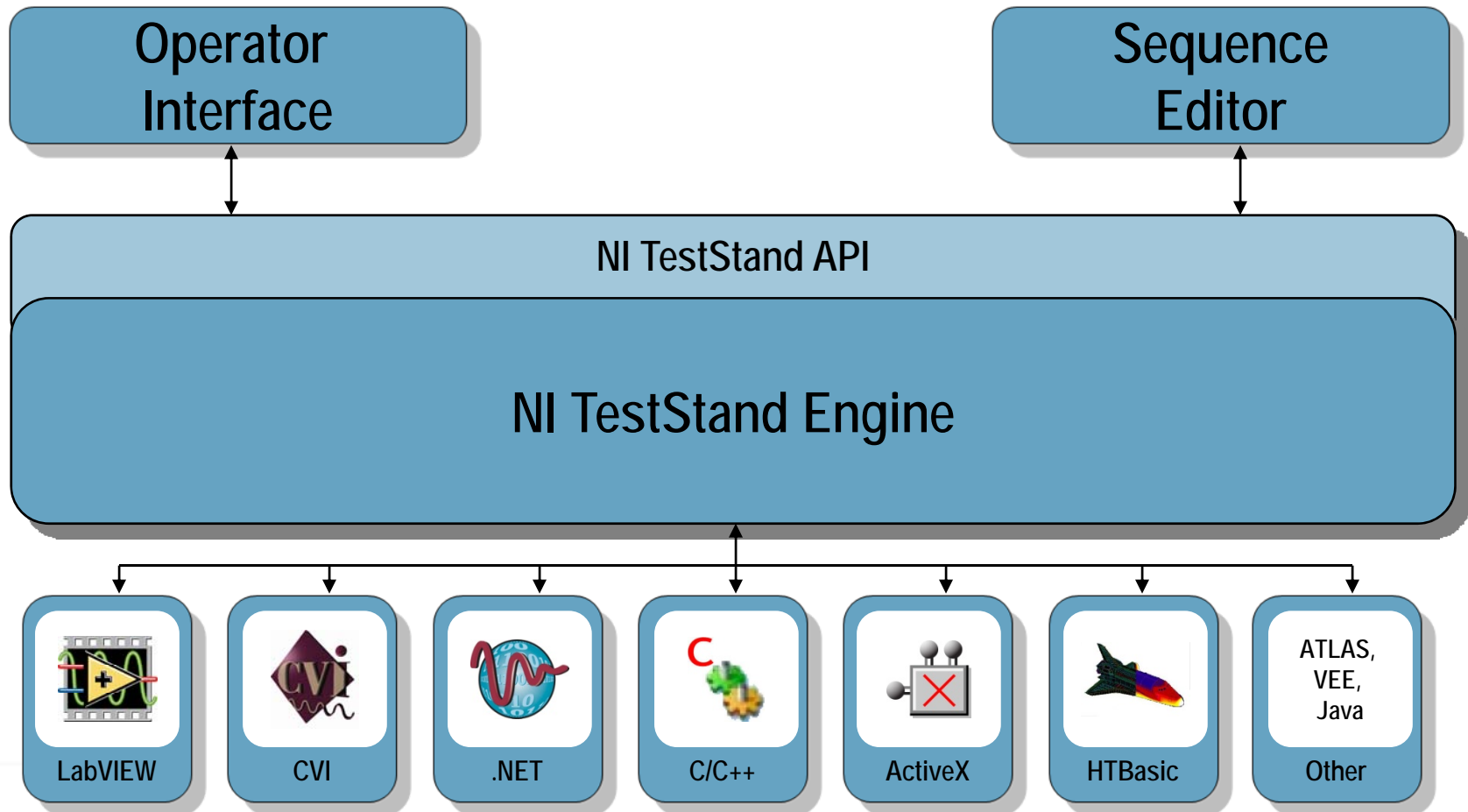
- Flexible, open test architecture
- Ability to eliminate common test executive task programming
- Reuse of existing test code
- Simple updates and long-term maintenance
- Test system development acceleration
- High test-system performance

NI TestStand – Test Management Software

- Graphical development environment
- Automate tests written in any language
- Multithreaded sequence execution
- Report generation
- Database connectivity

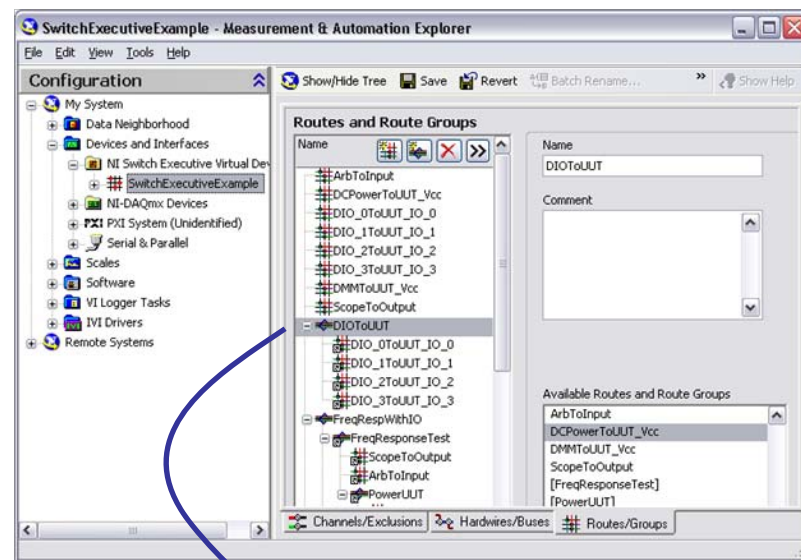


NI TestStand System Architecture

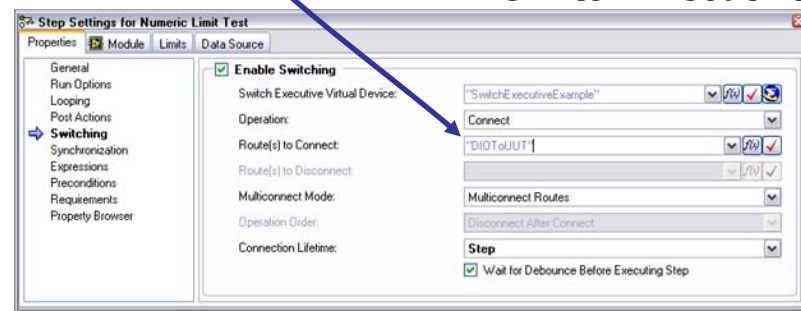


Switch Automation with NI Switch Executive

- Automatically routes between endpoints
- Use per-step switching in NI TestStand
- Reduces switch code complexity
- Reuse and easily maintain test modules
- Abstracts low-level switch programming details

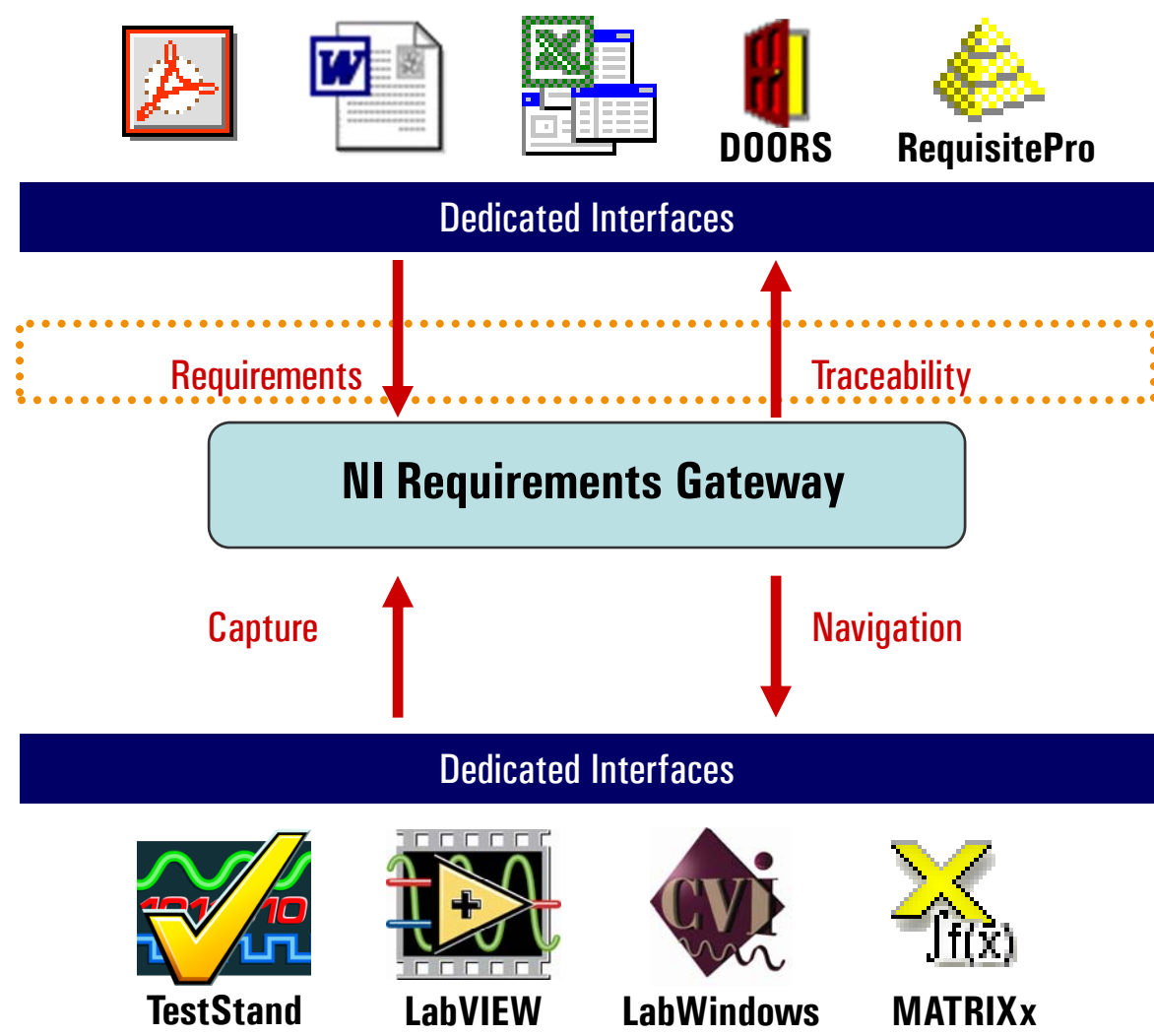


NI Switch Executive



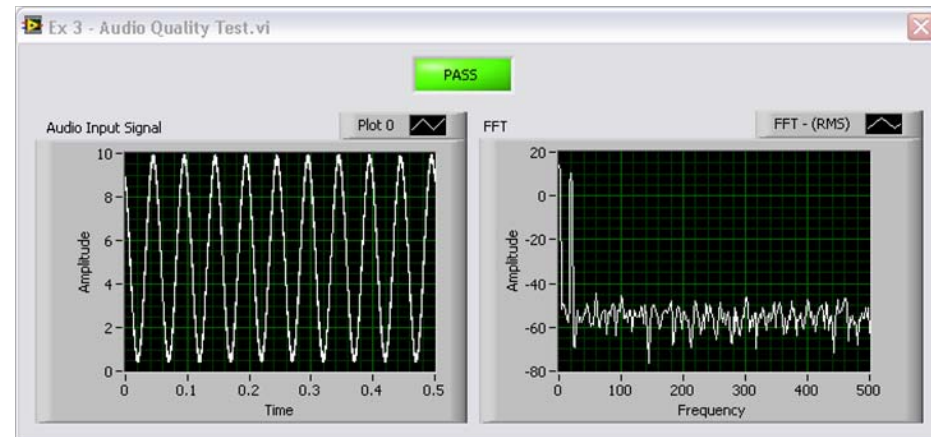
NI TestStand

Requirements Management Solution for NI Software



Hands-On Test System Creation

- Audio Quality Test
- Perform an audio quality test on phone speaker
 - Show audio signal on graph
 - Perform FFT on acquired data to determine frequency
 - Perform limit test on resulting frequency and amplitude measurements



Links

- [NI TestStand](#)
- [NI LabVIEW](#)
- [NI LabWindows/CVI](#)
- [NI Switch Executive](#)
- [NI Requirements Gateway](#)