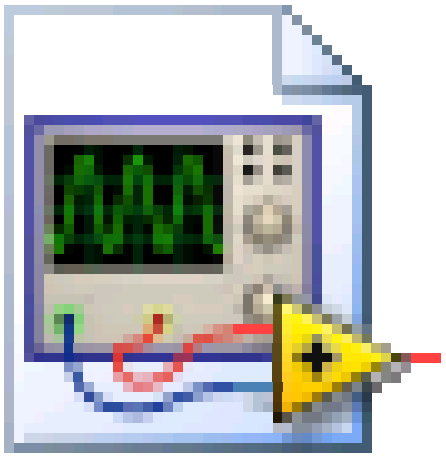
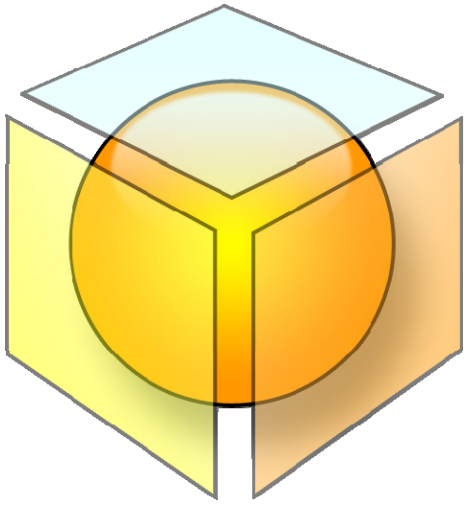
Effective LabVIEW Code Reuse: Strategies and Tools





Presented by:

Omar Mussa & Jim Kring

at NIWeek 2008

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Jim Kring

- JKI Founder and CEO
- Certified LabVIEW Architect
- “LabVIEW for Everyone” Author
- OpenG Founder

Omar Mussa

- Certified LabVIEW Architect
- Creator: VIPM Project Scanning
- LabVIEW OOP and DB Expert

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LabVIEW Reuse

Title: Reduce, reuse, recycleCredit: http://www.flickr.com/photos/chicanerii/

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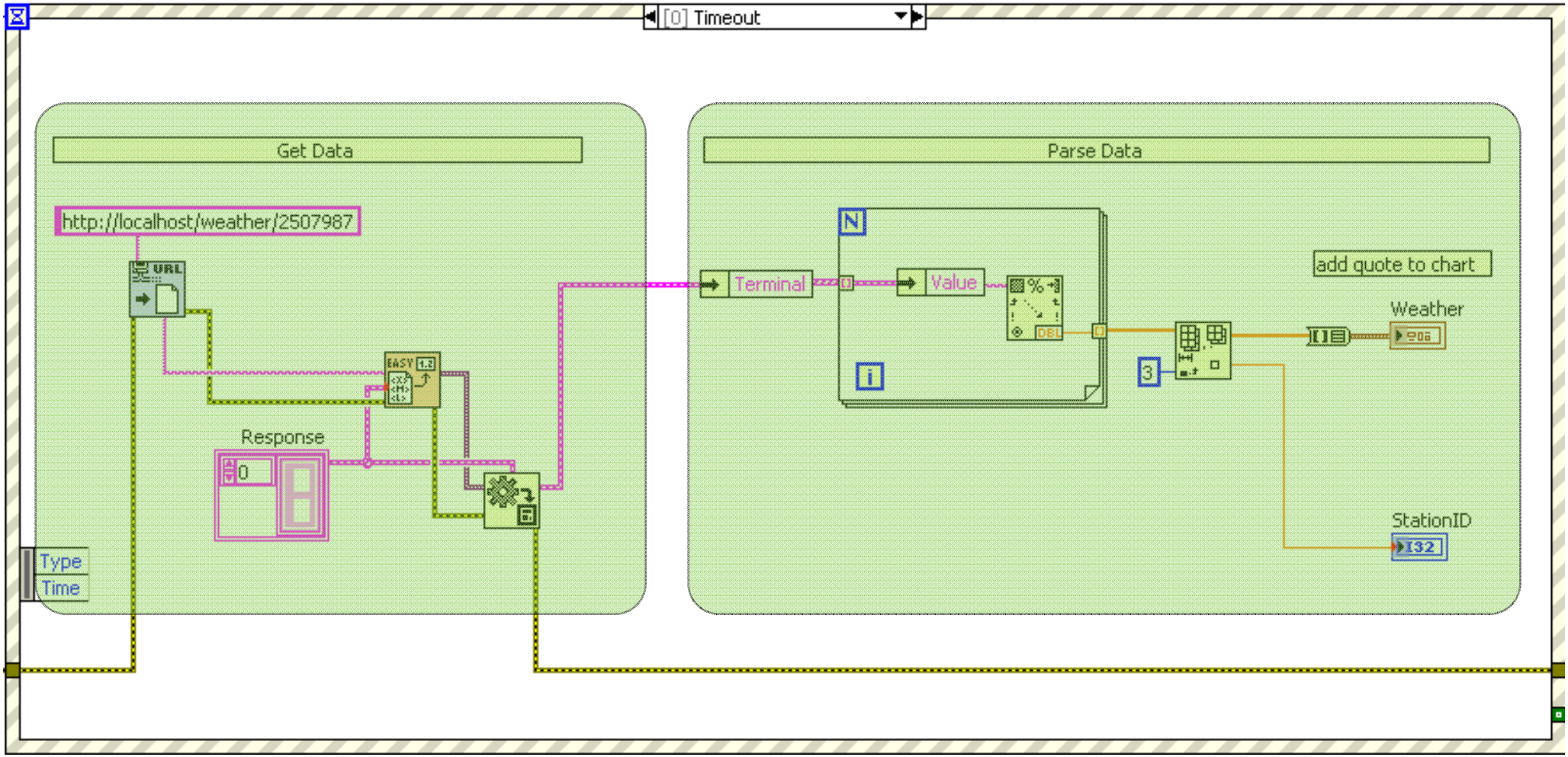
A reuse process begins …



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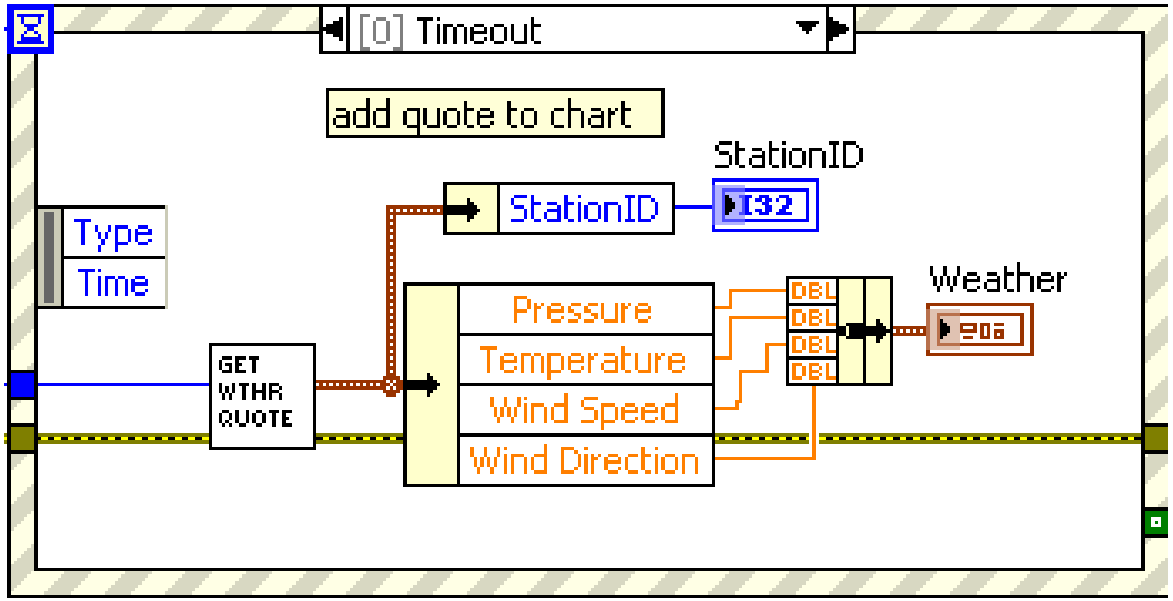
Code evolved

- Create sub-VIs
- Apply style guidelines
- Design for reuse



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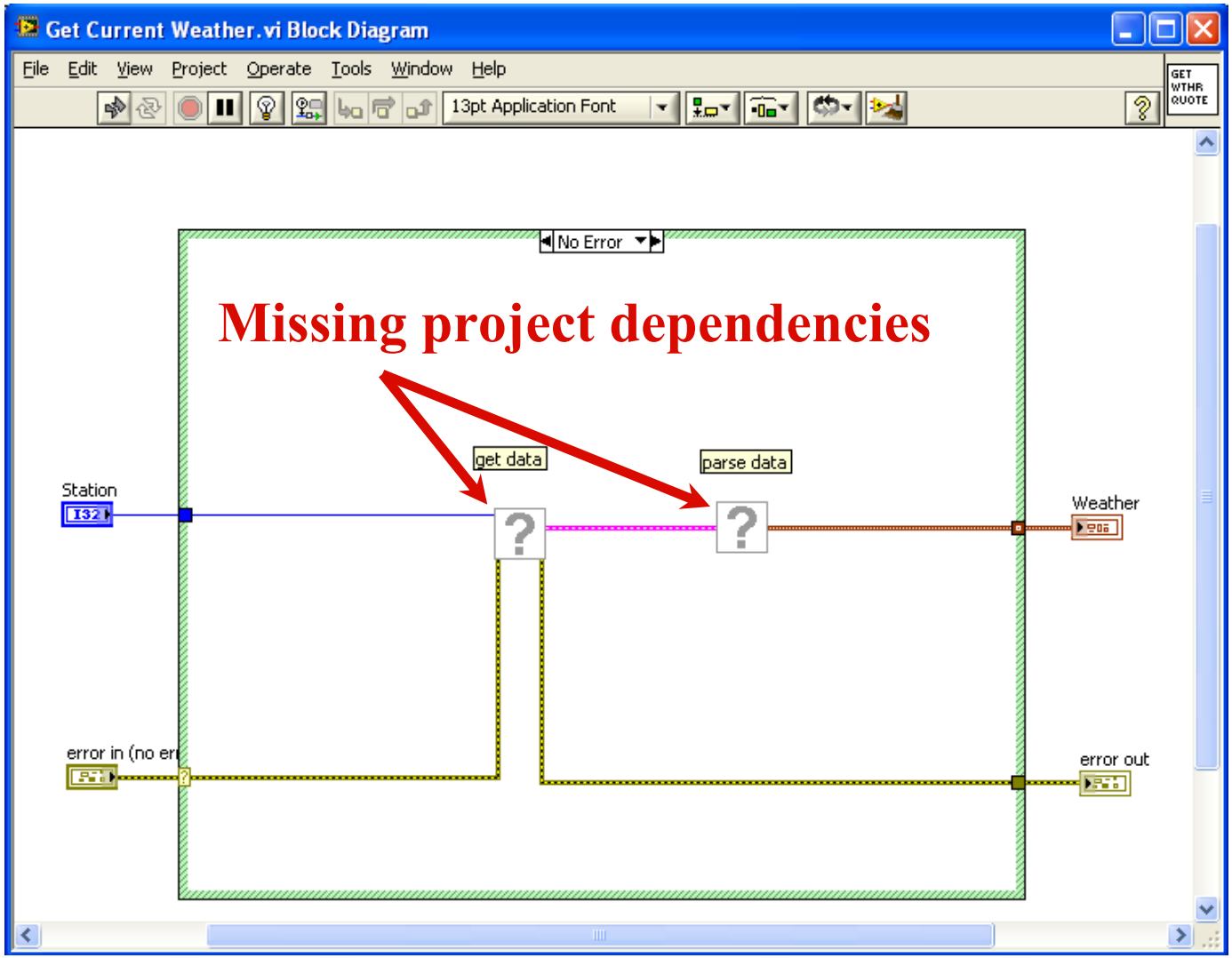
Deployed to a new project



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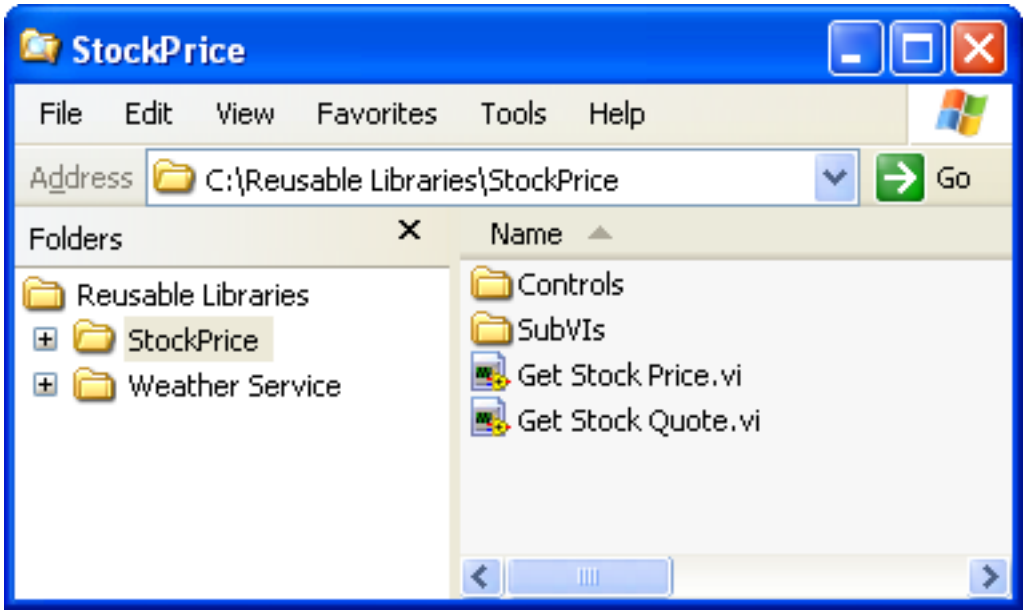
Reorganize project into folders

- Easier to manage
- Searchable
  (via File System)
- Can monitor status
  (via SCC Tools)



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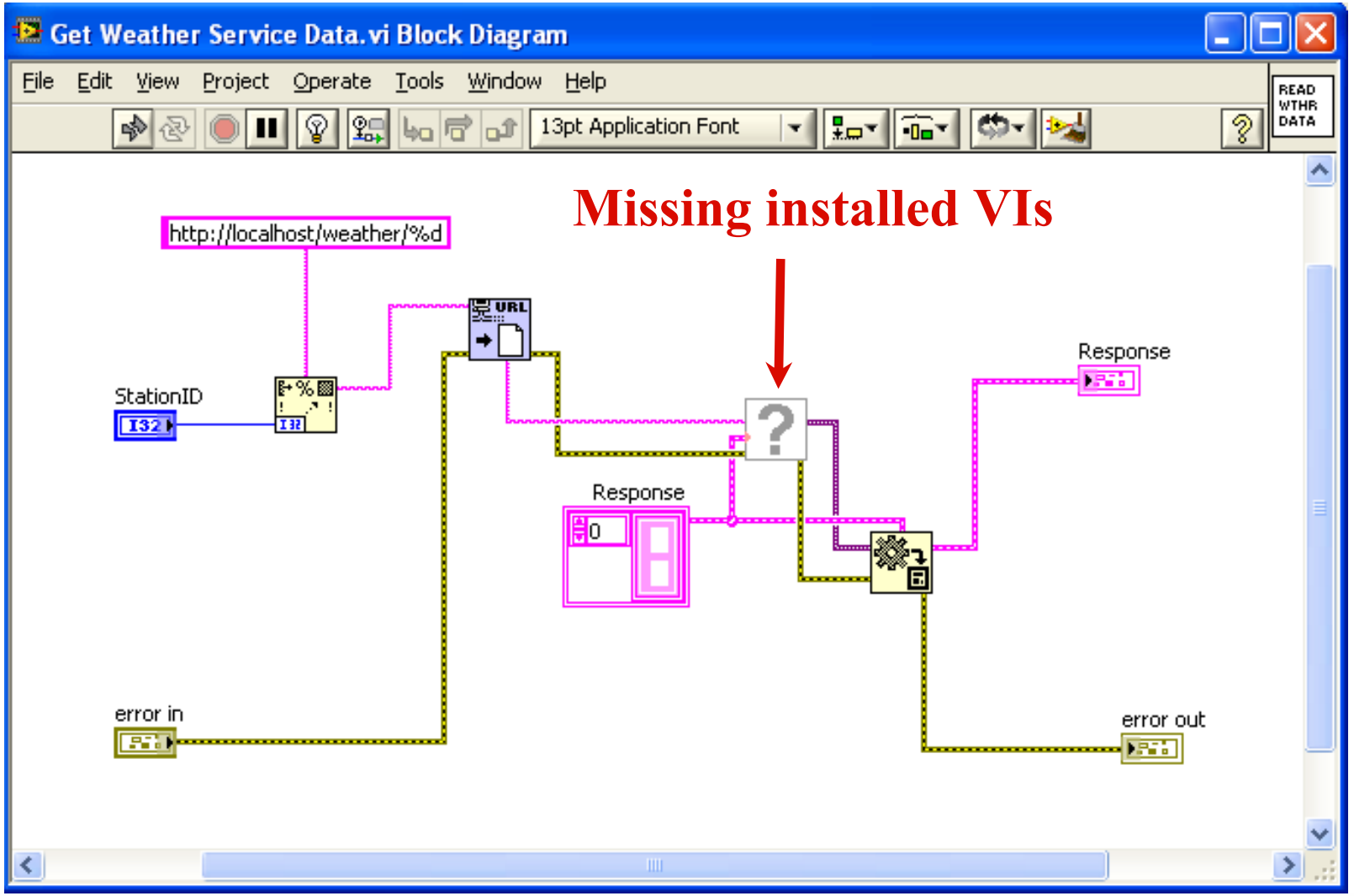
Migrated to a new computer



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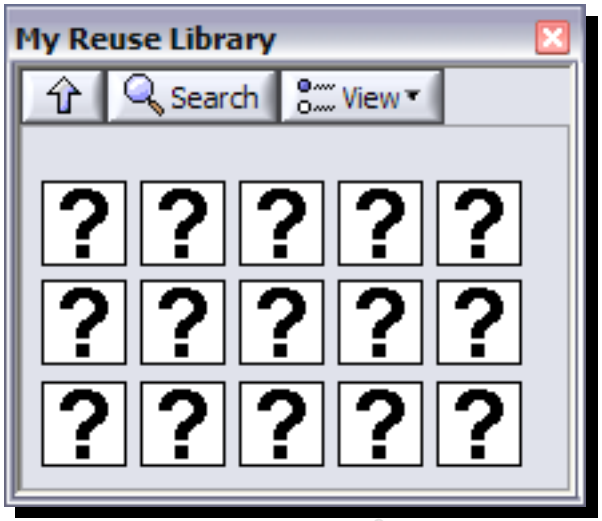
Where are your VIs?

- Missing on block diagram

- Missing on palettes



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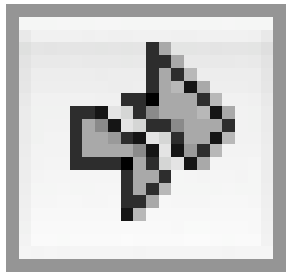
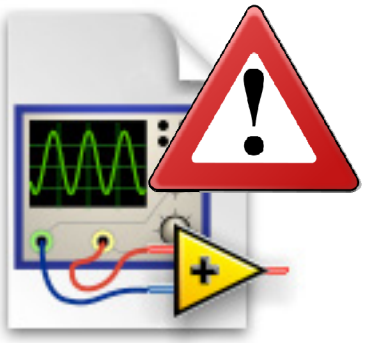
Other problems emerge

- Name Collisions



- Version Management



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What happened?

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Monolithic Reuse Library

- Benefits
  - Easy to create
  - Easy to distribute
- Drawbacks
  - Difficult to manage
  - Easy to branch/fork
  - **HARD TO MAINTAIN**

Title: Monolith
Credit: http://www.flickr.com/photos/kwanie

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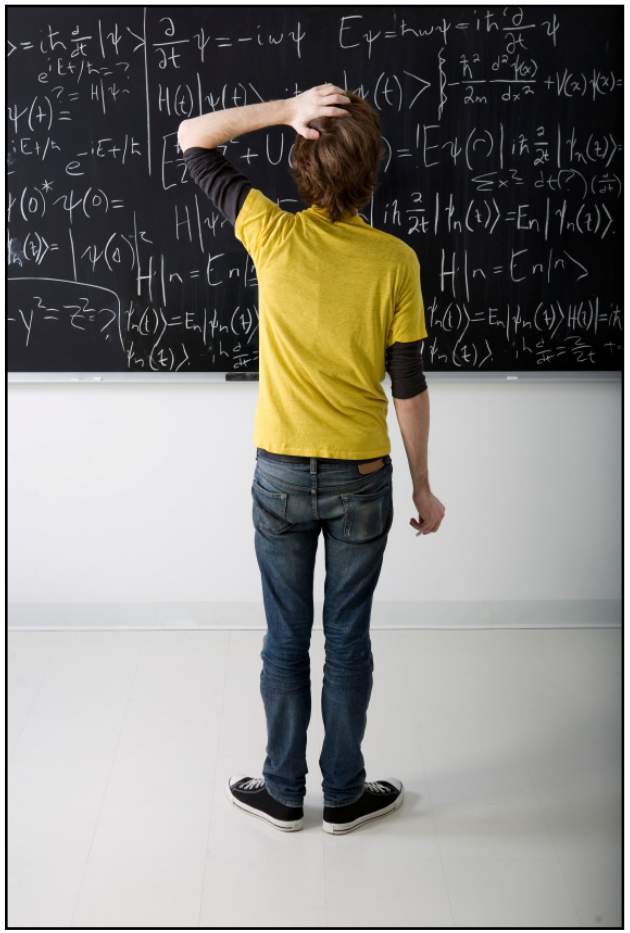
Reuse library grew complex



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You abandoned the reuse library

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Good Intentions

Save money

Save time

Improve quality

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Your results

Overwhelmed

Frustrated

Re-
Engineering

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You have a problem...

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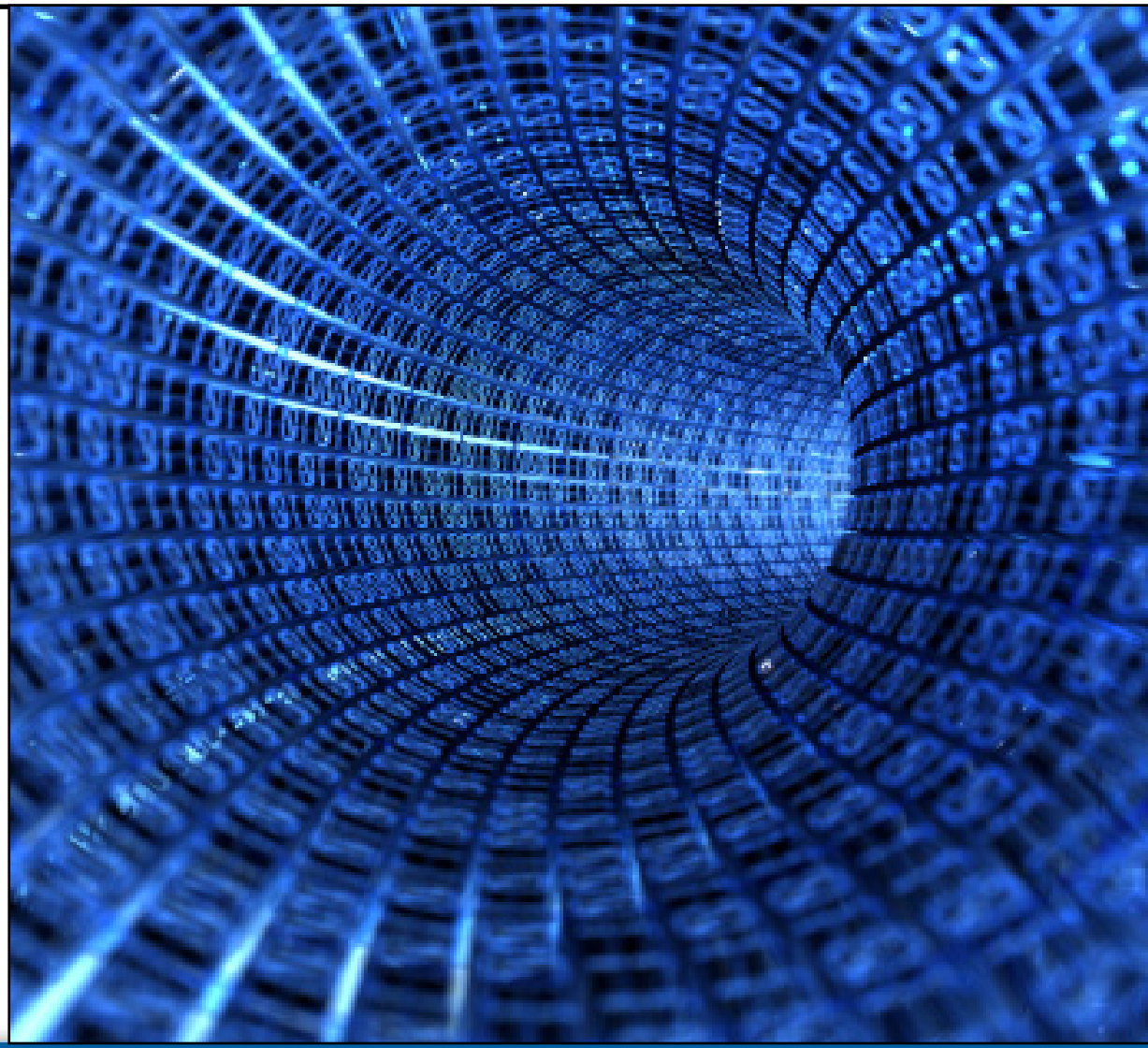
Reuse library dimensions

- Reuse components
- Dependencies
- Versions



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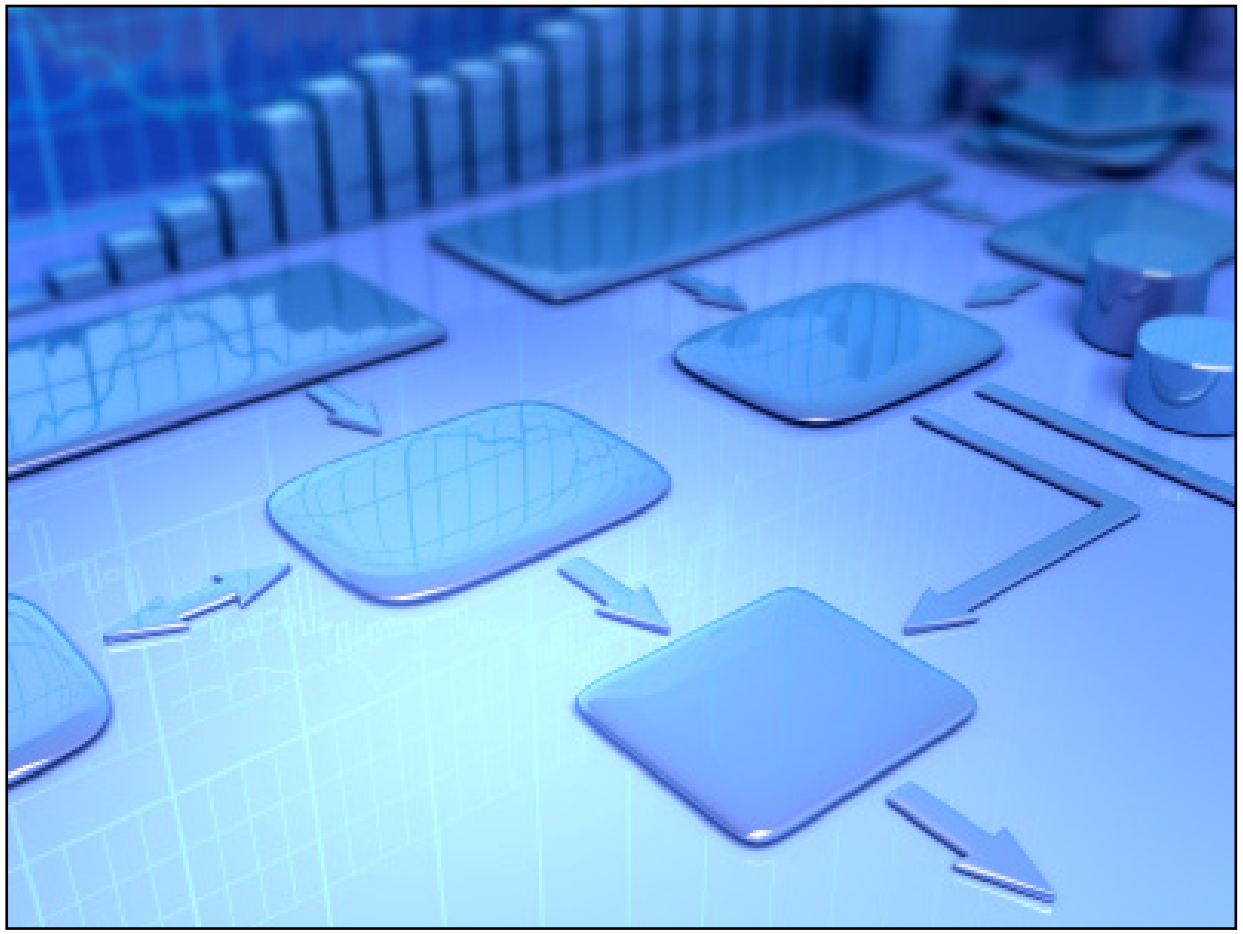
Define a reuse solution



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Reuse library goals

- Accessible
- Scalable
- Portable
- Modular
- Easy

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Accessibility

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Scalability

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Portability

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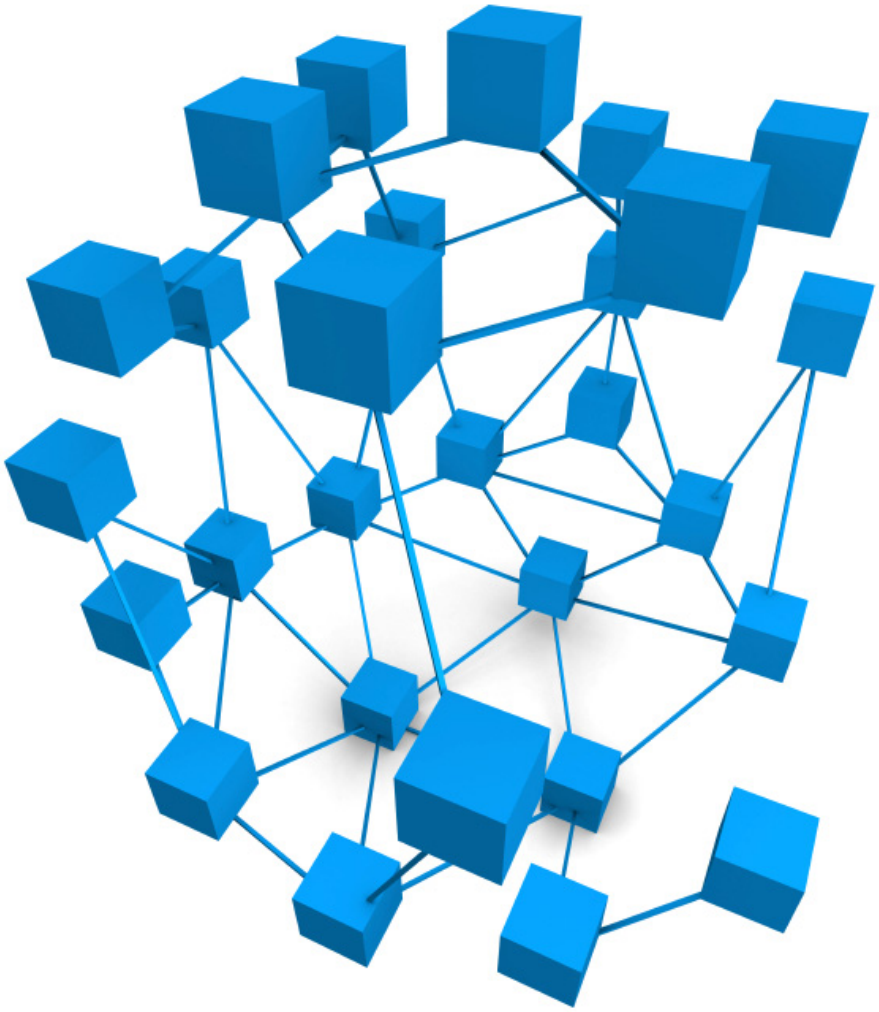
Modular



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Easy

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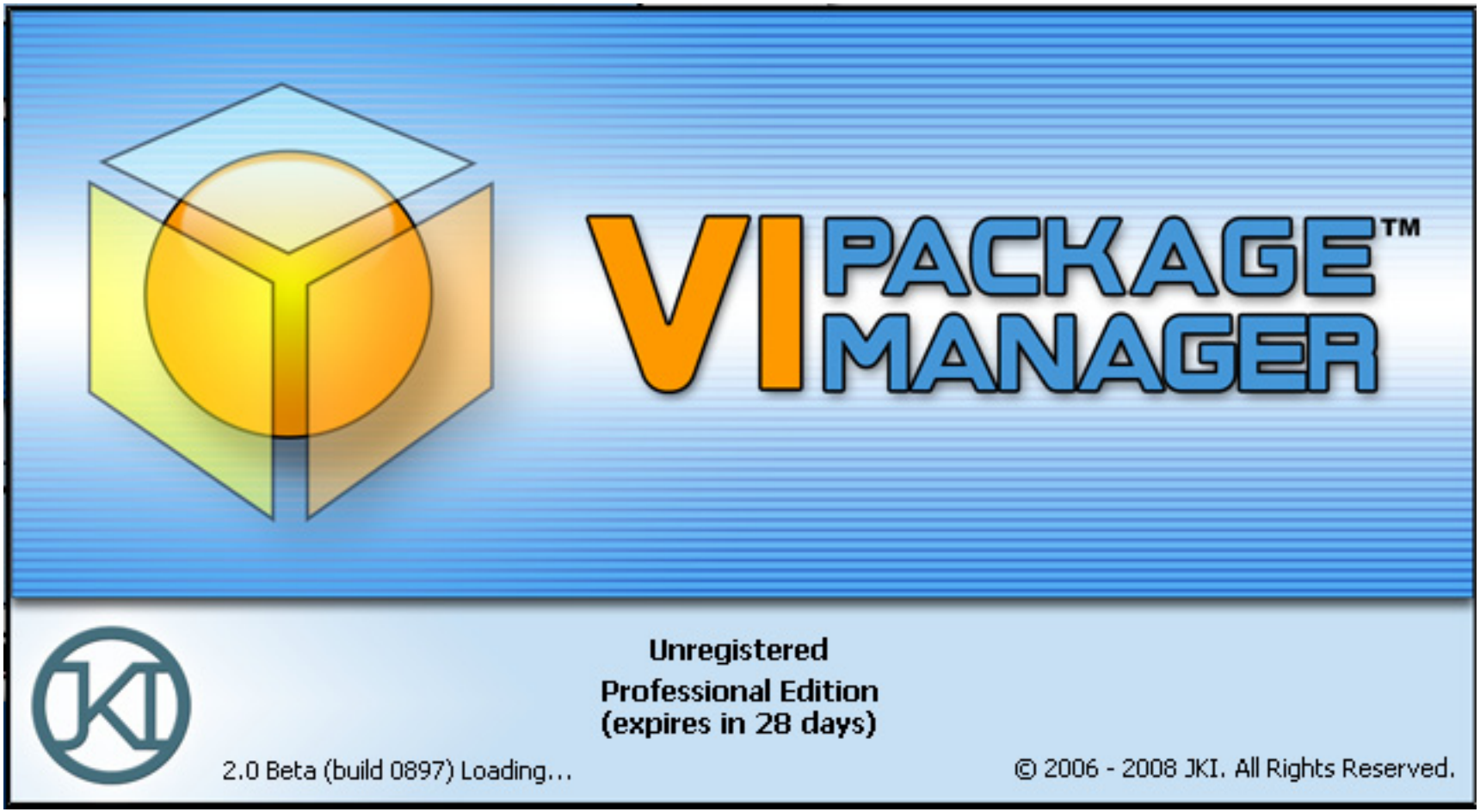
Using reuse tools in our process



jkisoft.com/vipm

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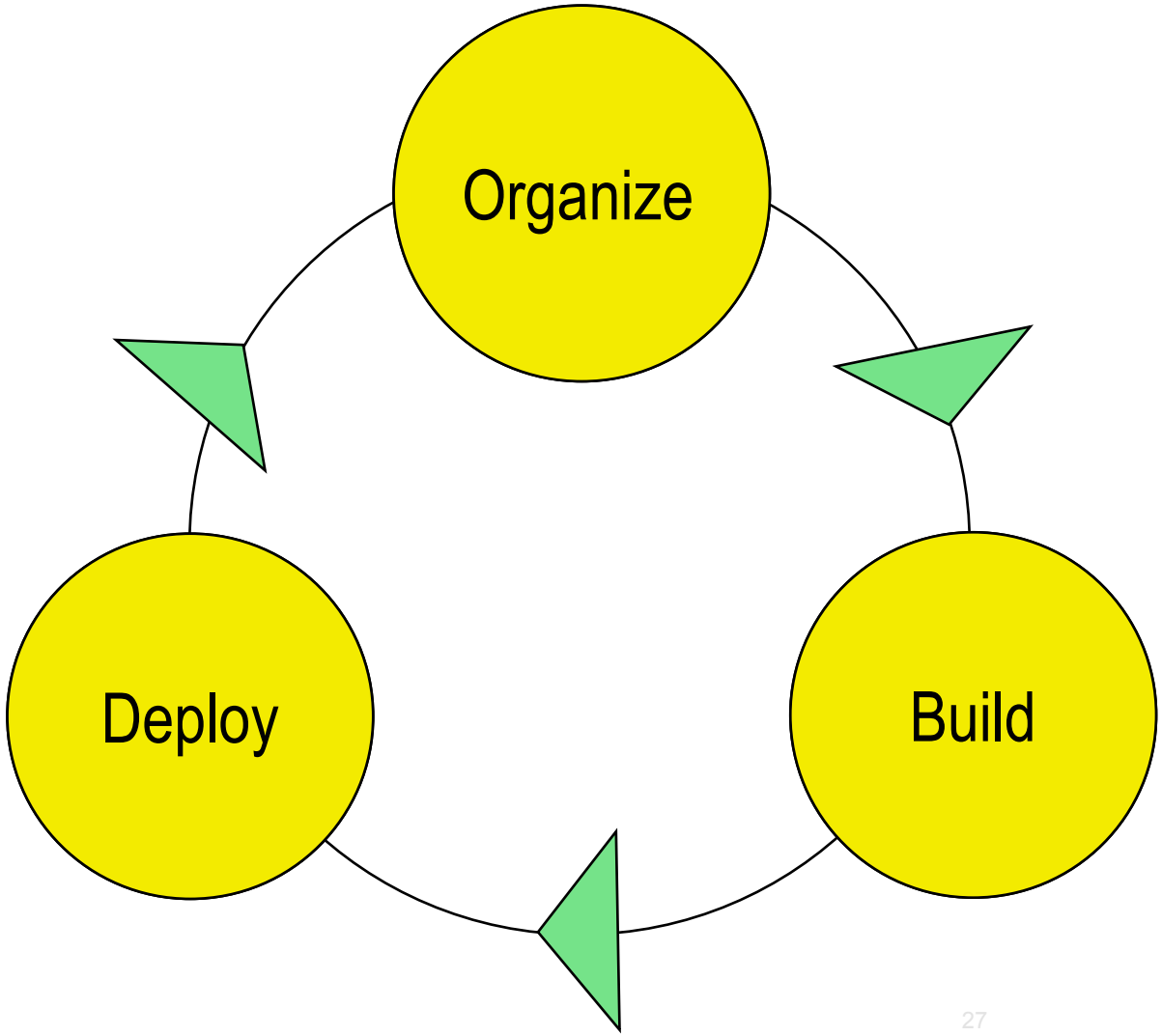
JKI Reuse Process



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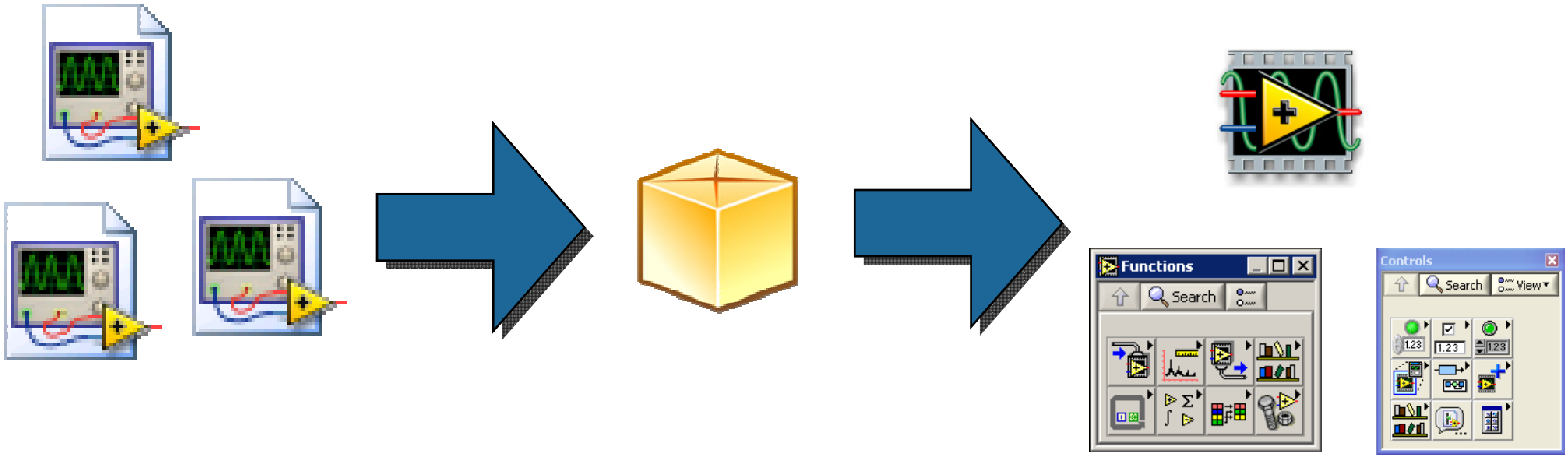
VIPM LabVIEW Integration



Reuse VIs

Package

LabVIEW Palettes

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Package Reuse Demo

Build a reusable library from your existing VIs and have them show up in your palettes

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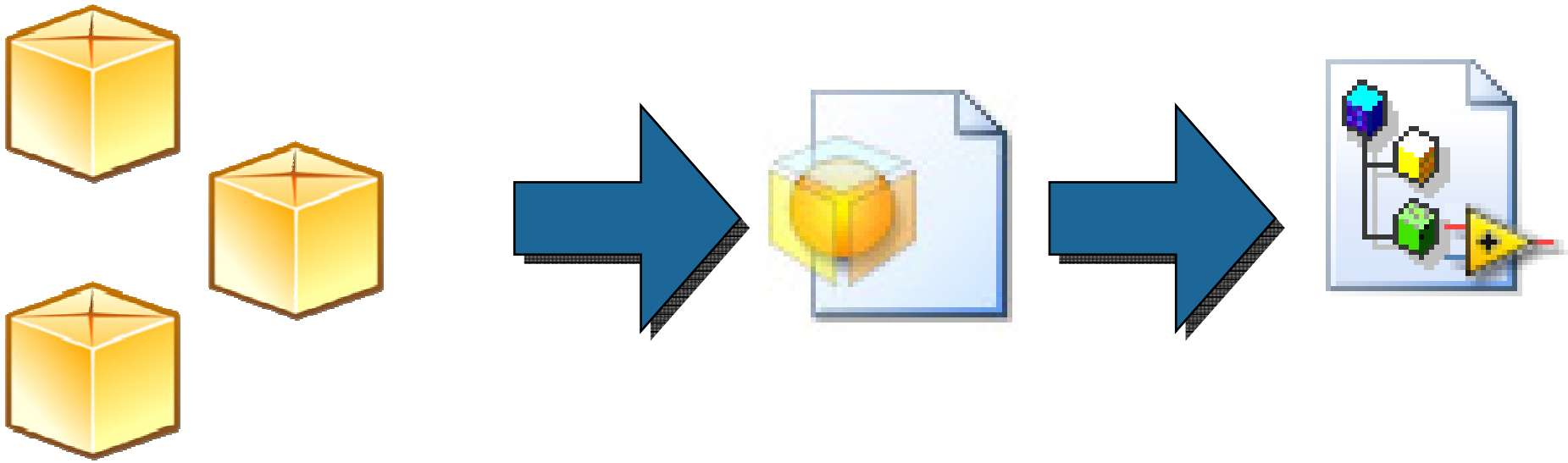
VIPM Project Integration



Packages

Package Configuration

LabVIEW Projects

Why we know it works ...

- JKI uses it internally for our reuse process.
- Used to distribute the largest LabVIEW reusable library ...

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Why we know it works ...

"The VIPM is an integral component of our overall test software reuse strategy. Its features, ease of use and direct integration into LabVIEW™ made it the clear choice as a core component of a comprehensive test software reuse and development environment configuration management solution at V I Engineering, Inc."

Christopher G. Relf
Certfied LabVIEW Architect
Chief Architect - V I Engineering, Inc.

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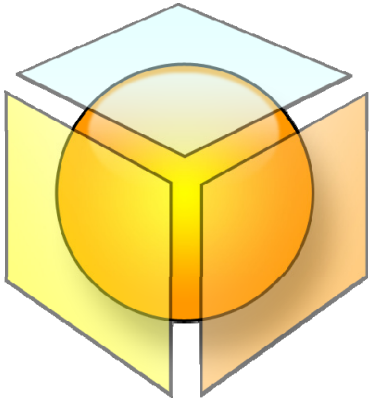
Conclusions

- Reuse is important
- Process is critical
- Tools exist to **simplify your process**



Robotics Pavilion

339	438	439	538
341	440	441	540
343	442	443	542

LabVIEW Zone

For more information on reuse please visit:

jkisoft.com/vipm

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