MATLAB EXPO 2015
KOREA
2015년 5월 21일 목요일
인터넷센터날寇 코엑스, 서울
Effective Team-Based Collaboration with Simulink Projects in MBD

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How “complex” are the projects you work on?
Complex projects have Hundreds of files

Models, libraries, data, scripts, C/C++ code, documents, images, ...
Too complex for one person to understand it all
How does an individual Simulink user become a small team?

How do small teams grow to larger teams?

How do large teams fit into the enterprise environment?
Sharing the right type of information in the easiest possible way
Sharing challenges vary with team size

- Individual users
- Small team
- Team within enterprise environment
How do people share & manage projects?

Q: “What do you use for managing the content of your software?”

Majority use COTS tools for managing work & sharing information

- Source control
- Enterprise level tools
  - Application Lifecycle Management (ALM)
  - Product Lifecycle Management (PLM)

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How do people share & manage projects?

Q: “What do you use for managing the content of your software?”

32% using named folders
- MyProject_v1
- MyProject_v2
- MyOldProject
- …

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How do people share & manage projects?

Q: “What do you use for managing the content of your software?”

Can we make sharing easier?

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Most Common Challenge in Sharing Work

“It works on my computer, just not on yours…”

Common causes:

- Incomplete set of files
- Different environment
  - (software versions, MATLAB path, …)
- Wrong data loaded
- What do I do to get started?
Simulink Projects Support Sharing

Ensure project is ready for sharing

- Dependency analysis to ensure project is complete
- Shortcuts make key parts discoverable
- Automatic environment set-up
- Built-in sharing tools
  - Source control integration
  - Export to zip archive

» sldemo_slproject_airframe
Share what you are working on right now

- Optional, downloadable plugins
  - Download new and updated sharing options

- Package and share your project
  - Internally (email, SharePoint)
  - Externally (GitHub, BitBucket)
  - For re-use (template, toolbox)
Sharing challenges vary with team size

- Individual users
- Small team
- Team within enterprise environment
Support adopting source control

Provide direct access to source control
- SVN
- Git

Published API

Simulink Project
Support adopting source control

- Provide direct access to source control
  - SVN
  - Git

- Published API + SDK for integration with other tools
  - Java code required

- Other source control tools

Published API + Simulink Integration for R2014a and R2011b.
Sharing challenges vary with team size

- Individual users
- Small team
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Fitting into the enterprise: two loop workflow

Enterprise:
What?
- Outputs from project
- System level reqs & data
When?
- Periodically/On milestones

Local Team:
What?
- Everything in the project
When?
- All the time
Push latest design into the PLM tool

Generate project outputs to share with the enterprise:

- Control module code
- Supporting documentation
Sharing information about enterprise files

Use Simulink Project labels to share workflow information

Attach labels to files exported to PLM

Create custom labels to share process information
Use Simulink APIs for automation

Use Simulink APIs to automate generating files for enterprise

Project shortcuts make PLM export scripts discoverable

Scripting PLM export supports efficient, mistake-proof workflow
Understand impact of enterprise-level changes

“What is the impact of updated requirements documents from PLM?”

PLM

Local Source Control

Project

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Enhanced Impact Analysis

Easily find tools on the new toolstrip

Popup makes the viewer easy to use even when zoomed out

Enhanced impact viewer supports large projects
- See information about which blocks are impacted by a change
- Improved line routing
- Pop-ups make it easier to navigate very large projects

Fine-grained information about impacted blocks and subsystems

Improved edge routing makes it easier to visualize large projects
Make it easier for anyone to start using Simulink

- Individual users
- Small team
- Team within enterprise environment
Introduction to Simulink Projects
Simulink Projects

Manage design-related files efficiently within Simulink

- Search, manage, and share related files in a Simulink project
- View revision information
- Peer review of changes using XML comparison tools
- Access version control functionality
New Features in R2014b and R2015a
Consolidate File Views

 Consolidated File View

- Combined Project Files and All Files View
- Easily add and remove files from the project
- Full drag and drop support
- File actions tied to project status: creation, deletion and move.
Rolled Up Source Control Status

Rolled up source control status is shown for folders.

- Easy to locate changes in file view.
- Tooltip summarizes what changes are in the folder.
- Fully recursive
Improved dependency viewer

- Easily find tools on the new toolstrip
- Popup makes the viewer easy to use even when zoomed out
- Expand files to see which blocks have dependencies
- Improved edge routing makes it easier to interpret large projects
New Source Control Demos

- sldemo_slproject_airframe_svn

- sldemo_slproject_airframe_git
Desktop Source Control Integration

- Source control available in the current folder tool
- Does not require a Simulink license
- 14b limitation: opening a Simulink project will disable source control in the current folder tool.
Simulink Project: MATLAB Search Path Management

Automatically manage your MATLAB search path with your projects.

- Project path folders added to MATLAB search path on project start.
- Project path folders removed from the MATLAB search path on Project close.
- No longer a need to write startup shortcuts to manage MATLAB’s search path.

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Simulink Project: New Label Panel

Easily add, modify and view labels attached to a file.

- Easily see and edit label data for all labels attached to a file.
- Use drag and drop to add labels.
- Easily switch between single-valued labels.
Enable Share on GitHub

Enter your GitHub username and password

Follow the link to view your GitHub repository website
Model Templates
Enhance “New Simulink Model”…
Model Templates

Build models using design patterns that serve as starting points to solve common problems

- Use shipped templates to get started with building models or create custom templates to from a Simulink model
- Avoid repetitive tasks when starting out to build a new model
- Enforce a standard process for building models for the entire team or organization
- Avoid problem of corrupting original file when creating a new model
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