Code Composer Studio v4

Why should I upgrade?

Agenda

- Summary
- Schedule
- Benefits

CCSv4 Summary

- What is it?
  - Major upgrade to CCS
  - Based on Eclipse open source software framework
  - New registration/licensing/updating mechanism and model
- Why Eclipse?
  - Quickly becoming a standard for IDEs
  - Excellent software architecture
  - Ability to leverage the work of others
  - Wide selection of 3rd party plug-ins available
- When?
  - Try it out today!
- How?
  - Restructuring of our debug stack
  - Porting of existing features to Eclipse
  - Taking the time to make sure migration will be as smooth as possible

Schedule

- Beta 1: October 2008
- Beta 2: December 2008
- Beta 3: March 2009
- Release to Market: June 2009

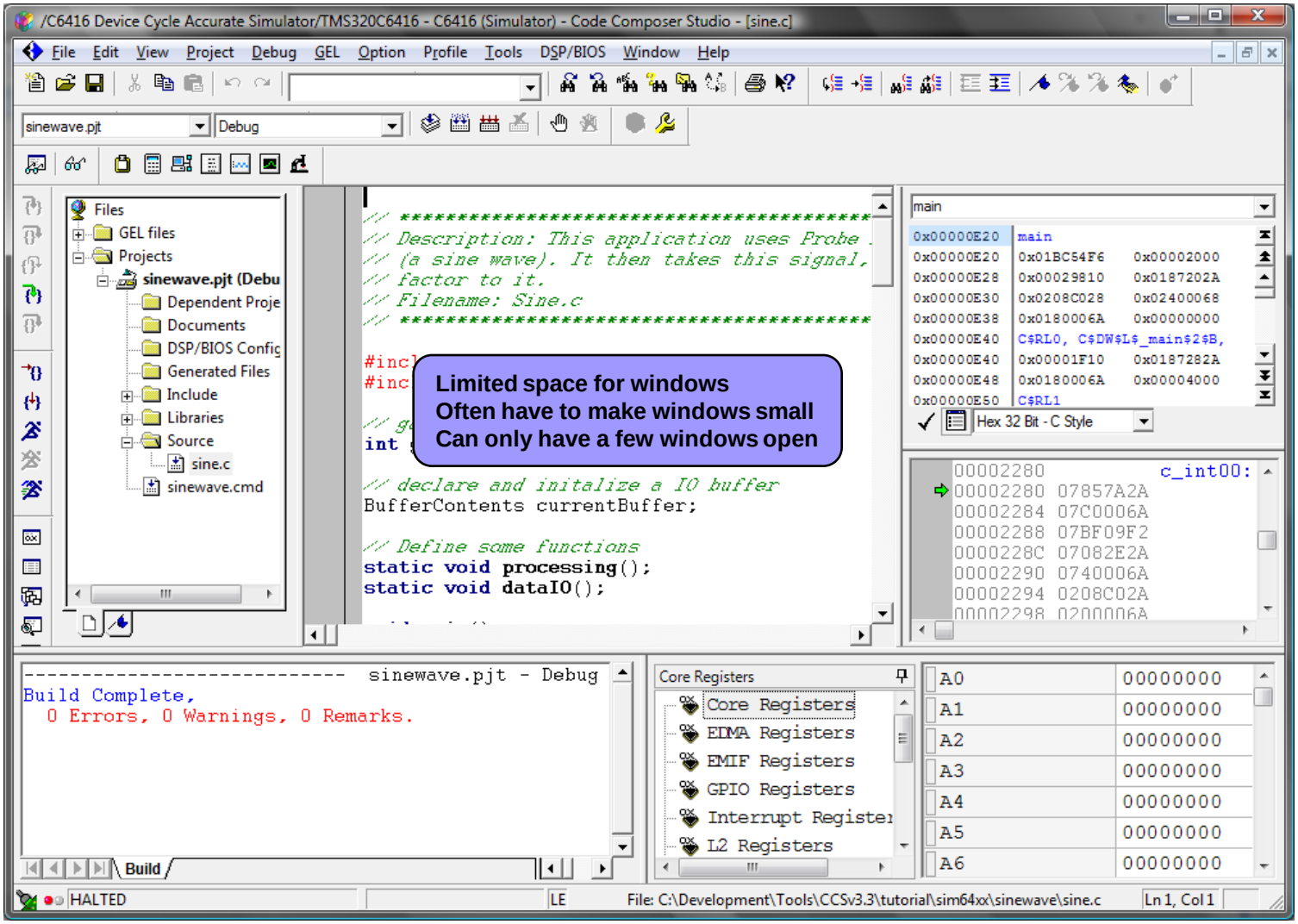
Reasons to upgrade

BENEFITS

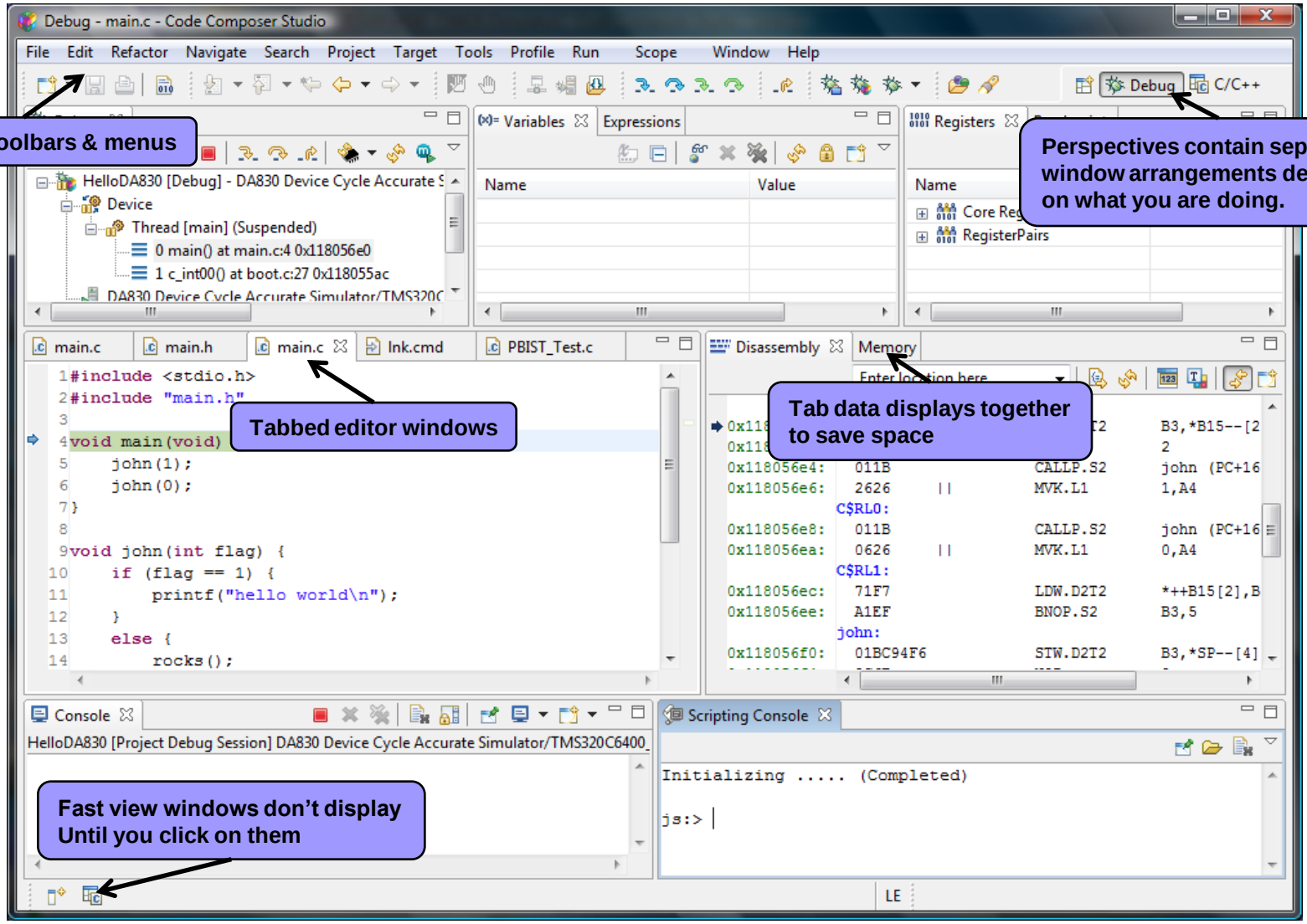
Windowing Environment

- Problems:
  - Today's embedded IDEs offer a large selection of features however fitting all of your windows into the IDE is a challenge
  - You use different windows at different times
- Solutions:
  - A comprehensive windowing solution that allows you to maximize the available screen space but still have all functionality at your finger tips
  - Ability to create different perspectives that have the windows that you use most for a given development activity readily available

CCSv3.3 Environment



CCSv4 Environment



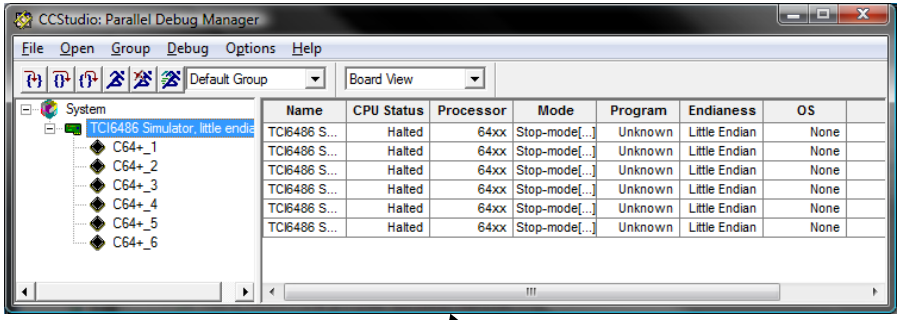
Source Code Editor

- Problem:
  - Most IDEs contain an editor with limited functionality requiring the purchase of an additional external editor
- Solution:
  - CCSv4 includes an excellent editor with equivalent functionality to the majority of commercial editors
    - Code completion (auto-parameter info…)
    - Jump to definition/declaration
    - Outline view of current source file
    - Local history of source file changes
    - Compare files
    - Back/forward/back to last edit location
    - …

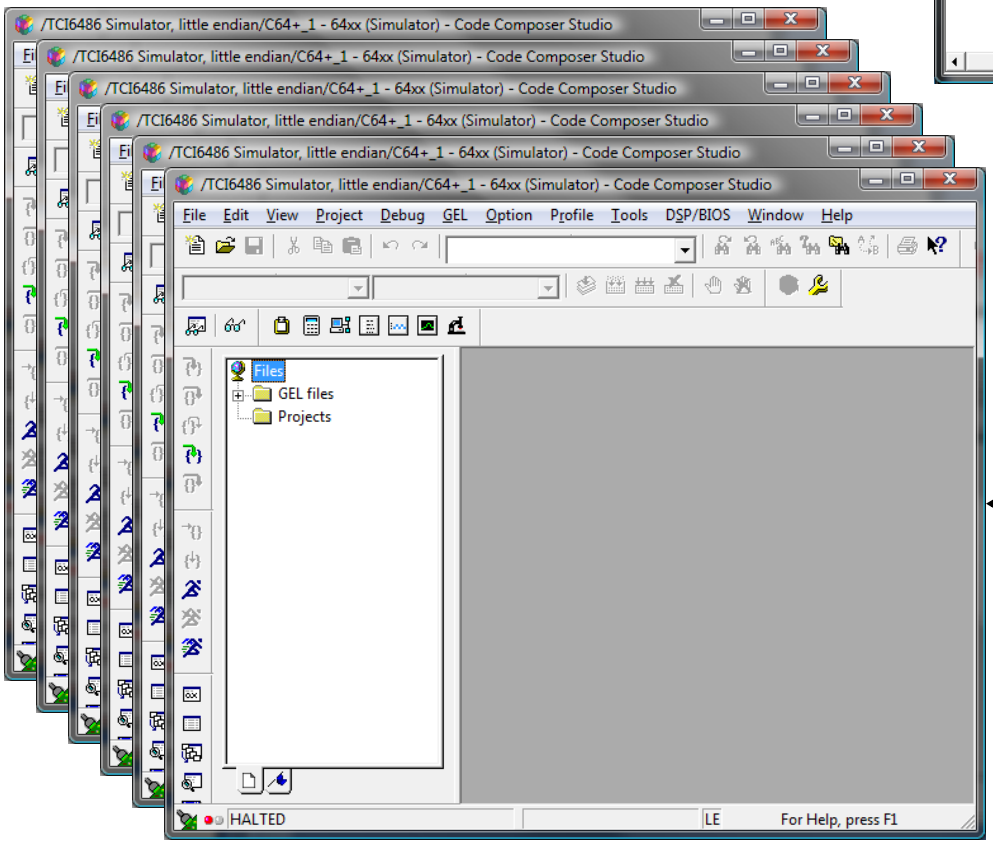
Multi-processor Environment

- Problem:
  - Many devices today include more than one processing core and often reside in a system with many other devices. Displaying debug information from many different cores typically requires many IDE windows.
- Solution:
  - CCSv4 allows you to have a single IDE window and to change the debug context of the IDE to any of the cores in the system.
  - You can also “pin” the context of a debug display to a specific core.
  - If desired you can open a top level IDE for any core

CCSv3.3 Multi-core Environment

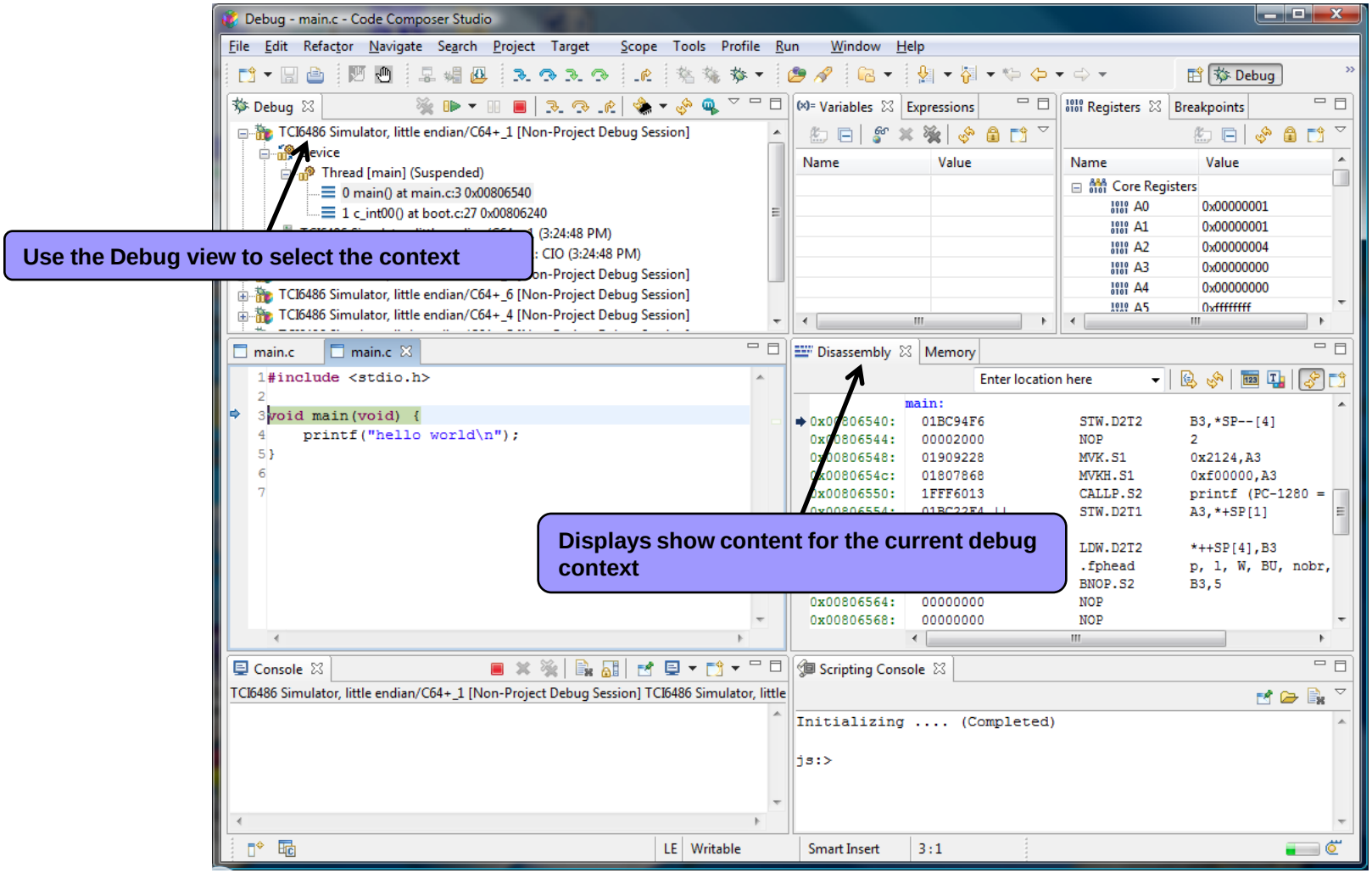


Parallel debug manager to see status of all cores



Separate top level IDE windows for each core
Can actually run out of windows resources

CCSv4 Multi-core Environment



Project Management

- Problem:
  - Typically you have more than one project on going at a time, with each project being at a different stage in development and often using different versions of compile tools or operating systems.
- Solution:
  - CCSv4 allows you to set the version of the compiler and DSP/BIOS that each individual project will use. Allowing projects in maintenance mode to continue to use the tools they were deployed with and enabling new projects to use the latest high performance tools

Tool Integration & Customization

- Problem:
  - More than just an embedded debugger is required during product development
- Solution:
  - CCSv4 is based on Eclipse which has a huge selection of 3rd party plug-ins available (code analysis, source code control, modelling, Perl development…)
    - http://www.eclipseplugincentral.com
  - The Eclipse plug-in development environment allows for the creation of your own custom tooling
    - Wizards for creating plug-ins quickly

Scripting

- Problem:
  - Some tasks such as testing need to run for hours or days without user interaction
  - Need to be able to automate common tasks
- Solution:
  - CCSv4 has a complete scripting environment allowing for the automation of repetitive tasks such as testing and performance benchmarking.
  - The CCSv4 Scripting Console allows you to type commands or to execute scripts within the IDE.

Image Analysis

- Problem:
  - Analyzing the output of an imaging or video algorithm requires looking at the data in its native format (i.e. the image or a frame of video).
- Solution:
  - The Image Display in CCSv4 supports viewing images in many different formats.
    - Ex. Interleaved YUV 4.2.2

IDE Familiarity

- Problem:
  - Developers work with a number of different development environments. Thus needing to become familiar with the work flow of different tools.
- Solution:
  - CCSv4 is based on the Eclipse open source software framework which is used by many different embedded development environments:
    - ARM Ltd, MontaVista, Enea, WindRiver, QNX…

Licensing

- Problems:
  - Mid to large size customers want floating (server) license options
  - Free Evaluation Tools and DSK tools are out of date the day they are created
- Solution:
  - Integration of FlexNET licensing allows for a variety of licensing options (node locked, floating, time based…).
  - Full tools, DSK tools, Free tools are all the same image and are kept up to date via the update manager

Update Delivery

- Problems:
  - People are unsure of what updates are needed
  - Downloading updates is painful
- Solution:
  - CCS will automatically check for updates on startup and indicate if content is available
  - Spectrum Digital & Blackhawk drivers are included in the CCS install
  - Service releases will only install content relevant to your installation (i.e. C2000 users only see C2000 content)
  - Much faster file server!!!!!!!!

Getting Involved with CCSv4

- Website:
  - http://tiexpressdsp.com/index.php?title=Category:Code_Composer_Studio_v4
  - Feel free to contribute
  - Contains links to download CCS, helpful tips & tutorials