Fremont Associates and the Furness Toolset

SAE AS2C
Detroit, Michigan
5 April 2006
The Furness Toolset

1. Montana → Furness (trademark issues)

2. Why Furness?
   - Frank Furness, leading architecture of the Victorian era. Designed the Fisher Fine Arts Library at the University of Pennsylvania.
   - Tools are a joint effort of Fremont Associates and Penn under an AFOSR STTR.
The Furness Toolset

► Goals

- Develop analysis tools for AADL
- Present the tools so that they are attractive to practicing engineers
- Spread the gospel
  - No more systems designed with Word, PowerPoint, Excel and a compiler
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► **Business Model**
  - Give the stuff away
  - Sell support
    - Pays for traditional customer service roles
    - Pays for ongoing maintenance and enhancements
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► Focus Areas

- Traditional embedded systems applications
  - Avionics, Automotive, robotic dogs
- Plug-and-play Medical Devices
  - Emerging system-of-systems problem
  - Driven by demands of demanding (but naïve) users
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► Current activity
  ▪ Creating a conformance test suite for AS5506
    ▶ Currently > 1000 test cases, perhaps 20% complete
  ▪ Reporting bugs
    ▶ OSATE
    ▶ TOPCASED
  ▪ Creating a simplified task-centric Eclipse perspective
    ▶ Attempts to mimic source/object/debug/execute
  ▪ Implementing analysis techniques
    ▶ ACSR for schedulability analysis
    ▶ Charon for behavioral specification
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Furness Toolset 1.0.0 contains

- OSATE fend/analysis 1.2.3
- TOPCASED 0.8
- VERSA plug-in 1.0.0 (schedulability analysis)

Install packages, guidance, Eclipse update
site available via web.
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► Demo time
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► End-user (and potential end-user) input is critical

   ▪ Goals
     ► Develop analysis tools for AADL
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   ▪ Business Model
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► (My) sense of the meeting
  ▪ AADL Advocates say...
    ► There are robust, high-quality tools available that are being applied to myriad realistic problems.
  ▪ Potential end-users say...
    ► We’re waiting for robust, high-quality tools and looking for evidence that they’ve been applied to real problems.
    ► Profiles for established tools (block-set for Simulink) might be all we need.
  ▪ Vendors of established tools say...
    ► As little as possible.

► What’s missing?