Life Beyond The Browser: TeraDRE

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GCE07
Animator's Environment
What is the TeraDRE?

- Model Editor
- Model Files
- Fast Low Quality Render
- Frames

It will look better with these effects.
What is the TeraDRE?

This is taking a long time to render
Animations Contain Thousands of Frames!

HELP!
What is the TeraDRE?

Model Editor \(\rightarrow\) Model Files \(\rightarrow\) Frames

Edit

Fast Low Quality Render

Slow High Quality Render

TeraDRE

Parallel High Quality Render
Screen Shots

Drag and Drop
Screen Shots
The Design

- Rich Client Interface
- Integrated
- Flexibility
- Scalability
Current Implementation

• Rich Client Interface
  - Java Web Start Application
• Flexibility
  - Additional modelling packages are easily added and deployed.
• Integrated
  - GridDomain
    • Examples TeraGrid, Purdue Campus Grid
  - GridSite
    • Gatekeepers within a Grid Domain.
• JNLP jar assembly to increase download speed.
The Design
Deployment Packages

- TeraDRE.jar
  - Local.jar
  - Server.jar
  - Renderer.jar
  - Executor.jar
  - Load As Needed

- PurdueGrid.jar
  - Load As Needed

- TeraGrid.jar
  - Load As Needed

- Condor.jar
  - Globus.jar

- Maya.jar
- Blender.jar
- Gelato.jar
- Povray.jar
Future Implementation

• Addition of Service Oriented Architecture elements
• Group allocation and resource management
• File Sharing and Management
• Multi project aggregation
• On demand resource scheduling
• Compositing functions
  – Both local and remote
• Additional encoding functions
• Additional grid domains
Why Beyond the Browser?

- Rich Clients
  - Issues with doing browser based development
  - Using more of the local computation
- Evaluation of New Java Web Start tools
- Real time “grid” collaborations
  - Examples
    - Multi Cursor X11
    - Shared VNC Sessions
    - NetBeans collaboration Server
    - MoonEdit
    - Whiteboardmeeting
    - Google Docs
    - Second Life, EverQuest, Eve Online ....
Why Beyond the Browser?

- Which GUI do you want to run?
  - Local Application
  - Browser Based Portal Application
  - Commercial Application Integration

- How does this relate to building gateways?
  - Service Oriented Architecture

- Scalability
  - User to Resource
  - User to Middleware to Resource
  - Browser to Middleware to Resource