Qt Migration

Status of our Galactic Exodus

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Motivations for Replacing Galaxy

- **Galaxy as a GUI Toolkit**

- **Galaxy Today**
  - Visix bankruptcy
  - Ambiencia purchase
  - No updates or maintenance
  - Shrinking user-base
  - No Support for new OS versions

Selection Process

- **Exhaustive search for candidates**
  - Java (AWT/Swing)
  - Qt
  - Tk
  - wxWindows
  - Coral
  - FITk
  - Fox
  - Gtk+
  - XVT DSC++
  - ZINC

- **Research top 4 candidates**
- **Prototype integration with Galaxy**

Qt

- Platform independent (Windows, Solaris, Linux, Mac)
- Substantial user-base
  - Linux / KDE
  - Commercial customers - AT&T, IBM, Xerox, Nasa, Adobe
- Reasonable cost and licensing
  - Trolltech
  - Commercial and non-commercial Open Source
- Object-oriented
- GUI builder tool
- Integration with Galaxy

TROLLTECH

Qt/Trolltech Today

- **More resources**
  - Books, websites, mailing lists
- **More commercial widgets**
- **More commercial tools**
  - Automated GUI testing tools
- **More Trolltech products**
- **Releases (3.3.1 and Qt 4.0)**
- **"Qt Solutions"**
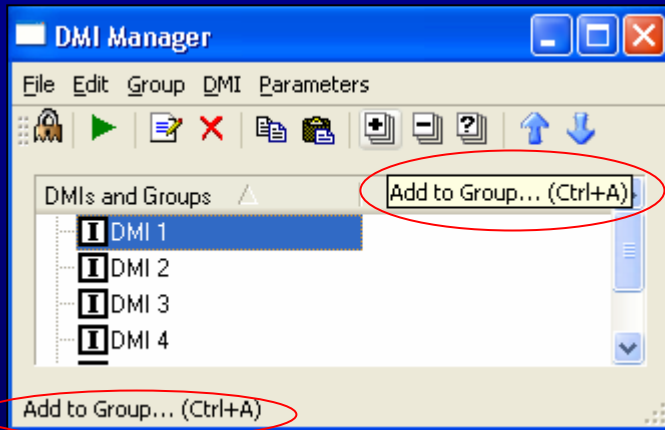- **New integration frameworks**
  - MFC and Motif

Qt Migration Philosophy

- New GUI development
  - Developed in Qt exclusively

- Work done to existing Galaxy GUI
  - Favor redesign over straight ports
  - Qt migration dependent on:
    - Level of effort
    - License fee revenues / Maintenance
    - Sponsor funding

Benefits of Each Qt Dialog

- Usability

Tooltips and Status Bar Help

Toolbars and Context Menus
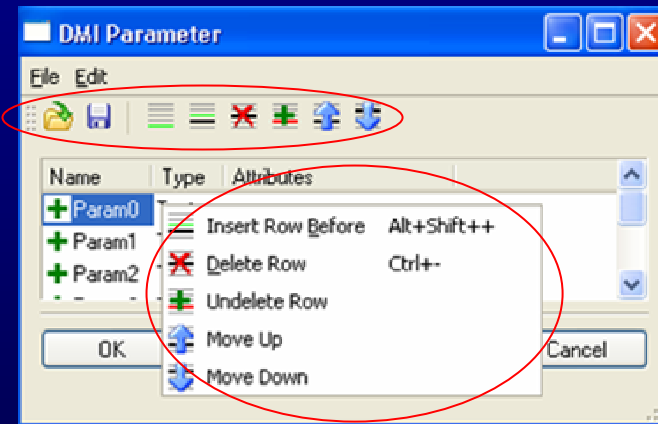
- Less development effort
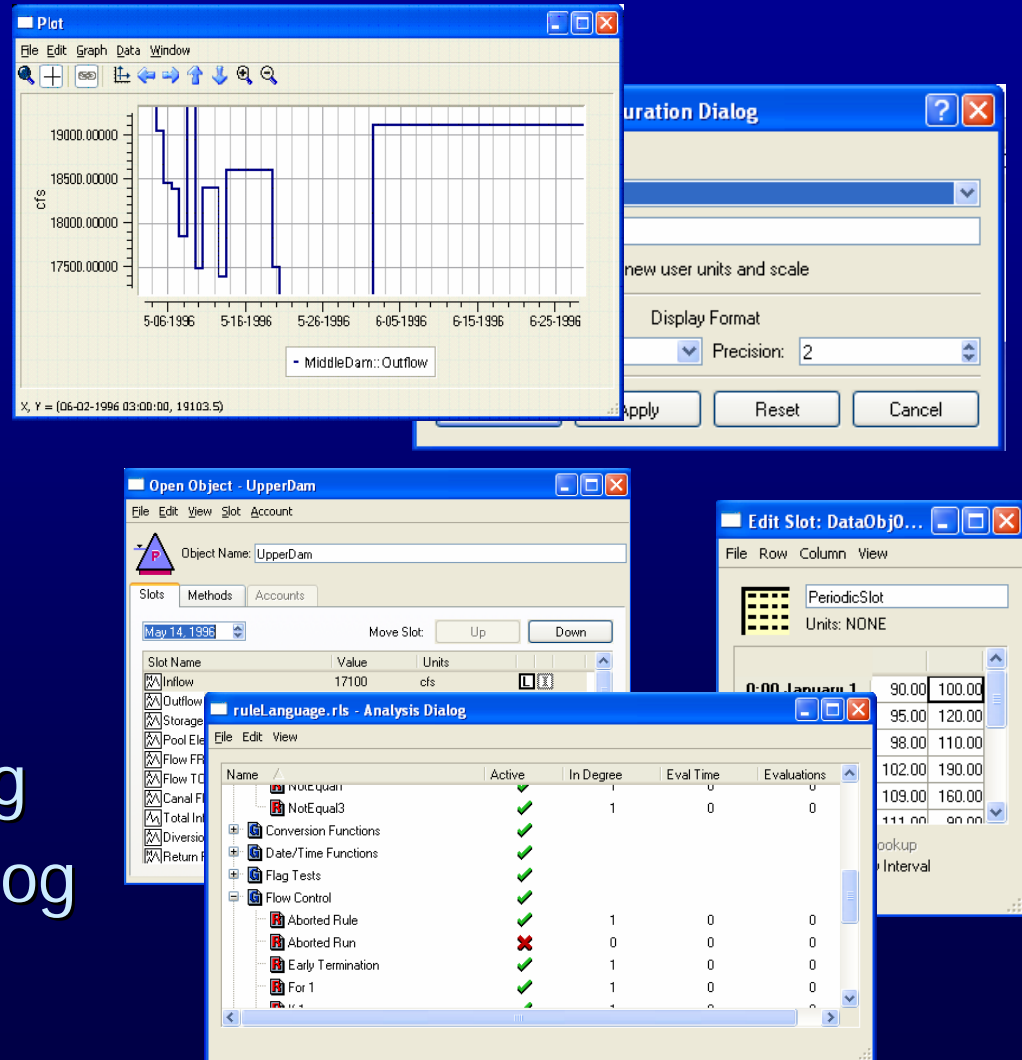- Maintainability

Benefits of Full Migration

- Linux
  - 64-bit OS
  - Unix on Intel hardware

- 64-bit Windows

- No Future Galaxy OS Conflicts

- Remove Integration Mechanism
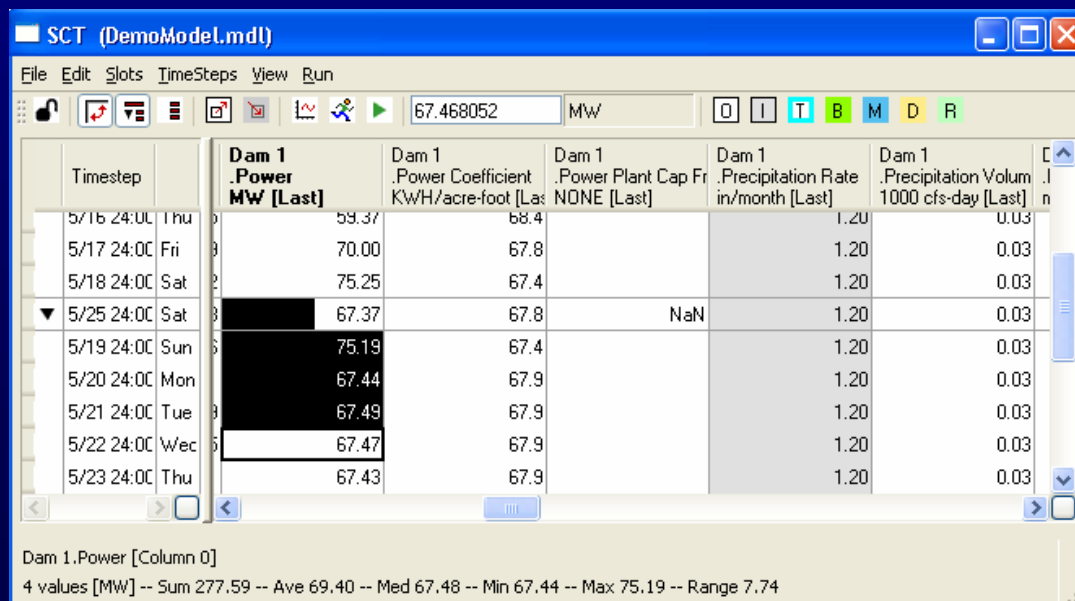
Completed Qt Development

- SCT 2.0
- DMI Dialogs
- Plot Dialog
- New Slot Dialogs
  - Periodic Slot
  - List Slot
  - Scalar Slot
- Open Object Dialog
- Rules Analysis Dialog

SCT 2.0 Redevelopment

- ■ Development Effort
  - ■ Less than half of Galaxy estimate
- ■ Use of QTable widget

Upcoming Qt Development
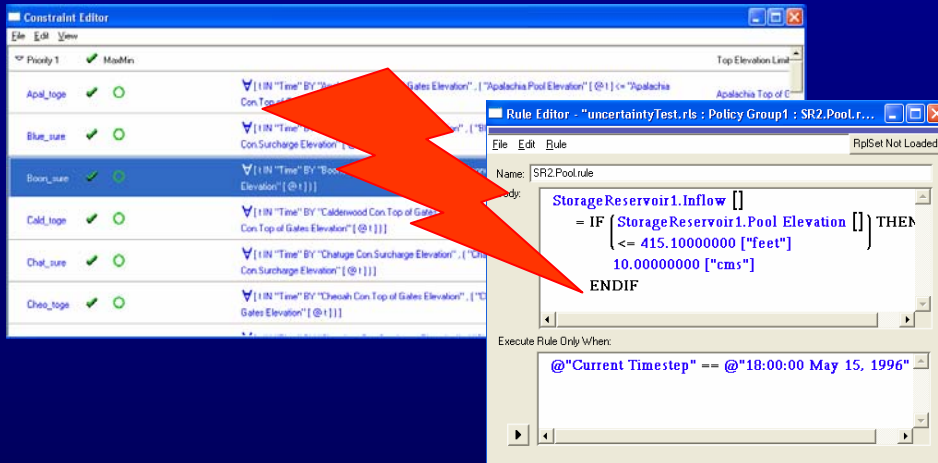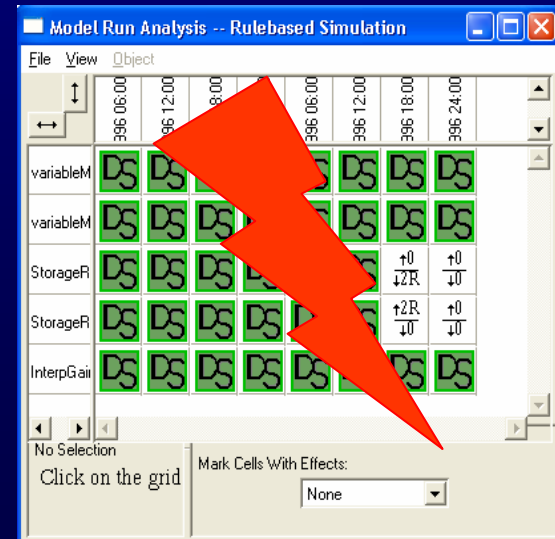
- Main workspace dialog
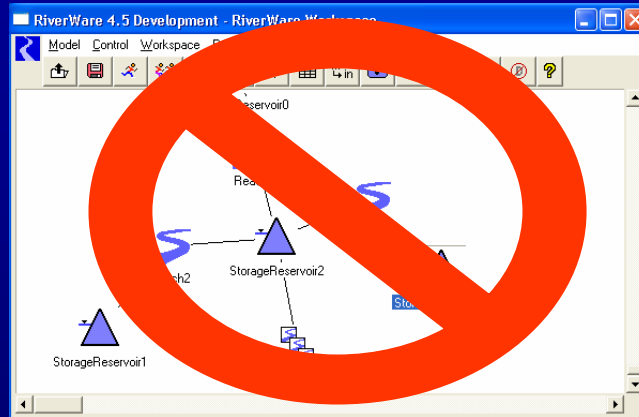
- Remaining slot dialogs
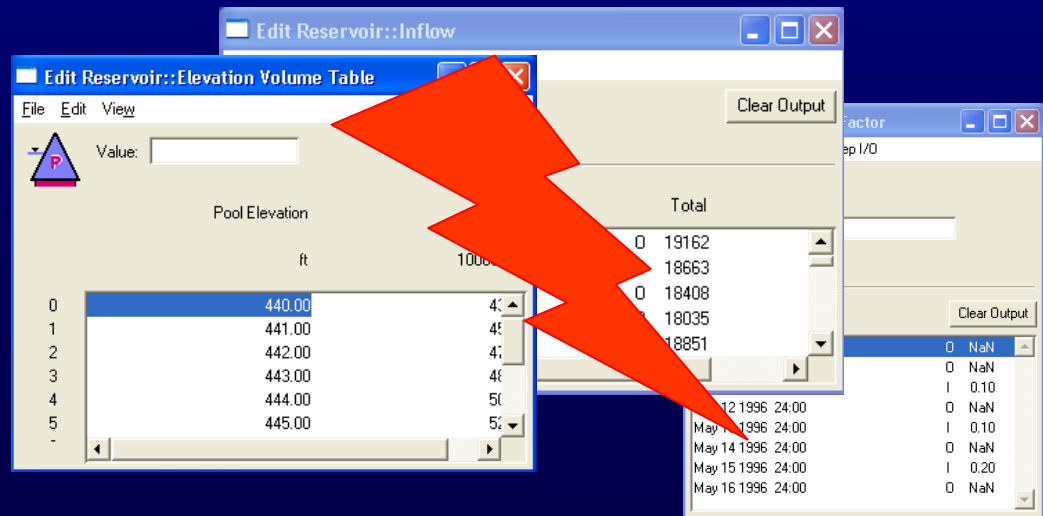
- "Grand-Unified Slot Selector" dialog

Possible Qt Development

- ## Rules / Optimization GUI

- ## Model Run Analysis dialogs

Galaxy Dregs[*]

- Accounting dialogs
- Diagnostic dialogs
- Output Management dialogs
- Link Management dialogs
- Run Control dialogs
- Multiple-Run Management dialogs
- Snapshot dialogs
- Multi-Object Method Selector dialog
- SubBasin Management dialogs
- Many small utility dialogs

[*]ordered by level of effort