## Programming of Supercomputers

# Assignment 2:
# Parallel Debugging with TotalView

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## SuperMUC Maintenance Extension

SuperMUC maintenance cycle extended due to unexpected issues. There is a small change in the course's schedule:

- **Assignment 1:** Deadline extended by 1 week
- **Assignment 2:** Its deadline remains the same; content scaled to 2 weeks.
  *Deadline: 03.12.2015 @23:55*

# Assignment 1 Discussions

- Videos will be made available after grading
  - Compare your results among each other
  - Learn from each other's experience

Discussion:

- GPROF provided insight?
- Faster compiler: GCC or ICC?
  - Faster compiler flags?
  - Exhaustive evaluation of all compiler flags possible?
- Best overall performance?
  - Predicted outcome? Expected or unexpected?
- Best performance in the multi-threaded case?
  - OpenMP performance?
  - MPI performance?
  - Hybrid performance?

# Introduction to TotalView

- Commercial product from Rogue Wave Software
- GUI and CLI interfaces included
  - We will use the GUI
- Support for distributed memory applications with MPI
- Support for parallel codes with OpenMP
- Available in SuperMUC for all users
  - ‘totalview’ module
  - We will setup LULESH today
  - Make sure you login to the Phase 1 thin nodes only
    - https://www.lrz.de/services/compute/supermuc/access_and_login/
    - Make sure to login with:
      ssh -YC sb.supermuc.lrz.de
    - TotalView is not working on the other nodes

# TotalView GUI

Today's agenda:

1. Build LULESH for T.W.
2. Create a new session
3. Start LULESH with T.W.
4. Do not touch 

5. Discussion to get you started and motivated