

Data Analysis Applications Group Friday Science Meeting Update Grid Computing during an Experiment

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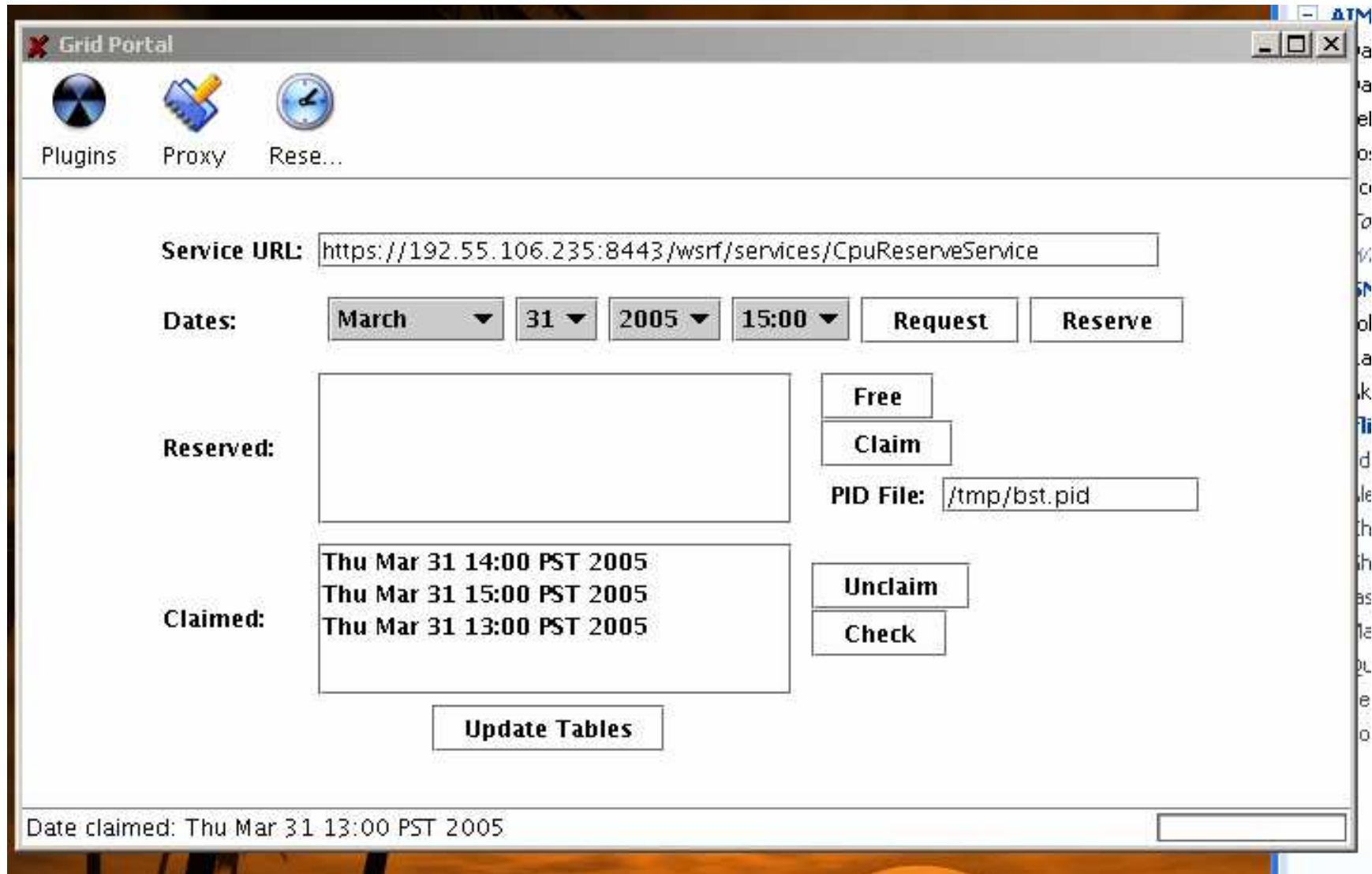
Grid computing can be used for between-shot analysis

- **Recall that grid computing is a type of secure distributed computing**
- **To date, we have not used it for between-shot analysis**
 - Needed to guarantee resource availability
 - Locally we just kill processes or ask users to log off
 - Hard to do this with remote resources
- **Recently tested CPU reservation software solves this problem**
- **Tested in a between-shot analysis**

A trial of Between-shot TRANSP demonstrated CPU reservation capability

- **The CPU reservation software was tested with between-shot TRANSP**
- **The trial use of TRANSP as a between-shot code running on FusionGrid (at PPPL) was a success**
 - Inputs shipped to PPPL
 - TRANSP executed at PPPL
 - Outputs written back to GA
 - Monitoring info sent to DAM and FGM
- **Did six shots over two hours during an experiment**
- **Cycle time = 7 minutes**
 - Starting with “shipped inputs” ending with “outputs written”
- **<http://web.gat.com/comp/analysis/grid/bst.html>**

Screenshot: a GUI used to reserve CPU



More work remains, but in principle we can start making use of FusionGrid resources for experiments

- **Previous secure MDSplus work allows for secure data storage**
- **The recent TRANSP trial shows we can guarantee compute resources even if they are remote**
- **More work is being done to look into:**
 - guaranteed network resources (not just “best effort” as is typically the case)
 - selection of best data transfer technology