



The Sampo* Project

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* The Sampo is a mysterious magical artifact and source of power from the Finnish Kalevala Legend.

Gasgano & Sinfoni Pipeline



Data Reduction and Analysis in the ESO Community - the current situation

- An ESO goal is to export VLT instrument pipelines to the community. Pipeline recipes will be available on the desktop together with tools such as gasgano and esoRex
- Many “old” systems (MIDAS, IRAF, IDL...) are used for data reduction and data analysis in the community
- Those systems do not work well with each other
- Most of the necessary reduction and analysis algorithms are now available - somewhere
- Data volume and complexity is increasing rapidly (VLTi, VST, VISTA...). There will be soon a need for distributed and parallel processing
- Virtual Observatory resources and tools are becoming available

Sampo: The Motivation

To address these problem we need to move towards a system that:

- Is easy to use
- Provides a uniform environment for running standard tools and legacy applications, including data reduction and analysis, instrument pipelines, data visualisation and plotting, etc...
- Provides uniform access to local and distributed data
- Provides access to remote and distributed computing resources
- Integrates well with VO
- Provides means for developing and integrating “private” applications (e.g. python scripts or compiled applications) so that they can be used flexibly in many contexts

Background to the Sampo project

- As part of Finland's joining fee a contribution "in kind" of 6 people for three years (18 FTE) was made available.
- The Project formally started in January 2005 and will run for three years.
- Project Organisation:
 - Project Manager: Richard Hook (ESO/ST-ECF/DMD)
 - Project Scientist: Palle Moller (ESO/DMD)
 - Project Team (Finland):
 - Finnish National Coordinator (CSC)
 - VO Specialist (CSC)
 - System Architect (Helsinki Observatory)
 - Two Software Engineers (Helsinki Observatory)
 - One Consultant (Space Systems Finland)
- Project Oversight:
 - A Finnish Astronomical Advisory Group (FAAG) chaired by Janne Ignatius.
 - An ESO Science Advisory Committee (SAC), chaired by the Project Scientist, representing the ESO Faculty.

Sampo Project Goals

- The main project goals are:
 - Get a clear and precise understanding of the requirements of such a future system.
 - Assess technology and test it on realistic astronomical datasets.
- To achieve these goals the Sampo project will:
 - Execute several pilot projects that will also provide useful tools and address some of the requirements of forthcoming ESO telescopes and instrumentation.
 - Provide detailed reports and risk assessments to guide future choices.
- It is a Phase A project - not a project to deliver a major system at the end of the study phase.

Current Sampo Project Status

- The team has been in post since January 2005
- An Initial project - PyMidas, a Python interface to ESO-MIDAS - in progress (to be finished October 2005)
- The team is also preparing for the next pilot projects by gaining expertise in VO and other technologies
- The project is working closely with the Opticon 3.6 Network on Future Astronomical Software Environment (FASE)
- Advisory bodies currently preparing recommendations for future Sampo projects
- Advice from the community, via the project scientist is very welcome!