

# ESA New Generation Science Archives (I): Client Layer

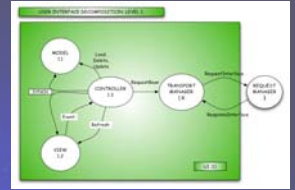
## ABSI: Archives Building Systems Infrastructure

- Common Scientific Archives Architecture.
- Set of tools and libraries.
- State of art technology.
- Three tier architecture.
- Quick building.
- Easy maintenance.



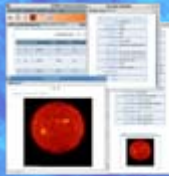
## User Interface Features

- Model-view-controller paradigm.
- 100% pure java, developed following J2SE framework and standards.
- Java Web Start technology.
- Portable: runs under Windows, Linux/Unix and Mac OS.
- HTTP as transport protocol with the Server Layer: *Spring's HTTP Invoker Strategy*.
- No network constraints: accessible through HTTP, port 80.



## Infonode: Java Swing based docking windows framework.

- Advanced layouts.
- Little code.
- Easy to use.
- Flexible and customizable.
- UI prototyping.



## JGoodies: helping libraries for building well designed UI

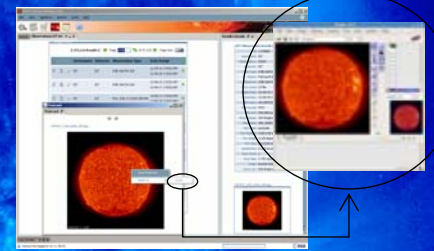
- Looks: better looking GUIs.
- Forms:
  - Precise and flexible layouts.
  - Quick UI production: builders and factories.
- Binding:
  - Synchronizes application domain with graphical components.
  - Code reduction for results presentation.
  - Type conversion.
- Validation:
  - Easy to use.
  - Advanced validation result presentations.
  - Separate validation concerns.
  - Extensible.
  - Flexible (key type, focus lost, form committed...).



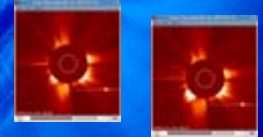
Metadata search

## Archives Capabilities

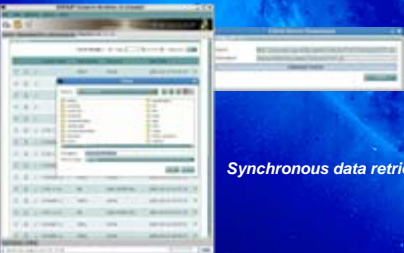
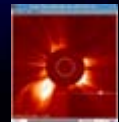
- Metadata searches:
  - Results in tabular format.
  - Several display levels: schematic, overview and details.
- Synchronous data retrieval:
  - Embedded Java HTTP client.
  - No network constraints: accessible through HTTP, port 80.
  - Authentication required.
- Asynchronous data retrieval → shopping basket functionality:
  - Email notification when data is ready.
  - Authentication required.
- Geometrical searches:
  - Circle/Box and equatorial/galactic/ecliptic searches.
  - Target name resolution: SIMBAD and NED services.
  - Single search over a list of targets.
- Time Animator:
  - Animation of a set of images at a given rate.
  - GUI application with standard media player options: start/stop/pause/resume. No plug-in needed.
  - Images can be saved locally to a disk directory.
- Interoperability based on SAMP protocol:
  - VO tools: Aladin, Topcat, VOSpec...
  - Other ESA Science Archives.
  - Product visualization tools: ds9, SPDT...



Interoperability



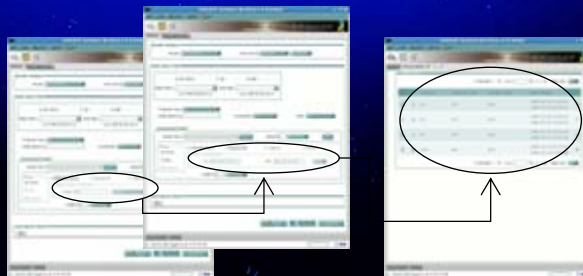
Time Animator



Synchronous data retrieval



Asynchronous data retrieval



Geometrical searches

SOHO Science Archive  
[http://soho.esac.esa.int/data/archive/index\\_ssa.html](http://soho.esac.esa.int/data/archive/index_ssa.html)  
 EXOSAT Science Archive (coming soon)  
<http://www.sciops.esa.int/index.php?project=SAT>

