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JUX (Java Universal eXplorer)

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Several grid in the world



middleware

VDT
Virtual Data Toolkit

GLite

ARC

UNICORE

GOS

NAREGI

NORDUGRID

Grid Solution for Wide Area
Computing and Data Handling

eGee
Enabling Grids
for E-science

Distributed
European
Infrastructure for
Supercomputing
Applications

NAREGI

Open Science Grid

TeraGrid

GLite

GRID
中国 国家 网 格
China National Grid

GARUDA INDIA
The National Grid Computing Initiative

JUX – Overview



- JUX is a **file explorer** designed to be **independent** of
 - Operating System
 - tested on Windows, Scientific Linux, Ubuntu, (Mac)
 - Data management protocol
 - tested with srb, irods, http, https, sftp, zip, gsiftp, (srm)
 - Security mechanism
 - tested with GSI, VOMS, Login/Password, X509, SSH
 - File content viewer
 - provided viewers are for text file, image viewer, audio player
 - can use local applications (only for protocol "file://" on OS "Windows")
- full java code**
- JSAGA**
- png, gif, jpg, bmp, tiff, **dicom**
- mp3, wav

JUX – Overview



■ Data management and security

- JUX uses the JSAGA introspection API to discover...
 - list of available protocols
 - list of configured security contexts
- JSAGA allows JUX to be completely independent of technologies used
 - **just copy your own JSAGA plug-in in JUX "lib/" directory to add the support for a new technology !**

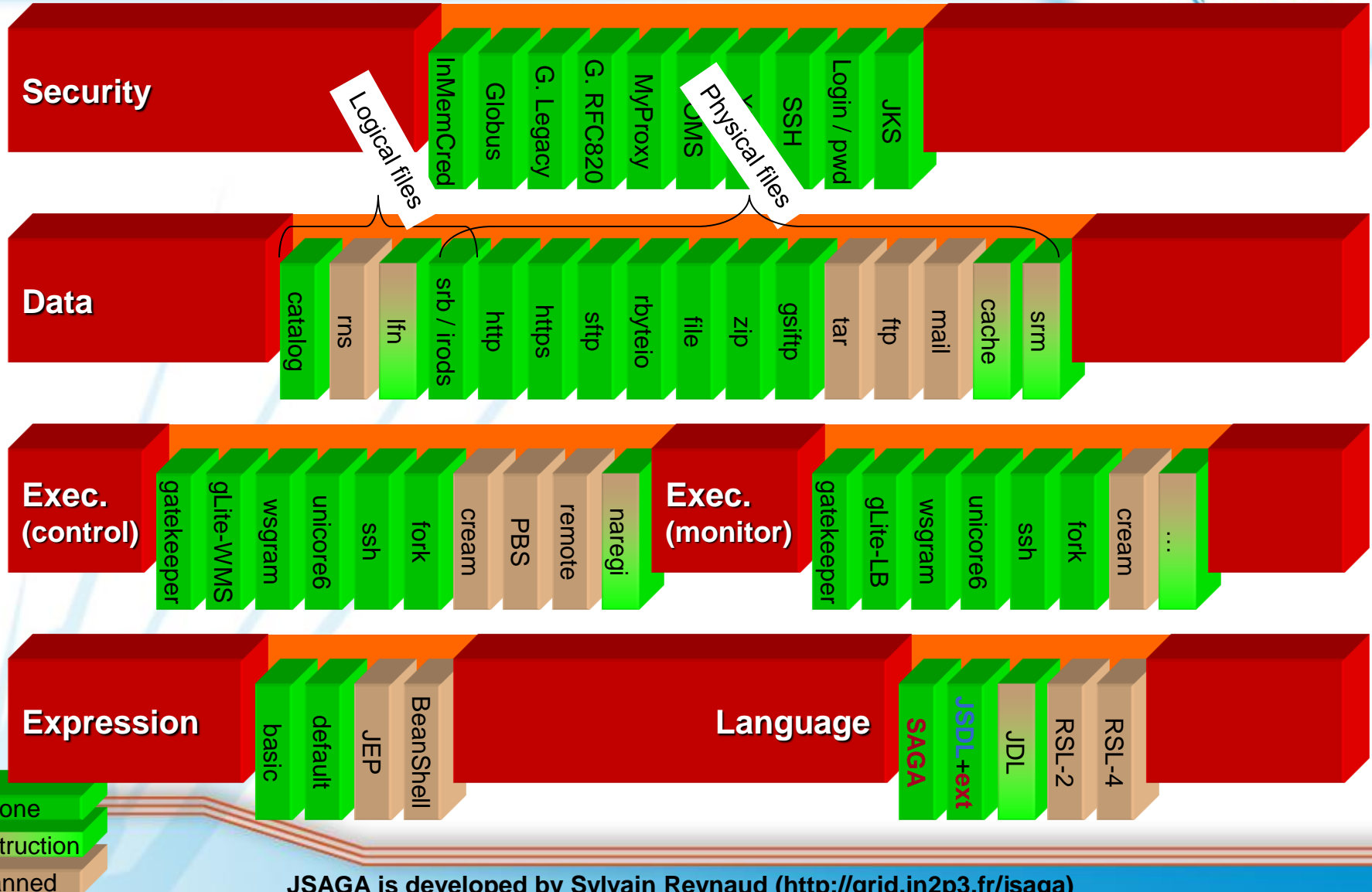
■ Similar tools exist

- HERMES (Australia)
- VBrower (Holland)



based on Apache Commons VFS

JSAGA plug-ins list





JUX – Overview



- JUX is easy to
 - install
 - with GUI installer
 - configure
 - with GUI security context manager (*not yet available*). You must configure by hand your context into the “jsaga-universe.xml” file
 - with GUI connection manager (*see next slide*)
 - use
 - uncluttered interface
 - use context menus, drag-and-drop...
 - close to widely used explorer (i.e. Windows explorer)

JUX – Screenshots



The connection manager enables user to create connection profiles with URL and security context.

Only the security contexts compatible with selected protocols appear in the popup list.

A screenshot of a Java Swing window titled "JUX connection". The window has a blue title bar with standard minimize, maximize, and close buttons. Inside, there are two buttons at the top: "save" (with a dotted border) and "delete". Below these are several input fields:

- "Connection name": text field containing "irods test".
- "Protocol": dropdown menu showing "irods".
- "Hostname": text field containing "ccirods01.in2p3.fr".
- "Port": text field containing "5596".
- "Path to expand": text field containing "/tempZone/home".
- "Query": text field containing "defaultResource=lyon1".
- "Security context": dropdown menu showing "IRODS_CALVAT_TEST".

JUX – Screenshots



The main window is uncluttered to avoid loosing users in details.
Connection is kept opened until the nodes are collapsed (left side).

The screenshot shows the JUX (Java Universal eXplorer) application window. The title bar reads "JUX (Java Universal eXplorer)". Below the title bar is a "Tools" menu. The address bar shows the file path: "file:///D:/dcmkt/data/db/IRM_STORE/".

The left sidebar displays a tree view of the file system. The "Protocol" section is expanded, showing a list of protocols: "file", "my home", "my desktop", "C:", "D:", "dicom images", "my images", "my movies", "my music", "gsiftp", "http", "irods", "sftp", and "srb". The "file" protocol is selected, and the "IRM_STORE" folder is expanded under "dicom images".

The main pane displays a table of files and folders. The table has four columns: "Name", "Size (bytes)", "Extension", and "Last modified". The files listed are:

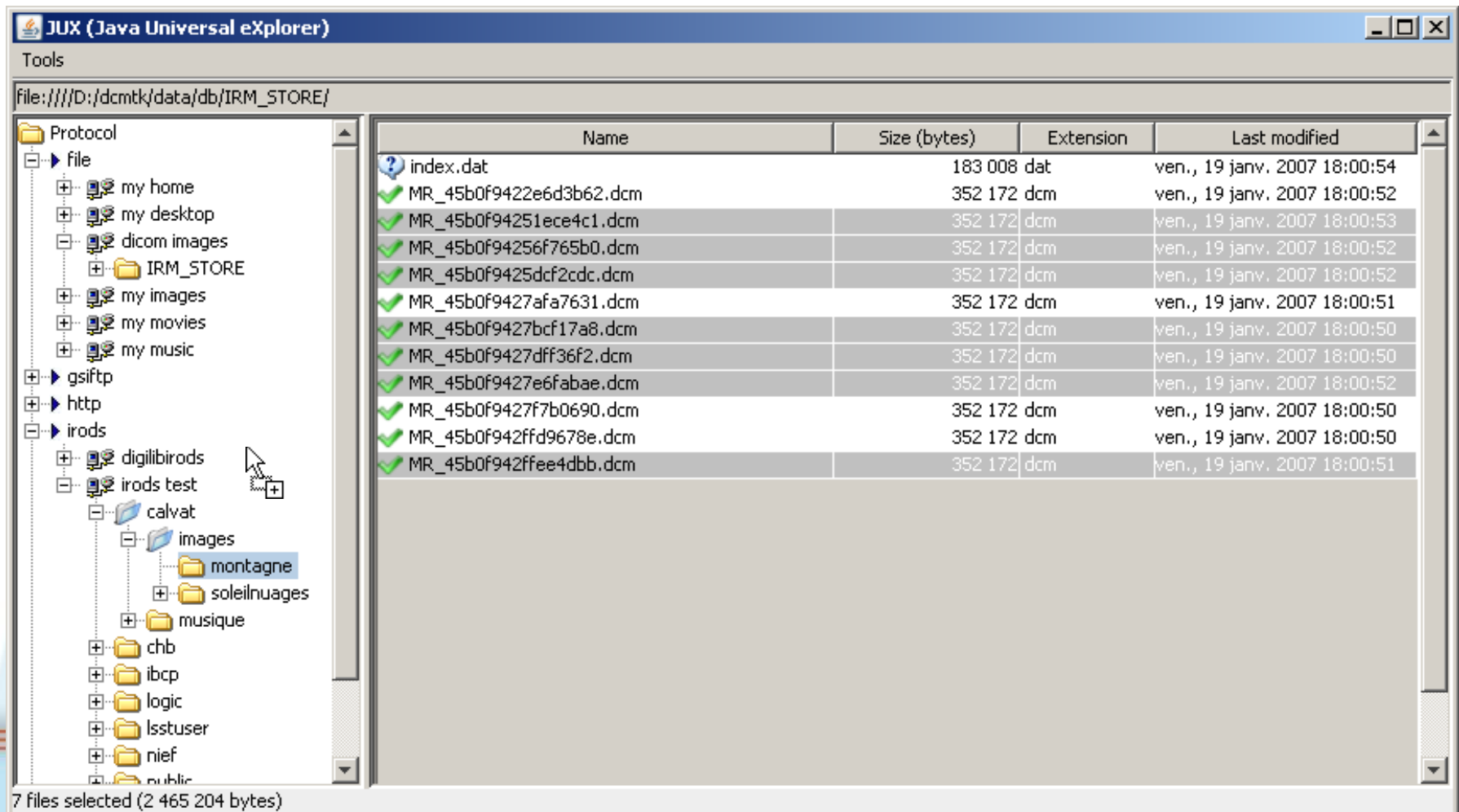
Name	Size (bytes)	Extension	Last modified
index.dat	183 008	dat	ven., 19 janv. 2007 18:00:54
MR_45b0f9422e6d3b62.dcm	352 172	dcm	ven., 19 janv. 2007 18:00:52
MR_45b0f94251ece4c1.dcm	352 172	dcm	ven., 19 janv. 2007 18:00:53
MR_45b0f94256f765b0.dcm	352 172	dcm	ven., 19 janv. 2007 18:00:52
MR_45b0f9425dcf2cdc.dcm	352 172	dcm	ven., 19 janv. 2007 18:00:52
MR_45b0f9427afa7631.dcm	352 172	dcm	ven., 19 janv. 2007 18:00:51
MR_45b0f9427bcf17a8.dcm	352 172	dcm	ven., 19 janv. 2007 18:00:50
MR_45b0f9427dff36f2.dcm	352 172	dcm	ven., 19 janv. 2007 18:00:50
MR_45b0f9427e6fabae.dcm	352 172	dcm	ven., 19 janv. 2007 18:00:52
MR_45b0f9427f7b0690.dcm	352 172	dcm	ven., 19 janv. 2007 18:00:50
MR_45b0f942ffd9678e.dcm	352 172	dcm	ven., 19 janv. 2007 18:00:50
MR_45b0f942fee4dbb.dcm	352 172	dcm	ven., 19 janv. 2007 18:00:51

At the bottom of the window, a status bar indicates "9 files selected (3 169 548 bytes)".

JUX – Screenshots



Copy several files with a single drag-and-drop



JUX – Conclusion



- JUX can work with potentially any
 - protocol
 - security mechanism
 - file content

} you can develop the plug-ins missing for your use-case
- JUX is easy to use
 - targeted users are scientists
- JUX is lightweight
 - currently 15 MB with all plug-ins

<http://cc.in2p3.fr/docenligne/821>

JUX – Perspectives (meta-data)



Name	Value
DICOM Study Date	18/11/2008
DICOM Patient's Name	John Smith
DICOM Patient's Sex	M
DICOM Patient's Age	28
size	2493827

JUX – Perspectives (meta-data)



SEARCH

entry name	<input type="text" value="*.txt"/>	}	<i>and</i>
Study Date	<input type="text"/>		
Patient's Name	<input type="text" value="John S*"/>	}	<i>and</i>
Patient's Sex	<input type="text" value="M"/>		
Patient's Age	<input type="text"/>		
size	<input type="text"/>		

☒ Recursive

Search