lightweight clients for ....

UNICORE

r.menday@fz-juelich.de
gmail, etc

gmail, google maps, google reader
del.icio.us
flickr
backpack
bloglines
technorati

etc
‘lightweight’

…. better than heavyweight 😊

*Doesn’t* imply reduced functionality

Agile
We need something to make it easier to build such clients for UNICORE …
DEISA JRA7

“Access to Resources in Heterogeneous Environments”

UNICORE-based Infrastructure

JRA7 to build additional tools for UNICORE

EPCC, CINECA, ECMWF, FZJ
FZJ built something (at a higher level than the arcon library) which makes it easy to write UNICORE client code …

Roctopus!
Roctopus

A high-level API for programming Grids

One interface - multiple implementations :->
targets UNICORE 4.x and UNICORE/GS and …

Basis for clients, agents, portals, frameworks, etc …
Grid grid = RoctopusFactory.getInstance().getGrid(config);

Site site = grid.locate(..);

Task t = site.submit(jobdesc);
t.registerStatusChangedListener(...);
t.start();
...

Storage storage = site.getStorage(StorageType.HOME);

File[] files = storage.ls();
files[2].importLocalFile("/tmp/data.txt");
...
Makes prototyping of new client ideas much easier.

The remainder of the talk demos these …
Established Software, New Tools

“You've learned some new ways, even if you haven't given up the old ones.”

- Harmonica, Once upon a time in the West

‘Mash-Ups’

“Oh open standards allow and promote unexpected forms of innovation.”

- The Economist, Sept 2005
Roctopus’s Garden

Playground command line environment for UNICORE

Built on top of Roctopus

UNIX-like organisation of files in UNICORE

Lives in a local daemon
(solves the repeated password and slow JVM startup time issues)
[roger@zam439]:~$ uls
ssl://zam461.zam.kfa-juelich.de:9100/AVANT
ssl://zam031.zam.kfa-juelich.de:4014/Linux-zam461
ssl://zam031.zam.kfa-juelich.de:4016/zam777
ssl://zam177.zam.kfa-juelich.de:4005/JUMP
ssl://zam439:4005/u2
ssl://zam439:4004/u1
[roger@zam439]:~$ ucd ssl://zam439:4004/u1/home
[roger@zam439]:~$ uexec sleep.xml
submitted
[roger@zam439]:~$ ups -l
ssl://zam439:4004/u1 1750424334 SUCCESSFUL sleep
ssl://zam439:4004/u1 1750424391 EXECUTING sleep
[roger@zam439]:~$ ups -l
ssl://zam439:4004/u1 1750424334 SUCCESSFUL sleep
ssl://zam439:4004/u1 1750424391 SUCCESSFUL sleep
[roger@zam439]:~$ uls -l
-rw- 2044 07-21-05 15:56 ssl://zam439:4004/u1/home/.bashrc
drwx 4096 09-06-05 09:51 ssl://zam439:4004/u1/home/d1/
drwx 4096 09-06-05 09:59 ssl://zam439:4004/u1/home/d2/
drwx 4096 09-06-05 11:17 ssl://zam439:4004/u1/home/abc/
-rw-  23 10-07-05 10:11 ssl://zam439:4004/u1/home/TESTFILE
-rw-  12 10-07-05 12:53 ssl://zam439:4004/u1/home/TESTFILE3
[roger@zam439]:~$
Good for …

Quick access

Basis for CRON jobs, health monitors, etc …

Dirty filtering / workflow
Grid Slave

Local ‘agent’

Always on

Doing things for you on the Grid

…. however …
Google Desktop Search

http://localhost:4664/

What about using HTTP for a UNICORE agent?
Look into the System tray ….
http initially for scientists to distribute their results.

Now http (HTTP POST) is used within the middleware!

But, the collaborative aspect is lost …
(can’t cut and paste an EPR into your browser)
What about binding to an non-localhost address, and switch on HTTPS for authentication …

Becoming the “Ultimate Portal Toolkit for UNICORE”!
Gmail

http://gmail.google.com
Summary

Once you make your data easily (but securely) accessible –

The sky’s the Limit !!