

Connecting the XWCH platform with ARC

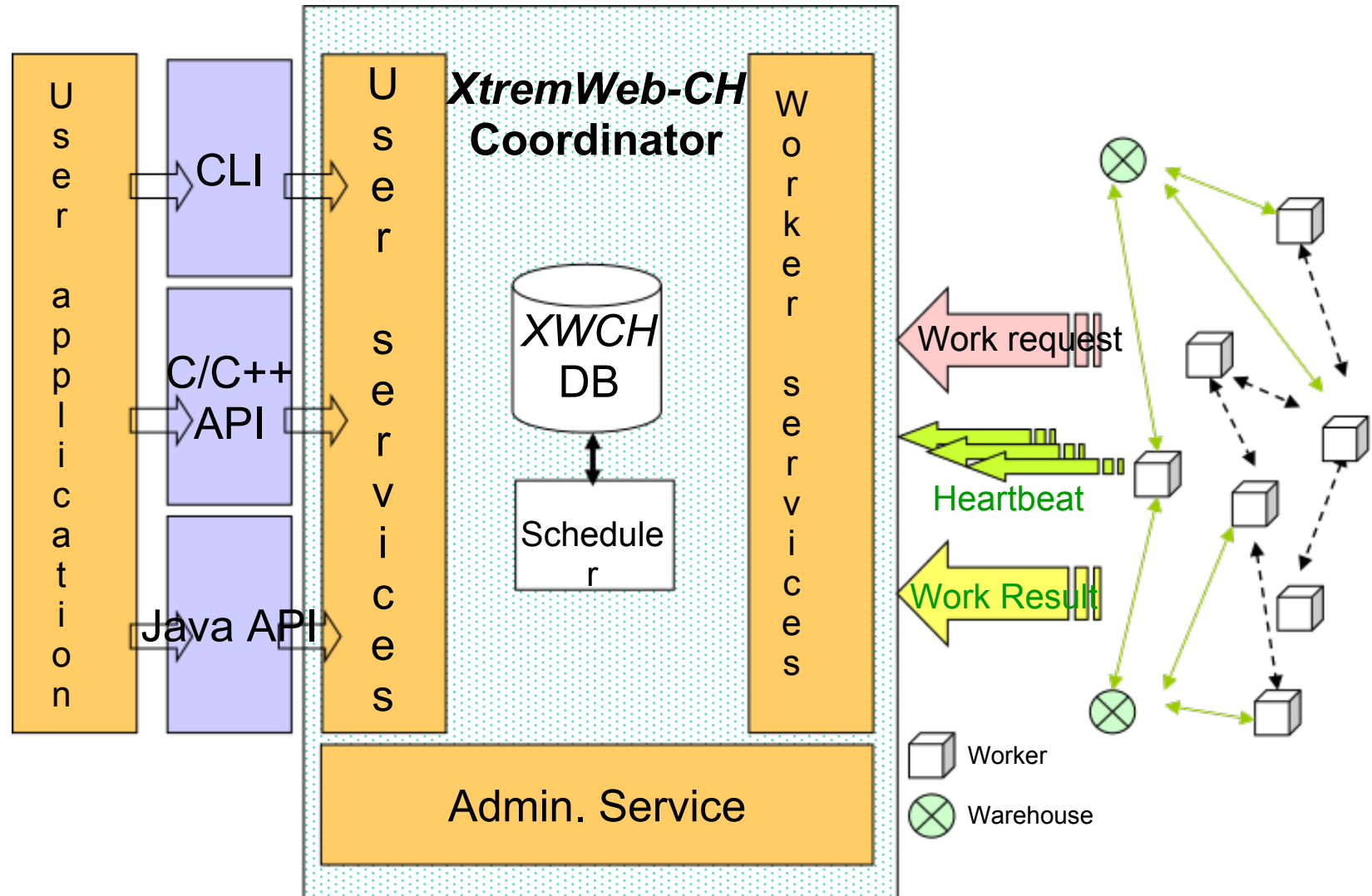
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Geneva

L'avenir est à créer

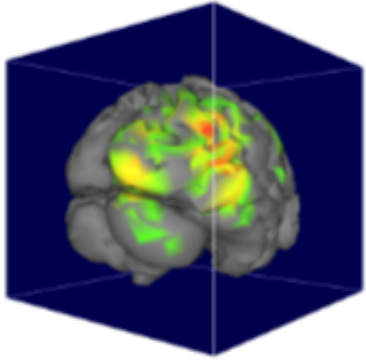
The **XWCH** platform, www.xtremwebch.net

Started as an adaption of INRIA's xtremweb project

Features: workflows, data replication, APIs, etc

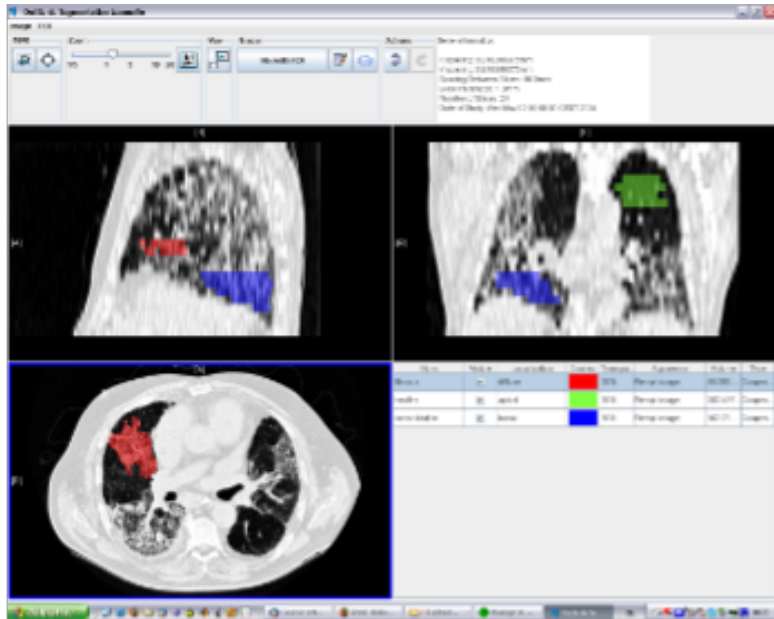


Applications ported on the XWCH platform:

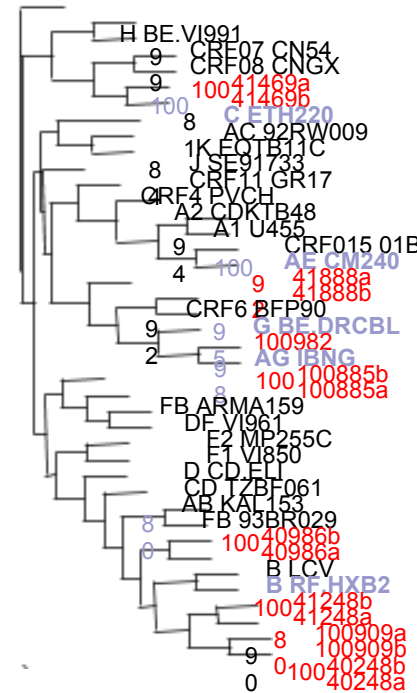


NeuroWeb, a neuron activation matrix application

PHYLIB: A phylogeny application



MedGIFT, a medical image recognition application



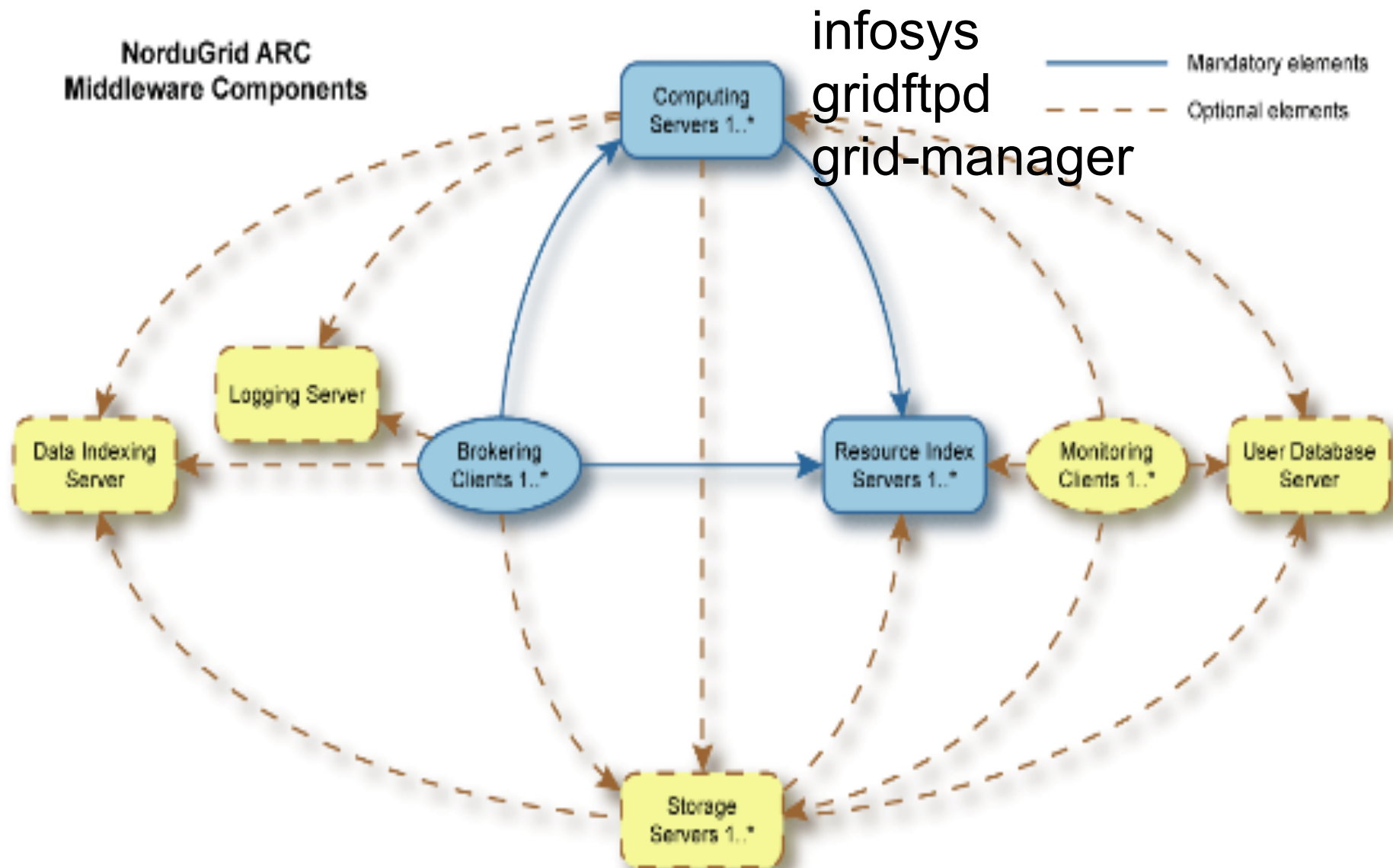
Planned applications:

- Genetic algorithm package
- Image recognition in the domain of art
- Geo-localization, geology

ARC = Advanced Resource Connector, a light-weight* Grid middleware.

Since 2002, current version 0.8.2.2

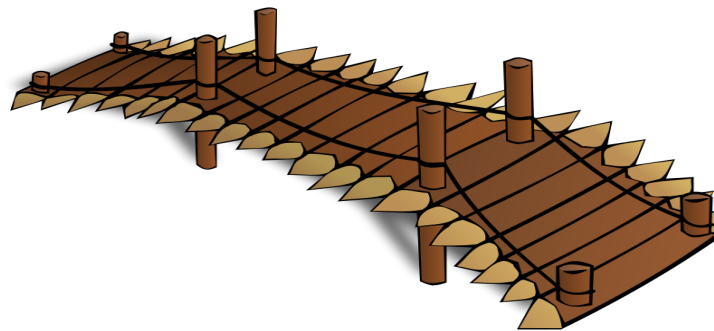
* = especially the client



The ARC bridge: running Grid jobs in XWCH



ARC
infosys
gridftpd
grid-manager



XtremWeb-CH
Towards a true P2P Computing Platform

XWCH
command line utilities

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The ARC bridge: running Grid jobs in XWCH



ARC

infosys: provide information about the *cluster*, users, jobs, push information to an index server ("giis").

gridftpd: handle file transfers.

grid-manager: get jobs, stage them, *push to LRMS*, *get results from the LRMS*, make them available for downloading.

Italics = implemented by the bridge.

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The ARC bridge: running Grid jobs in XWCH

XtremWeb-CH

Towards a true P2P Computing Platform

XWCH

command line utilities:

- submit a job based on a job description file
- get information about jobs
- get information about workers

```
/opt/xwch/xwch -l http://xtremwebch.hesge.ch:8080
```

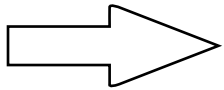
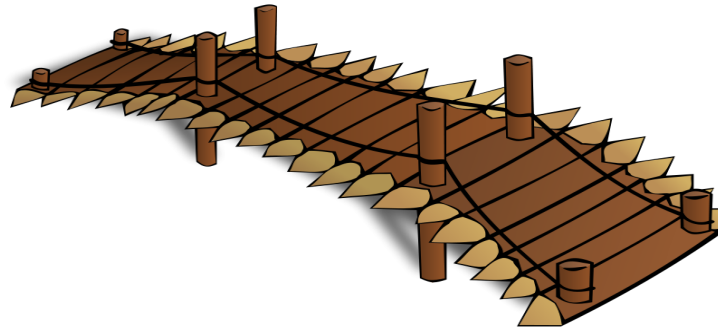
```
-->server:http://xtremwebch.hesge.ch:8080
```

Name	Version	Platform	WANIP	Status	Mflops	JobId
A404-liigx13	1.07	WINDOWS	129.194.187.183	WAITING	1560.0	
A403-liigx07	1.07	WINDOWS	129.194.186.237	GETDATA	1631.37255859375	

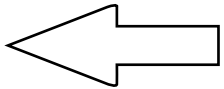
..

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The ARC bridge: running Grid jobs in XWCH



ARC job submission: translate the internal "grami" presentation of a job into XWCH job description and submit it.



XWCH cluster and job information: read from XWCH and "give" it to ARC server.

Details of the implementation in our report:

2010-04-23 CEST 15:33:35

Processes: ■ Grid ■ Local

Country	Site	CPU	Load (processes: Grid+local)
Switzerland	arcXWCH at HEPIA, Gen>	450	8+8
	Bern ATLAS T3	196	2+3
	Bern UBELIX T3 Cluster	1072	22+665
	GC3		
	Mar		
	SM		
	SM		
	SM		
	WS		
TOTAL	9 sites		

Resource Details for arctest.hesge.ch

Attribute	Value
Distinguished name	nordugrid-cluster-name=arctest.hesge.ch,...
objectClass	Mds
nordugrid-cluster	
Front-end domain name	arctest.hesge.ch
Cluster alias	arcXWCH at HEPIA, Geneva
Comment	This cluster is specially designed for XWC
Owner	hepia
Postal code	CH-1200
Certificate issuer	/C=BM/O=QuoVadis Limited/OU=Issuing
Certificate issuer's hash	e72045ce
Trusted certificate issuers	/C=FR/O=CNRS/CN=CNRS2-Projets /DC=org/DC=ugrid/CN=UGRID CA /C=BR/O=ICPEDU/O=UFF BrGrid CA/CN=UFF Bra Certification Authority
Contact string	gsiftp://arctest.hesge.ch:2811/jobs
E-mail contact	xtremwebch@eig.ch
LRMS type	xwch
LRMS version	1

Currently the ARC queue represents XWCH's Linux workers..
 we have a prototype of a Windows queue, too.

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To do

For the next version:

Providing Runtime Environments has traditionally been non-trivial with ARC.

However, XWCH has a "native" idea of applications and modules that can be shared by users.

[Home](#) [Applications](#) [My modules](#) [Administration](#) [My account](#) [Logout](#) Account: root root 06-09-2010 1

Filter options

Applications

Refresh

Kill

Clean

Name [R. ROOT]APP_CLI_TEST_UPDATE ▾

Id fb06f000-0b00-4a48-b6e5-69b8fda2a3c9

User root root

1/1 job(s)

Page size : 18 ▾

Page 1 / 1.

Refresh

Display history

Reset

Kill

Job	Module	Start Date	End Date	Worker	Status
job_B	MODULE_CLI_TEST	25-08-2010 11:55:21	25-08-2010 11:56:03	benbelgacem_unige_worker_0	

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