

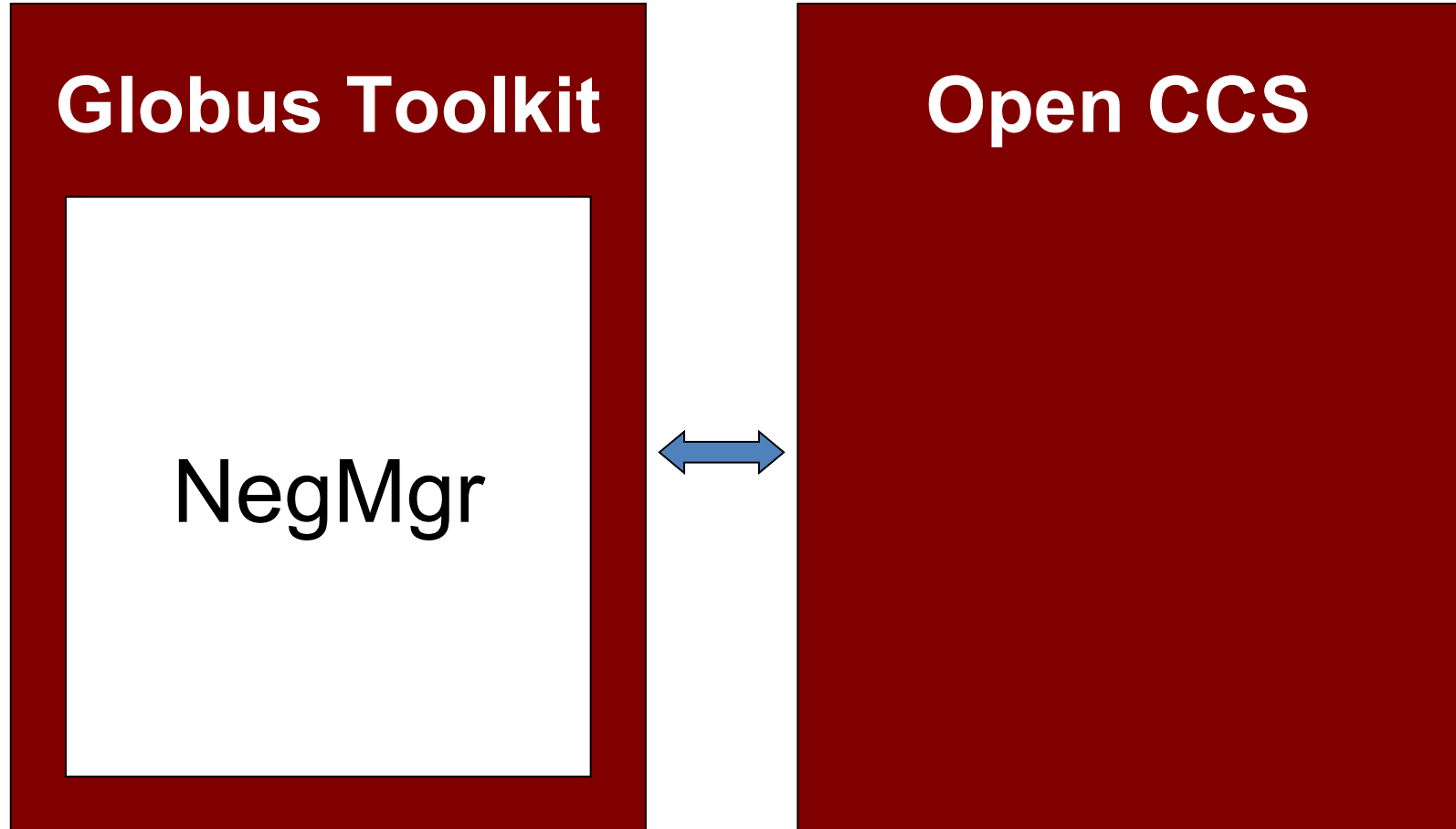
AssessGrid/HPC4U Negotiation Manager



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Complex and Distributed IT-Systems

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Job Description

- JSDL
 - File Staging, Duration, Resources
- JSDL-POSIX
- JSDL-SPMD
 - Workers (SCAMPI, SHELL, ...)
 - Nr CPUs
- Custom Extensions
 - [Probability of Failure]
 - [Scheduling Restrictions]
 - [Workflows]
 - [Price/Penalty]

- Get Template (currently 2)
- [Get Quote]
- Create Agreement
- [Delegate Credentials]

Features

- **Can be used to submit jobs to a cluster**
- Based on Globus Toolkit
- GridFTP (w/ delegation of credentials)
- Authentication / Authorization
- Monitoring w/ WS-Notification
- Submission to OpenCCS RMS
- Simple Validation

About OpenCCS

- Planning based Scheduling
- Connection via TCP
- Capable of checkpointing and job migration

Migration

```
testuser@kc-master:~/XN-MC/mpipov
```

```
Using username "ccs".
```

```
Authenticating with public key "imported-openssh-key" from agent
```

```
Last login: Sun Feb 17 22:20:50 2008 from 81.253.84.9
```

```
[ccs@kc-master ~]$ su - testuser
```

```
Password:
```

```
[testuser@kc-master ~]$ cd XN-MC/mpipov
```

```
[testuser@kc-master mpipov]$ vi do-ccsalloc.sh
```

```
[testuser@kc-master mpipov]$ ./do-ccsalloc.sh 2 1 3
```

```
25
```

```
[testuser@kc-master mpipov]$ ccsinfo -q
```

```
ccsinfo: Connecting machine: HPC4U
```

```
Info about schedule from: 22:27:46 on Sun Feb 17, 2008
```

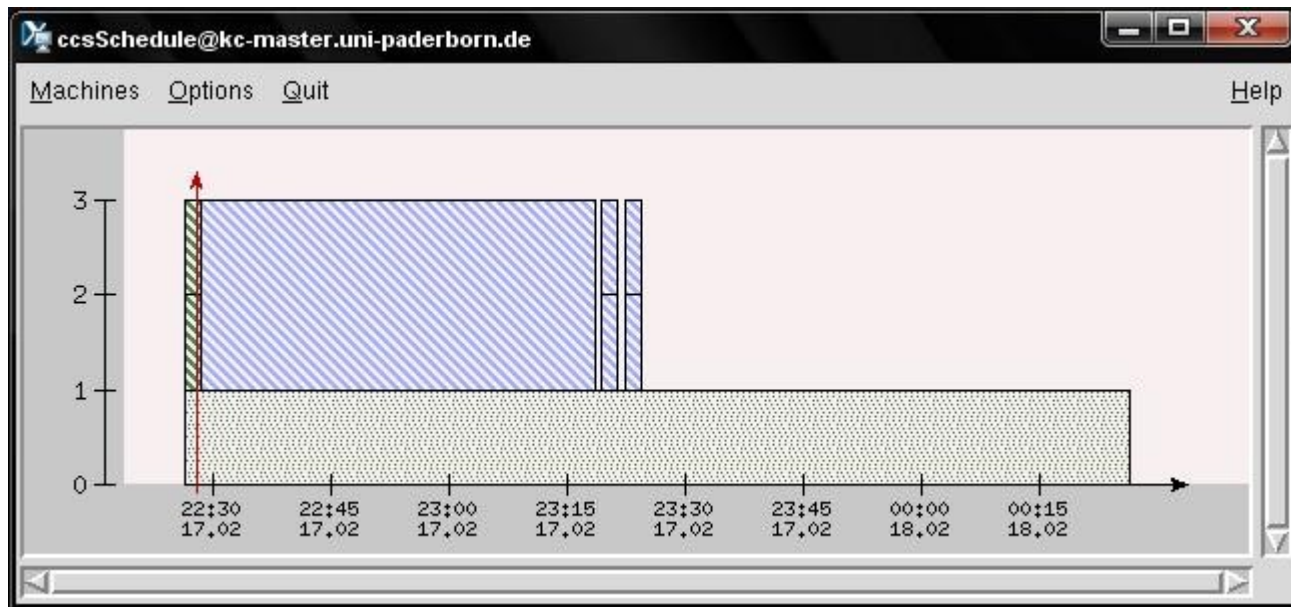
```
Machine : HPC4U
```

```
Active policy is : SLA SLA aware
```

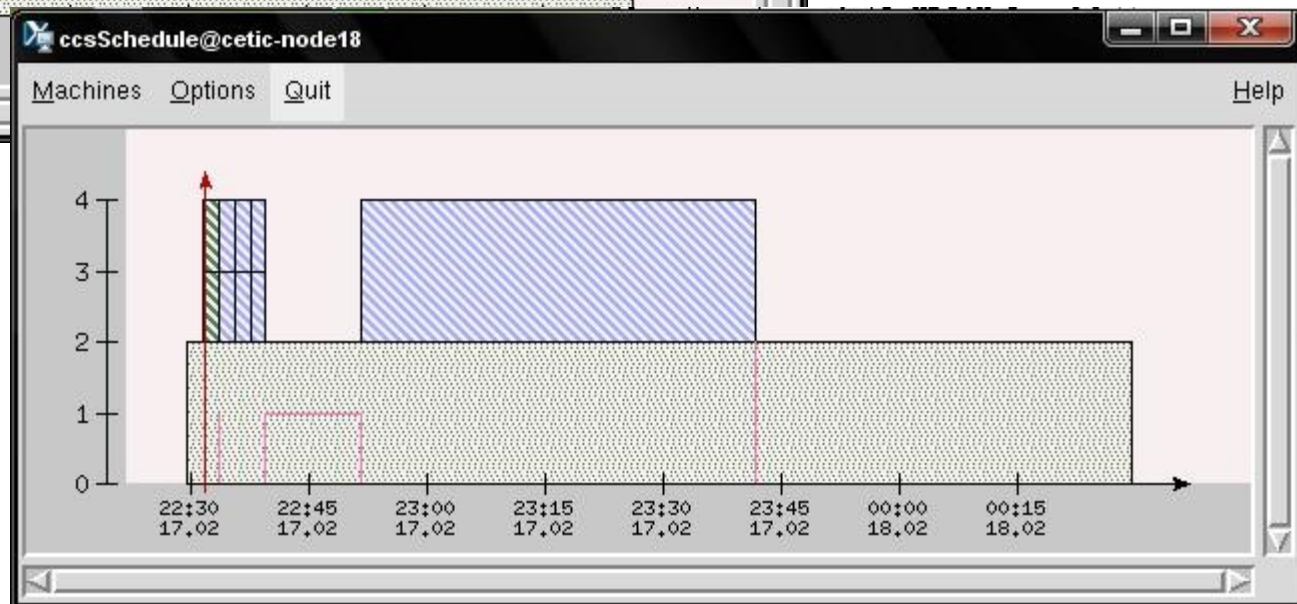
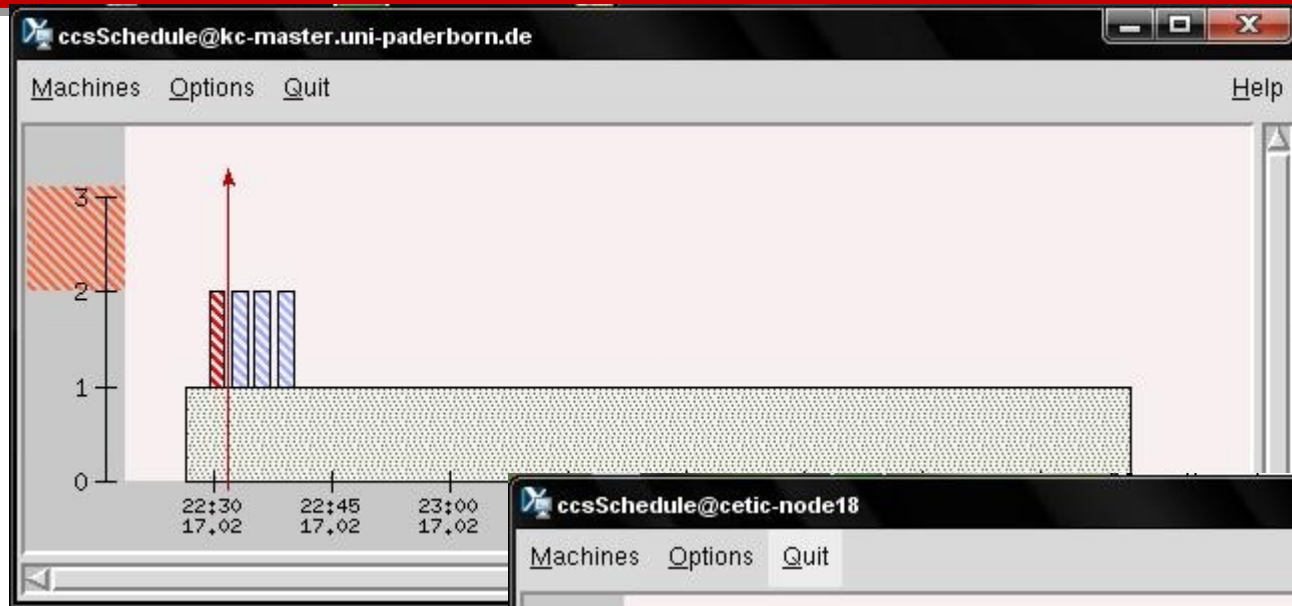
ReqId	Name	Type	State	Nodes	Config-Time	Release-Time	Duration	Deadline
18	ccs_1	Res	ALLOCATED	1	22:26	00:26:18.02	2h	-----
19	ccs_2	Bat	ALLOCATED	1	22:26	22:28	2m	-----
20	ccs_3	Bat	ALLOCATED	1	22:26	22:28	2m	-----
25	testuser_	Bat	PLANNED	2	22:28	23:18	50m	23:45
21	ccs_4	Bat	PLANNED	1	23:19	23:21	2m	-----
22	ccs_5	Bat	PLANNED	1	23:19	23:21	2m	-----
23	ccs_6	Bat	PLANNED	1	23:22	23:24	2m	-----
24	ccs_7	Bat	PLANNED	1	23:22	23:24	2m	-----

```
[testuser@kc-master mpipov]$
```

Migration



Migration



Migration

GetTemplates to several providers

Delivery of templates

Fill Templates

Until suitable provider found

GetQuote

Check authorization

Check compliance

Check schedulable

Find price

If successful

CreateQuote

Migration

CreateQuote

Check authorization

Check compliance

Check schedulable

Submit to OpenCCS

Report Success

Delegate Credentials

Monitor Status

Do file stage-in

Trigger start when complete

Execution

Do file stage out

Flag completion

On Start:

tell OpenCCS

On Termination:

tell OpenCCS

- Demo Available at
<http://tinyurl.com/3a6w6e>
- Sources available at
<http://www.assessgrid.eu>
<http://www.openccs.eu>