Usage of GridWay around the world

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How GridWay sees the infrastructures

HID	PRIO	OS	ARCH	MHZ	%CPU	MEM(F/T)	DISK(F/T)	N(U/F/T)	LRMS	HOSTNAME
0	20	Linux2.4.21-32.	i686	2665	189	964/2006	62787/73964	0/2/1	jobmanager-fork	atlas.dpcc.uta.edu
1	20	Linux2.4.21-37.	athlo	1991	110	1214/2009	62680/71679	0/1/1	jobmanager-condor	ce01.cmsaf.mit.edu
2	20	Linux2.4.21-20.	i686	2665	388	1246/2006	708465/997951	0/1/1	jobmanager-condor	fiupg.ampath.net
3	20	Linux2.4.27-1-3		1595	95	381/884	63508/75258	0/1/1	jobmanager-condor	grid.physics.purdue.edu
4	20	Linux2.6.9-42.0	x86_6	2592	200	3041/3901	120403/137709	0/1/1	jobmanager-condor	osg.hpcc.nd.edu
6	25	NULLNULL	NULL	0	0	0/0	0/0	0/214/219	Condor	nest.phys.uwm.edu
7	25	NULLNULL	NULL	0	0	0/0	0/0	0/6/11	Condor	osg-itb.ligo.caltech.edu
10	50	Scientific Linu	i686	2800	0	1024/1024	0/0	0/152/158	jobmanager-lcgpbs	lcg-ce.usc.cesga.es
11	50	ScientificSLBer	i686	3000	0	1024/1024	0/0	0/49/108	jobmanager-lcgpbs	ce2.egee.cesga.es
12	50			0	0	0/0	0/0	0/0/0		ce01.pic.es
13	50	ScientificSLBer	i686	4000	0	1024/1024	0/0	0/0/24	jobmanager-lcgpbs	ifaece01.pic.es
8	50	ScientificSLSL	i686	1200	0	1024/1024	0/0	0/51/75	jobmanager-pbs	lcg2ce.ific.uv.es
9	50	Scientific Linu	i686	866	0	513/513	0/0	0/19/22	jobmanager-lcgpbs	ramses.dsic.upv.es
5	75	NULLNULL	NULL	0	0	0/0	0/0	0/115/160	PBS	tg-grid.uc.teragrid.org
14	90	Linux2.6.17-2-6	x86	3216	0	45/2027	70824/118812	0/0/2	Fork	cygnus.dacya.ucm.es
15	90	Linux2.6.17-2-6	x86	3216	181	681/2027	98861/118812	0/2/2	Fork	draco.dacya.ucm.es
16	90			0	0	0/0	0/0	0/0/0		orion.dacya.ucm.es
17	90	Linux2.6.18-4-a	x86_6	2211	100	954/1003	77081/77844	0/3/4	PBS	hydrus.dacya.ucm.es
18	90	Linux2.6.18-4-a	x86_6	2211	100	776/1003	76428/77844	0/5/5	SGE	aquila.dacya.ucm.es

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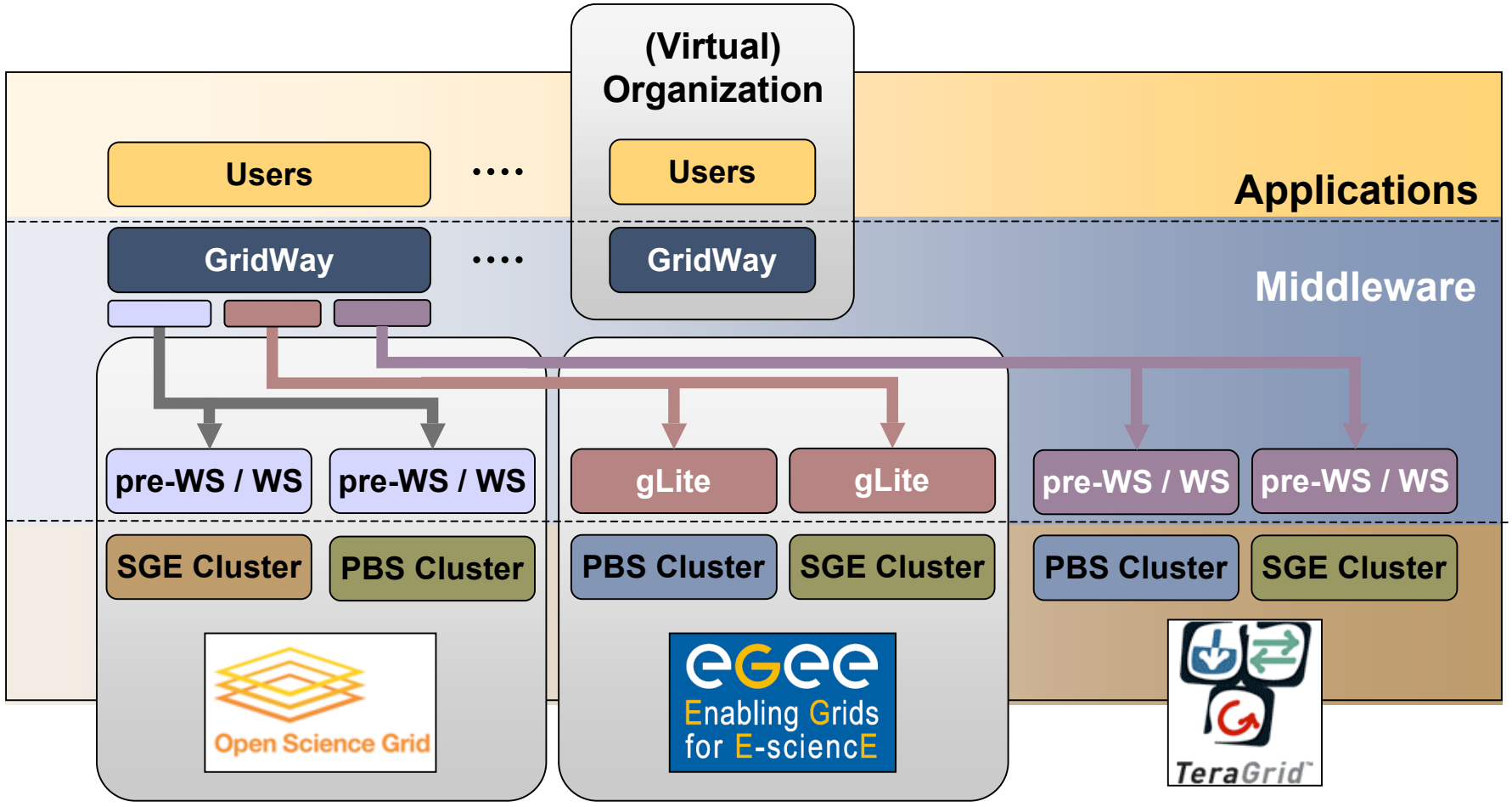
GridWay Approach to Interoperability

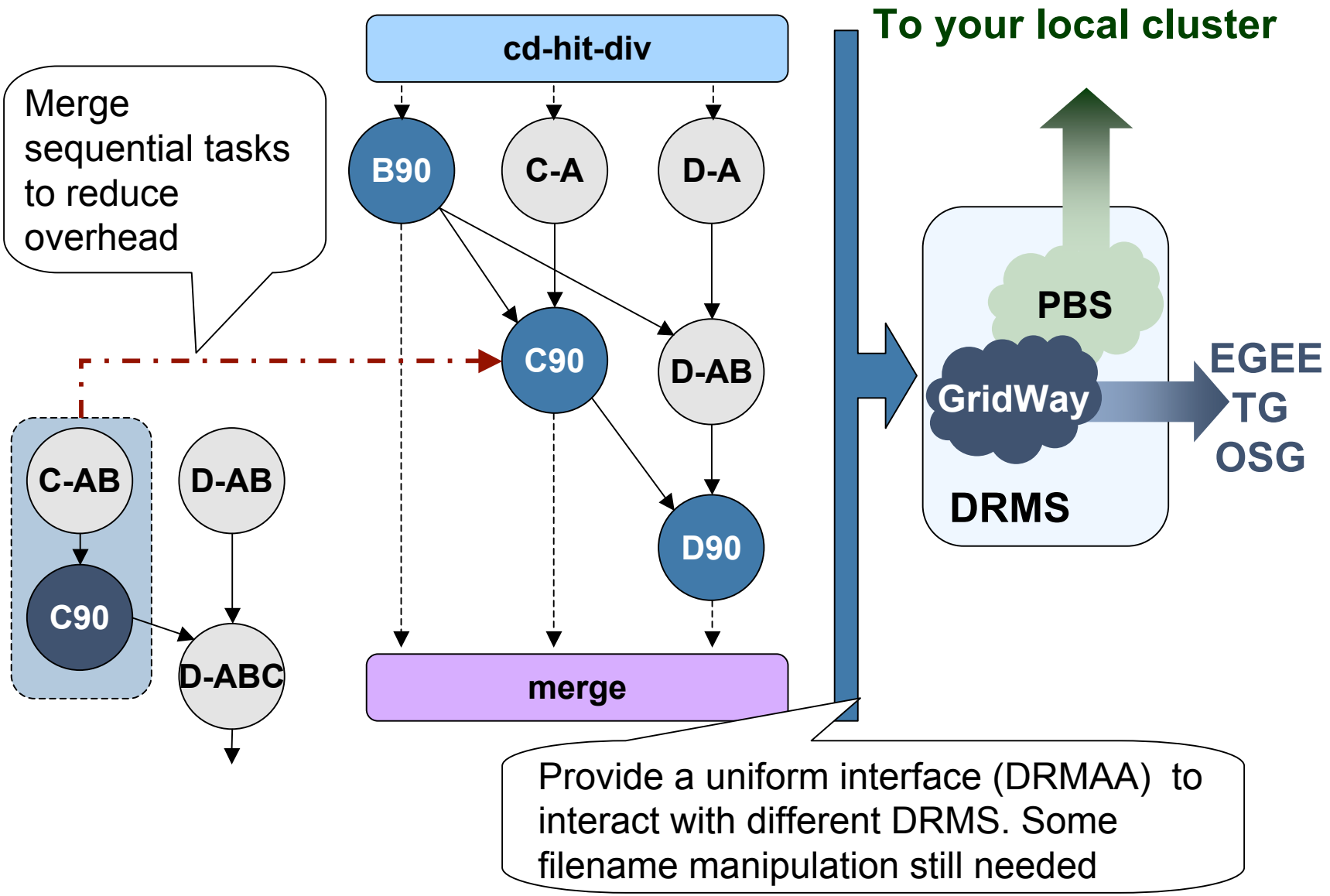
How do we achieve interoperability

- By using adapters:

> "A device that allows one system to connect to and work with another"



The CD-HIT Application



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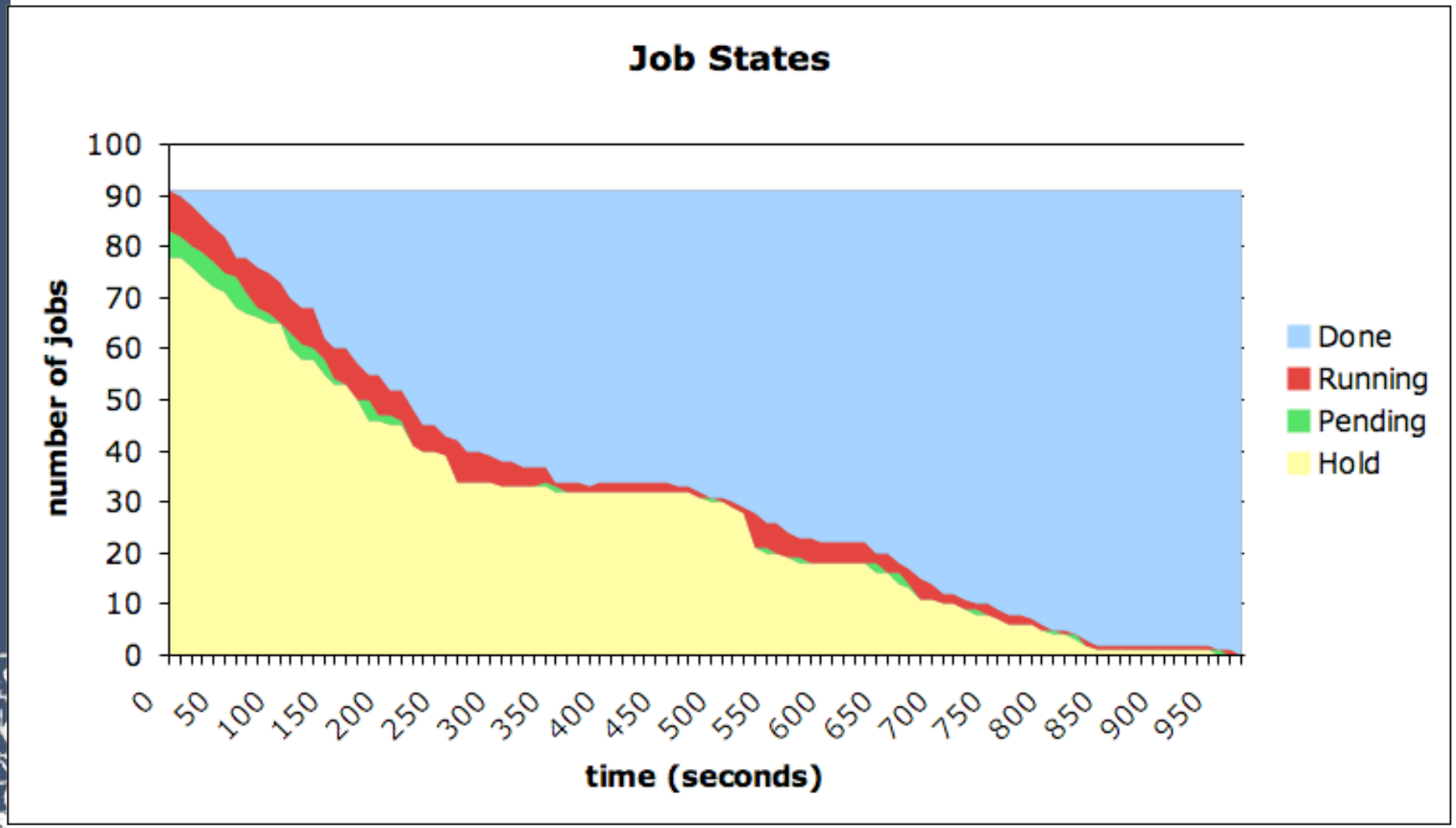
Job States - Running CD-HIT with 14 divisions



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The DRMAA standard and GridWay

What is DRMAA?

- Distributed Resource Management Application API
  - http://www.drmaa.org/
- Open Grid Forum Standard

OpenGridForum
OPEN FORUM | OPEN STANDARDS

- Homogeneous interface to different Distributed Resource Managers (DRM):
  - **SGE**
  - **Condor**
  - **PBS/Torque**
  - **GridWay**
    - **C**
    - **JAVA**
    - **Perl (GW 5.2+)**
    - **Ruby (GW 5.2+)**
    - **Python (GW 5.2+)**

The DRMAA standard and GridWay

C Binding

- The native binding
- All the others (Java, Perl, Python & Ruby) are wrappers around this
- Features a dynamic library to link DRMAA applications with
    - They will automatically run on a Grid offered by GridWay

```
drmaa_run_job
    (job_id,
     DRMAA_JOBNAME_BUFFER-1,
     jt,
     error,
     DRMAA_ERROR_STRING_BUFFER-1);
```