

Monitoring im Kern D-Grid

Timo Baur (LRZ)

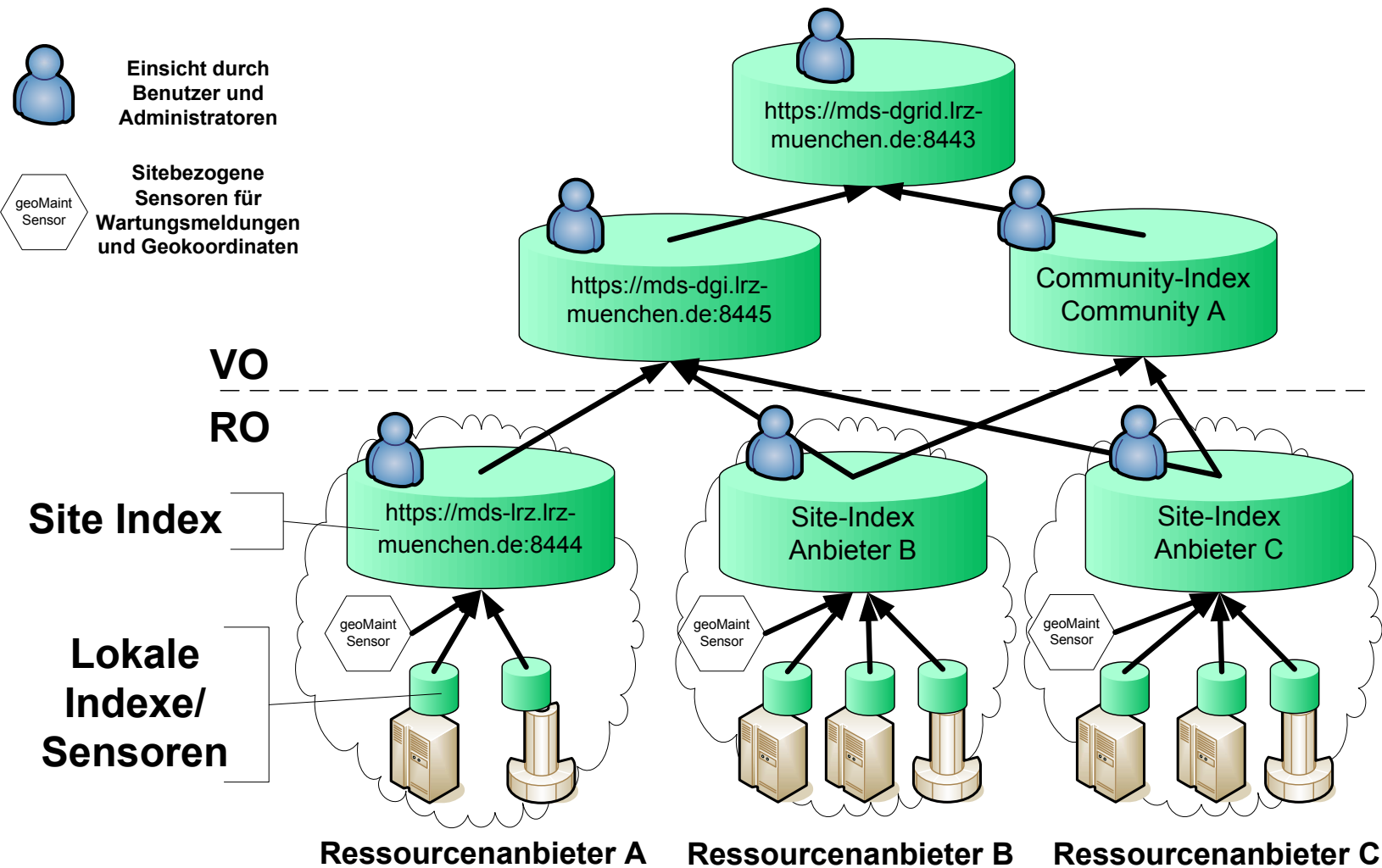
Tobias Lindinger (LRZ)

Nils gentschen Felde (LMU)

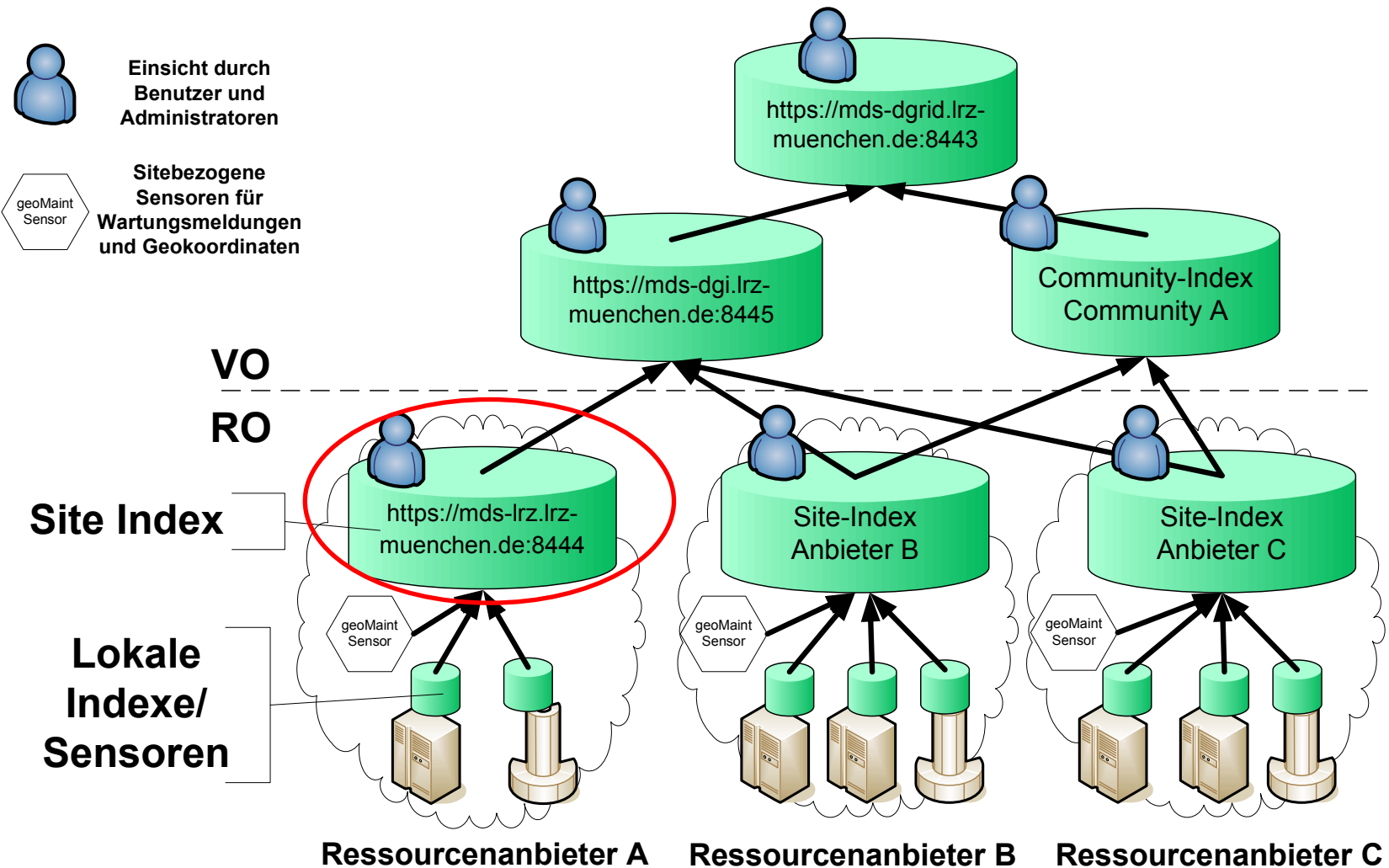
Helmut Reiser (LRZ)

- Aufbau der Monitoring-Komponenten
- Anbindung der Sites
- Konfiguration eines MDS4-Index
- Glue-Schema
- Demo
 - Sensor für Geodaten
 - Wartungsmeldungen
 - WebMDS und GridCSM
- Zusammenfassung & Ausblick

- Monitoring and Discovery System (MDS4)
 - Komponente des Globus Toolkit
 - Viele Sensoren in Standardinstallation
 - z.B. für Scheduler GRAM
 - für File Transfer Service (RFT)
 - ...
 - Auch hierarchische Organisation möglich
- Geo-Daten & Wartungsmeldungs-Sensor (geoMaint)



- Nicht-Globus Sites:
 - Zusätzlich MDS installieren
- Alle:
 - geoMaint installieren
 - 1 Sensor pro Site!
 - MDS-Upstream konfigurieren



```
<config>
<!--
  <upstream>
    elements specify remote index services that the local index will be
    registered to. Set an upstream entry for each VO index that you wish
    to participate in.
  </upstream>
-->
  <upstream>
    https://mds-dgi.lrz-muenchen.de:8445/wsrfr/services/DefaultIndexService
  </upstream>
<!--
  <downstream>
    elements specify remote index service which will be registered into the
    local index. You do not need to configure <downstream> services unless
    you are building your own VO.
  </downstream>
  <downstream>
    https://member-host:8443/wsrfr/services/DefaultIndexService
  </downstream>
-->
</config>
```

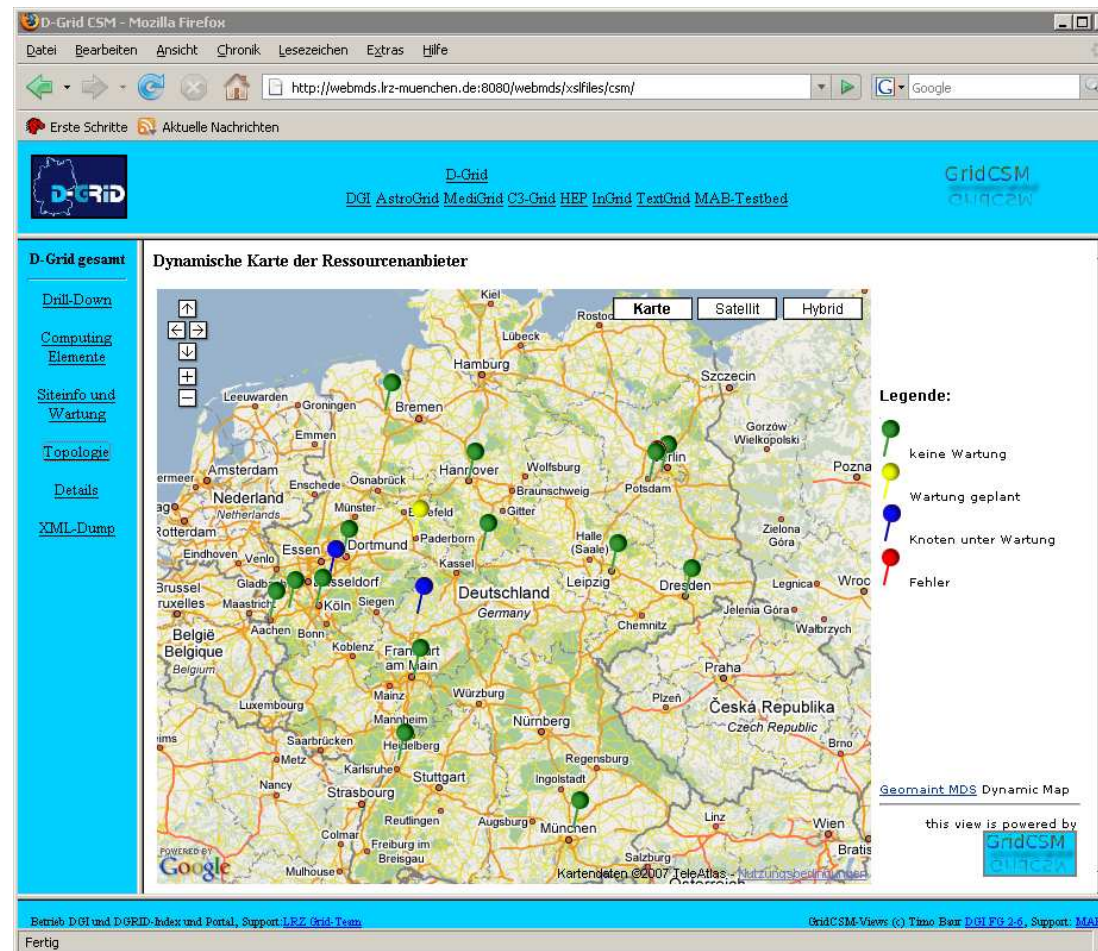
- DGI:
<https://mds-dgi.lrz-muenchen.de:8445/wsrf/services/DefaultIndexService>
- AstroGrid:
<https://astrogrid-mds.aip.de:8443/wsrf/services/DefaultIndexService>
- MediGrid:
<https://gwdu106.gwdg.de:8443/wsrf/services/DefaultIndexService>
- C3-Grid:
<https://c3grid-gt.e-technik.uni-dortmund.de:8443/wsrf/services/DefaultIndexService>
- HEP:
<https://udo-gt01.grid.uni-dortmund.de:8443/wsrf/services/DefaultIndexService>
- InGrid
<https://gt4.dgrid.hlr.de:8443/wsrf/services/DefaultIndexService>
- TextGrid
- keine Ressourcen vorhanden -
- MAB-Testbed:
<https://dgrid-globus.rz.rwth-aachen.de:8443/wsrf/services/DefaultIndexService>
- D-Grid:
<https://mds-dgrid.lrz-muenchen.de:8443/wsrf/services/DefaultIndexService>

Attribut	Typ	Einheit
RunningJobs	int	Anzahl
WaitingJobs	int	Anzahl

```
<complexType name="StateType">
  <attribute name="RunningJobs" type="int"/>
  <!--
    Number of currently running jobs
  -->
  <attribute name="WaitingJobs" type="int"/>
  <!--
    Number of jobs that are in a state different than running
  -->
</complexType>
```

- Entwicklung: LRZ und RWTH Aachen
- Darstellung von Ressourcen-Zuständen
 - auf Site Ebene
 - farblich kodiert
 - Wartungsmeldungen
- Einbettung der Sites in die Landkarte
- Ansprechpartner
- http://sourceforge.net/project/showfiles.php?group_id=190207

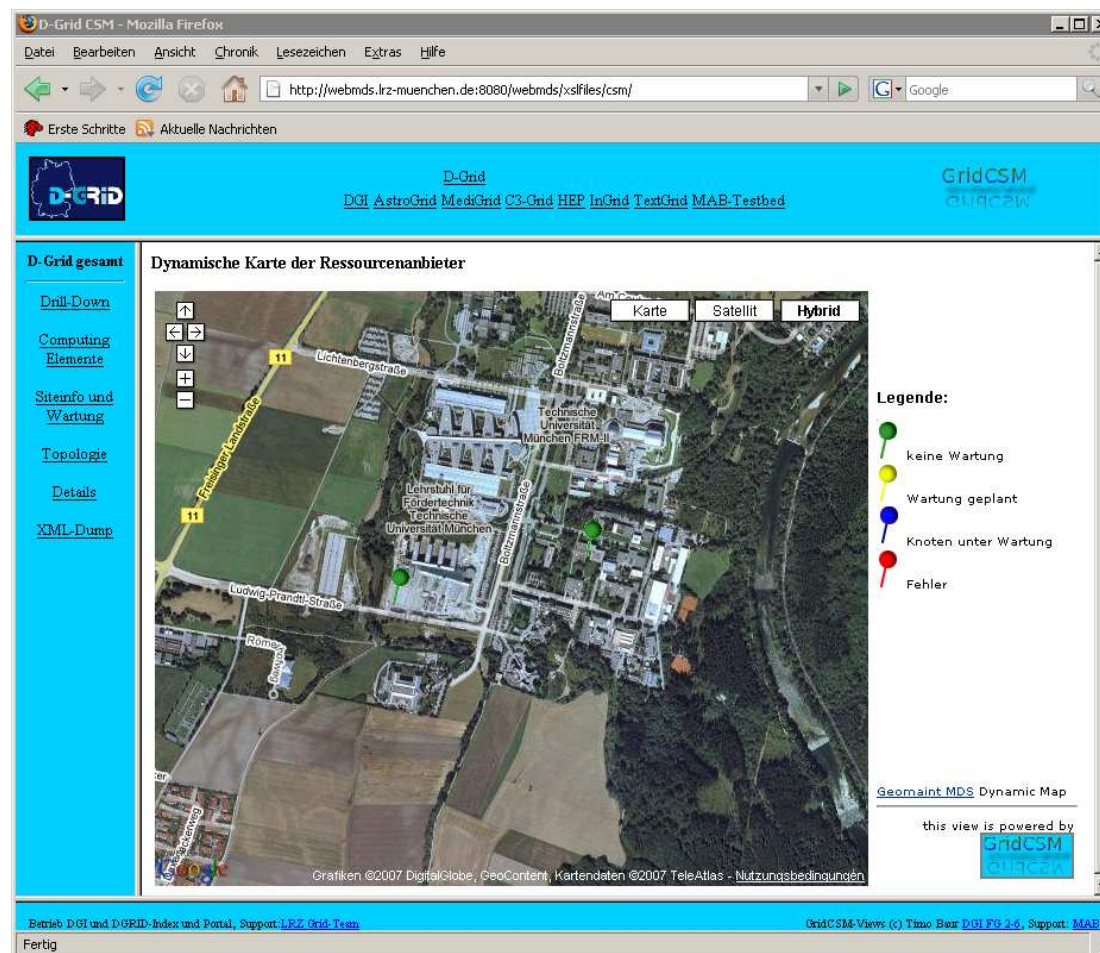
Demo...



```
# SITE CONFIGURATION
#
# GeoMaint Geo- and Maintenance-Information Provider
#
# parts of this work have been funded by the German Federal
#   Ministry of
# Education and Research under contract 01 AK 800 B (D-Grid)
#
# authors: jrad@RZ.RWTH-AACHEN.DE, timo.baur@lrz-muenchen.de
#####

...

# Geolocation
site.location=Garching, Deutschland
site.latitude=48.26166
site.longitude=11.66638
site.web=http://mabtest.lrz-muenchen.de
site.sponsor=BMBF
...
```



```
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#####

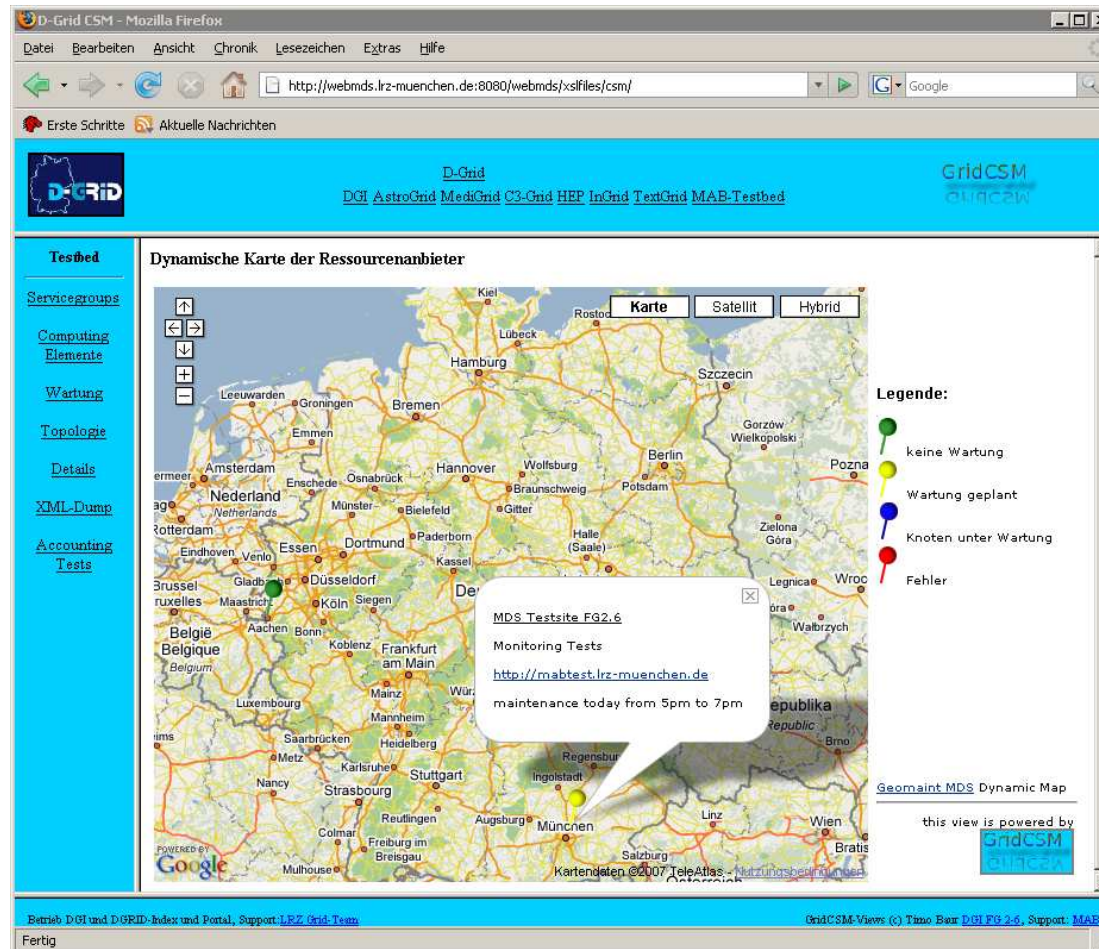
...

#site.maintenance=3unconfigured site sensor
#site.maintenance=2cluster is down for maintenance until 7pm
#site.maintenance=1maintenance today from 5pm to 7pm
site.maintenance=0
```

```
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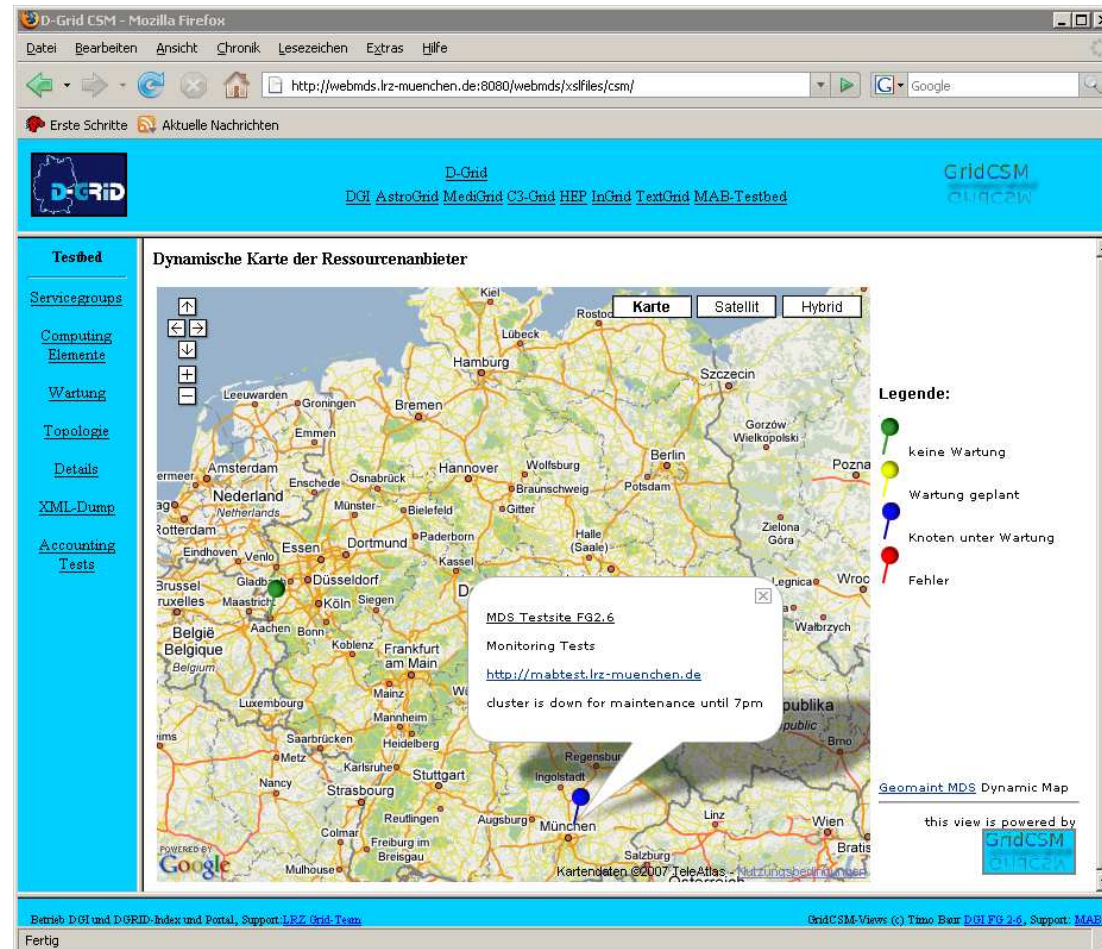
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```

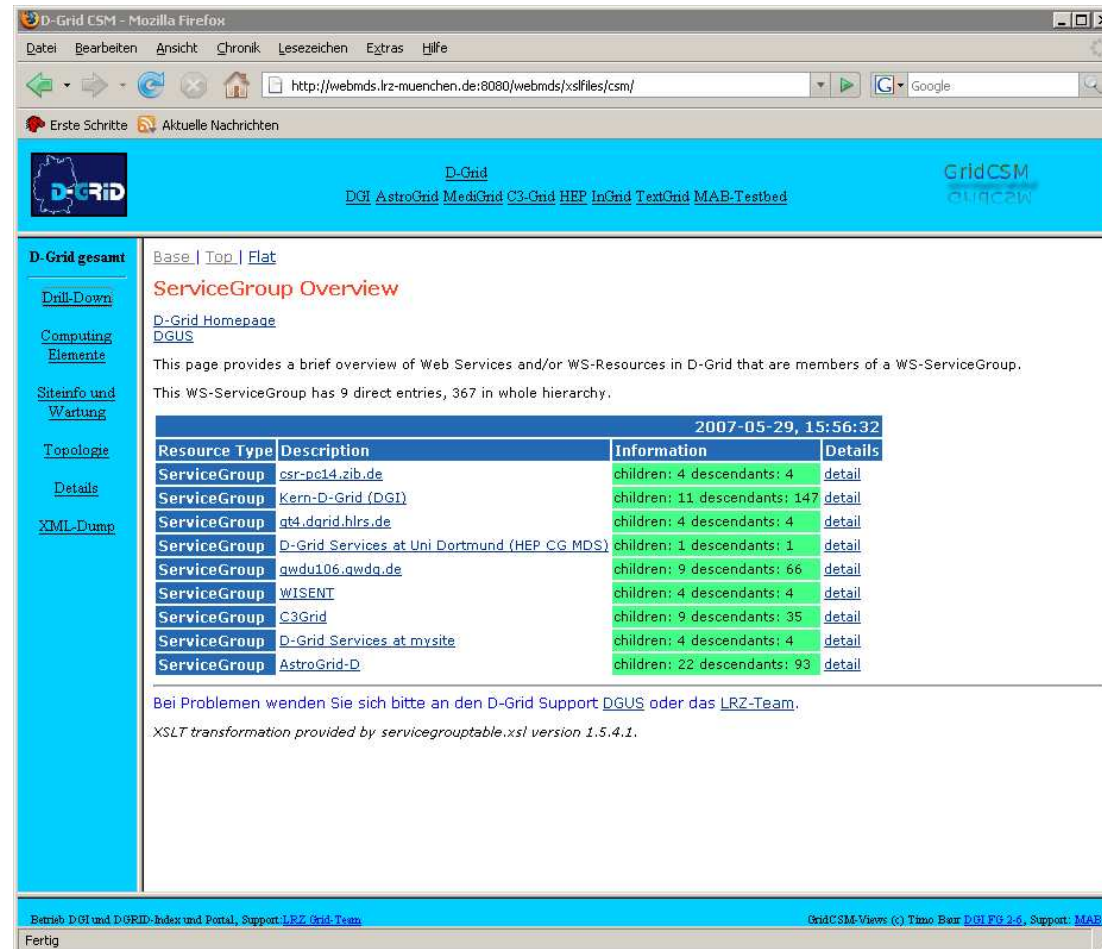


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```





D-Grid CSM - Mozilla Firefox

http://webmds.lrz-muenchen.de:8080/webmds/xslfiles/csm/

D-Grid
[DGI](#) [AstroGrid](#) [MediGrid](#) [C3-Grid](#) [HEP](#) [InGrid](#) [TextGrid](#) [MAB-Testbed](#)

D-Grid CSM

D-Grid gesamt
[Drill-Down](#)
[Computing Elemente](#)
[Siteinfo und Wartung](#)
[Topologie](#)
[Details](#)
[XML-Dump](#)

[Base](#) | [Top](#) | [Flat](#)

ServiceGroup Overview

[D-Grid Homepage](#)
[DGUS](#)

This page provides a brief overview of Web Services and/or WS-Resources in D-Grid that are members of a WS-ServiceGroup.
 This WS-ServiceGroup has 9 direct entries, 367 in whole hierarchy.

2007-05-29, 15:56:32

Resource Type	Description	Information	Details
ServiceGroup	csr-pc14.zib.de	children: 4 descendants: 4	detail
ServiceGroup	Kern-D-Grid (DGI)	children: 11 descendants: 147	detail
ServiceGroup	qt4.dgrid.hlr.de	children: 4 descendants: 4	detail
ServiceGroup	D-Grid Services at Uni Dortmund (HEP CG MDS)	children: 1 descendants: 1	detail
ServiceGroup	qwd106.qwdq.de	children: 9 descendants: 66	detail
ServiceGroup	WISENT	children: 4 descendants: 4	detail
ServiceGroup	C3Grid	children: 9 descendants: 35	detail
ServiceGroup	D-Grid Services at mysite	children: 4 descendants: 4	detail
ServiceGroup	AstroGrid-D	children: 22 descendants: 93	detail

Bei Problemen wenden Sie sich bitte an den D-Grid Support [DGUS](#) oder das [LRZ-Team](#).

XSLT transformation provided by: *servicegrouptable.xsl* version 1.5.4.1.

Betrieb DGI und DGRID-Index und Portal, Support [LRZ Grid-Team](#) GridCSM-Views (c) Timo Baur [DGI FG 2-6](#), Support: [MAB](#)

Fertig

D-Grid CSM - Mozilla Firefox

http://webmds.lrz-muenchen.de:8080/webmds/xsifiles/csm/

Erste Schritte Aktuelle Nachrichten

D-Grid [DGI](#) [AstroGrid](#) [MediGrid](#) [C3-Grid](#) [HEP](#) [InGrid](#) [TextGrid](#) [MAB-Testbed](#) **Grid CSM**

D-Grid gesamt

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[Details](#)

[XML-Dump](#)

Gesamtstatus

funktionsfähig

703 aktive Rechenressourcen (Batch-Queues)

400 laufende Jobs 1111 wartende Jobs

CE Verfügbarkeit und Jobs

Legende

CE hat Grid-Jobs in der Queue

CE ist bereit

CE ist abgeschaltet oder in Wartung

Dienst	Queue	Typ	Laufende Jobs	Wartende Jobs	Status	Free Nodes	Total Nodes
csr-pc14.zib.de							
ManagedJobFactoryService	batch		0	0	enabled	1	1
csr-pc14.zib.de							
ManagedJobFactoryService	default		0	0	enabled	1	1
p5io3.rzg.mpg.de							
ManagedJobFactoryService	default	Fork	0	0	enabled	4	4
p5io3.rzg.mpg.de							
ManagedJobFactoryService	rp5_fat1		0	0	active	0	

Betrieb DGI und DGRID-Index und Portal, Support: [LRZ Grid Team](#) GridCSM-Views (c) Timo Baur [DGI FG 2-6](#), Support: [MAB](#)

Fertig

D-Grid CSM - Mozilla Firefox

http://webmbs.lrz-muenchen.de:8080/webmbs/xsifiles/csm/

Erste Schritte Aktuelle Nachrichten

D-Grid [Grid CSM](#)

[DGI](#) [AstroGrid](#) [MediGrid](#) [C3-Grid](#) [HEP](#) [InGrid](#) [TextGrid](#) [MAB-Testbed](#)

D-Grid gesamt

[Drill-Down](#)
[Computing Elemente](#)
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[XML-Dump](#)

Wartungszustand

Site ID	Wartung
p5io3.rzg.mpg.de	running
PC2	maintenance 11.07.07 - 17.07.07
zih.tu-dresden.de	running
zih.tu-dresden.de	running
zih.tu-dresden.de	running
d-grid.rzn.uni-hannover.de	running
RWTH-RZ	Running
mardschana.zib.de	running
pc12714.mathematik.uni-marburg.de	maintenance
iwrgrt4.fzk.de	running
FZJ	running
LRZ	running
DGI-Index	running
MDS@UniDo	running
iwrgrt4.fzk.de	running
zih.tu-dresden.de	running
zih.tu-dresden.de	running
zih.tu-dresden.de	running
aprilia.izbi.uni-leipzig.de	running
elfie.bcbio.de	running
MediGRID	running
srvgrid01.offis.uni-oldenburg.de	running
mardschana.zib.de	running

Betrieb DGI und DGRID-Index und Portal, Support: [LRZ Grid Team](#) GridCSM-Views (c) Timo Baur [DGI FG 2-6](#), Support: [MAB](#)

Fertig

- Was haben wir gemacht?
 - D-Grid Monitoring System (MDS4)
 - Anpassung von Batch-Scheduling Providern
 - Filtern von Queues (D-Grid View)
 - Torque/PBS, SGE
 - Fokus auf
 - Ressourcen-Monitoring
 - Job-Monitoring
 - GridCSM
- Was werden wir noch machen?
 - Weitere Dokumentation zum Monitoring
 - Integration des Monitoring-Systems
 - Aufbau und Architektur
 - Implementierung im D-Grid
 - Weitere Anpassungen/Erweiterungen des Systems
 - D-MON

Vielen Dank für Ihre Aufmerksamkeit

Ressourcen-Monitoring	Job-Monitoring
• CE Last	• Job-Dauer
• SE Nutzung	• Job-Speicherbedarf
• Netzwerk Status	• Job-Anzahl
• CE Verfügbarkeit	• Job-Queue Länge
• SE Verfügbarkeit	
• Last der WNs	