

Minimum intrusion Grid



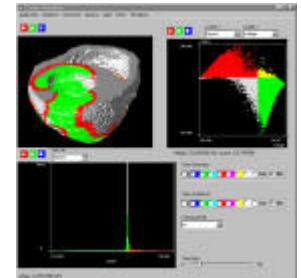
P-Cubed and CINEMA workshop

MINIMUM INTRUSION GRID

Jonas Bardino
<bardino@nbi.ku.dk>
NBI eScience
University of Copenhagen

The Grid

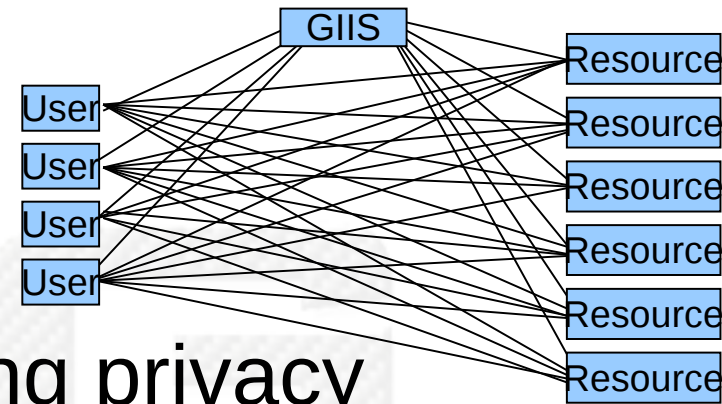
- 'Internet' mainly allows access to separate information, resources
- The Grid should provide unified access to **any** desired resource
 - Processing
 - Storage
 - Applications
 - People
- Sharing, collaboration
 - Virtual organizations



Problems in Classic Grid Models?

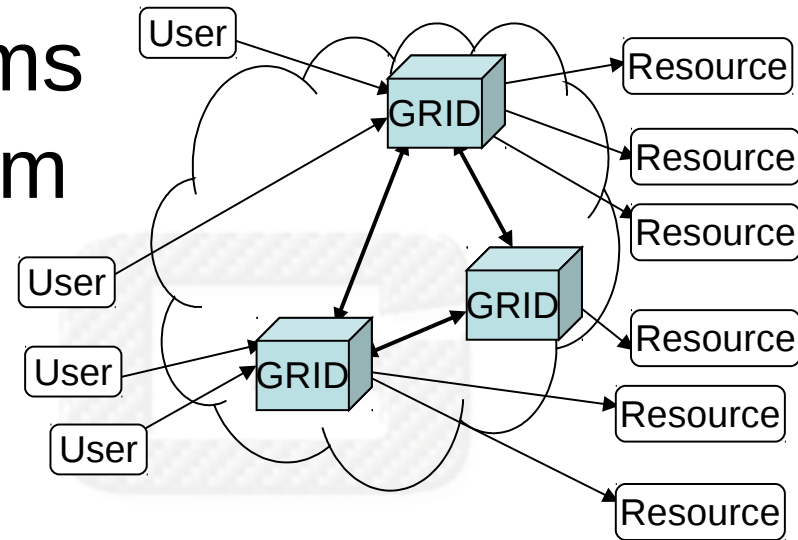
(not every problem in every middleware)

- Single point of failure
- Lack of scheduling
- Poor scalability
- No means of implementing privacy
- No means of utilizing 'cycle-scavenging'
- Firewall dependencies
- Highly bloated middleware
- Cumbersome user collaboration
- Steep learning curve
- Ad-hoc application access



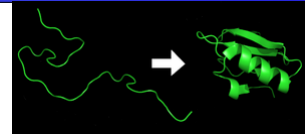
Minimum intrusion Grid - Idea

- Address 1st gen. problems
- GRID should be a system
 - not just a protocol
 - servers that **are** GRID
 - coordinated upgrade
- Users and resources do not have to maintain anything
- Appears as big virtual computer to users
- Appears as group of users to resources



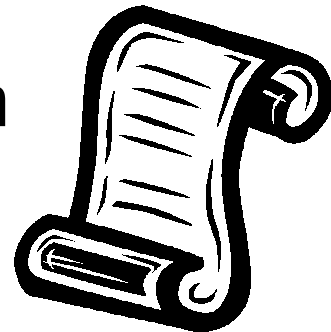
Why is GRID Needed?

- Science & business go virtual
 - A lot of areas turn to computer simulations
 - More, bigger and cheaper experiments
 - Data mining
- Computer power is consolidated in data centres
 - Avoid user maintenance
 - Better utilization → cheaper
 - Users need easy access
 - Providers need access control



MiG Rules

- i. Nothing produced by MiG can be **required** to be installed on either the resource or client end
- ii. Everything within MiG must be implemented in **Python** unless another language is absolutely required
- iii. Any design and implementation decision must optimize towards transparency for the users
- iv. Anything that is not right must be thrown away



MiG Requirements - User

- Users **don't need** to install Grid software
 - A web-browser is enough
 - X.509 certificate for identification/access
- **Optional** advanced interfaces
 - User scripts
 - Client APIs
 - Remote file system
 - Native clients



Request User Certificate

MiG certificate request / renew - Mozilla Firefox

File Edit View History Bookmarks Tools Help <https://dk-sid.migrid.org/cgi-sid/reqcert.py> Google Encryp

MiG Minimum intrusion Grid

Welcome to the MiG certificate request / renew page

Apparently you already have a valid MiG certificate, but if it is about to expire you can renew it by posting the form below. Renewal with changed fields is **not** supported, so all fields including your original password must remain unchanged for renew to work. Otherwise it results in a request for a new account and certificate without access to your old files, jobs and privileges.

Please enter your information in at least the **mandatory** fields below and press the Send button to submit the certificate request to the MiG administrators.

IMPORTANT: Please help us verify your identity by providing Organization and Email data that we can easily validate!
That is, if You're a student/employee at KU, please enter institute acronym (NBI, DIKU, etc.) in the Organization field and use your corresponding USER@ACRONYM.dk or USER@*.ku.dk address in the Email field.

Full name	<input type="text" value="Jonas Bardino"/>
Email address	<input type="text" value="bardino@nbi.ku.dk"/>
Organization	<input type="text" value="NBI"/>
Two letter country-code	<input type="text" value="DK"/>
State	<input type="text"/>
Password	<input type="password" value="●●●●●●●●"/>
Verify password	<input type="password" value="●●●●●●●●"/>
Optional comment or reason why you should be granted a MiG certificate:	<input type="text" value="Participating in the P-Cubed project"/>

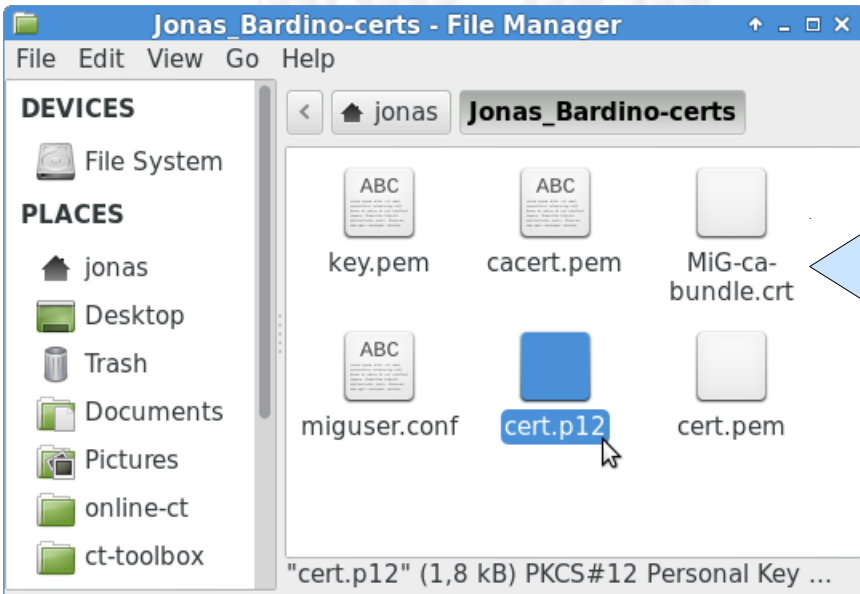
Optional, but a short informative comment may help us verify your certificate needs and thus speed up our response.

⚠ Please note that passwords may be accessible to the MiG administrators!

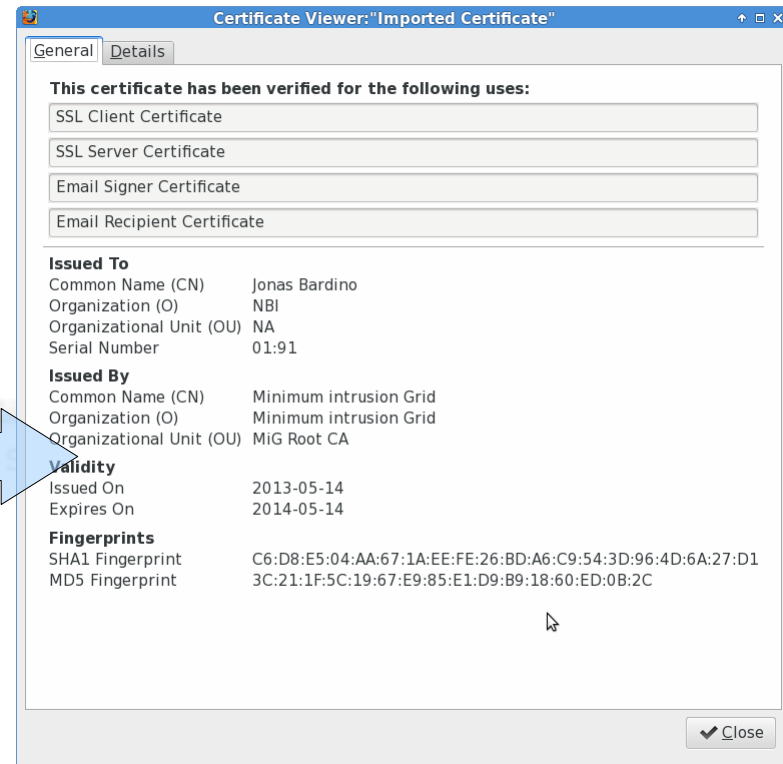
Exit code: 0 Description: OK (done in 0.0008s)

Install User Certificate

Certificate mail



Import
.p12 in
browser



User View of MiG

The screenshot shows a web browser window titled "Dashboard - Mozilla Firefox" with the URL <https://dk-cert.migrid.org/cgi-bin/dashboard.py>. The page header features the "MiG Minimum intrusion Grid" logo. A left-hand navigation menu includes links for Dashboard, Submit Job, Files, Jobs, VGrids, Resources, Downloads, Runtime Envs, People, Settings, and Docs. The main content area is titled "Dashboard" and contains the following sections:

- Welcome to the Minimum intrusion Grid**: A greeting "Hi Jonas Bardino" and a paragraph explaining the dashboard's purpose for users logged in with their certificates.
- Your Status**: A general overview of grid activities, including a note about cached numbers. It reports: "You have submitted a total of 278510 jobs: 0 parse, 0 queued, 1 frozen, 0 executing, 267941 finished, 0 retry, 9987 canceled, 0 expired and 581 failed." It also states "4340 resources providing 4687 execution units in total allow execution of your jobs." and "Loading disk stats...".
- Documentation and Help**: Information about built-in documentation like the "Docs page" and external "Minimum intrusion Grid documentation".
- Personal Settings**: Instructions on how to customize the interface via the Settings page.

MiG Requirements - Resource

- Resources **don't need** to install Grid software
 - Only create MiG user(s)
 - Provide limited remote access
 - ssh inbound
 - https outbound
- System administrators use ordinary X.509 user certificates to manage resources
- Sandboxed systems have even fewer requirements



Resource Owner View of MiG

The screenshot shows a web browser window titled "Resource Management - Mozilla Firefox" with the URL <https://dk-cert.migrd.org/cgi-bin/resadmin.py?uniq>. The page header features the "MiG Minimum intrusion Grid" logo. A left-hand navigation menu includes links for Dashboard, Submit Job, Files, Jobs, VGrids, Resources, Downloads, Runtime Envs, People, Settings, and Docs. The main content area is titled "Resource Management" and "MiG Resources Owned". It provides "Quick links to all your resources and individual management" with a "Show quick links" button. A resource entry for "akira.esci.nbi.dk.0" is highlighted. Below this, the "Configuration" section instructs the user to use the "editing interface" or make manual changes in a text box. The configuration details are as follows:

```
:: HOSTURL ::
akira.esci.nbi.dk

:: HOSTIDENTIFIER ::
0

:: ANONYMOUS ::
False

:: HOSTKEY ::
akira.esci.nbi.dk, 130.225.212.176 ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQDjcXqdQz1kA+nyHKP0FrIpUtokZQ

:: SSHPORT ::
22

:: MIGUSER ::
mig-escience-xray

:: RESOURCEHOME ::
/home/mig-escience-xray/MiG/mig_frontend/akira.esci.nbi.dk.0

:: FRONTENDNODE ::
akira.esci.nbi.dk
```

Files

File Manager - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://dk-cert.migrd.org/cgi-bin/fileman.py

Google Encryp

MiG Minimum intrusion Grid

Dashboard

Submit Job

Files

Jobs

VGrids

Resources

Downloads

Runtime Envs

People

Settings

Docs

File Manager

VirtualDesktop

VirtualDesktop

VirtualDesktop	4.00 KB	dir	2012-30-03 01:19
backup	4.00 KB	dir	2013-14-05 10:19
bla	4.00 KB	dir	2013-14-05 10:19
build	19.00 B	css	2013-14-05 10:19
circular	1.00 KB	mRSL	2013-14-05 10:19
cone-beam-ct	1.00 KB	txt	2013-14-05 10:19
dalton	52.00 B	txt	2013-14-05 10:19
default	38.00 B	txt~	2013-14-05 10:19
eScience	1.17 KB	pem	2013-14-05 10:19
html_generated_mrsl	756.76 KB		2013-14-05 10:19
inputfiles	130 KB	mRSL	2013-14-05 10:19
job_output	471.00 B	mRSL	2013-14-05 10:19
jvm	322.00 B	mRSL	2013-14-05 10:19
jvm.old	1.00 KB	tgz	2013-14-05 10:19
jvmcopy	2.56 KB	zip	2013-14-05 10:19
live-files	1.00 KB	tgz	2013-14-05 10:19
message_queues	2.56 KB	zip	2013-14-05 10:19
noname-020813-080800.txt.editor_Ic	103.59 KB	tgz	2013-14-05 10:19
outputfiles	275.31 KB	tgz	2013-14-05 10:19
povray	45.19 KB	zip	2013-14-05 10:19
privat			
private_base			

240 files in current folder of total 30.87 MB in size.

Enable touch screen interface (all clicks trigger menu)

Private user home on MiG

All file refs are relative to user home

File Editor

The screenshot shows a web browser window titled "File Manager - Mozilla Firefox" with the URL `https://dk-cert.migrd.org/cgi-bin/fileman.py?path=`. The main interface is a file manager for the "CT-Toolbox" directory. A table lists files and folders:

Name	Size	Type	Date Modified
doc	4.00 KB	dir	2012-30-04 14:20
downloads	4.00 KB	dir	2013-07-03 11:28
			2014-12-02 16:19
			2012-30-03 01:38

An "Editor" window is open, showing the file `./public_base/CT-Toolbox/index.html`. The editor contains the following HTML code:

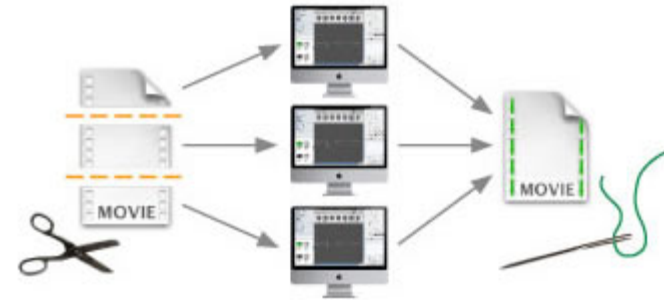
```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
<html>
<head>
<title>Public entry page for the CT-Toolbox VGrid</title>
</head>
<body>
<div class="content">
<h1>Welcome</h1>
Welcome to the CT-Toolbox project at MiG!
This virtual organization is used for the development and test of the Cph CT Toolbox.
For additional information please refer to the <a href="http://code.google.com/p/cphcttoolbox/">cphcttoolbox project</a>
at Google Code.
</div>
</body>
</html>
```

At the bottom of the editor window, there are three buttons: "Save Changes", "Close", and "Download".

© 2003-2013, The MiG Project

Jobs

- The Grid work unit is jobs
 - Typically batch command(s)
 - Including resource specs
 - User input/output files
- Users send jobs to MiG queue
 - Replication (if enabled)
 - Execution when a suitable resource is ready
 - All job handling is done by MiG
 - User may override jobs: hold, cancel, resubmit
- Grid apps typically wrap jobs to create flow



Submit Job I

Submit Job - Mozilla Firefox

File Edit View History Bookmarks Tools Help [↩](#) [➡](#) [🔄](#) [🏠](#) <https://dk-cert.migrid.org/cgi-bin/submitjob.py> [☆](#) [Google Encryp](#) [S](#) [ABP](#)

MIG Minimum intrusion Grid

- Dashboard
- Submit Job**
- Files
- Jobs
- VGrids
- Resources
- Downloads
- Runtime Envs
- People
- Settings
- Docs

Submit Job

This page is used to submit jobs to the grid.

There are 3 interface styles available that you can choose among: [fields style](#) , [textarea style](#) , [files style](#)

Please note that changes to the job description are *not* automatically transferred if you switch style.

Please fill in your job description in the fields below:

Please fill in one or more fields below to define your job before hitting Submit Job at the bottom of the page. Empty fields will simply result in the default value being used and each field is accompanied by a help link providing further details about the field.

Execute Commands: [help](#)

```
echo 'hello grid!'
```

Input Files: [help](#)

Output Files: [help](#)

Executable Files: [help](#)

Submit Job II

Submit Job - Mozilla Firefox

File Edit View History Bookmarks Tools Help [https://dk-cert.migrid.org/cgi-bin/submitjob.py](#) Google Encryp

Target Resources: [help](#)

- 0004938ef4948d74951cb8ef24c41425_*
- 000bce8237ca7efe0d1301c38f9f12da_*
- 00150108553ad597a314b357b63596ee_*
- 0016ae029e2d1a03e6d7a34908cc87cd_*
- 00182f383a329cfde9482473d8278781_*
- 001e32bb681d7a6aa1488bbc9e98cbd9_*

VGrid Order: [help](#)

- ANY
- BINF
- BiRC
- CINEMA
- CT
- CT-Toolbox

Number of Nodes: [help](#)

1

Number of CPU Cores: [help](#)

1

CPU/Wall Time (s): [help](#)

600

Memory (MB): [help](#)

32

Disk (GB): [help](#)

0

Submit Job III

Submit Job - Mozilla Firefox

File Edit View History Bookmarks Tools Help [←](#) [→](#) [↻](#) [🏠](#) <https://dk-cert.migrid.org/cgi-bin/submitjob.py> [☆](#) [Google Encryp](#) [S](#) [ABP](#)

CPU Architecture: [help](#)

Environment Variables: [help](#)

Runtime Environments: [help](#)

- AMBER-10.X-1
- AMDGPUPERF-1.X-1
- BASH-ANY-1
- BIBTEX-ANY-1
- CIL-2.0.X-1
- CT-TOOLBOX-1.X-1

Job Status Notification: [help](#)

Job Retries: [help](#)

2

Job Type: [help](#)

batch

Allow Sandbox Execution: [help](#)

False

Submit Job Save as default job template

Job Status

Job Manager - Mozilla Firefox
https://dk-cert.migrid.org/cgi-bin/jobman.py

MIG Minimum intrusion Grid

Dashboard
Submit Job
Files
Jobs
VGrids
Resources
Downloads

Job Manager

1/1 15 jobs per page load 100 last jobs matching *_2014_*

Job ID	Status	Date
352780_2_12_2014__15_39_31_dk.migrid.org.0	QUEUED	Wed Feb 12 15:39:31 2014
352661_1_7_2014__8_35_2_dk.migrid.org.0	FINISHED	Tue Jan 7 08:35:02 2014
352660_1_7_2014__8_27_57_dk.migrid.org.0	FINISHED	Tue Jan 7 08:27:57 2014

Enable touch screen interface (all clicks trigger menu)

Job Manager - Mozilla Firefox
https://dk-cert.migrid.org/cgi-bin/jobman.py

MIG Minimum intrusion Grid

Dashboard
Submit Job
Files
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Settings
Docs

Job Manager

1/1 15 jobs per page load 100 last jobs matching *_2014_*

Job ID	Status	Date
352780_2_12_2014__15_39_31_dk.migrid.org.0	FINISHED	Wed Feb 12 15:39:31 2014
352661_1_7_2014__8_35_2_dk.migrid.org.0	FINISHED	Tue Jan 7 08:35:02 2014
352660_1_7_2014__8_27_57_dk.migrid.org.0	FINISHED	Tue Jan 7 08:27:57 2014

Enable touch screen interface (all clicks trigger menu)

- Resubmit
- Freeze
- Thaw
- Cancel
- Raw Description
- Schedule Status
- Feasibility Check
- Verbose Status
- Live I/O
- Status Files

Job Result

File Manager - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://dk-cert.migrid.org/cgi-bin/fileman.py?path=

Google Encryp

MIG Job Manager File Manager

MIG Minimum intrusion Grid

Dashboard

Submit Job

Files

Jobs

VGrids

Resources

Downloads

Runtime Envs

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Settings

Docs

File Manager

job_c > 352780_2_12_2014__15_39_31_dk.migrid.org.0

Name	Size	Type	Date Modified
352780_2_12_2014__15_39_31_dk.migrid.org.0.io-status	121.00 B	io-status	2014-12-02 16:40
352780_2_12_2014__15_39_31_dk.migrid.org.0.status	21.00 B	status	2014-12-02 16:40
352780_2_12_2014__15_39_31_dk.migrid.org.0.stderr	0.00 B	stderr	2014-12-02 16:40
352780_2_12_2014__15_39_31_dk.migrid.org.0.stdout	12.00 B	stdout	2014-12-02 16:40

job_output/352780_2_12_2014__15_39_31_dk.migrid.org.0/352780_2_12_2014__15_39_31_dk.migrid.org.0.stdout

hello grid!

Mozilla Firefox

https://dk-cert.migrid.org/cert_redirect/job_output/

Google Encryp

MIG Job Manager File Manager https://dk-c...org.0.stdout

Runtime Environments

- Resource and user 'contract'
 - without them almost nothing is guaranteed
 - used to negotiate apps and libs in a generic fashion
 - anyone can define them, but only resource owners can specify which ones they implement and how
 - no spec update is possible, always create new
- Examples
 - PYTHON-2.X-1 (any Python 2.X interpreter)
 - resource owner specifies PYTHON=/path/to/python
 - user knows that \$PYTHON contains actual path in job
 - Local files, devices or markers
- Managed by resource owners

Runtime Environments: [help](#)

- AMBER-10.X-1
- AMDGPUPERF-1.X-1
- BASH-ANY-1
- BIBTEX-ANY-1
- CIL-2.0.X-1
- CT-TOOLBOX-1.X-1

Viewing Runtime Environments

Runtime Environments - Mozilla Firefox

File Edit View History Bookmarks Tools Help <https://dk-cert.migrid.org/cgi-bin/redb.py> Google Encryp

MIG Minimum intrusion Grid

Runtime Environments

Runtime environments specify software/data available on resources.

[Documentation on runtime environments](#)

Existing runtime environments

1/4 25 runtime envs per page

Name	Description	Resources	Created
LIBPYTHON2.4	Python lib	1292	Tue Apr 17 10:06:33 2007
PYTHON-2X-1	Any Python in the 2.* series	39	Sat Feb 11 12:04:17 2012

Runtime environment details - Mozilla Firefox

File Edit View History Bookmarks Tools Help https://dk-cert.migrid.org/cgi-bin/showre.py?re_nar Google Encryp

MIG Minimum intrusion Grid

Show runtime environment details

Name: PYTHON-2X-1
Description: Any Python in the 2.* series
Needed software:



Name: Python
Uri: <http://www.python.org>
Description: Any Python 2 version

Python Job using Runtime Env

Execute Commands: [i](#) [h](#)

```
$PYTHON fib.py 26
```

Executable Files: [i](#) [help](#)

```
fib.py
```

CPU/Wall Time (s): [i](#) [help](#)

```
300
```

Memory (MB): [i](#) [help](#)

```
256
```

Disk (GB): [i](#) [help](#)

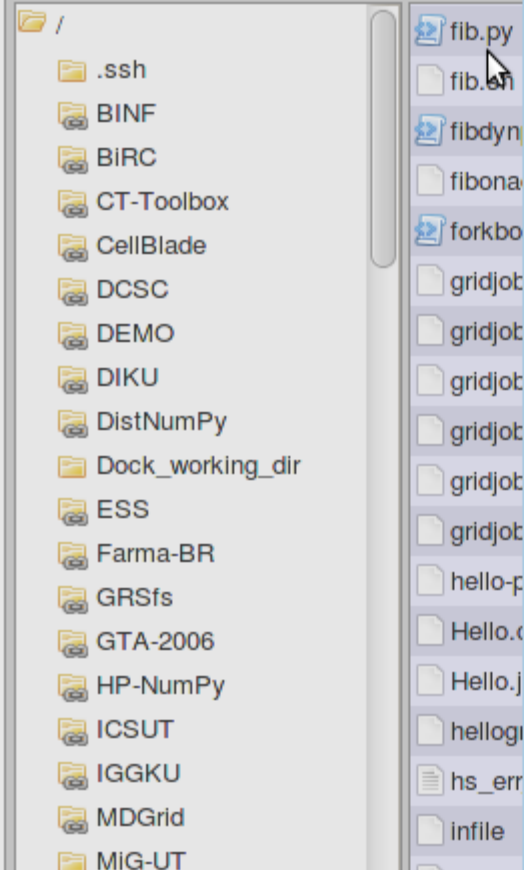
```
1
```

Runtime Environments: (

- PYRO-3.8.X-1
- PYTHON-2.5.X-1
- PYTHON-2.6.X-1
- PYTHON-2.7.X-1
- PYTHON-2.X-1

Minimum intrusion Grid

File Manager



Editor

Select file:

```
./fib.py
```

Edit contents:

```
#!/usr/bin/python
# -*- coding: utf-8 -*-
"""Simple recursive Fibonacci"""

import sys

def fib(arg):
    """Naive, recursive Fibonacci number calculator"""
    if arg < 2:
        return arg
    return (fib(arg-1) + fib(arg-2))

if __name__ == "__main__":
    if len(sys.argv) < 2:
        print "Usage: %s VALUE" % sys.argv[0]
        sys.exit(1)
    val = 1
    try:
        val = int(sys.argv[1])
    except ValueError:
        print "Illegal input value: %s" % sys.argv[1]
        print "Usage: %s VALUE" % sys.argv[0]
        print "falling back to %s" % val
    print "fib %s is %s" % (val, fib(val))
```

VGrids

- VGrids are Virtual Organizations in MiG
- Straight forward collaboration
 - Share files
 - Share resources
 - Private web page / portal
 - Public web page / portal
 - Private Wikis
 - Private SCM repositories
 - Private blogs / forums
 - Private issue tracking
- Completely user managed



View VGrids

VGrid administration - Mozilla Firefox

File Edit View History Bookmarks Tools Help <https://dk-cert.migrd.org/cgi-bin/vgridadmin.py> Google Encryp

MIG Minimum intrusion Grid

- Dashboard
- Submit Job
- Files
- Jobs
- VGrids**
- Resources
- Downloads
- Runtime Envs
- People
- Settings
- Docs

VGrids

VGrids share files, a number of collaboration tools and resources. Members can access web pages, files, tools and resources. Owners can additionally edit pages, as well as add and remove members or resources.

VGrids managed on this server

← 1/3 → 40 VGrids per page

Name	Files	Web Pages	Tracker Tools	Monitor
Generic				View
BINF	Open	View Edit View Edit	View View	View
BIRC	Open	View Edit View Edit	View View	View
CellBlade	Open	View Edit View Edit	View View	View
CINEMA	Open	View Edit View Edit	View View	View
CT	Open	View Edit View Edit	View View	View
CT-Toolbox	Open	View Edit View Edit	View View	View
DCSC	Open	View Edit View Edit	View View	View
MIG-developers	Open	View Edit View Edit	View View	View

VGrid Totals

[View a monitor page with all VGrids/resources you can access](#)

Additional VGrids

Please enter a name for the new VGrid to add, using slashes to specify nesting. I.e. if you own a VGrid called ABC, you can create a sub-VGrid called DEF by entering ABC/DEF below.

Manage VGrids

Administrare VGrid: CT-Toolbox - Mozilla Firefox

File Edit View History Bookmarks Tools Help <https://dk-cert.migrid.org/cgi-bin/adminvgrid.py?vg> Google Encryp

MIG Minimum intrusion Grid

- Dashboard
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Administrare 'CT-Toolbox'

Owners

[Hide Owners](#)

Current owners of CT-Toolbox:

Remove	owner
<input type="radio"/>	/C=DK/ST=NA/L=NA/O=NBI/OU=NA/CN=Jonas Bardino/emailAddress=bardino@nbi.ku.dk
<input type="radio"/>	/C=DK/ST=NA/L=NA/O=NBI/OU=NA/CN=Martin Rehr/emailAddress=rehr@nbi.ku.dk
<input type="radio"/>	/C=DK/ST=NA/L=NA/O=NBI/OU=NA/CN=Brian Vinter/emailAddress=vinter@nbi.dk

Members

[Hide Members](#)

Current members of CT-Toolbox:

Remove	member
<input type="radio"/>	/C=DK/ST=NA/L=NA/O=NBI/OU=NA/CN=Morten Pol Engell-Noerregaard/emailAddress=mort@nbi.dk
<input type="radio"/>	/C=DK/ST=NA/L=NA/O=KU/OU=NA/CN=Silas Nyboe Orting/emailAddress=pcn178@alumni.ku.dk

Resources

[Hide Resources](#)

Current resources of CT-Toolbox:

Remove	resource
<input type="radio"/>	smithers01.esci.nbi.dk.0

VGrid Private Homepage

Live Results

It is now possible to run the entire simulation on the Grid without touching any code or command lines. Just select number/position of sources below and click 'Run' to start a simulation. You can select an input image and no projection to run a full simulation, or select projection data to load saved projection results and only run the reconstruction part of the simulation using those projection data. The optional filter is applied to the projection data before the reconstruction in order to enhance certain features like edges on the reconstructed image. Notification is optional, too, and uses the addresses you have set on your MiG Settings page.

Input image

sample1.png

Projection data

Sources equidistant random bit string colon-separated list of angles (degrees)

20

Filter

Result notification

Extra simulation arguments (only for experts!)

Run

Your latest jobs are monitored below with updates every two minutes:

Job ID	Status	Date
352780_2_12_2014__15_39_31_dk.migrid.org.0	FINISHED	Wed Feb 12 15:39:31 2014
352661_1_7_2014__8_35_2_dk.migrid.org.0	FINISHED	Tue Jan 7 08:35:02 2014
352660_1_7_2014__8_27_57_dk.migrid.org.0	FINISHED	Tue Jan 7 08:27:57 2014

The images below are loaded directly from the shared result folder so all member simulations will be available. Just click refresh after a while to load any new results from simulation runs into the show drop-down menu. Select an item in the menu and click show to load the corresponding results.

refresh

Found 62 results:

latest

VGrid Public Homepage

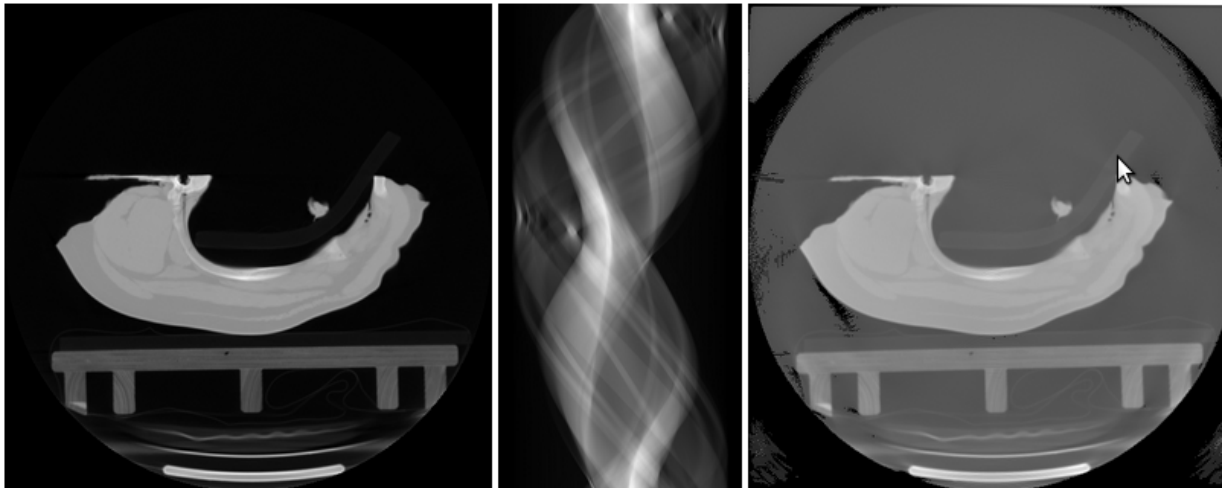


Online CT

Online CT Scanning

Welcome to the public Online-CT page!

Online-CT is a project focused on developing and building a solution for efficient analysis and cutting of pork carcasses in slaughterhouses. The analysis is based on CT scanning and online reconstruction of the intersection images in the actual production line, so the results must be available within seconds in order to keep up with the flow. As an example the intersection image below could result in detector readings as visualized in the sinogram, and we can then use e.g. filtered back projection to obtain an estimate of the actual intersection. This sinogram was obtained through a forward projection with the target image, but in the real setup we will only have the detector readings from the CT scan.



The sinogram and reconstructed image above are from a high resolution scan, so the reconstruction yields a result quite close to the real image. However, the cost of such a high resolution setup and the time taken to reconstruct the image probably doesn't fit the project requirements and limits. Thus we investigate methods of reconstructing images with scanners that use a lower resolution to remain cost competitive while providing sufficient image quality. The reconstruction can be tuned to compensate for the lower resolution at the cost of more calculations.

Members of the Online-CT virtual organization can additionally access the [Online-CT members portal](#) with further details and Live Simulation. Please [request a MiG user certificate](#) and Online-CT VGrid membership if you want access, but get an error from the link above.

VGrid Private Wiki

CT-Toolbox - Mozilla Firefox

File Edit View History Bookmarks Tools Help [↶](#) [↷](#) [↺](#) [↻](#) [🏠](#) https://dk-cert.migrid.org/cert_redirect/vgrid_share [☆](#) [🔍](#) Google Encryp [S](#) [ABP](#)

MIG

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Cph CT

This is the CPH CT toolbox members project tracker used for internal development of the Cph CT Toolbox.

We store internal information about development and documentation here.

Public information should be published on the [↔ google code](#) and [↔ google sites](#) pages.

Meetings

- [PlanningMeeting04102011](#)
- [PlanningMeeting12042012](#)

Feature Map

italic items are not finished

X-Ray source \ z-motion	Step-n-shoot	Spiral
Fan	<i>Center FDK Numpy+CUDA</i> ?	
Cone	<i>FDK Numpy+CUDA</i>	Katsevich Numpy+CUDA

Repository Layout

The actual toolbox code for release is available inside the [cphctoolbox](#) sub directory of the repository. Files outside that directory are for internal purposes like storing temporary implementations of algorithms before porting them to the final release format.

Documentation

All central documentation should be listed here eventually

- [CodeStructure](#) : the proposed code structure for the toolbox release
- [ReleaseInstructions](#) : how to make a new release
- [README](#) : important information included in the release

Look and feel

https://dk-cert.migrid.org/cert_redirect/vgrid_shared/CT-Toolbox/.vgridtracker/cgi-bin/trac.cgi/login

VGrid Private SCM Repository

CT-Toolbox - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://dk-cert.migrid.org/cert_redirect/vgrid_share

Google Encryp

MIG

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root [Last Change](#) | [Revision Log](#)

Visit: View revision:

Name ▲	Size	Rev	Age	Last Change
▶ cone-beam		581:9109cef06416	12 months	Martin Rehr <rehr@...>: Ticket: #85 : Changed plugin framework to use 'inplace' data manipulation ...
▶ cphcttoolbox		912:4122a26f61af	5 days	Martin Rehr <rehr@...>: Ticket: #136 and #137 : Added CUDA and OpenCL clip plugins
▶ fan-beam		132:205349c4334a	2 years	Jonas Bardino <bardino@...>: renames to indicate nature of our geometric fan beam implementation. ...
▶ inspect-issues		877:5b3b229525da	3 months	Martin Rehr <rehr@...>: Added examples of using scalar args for CUDA kernels
▶ papers		886:eb198409b83e	3 months	Jonas Bardino <bardino@...>: pdf eXpress verified version
▶ presentations		861:3faac245beb5	3 months	Martin Rehr <rehr@...>: Branch merge
hgignore	97 bytes	279:ca8198f6871d	21 months	Jonas Bardino <bardino@...>: add build dir to ignore list
cph-ct-tasklist.jpg	0.6 MB	97:d5e77298b53d	2 years	Jonas Bardino <bardino@...>: dump of whiteboard tasklist
readme	1.3 KB	139:97c4146d4945	2 years	Jonas Bardino <bardino@...>: merge

Note: See [TracBrowser](#) for help on using the browser.

View changes...

trac
Powered by Trac 0.11.7
By Edgewall Software

https://dk-cert.migrid.org/cert_redirect/vgrid_shared/CT-Toolbox/vgridtracker/cgi-bin/trac.cgi/browser

VGrid Private Issue Tracker

{1} Active Tickets - CT-Toolbox - Mozilla Firefox

File Edit View History Bookmarks Tools Help [↩](#) [➡](#) [🔄](#) [🏠](#) [https://dk-cert.migrid.org/cert_redirect/vgrid_share](#) [🔍](#) Google Encryp [S](#) [ABP](#)

MIG Search

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[Wiki](#) [Timeline](#) [Roadmap](#) [Browse Source](#) **View Tickets** [New Ticket](#) [Search](#)

[Available Reports](#) [Custom Query](#)

{1} Active Tickets (47 matches)

- List all active tickets by priority.
- Color each row based on priority.

Ticket	Summary	Component	Version	Milestone	Type	Owner	Status	Created
#116	AMD OpenCL pointer offset	application			defect		new	08/15/13
#18	Multicore Katsevich	application			enhancement		new	05/29/12
#19	Multicore FDK	application			enhancement		new	05/29/12
#70	Flexible angle and progress in katsevich	application			enhancement		new	12/06/12
#25	implement low/high pass filters for Katsevich	application			feature	bardino@...	accepted	06/08/12
#30	Move 'scene meta data' to plugins	library			task		new	07/13/12
#94	Occasional CUDA LaunchErrors on nvidia gtx (nelson/marge)	library			task	bardino@...	assigned	03/22/13
#99	Timelog and gpu sync	library		Release version 1.1.0	defect		new	06/26/13
#1	OpenCL Katsevich	application	1.1.0	Release version 1.1.0	enhancement	rehr@...	assigned	12/02/11
#104	Document OpenCL Katsevich	documentation	1.1.0	Release version 1.1.0	task	rehr@...	new	07/10/13
#76	Flexible pixel interpolation for all apps	library	1.2.0	Release version 1.2.0	enhancement		new	01/11/13
#43	Move save_filtered_projections to tool scripts	application			enhancement		new	09/03/12
#47	FDK latency hiding	application			enhancement	rehr@...	new	09/11/12
#48	Katsevich latency hiding	application			enhancement	bardino@...	new	09/11/12
#78	Robustness when insufficient hardware specs are available	application			enhancement		new	01/18/13
#107	Automatic chunk size selector	application			enhancement		new	07/12/13
#113	Support for multiple GPU queues	library			enhancement		new	08/02/13
#114	loadzeros plugin -> loadscalar	library			enhancement		new	08/02/13
#115	npv-preprocess plugins: Projection boundingboxes	library			enhancement		new	08/02/13
#4	Port our FBP code to cphct	application			task	bardino@...	accepted	12/02/11
#7	Document FBP	documentation			task	bardino@...	accepted	12/02/11
#39	Stand-alone prefilter tool	application			task		new	08/01/12
#56	Investigate try / except performance	application			task		new	10/04/12
#65	FDK performance (flat vs curved)	application			task	rehr@...	accepted	11/29/12
#92	Investigate artifacts on big examples with big filter chunks	application			task	bardino@...	new	03/15/13

VGrid Private Forum



logged in as [bardino@nbi.ku.dk](#) | [Logout](#) | [Preferences](#) | [Help/Guide](#) | [About Trac](#)

Forum List

ID	Forum	Moderators	Last Topic ▼	Last Reply	Founded	Tags	Topics	New Topics	Replies	New Replies
1	Design discussions All topics related to the eSciStore design	..	02/12/14 18:18:58 34 seconds ago	02/12/14 18:19:25 7 seconds ago	02/12/14 18:16:07 3 minutes ago	..	1	1	1	0
2	Implementation details For discussing implementation details	..	02/12/14 18:17:45 107 seconds ago	no replies	02/12/14 18:16:51 3 minutes ago	..	1	1	0	0



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By [Edgewall Software](#)



VGrid Monitor

Statistics/monitor for the eScience VGrid

This page was generated Wed Feb 12 18:19:54 2014 (automatic refresh every 120 secs).

Job Stats

Job State	Number of jobs	Requirement	Requested	Done	Runtime Envs Done	
Parse	0	Cpucount	1917	1460	PYTHON-2.X-1	27
Queued	2	Nodecount	1177	939	NUMPY-1.X-1	4
Frozen	0	Cputime	131465370	106903380	VIRTUALBOX-3.1.X-1	31
Executing	2	GB Disk	170010	136767	PYFFT-ANY-1	8
Failed	4	MB Memory	1377295505	1137583400	RECURSE-PYTHONIDY-ANY-1	18
Retry	0	Runtime Envs	209	159	VBOX3.1-IMAGES-2012-1	19
Canceled	190	Used Walltime	23 days, 14:55:43		VBOX3.1-IMAGES-2010-1	6
Expired	0				PYCUDA-201X-1	4
Finished	862				MATLAB-COMPILE	18
Total	1060				VBOX3.1-IMAGES-2012-1	0

Resource Job Requests

Listing the last request from each resource

Resource ID, unit	Last seen	VGrid	Runtime envs	CPU time (s)	Node count	CPU count	Disk (GB)	Memory (MB)	Arch	Status	Job (s)	Remaining
✓ akira.esci.nbi.dk.0 (alias Visualization machine) localhost	Wed Feb 12 18:17:03 2014 (0d 0h 2m 51s ago)	eScience	26	172800	1	32	10	2000000	AMD64	No jobs in queue can be executed by resource	360	0d, 0h, 3m, 8s
✓ burns01.esci.nbi.dk.0 (alias EightByEight) localhost	Wed Feb 12 18:16:05 2014 (0d 0h 3m 49s ago)	eScience	28	86400	1	8	10	8192	AMD64	No jobs in queue can be executed by resource	360	0d, 0h, 2m, 10s
✓ cuda.bardinosen.dk.0 (alias EEE Box) localhost	Wed Feb 12 18:16:49 2014 (0d 0h 3m 5s ago)	eScience	22	3600	1	2	10	2048	X86	No jobs in queue can be executed by resource	360	0d, 0h, 2m, 54s
lisa.esci.nbi.dk.0	Wed Feb 12 18:16:00 2014									No jobs in queue can be executed by resource		

View Resource

MiG Monitor - Mozilla Firefox

File Edit View History Bookmarks Tools Help <https://dk-cert.migrid.org/cgi-bin/showvgridmonitor> Google Encryp

MiG Minimum intrusion Grid

Statistics/monitor for the eScience VGrid

This page was generated Wed Feb 12 22:06:44 2014 (automatic refresh every ...)

Dashboard

- Submit Job
- Files
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- VGrids
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- Downloads
- Runtime Envs
- People
- Settings
- Docs

Submit Job

- Files
- Jobs
- VGrids
- Resources
- Downloads
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- People
- Settings
- Docs

Job Stats

Job State	Number of jobs	Require
Parse	0	Cpucour
Queued	2	Nodecor
Frozen	0	Cputime
Executing	2	GB Disk
Failed	4	MB Mem
Retry	0	Runtime
Canceled	190	Used W
Expired	0	
Finished	862	
Total	1060	

Resource Job Requests

Listing the last request from each resource

Resource ID, unit	Last seen	VGrid	Req
✓ burns01.esci.nbi.dk.0 (alias EightByEight) localhost	Wed Feb 12 22:03:59 2014 (0d 0h 2m 44s ago)	eScience	28
✓ akira.esci.nbi.dk.0 (alias Visualization machine) localhost	Wed Feb 12 22:05:46 2014 (0d 0h 0m 57s ago)	eScience	26
✓ marge.esci.nbi.dk.0 (alias Marge) localhost	Wed Feb 12 22:04:51 2014 (0d 0h 1m 52s ago)	eScience	23

marge.esci.nbi.dk.0

General

Public Name	Marge
Public Information	Two Intel(R) Xeon(R) E5640 CPUs and a Nvidia GTX460 GPU
CPU Count per Node	8
Total Node Count	1
Memory per Node (MB)	2000000
Disk per Node (GB)	300
CPU Architecture of the Nodes	AMD64
Job Type	batch
Maximum Upload Bandwidth (KB/s)	0
Maximum Download Bandwidth (KB/s)	0
Sandbox	False
Runtime Environments on the Nodes	BASH-ANY-1, PYTHON-2.X-1, PYTHON-2.7.X-1, TAR-ANY-1, PIL-1.1-ZIP-ANY-2, ZEROINSTALL-ANY-1, CUDA-TOOLKIT-4.2-1, CUDA-TOOLKIT-3.2-1, PYOPENCL-201X-1, PYOPENCL-ANY-1, PYFFT-ANY-1, C

https://dk-cert.migrid.org/cgi-bin/viewres.py?unique_resource_name

Resource Models

- **Conventional resources**
 - Like all other Grid systems, only easier
 - Basic user accounts with (restricted) ssh access from MiG servers
 - Compute and external storage nodes
- **MiG-SSS**
 - A very powerful screensaver
 - Virtualised minimal Linux distro
- **PS3-live**
 - Minimal Linux Live CD for PlayStation3
- **One-Click**
 - The simplest possible way to contribute
 - Web page with java applet

Managing Resources

Resource management - Mozilla Firefox

File Edit View History Bookmarks Tools Help <https://dk-cert.migrid.org/cgi-bin/resman.py> Google Encryp

MIG Minimum intrusion Grid

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Available Resources

Resources available on this server

All available resources are listed below with overall hardware specifications. Any resources that you own will have a administration icon that you can click to open resource management.

← 1/3 → 25 resources per page

Resource ID			Runtime envs	Alias	Nodes	CPUs	Mem (MB)	Disk (GB)	Arch
wolfcastle.esci.nbi.dk.0			22	Wolfcastle	1	8	2000000	300	AMD64
smithers02.esci.nbi.dk.0			30	Porky 02	1	4	8192	100	AMD64
smithers01.esci.nbi.dk.0			29	Porky 01	1	4	8192	100	AMD64
pig02.ekstranet.diku.dk.0			13	Old Porky 2	5	1	8192	100	AMD64
pig01.ekstranet.diku.dk.0			16	Old Porky 1	2	4	8192	100	AMD64
nelson.esci.nbi.dk.0			22	Nelson	1	4	2000000	300	AMD64
milhouse.esci.nbi.dk.0			17	Milhouse	1	4	2000000	300	AMD64
marge.esci.nbi.dk.0			23	Marge	1	8	2000000	300	AMD64
manjula.esci.nbi.dk.1			6	Compile Host for the Octuplets Cluster	1	12	30000	10	AMD64
manjula.esci.nbi.dk.0			21	Octuplets	8	32	122000	10	AMD64
lisa.esci.nbi.dk.0			17	Lisa	1	6	2000000	300	AMD64
krusty.esci.nbi.dk.0			11	Krusty X86-64 Cluster	9	4	8192	1	AMD64
klynge.ekstranet.diku.dk.1			4	Klynge_grid	9	4	8192	1	AMD64
klynge.ekstranet.diku.dk.0			9	Old Klynge	9	4	8192	1	AMD64
fyrgrid.grid.aau.dk.1			9		2	8	16384	10	AMD64
fyrgrid.grid.aau.dk.0			7	Fyrkat	17	8	16384	10	AMD64
escience2.ekstranet.diku.dk.0			2	Old Sun T2	2	8	32640	10	SPARC-T2
erda.imada.sdu.dk.0			9	IMADA Computer Lab Workstations	27	1	256	10	X86
distlab3.ekstranet.diku.dk.1			4		16	1	196	10	PS3
distlab3.ekstranet.diku.dk.0			1	Cell Blade	4	2	8192	10	CELL
d3c374876dececf6cfb6df3095891167			1		41	4	8000	80	AMD64
d32f40cb4e6d910b3b9d2b78020149c8			1		8	1	1024	10	X86

Resource Administration

Resource Management - Mozilla Firefox

File Edit View History Bookmarks Tools Help <https://dk-cert.migrid.org/cgi-bin/resadmin.py?uniq> Google Encryp

MiG Minimum intrusion Grid

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- Runtime Envs
- People
- Settings
- Docs

Resource Management

MiG Resources Owned

Quick links to all your resources and individual management

[Show quick links](#)

akira.esci.nbi.dk.0

Configuration

Use the [editing interface](#) or make any changes manually in the text box below.

[Resource configuration docs](#)

```
::HOSTURL::  
akira.esci.nbi.dk  
  
::HOSTIDENTIFIER::  
0
```

Category	Resource	(Re)Start	Status	Stop	Clean
Front End	akira.esci.nbi.dk	(Re)Start	Status	Stop	Clean
Execution Units	ALL UNITS	(Re)Start	Status	Stop	Clean
	localhost	(Re)Start	Status	Stop	Clean
Storage Units	ALL UNITS	(Re)Start	Status	Stop	Clean
	localhost	(Re)Start	Status	Stop	Clean

Storage Resources

File Manager - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://dk-cert.migrd.org/cgi-bin/fileman.py

Google Encryp

MIG Minimum intrusion Grid

Dashboard

Submit Job

Files

Jobs

VGrids

Resources

Downloads

Runtime Envs

People

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File Manager

eScience

Name	Size	Type	Date Modified
akira.esci.nbi.dk.0_localhost	4.00 KB	dir	2014-06-02 08:34
apu02.esci.nbi.dk.0_localhost	4.00 KB	dir	2013-11-12 15:38
Astro			10:33
Bh107	4.00 KB	dir	2013-04-06 14:07
Courses	4.00 KB	dir	2012-30-03 01:20
CT	4.00 KB	dir	2013-15-07 15:22
Docs	4.00 KB	dir	2012-30-03 01:20
ExpMath	4.00 KB	dir	2012-25-07 15:32
Imageing	4.00 KB	dir	2012-30-03 01:20
Install	4.00 KB	dir	2013-27-09 23:18
Projects	4.00 KB	dir	2014-09-01 16:16
Tools	4.00 KB	dir	2012-30-03 01:20
XRay	4.00 KB	dir	2013-18-12 11:49
checkjob.py	2.20 KB	py	2013-29-05 13:19
circular-shepp-logan-128x512-float32-512x512x512-auto.mRSL	721.00 B	mRSL	2013-31-01 14:49
nbody.py	817.00 B	py	2012-11-05 13:02
nbody.py~	816.00 B	py~	2012-11-05 13:02
README	275.00 B		2012-30-03 01:20
README.storage	450.00 B	storage	2013-04-06 14:08

21 files in current folder of total 9.80 MB in size.

Enable touch screen interface (all clicks trigger menu)

Personal Settings

Settings - Mozilla Firefox
File Edit View History Bookmarks Tools Help
https://dk-cert.migrid.org/cgi-bin/settings.py?topic: Google Encryp

MIG Minimum intrusion Grid

Settings

[general settings](#) , [job settings](#) , [style settings](#) , [profile settings](#) , [widgets settings](#) , [ssh settings](#)

Select your Minimum intrusion Grid settings

Please note that if you want to set multiple values (e.g. addresses) in the same field, you must write each value on a separate line but without blank lines.

EMAIL

List of E-mail addresses

Search Replace Replace All | Undo Redo | Help

bardino@nbi.ku.dk

JABBER

List of Jabber addresses

Search Replace Replace All | Undo Redo | Help

jonasbardino@jabber.dk

MSN

List of MSN addresses

Search Replace Replace All | Undo Redo | Help

ICQ

List of ICQ numbers

- Dashboard
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SFTP Settings

Settings - Mozilla Firefox

File Edit View History Bookmarks Tools Help <https://dk-cert.migrid.org/cgi-bin/settings.py?topic:> Google Encryp

MIG Minimum intrusion Grid

- Dashboard
- Submit Job
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- Settings**
- Docs

Settings

[general settings](#), [job settings](#), [style settings](#), [profile settings](#), [widgets settings](#), [ssh settings](#)

SSH/SFTP access to your MiG account

You can configure SFTP login to your MiG account for efficient file access. Login takes place with public key or password and your automatic username:

```
L0M9REsvU1Q9TkeVTD10Q59PPU5CSS9PVT10Q59DTj1Kb25hcyBCYXJkaW5vL2VtYWlsQWRkcmVzc2liYXJkaW5vQG5iaS5rdS5kaw__
```

You can use any existing SSH/RSA key, including the key.pem you received along with your user certificate, or create a new one. In any case you need to save the contents of the corresponding public key (X.pub) in the text area below, before you can connect as described in the following sections.

Graphical SFTP access

The FireFTP plugin for Firefox is known to generally work for graphical access to your MiG home over SFTP. Enter the following values in the FireFTP Account Manager:

```
Host dk.migrid.org
Login L0M9REsvU1Q9TkeVTD10Q59PPU5CSS9PVT10Q59DTj1Kb25hcyBCYXJkaW5vL2VtYWlsQWRkcmVzc2liYXJkaW5vQG5iaS5rdS5kaw__
Password YOUR_KEY_PASSWORD_HERE
Security SFTP
Port 2222
Private Key ~/.mig/key.pem
```

other graphical clients may work as well.

Command line SFTP/SSHFS access on Linux/UN*X

Save something like the following lines in your local ~/.ssh/config to avoid typing the full login details every time:

```
Host dk.migrid.org
Hostname dk.migrid.org
User L0M9REsvU1Q9TkeVTD10Q59PPU5CSS9PVT10Q59DTj1Kb25hcyBCYXJkaW5vL2VtYWlsQWRkcmVzc2liYXJkaW5vQG5iaS5rdS5kaw__
Port 2222
IdentityFile ~/.mig/key.pem
```

From then on you can use sftp and sshfs to access your MiG home:

```
sftp dk.migrid.org
```


SFTP File Access

MiG home - FireFTP - Mozilla Firefox

File Edit View History Bookmarks Tools Help

sftp://dk.migrgrid.org/

MiG home Disconnect Edit Abort Log/Queue Tools Help

/home/jonas/build/cphcttoolbox Browse

Name	Size	Type	Date
+	+	+	+
circular			
+	+	+	+
cphcttoolbox			
+	+	+	+
cphcttoolbox-1.0			
+	+	+	+
cphcttoolbox-rc1			
+	+	+	+
dd-wrt			
+	+	+	+
docs			
+	+	+	+
dummy-migbox-c			
+	+	+	+
edge-backup			
+	+	+	+
filezilla-3.6.0.1			
+	+	+	+
i9070-upgrade			
+	+	+	+
IPMIView-2.9.15			
+	+	+	+
magicolor2430dl			
+	+	+	+
Matlab_R2013a			
+	+	+	+
mem_sync_async			
+	+	+	+
memmap-debug			
+	+	+	+
mig-1.4.2			
+	+	+	+
mig-1.4.3			
+	+	+	+
mig-dotfiles			
+	+	+	+
migbox-0.5			
+	+	+	+
MiGBox-share			
+	+	+	+
migbox-trunk			
+	+	+	+
mxmul-example			
+	+	+	+
nbody-assignment			
+	+	+	+
opencl-funcf			
+	+	+	+
putty-0.62			
+	+	+	+
putty-0.62-2012			
+	+	+	+
putty-0.62-2013			
+	+	+	+
putty-0.62.old			
+	+	+	+
pyopencl-2013.1			

Name	Size	Type	Date
+	+	+	+
build			Apr 19 2013
+	+	+	+
conebeam			Apr 19 2013
+	+	+	+
cphct			Apr 19 2013
+	+	+	+
cphctplug...			Apr 19 2013
+	+	+	+
cphcttool...			Apr 19 2013
+	+	+	+
doc			Apr 19 2013
+	+	+	+
fanbeam			Apr 19 2013
+	+	+	+
pip-egg-i...			Apr 19 2013
?			
COPYING	18 KB		Apr 19 2013
?			
NEWS	1 KB		Apr 19 2013
?			
PKG-INFO	2 KB		Apr 19 2013
?			
README	7 KB		Apr 19 2013
?			
setup.py	4 KB	py	Apr 19 2013

/

Name	Size	Type	Date
+	+	+	+
VirtualDe...	4 KB		Sep 8 2011
+	+	+	+
vms	4 KB		Jul 25 2012
+	+	+	+
vms.old	4 KB		May 10 20...
+	+	+	+
base1.txt	1 KB	txt	Sep 23 2009
+	+	+	+
bla.txt	1 KB	txt	Nov 3 2011
?			
bla.txt~	1 KB	txt~	Nov 3 2011
?			
cacert.pem	2 KB	pem	Mar 29 2009
?			
catch-linu...	757 KB		Jun 8 2009
?			
catch-san...	2 KB	mrsI	Aug 26 2009
?			
catch.mRSL	1 KB	mrsI	Jun 15 2009
?			
clean-cph...	1 KB	mrsI	Jul 20 2012
+	+	+	+
clean.tgz	73 KB	tgz	May 14 20...
+	+	+	+
clean.zip	3 KB	zip	Mar 2 2012
+	+	+	+
codegrep...	2 KB	py	Sep 8 2009
+	+	+	+
cphct-cle...	104 KB	tgz	Jul 25 2012
+	+	+	+
cphct-dirt...	276 KB	tgz	Jul 20 2012
+	+	+	+
cphhpc-cl...	46 KB	zip	Apr 11 2012
+	+	+	+
cphhpc-di...	16 KB	zip	Apr 11 2012
+	+	+	+
CSPBuilde...	159 KB	gz	Jul 30 2010
+	+	+	+
CT.bmp	1,195 K...	bmp	Sep 18 2009
+	+	+	+
current.tgz	670 KB	tgz	May 14 20...
+	+	+	+
devwrite.py	5 KB	py	Aug 26 2009
+	+	+	+
dirty.zip	3 KB	zip	Mar 2 2012
+	+	+	+
dot.ssh.zip	2 KB	zip	Apr 18 2013
+	+	+	+
eAssignm...	37 KB	pdf	May 8 2007
+	+	+	+
empty.txt	0 KB	txt	May 23 20...
?			
example...	1 KB	mrsI	May 12 20...
+	+	+	+
execute.sh	1 KB	sh	Jun 8 2009

Remote Listing: 234 object(s), 30.85 MB

Binary

SSHFS Remote File Access

The screenshot displays a web-based file manager interface for the Minimum Intrusion Grid (MiG). The browser address bar shows the URL `https://dk-cert.migrid.org/cgi-bin/fileman.py`. The interface includes a sidebar with navigation options like Dashboard, Submit Job, Files, Jobs, VGrids, Resources, Downloads, Runtime Envs, People, Settings, and Docs. The main area shows a file manager view with a sidebar of devices and places, and a central file list.

The file list shows the following files and folders:

Name	Size	Type	Modified
VirtualDesktop	4.00 KB	dir	2012-30-03 01:19
backup	4.00 KB	dir	2013-14-05 10:19
vms	4.00 KB	dir	2013-14-05 10:19
vms.old	4.00 KB	dir	2013-14-05 10:19
.default.css	19.00 B	css	2013-14-05 10:19
.default.mrsl	1.00 B	mrsl	2014-05-10 10:19
base1.txt	23.00 B	txt	2013-14-05 10:19
bla.txt	52.00 B	txt	2013-14-05 10:19
bla.txt-	38.00 B	txt-	2013-14-05 10:19
cacert.pem	1.00 B	cert	2013-14-05 10:19
catch-linux-static-x86	1.00 B	bin	2013-14-05 10:19
catch-sandbox.mrsl	1.00 B	mrsl	2013-14-05 10:19
catch.mrsl	1.00 B	mrsl	2013-14-05 10:19
clean-cphct.mrsl	1.00 B	mrsl	2013-14-05 10:19
clean.tgz	1.00 B	tgz	2013-14-05 10:19
clean.zip	1.00 B	zip	2013-14-05 10:19
codegrep.py	1.8 kB	Python script	2013-14-05 10:19
cphct-clean.tgz	106.1 kB	Tar archive (gzip-compressed)	2013-14-05 10:19
cphct-dirty.tgz	281.9 kB	Tar archive (gzip-compressed)	2013-14-05 10:19
cphhpc-clean.zip	46.3 kB	Zip archive	2013-14-05 10:19

The detailed view of `codegrep.py` shows the following code:

```
#!/usr/bin/perl
#-*- coding: utf-8 -*-
# codegrep - a simple helper to locate strings in the project code.
# Copyright (C) 2007 Jonas Bardino
# This file is part of MiG.
# MiG is free software; you can redistribute it and/or modify
# it under the terms of the GNU General Public License as published by
# the Free Software Foundation; either version 2 of the License, or
# (at your option) any later version.
# MiG is distributed in the hope that it will be useful,
# but WITHOUT ANY WARRANTY; without even the implied warranty of
# MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
# GNU General Public License for more details.
# You should have received a copy of the GNU General Public License
# along with this program; if not, write to the Free Software
# Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA
.
"""Grep for a regular expression in all code"""
import os
import sys

if len(sys.argv) < 2:
    print 'Usage: %s PATTERN' % sys.argv[0]
    print 'Grep for PATTERN in all code files'
    sys.exit(1)

pattern = sys.argv[1]
```

Application Platforms (VGrids)

- Back to the Top
- Compile MatLab to Executable
- Compiled MatLab Application
- Output files from running applications
- Information
- Back to the Dashboard
- Automatic page refresh

MatLab Compilation

Main MatLab File: Main MatLab file on the server ([browse files](#) or [upload one](#))

Other components (MatLab or C files): Other MatLab or C components to be used in the compilation. Specify paths to (or [choose](#)) files in your home directory, each on a separate line.

Output name: Output name (Default: base name of main Matlab file)

Target Architecture: Target architecture. This determines on which resource types the resulting executable can be used later. Not all architectures are supported.

Submit the compilation job

Compile Jobs submitted [Clear](#)

See the [Job monitor](#) page for previous jobs.

Existing Applications

Name	Source file (main)	Arch.	Refresh	Comments
aaa	aaa.m	X86	<input type="button" value="Delete"/>	Pending Job: 868_1_19_2011__13_58_16_portal.grid.dk.0
aaaaa	Matlab-Compiler/hello.m	X86	<input type="button" value="Delete"/>	Pending Job: 898_2_7_2011__12_2_1_portal.grid.dk.0
hello	Matlab-Compiler/hello.m	X86	<input type="button" value="Delete"/>	Pending Job: 345440_9_26_2012__13_14_4_dk.migrd.org.0
hellooo	Matlab-Compiler/hello.m	AMD64	<input type="button" value="Delete"/>	<input type="button" value="Submit job"/> <input type="button" value="Do a parameter sweep"/>
mrank_test1	Matlab-Compiler/main.m (and mrank.m)	AMD64	<input type="button" value="Delete"/>	<input type="button" value="Submit job"/> <input type="button" value="Do a parameter sweep"/>
scalarprod	scalarprod.m	AMD64	<input type="button" value="Delete"/>	Compilation 870_1_25_2011__12_21_2_portal.grid.dk.0 failed

Live I/O

MiG live I/O - Mozilla Firefox

File Edit View History Bookmarks Tools Help https://dk-cert.migrid.org/cgi-bin/liveio.py?job_id=: Google Encryp

Job Manager MiG live I/O

MiG Minimum intrusion Grid

- Dashboard
- Submit Job
- Files
- Jobs
- VGrids
- Resources
- Downloads
- Runtime Envs
- People
- Settings
- Docs

Request live communication with jobs

Fill in the live I/O details below to request communication with a running job. Job ID can be a full ID or a wild card pattern using "*" and "?" to match one or more of your job IDs. Use send output without source and destination paths to request upload of the default stdio files from the job on the resource to the associated job_output directory in your MiG home. Destination is always handled as a directory path to put source files into. Source and destination paths are always taken relative to the job execution directory on the resource and your MiG home respectively.

Action:
 send output get input

Job ID:

Source path(s):

Destination path:

Further live job control is available through your personal message queues. They provide a basic interface for centrally storing messages under your grid account and can be used to pass messages between jobs or for orchestrating jobs before and during execution.

[Message queue interface](#)

Exit code: 0 Description: OK (done in 0.008s)

Job Communication

The screenshot shows a web browser window titled "mqueue - Mozilla Firefox" with the URL "https://dk-cert.migrid.org/cgi-bin/mqueue.py". The browser tabs include "Job Manager" and "mqueue". The page header features the "MIG Minimum intrusion Grid" logo. On the left is a vertical sidebar menu with items: Dashboard, Submit Job, Files, Jobs, VGrids, Resources, Downloads, Runtime Envs, People, Settings, and Docs. The main content area is titled "Message queue interactive" and contains the following text: "Fill in the fields below to control and access your personal message queues. Jobs can receive from and send to the message queues during execution, and use them as a means of job inter-communication. Expect message queue operations to take several seconds on the resources, however. That is, use it for tasks like orchestrating long running jobs, and not for low latency communication." Below this text is a form with "Action:" and "Queue:" labels. The "Action:" row has radio buttons for "create queue", "send message to queue" (which is selected), "receive message from queue", "remove queue", "list queues", "list messages", and "show message". The "Queue:" label is followed by a text input field containing "default" and an empty "Apply" button. Below the form, there is a paragraph: "Further live job control is available through the live I/O interface. They provide a basic interface for centrally managing input and output files for active jobs." and a blue link labeled "Live I/O interface".

Message queue interactive

Fill in the fields below to control and access your personal message queues. Jobs can receive from and send to the message queues during execution, and use them as a means of job inter-communication. Expect message queue operations to take several seconds on the resources, however. That is, use it for tasks like orchestrating long running jobs, and not for low latency communication.

Action:

create queue send message to queue receive message from queue remove queue list queues list messages show message

Queue:

default

Apply

Further live job control is available through the live I/O interface. They provide a basic interface for centrally managing input and output files for active jobs.

[Live I/O interface](#)

Exit code: 0 Description: OK (done in 0.008s)

Mobile/Tab Access

Dashboard

Minimum intrusion Grid

Hi Jonas Bardino

This is your private entry page or your dashboard where you can get a quick status overview and find pointers to help and documentation. When you are logged in with your user certificate, as you are now, you can navigate your pages using the menu on the left.

Your Status

This is a general status overview for your Grid activities. Please note that some of the numbers are cached for a while to keep server load down.

You have submitted a total of 278510 jobs: 0 parse, 0 queued, 1 frozen, 0 executing, 267941 finished, 0 retry, 9987 canceled, 0 expired and 581 failed.

4272 resources providing 4615 execution units in total allow execution of your jobs.

◀ Loading disk stats...

Your user certificate expires on Wed May 14 2014 10:08:40 GMT+0200 (CEST).

Documentation and Help

Minimum intrusion Grid includes some built-in documentation like the

Enable touch screen interface (all clicks trigger menu)

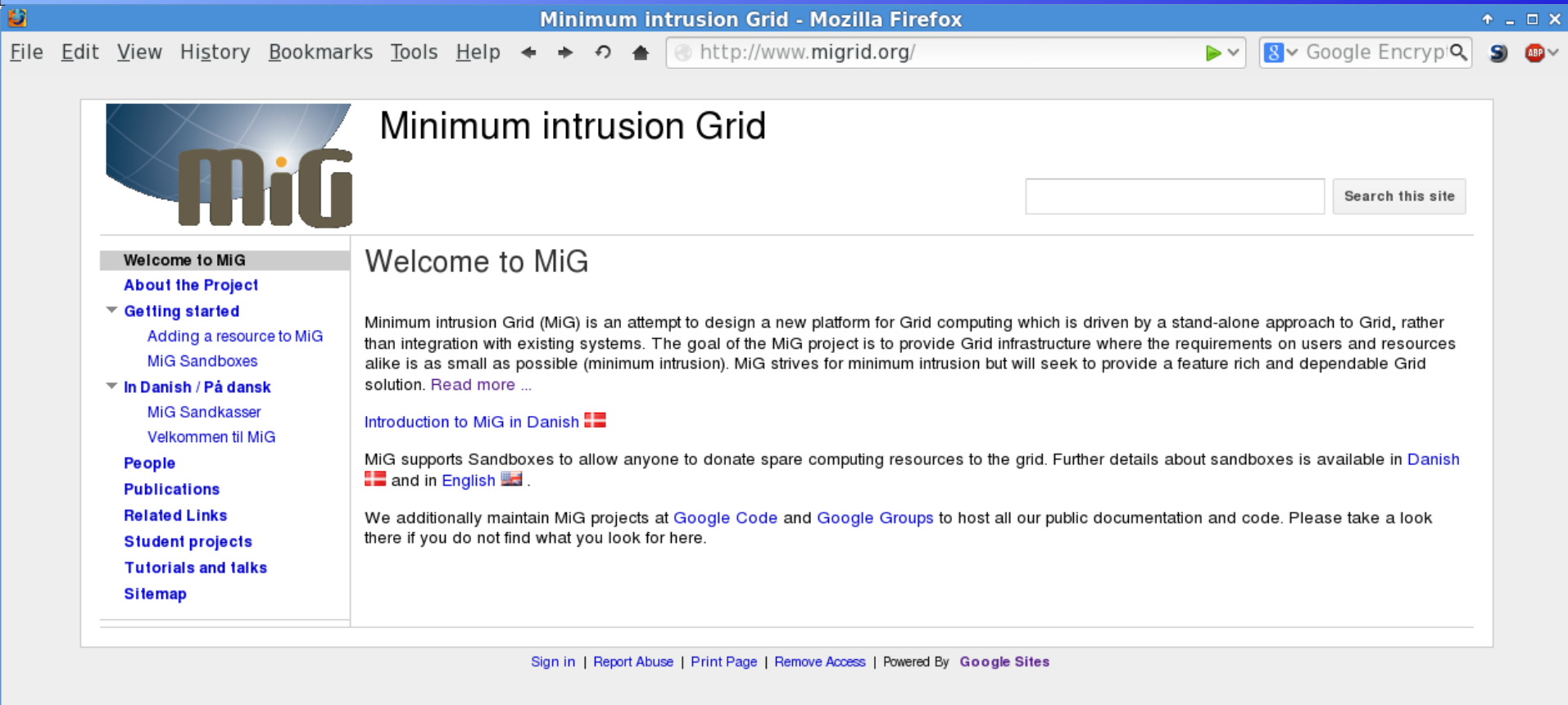
Job ID	Status	Date
352780_2_12_2014_...	SCHEDULED	Wed Feb 12 15:39:31 2014
352661_1_7_2014_8	SCHEDULED	Tue Jan 7 08:35:02 2014
352660_1_7_2014_8	SCHEDULED	Tue Jan 7 08:27:57 2014

MiG Conclusions

- MiG is 'feature complete'
- Easy to use, transparency
 - users / resource owners
- Flexible resource sharing
- Dynamic collaboration tools
- Application platform



Further Information



The screenshot shows a Mozilla Firefox browser window displaying the Minimum intrusion Grid website. The browser's address bar shows the URL <http://www.migrad.org/>. The website's header features the MiG logo, which consists of a stylized globe and the letters 'MiG'. To the right of the logo is the text 'Minimum intrusion Grid' and a search box with the placeholder text 'Search this site'. Below the header is a navigation menu with the following items: 'Welcome to MiG', 'About the Project', 'Getting started' (with sub-items 'Adding a resource to MiG' and 'MiG Sandboxes'), 'In Danish / På dansk' (with sub-items 'MiG Sandkasser' and 'Velkommen til MiG'), 'People', 'Publications', 'Related Links', 'Student projects', 'Tutorials and talks', and 'Sitemap'. The main content area is titled 'Welcome to MiG' and contains the following text: 'Minimum intrusion Grid (MiG) is an attempt to design a new platform for Grid computing which is driven by a stand-alone approach to Grid, rather than integration with existing systems. The goal of the MiG project is to provide Grid infrastructure where the requirements on users and resources alike is as small as possible (minimum intrusion). MiG strives for minimum intrusion but will seek to provide a feature rich and dependable Grid solution. [Read more ...](#)' followed by 'Introduction to MiG in Danish '. Below this is 'MiG supports Sandboxes to allow anyone to donate spare computing resources to the grid. Further details about sandboxes is available in [Danish !\[\]\(5fff40472ad10d456ceb3775edf98340_img.jpg\)](#) and in [English !\[\]\(207d79912909f888f5f071263296f6ac_img.jpg\)](#).' The final paragraph reads: 'We additionally maintain MiG projects at [Google Code](#) and [Google Groups](#) to host all our public documentation and code. Please take a look there if you do not find what you look for here.' At the bottom of the page, there is a footer with links: 'Sign in | Report Abuse | Print Page | Remove Access | Powered By [Google Sites](#)'.

www.migrad.org