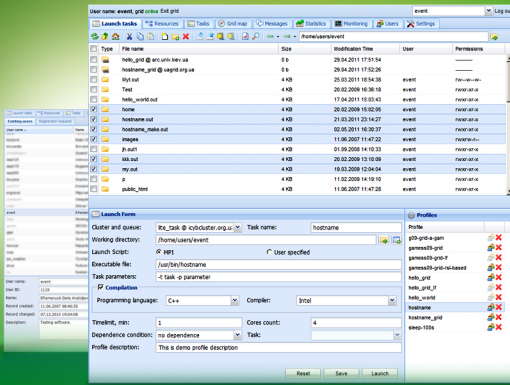


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Open Source Cluster Management System



SCMS.pro is an all-inclusive system for managing HPC clusters of different architectures, both standalone, grid and cloud ones. The integrated solution in a form of web portal allows users to easily control their task flow without a need to study numerous details of a supercomputer or grid operational environment. A convenient service for cluster administration provides means for daily routines of monitoring, user management, error reporting, etc. The system supports wide range of hardware and software cluster architectures.

Advantages

- Open source under Apache 2 license
- Easy and intuitive web-based GUI
- Comprehensive monitoring and statistics
- Automatic cluster health checking and messaging
- Integration with popular schedulers: Slurm, Torque, PBS Pro
- Task launch to multiple clusters
- Simple installation process

- Seamless and unified grid operation: ARC/Nordugrid, gLite, Unicore
- Custom automation
- JSON API for custom processing
- Zero performance impact
- Small and fast monitoring database
- Encrypted connection via https

Cluster User Features

- File operation on local/remote cluster or grid
- Task submission/tracking
- Support of custom compilation scenarios
- Automatic downloading of task results from grid
- User profiles simplify routine operations
- Messaging service

Cluster Administrator Features

- Managing cluster nodes, queues
- Administration of task queues, priorities, policies
- Cluster hardware monitoring
- User database management
- Statistics of cluster utilization

ID	Partition	Task name	St...	Work time	Cores
Cluster: arc.univ.kiev.ua					
g0p7p/lerc.univ.kiev.ua...	helo_grid	A...	Finished	0:0:0	1
g0p7p/lerc.univ.kiev.ua...	helo_grid	A...	Finished	0:0:0	1
Cluster: kybcluster.org.ua					
58932	scd3	sdv	W...	0:0:0	125
58921	scd3	g09-D2AC36C	W...	0:0:0	40
58922	scd3	g09-ICH	W...	0:0:0	40
58975	scd3	g09-59C	W...	0:0:0	24
58989	scd3	770159D2z	R...	5:130:54	8
59107	scd3	helo_task	R...	0:0:0	4
58983	scd3	dimer_jn_m06_cpom	R...	6:6:49:9	1
59041	scd3	m015_stack_m06_cart	W...	0:0:0	1
59042	scd3	g_sl_hw_m06_cpom	W...	0:0:0	1
59041	scd3	dimer_jn_parsal_cpom	R...	7:11:24:2	6
58985	scd3	dimer_jn_cpom_new_f	R...	5:0:59:36	8
58985	scd3	dimer_parsal	R...	3:17:56:26	8
58953	scd3	m015_m06_parsal	R...	2:9:53:17	8
58988	scd3	g_sl_hw_m06_cpom_1	R...	1:10:45:57	8
58989	scd3	lhar_parsal_cpom	R...	1:6:52:48	8

User name	Name	Organization	E-mail
event	Efremyuk Daria Anatolievna	V.I. Glushkov Institute of Cybernetics of NASU	event@example.com

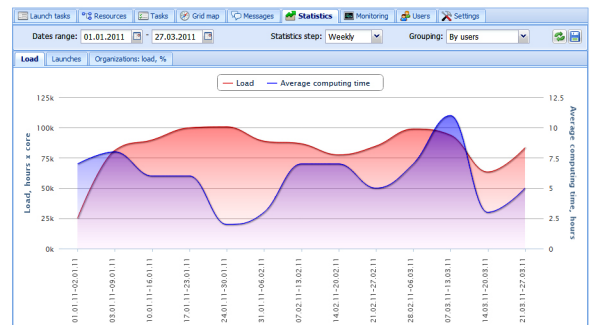
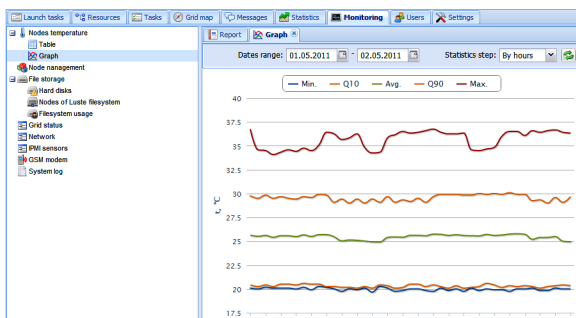
User name:	event	Organization:	V.I. Glushkov Institute of Cybernetics of NASU
User ID:	1119	Category:	Software Tester
Name:	Efremyuk Daria Anatolievna	Email:	event@example.com
Record created:	11.06.2007 08:46:35	Phone:	+38 (044) 123-45-67
Record changed:	07.12.2010 19:04:08	Address:	40, Glushkova str., Kyiv, Ukraine
Description:	Testing software.	Active:	<input checked="" type="checkbox"/>

“ SCMS.pro helps to organize and simplify workflow for scientific and applied parallel software packages such as Abinit, Gamess, Gaussian, Gromacs, Namd, NWChem, etc.”

Dr. Leonid Bilous, Head of grid-technology sector of ILTPE NAS of Ukraine

Monitoring Capabilities

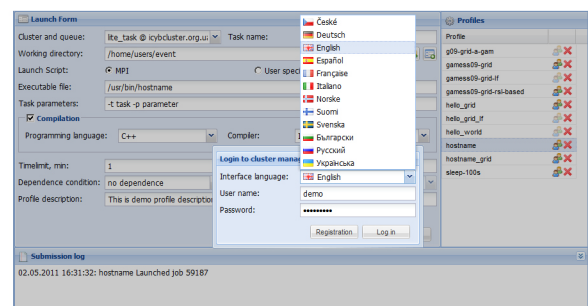
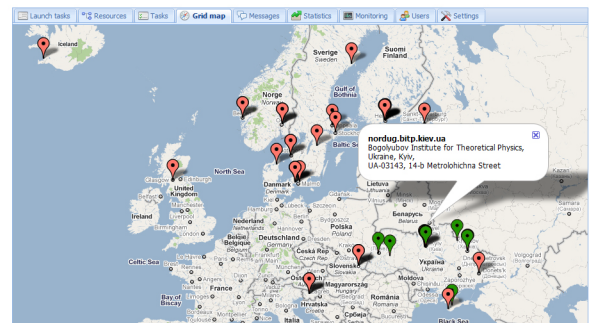
- Resource manager status (SLURM, Torque, etc.)
- Ethernet and Infiniband network switches
- HDD and RAIDs in nodes and storage
- Lustre file system
- Nodes status and temperature
- GPU units monitoring (temperature, fan speeds, etc.)
- UPS batteries health check
- System log
- GSM/CDMA modem status
- Grid middleware operability



System Requirements

SCMS.pro consists of Web Application and Cluster Frontend. Web Application handles user requests, transfers them to Cluster Frontend and gives back the result. Cluster Frontend consists of scripts which interact with cluster software.

- Cluster OS: Linux (CentOS, RedHat, AltLinux, etc.)
- Torque, SLURM, PBS Pro scheduler
- Optional ARC/NorduGrid, gLite or Unicore grid middleware
- User accounts: LDAP, /etc/passwd
- User authentication: LDAP, PAM
- Temperature and hardware failure sensors: IPMI
- Web server: Apache, PHP, MySQL
- Optional GSM/CDMA modem



Contacts

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Try it yourself

<http://demo.scms.pro/>
login: demo
password: cluster