

# HPC environments support and maintenance

## **Support services**

Do IT Now offers a complete portfolio of services for HPC clusters, on-premise, hybrid and in the cloud. We deliver a true end-to-end support experience for HPC environments. Our aim is to handle all support needs, so that our customers can get back up and running as soon as possible when a problem arises.

Both in HPC and High Availability (HA) clusters, state of the art technical support is a critical component to get the best ROI from your HPC infrastructure. Do IT Now professionals can leverage 30 years of experience in management and support of HPC systems and users. This knowledge enables us to provide the best user support, give advice and solve any technical difficulties that may arise during the use of many types of software applications run by a supercomputer.

Our technical support skills include, among others\*:

Batch scheduler	Slurm, LSF, PBS, Torque, SGE, Moab
Cluster manager	Bright Computing, xCat, Rocks, Warewulf
Parallel file system	BeeGFS, Lustre, GPFS, HDFS, Ceph
User environment	User libraries, Modules, EasyBuild, Spack, NVIDIA Toolkit
Development tools	Compilers: GNU, Intel®, PGI, IBM XL compilers; Debuggers and profilers: V-Tune, DDT, GDB
Monitoring & alerts tools	Ganglia, Nagios, Icinga, Grafana, Elastic Search, Zabbix
Virtualization	OpenNebula, OpenStack, VMware, Xen-Source
Containers	Singularity, Docker, Docker Swarm, LXD
Remote visualization	TurboVNC, VirtualGL, Websocket, DCV, X2Go
HPC Portal	EnginFrame, Open Ondemand
HPC Data science	Analyze-IT, Predict-IT, CloudSHaper powered by OKA
Scientific and engineering applications	More than 100 references. Contact us to know more.



### **Levels of support**

#### 1st Level Support

1<sup>st</sup> level support is provided by Do IT Now staff with general system administration competences. 1<sup>st</sup> Level support includes:

- Problem definition; problem replication; expected behaviour prediction.
- Customer hardware and software setup description/analysis.
- Information gathering.
- Problem solving based on similar cases.

#### 2<sup>nd</sup> Level Support

 $2^{nd}$  level support is provided by Do IT Now senior staff. Our Senior team has a deep understanding of HPC software, tools.  $2^{nd}$  level of support includes:

- Problem and root cause analysis.
- Hardware/software checks.
- Problem solving (where possible).
- Problem analysis and system setup definition to replicate the problem before escalating to a higher support level.

#### 3<sup>rd</sup> Level Support

3<sup>rd</sup> level support is provided by Do IT Now in conjunction with the ISVs. Our Senior team has extensive understanding of HPC software and will prioritize incoming support tickets depending on issue severity. 3<sup>rd</sup> level support includes:

- Problem and root cause analysis.
- Infrastructure check.
- Patch installation with early update releases (only if it is available in the open-source community or from the ISV - with a valid support contract).
- System optimization and tuning.
- Escalation to third parties (ISVs and/or Cloud Vendor).

# **Discuss your HPC needs today**

Contact us at info@doit-now.tech



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