

Senior HPC Cluster System Administrator

Instrumental is seeking highly qualified and motivated individuals interested in joining an enthusiastic team to provide all encompassing HPC and infrastructure system support services to the NOAA R&D HPCS program site in Princeton NJ.

Primary Job Responsibilities:

- System administration support services for GFDL's pre/post-processing and analysis systems, Home File System (HFS) system, archive storage system, and infrastructure support systems. This shall include after-hours and weekend system support, as necessary.
- Support GFDL existing leased, Government owned, and acquired R&D HPCS subsystem assets until the Government no longer requires support. This shall include installation, de-installation, configuration, system acceptance, and operations/maintenance of these systems over the life of this contract.
- Identification of dependencies and impacts of system patching, to include dependencies across systems/sites, the number of similar systems across the sites, NOAA/site security requirements, and the number of users/applications utilizing multiple systems across sites.
- Configuration and change management over all software and hardware delivered under this contract. This shall include the creation and/or input to Impact Assessments: This will provide a summary of the business and technical functions that could be affected by the changes. This section would identify known risks and concerns.
 - Pre-Deployment Test Plan: This will provide a description of how we will test the change before deployment. Note: Testing changes will greatly reduce possibility of failures and unwanted surprises.
 - Back-Out Plan: This will describe how a failed change could be backed out or how the resource could be restored to its previous state.
 - Post-Deployment Test Plan: This will describe how the change is tested to determine whether it was successful.
- Provide the prime contractor and the Government dialog and suggestions on how to best incorporate Resiliency, Reliability, Availability, and Serviceability (RRAS) features into its environment. NOAA systems are deemed research critical and have high system RRAS requirements.
- Participation and contributions to the Service Delivery model to include Daily Service Reviews, Service Restoration Teams, Root Cause Analysis teams, and site Change Management processes.
- User support services via resolution of system service tickets/system troubleshooting. The system administrators and vendor support comprise the third support tier. This tier focuses on user support relating to HPC/infrastructure systems, such as system troubleshooting and system configuration changes, and works closely with Tier 2 to resolve system/application issues identified by the user.
- Capacity and performance management of high performance computing systems, mass storage, internetworks, and IT security infrastructures to include system monitoring, trend analysis, and capacity management supported by metrics such as information on system use, up time, scheduled downtime and unscheduled downtime; trend analyses; workload characterization and forecasting; and resource allocation
- Assistance with IT system security efforts and compliance with NOAA security policies
- Creation, support, and updates of user and system documentation

Required Skills:

- BS degree or higher in the physical sciences, computational sciences or related engineering fields is required. Professional experience may be considered in lieu of minimum educational requirements.
- Minimum 10+ years experience providing HPC/HEC system administration and engineering services.
- Must have cluster administration and engineering knowledge of *NIX operating systems as well as associated tools and services used in HPC/HEC environments such as GPFS. Must have expertise in several scripting languages (e.g. Shell, Perl, Python, and Ruby).
- Experience in design, installation and configuration/change management of HPC/HEC systems.
- Demonstrable experience in performing advanced performance/capacity analysis and tuning.
- Practical experience in the C/C++ and Fortran programming languages.
- Additional experience with multi-threading and parallel processing tools and environments as well as disk and archive storage management systems and tools in multi-petabyte data environments.
- Excellent written & verbal communication, interpersonal, and team interaction skills.
- Must also have excellent organizational skills with the ability to deliver on time, manage multiple efforts and work with minimal supervision.

Desired Skills:

- Prior experience in HPC/HEC environments supporting large computational systems for scientific applications in agencies such as DoD, NASA, or NOAA.
- Demonstrated ability to proactively learn, adapt to and use new HW/SW technologies.
- Experience developing/implementing tools for increased service, quality, and productivity.

Qualified applicants may be subject to a security investigation and must meet minimum eligibility requirements for access to classified information. U.S. Citizenship is required.

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