Job Title: Control & Data Access Servers Engineer SCOD-057

Req ID **1040** - Posted **03/12/2019** - (France, 13067 St Paul Lez Durance Cedex) - **Control and Data Acquisition** - **New Posting**

The ITER Organization brings together people from all over the world to be part of a thrilling human adventure in southern France—building the ITER Tokamak. We require the best people in every domain.

We offer challenging full time assignments in a wide range of areas and encourage applications from candidates with all levels of experience, from recent graduates to experienced professionals. Applications from under-represented ITER Members and from female candidates are strongly encouraged as the ITER Organization supports diversity and gender equality in the workplace.

Our working environment is truly multi-cultural, with 29 different nationalities represented among staff. The ITER Organization Code of Conduct gives guidance in matters of professional ethics to all staff and serves as reference for the public with regards to the standards of conduct that third parties are entitled to expect when dealing with the ITER Organization.

The south of France is blessed with a very privileged living environment and a mild and sunny climate. The ITER Project is based in Saint Paul-lez-Durance, located between the southern Alps and the Mediterranean Sea—an area offering every conceivable sporting, leisure and cultural opportunity.

Application deadline: 12/01/2020
Domain: Science & Operation
Department: Science,Controls & Operation
Division: Controls
Section: Data, Connectivity & Software
Job Family: Project Engineering
Job Role: Engineer - 2
Job Grade: P3
Language requirements: Fluent in English (written & spoken)
Contract duration: Up to 5 years

Purpose

As Control & Data Access (CODAC) Servers Engineer you will procure, install and test the CODAC infrastructure in the control and server rooms, and administrate it in order to ensure the services at a high availability;
You will enhance the CODAC infrastructure and ITER Instrumentation and Control (I&C) security in compliant with the associated international standards;
And also, you will support the commissioning, integration and operation of the plant systems.

Background information:
The ITER Control, Data Access and Communication (CODAC) system interfaces to the ~170 Plant Systems that compose the ITER machine. CODAC provides the necessary applications and services to support commissioning activities and eventually conduct the integrated operation of the ITER machine with a high level of availability. The Plant Systems are delivered with their Instrumentation and Control (I&C) systems by the ITER members. The integration of plant systems started in 2018 and will continue up to the first plasma in 2025 and beyond. The CODAC central systems, composed using conventional IT sub-systems, but with I&C specific requirements being met are currently distributed in auxiliary buildings in and around the construction site; starting from 2023 the CODAC central services shall be provided from the permanent main and auxiliary server room locations on-site.

Major Duties/Roles & Responsibilities

- Installs, deploys, operates and maintains CODAC servers, storage systems and other associated system level services;
- Administrates and maintains CODAC servers, storage, large screens, terminals and other infrastructure deployed on ITER site to support I&C and operation;
- Enables, administrates and monitors remote secure access to CODAC infrastructure, providing regular and ad-hoc reports;
- Guarantees the availability of the up to date backup of both the system and data of CODAC servers;
- Develops and maintains emergency recovery procedures and delivers training sessions for other staff;
- Provides automated deployment and configuration of CODAC services;
- Provides automated configuration tools, identical both for system and I&C configuration;
- Interacts with suppliers of servers and operating systems for implementation and/or correction of systems;
- Supports the operators in the control rooms including remote participants;
- Maintains the security policies of the CODAC infrastructure respecting the requirements of ISO/IEC27000-series and ISO/IEC62645 standards;
- Administrates and prepares for the integration of ~100 I&C Integration Kits;
- Anticipates, prepares and participates into the planned maintenance of the CODAC infrastructure according the requirements of the commissioning and operating schedule;
- Takes part in the on-call duty service established by the ITER Organization (IO) outside ITER Organization reference working hours, including nights, weekends and public holidays ;
- May be requested to be part of any of the project/construction teams and to perform other duties.

Measures of Effectiveness

- Continuously ensures an efficient selection, deployment, integration, commissioning, operation and maintenance of all CODAC servers and storage;
- Provides accurate statistical analysis and summary reports of the availability of CODAC servers, storage and controllers, including network interfaces and the major CODAC services running on those within the defined timeline;
- Maintains and solves issues related to the distribution of CODAC software to plant system developers and integrators;
- Track and records that all CODAC data has been safely stored in a long-term storage provided by the project.

Experience & Profile:

- *Professional Experience:*
  - At least 8 years of experience in designing, testing and maintaining computing infrastructure components involved in operating a large scientific research facility.
- *Education:*
  - Master, or equivalent in computer science, electronics or other relevant discipline;
  - The required education degree may be substituted by extensive professional experience involving similar work responsibilities and/or additional training certificates in relevant domains.
- *Language requirements:*
  - Fluent in English (written and spoken).

- *Technical experience and demonstrated competencies in:*
    - Implementing security standards such as IEC-27000-series and IEC-62645;
    - Red Hat products, i.e. RHEL, RHEV, Gluster and RHN Satellite;
    - High performance, scalable storage systems based on GPFS and/or other file systems;
    - System network services such as DNS, DHCP, LDAP, NFS, etc.;
    - Web services such as Tomcat, Samba, NX, etc.;
    - Scripting languages such as Python, JavaScript, TypeScript, Bash, etc.;
    - Configuration control systems such as Ansible, Puppet, etc would be an advantage;
    - Log indexing, monitoring, search and alerting, such as collectd, Splunk, etc would be an advantage;
    - databases such as MySQL, MS SQL, Oracle, PostgreSQL, etc. would be an advantage;
    - Experience with version control tools (e.g., subversion, git) would be an advantage;
    - Resolving complex technical issues autonomously and proposing solutions crossing organizational lines and interacting closely with other stakeholders;
    - Selecting, purchasing, configuring and deploying network switches, and maintaining & operating CODAC servers and storage;Writing reports on system operations and consolidating data to support decision making;
    - Supporting users and providing training workshops is desirable.
- *Behavioral Competencies:*
    - Collaborate: Ability to dialogue with a wide variety of contributors and stakeholders;
    - Communicate Effectively: Ability to adjust communication content and style to deliver messages to work effectively in a multi-cultural environment;
    - Drive results: Ability to persist in the face of challenges to meet deadlines with high standards;
    - Manage Complexity: Ability to analyze multiple and diverse sources of information to understand problems accurately before moving to proposals;
    - Instill trust: Ability to apply high standards of team mindset, trust, excellence, loyalty and integrity;
    - Excellent organizational skills and the ability to set priorities and meet deadlines.

The following important information shall apply to all jobs at ITER Organization:

- Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, ITER Values (Trust; Loyalty; Integrity; Excellence; Team mind set; Diversity and Inclusiveness) and Code of Conduct;
- ITER Core technical competencies of 1) Nuclear Safety, environment, radioprotection and pressured equipment 2) Occupational Health, safety & security 3) Quality assurance processes. Knowledge of these competencies may be acquired through on-board training at basic understanding level for all ITER staff members;
- Implements the technical control of the Protection Important Activities, as well as their propagation to the entire supply chain;
- May be requested to work on beryllium-containing components. In this case, you will be required to follow the established ITER Beryllium Management Program for working safely with beryllium. Training and support will be provided by the ITER Organization;
- May be requested to be part of any of the project/construction teams and to perform other duties in support of the project;
- Informs the IO Director-General, Domain Head, or Department/Office Head of any important and urgent issues that cannot be handled by lline management and that may jeopardize the achievement of the Project's objectives.