



Hardware Engineer

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Employer	CERN
Location	Geneva
Posted	Jan 12, 2017
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Ref	12201
Job Type	Professional Services, IT Services
Contract Type	Permanent
Hours	Full Time

Introduction

Participation in the procurement activities of the IT Department.

You will be involved in the procurement of hundreds of servers and tens of petabytes of disk storage yearly for the Worldwide LHC Computing Grid Tier-0 centre at CERN as well as for the many services run by other groups in CERN IT and its associated remote hosting centre at the Wigner institute in Budapest, Hungary. Testing and integration of new technologies such as the hardware available through the Open Compute Project (OCP, <http://www.opencompute.org/>) will be part of your activities.

You will join:

- The Information Technology (IT) Department which provides computing services for all aspects of the laboratory's activities. These require a wide range of technologies and skills including the provision of computing facilities, local and wide area networking, platforms for computing environments, software development, databases, desktop environments and a wide range of system integration and management tasks. More information on the Department is at: <http://cern.ch/it-dep>.
- The IT Computing Facilities (CF) group which is responsible for management and operation of the Computer Centre and associated Computing Facilities. This includes the procurement of servers and

storage with related validation activities, as well as planning the needs of procurement and retirements. The group also provides and supports tools for the automated operation of large scale computing facilities as well as an up-to-date hardware inventory for equipment installed. More information on the Computing Facilities group is at: <http://information-technology.web.cern.ch/about/organisation/computing-facilities>.

- The Facility Planning and Procurement (FPP) section deals with the procurement of equipment for the Computer Centre and associated Computing Facilities, including the related validation activities, as well as planning the needs of procurement and retirements. It also maintains an up-to-date hardware inventory for equipment installed in the centralized computing facility.

Functions

As a Computer Hardware Engineer in the Facility Planning and Procurement (FPP) section, you will be given technical responsibility for the procurement of equipment for the centralised computing facilities, including the related validation activities, as well as the responsibility for planning the needs of procurement and retirement of servers.

In particular you will:

- Liaise with Service Managers to understand their hardware requirements, to produce technical specifications for common procurements;
- Be the main responsible for the maintenance of the OCP hardware deployment in the CERN Computing Centre;
- Launch market surveys and invitations to tender, ensuring technical contract follow-up for supplies and interacting with vendors in the event of issues detected during acceptance testing;
- Commission hardware and support peripherals by recording, analysing and verifying test data. Ensuring that they meet

specifications and requirements, as well as current and forecast needs, in a cost effective manner;

- Operate the IT hardware infrastructure required to deliver and support properly-engineered hardware products to meet the needs of CERN;
- Monitor the correct functioning of equipment, following up on hardware incidents and investigate hardware technology problems, enhancing the management and monitoring and analysing performance issues;
- Perform a regular market watch and meet with engineers from major IT manufacturer to follow market developments and new trends in the area of IT servers and storage technologies and evaluate their relevance to CERN;
- Liaise with vendors to resolve systematic hardware issues;
- Take the lead in the section's software developments for automation of burn-in/acceptance as well as the new automation framework for preparing hardware production allocations;
- Take part, as required, in the **Openlab-VI** projects <http://openlab.web.cern.ch/> related to the computer hardware platform and benchmarking.

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Master's degree in the field of engineering, computer science, physics, mathematics or a closely related field, or equivalent.

Experience and competencies

The experience required for this post is:

- Demonstrated experience with PC server hardware (x86 processor architecture, cores, memory, BIOS) and types of disk storage (SATA, SAS, FC);
- Demonstrated experience with Linux and Windows;
- Demonstrated experience with Linux shell programming and Python programming language;

- Initial experience in contract management, in preparing specifications and negotiating with contractor's counterparts;
- Initial experience with IPMI and SMART;
- Knowledge of OCP hardware and ideally also practical experience with such hardware would be an asset;
- Experience with competitive tenders at CERN or other publicly funded organisations is an asset.

The technical competencies required for this post are:

- Technical supervision of contract: technical coordination of **openlab** projects with Intel and other partners;
- Emerging technology monitoring: track computer hardware and software technologies, in particular from Intel, and try to match with potential usage at CERN;
- User relationship management: establish and maintain regular contacts with end-users in LHC experiments and other collaborations;
- Application support: assist end-user physicists in porting applications to benefit from latest technologies;
- Programming/software development: use latest development techniques for tuning application performance.

The behavioural competencies required for this post are:

- Demonstrating accountability: maintaining confidentiality; working conscientiously and reliably; delivering on promises; standing up for own opinion and actions with well substantiated arguments;
- Communicating effectively: providing others with timely information; delivering presentations in a structured and clear way; adjusting style and content to the audience; responding calmly and confidently to questions; leveraging support networks across the Organization;
- Working in teams: working well in groups and readily fitting into a team; participating fully and taking an active role in team activities; building and maintaining

constructive and effective work relationships; gaining trust and collaboration from others;

- Solving problems: identifying, defining and assessing problems, taking action to address them; finding the information needed to solve problems; making objective judgments based on all the facts available; adopting a pragmatic approach; understanding the value of adopting generic rather than 'gold-plated' technical solutions.
- Learning and sharing knowledge: sharing knowledge and expertise freely and willingly with others; coaching others to ensure knowledge transfer; actively pursuing own personal and professional development; taking steps to expand knowledge in other areas of expertise beyond own field.

The language competencies required are:

- Spoken and written English or French: ability to understand and speak the other language in professional contexts;
- Ability to draw-up technical specifications and/or scientific reports and to make oral presentations in at least one of the two languages.

Eligibility and closing date

Employing a diverse and international workforce is a CERN core value and central to our success. We welcome applications from all [Member States](#) irrespective of gender, age, disability, sexual orientation, race, religion or personal situation.

This vacancy will be filled as soon as possible, and applications should normally reach us no later than **12.02.2017**.

By applying here, you allow CERN to consider your application for any position it considers relevant with respect to your profile. Please ensure you update your profile regularly with any relevant information and that you inform the recruitment service if you wish your file to be removed from the database.

Note on Employment Conditions

We offer a limited-duration contract for a period of 5 years. Limited-duration contracts shall terminate by default on their date of expiry. Subject to certain conditions, holders of limited-duration contracts may apply for an indefinite position.

These functions require:

- Stand-by duty, when required by the needs of the Organization;
- Work during nights, Sundays and official holidays, when required by the needs of the Organization.

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