HPC Analyst

1. Position information

<table>
<thead>
<tr>
<th>Vacancy No.:</th>
<th>VN20-01</th>
<th>Department:</th>
<th>Computing</th>
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<tbody>
<tr>
<td>Grade:</td>
<td>A2</td>
<td>Section:</td>
<td>High Performance Computing &amp; Storage</td>
</tr>
<tr>
<td>Job Ref. No.:</td>
<td>STF-C/20-01</td>
<td>Reports to:</td>
<td>Computing Team Leader</td>
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<tr>
<td>Publication Date:</td>
<td>11 February 2020</td>
<td>Closing Date:</td>
<td>23 March 2020</td>
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2. About ECMWF

ECMWF is both a research institute and a 24/7 operational service, producing and disseminating numerical weather predictions to its Member States. ECMWF carries out scientific and technical research directed to the improvement of its forecasts, collects and processes large amounts of observations, and manages a long-term archive of meteorological data. Satellite and in situ observations provide the information for up-to-date global analyses and climate reanalyses of the atmosphere, ocean and land surface.

For details, see www.ecmwf.int/

3. Summary of the role

ECMWF’s High-Performance Computing Facility (HPCF) is a mission-critical central service provided by two Cray XC40 clusters installed in Reading. ECMWF has recently signed a four-year contract worth over 80 million euros with Atos for the supply of the successor system. The new system will deliver an increase in sustained performance of about a factor of five compared to ECMWF’s current system and will be installed in ECMWF’s new Bologna Data Centre, making this both an ideal and exciting time to be part of the new installation and service provision. It is envisaged that the computing infrastructure will be fully operational in 2021.

To ensure that ECMWF meets its installation and service requirements, we are looking to strengthen the ECMWF HPC team with the recruitment of a new HPC Analyst. The successful candidate will work at the ECMWF Headquarters in Reading alongside a senior analyst and with the other three team members being based at the Bologna Data Centre.

As a member of this small focused team, you will work closely with many other ECMWF sections as well as the HPCF supplier’s staff on the installation of the new system, including any migration of the services from the current system and then providing essential support so that we guarantee the availability and efficient use of this mission critical facility.
A core element of this team is participation in the on-call rota to provide 24x7 support to resolve urgent issues on ECMWF’s mission-critical HPC systems. While on-call, the HPC Analysts must be contactable and able to commence remote-login diagnostics and remedial action as soon as reasonably possible, but at least within one hour of being contacted. All members of the team participate equally in the rota and therefore once trained, the HPC Analyst will also fully participate.

4. Main duties and key responsibilities

- Ensuring that ECMWF’s HPC facilities are used efficiently, and to that end, providing ECMWF’s support groups, developers and users with assistance, tools and training
- Working closely with other members of the HPC team, users of the HPCF, ECMWF user support and with the HPCF supplier’s engineer(s) to assist in:
  - Resolving user and operational problems with a focus on operational problems, relating to the operating system or to software packages maintained by the section;
  - Configuring, testing, tuning and bringing into production new HPC hardware;
  - Integrating the HPC facilities with the workflows of ECMWF’s research and time-critical operational applications as well as member state workload;
  - Installing, maintaining, configuring and tuning the operating system, batch scheduling system, standard utilities, user environment and locally developed tools on the HPC facilities;
  - Planning for and installing new software upgrades, releases and bug-fixes;
  - Providing Computer Operations staff with information, procedures and training that they need for the day-to-day running of the HPC service;
  - Implementing a strong security posture for the HPC systems;
- Participating in a shared rota to provide 24x7 on-call support to resolve urgent issues on ECMWF’s mission-critical HPC systems
- Promoting technical innovation and reliable, robust HPC service within the organisation
- Provide hands-on assistance to support other teams as time permits
- Contributing to the research and evaluation of successor systems to ECMWF’s current HPC Facilities
- Representing ECMWF in meetings with supercomputer vendors and at international technical conferences

5. Personal attributes

- Excellent analytical and problem-solving skills, work methodically and proactively
- Good written and oral communication skills
- Good interpersonal skills to work collaboratively with other members of a small team, but also be able to work independently
- Enjoy, and seek opportunities, to work with subject matter experts from other fields to understand users’ needs, consider complex technical circumstances, and translate the findings into requirements that can be delivered
- Ability to work under pressure in a time critical environment; work reliably and responsibly, with flexibility to adapt to changing requirements.
- Be able to fully take part in technical discussions, to both contribute and understand other positions, and jointly to identify the best way to proceed
6. Qualifications and experience required

<table>
<thead>
<tr>
<th>Education</th>
<th>A university education to degree standard or equivalent industry experience.</th>
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<tr>
<td>Experience</td>
<td>Experience in massively parallel processing computer systems, large-scale Linux clusters or other machines of similar architecture. Professional experience in Unix or Linux systems administration, a good knowledge of Unix shells, Perl and/or Python, software configuration management and operating system security are essential. Familiarity with programming using C, Fortran, MPI and/or OpenMP is highly desirable.</td>
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<tr>
<td>Language</td>
<td>Candidates must be able to work effectively in English. Interviews will be conducted in English.</td>
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7. Other information

**Grade remuneration**

The successful candidate will be recruited at the A2 grade, according to the scales of the Co-ordinated Organisations and the annual basic salary will be £60,590.54 net of tax. This position is assigned to the employment category STF-C as defined in the Staff Regulations.

Full details of salary scales and allowances are available on the ECMWF website at www.ecmwf.int/en/about/jobs, including the Centre's Staff Regulations regarding the terms and conditions of employment.

**Starting date:** As soon as possible.

**Length of contract:** Four years, with the possibility of a further contract.

**Location:** The role will be based in the Reading area, in Berkshire, UK.

8. How to apply

Please apply by completing the online application form available at www.ecmwf.int/en/about/jobs.

To contact the ECMWF Recruitment Team, please email jobs@ecmwf.int.

Please refer to the ECMWF Privacy Statement. For details of how we will handle your personal data for this purpose, see: https://www.ecmwf.int/en/privacy.

At ECMWF, we consider an inclusive environment as key for our success. We are dedicated to ensuring a workplace that embraces diversity and provides equal opportunities for all, without distinction as to race, gender, age, marital status, social status, disability, sexual orientation, religion, personality, ethnicity and culture. We value the benefits derived from a diverse workforce and are committed to having staff that reflect the diversity of the countries that are part of our community, in an environment that nurtures equality and inclusion.
Applications are invited from nationals from ECMWF Member States and Cooperating States, listed below:

Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Hungary, Germany, Greece, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Montenegro, Morocco, the Netherlands, Norway, North Macedonia, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Applications from nationals from other countries may be considered in exceptional cases.