



# Sample Project: Network engineer for ATLAS data-acquisition system

Code	EP5502
Programme	FCT
Department	EP
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## Title

Network engineer for ATLAS data-acquisition system

## Description

ATLAS is a high energy physics experiment at the Large Hadron Collider located at CERN. During the so called Long Shutdown 2 period, scheduled for 2019, ATLAS will undergo several modifications and upgrades in order to cope with higher luminosity levels. The ATLAS data-acquisition networks will be refurbished and extended. The existing 10 GbE based data network comprising 600 ports will be updated to newer devices, while a completely new network domain will be installed. Indeed a new detector read-out chain will be built for few ATLAS subdetectors. Instead of the legacy serial-link communication, the new system will make use of a commercial network technology. This new network will interconnect order of hundred 40 Gbps (or more) ports and it will transport the physics events to the event processing computer farm as well as detector monitoring and control information.

The candidate will join the ATLAS data-acquisition networking team and will take part in activities related to the upgrade of the data-acquisition network. These include the design of the new readout network architecture and the refurbishing of the existing network. She will contribute to choices concerning the network management solution, network configuration, network health monitoring, etc. In a second phase, the candidate will participate to the equipment purchase process, including technical specification preparation, market survey and device selection.

At the same time the candidate will join the operational efforts for the ongoing ATLAS physics run. This involves regular network interventions, faulty equipment replacement and investigations and extensions as required by the evolving operational requirements.

## Skills

Databases: MySQL. Information Technologies: System administration (e.g. with GNU/Linux, Microsoft Windows, Networks).

Programming Languages: Python, Shell Script <p>

Computer networks, OSI stack, network device configuration, basic knowledge of the Linux TCP/IP stack</p>

## Disciplines

Information Technologies

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