

Hyacinthe Cartiaux

HPC Infrastructure and Architecture Engineer

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Experience

- January 2023 **Senior HPC Infrastructure and Architecture Engineer, University of Luxembourg**
Now
 - Interim management of the HPC system administration team, evolution and life cycle management management of the platform (GPFS storage infrastructure replacement)
 - Move of Grid'5000 site of Luxembourg to our new datacenter, design and implementation of the new network based on Cisco switches, connection through GEANT to the backbone (OSPF)
- January 2020 **HPC Infrastructure and Architecture Engineer, University of Luxembourg**
December 2022
 - Important participation in the Aion cluster public tender (Direct Liquid Cooling, 354 compute nodes, Infiniband HDR, 1.9 PFlop/s)
 - Design of a new aggregated network Ethernet topology, cabling and implementation.
 - DDN-based storage infrastructure extension
 - Continuity of the previous position on HPC system administration tasks
- October 2011 **HPC and Grid System Administrator, University of Luxembourg**
December 2019
 - Administration and maintenance of the University of Luxembourg HPC platform (2 clusters, around 520 nodes), user support and documentation.
 - Responsible for the Luxembourg site of Grid'5000 (9 sites, around 800 nodes)
 - Evolution and extension of all aspects of the HPC platform, including network topology, storage infrastructure, compute node deployment and configuration management system.
 - Participation to the redaction, evaluation, reception and integration of several public tenders.
 - Long term administration of virtualization servers, user directory (RedHat IPA) and collaborative services (Gitlab, Mattermost, XMPP messaging server).
- August 2011 **System administration, GForge collaborative platform, University of Luxembourg**
September 2011 Upgrade of the collaborative platform from GForge 4 to FusionForge 5 (Git and Subversion source code repositories, bug tracker, mailing list, forums, etc).
- April 2011 **Devops internship in the field of web hosting, WHD-RS, Thionville**
June 2011 Development of an offer of virtualized servers for websites hosting, using Debian, Xen, Puppet, Perl.
- February 2009 **Linux cluster administration internship, Faurecia, R&D center of Bavans**
July 2009 Maintenance and update of a computing cluster running Red Hat and CentOS 4 and 5, development of statistics generation tool with PHP.
- April 2007 **Web development internship, VersusMind, Nancy**
June 2007 Creation of a module for eGroupWare in PHP&MySQL generating meeting reports in OpenDocument.

Education

- 2010 – 2011 **Licence Professionnelle ASRALL, IUT Nancy-Charlemagne**
Equivalent to a Professional Bachelor Degree in systems, networks and applications administration based on free software
- 2005 – 2007 **DUT Informatique, IUT de Saint-Dié-des-Vosges**
2005 **Scientific Baccalauréat, Lycée Georges Baumont, Saint-Dié-des-Vosges**

Skills

System Admin.	Configuration management (Puppet, Ansible) Virtualization (Xen, KVM)	Deployment tools	Brightmanager, Bluebanquise, Kade- ploy, Kickstart, FAI
Network Admin.	Ethernet & Infiniband	Batch Schedulers	SLURM, OAR
Filesystems	Lustre, IBM GPFS, NFS, XFS	Hardware	Dell, Atos, DDN, NetApp
Operating Systems	Debian, RedHat, ArchLinux	DBMS	PostgreSQL, MariaDB
Network protocols and services	DHCP, DNS, NFS, SSH, (T)FTP, HTTP(S), LDAP, XMPP	Programming Languages	Bash, Ruby, Perl, basics of Java, Python and C

Languages

- French (*native language*)
- English (*Fluent, European Level C1*)

Interests

- Photography
- Mountain biking
- Video Games
(*Turing Complete achievement unlocked*)
- Free software

Publications

- S. Varrette, H. Cartiaux, T. Valette, A. Olloh,
"Aggregating and Consolidating two High Performant Network Topologies: The ULHPC Experience" in *ACM Practice and Experience in Advanced Research Computing (PEARC 2022)*
- S. Varrette, H. Cartiaux, S. Peter, E. Kieffer, T. Valette, A. Olloh,
"Management of an Academic HPC & Research Computing Facility: The ULHPC Experience 2.0" in *Proc. of the 6th ACM High Performance Computing and Cluster Technologies Conf. (HPCCT 2022)*
- S. Varrette, E. Kieffer, F. Pinel, E. Krishnasamy, S. Peter, H. Cartiaux, X. Besseron,
"RESIF 3.0: Toward a Flexible & Automated Management of User Software Environment on HPC facility" in *ACM Practice and Experience in Advanced Research Computing (PEARC 2021)*