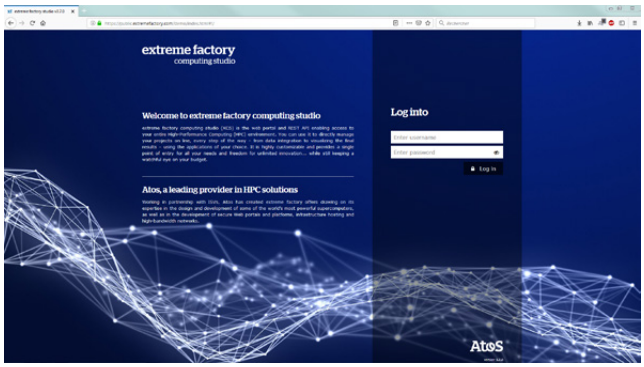
Bull extreme computing studio

The HPC Portal that logs you in the HPCaaS era

XCS3: a flexible, non-intrusive, and fully customizable HPC portal.

Extreme computing studio v3 (XCS3) is a web portal designed for HPC as-a-Service front-ends. It includes a Responsive Web Design (RWD) User Interface, an HTTP RESTful API, and Remote Visualization technology.

With XCS, organizations can easily and centrally manage their compute and visualization workloads, while scientists can optimize their user experience by customizing their self-made dashboards.



HPCaaS Expertise

Together with XCS3, we can define and then implement for you the best HPC-as-a-Service solution for your needs. Based on a 15-year experience, our experts can recommend all necessary components and best practices: hardware infrastructure, HPC middleware, security mechanisms, HPC application integration, High Availability, networking requirements, fit with organization environment and security.

Check out the article published by ACM presenting our experts' vision on web portals for High-Performance Computing:

End-user Features

- Submit jobs using a click-through interface, perfect for newcomers as well as power users.
- Manage data and workflow from remote locations.
- Visualize remote data with 3D hardware acceleration with Bull XRV (extreme remote visualizer) for near-local user experience.
- Follow your solver convergence by plotting graphs with your log file values.
- Edit your scripts and input files directly in your browser.

IT Administrator Features

- Publish any simulation software using flexible application templates, suitable for commercial, Open Source or in-house codes.
- Assign dedicated and protected environments to different user groups with roles.
- Create roles by setting the scope of dozens of privileges.
- Deploy your own HPC-as-a-Service with accounting, multi-tenancy, credit management, authorization framework, role based access control (RBAC), etc.

End-user Benefits

- Share resource usage between teams and projects without any information leak.
- Share remote visualization sessions for easier collaborations.
- Implement your own customized user interface (layout, services, functions, themes).
- Stay focused on your work without worrying about computer complexity.
- Save time by executing your complete workflow remotely (simulation, pre & post processing).

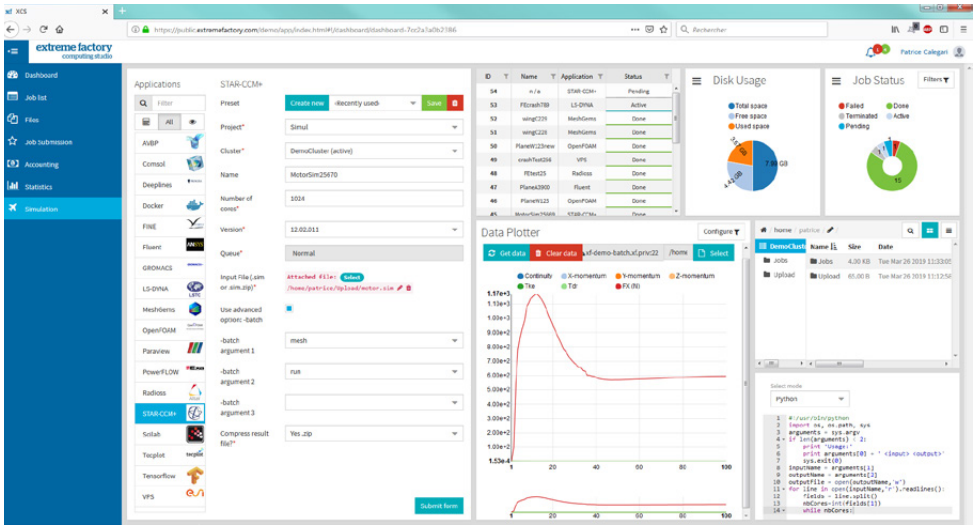
IT Administrator Benefits

- Offer a modern as-a-Service experience to your users.
- Keep confidential data in your secure datacenter.
- Lower global costs by centralizing all HPC hardware and software resources.
- Share graphical resources between multiple users for better ROI.
- Reduce visualization software license and workstation costs by mutualizing graphical applications.

XCS3 User Experience

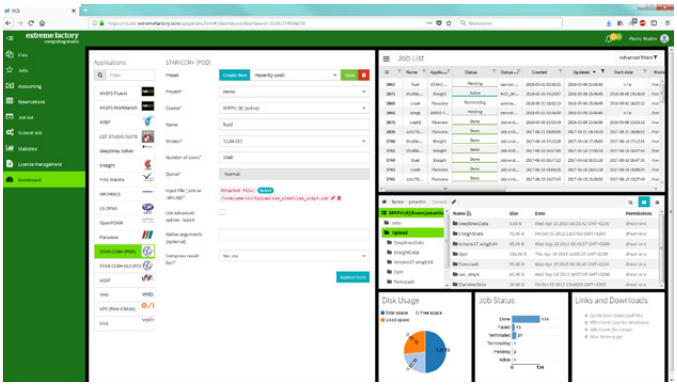
Tailor the intuitive XCS3 user interface to your needs:

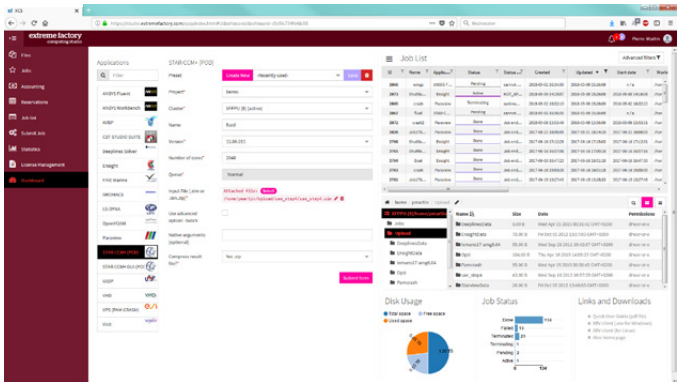
- Use a growing collection of resizable dashboard components (tables, graphs, charts, submission forms, editors, etc.) to create your single page application (SPA).
- Configure each dashboard component to show just what you need for your work.
- Define elaborate application templates in a few clicks with: menus, multi-file selectors, buttons,
- conditional fields, optional parameters, variable type checking, etc.
- Have a comfortable user experience with any screen size and orientation thanks to the Responsive Web Design
- Import, export, and share your dashboard settings with your colleagues.



Customizable User Interface Theme

Customize and rebrand the look & feel of the XCS UI to match the visual identity of your organization. A theme editor helps you to change the colors of the menus, buttons, fonts, and highlights. The themes can be edited, exported, and imported by users.





Perfect Integration in any New or Existing HPC Environment

	XCS3 COMPATIBILITY LIST
Job schedulers	Slurm, Oracle Grid Engine, Altair PBS Pro, IBM LSF, OAR
Directory Services	LDAP, Active Directory (with LDAP attributes)
Operating systems (web server)	RHEL7+ (or any other equivalent Linux)
Software requirements (web server)	OpenJDK 8 (1.8.0_131) or Oracle Java 8, MySQL 5.6.x
System requirements (web server)	Minimum/recommended: 4/8 cores, 4/8GB RAM
Remote Visualization Technologies	XRV, TurboVNC, etc. (ready to plug most technologies)
HPC applications	ready to integrate any (more than 100 already validated)
Browsers (client side)	Microsoft Edge, Google Chrome 70+, Firefox 60+

For more information: **hpc@atos.net**

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