

extreme factory computing studio



HPC and 3D visualization portal

Extreme factory computing studio (XCS) is a web portal designed for HPC cloud front-ends. With XCS, organizations can easily and centrally manage their compute and visualization workloads.

Atos's HPC-as-a-Service offer leverages XCS to power the Bull extreme factory on demand platform. Several ISVs use the XCS technology for their HPC Clouds, and many Atos HPC customers rely on XCS to access their private HPC resources on premises or hosted.

The main components of XCS are a responsive web design user interface, an HTTP RESTful API, and associated system tools ready to be integrated in any existing or new HPC environment. XCS incorporates all functionalities that are necessary to manage compute and visualization jobs for hundreds of users.

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XCS core features

- Publish any simulation software using flexible application templates, suitable for commercial, Open Source or in-house codes
- Submit jobs using a click-through interface, good for newcomers and power users alike
- Manage data and workflow from remote locations
- Assign dedicated and protected environments to different user groups
- Deploy your own HPC-as-a-Service with accounting, multi-tenancy, credit management, authorization framework, role based access control, etc.
- Visualize your remote data with 3D hardware acceleration

XCS benefits

- Keep confidential data in the company's secure datacenter
- Lower costs by centralizing all your HPC hardware and software resources
- Share resource usage between teams and projects without any information leak
- Implement your own customized user interface. Your custom front-end software should just be able to send requests to the XCS HTTP RESTful API, like the XCS UI does .

Perfect integration

XCS can be deployed on any Linux-based infrastructure.

XCS is a non-intrusive solution integrated with your applications, your existing technical environments, and your company processes:

- Connect XCS to your company's corporate directory service: LDAP, NIS or Active Directory
- Connect XCS to most job schedulers: SLURM, Oracle Grid Engine, Altair PBS Pro, IBM LSF
- Plug most remote visualization technologies into XCS
- Customize or rebrand the XCS user interface to match your visual identity
- Start small, and pay as you grow.

Related services

We can define and then implement for you the best HPC-as-a-Service solution for your needs. Based on their experience, our experts can recommend all necessary components and good practices: hardware infrastructure, HPC middleware, security mechanisms, HPC application integration, High Availability, networking requirements, etc.

We can help you configure XCS to fit your organization's environment and security policies.

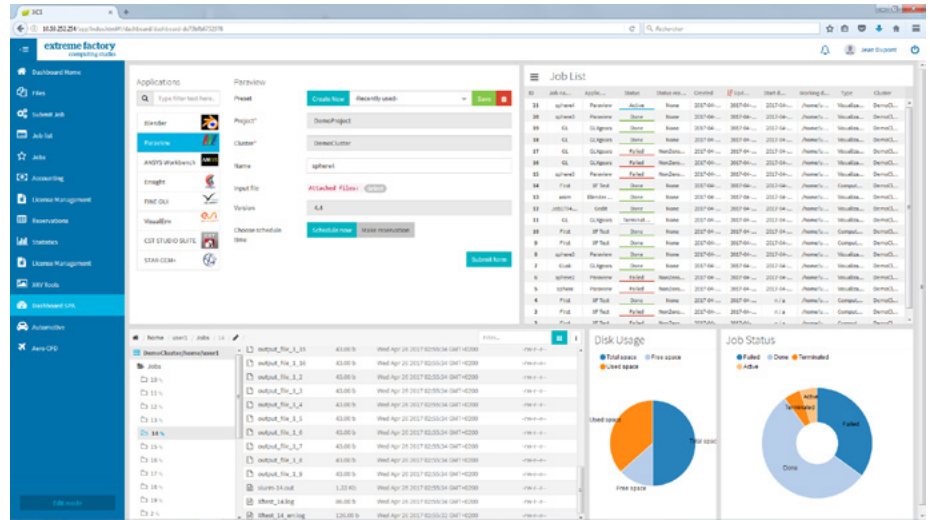
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New XCS user interface

XCS version 3 has a brand new, modern and intuitive user interface:

- Have a comfortable user experience with any screen size thanks to the Responsive Web Design (RWD)
- Tailor the interface to your needs by defining elaborate application templates in a few clicks
- Create and customize your single page application (SPA) dashboards with resizable web components (tables, graphs, submission forms, etc.)
- Use a growing collection of dashboard components to access always more functionalities
- Customize and rebrand the look & feel of the XCS UI to match the visual identity of your organization.

User experience with the XCS user interface

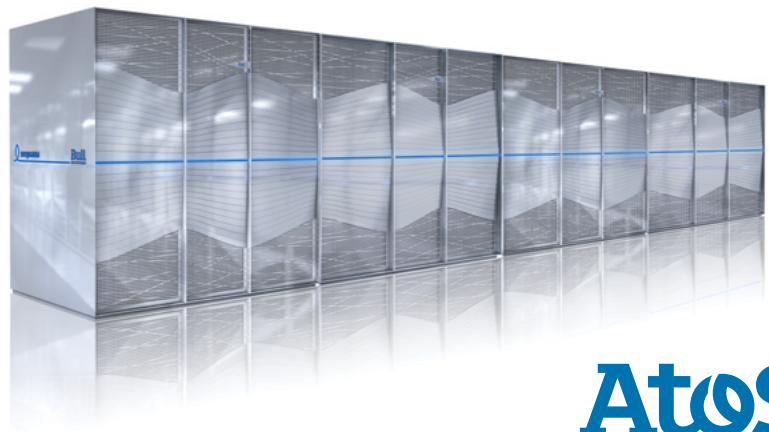
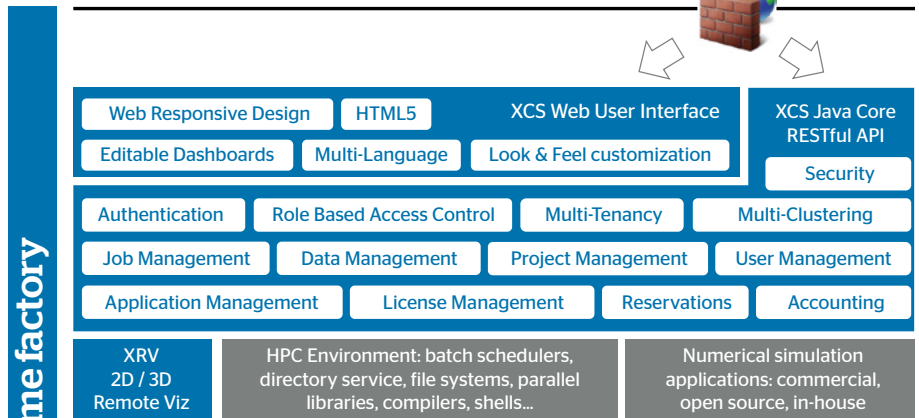
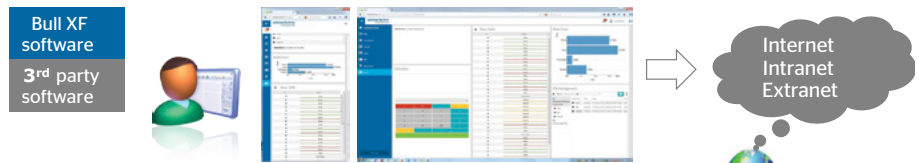


Remote data visualization

Simulation creates huge datasets, which cannot be easily downloaded to the user's desktop for visualization. XCS, coupled with remote visualization technology, allows users to access their remote data interactively by sharing visualization resources:

- Integration with most existing 3D visualization technologies
- Best user experience with exclusive Bull extreme factory remote visualizer (XRV) technology for near-local user experience
- Graphical resources sharing between multiple users for better ROI
- Advanced calendar-based reservation of exclusive access to visualization resources
- Support of collaborative remote visualization sessions
- Reduced visualization software license and workstation costs by mutualizing applications.

XCS architecture



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