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The PhEDEx next-gen website

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PhEDEx is the data-transfer management solution written by CMS. It consists of agents running at each site, a website for presentation of information, and a web-based data-service for scripted access to information.

The website allows users to monitor the progress of data-transfers, the status of site agents and links between sites, and the overall status and behaviour of everything about PhEDEx. It also allows uses to make and approve requests for data-transfers and for deletion of data. It is the main point-of-entry for all users wishing to interact with PhEDEx.

For several years, the website has consisted of a single perl program with about 10K SLOC. This program has limited capabilities for exploring the data, with only coarse filtering capabilities and no context-sensitive awareness. Graphical information is presented as static images, generated on the server, with no interactivity. It is also not well connected to the rest of the PhEDEx codebase, since much of it was written before the data-service was developed. All this makes it hard to maintain and extend.

We are re-implementing the website to address these issues. The UI is being rewritten in Javascript, replacing most of the server-side code. We are using the YUI toolkit to provide advanced features and context-sensitive interaction, and will adopt a Javascript charting library for generating graphical representations client-side. This relieves the server of much of its load, and automatically improves server-side security. The Javascript components can be re-used in many ways, allowing custom pages to be developed for specific uses. In particular, standalone test-cases using small numbers of components make it easier to debug the Javascript than it is to debug a large server program.

Information about PhEDEx is accessed through the PhEDEx data-service, since direct SQL is not available from the clients browser. This provides consistent semantics with other, externally written monitoring tools, which already use the data-service. It also reduces redundancy in the code, yielding a simpler, consolidated codebase

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