



The Great Server in the Sky: Cloud Computing and Government Information

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Note: For this issue, the data column has moved to Tech Watch.

GPO's PURL server completely failed on August 24, 2009, and as of this writing has yet to be fully restored. The GPO PURL server resolves PURLs, i.e., persistent URLs assigned by GPO to publications from agencies across the federal government in order to manage the volatile nature of web addresses. Libraries depend on PURLs to get users from catalog records to government publications on the web. When the system works, it works pretty well; but when it fails, it fails badly, as librarians trying to get to government information via PURLs can attest. While it's the PURL server that has been having problems lately, there's nothing particularly unusual about GPO—similar failures could and probably will occur with government information resources at all levels. As GPO works to restore service, we and they should be considering advantages and disadvantages of the “cloud computing” technological infrastructure.

The hallmarks of cloud computing include:

- ⌞ a shift away from local to remote management;
- ⌞ more reliable and more powerful computing resulting from economies of scale; and
- ⌞ an extension of the trust relationship to the new service providers.

Many methods of delivering cloud computing exist, but the most common include:

- ⌞ fully outsourced technology infrastructure to an external company;
- ⌞ virtualized software running across multiple servers to manage spikes in traffic and failure of individual servers; and
- ⌞ distributed networks of storage using peer-to-peer sharing

the costs to GPO relative to existing technology costs would be unknown without a much more detailed plan. Costs for some participating libraries might increase as they'd be taking on new responsibilities, but other libraries may not incur extra costs since they may already have technical infrastructure in place capable of handling the new content.

The problem is simple: it is very common for government