

How Xerox's DocuShare® Can Help the SCM Technology Organization

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Purpose: *This document is a follow-up to e-mail I sent to SCM Technology managers on September 12, expressing the opinion that they should seriously consider Xerox's DocuShare product for the solution to the need for a "documentation system"—identified as one of the priorities in the Capital Markets Technology Strategy and Plan presentation. Reading this document, [getting a 15-minute demo from me](#), or trying it on the [SCM Technology evaluation site](#)—all these approaches should enable you to appreciate the power of this product.*

Links: *This document, in both its Word and PDF formats, contains MANY links to documents on the Schwab and public Web. These links are a supplementary resource that amplify points I make here or demonstrate features that I highlight, and should help you better understand my remarks. The online versions of this document are at <http://devnfs1/dist/share/DM/DocuShare-1.doc> (or .htm), as well as on the [SCM Technology DocuShare evaluation site](#) at <http://devtest3>.*

THE PROBLEM: Software development organizations often have a documentation "problem"—they need more and better documents on their products and processes (architecture, requirements, designs, testing, planning, tools, procedures, training material) and they need a "system" to handle the documents (authoring, versioning, organization, searching, retrieval). The problem often never gets addressed because of other priorities and a sense that it is not an important problem—but the costs of the problems are typically hidden costs and opportunity costs (not taking advantage of knowledge in other parts of an organization). Without really solving it, an organization does not get to experience the subtle gains in efficiency that a good document management system can provide. SCM Technology managers, in making this a priority in their reorganization efforts, have given us an opportunity.

A SOLUTION: Having faced these document problems in various forms for 20+ years, and having made various efforts to solve them, I was very pleased when I first used DocuShare at HP in 2001. My experience with it there in a division of 1,200 staff makes me believe it can solve—and solve well—many of the problems of document management in a software organization. It integrates the [latest technology](#) into an elegant model that people find easy to learn and use ([analysts](#) and [others](#) agree). And there are already a few organizations in Schwab, [one in SIM](#) and one in [Individual Investor Client Services](#), that use DocuShare ([2.x](#)). Xerox has many [satisfied customers](#) and there are many [public](#) DocuShare sites.

I think that the best way to describe why it is so good at solving many of the problems in this area is that its design is based on an excellent model of the problem domain and provides a level of abstraction that makes all the difference. Yes, you can use file system hierarchies and various web page mechanisms to provide access to an organization's large number of documents. You can also write a payroll system in Fortran, but that is not done anymore, since there are languages and applications that work at a higher level and provide a better match to the needs of the payroll problem domain. Similarly, I think that DocuShare is a system that provides an excellent match to the activities performed and problems faced by staff using documents in a software development organization.

WHY: There are many features of DocuShare, and more in the [Release 3.1](#) released in October, but a few of them deserve highlighting in the context of SCM Technology's needs:

- extreme [ease of use](#)—simple model and web interface for use **and** administration, and browser/platform-independent → low overhead, for users and administrators
- "permanent" (and [short](#)) URL's—new documents are given a unique ID in the document database, and keep it no matter where they are moved in a logical reorganization → **no broken links!**
- easy or [powerful](#) search (full text, [metadata](#), PDF files, subsets of document tree); or browse the tree
- good [security features](#) and user/group [permissions model](#) that improves on Unix one
- can be used from [Windows Explorer as a mapped drive](#), integrating with desktop applications
- [version control](#) with simple checkout/checkin model for authoring
- [user-maintained organizational structure](#) and quick overview of [all folders](#) in a document library

COST: Xerox has provided a price quote as follows (rates per user drop quickly, from \$415 at 10 to \$135 at 50 and \$100 at 100 users). A guest license is required for any non-user accessing an installed DocuShare 3.0 web site.

# of Licenses	Price		Annual Maintenance
	Purchase	Lease (5-year)	
10 users (includes 1 guest)	\$4,145	\$167.93/mo	\$ 768
50 users (includes 5 guests)	\$6,745	\$273.13/mo	\$1,248
100 users (includes 10 guests)	\$9,995	\$404.63/mo	\$1,848

A brief [white paper](#) gives a helpful overview of DocuShare.

ClearCase and document management:

A quick summary of why ClearCase is not the right tool for the typical documentation problem like we have:

- solves a problem in a different domain (software configuration management), which has only a tiny overlap with the problem domain of document organization, retrieval, and versioning
- versioning in ClearCase is much too complicated for 99% of documents
- no facilities for searching for documents
- unfriendly interface: no web-based facility for non-developer access to documents

The SCM/AMPS Technology KnowNet and document management:

The KnowNet provides a web presence and a standard look for some Schwab STech organizations, and does provide a familiar place for people to put documents (and fun photos—always important!). But it does not appear to have been designed to solve most of the problems staff have in finding, accessing, searching, authoring, and collaborating on internal documents. In my use of it in the past 2 months, I have experienced numerous problems that convince me it is less than ideal as a document management solution. I think it is useful as a Web presence for SCM Technology as part of SCM/AMPS, and hyperlinks between the KnowNet and a DocuShare website, in both directions, could be quite helpful.

Generally, I think that the weaknesses I have found so far in KnowNet are limiting (and are DocuShare's strengths):

- hard to use—I had problems finding documents, adding documents, finding help documents, and getting documents (that I added) indexed for searching (and I still have not succeeded in that)
- [problems with performance, author/reader security, and indexing for searching](#), all caused by a weird mixture of the use of both URL's and UNC's as links
- long, unreadable URL's such as [\\nwb0010cdc\KN_Prod\KN_SCMNet\Content\8_Projects\cc_cq\2_Project_Management\archive\ToolsAppsIDESurveyIterations\tools&appssurvey_draft.xls](#), which is 141 characters long)
- broken links (one [example](#))
- sometimes inconsistent interface with browser and Microsoft Office applications
- no easy way to use or search metadata

DocuShare has none of the above problems, and many other strengths. It was designed from the ground up to solve many of the classic problems in the document management domain.

Hyperlink Power & Permanence: A nice combination of the “permanent URL” feature of DocuShare and URL links to particular bookmarks within a target document can be very useful for referencing specific information—if the target document is in a DocuShare web site, the link will never break and the helpful reference can be placed into documents without concern. This allows efficient reuse of information that already exists.

I’ll give two examples:

- HTML documents have [anchors](#), which are targets within the document that can be referenced from another document (the description of *anchors* I just referenced is in an HTML specification document at the World Wide Web Consortium web site, which is not a DocuShare document, and so the link in this paragraph might break at some point in the future). A URL with an anchor causes the browser to go to that position in the target document, not just to the top.
- PDF files have [destinations](#), which can behave like HTML *anchors* but are within a PDF document; this behavior is exhibited when the URL to the PDF document is opened in a browser that has Acrobat plug-in operating—the PDF file is displayed in the browser window starting at the location in the PDF file where the *destination* is. In addition, specific page references can be made using the notation #page=<n> in a referencing URL, and the link behaves as if there was a *destination* at the top of the page. Again, the description of *destinations* I just referenced is in a PDF document on a plain web server, not in a DocuShare web site, and so the link in this paragraph might break too.

Both of these link facilities allow a *permanent hyperlink* to be possible, if the target is a document in a DocuShare web site. For example, you can send e-mail to someone as brief as “Please read [section 5.19](#) to understand that aspect of the Schwab Qualified Retirement Plan,” or include a similar link in any document you are writing. And the link will never break! Both examples use the URL syntax with the # symbol at the end to specify the [fragment identifier](#) (specific target).