



Enterprise Document Management with eCriteria
Turn-Key Web Solution for Virtualizing Business Documents

White Paper

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eCriteria

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Introduction

eCriteria is a *Web-hosted* database publishing facility providing a quick, easy-to-use, and cost-effective solution for managing information for a broad cross-section of businesses and organizations. Users do not require programming experience, or prior knowledge about databases, and there is no software to install on any local PC or network server. The entire business database function is out-sourced to eCriteria. Creating and using eCriteria Web databases is done entirely through a Web browser interface using industry standard software such as Microsoft Internet Explorer and Netscape Communicator. eCriteria can be accessed from any hardware or software platform. All database content is securely hosted at the eCriteria central data center.

An important application of eCriteria technology is its use in conjunction with high-speed document scanner hardware and associated document capture software. Once a batch of documents is successfully scanned, and placed on a network server, eCriteria is able to provide an efficient browser-based document search facility accessible from any Internet connection. eCriteria presents a unique and powerful opportunity for business enterprises needing to make physical documents such as invoices, purchase orders, shipping manifests, and legal documents, securely available for viewing on the Web.

This white paper describes the benefits and requirements for the *eCriteria Document Management Solution*.

Document Management Made Simple

Document scanning and management technology has seen considerable growth in the past several years as organizations attempt to keep increasing paper flows under control. Documents can be scanned at considerable rates, and with excellent quality using commercially available hardware and software. Once produced, the image files often have limited accessibility, generally confined to the company's local network. eCriteria provides a strategic and cost-effective solution to this limitation.

With eCriteria, Data Authors (users who publish Web database content) may quickly, and easily create a custom configured Web database and upload the index data file, i.e. the data file generated by the capture software that contains the information extracted from the scanned documents, as well as references (in the form of Web URLs) and names of the document image files.

Once published with eCriteria, users may login to the database, and securely access a document search mechanism through a common Web browser interface using standard HTML forms. Documents may be accessed from anywhere, in the office, at home, or on the road at a customer's office.

eCriteria provides a convenient means to organize and index scanned images of business documents, and at the same time provides a powerful mechanism for adding *metadata* to the scanned documents. Metadata is information not necessarily found in the business documents, but adds informational value for data retrieval purposes. An example of metadata might be notes or comments associated with the document, e.g. record of a phone conversation, or the initials of the staff member who last reviewed the document.

Hardware Requirements

The hardware required to benefit from the eCriteria document management solution is a high-speed document scanner such as the Canon DR-5020 enterprise scanner (www.canon.com). The most expedient configuration would include a direct connection to the target local network drive designated to store the image files. Alternately, the scanner could be connected to an Internet file storage facility using TCP/IP. eCriteria, as a hardware independent Web application, has no implicit hardware requirements so any contemporary document scanner may be used.

Capture Software Requirements

Operating in tandem with the document scanner, the eCriteria document management solution requires capture software such as the Ascent Capture package from Kofax Image Products (www.kofax.com). The selected software should be technically robust enough to handle demanding production capture environments. Document scanners typically come bundled with capture software.

The capture software must have the following features and capabilities in order for the eCriteria solution to be the most comprehensive.

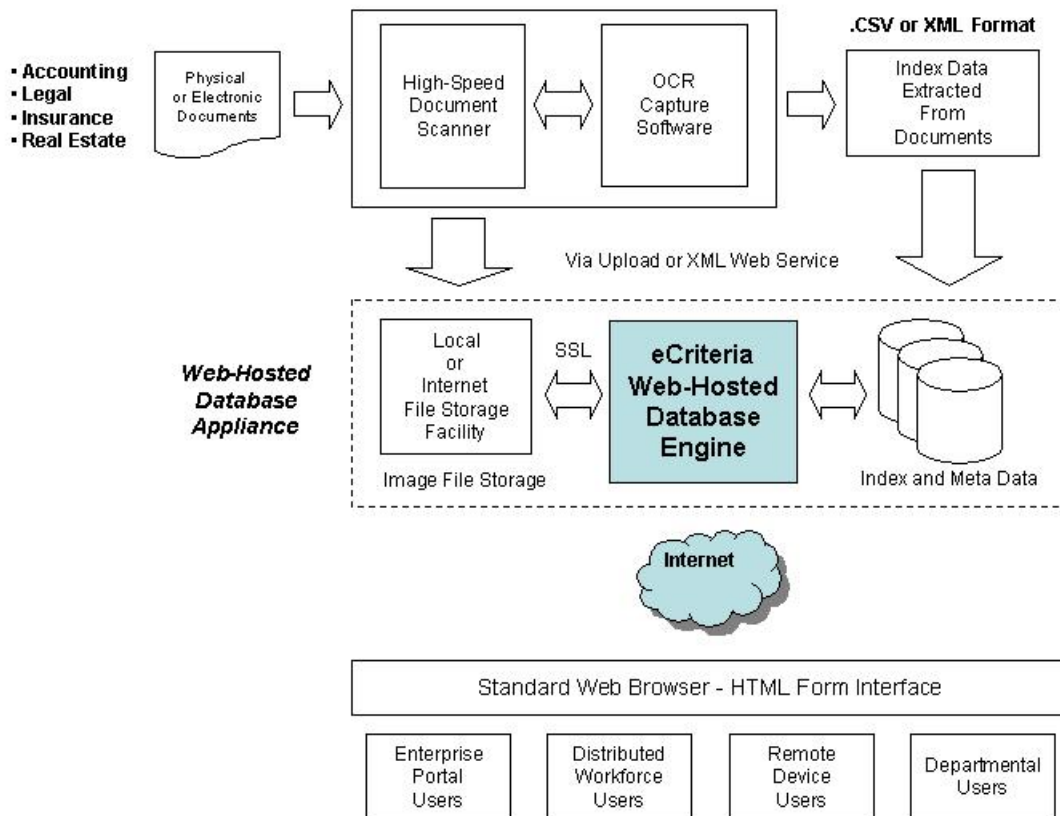
1. The software must have the ability to write an output disk file containing the names of the resulting image files, and any other data obtained from the physical documents. The output file must be in an industry standard format, e.g. plain-text ASCII such as .txt or .csv files, Excel .xls, Access .mdb, XML, etc.
2. The software should be configurable to include in the output file, a fixed character string parameter containing the location where the image files of the scanned documents are stored. eCriteria requires a location string consisting of a Web URL using either an actual domain name or IP address. A domain name might be appropriate for a public facing Internet site, whereas an IP address matches the needs of a private intranet. In either case, a Web server is needed to serve up the image files. eCriteria is completely platform independent however, so any Web server running on any hardware or operating system software platform may be used (e.g. Microsoft IIS, Apache, etc.). Here are two examples of location strings:

<http://www.mydomain.com/secure/invoices>

<http://201.55.127.07/LegalBriefs>

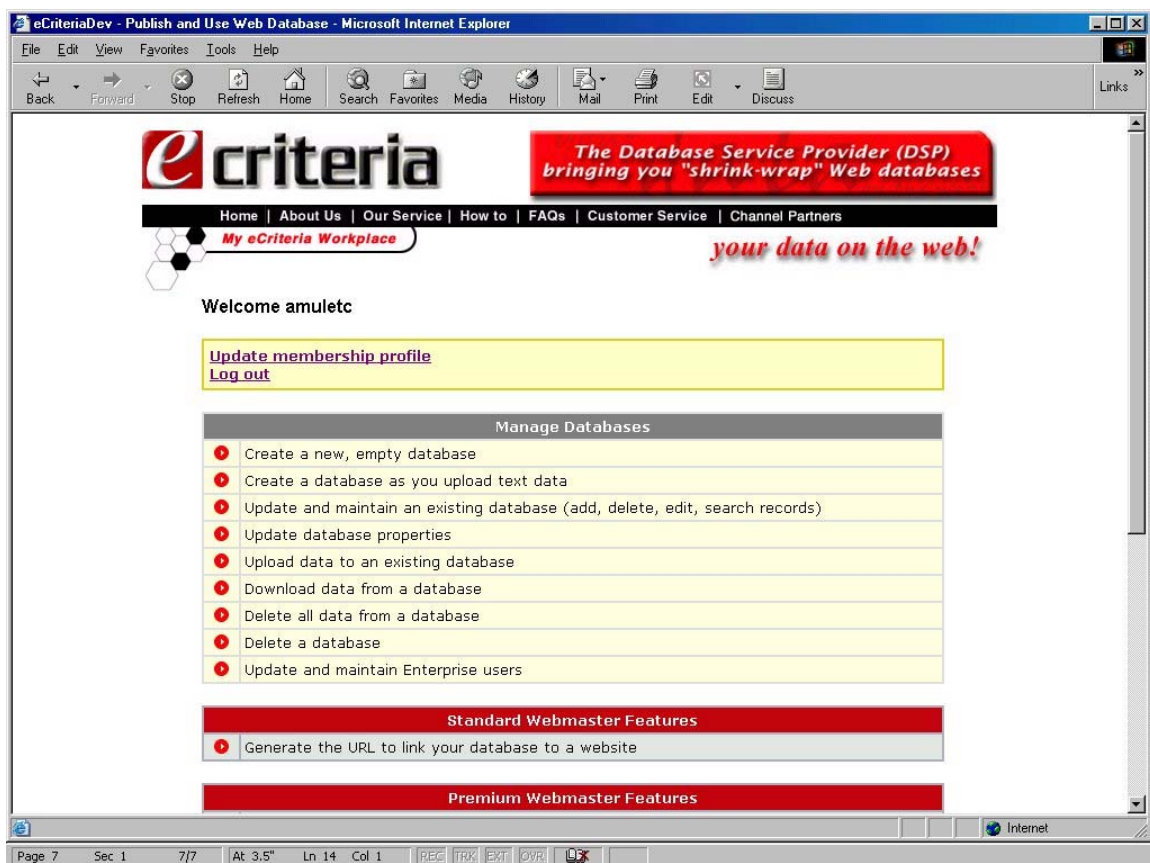
3. The scanned image files should be “Web ready”, i.e. of a size and file format compatible with Web browser software. The size should be as compact as possible so as to accommodate low-speed Internet connections. The file formats should be commonly used formats on the Web such as .jpeg, or .gif. The Web browser software should automatically render the image files without special image viewer software plug-ins. (Note: eCriteria can be used to provide document management services for non-image files as well, e.g. Word documents, Adobe Acrobat .pdf files, Autocad engineering diagrams, etc. but this use is outside the scope of this white paper).
4. The software should include bar code recognition, and OCR capabilities to extract specified data from the physical documents. This information serves as *metadata* referenced by users when searching for documents.

Application Architecture



Publishing the Web Database

After the capture software generates the document index data file, the next step utilizes eCriteria's point-and-click *Web Database Publishing Wizard* to create the Web database upon which the document search and retrieval process is based. The publishing process involves taking the capture software's output file, and using it to publish a Web database containing the document metadata. You can start the wizard by using the "Create a database as you upload text data" tool available in the "My eCriteria Workplace" admin area after you login as a Data Author. The wizard allows you to create a new Web database, and upload the metadata at the same time.



If you wish to add more metadata fields before creating the Web database, simply modify the capture software output file to include additional fields. The corresponding Web database fields will be empty in the new database, but they can be filled in manually at a later time. For instance, you might wish to add a "comments" or "notes" field to the Web database where users are able to add comments to the document record during its use.

Using the eCriteria Document Management Solution

Once you create and publish the document index database, there are two ways to access the data. One method is to go directly through the eCriteria website and access the database, e.g. the “Use a Database” link on the homepage, or the “My eCriteria Workspace” admin area. The other choice is to attach the Web database to a corporate portal page or private intranet site using eCriteria’s search criteria HTML form generation tool. This tool creates simple HTML required to issue metadata queries for document retrieval. The HTML code generated by this tool also can be embedded in an e-mail message, or access from a wireless PDA device. In this example, the user may search for invoices by any of the following metadata fields: customer ID, company, order ID, city, country, and salesperson.

For a live demo of using the eCriteria document management solution, use the following link to retrieve sample invoices documents:

http://www.eCriteria.net/LinkDatabase.asp?DBName=invoice_documents&Action=Search

The figure below illustrates the search results display after submitting a document search request for a particular salesperson. The search results are normally shown in tabular view, however eCriteria supports additional views.

Notice the “Create download file” button that provides a way for users to download search results in .csv or XML format to a local PC.

eCriteria - Publish and Use Web Database - Microsoft Internet Explorer

Address <http://www.ecriteria.net/ShowSearchResult.asp>

Search Result 1 - 8 of 8

Customer ID	Company	Order ID	Invoice Image	City	Country	Salesperson	Order Date	Shipped Date	Comments
ANTON	Antonio Moreno Taqueria	10535	http://66.47.211.185/invoices/10535.jpg	Mexico D.F.	Mexico	Margaret Peacock	5/13/2002	5/21/2002	
BLONP	Blondel pere et fils	10360	http://66.47.211.185/invoices/10360.jpg	Strasbourg	France	Margaret Peacock	11/22/2002	12/2/2002	
BONAP	Bon app	10755	http://66.47.211.185/invoices/10755.jpg	Marseille	France	Margaret Peacock	11/26/2002	11/28/2002	
BOTTM	Bottom-Dollar Markets	10389	http://66.47.211.185/invoices/10389.jpg	Tsawassen	Canada	Margaret Peacock	12/20/2002	12/24/2002	
EASTC	Eastern Connection	11024	http://66.47.211.185/invoices/11024.jpg	London	UK	Margaret Peacock	4/15/2002	4/20/2002	Margaret will be on-site at client, will need to review this invoice with purchasing mgr.
FAMIA	Familia Arquibaldo	10725	http://66.47.211.185/invoices/10725.jpg	Sao Paulo SP	Brazil	Margaret Peacock	10/31/2002	11/5/2002	
FAMIA	Familia Arquibaldo	10347	http://66.47.211.185/invoices/10347.jpg	Sao Paulo SP	Brazil	Margaret Peacock	11/6/2002	11/8/2002	
FRANK	Frankenversand	10337	http://66.47.211.185/invoices/10337.jpg	Munchen	Germany	Margaret Peacock	10/24/2002	10/29/2002	

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Start new search Create download file Access another database

This example shows metadata surrounding a Web database containing accounting invoice data from the Microsoft Access “Northwind Traders” sample database. The following metadata fields were extracted from the physical documents via OCR.


- Customer ID
- Company
- Order ID (invoice number)
- City
- Country
- Salesperson
- Order Date
- Shipped Date

The additional field “Comments” was added to the metadata list before creating the Web database. The scanner capture software generated the Invoice Image field values. The Invoice Image field contains hyperlinks pointing to the document images stored on the image file storage facility. Clicking on one of the links yields the following rendering of the invoice document:

http://66.47.211.185/invoices/10535.jpg - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit Discuss

 **NORTHWIND TRADERS** **INVOICE**

One Portals Way, Twin Points WA 98156 **Date:** 08-May-2002
 Phone: 1-206-555-1417 Fax: 1-206-555-5938

Ship To: Antonio Moreno Taqueria **Bill To:** Antonio Moreno Taqueria
 Mataderos 2312 Mataderos 2312
 México D.F. 05023 México D.F. 05023
 Mexico Mexico

Order ID:	Customer ID:	Salesperson:	Order Date:	Required Date:	Shipped Date:	Ship Via:
10535	ANTON	Margaret Peacock	13-May-2002	10-Jun-2002	21-May-2002	Speedy Express

Product ID:	Product Name:	Quantity:	Unit Price:	Discount:	Extended Price:
11	Queso Cabrales	50	\$21.00	10%	\$945.00
40	Boston Crab Meat	10	\$18.40	10%	\$165.60

Done Internet

eCriteria's Business Model

eCriteria offers two distinct ways to use the Enterprise Document Management solution, the DSP subscription model, or the Web-Hosted Database Appliance model.

Database Service Provider (DSP)

As a variation on the Application Service Provider (ASP) theme, eCriteria database publishing is available on a monthly subscription basis. Fees depend on the number of users accessing the index database, and the amount of database storage space used.

Web-Hosted Database Appliance

For the maximum amount of flexibility and security, eCriteria can be configured as an Internet appliance consisting of both the metadata indexing engine as well as the image file storage facility. A single, combined-use Windows 2003 server is custom configured by the eCriteria engineering staff, and installed in your IT data center.

Image File Storage Facility

For organizations wishing to outsource the file storage requirements for the document images, eCriteria operates with the leading Internet file storage companies. As one example, the *Workgroup* solution offered by Xdrive Technologies (www.xdrive.com) is ideally suited for companies needing a technically robust, and easily accessible file storage facility. Xdrive provides the means for easily transferring files to their file storage facility, and has a tool for generating the appropriate URLs necessary for the eCriteria Web database. Each URL points to a distinct image file stored at Xdrive.

The most important characteristic of the file storage facility you choose to use is the ability to generate persistent URLs pointing to individual image files. These URLs are stored in the eCriteria Web database.

A Unique Value Proposition

eCriteria defines a new genre of database technology. As a purely Web-based, platform independent, solution, eCriteria solves many critical business data management needs, all for a very low price. When applied to document management requirements, eCriteria offers a unique value proposition when compared to much more expensive and complex alternatives. Register with eCriteria now, experiment with your own free 30-day trial account, and explore the benefits of the Web-hosted database approach yourself. Start saving time and money now.