

WORLDOX®

Architecture

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WORLDOX® Architecture

Background

The most widespread file/document manager in the world of Workstation computing is Windows Explorer.

Neither Explorer, nor Outlook email management have been significantly improved in the past 13 to 25 years.

WORLDOX is architected to replace Explorer and Outlook email management as it provides a technically elegant, robust, flexible and superior method of ORGANIZING all your Windows documents¹ and emails. Now, for the first time in many companies existence, there is one truly unifying product for Organizing, Filing and Controlling Windows documents enterprise-wide.

WORLDOX - your future Enterprise Document Manager®

I. Introduction to the Architecture of Document Management Systems and their Databases

The Role of the Profile/Metadata Database in Document Management Systems

Document management software is designed to coordinate and control the documents and emails created, maintained, and used within a firm or organization. The heart and soul of document management consists of organizing, cataloging and tracking documents and emails. This means that the document manager must extract, derive or obtain information (i.e. metadata) about the documents/emails it manages and manage it separately from the information in the documents themselves.

Note 1 - For the purposes of this document the term document will be used to refer to electronic files created by application software which include but are not limited to Word processing, Email, Spreadsheets, Presentations, Drawings and many other file types.

Examples of profile information or metadata (data about data) are:

- The description/ name or subject of the document, the date (s) of the document (when it was created or last modified), Document ID, etc;
- User assigned metadata such as Client, Matter, Author, etc.; and,
- Email metadata such as From, To, Subject, etc.
- A more complete list of profile information/metadata is detailed in Attachment A hereto.

II. WORLDOX Profile Database Architecture

The product category of Document Management Systems (“DMS”) in the legal vertical market has existed for over 25 years. World Software Corporation (“WSC”) was founded 22 years ago and specializes in manufacturing, marketing and supporting Document Management Systems for the legal vertical market. WORLDOX is WSC’s flagship DMS product.

WORLDOX provides a unique, dual Profile Database Architecture comprising of Central and Distributed components. The Distributed database has records which are located in each folder wherein WORLDOX manages documents. This is combined with a Central or Search database.

This architecture combines the best aspects of a failure-resistant, Navigation rich, distributed database with the speed of access inherent in a centralized data repository. Thus WORLDOX satisfies the customer requirement for system failure protection by having fault-tolerant database architecture as well as providing quick, global access to document repositories. Our customers frequently comment that ‘WORLDOX is never down’ – our unique Distributed Profile database is the main reason why.

The availability of two-tiered profile database architecture sets WORLDOX apart from other document managers on several fronts:

- Navigation is a rich Function in WORLDOX as a result of its Distributed Profile database which is directly accessible to the user via the following WORLDOX commands: Direct Access, Favorite Files, Bookmarks and the WORLDOX Path Tree for Folder Navigation. This also means that WORLDOX users always have access to files via the Distributed Profile Database if and when the central database is unavailable.
- The distributed databases compartmentalize document profile information. In the event of file server problems in one area there is no need to take down the entire network, or to limit user access to the document management system while restoring the file server and documents affected. The central database can be rebuilt from WORLDOX' distributed databases. WORLDOX' distributed databases are included in routine file server backup procedures.

A. WORLDOX at Installation Time

1. The WORLDOX configuration process begins when the System Administrator, using the "**WORLDOX Administration Program**", specifies which folders and documents they want WORLDOX to manage.

2. The next step in the process is to open the "**WORLDOX Indexer Program**", which incorporates a separate product named ISYS, licensed by WSC and embedded seamlessly into WORLDOX.

ISYS is made by "ISYS Search Software" <http://www.isys-search.com/company/customers.html> (See Attachment B hereto for a representative ISYS customer list).

3. The WORLDOX Indexer then scans each designated folder structure and catalogues the document profile data already existing for these documents (found in the designated folders) to linked WORLDOX control files that are created and stored by

WORLDOX in the same designated folder structures where existing documents are found.

4. Thus after the initial cataloging phase, there are profiles populated and linked WORLDOX control files in each folder that pertain to the documents in that folder. We refer to these WORLDOX control files collectively as the **Primary or Distributed Profile Database of WORLDOX**.

WORLDOX control files are generally configured to be hidden system files so that users can neither see them, nor accidentally delete them.

5. Next the WORLDOX Indexer opens the control files in each WORLDOX managed folder and processes the initial profile data found there into the **WORLDOX Indexed Central Profile Database** which is managed by WORLDOX and indexed by ISYS.

As a general rule a WORLDOX site will implement a separate indexed central profile database for each volume or repository containing documents.

All central database files are grouped in a shared directory which is located beneath the WORLDOX program directory by default. This directory must be visible to all WORLDOX users on the network.

An installation may have one or more Index Servers, depending upon the number of documents under WORLDOX management.

6. After the WORLDOX Dual Profile Databases are created, the WORLDOX Indexer process then opens each designated document and extracts the words or content of each document and ISYS creates and indexes the content in those documents in the **WORLDOX Indexed Central Text Database**.

B. **WORLDOX Profile Databases in Day-to-Day Operation**

1. As a newly-created document is finished, and the user executes a File Save As Command in the native application(s) (e.g. Word, Excel), WORLDOX **AUTOMATICALLY POPS-UP** a WORLDOX Save As dialog box which forces the user to Save and Profile the document into WORLDOX. The user then enters into this dialog box the profile data specific to this document such as Client, Matter , Author, Description, Comments (if any), Security attributes, etc.
2. With the WORLDOX **Quick Profile** feature, users can store their frequently-used profile field entries as templates and then in the Quick Profile dialog box (adjacent to the WORLDOX Save As dialog box-referenced above) double click the appropriate Quick Profile. WORLDOX then batch enters the multiple field profile data or template, thereby eliminating the need for serial entry of the profile fields and the subsequent authentication of the profile data.
3. When the user completes the profile entry process and Saves the document, this newly-created profile data is entered into the WORLDOX Control files in the Distributed Profile Database in the folder where the document is saved to. If the document was previously found in the WORLDOX control files and the user is Re-Saving the document, WORLDOX will append any new and additional profile data to the initial profile data.
4. At this point, WORLDOX also writes a process activity file in a designated network location signifying that there is a new (or profile changed) document in this folder.
5. The WORLDOX Indexer program is constantly polling the designated network locations for process activity files. When it detects a process activity file it adds the newly-created document profile data to the Central Profile Database managed by ISYS and also updates the audit trail for the document. Thus the

Distributed and Central Profile Databases are always synchronized and up to date and time, save for system latency.

6. **WORLDOX Indexed Central Text Database.** WORLDOX contains a **Scheduler** (24/7/52) so that the WORLDOX Indexer can be activated when desired to add/update the new and modified document text content introduced by users on a daily basis. The Scheduler typically initiates the updating of the **Central WORLDOX Indexed Text Database** during non-work hours which then indexes the contents of newly created or updated documents and adds them to the Text Database.

III. Additional Components and Capabilities of the WORLDOX Architecture

A. **WORLDOX integrates (i.e. Automatically Pops Up) within hundreds of applications** when the user executes a File Save, Save As and File Open commands or equivalents via 4 methods.

1. **Macro** integration via Microsoft Visual Basic.
2. **“ODMA”** (Open Document Management API), which is an API that simplifies the communication of desktop applications with document management systems (“DMS”). ODMA standardizes the access to the DMS, which makes getting to these files as easy as if the files were in the actual local file system.
3. **“Soft Pop-Up”** (a unique WORLDOX feature) wherein WORLDOX monitors each Windows dialog box (each Windows dialog box has a unique ID), and automatically Pops-Up over the native application’s (e.g. Adobe HotDocs, Omtool, etc.) dialog box when it detects a dialog box which is included in the WORLDOX Pop-up table. All this action by WORLDOX is transparent to the user and can’t be changed by the user. This means that WORLDOX can **control** what directory/folder a document gets Saved To as specified by the user’s management. This **control** by WORLDOX also applies to Macro and ODMA integration.

4. **WorkZone** – (a unique WORLDOX function) wherein WORLDOX automatically places a WorkZone icon on the Workstation desktop. WorkZone uses Drag & Drop functionality and OLE integration. WorkZone is often used when the user wants to include **scanned-in documents** into the WORLDOX repository or import documents from 3rd party CDs etc.
 - B. WORLDOX licenses and seamlessly embeds into WORLDOX a world-class Search engine “ISYS” which is capable of storing and indexing 800 million documents/emails. The WORLDOX Indexer, which uses ISYS as mentioned above, contains a 24/7/52 Scheduler.
 - C. WORLDOX licenses and seamlessly embeds into WORLDOX Oracle’s **“Outside In”** Viewers which provides viewer support for over **500 file types**.
 - D. WORLDOX’ primary interface (or GUI) is very flexible. It contains Drag and Drop column headers at the user level, WORLDOX commands and icons, path tree, Pop up document viewer, document preview, document profile information, Bookmarks and many more features and configurations. The WORLDOX primary interface is used throughout the WORLDOX product to ensure a consistent look and feel to the user.
- E. For additional Security WORLDOX integrates with Microsoft’s Active Directory (“AD”).** Security settings created in WORLDOX are combined with AD security, which provides WORLDOX customers with document security at the Windows Operating System level. Active Directory support is optional for all WORLDOX customers. As Microsoft continues to enhance and update AD the benefits will be (de facto) passed through to our customers.
- F. WORLDOX provides a Version Control sub-system which supports 256 versions and sub-versions and seamlessly integrates with 3rd party Document Comparison products.** This integration is provided and supported by these same 3rd party vendors.

G. WORLDOX provides a Document Retention and Control Module for use in Archiving, Salvage, Records retention, and Legal Holds, etc. of documents and emails.

H. WORLDOX provides extensive integration and features with E-mail systems such as Outlook, Lotus Notes and GroupWise. WORLDOX' integration with these systems is via Extended MAPI.

I. Global Network WORLDOX can be fully integrated with the infrastructure of a global enterprise.

The documents can reside on the physical soil of a country or on the local/regional server with the WORLDOX application still residing either regionally or even globally. For example the Securities Division, as a business entity within the Enterprise (and each and every other business entity), can have its own WORLDOX storage location for documents either on or off shore as required by the host countries legislation, without affecting the ability of a user in a specific business entity to access documents held in other business entities providing that the user has the relevant access rights.

Thus the user could run WORLDOX globally/regionally from the fastest network node to maximize performance. It means that response times and security measures can be met with a global system, and not necessarily with a system in the UK, another in Asia and another in the USA. This means that searches are responsive and well within the Enterprise standards. It also means no additional infrastructure is required as the system runs on in-house standard services/servers.

The above information means WORLDOX is truly fully Global as countries like Malaysia cannot use a standard global system as by regulations they cannot take the data off the physical soil of the country. Malaysian users can use the WORLDOX global application but have a profile pointing to a Malaysian server for the data files, hence satisfy the regulators. There are many countries having this sort of legislation which cannot be changed to suit specific businesses. WORLDOX can be

configured to comply with the local requirements in a Global enterprise.

WORLDOX' product positioning at the Windows Explorer level means that Ethical walls can be more easily dealt with, Entity restrictions can be more easily implemented with WORLDOX' tight integration with Microsoft's Active Directory, and, Response times are better. It also means the Enterprise standard Active Control List ("ACL") tools can be used to recertify access. WORLDOX is easily ported and easily expanded to other areas of the Enterprise via its native Cloning feature.

The above WORLDOX Global Network capability description is taken from an email from one of WORLDOX' Global customers, with the company's name and other customer relevant information replaced with generic names or information.

J. Languages – WORLDOX is presently installed in 20 law firms in South America wherein the primary WORLDOX screens/dialogs have been translated into Spanish. WORLDOX also works with the Spanish version of Windows, Office and the Spanish keyboards (3). WORLDOX in Australia works with Asian languages as follows: Users search on roman characters to find the doc, but once found the non roman characters are displayed perfectly in Worldox i.e. comments, text in doc, text in profile fields etc. Roman characters: Korean, Taiwanese, Malay, Indian, & Indonesian. **Non** roman characters: Chinese – Mandarin, Cantonese, & Arabic. Internationally WORLDOX is installed in over 200 law firms in 40 Countries.

K. WORLDOX has a built-in File Manager so users can Move, Copy, Delete, etc. documents. Each command can be removed from the user's WORLDOX interface if required.

L. WORLDOX provides for a 'Salvage Bin' so as to allow system administrators to recover files inappropriately deleted by users during an administrator defined period.

M. WORLDOX provides a “Related Documents” function which, for example, can relate email attachments to the emails from which they were extracted giving the user immediate back-reference to any comments in the email which refer to the attached documents.

N. WORLDOX provides a “Workspaces” function and a “Projects” function which allow for fast access to documents grouped in particular ways which are not necessarily based on specific profile values.

O. WORLDOX provides a robust and user configurable “Send To” feature wherein users can attach documents to email messages, send documents to 3rd party document comparison programs, copy documents to PDF conversion programs for automatic conversion into PDF format, and copy documents to other media if approved by management.

P. WORLDOX has extensive capabilities to import documents and metadata from existing repositories including our competitor’s products.

Q. WORLDOX provides built-in, off-line resilience capabilities by Mirroring documents to a Workstation’s local drive. Users may also “Check Out/In” documents from/to Workstation accessible storage devices.

R. WORLDOX can run on many systems ranging from a stand-alone workstation to thousands and is supported in most network environments.

S. WORLDOX operates in Citrix, Microsoft, Ericom and other Terminal Services and Virtualized environments.

T. WORLDOX provides web/mobile access via “WORLDOX/Web Mobile”, a separately purchased add-on product, for Blackberry’s, iPhone’s and other mobile devices. WORLDOX/Web Mobile will soon be enhanced with native **Apple iPad** support.

U. WORLDOX integrates with complementary products like Accounting and Practice Management Systems via “WORLDOX Connectors”.

V. WORLDOX offers an “Alerter” applet and a “Remind” applet. World Software Corporation will be providing a complete “Workflow” system in 2011 which will include these capabilities.

W. WORLDOX provides an extensive Application Program_Interface (“API”) so that third party vendors can integrate their products with WORLDOX.

X. The WORLDOX product includes 3 core programs as follows: the WORLDOX Client, the WORLDOX Indexer, and the WORLDOX Administration Program.

Y. WORLDOX Upgrades in an Enterprise or Global installation

Each new release of WORLDOX does not require a new package or package modification as the “Command Line” does not change (WORLDOX is still launched using that same commands that it has used for many years). The package picks up the local mapping and runs from there. Because WORLDOX updates itself after upgrade and self-deploys templates and other changes there is no need to go through a re-packaging process with WORLDOX. It was packaged once, and that package has not needed to be updated since, owing to the way that WORLDOX works.

The above WORLDOX Upgrade capability description is taken from an email from one of WORLDOX’ Global customers.

Z. WORLDOX Global Support

Support as proved today and consistently over many years of installation/upgrades, would not be required in the Enterprise except for one person globally to manage the process and for escalations. World Software/WORLDOX has demonstrated the product is stable, easily deployed and easy to support. In November, 2010 this

WORLDOX Global customer upgraded and went into “live” operation with the latest upgrade, WORLDOX GX2, with no downtime and no inconvenience. *The above WORLDOX Global Support capability description is taken from an email from one of WORLDOX’ Global customers, with the company’s name and most other customer relevant information replaced with generic names or information*

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Attachment A

WORLDOX PROFILE DATA

The Document Profiling System is a logical structure at the center of the WORLDOX Document Management System. Profile Data can be assigned by WORLDOX, the WORLDOX user, by Windows or the E-mail System as shown in the table below.

Document Profiles or Attributes consist of the following elements:

Profile Data or Metadata	WORLDOX	Windows	E-mail System
Accessed date	√		
Created date		√	√
Modified date		√	√
Document Description	√		
Document ID Number	√		
Document Version Number	√		
File Icons	√		
Library (virtual folders)	√		
Owner	√		
Profile Group Name	*		
Profile Fields – total of (7) seven (i.e. Client, Matter, Project, etc.)	√		
Comments	*		
Properties			
Attributes		√	
Location (Path)		√	
Location \ Doc ID		√	
Size (of document)		√	

Type (Document Extension)		✓	✓
Relations (Related documents)	✓		
Search Rating (# of text lists/document)	✓		
Security Classification (Rights)	✓		
Zip File Name	✓		
E-mail Address (Search Field)			✓
CC			✓
Created			✓
Folder			✓
From			✓
Importance			✓
Received			✓
Sensitivity			✓
Sent			✓
Subject			✓
To			✓

Attachment B
ISYS Customers

<u>Government</u>	<u>Legal</u>
US Dept. of Homeland Security	Dewey Ballantine
US Dept. of Justice	Dorsey & Whitney
US Dept. of Agriculture	Emplaw
US Federal Bureau of Investigations	Faegre & Benson
US Federal Energy Regulatory Commission	Fulbright & Jaworski
World Trade Organization	Holland & Hart
California Attorney General	Lionel, Sawyer & Collins
	Perkins Coie
	Robins, Kaplan, Miller & Ciresi
	Sheppard, Mullin, Richter & Hampton
	Vascoe Valdes LLP
<u>Financial Services</u>	<u>Law Enforcement</u>
Ernst & Young	Miami Police Dept.
Chase Manhattan Bank	Ventura County Sheriff's Dept.
Visa International	Seattle Police Dept.
	Metropolitan Police (and nearly half of the UK's police forces)

<u>Technology</u>	<u>Transportation/Manufacturing</u>
Hewlett Packard	Boeing
Cisco Systems	QANTAS
IBM Australia	Ford Motor Company
SAP Australia	Toyota Australia
Intel Corporation	Lockheed Martin
<u>Healthcare</u>	<u>Recruitment</u>
Blue Cross Blue Shield	Management Recruiters International
Columbia University Medical Center	Speakman Select
	Assent Executive
<u>Energy</u>	<u>OEM/Software Development</u>
Exxon	EMC Software
Amoco	Hewlett-Packard
Western Mining	Autodesk
	WORLDOX/World Software