

# *Compaq Work Expeditor 2000*

## *Introduction to Creating Solutions*



**COMPAQ**



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Introduction to Creating Solutions

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# Preface

Organizations of any size can create collaborative work management applications to support the activities and needs of knowledge workers. The combination of Microsoft technologies with Compaq Work Expeditor 2000 is a comprehensive framework for such applications. When this framework is customized to the specific organization and its policies and procedures, business solutions can be created to speed up the execution of work, increase its quality and reduce its cost. Expeditor 2000 supports the two de-facto standard user interfaces for business applications, Outlook for the internal electronic office and the Web Browser for common access across the Intranet and Internet.

This document is only a brief overview of the solution possibilities of this powerful framework. Additional information and details of Expeditor 2000 solution development can be found in the manuals listed below.

## ***Related manuals***

*Compaq Work Expeditor 2000, Introduction*

*Compaq Work Expeditor 2000, Solution Development Guide*



# Table of contents

**Preface** v

**Table of contents** *iii*

<b>1</b>	<b>Collaborative Work Management Solutions</b>	<b>1</b>
	Examples of Expedito 2000 Collaborative Solutions	1
	Types of Collaborative Solutions	2
<b>2</b>	<b>Using Expedito 2000 Features in a Collaborative Solution</b>	<b>3</b>
	Using Expedito 2000 Features from Microsoft Outlook	4
	Example Solutions for Outlook 2000	4
	Using Expedito 2000 Features from a Web Browser	5
	Example Web Browser Solutions	6
<b>3</b>	<b>Extending Expedito 2000 Features</b>	<b>7</b>
	Extending Expedito 2000 Features for Microsoft Outlook	7
	Advanced Solutions for Outlook 2000	8
	Extending Expedito 2000 Features for a Web Browser	10
	Advanced Web Browser Solutions	10





# 1 Collaborative Work Management Solutions

The combined power of Microsoft Exchange, Microsoft Outlook and Microsoft Office provides a base for collaborative solutions using personal management tools such as Calendar, Contacts and Tasks. Compaq Work Expeditor 2000 extends this base level functionality to enable secure sharing and processing of information within and among groups of knowledge workers. This is accomplished through the addition of features such as document management, workflow, access profiles and solution configuration and management capabilities. As a result, Expeditor 2000 enables enterprises of any size to execute business processes efficiently within an environment of shared knowledge and activities.

Many such business processes can be automated with out-of-the-box Expeditor document management and workflow features combined with appropriate access profiles and business role definitions. When there is a need to further automate workflow processes or to add business awareness to documents and forms, Expeditor 2000's solution configuration capabilities, combined with Microsoft's rich set of development tools, enable multiple levels of custom solution development.

## Examples of Expeditor 2000 Collaborative Solutions

- Customer or employee inquiry or request processing
- RFP distribution and vendor response handling
- Document creation, review and distribution
- Contractor/Subcontractor working relationship management
- Case file handling
- Inbound and outbound correspondence handling
- Administrative forms review and approval

## Types of Collaborative Solutions

- **Data-centric**  
For these solutions there is emphasis on data storage, tracking and reporting.  
Example: administrative forms review and approval
- **Document-centric**  
Here the primary emphasis is on document preparation, tracking and distribution  
Example: document creation, review and distribution
- **Data-document combinations**  
These solutions provide a linkage between documents and the business data that is associated with them.  
Examples: inbound and outbound correspondence handling, case file handling
- **Integrated solutions**  
These are the most comprehensive solutions. They may be integrated with primary business systems for HR, Accounting, Manufacturing or Sales across an intranet. They may include external access for customers or vendors via an extranet.  
Examples: contractor/subcontractor relationship handling, RFP distribution with vendor response handling

## 2 Using Expeditor 2000 Features in a Collaborative Solution

Expeditor 2000 organizes business documents and forms within folders in the same way that Microsoft Exchange organizes messages within folders and Microsoft Outlook organizes items within folders. Additionally, Expeditor is able to associate business intelligence with individual documents, forms and folders to create Work Items that implement specific business policies and procedures. The business intelligence may be in the form of custom data properties, custom access controls, workflow blueprints with predefined workflow paths, actions and escalations or any combination of these.

An example of a simple collaborative solution that doesn't require any special user skills is a document creation, review and distribution process. This solution can be implemented at the simplest level with the use of Expeditor's "sharing" feature. A user can create a draft document and share it, through a simple menu choice, with any other user or users who will be contributing content. When the document is ready for review, it is shared with each reviewer and, finally, with the individual or group responsible for distribution. Expeditor will build an ad hoc workflow as the document moves through the organization, noting with a date/time stamp each user's involvement with the document.

A more formal review process can be configured as a workflow blueprint using the graphical Expeditor workflow editor. This point-and-click interface allows an authorized user to define a path of workflow stages to accomplish an approval review and a final distribution stage. When a document is ready for review, the workflow blueprint can be attached to the document and workflow continued to the next reviewer. Each reviewer has the option of approving the document and continuing its flow to the next reviewer or rejecting it back to the originator for modification. This type of solution does not require programming skills, but does require an understanding of the document review process to be automated.

This same solution can be applied to a collection of documents placed in a folder. The folder is shared with all users who will be contributing content and, when the documents are ready for review, the workflow blueprint is attached to the folder.

A somewhat higher level of customization is achieved using the Expeditor configuration tool. This graphical tool allows an authorized user to define a document class for each specific type of business document to be created and reviewed, for example a “project plan” class or a “request for proposal” class. The new class definition can include a template document that will be created automatically when a new instance of the class is created. Optionally, custom properties can be defined and assigned to the new class so that data can be associated with each document instance. This level of customization still does not require any programming but may best be done by a power-user who has in-depth knowledge of the business process.

## Using Expeditor 2000 Features from Microsoft Outlook

The Expeditor 2000 client for Microsoft Outlook is fully integrated into the Outlook interface. A menu of Expeditor functions is added to the standard Outlook menu bar to make Expeditor item or folder creation, sharing, document management, access controls, searching and workflow easily accessible to users. Outlook property pages for folders and documents are extended to include Expeditor information such as folder history, document versions, current shares and workflow status.

The Outlook view for folders containing Expeditor items can be modified to display Expeditor system or custom properties in the same way that standard Outlook message properties are displayed. The “Show Fields...” choice from the Outlook folder view popup menu allows the user to choose not only standard Outlook fields but also fields from Organizational, Personal and Application forms. Expeditor 2000 adds a special form named “All Expeditor Fields” to Application forms. With this form selected, the user can display any of the Expeditor system or custom properties of items in the Outlook view. If the general user population lacks the skills to be able to configure their Outlook views, a super-user or administrator can configure folder views and make them available for other users.

## Example Solutions for Outlook 2000

The following table describes solutions that can be built using only the standard features of Outlook 2000 and Expeditor 2000. These solutions do not require programming but some configuration may be necessary for certain Outlook or Expeditor features.

**Table 2/1 Example Solutions for Outlook 2000**

<b>Solution</b>	<b>Type</b>	<b>Example Expedito 2000 features used</b>
Document creation, review and distribution	Document-centric	Check-in, Checkout and Versioning Access profiles Sharing and Workflow Signatures Tracking of work-in-progress Full-text search Archival History logging
Project management	Document-data combination	Check-in, Checkout and Versioning Access profiles Sharing and Workflow Escalation of time-critical work stages Signatures Tracking of work-in-progress History logging
Group contact or task management (using Expedito-generated Outlook forms)	Data-centric	Access profiles Sharing and Workflow History logging Archival Expedito system properties displayed in Outlook views

## Using Expedito 2000 Features from a Web Browser

Expedito 2000 includes two dashboard-style interfaces, the Personal Work Management Dashboard for general users and the Management Control Dashboard for managers. These dashboards can be accessed from a Web Browser, either Microsoft Internet Explorer 5.0 or Netscape 4.x, and do not require that Outlook be installed on the client workstation. Both dashboards are intuitively easy to operate and require no special user skills.

The personal dashboard provides its user a structured view of work that is currently in progress and includes menu access to actions for executing the work. Such actions as sharing, signing, searching and continuing the workflow can be easily executed directly from the dashboard.

The management dashboard gives a manager an overview of pending activities for her workgroup or organization and highlights any that have expired deadlines. This dashboard includes a delegate option that allows the manager to transfer work from one user to another.

Together these dashboards allow the organization to include internal personnel and managers who are only occasionally connected by dialup or users who are external to the organization, such as customers, subcontractors or vendors. These users may fully participate in work processes or may be given only limited special purpose access.

Customization of the active server pages (ASPs) that make up these dashboards should be attempted only by experienced Internet programmers who fully understand the ASP script execution environment.

## Example Web Browser Solutions

This table also describes solutions that can be built using only the standard features of Expeditor 2000. Some configuration must be done using the Expeditor 2000 Outlook client but many of the application users are assumed to be using the Expeditor 2000 Web Access client.

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**Table 2/2 Example Web Browser Solutions**

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<b>Solution</b>	<b>Type</b>	<b>Example Expeditor 2000 features used</b>
RFP distribution with vendor response handling (vendor accounts may be external (non-Exchange mail) users)	Document-centric	Check-in, Checkout and Versioning Access profiles Sharing and Workflow Escalation of time-critical work stages Signatures Tracking of work-in-progress
Customer inquiry handling (customer accounts may be external users)	Document-data combination	Access profiles Workflow with escalation of time-critical work stages Tracking of work-in-progress
Inclusion of external users in Document review or Project management applications	Document-centric or document-data combination	Check-in, Checkout and Versioning Access profiles Sharing and Workflow Escalation of time-critical work stages Signatures Tracking of work-in-progress Full text search

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## 3 **Extending Expeditor 2000 Features**

Expeditor 2000 is intended to be an application framework for customized solutions. Some generic functions, such as document sharing, checkout and check-in, and ad hoc workflow exist as out-of-the-box features. These features can be tailored to individual or group needs using graphical configuration tools. Solutions that go far beyond these out-of-the-box features can be developed using standard application development tools such as the components of Microsoft Visual Studio and Visual Basic for Applications. The Expeditor Object Library provides programmatic access to all Expeditor functions. Microsoft CDO (Collaboration Data Objects) and the Outlook Object Model can also be used to access Expeditor work items. With these tools, a very highly customized solution can be achieved. This level of customized solution development should be undertaken only by skilled programmers and system integrators. In the hands of such skilled individuals, the full strength of Expeditor 2000 can be applied to create truly elegant collaborative work management applications.

### **Extending Expeditor 2000 Features for Microsoft Outlook**

Expeditor work items may be implemented as simple Outlook forms with fields composed of Expeditor system or custom properties. When these forms are published in the Exchange Organizational forms library, they are automatically available to all members of the organization. A user with basic form design skills can easily learn to develop simple form-based applications.

It is sometimes desirable to extend form-based applications to include direct access from the form to Outlook actions such as message creation or to Expeditor actions such as signatures or continuation of workflow. VBScript code can be added to event handlers of the form to accomplish these types of actions. The Outlook Object Model provides programmatic access to common Outlook objects such as messages or address lists. The same VBScript can also access all Expeditor objects, their properties and methods. Outlook executes VBScript code placed in event handlers for form events

such as open, write or close and in handlers for the click event of controls that have been placed on the form.

Like Outlook, the Expeditor Object Library is a COM (Component Object Model) automation server. Properties and methods of Expeditor objects can be accessed and executed from COM components or ActiveX controls that have been placed on Outlook forms or on Outlook folder home pages. Expeditor 2000 makes available a full set of ActiveX controls for its common work management actions such as “share”, “sign” or “view workflow status”.

Expeditor objects can also be accessed in the same way from Outlook COM Add-ins. The tools most often used to develop ActiveX controls and COM Add-ins are Microsoft Visual Basic and Visual C++. Proper use of such tools requires skilled programmers and a dedicated development/test environment. When these elements are present, however, fully automated custom applications can be developed.

## **Advanced Solutions for Outlook 2000**

This table describes some of the more advanced applications that can be built using Outlook 2000 and Expeditor 2000. Expeditor 2000 provides tools for configuration and a programming interface. Any standard development tools for the Microsoft Windows environment may be used for programming. The most commonly used tools are Outlook forms development, Microsoft Office 2000 and Microsoft Visual Basic.



**Table 3/1 Advanced Solutions for Outlook 2000**

Solution	Type	Example Expeditor 2000 features used
Case File Handling	Document-data combination	Access profiles Record definition tools for defining case file folder and case file document classes Custom properties (may be assigned at the case or individual document level and may be displayed in Outlook views) Sharing and Workflow (may be completely automated) Signatures Tracking of work-in-progress History logging by case Archival (may be automated as the final workflow stage) Full text search of case documents Expeditor 2000 programming interface
Customer or Employee Inquiry/Request Handling	Data-centric	Custom properties Workflow with escalation (may be automated through programming) Tracking of work-in-progress Expeditor 2000 programming interface
Administrative Forms Approval	Data-centric (may be integrated with other business systems)	Access profiles Custom properties Record definition tools for defining forms (the forms may be created with Outlook forms development or with any appropriate programming tools – Visual Basic, Excel, etc.) Workflow Signatures Tracking of current status Expeditor 2000 programming interface Expeditor 2000 interface controls (ActiveX)
Inbound/Outbound Correspondence Handling	Document-data combination (may be integrated with imaging systems)	Access profiles Custom properties Record definition tools for defining document types and data-input forms Sharing and Workflow Signatures Tracking of work-in-progress Expeditor 2000 programming interface Expeditor 2000 interface controls (ActiveX)

## Extending Expedito 2000 Features for a Web Browser

The same type of COM components can be used from a Web Browser when they are placed on an HTML page or active server page. However, solution development for Expedito 2000 Web Access does involve additional skills, not only Internet programming skills but also a deeper understanding of the program execution environment. A solution developed for Outlook executes in the context of a client Outlook application session that maintains its current state information. All program execution occurs on the client workstation.

A solution developed for a Web Browser may include code segments that execute on the server and others that execute on the client workstation. The browser is essentially state-less and any state information required for the solution must be maintained by the programmer. These elements combine to form a very complex programming and program execution environment. In general, only highly skilled and experienced programmers and system integrators can successfully create solutions for this environment.

For programmers and other users who have the necessary skills and the proper Internet programming environment, any Expedito 2000 solution that can be created in Outlook can also be created for Internet or Intranet use. In the absence of Outlook, Microsoft CDO (Collaboration Data Objects) can be used for programmatic access to messaging objects while the Expedito Object Library again exposes Expedito objects, properties and methods. Both of these object libraries support server-side execution as well as client-side execution of program code.

## Advanced Web Browser Solutions

The following table describes some of the more advanced solutions that can be built for Expedito 2000 Web Access users. Some configuration must be done using the Outlook client for Expedito but some or all of the application users are assumed to be using the Web Access client for Expedito. Any standard web development tools may be used for programming. The most commonly used development tools are Microsoft Visual Interdev, FrontPage and Visual Basic.

**Table 3/2 Advanced Web Browser Solutions**

<b>Solution</b>	<b>Type</b>	<b>Example Expeditor 2000 features used</b>
Contractor-Subcontractor Working Relationship Management	Document-data combination	Controlled access to custom properties Document check-in, checkout and versioning Sharing and Workflow Signatures Tracking of work-in-progress
Administrative Forms Approval (Implemented with HTML forms and ASPs)	Data-centric (may be integrated with other business systems)	Access profiles Custom properties Record definition tools for defining forms (the forms may be created with any appropriate programming tools – Visual Basic, Excel, Visual Interdev, etc.) Workflow Signatures Tracking of current status Expeditor 2000 programming interface Expeditor 2000 interface controls (ActiveX)
Inclusion of external users in any of the Outlook 2000 solutions listed in the preceding section of this document	See “Advanced Solutions for Outlook 2000” above	See “Advanced Solutions for Outlook 2000” above

