



**Microsoft® Access 2000**  
Product Enhancements Guide



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# Microsoft Access 2000

## Product Enhancements Guide

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### Introduction

Since its first introduction in 1992, Microsoft® Access has become a leader in the desktop database category among a wide variety of users. Access 1.0 debuted in the early 90s as the first desktop relational database management system (RDBMS) designed for the Microsoft Windows® operating system. Experienced database users were impressed that such a powerful desktop database could be so easy to use. Access 2.0 continued to change the way end users understand and use databases. When Access was first included with the Microsoft Office suite, Office users began recognizing the strong need for a relational database for finding and managing data as an integral part of overall desktop productivity to make better business decisions.

The popularity continued in late 1995 with the introduction of Access 95, the world's first 32-bit RDBMS. Access 97, which was available in January 1997, combined the best of a database with the best of the Web by offering the capabilities to easily share static and dynamic data via the corporate intranet.

Today, the popularity of Access has soared to include not only experienced database users, but also first-time database users. With Access 2000, newer users will appreciate the strong integration with Office applications and the familiar look that makes it easy to get up and running quickly. Access power users and developers will find new and exciting ways to take advantage of Access' popularity among end users by increasing the scalability of Access 2000 with stronger integration to enterprise level databases. Whether users are creating a database to manage contacts and customers or creating a tracking system for inventory, Access provides an easy way for all levels of desktop users to find, manage and share data.

The remainder of this document outlines the new features in Access 2000 as well as the updated popular favorites for users who are considering a desktop database for the first time and power users who are interested in upgrading their existing Access databases to a true client-server solution. For details on new features common throughout all the Office 2000 applications, see the Office Product Enhancements Guide.

## Overview of New Features

Whether users are creating a stand-alone desktop database for personal use, departmental use or for an entire organization, Access offers an easy-to-use database for managing and sharing data. Access 2000 brings not only the traditional broad range of easy data management tools but also adds increased integration with the Web for easier sharing of data across a variety of platforms and user levels and additional ease-of-use enhancements to assist with personal productivity.

Of particular importance, Access 2000 can act as a front-end client to corporate-level, back-end databases, such as Microsoft SQL Server™. Access can now be used in two ways: as a standalone application for creating databases for individual or departmental use or as an easy-to-use interface client to a more scalable and robust back-end database that was previously only available to professional database administrators (DBAs). This lowers the bar for creating true client/server applications by allowing end users to take advantage of the ease-of-use of Access combined with the scalability and reliability of Microsoft SQL Server. Regardless of the back-end data source selected, end users will still have the same easy-to-use experience of the most popular desktop database client.

### Features for Making Information Easy to Find and Use

	Feature	Description
<b>New</b>	<b>Convert Database to Prior Access Version</b>	For the first time, Access users can now down-rev save a database into a previous version of Access, making it easier to share database files with users of different versions.
<b>New</b>	<b>Database Window</b>	The database window was changed to accommodate the new objects exposed in Access 2000, to enhance usability and to be consistent with the new user interface metaphor used throughout Office 2000.
<b>New</b>	<b>Name AutoCorrect</b>	This new feature automatically resolves the common side effects that occur when a user renames a database object. For example, when a user renames a field in a table, the change is automatically propagated to dependent objects such as Queries and Forms so the user can continue to work with the application.
<b>New</b>	<b>Conditional Formatting</b>	Conditional Formatting provides support for negative and positive numbers, and values that can be expressed as less than, greater than, between, or equal to. In addition, users will be able to format based on user-defined functions. Based on the value, the user can set font, styles, banners and colors.
<b>New</b>	<b>Subdatasheets</b>	Subdatasheets provide a picture-in-picture view to focus on and edit related data all in the same window.

	<b>Feature</b>	<b>Description</b>
<b>New</b>	<b>Drag and Drop to Excel</b>	Users can now export data from Microsoft Access to Microsoft Excel simply by dragging and dropping Access objects (tables, queries, etc.) from the database container to Microsoft Excel. This allows a fast way to export data into Excel quickly for further analysis.
<b>New</b>	<b>Form Enhancements</b>	Now it's even easier to make changes, such as colors or fonts, to fields directly from within the Form view.
<b>New</b>	<b>Print Relationships Wizard</b>	Access now offers the ability to print a visual diagram of the Relationships window, which makes it easier for users to see how the database is structured.
<b>New</b>	<b>Control Grouping</b>	This functionality allows users to group controls as a single unit to make form design easier.
<b>Improved</b>	<b>Report Snapshot</b>	Users can create snapshots of Access 2000 reports that can be distributed to a disk, printer, Web page or e-mail.
<b>New</b>	<b>Compact on Close</b>	Access 2000 automatically compresses a database when the file is closed if the reduction in disk space is significant. This ensures that Access databases are as small as possible. Users can set the disk space reduction threshold.
<b>Updated</b>	<b>Northwind Sample Database</b>	For users who need advice about a particular feature or just want to see an example, the Northwind database — a fully functioning database — ships with Access and provides several examples of the latest features for users to see or copy.

## Web-Enabled Features for Sharing Information

	<b>Feature</b>	<b>Description</b>
<b>New</b>	<b>Data Access Pages</b>	This feature allows users to extend database applications to the corporate intranet by creating data-bound HTML pages quickly and easily. This will help users share information faster and more efficiently than ever.
<b>New</b>	<b>Grouped Data Access Pages</b>	This provides the ability to view and manage related information, such as sales by region and sales from a particular sales representative. The data appears in a collapsible hierarchical format when creating Data Access Pages.
<b>New</b>	<b>Data Access Pages Toolbox</b>	A toolbox is provided in the Data Access Page design environment for creating controls. Users can easily drag and drop each tool as needed.

	<b>Feature</b>	<b>Description</b>
<b>New</b>	<b>Field List</b>	The Field List enables users to easily add information to a Data Access Page view simply by dragging and dropping the field names from an easily accessible list. Each field is bound to the data by maintaining a direct live link to the data from the Data Access Page.
<b>Improved</b>	<b>Hyperlink Handling</b>	Access 2000 offers an improved hyperlink interface to make it easier to create, edit, follow and remove hyperlinks in databases.
<b>New</b>	<b>Integration of Shared Components</b>	Access takes advantage of the new Office Web Components and COM controls that reside within the browser to provide users with several ways to view and analyze data.

### **Rich Analysis Tools for Managing Information**

	<b>Feature</b>	<b>Description</b>
<b>New</b>	<b>Microsoft SQL Server Interoperability</b>	Microsoft Access 2000 supports OLE DB, allowing users to combine the ease of use of the Access interface with the scalability of back-end enterprise databases, such as Microsoft SQL Server.
<b>New</b>	<b>Microsoft Access Project</b>	The Access interface can create a new file type (.adp) that connects directly to the integrated store available in Office, SQL Server 6.5, or SQL Server 7.0. This makes it simple for Access users to create true client/server applications using the familiar interface in Access.
<b>Improved</b>	<b>Microsoft Access Project Wizards</b>	Many popular Access wizards have been updated to support the new Access Project tasks, such as creating a new database, report, or form.
<b>New</b>	<b>Microsoft Access Project Design Tools</b>	When working in a Microsoft Access Project file (.adp), new design tools allow users to easily create and manage server side objects including tables, views, stored procedures and database diagrams.
<b>New</b>	<b>Microsoft SQL Server Administration Tools</b>	Microsoft Access 2000 allows users to perform and manage common Microsoft SQL Server 7.0 administration tasks, such as replication, backup and restore, and security.

## Additional Programmability Enhancements for Developers

	Feature	Description
<b>New</b>	<b>Unicode Support</b>	Unicode support allows multinational corporations to support applications in different language versions.
<b>Improved</b>	<b>Visual Basic® for Applications (VBA) 6.0</b>	The latest version of VBA is included with Access 2000 and shared throughout the Office suite, putting VBA on par with features in the Visual Basic development system.

Note: For additional information on Access features for developers, please refer to the reviewers guide for Microsoft Office Developers' Edition (ODE).

## Detailed Feature Descriptions

### Features for Making Information Easy to Find and Use

Access spans a wide level of users: those who are simply keying in data, Office power users who create their own databases and professional Access developers who create robust multiuser applications. The fastest-growing category is the typical Office user who is new to databases yet familiar with other Office applications. For this reason, Access continues to offer an easy-to-use tool for finding and managing information that provides consistency and integration with the other applications in the Office suite. Access 2000 builds on its past success as an easy-to-use desktop database for the typical Office business user. Below is a list of some new features that make finding information faster and easier.

#### Convert Database to Prior Access Version

For the first time, Access users will be able to down-rev save a database into a previous version of Access, making it easier to share database files with users of different versions. By selecting Tools, Database, Utilities, Convert, Database, To Prior Access Database Version, users can save their Access 2000 database in the Access 97 file format. This is extremely important for users who coexist in multiversion environments by making sharing files seamless during the upgrade process.

#### Database Window

This window has undergone a full facelift in Access 2000 to improve friendliness for newer users and increase consistency with other Office applications. Changes include an interface that resembles the left-pane navigation bar found in Outlook. In addition, new sections have been added to make it easier to locate the latest features, such as Data Access Pages and Database Diagrams. Users will also be able to create "custom groups" in the database window, allowing the ability to organize database objects in any way they want.

### **Name AutoCorrect**

Some customers may have experienced frustration after changing an object or field name only to encounter errors when links that previously existed no longer seem to work. For example, if a user has several forms based on a table and changed one of the fields in the table, problems working with the forms may occur. Name AutoCorrect in Access 2000 automatically resolves the common side effects that occur when a user renames a database object. These name changes are intelligently propagated throughout the dependent objects such as Queries and Forms so the user can continue to work with those objects trouble-free. Name AutoCorrect is enabled by choosing Options under the Tools menu.

### **Conditional Formatting**

Access users creating Forms and Reports occasionally need to format a field based on the value of the data represented in the Form or Report. For example, perhaps a user wants to create a Report customized by the amount a customer has purchased in the past year. The user might decide to send the top customers a monthly statement with a special "thank you" banner in a particular font and color that only displays if certain conditions are met. Conditional Formatting in Access 2000 allows users to format fields on Forms and Reports based on data in their Access 2000 database. Conditional Formatting provides support for negative and positive numbers, and values that can be expressed as less than, greater than, between, or equal to. Based on the value, the user can set font, styles, banners and colors in both Forms and Reports. Conditional Formatting can also be set based on user-defined functions.

### **Subdatasheets**

Subdatasheets allow users to browse hierarchical data in datasheet view. In Access 2000, instead of seeing a single table or record source in the datasheet, users will be able to use subdatasheets to view related data. For example, assume the user is viewing the Categories table in the Northwind database and that the Categories table has a one-to-many relationship with the Products table. Instead of being able to see only the data in the Categories table, the user can see the products for each category in a Subdatasheet under each category row. The user can focus on the relationships that exist between tables, making it easier for the user to make decisions and find information.

### **Drag and Drop to Excel**

Previously, Access users could import data from Excel simply by selecting the appropriate data in Excel and dragging and dropping to Access. In Office 2000, this capability has now been extended to exporting from Access into Excel. Users will now be able to export data to Microsoft Excel simply by dragging and dropping Access objects (tables, queries, etc.) from the database container to Microsoft Excel. In addition, users will be able to create desktop shortcuts by dragging and dropping objects (tables, queries, forms, etc.) to the desktop. Dragging and dropping provides a quick and easy way to export data into a spreadsheet for further analysis.

### **Form Enhancements**

Forms have received several updates to make them even easier to work with. Traditionally, when users wanted to change the properties of forms, reports and



controls, they needed to open the form or report in design view, change the properties, then switch into browse mode to see the effects of their work. Access 2000 makes these changes even easier by allowing users to update most properties directly from within the Form View, without switching into Design View. For example, a user could select a field on a form and change the background color, size and border while in browse mode and immediately see the effects of the work.

### **Print Relationships Wizard**

Users often need the ability to view or share a hard copy that shows the Table Diagram and relationships between the tables. This is especially important during the planning phase of a project because a good database design is important to manage data most efficiently. Access 2000 incorporates the ability to print the Relationships window so that users may get a hard copy of a visual diagram on how their database is structured.

### **Control Grouping**

Many Access users work extensively with controls, especially when creating forms. Microsoft has received many requests from users for the ability to group these controls to make it easier to manipulate them all at once, instead of individually. This functionality is new to Access 2000 and makes it easier for Access users to make changes quickly across all controls they're working with.

### **Report Snapshot**

Access users need the ability to easily distribute portions of a database without providing the entire database. To make it easier to do this, Report Snapshot was introduced in Access 97 (with Service Release 1). Microsoft has improved this functionality in Access 2000, so users can now distribute reports via disk, send them directly to a printer, create a Web page or send in e-mail. With so many options for sharing data, recipients of Report Snapshots do not need to have Access to view the data.

### **Compact on Close**

Databases have a tendency to grow, and many that start small become quite large over time. Historically, customers have had to compact their databases periodically to reduce their size. Customers have asked Microsoft to help them address this issue, so Access 2000 introduces Compact on Close. When an Access 2000 database is closed, the application will automatically compress the file if the reduction in file size is significant. This helps users preserve disk space without having to think about manually compressing databases each time they close them — Access does it automatically. Users can specify, in terms of percent reduction in the size of the database, when Access should Compact on Close.

### **Northwind Sample Database**

Sometimes users need advice about a particular feature or just want to see an example of how a feature is used in a database. Since the first release of Access, users have relied on the Northwind database for this kind of information. Northwind — a fully functioning database — ships with Access 2000 and provides several examples of new features and common database tasks. Intermediate and

advanced users can easily get ideas about how to use some of the latest Access 2000 features by working with Northwind, and they can easily copy and paste from Northwind into their own databases.

## **Web-Enabled Features for Sharing Information**

As the Web becomes more pervasive in everyday productivity, database users have recognized intranet technology as a unique and faster way to gather and share information quickly. Access 2000 provides a Web-based paradigm for creating Access database solutions that are hosted within the browser. This combines the power of sharing corporate information with the power of managing the data in a desktop environment. For example, rather than soliciting ideas or input via e-mail and then transferring to a separate data store for analysis, Access users can distribute a Web-based solution for tracking and gathering data that others can directly input into the database. With Access 2000, an average Office user can easily create a database, distribute just a data entry HTML page with a customized theme and look, save it to a group server, and quickly gather feedback from others in the department. Recipients see a live view of the data and can easily browse, query or update the information as allowed.

All of this collaboration can be accomplished without any knowledge of HTML because Access takes care of the Web programming for users. The Access heritage is all about making the ability to build a Windows-based database easy for all Office users. Data Access Pages and other new Web-enabling features available in Access 2000 extend this ease of use to Web-based data applications.

### **Data Access Pages**

Access Forms and Reports are Access objects for displaying, editing and reporting on data from a user's desktop. Users can create all of these objects easily with popular wizards, such as the Form or Report Wizards, which automatically create the objects with styles and formatting specified by the user. Access stores these Forms and Reports in the database file (.mdb) and allows users to view them via the Access interface.

Data Access Pages also give users the ability to interact with data over the Web. Data Access Pages function as Access Forms and Reports for the Web. There's no conversion process — they're HTML files that are designed in Access and run in the browser.

Although similar in function to the classic Forms and Reports, Data Access Pages are specifically designed to view, edit, and report on data hosted within a browser. Users can design the pages easily in a similar manner to Forms and Reports but now use new Web-enabled features and easy drag-and-drop capabilities. Data Access Pages are essentially HTML pages with the ability to maintain a live link to the data (in other words, the data is "bound"). Unlike traditional Forms and Reports, Data Access Pages are stored as HTML files outside the Access database .mdb file. This allows users to easily send Data Access Pages through e-mail or post them on the Web as an HTML page.

Access can open any existing HTML file in the Data Access Page designer. Once a page is opened in Access, users can add data-bound fields to it. To build a Data

Access Page, users work with the new Data Access Page designer. It uses Internet Explorer for its design surface and has familiar tools such as a property sheet, field list, toolbox and wizards. The controls that users place on Data Access Pages are HTML intrinsics and COM components, and are similar to the controls that are used to build Access forms. Data Access Pages also have a rich object model with support for Visual Basic Scripting Edition or JavaScript, so users can program in the language of their choice using the easy, powerful integrated development environment that Access users have come to expect. In addition, Access 2000 users can include Office 2000 Web Components (a Spreadsheet component, Chart component and PivotTable component) in their Data Access Pages, opening up possibilities for data analysis and reporting solutions that can be built using Access 2000 and Office 2000.

To create and work with a Data Access Page, users can take advantage of the latest Access Web-enabled tools, such as a new Data Access Page Toolbox, Field List Chooser and wizards. These new tools are described below.

### **Grouped Data Access Pages**

Grouped or dynamically linked Data Access Pages provide users with a totally new experience to interact with data by giving them the opportunity to interact with related groups of information. The simplicity of viewing related data in Grouped Data Access Pages from a single HTML interface provides a richness of managing information that was not possible previously. For example, a user can create a Grouped Data Access Page from a query that shows employee sales by region. Because the Grouped Data Access Page is interactive and provides a bound view to the data, the user can focus on a particular region to find details behind the summary-level data. In this example, the user might see the sales results and biographical information on four sales representatives located in Washington state. From a single Web-hosted view, the user has the ability to view, edit and report on all of the related information within a database.

### **Data Access Page Toolbox**

The Data Access Page Toolbox updates the familiar toolboxes from the Forms and Reports designers with tools specifically for the Web environment for the creation of Data Access Pages. Users can easily pick up tools from the toolbox with the cursor. The toolbox contains familiar work tools for easy formatting with the click of a button as well as new Web tools. The Data Access Page Toolbox is located with the standard toolboxes under the View menu and appears by default during the creation of a Data Access Page.

### **Data Browsing**

Data Access Pages run in Internet Explorer 5.0 and are a great tool for users to view and interact with corporate data right from their browser.

### **Field List**

The Field List enables users to add data-bound fields to a Data Access Page simply by dragging and dropping the field names from an easily accessible list. Each field is bound to the data by maintaining a direct live link to the database from the Data Access Page.

## **Hyperlink Handling**

Access 2000 offers an improved hyperlink interface to make it easier to create, edit, follow and remove hyperlinks. Although they are a shared feature throughout Office, hyperlinks are particularly important for improving performance and efficiency in databases. The use of hyperlinks allows Access users to jump from Access objects, for example, from one report to another, which previously required code to accomplish. With hyperlinks, all levels of Access users can take advantage of jumping from one location to another without the overhead or knowledge required with advanced coding.

The Access 2000 hyperlink dialog box takes on a new look. This dialog box closely resembles the other Office 2000 common dialog boxes with a panel on the left similar to the Outlook™ messaging and collaboration client Outlook Bar for easier visual scrolling. From the Link to: bar the user can choose the target destination for the hyperlink. This dialog box defaults to the "Another file or Web page" page of the builder when the user has chosen to insert a new hyperlink. From this page the user can choose an existing file as the target.

## **Integration of Shared Components**

Office 2000 includes a number of features designed to make Office an optimal client or interface for corporate reporting throughout an organization. Office 2000 includes three new Office Web Components — Spreadsheet component, Chart component and PivotTable® dynamic views — that make corporate data available through the browser. An Access user may take advantage of these Office components by incorporating them as COM controls hosted within a Data Access Page (described above). The Spreadsheet component provides "grid" functionality, letting users enter text and numbers, create formulas and recalculate. The Chart component provides a graphical representation as the underlying data changes.

Finally, the PivotTable component is similar to the functionality of PivotTable views familiar to Excel users; it provides a dynamic way to view and analyze interactive data by "pivoting" or moving parts of the data for a different view. The combination of Data Access Pages and the new Office Web Components in Office 2000 on the front end along with Microsoft SQL Server 7.0 on the back end provides powerful solutions for users to work efficiently with managing and analyzing large amounts of data to make faster and better decisions.

## **Rich Analysis Tools for Managing Information**

Access users frequently create databases that are so successful and integral to their business that the users eventually have a need to expand their databases. In some cases, a popular Access application that was originally intended for individual or small department use has been well received and now needs to be deployed throughout the organization. In other instances, an Office user in a small business easily created an Access database and, as the business expanded over time, suddenly has a need to upgrade database functionality beyond a desktop application, such as Access, to an enterprise-level database, such as Microsoft SQL Server.

Access has offered some limited integration with Microsoft SQL Server in the past through the Access Upsizing Tools add-in and the ability to link to Microsoft SQL Server through ODBC, a standard for data access. However, Access power users and developers have demanded increased interoperability. Why couldn't we simply combine the ease of use in Access with the power of an enterprise-level database, such as Microsoft SQL Server? In Access 2000, we did just that.

### **What's the Difference Between Access and Microsoft SQL Server?**

For a quick background on the difference between a desktop application, such as Access, and an enterprise-level database, such as Microsoft SQL Server, it might be helpful to think about a continuum. The two database solutions are complementary yet operate at different ends of the spectrum and meet different customer needs. The right database for a particular situation depends on several factors, including scalability (number of users, size of data), reliability (mission-critical data, such as corporate payroll versus potential sales contacts) and available database experience (Office user versus professional database administrator).

A client/server database, such as Microsoft SQL Server, differs from a file-server database, such as Access, by providing greater scalability and reliability for data that is mission-critical for the enterprise. Access databases typically service individuals and small groups (10–20 users) with no more than a megabyte of data, which could easily be processed on the desktop. Microsoft SQL Server can support thousands of users with terabytes of information, and provides other enterprise-level database capabilities. For example, Microsoft SQL Server offers 24-by-seven support by providing the ability to conduct administration and maintenance while the database is online. Microsoft SQL Server also protects against data loss with a two-phase commit, which can be useful if a particular transaction is interrupted midstream due to power outage, network failure or other reasons.

### **Microsoft SQL Server Interoperability**

Access 2000 supports OLE DB, a standard for data access. This allows Access 2000 to connect directly to Microsoft SQL Server instead of using the Jet engine, the traditional default database engine in Access. Power-users and developers may now create solutions that combine the ease of use of the Access interface (client) with the scalability and reliability of Microsoft SQL Server. Processing occurs in Microsoft SQL Server for a true client/server solution. Power users and developers will also appreciate the Access interface, and end users performing the data entry will find it as easy to use as other Office applications. In addition, Access power users and developers will be able to increase their value with knowledge of both Access and Microsoft SQL Server.

### **Microsoft Access Project**

Upon creating a new database, Access 2000 provides users with the choice to determine the back-end data store — the traditional default database engine or a Microsoft Access Project. The defaults remain the same so newer database users will continue to have the same experience as they do today when simply selecting New Database under the File menu. However, power users and developers can take advantage of the new alternative.

The Microsoft Access Project (or .adp file type) uses Access as the front-end client with several alternatives to the back-end data store. When creating an .adp file, the user will be able to work with one of three back-end databases: Microsoft Data Engine (MSDE) available in Office, SQL Server 6.5 or SQL Server 7.0. The Microsoft Access Project contains no tables or queries, but instead is connected directly to the back end that contains tables, stored procedures, views and database diagrams (multiple relationships windows).

### **Client/Server Wizards**

Since Access is renowned for its easy-to-use wizards, this functionality has been extended into the client/server realm. A variety of wizards make it easier for Access power users and developers to create a client/server database.

Access users will appreciate the ability to use popular Access wizards, such as the Report Wizard, Form Wizard, Control Wizard and Button Wizard while using the Access interface against a back end in Microsoft SQL Server. These wizards have been updated to support the new client/server architecture.

### **Client/Server Design Tools**

When working in a Microsoft Access Project, new design tools allow users to easily create and manage server-side objects from the design view, including tables, views, stored procedures and database diagrams. This makes it easier for current Access power users and developers to extend their database knowledge to the client/server environment.

### **Microsoft SQL Server-Based Administration Tools**

Microsoft Access 2000 allows users to perform and manage common administration tasks in Microsoft SQL Server, such as replication, backup and restore, and security. In addition, Access has re-evaluated standard data types for greater compatibility.

**For more information:** <http://www.microsoft.com/office/>



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