

START HERE

**Roadmap information for
new users**

**Migration information for
upgrading Essbase users**

Congratulations on your purchase of IBM® DB2® Version 1.0.1, which is based on Arbor® Essbase® Version 5.0.1 technology. DB2 OLAP Server is a scalable, industrial strength On-line Analytical Processing (OLAP) database that enables you to build sophisticated decision support, planning, and analysis applications for your enterprise. With this version, you can build applications that integrate the following concepts within a single, client-server system:

- ◆ “What happened?”—historical trend analysis
- ◆ “What if?”—modeling and scenario analysis
- ◆ “What’s next?”—planning

Use this booklet to:

- ✓ Learn about Arbor Essbase 5 features and platforms.
- ✓ Create an installation or migration plan.
- ✓ Set new variables that affect performance.
- ✓ Plan for migrating your calc scripts, report scripts, ESSCMD scripts, and API programs.

Contents

Summary of Arbor Essbase Version 5 Features	2
What’s New in Version 5.0.1	3
What’s New in Version 5.0	6
Roadmap to Installing and Starting Arbor Essbase	17
Installation and Migration Under Version 5	18
List of Arbor Essbase Products and Documentation	28
Platform Support and Hardware Requirements	33

Summary of Arbor Essbase Version 5

Category	Feature	Description	Benefit
Analytical Power	OLAP Query Processor	Arbor Essbase can perform multidimensional filtering and sorting on the server.	You can build applications that perform rank analysis ("Top 10 Markets"), metric filtering ("Sales below Plan"), and complex sorting.
	Retrieval Wizard	The Arbor Essbase Spreadsheet Add-in incorporates a simplified interface that guides users step-by-step during retrieval.	You can deploy OLAP applications rapidly without requiring new client software and extensive training.
	Styles	The Arbor Essbase Spreadsheet Add-in lets end users define presentation styles for dimensional relationships and access rights.	Your end users can create "personalized" templates for data retrieval and navigation.
	Complex Dimension Building	The Arbor Essbase Application Manager has new data load rules and dimension building logic.	You can build virtually any outline or dimension automatically, including parent-child relationships.
Performance	Enhanced Calculation Engine	The Calculator is optimized to perform default aggregations and calculations efficiently.	Your overall calculation time is reduced, resulting in faster turnaround for your OLAP applications.
	Dynamic Calculation	The Calculator calculates data values "on-the-fly" as you request them instead of pre-calculating the values.	You can reduce calculation time and data storage overhead.
	Enhanced Data Loading	The data load process is optimized.	Your OLAP database can load more data in a shorter time frame.
	Linked Reporting Objects	The Arbor Essbase Linked Reporting Objects feature lets you link data cells to application files, cell notes, URLs, or linked partitions.	You have improved support for planning and reporting applications and enhanced data analysis capabilities.
Restructuring	Incremental Restructuring	You can choose to have Arbor Essbase defer certain restructuring operations until the block is next accessed.	Performance improves because the restructuring operations are more efficient.
Data Integrity	Transaction Management	Arbor Essbase now offers committed access to your database. Under committed access, Essbase holds a Write (exclusive) lock on all data blocks involved in a transaction for the duration of the transaction. See the <i>Database Administrator's Guide</i> for more information.	When you run a calculation or other update operation, the results are reliable and predictable even when many users are attempting to update the same data.
Scalability	Partitioning	Arbor Essbase Partitioning makes it easy to design and administer databases that span Arbor Essbase applications or servers.	Partitioning applications can improve the scalability, reliability, and performance of your Arbor Essbase databases. You can also reduce the size of your databases.
Systems Management	ESSCMD Branching	The Arbor Essbase command-level language allows you to check return codes.	You can write complex batch scripts that check for errors and perform conditional branching.
	User Management	Arbor Essbase now features an automatic logout function.	You can control the idle time for users before they are logged out by the system.

What's New in Version 5.0.1

Data Loading

Arbor Essbase 5.0.1 supports use of the Euro currency symbol (€). You can include the Euro symbol as part of a data field in your data load source file.

New Features in Arbor Essbase Storage Manager

The Arbor Essbase Version 5.0.1 Storage Manager offers significant improvements over 5.0.

- Databases with large index caches or large data caches open much faster under 5.0.1 than under 5.0. This is due to improvements made resulting from code fixes. If you are migrating your database from 5.0 to 5.0.1, and you had a large index cache, you will notice the improvement right away. If you had a large data cache, you will notice the improvement as you retrieve data during normal operations.
- Data free space recovery needs to be performed in fewer cases in Version 5.0.1.

Performance Improvements

- Query performance speed is improved since Version 5.0.
- Data load and calc performance are improved since Version 5.0.

Linked Reporting Objects

You can now link Uniform Resource Locators (URLs) to data cells. A URL is an address that locates a resource in the World Wide Web, such as a document, image, downloadable file, service,

electronic mailbox, or other resource. Examples of URLs are `HTTP://WWW.ARBORSOFT.COM` and `FILE:///D:/ESSBASE/DOCS/INDEX.HTM`. When you view a linked URL, your default Web browser displays the URL, if it is a valid location.

More info: *Spreadsheet Add-in User's Guide*

New Platform Support

Arbor Essbase now supports the following server platforms:

- HP-UX 11.0
- AIX 4.3
- Solaris 2.6

See "Platform Support and Hardware Requirements" on page 33 for a complete chart of supported platforms.

More info: *Installation Notes*

Changes in ESSCMD

For information about any ESSCMD command, enter `HELP command_name` in ESSCMD.

- Note:** `ESSCMD.HLP` is an ASCII text file. To print this file, open `ESSCMD.HLP` in any text editor, and use the available print command.
- **RENAMEOBJECT** no longer lets you to rename files with the `.LRO` extension (linked reporting objects). Because this item (option 11) was removed, **RENAMEOBJECT** options 12 and 13 have been renumbered to 11 and 12, respectively. The following table illustrates how the option numbers map.

Pre-5.0.1 Options	Current Options
11 Linked Reporting Objects	11 Selection
12 Selection	12 Wizard
13 Wizard	

- For **LISTOBJECTS**, option 11 now lists only stored LROs; that is, files with the `.LRO` extension. It does not list URLs, cell notes, or linked partitions. Use the **LISTLINKEDOBJECTS** command to list those objects.
- For **UNLOCKOBJECT**, option 11 (Linked Reporting Object) unlocks stored LROs only; that is, files with the `.LRO` extension. It does not unlock URLs, cell notes, or linked partitions.
- **VALIDATE** now also verifies (1) the structural integrity of the index free space information in the index, and (2) the structural integrity of the linked reporting objects (LRO) catalog.

More info: ESSCMD Help

New Features in the ESSBASE.CFG File

- The **INCRESTRUC** parameter, which was added in Version 5.0, now lets you enable Incremental Restructuring for all databases or for individual databases. When you enable Incremental Restructuring for a database, Arbor Essbase defers database restructuring until the next time it accesses the affected block, for many (but not all) operations.

If you had previously set **INCRESTRUC** to **TRUE**, Incremental Restructuring will continue to apply to all applications and databases on your server. If you change this setting to enable Incremental Restructuring for certain applications or databases, Incremental Restructuring will be disabled for all other applications and databases.

More info: online *Technical Reference* in your `DOCS` directory

- A new parameter, **TIMINGMESSAGES**, lets you control whether Essbase logs the duration of each spreadsheet and report query in the application log file.

More info: online *Technical Reference* in your `DOCS` directory

New Features in the Spreadsheet Add-in

Arbor Essbase 5.0.1 provides a number of enhancements and new features for the Arbor Essbase Spreadsheet Add-in.

- URLs in Linked Reporting Objects are supported.
- The maximum number of rows in the Arbor Essbase Spreadsheet Add-in for Excel 97 has increased to 65,536 rows from 16,384 rows.
- Several of the restrictions with using Formula Preservation and other options have been removed. See the `README.TXT` file for the list of restrictions.
- A new VBA function for Excel (Windows), **EssVLoginSetPassword**, sets the password upon login, then logs the user out.

More info: *Spreadsheet Add-in User's Guide* and Spreadsheet Add-in online help

New API Features

Arbor Essbase Version 5.0.1 includes several enhancements to the Arbor Essbase Application Programming Interface (API). The following sections describe the new C and Visual Basic language structures and functions. Functions and structures containing an **x** in the Arbor Essbase prefix are supported in both C and Visual Basic. Functions and structures beginning with **Ess** or **ESS** are supported only in C; functions and structures beginning with **Esb** are supported only in Visual Basic.

Warning: Programs compiled with the Version 5.0.1 Arbor Essbase API do not work with previous server versions.

Grid API on UNIX

- The Grid API is now supported on all three UNIX platforms: Solaris, HP-UX, and AIX.

Grid API Performance

- Three new Arbor Essbase Grid API constants, **ESSG_OP_DRILLONLEAF**, **ESSG_OP_EMPTYGRIDERROR**, and **ESSG_OP_RETAINTHREAD**, may improve query performance under particular circumstances.

Linked Reporting Objects

- **EssGGetLROPartitionDesc** has been renamed to **EssGGetLinkedPartitionDesc**.
- A new structure was added, **ESX_LROTYPE_URL_API**, to support the new URL linked reporting object (LRO) type.
- New constants were added so that programmers can provide differing functionality for different LRO types, such as Windows applications, URLs, cell notes, and linked partitions.
- **EsbLROGetMemberCombo** retrieves the *n*'th member from the member combination list of the current LRO.

Partitioning

- **EssPartitionValidateLocal** was undocumented for 5.0 and is now documented for 5.0.1. This routine verifies all partition definitions associated with the database specified by **ESS_HCTX_T**.
- Updates were also made to the documentation for **EssPartitionValidateDefinition**.

Outline API

- **EssOtlQueryMemberByName** is a new public function in 5.0.1 that queries the outline.

Log Files

- **EssWriteToLogFile**, which was undocumented for 5.0 and is now documented for 5.0.1, writes a message to the Agent log file or to the Server log file.
- **EssLogSize**, which was undocumented for 5.0 and is now documented for 5.0.1, returns the size of the Agent log file or the Server log file.

Extended Member Comments in 5.0.1 Outline API

Version 5.0.1 outlines contain two new functions for extended member comments:

- **EssOtlSetMemberCommentEx**
- **EssOtlGetMemberCommentEx**

Extended member comments are reserved for future use and are not required for Version 5.0.1. If you use extended member comments in your Version 5.0.1 outline, and you attempt to open and save the outline with the Arbor Essbase Version 5.0 Outline API, the extended member comments are deleted. If you open the 5.0.1 outline in query mode, the extended member comments are retained.

More info: online *API Reference* in your **DOCS** directory

What's New in Version 5.0

Arbor Essbase Partitioning

Arbor Essbase Partitioning is a new collection of features that makes it easy to design and administer databases that span Arbor Essbase applications or servers. You must license the Partitioning option for every server that contains a database partition. You cannot partition Personal Essbase.

Based on user requirements, you can decide to:

- Partition your applications from the top down. Top-down partitioning allows you to split a database onto multiple processors, servers, or computers. Top-down partitioning can improve the scalability, reliability, and performance of your databases. To achieve the best results with top-down partitioning, create a separate application for each partitioned database.
- Partition your applications from the bottom up. Bottom-up partitioning allows you to manage the flow of data between multiple related databases. Bottom-up partitioning can improve the quality and accessibility of the data in your database.

Note: Be sure to design your partitioned applications carefully before implementing.

Partitioning helps you to:

- Synchronize the data in multiple partitioned databases. Arbor Essbase tracks changes made to data values in a partition and provides tools for updating the data values in related partitions.
- Synchronize the outlines of multiple partitioned databases. Arbor Essbase tracks changes made to the outline of a partitioned database and provides tools for updating related outlines.

- Allow users to navigate between databases with differing dimensionality. When users drill across to another database, they can drill down to more detailed data.

More info: *Database Administrator's Guide*

New Features in the Calculator

Dynamically Calculating Data Values

You can now tell Arbor Essbase to calculate some member combinations when the user retrieves the data, instead of pre-calculating the member combinations during the regular database calculation.

Dynamically calculating some data values when the user requests them can significantly improve the performance of your overall database calculation.

More info: *Database Administrator's Guide*

New and Changed Calculator Functions

- Using the new **@UDA** macro, you can select members based on a common attribute, which you have defined as a User-Defined Attribute (UDA) on the Arbor Essbase OLAP Server.
- Using the new **@RELATIVE** macro, you can select all the members at a specified generation or level that are above or below a specified member.
- Using the new **@MATCH** command, you can do wildcard member selections. For example, `@MATCH(Year, "J*")` returns all the members in the Year dimension that begin with a J. For the Sample Basic database, this would return: Jan, Jun, and Jul.
- Using the **@ANCESTORS** and **@IANCESTORS** macros, you can expand a member selection to include all ancestors of the specified member. Now you can choose to expand the selection up to a specified generation or level.

For example, @ANCESTORS("100-10",1) expands the selection up to generation 1. For the Sample Basic database, this would return: 100, Product.

- Using the @DESCENDANTS and @IDESCENDANTS macros, you can expand a member selection to include all descendants of the specified member. Now you can choose to expand the selection down to a specified generation or level. For example, @DESCENDANTS(Diet,0) expands the selection down to level 0. For the Sample Basic database, this would return: 100-20, 200-20, 300-30.
- Using the FIX...ENDFIX command, you can restrict database calculations to a subset of the database. Now you can use AND/OR operators to specify conditions for the FIX command. Use the AND operator when all conditions must be met. Use the OR operator when one of two or more conditions must be met.

For example, FIX(@CHILD(East) AND @UDA(Market, "New Mkt")) fixes on the children of East that have a UDA (User-Defined Attribute) of New Mkt.

More info: online *Technical Reference* in your DOCS directory

Optimizing the Calculation of Formulas on Sparse Dimensions in Large Database Outlines

Using the new SET FRMLBOTTOMUP command in a calc script, you can optimize the calculation of formulas on sparse dimensions in large database outlines by enabling the bottom-up sparse formula calculation method.

You can set this option in the ESSBASE.CFG file, using the new CALCOPTFRMLBOTTOMUP setting.

More info: online *Technical Reference* in your DOCS directory

Optimizing the Calculation of Large, Flat Database Outlines

Using the new SET CALCHASHTBL command in a calc script, you can optimize the calculation of large, flat database outlines.

You can set this option in the ESSBASE.CFG file, using the new CALCOPTCALCHASHTBL setting.

Using the new CALCHASHTBLMEMORY setting in the ESSBASE.CFG file, you can set the maximum amount of memory that you want the Calculator hash table to use.

More info: online *Technical Reference* in your DOCS directory

Using Substitution Variables

You can now use substitution variables in your calc scripts. The & command prefaces a substitution variable.

More info: online *Technical Reference* in your DOCS directory, and *Database Administrator's Guide*

Procedural SET Commands

SET commands in a calc script are now procedural. The first occurrence of a SET command in a calc script stays in effect until the next occurrence of the same SET command. For example, in the following calc script:

```
SET MSG DETAIL;  
CALC DIM(Year);  
  
SET MSG SUMMARY;  
CALC DIM(Measures);
```

Arbor Essbase displays messages at the DETAIL level when calculating the Year dimension. However, when calculating the Measures dimension, Essbase displays messages at the SUMMARY level.

More info: online *Technical Reference* in your DOCS directory

New Features in Arbor Essbase Storage Manager

The Arbor Essbase Version 5.0 Storage Manager offers significant improvements over Version 4.

Here is a brief list of the improved features.

- The Storage Manager now has true transaction handling. The Storage Manager controls and tracks each transaction from beginning to end. Arbor Essbase uses a new server file, `dbname.TCT`, containing transaction control information.
- The Storage Manager offers committed or uncommitted access to your database. Committed access provides better data integrity. Uncommitted access provides compatibility with Version 4.
- The Storage Manager offers improved handling of fatal errors. When the Storage Manager encounters a fatal error, it automatically shuts down and re-starts.
- You can now specify settings such as Data Compression Type on a per-database basis; Arbor Essbase no longer limits you to the server-wide Storage Manager settings of `ESSBASE.CFG`. The Storage Manager uses `ESSBASE.CFG` for *initial* settings for your Version 5 databases. Use the Arbor Essbase Application Manager **Database Settings** dialog box or `ESSCMD` to customize settings for each database.
- The Storage Manager supports incremental restructuring, resulting in faster performance in cases when Arbor Essbase does not have to restructure the entire database.

- There are many new database settings. Your database inherits Version 4 settings or their Version 5 equivalents, and acquires default values for the new settings.
More info: Application Manager online help
- The security file, `ESSBASE.SEC`, has a new internal format to accommodate the additional database settings.
- The `dbname.ESM` file has new internal fields containing more control information.

More info: *Database Administrator's Guide*

Dynamic Time Series

Dynamic Time Series members are predefined members used in to-date reporting. Dynamic Time Series members do not appear as members in your database outline; instead, they correspond to a generation in a Time dimension.

Reserved Dynamic Time Series Names

The following member and generation names are reserved for use by Arbor Essbase. If you are using a Dynamic Time Series member, your database cannot contain a dimension or member name which is the same as the Dynamic Time Series member name or its generation name.

The Dynamic Time Series members and corresponding generation names are:

Member	Generation Name
H-T-D	History
Q-T-D	Quarter
Y-T-D	Year
M-T-D	Month
S-T-D	Season
W-T-D	Week
P-T-D	Period
D-T-D	Day

For example:

- If you use a D-T-D Dynamic Time Series member, your database cannot contain another dimension or member called Day.
- Sample Basic contains a dimension called Year. Therefore, you cannot use the Y-T-D member in Sample Basic, because Y-T-D uses the predefined generation name Year. To use Y-T-D in Sample Basic, rename the Year dimension.

More info: *Database Administrator's Guide*

Linked Reporting Objects

The Arbor Essbase Linked Reporting Objects (LRO) feature, similar to the file attachment feature in many e-mail software packages, lets you link various kinds of data with any cell in an Arbor Essbase database. Arbor Essbase Linked Reporting Objects provides improved support for planning and reporting applications and can enhance your data analysis capabilities.

More info: *Database Administrator's Guide*

New Platform Support

This section lists the changes in platform support in Version 5.0. See "Platform Support and Hardware Requirements" on page 33 for a complete chart of supported platforms.

Client Support

Arbor Essbase now supports:

- Excel 97
- Macintosh in Native Format

Arbor Essbase no longer supports:

- 68K Macintosh

Server Support

Arbor Essbase now supports:

- Windows NT 4.0 on DEC Alpha
- OS/2 4.0
- Solaris 2.5.1 on Sun SPARC or ULTRASPARC
- HP-UX 10.20
- Personal Essbase on Windows 95

Arbor Essbase no longer supports:

- OS/2 3.0
- HP-UX 10.01 or 10.10
- Solaris 2.4 or 2.5
- AIX 4.1.3

New Features in Report Writer

- Use the new **&** command to incorporate substitution variables into a report script.
- Use the new **<IPARENT** command to add the current member and its parent to the report.
- Use the new **<LATEST** command to specify a Dynamic Time Series member from within a report script.
- Use the new **<LINK** command to refine member selections using the AND, OR, and NOT Boolean operators combined with extraction command.
- Use the new **<MATCH** command to select members using wildcards.
- Use the new **<OUTALTSELECT** command to select an alias table to be in effect until you specify a different table; this allows you to use different alias tables for different dimensions in a report script.
- Use the new **<SINGLECOLUMN** command to display a column heading when there is only one column member extracted in the report.
- Use the new **<UDA** command to select members based on a common attribute, defined as a user-defined attribute (UDA) on the Arbor Essbase OLAP Server.

More info: online *Technical Reference* in your DOCS directory

New Features in ESSCMD

- Use the new **CREATEVARIABLE** command to define a new substitution variable and its corresponding string value on the server.
- Use the new **DELETEVARIABLE** command to remove an existing substitution variable from the server.
- Use the new **GETALLREPLCELLS** and **GETUPDATEDREPLCELLS** commands to replicate either all data cells or updated data cells, identified in the replication partition, from the data source database to the selected target database.
- Use the new **LISTVARIABLES** command to list all substitution variables on the server.
- Use the new **LISTLINKEDOBJECTS** command to list information about the objects linked to the active database for a given user name or modification date.
- Use the new **PRINTPARTITIONDEFFILE** command to produce an ASCII text file that details a distributed database's partition mapping tables.
- Use the new **PURGELINKEDOBJECTS** command to delete objects linked to the active database for a given user name or modification date.
- Use the new **PUTALLREPLCELLS** and **PUTUPDATEDREPLCELLS** commands to replicate either all data cells or updated data cells, identified in the replication partition, from the selected data source database to the target database.
- Use the new **RESETOTLCHANGETIME** command to synchronize the internal time stamps between two partitions.
- Use the new **UPDATEVARIABLE** command to update the value that corresponds to a specified substitution variable.
- Use the new **VALIDATEPARTITIONDEFFILE** command to validate shared partition definitions.

- Use the new **SETDBSTATEITEM** command to define database settings by number. This command provides more options than **SETDBSTATE**.
- Use the new **GETPARTITIONOTLCHANGES**, **APPLYOTLCHANGEFILE**, and **PURGEOTLCHANGEFILE** commands to get, apply, and delete outline changes in the outline change log file.

More info: ESSCMD online help

The following commands return information to support new features, in addition to the information they returned in Version 4.

- **GETAPPSTATE** now returns the Arbor Essbase Linked Reporting Objects (LRO) file size limit, if you are using LROs.
More info: *Database Administrator's Guide*
- **GETDBSTATE** now returns the following additional information: data compression type, retrieval buffer size, retrieval report sort buffer size, isolation level, pre-image access, time out, number of blocks modified before internal commit, number of rows to data load before internal commit, and number of disk volume definitions.
More info: ESSCMD online help
- **SETAPPSTATE** now lets you specify the Arbor Essbase Linked Reporting Objects (LRO) file size limit, if you are using LROs.
More info: *Database Administrator's Guide*

For information about any ESSCMD command, enter `HELP command_name` in ESSCMD.

Note: `ESSCMD.HLP` is an ASCII text file. To print this file, open `ESSCMD.HLP` in any text editor, and use the available print command.

An ESSCMD No Longer Used

DEFRAG is no longer used. It is retained for backward compatibility, but has no effect and returns an informational message.

New Features in the ESSBASE.CFG File

- A new parameter, **INCRESTRUC**, lets you enable Incremental Restructuring for your databases. When you enable Incremental Restructuring, Arbor Essbase defers database restructuring until the next time it accesses the affected block, for many (but not all) operations.

More info: *Database Administrator's Guide*

- Two new parameters optimize the calculation of large, flat database outlines:
 - **CALCOPTCALCHASHTBL** tells Arbor Essbase to use a calculator hash table to optimize the calculation of large, flat database outlines.
 - **CALCHASHTBLMEMORY** sets the maximum amount of memory that you want the calculator hash table to use.

More info: online *Technical Reference* in your DOCS directory

ESSBASE.CFG Parameters No Longer Used

Arbor Essbase no longer uses certain `ESSBASE.CFG` parameters. Essbase reads and uses these parameters only when migrating from Version 4; otherwise, Essbase ignores them. To change these settings, use the Arbor Essbase Application Manager, or **SETDBSTATEITEM** in `ESSCMD`.

The obsolete parameters are:

- COMMITBLOCKS
- DATACOMPRESS
- DATACOMPRESSIONTYPE
- DISKVOLUMES
- INDEXCACHESIZE
- INDEXPAGESIZE
- REPTKBYTEBUF
- REPTKBYTESORTBUF

New Features in the Spreadsheet Add-in

Arbor Essbase 5.0 provides a number of enhancements and new features for the Arbor Essbase Spreadsheet Add-in.

- The Arbor Essbase toolbar provides shortcut buttons for accessing most of the menu commands listed under the Arbor Essbase menu (Excel versions only).
- The Remove Only command is new to the Arbor Essbase menu and toolbar, providing opposite functionality to the Keep Only command. This command removes selected members from the spreadsheet view.
- The User-Defined Attributes (UDAs) feature applies common characteristics to a certain set of members that is predefined in the database outline (Excel for Windows and Lotus 1-2-3 versions only). The Arbor Essbase Spreadsheet Add-in uses these UDAs to set criteria and select from a group of members that share these user-defined traits.
- The Navigate Without Data feature lets you navigate through the spreadsheet without retrieving any data. With this feature, you can arrange your spreadsheet report without the time delays caused by data retrieval.
- Substitution variables let you use global variables to represent specific Arbor Essbase values that are set on the Arbor Essbase OLAP Server.
- Visual cues, or styles, for Linked Objects and Dynamic Calculation members let you apply different font styles to cells containing these items.
- A set of members defined as Dynamic Time Series specifies to-date calculations, such as year-to-date, based on a predetermined member.
- Linked partitions let you view and drill down to data in other Arbor Essbase databases without losing connection to your current database.

- Arbor Essbase Linked Reporting Objects are external objects linked to data cells through the Arbor Essbase Spreadsheet Add-in (Excel for Windows and Lotus 1-2-3 versions only). This feature lets you link data cells to application files, cell notes, graphics, and so forth.
- You can enter generation names and level names directly into a spreadsheet. When you retrieve on a generation or level name, Arbor Essbase returns all members from the database within the specified generation or level name.
- An updated **Essbase Member Selection** dialog box features new functionality, such as selecting Dynamic Time Series members and applying selection criteria to a subset (cross-section) of members (Excel for Windows and Lotus 1-2-3 versions only).
- An updated **Essbase Options** dialog box features tabbed dialog boxes to set display, zoom, mode, style, and global options.
- An updated **Essbase Cascade Options** dialog box features tabbed dialog boxes and several new options to increase flexibility of reporting on multiple members.

More info: *Spreadsheet Add-in User's Guide* and Spreadsheet Add-in online help

New Features in Dimension Building

When you use the Generation References or Level References build methods, Arbor Essbase can now process nulls by promoting the primary field directly after the null.

More info: *Database Administrator's Guide*

New Features in Password Management

Improvements in password handling let you limit the number of:

- Failed login attempts
- Inactive days
- Days of using the same password before the user password becomes invalid or the user is required to change the password

More info: *Database Administrator's Guide*

New API Features

Arbor Essbase Version 5.0 includes many enhancements to the Arbor Essbase API. The following sections describe the new C and Visual Basic language structures and functions. Functions and structures containing an **x** in the Arbor Essbase prefix are supported in both C and Visual Basic. Functions and structures beginning with **ESS** or **Ess** are supported only in C.

Warning: Programs compiled with the Version 5.0 API do not work with previous server versions. Only programs compiled with the 4.1.2 API work with Version 5.0 and Version 4.1.2 servers.

HTML Documentation

All documentation for the Arbor Essbase API, including new and existing functions, is now provided online in your `\ESSBASE\DOCS` directory.

More info: *Installation Notes*

User-Defined Attributes Query Function

- The **EsxOtlGetDimensionUserAttributes** function returns all the user's defined attributes for a specific dimension.

Dimension Build Functions

- The **EsxBuildDimFile** function creates a file containing the specifications for a new (or changed) dimension.
- The **EsxBuildDimStart** function starts the process of adding a dimension to the Arbor Essbase database.

Substitution Variable Functions

- The **EsxCreateVariable** function creates a new substitution variable, or modifies an existing substitution variable if the variable name already exists with the identical server, application, and database values.
- The **EsxDeleteVariable** function deletes a substitution variable. Because multiple substitution variables may have the same name, the call must specify explicitly the server, application, and database portions of the **ESX_VARIABLE_T** parameter.
- The **EsxGetVariable** function retrieves the contents of a substitution variable.
- The **EsxListVariables** function lists all substitution variables that conform to the input criteria.

Dynamic Time Series (DTS) Functions

- The **EsxOtlEnableDTSMember** function creates a Dynamic Time Series member.
- The **EsxOtlDeleteDTSMemberAlias** function deletes an alias name from a Dynamic Time Series member.
- The **EsxOtlGetEnabledDTSMembers** function returns the defined Dynamic Time Series members of the outline.
- The **EsxOtlGetDTSMemberAlias** function returns an alias name for a Dynamic Time Series member.

- The **EsxOtlSetDTSMemberAlias** function sets an alias name for a Dynamic Time Series member.

Linked Reporting Object (LRO) Structures and Functions

- The **ESX_CELLADDR_API_T** structure contains information about the address of a data cell in an Arbor Essbase database.
- The **ESX_LRODESC_API_T** structure contains information describing a specific object linked to a data cell in an Arbor Essbase database.
- The **ESX_LROHANDLE_API_T** structure provides an identifier for an object linked to a data cell in an Arbor Essbase database.
- The **ESX_LROINFO_API_T** structure contains information about a specific object linked to a data cell in an Arbor Essbase database.
- The **EsxLROAddObject** function links a reporting object to a data cell in an Arbor Essbase database.
- The **EsxLRODeleteCellObjects** function deletes all objects linked to a given data cell in an Arbor Essbase database.
- The **EsxLRODeleteObject** function deletes a specific object linked to a data cell in an Arbor Essbase database.
- The **EsxLROGetCatalog** function retrieves a list of LRO catalog entries for a given data cell in an Arbor Essbase database.
- The **EsxLROGetObject** function retrieves an object linked to a data cell in an Arbor Essbase database.
- The **EsxLROListObjects** function retrieves a list of all objects linked to cells in the active database for a given user name and/or modification date.
- The **EsxLROPurgeObjects** function deletes all objects linked to cells in the active database for a given user name and/or modification date.
- The **EsxLROUpdateObject** function stores an updated version of a linked reporting object on the server.

Grid Linked Reporting Object (LRO)

Structures and Functions

- The **ESSG_LRODESC_API_T** structure contains information describing a specific object linked to a data cell in an Arbor Essbase database.
- The **ESSG_LROINFO_API_T** structure contains information about a specific object linked to a data cell in an Arbor Essbase database.
- The **ESSG_CONNECTINFO_T** structure contains database connection information for each linked partition.
- The **ESSG_DRILLDATA_T** structure contains information associating linked objects with specific cell addresses.
- The **EssGBeginCreateLRO** function begins creating a linked object for a data cell in an Arbor Essbase database.
- The **EssGBeginDeleteLROs** function begins deleting all objects linked to a data cell in an Arbor Essbase database.
- The **EssGUpdateLRO** function updates the description and contents of a linked object.
- The **EssGDeleteLRO** function deletes a specified linked reporting object from an Arbor Essbase database.
- The **EssGFreeCellLinkResults** function releases all resources reserved to store the links resulting from a previous call to **EssGBeginDrillOrLink**.
- The **EssGGetCellLinkResults** function retrieves a list of links resulting from a previous call to **EssGBeginDrillOrLink**.
- The **EssGGetLRO** function retrieves a linked reporting object from an Arbor Essbase database.

- The **EssGGetLRODesc** function retrieves the description information for a linked object. You specify the object with a unique handle returned by an **EssGGetCellLinkResults** function call.
- The **EssGGetLROPartitionDesc** function retrieves the description for a linked partition.

Partition Structures and Functions

- The **ESX_PARTDEF_INVALID_T** structure is the shared area verification structure.
- The **ESX_PARTDEF_CONNECT_T** structure holds connection information.
- The **ESX_PARTDEF_MAP_T** structure holds mapping information.
- The **ESX_PARTDEF_T** structure shares partition definition.
- The **ESX_PARTDEF_AREAS_T** structure holds shape definitions.
- The **ESX_PART_T** structure is the main shared area data structure.
- The **ESX_PARTDEF_TYPE_T** structure holds partition type-specific information.
- The **ESX_PART_DEFINED_T** structure specifies a shared area.
- The **ESX_PARTOTL_DIM_ATTRIB_API_T** structure specifies the attributes of the specified dimension.
- The **ESX_PARTHDR_T** structure specifies an Arbor Essbase database and application.
- The **ESX_PART_CONNECT_INFO_T** structure specifies a database.
- The **ESX_PARTOTL_MBRATTR_API_T** structure stores member attribute information.
- The **ESX_PARTOTL_MBRCHG_API_T** structure specifies a member change operation.

- The **ESX_PARTOTL_MBR_RSRVD_API_T** structure specifies reserved member operations.
- The **ESX_PART_INFO_T** structure holds the partition shared area information.
- The **ESX_PARTOTL_CHG_FILE_T** structure specifies metadata change files.
- The **ESX_PARTOTL_QRY_FILTER_T** structure further defines the metadata retrieval criteria.
- The **ESX_PARTOTL_QUERY_T** structure queries metadata changes.
- The **ESX_PARTOTL_READ_T** structure reads metadata changes.
- The **ESX_PARTOTL_NAMECHG_API_T** structure records name changes.
- The **ESX_PARTOTL_NAMED_GENLEV_API_T** structure specifies a name for a level or generation.
- The **ESX_PARTOTL_NAMEMAP_API_T** structure charts name changes.
- The **ESX_PARTOTL_CHANGE_API_T** structure categorizes database outline changes by dimensions.
- The **ESX_PARTOTL_DIMCHG_API_T** structure specifies a change to the outline, specifically a change to a dimension.
- The **ESX_PART_REPL_T** structure queries shared areas.
- The **ESX_PARTOTL_SELECT_APPLY_T** structure applies metadata changes.
- The **ESX_PARTOTL_SELECT_CHG_T** structure queries metadata.
- The **ESX_PARTSLCT_T** structure queries shared areas for a given site.
- The **ESX_PARTSLCT_VALIDATE_T** structure specifies a partition to verify.
- The **EsxPartitionApplyOtlChangeFile** function tells the server to apply metadata changes to files.
- The **EssPartitionApplyOtlChangeRecs** function tells the server to apply metadata changes to records.
- The **EssPartitionCloseDefFile** function closes the shared area definition file.
- The **EssPartitionFreeDefCtx** function frees memory dynamically allocated under shared area context structures.
- The **EssPartitionFreeOtlChanges** function frees up memory allocated by the ReadMetaChange routine.
- The **EsxPartitionGetAreaCellCount** function returns the number of cells in the specified slice string.
- The **EsxPartitionGetList** function returns a list of the partition definitions in which the currently selected database participates.
- The **EsxPartitionGetOtlChanges** function pulls metadata changes from a given source.
- The **EsxPartitionGetReplCells** function replicates all data cells that are identified in the replication partition from the source database to the selected target database.
- The **EssPartitionNewDefFile** function creates and opens a new shared area definition file based upon input parameters supplied.
- The **EssPartitionOpenDefFile** function opens an existing shared area definition file.
- The **EsxPartitionPurgeOtlChangeFile** function purges meta changes made previous to the time specified with the *TimeStamp* parameter.
- The **EsxPartitionPutReplCells** function replicates all data cells that are identified in the replication partition from the selected source database to the target database.

- The **EssPartitionReadDefFile** function reads a shared area definition file into memory.
- The **EssPartitionReadOtlChangeFile** function reads meta changes from a file into memory.
- The **EssPartitionReplaceDefFile** function tells the server that a new shared area file has been sent, which replaces any existing file for this database.
- The **EssPartitionResetOtlChangeTime** function takes the “last meta change” time from the source region and assigns it as the “last meta change” time of the destination region.
- The **EssPartitionValidateDefinition** function verifies shared area definitions.
- The **EssPartitionWriteDefFile** function writes the current memory version of the shared area definition file to disk.

Grid Structures and Functions to Support Partitions

- The **ESSG_CONNECTINFO_T** structure contains information about database connection for each linked partition.
- The **ESSG_DRILLDATA_T** structure contains information associating linked objects with specific cell addresses.
- The **EssGBeginDrillAcross** function begins a drill across to retrieve cells from a linked partition.
- The **EssGBeginDrillOrLink** function begins the operation of querying the links associated with one or more data cells in an Essbase database.
- The **EssGBeginRemoveOnly** function removes selected cell ranges from the current set.

- The **EssGGetLinkedResults** function allocates and returns information about the linked partitions.
- The **EssGGetGridOption** function retrieves individual grid options.
- The **EssGPerformOperation** function performs an operation after all rows have been sent in.
- The **EssGSendRows** function sends the rows to the server after an operation has been started.
- The **EssGSetGridOption** function sets individual grid options.

Changed Structures

- The **ESX_MBRINFO_T** structure contains information about an outline member.

More info: online *API Reference* in your **DOCS** directory

Roadmap to Installing and Starting Arbor Essbase

If you are installing Arbor Essbase for the first time, use the steps below to set up your environment, communications, and Arbor Essbase software. If you are migrating from a previous version of Essbase, see “Installation and Migration Under Version 5.”

Preparing for Installation

Arbor Essbase Application Manager and Arbor Essbase Spreadsheet Add-ins on Windows platforms include the ability to install the client software from a network drive. You install a master copy to the network drive and then each client user installs from the master copy. You can run the client software from either your local hard disk or from the network drive.

1. Set up your server machine with minimum hardware requirements as described in the *Installation Notes*.
2. Install and establish network communications software on your server machine.
3. Configure your Windows or Macintosh client machine as described in the *Installation Notes*.
4. Install and establish network communications software on the client.
5. Independent of Arbor Essbase, ensure that your client can communicate with your server. (For example, issue the Ping command under TCP/IP.)

Arbor Essbase OLAP Server Installation

1. Install Arbor Essbase OLAP Server software and sample applications, and define the default Arbor Essbase System Supervisor name and password.
More info: *Installation Notes*

2. Install Arbor Essbase SQL Interface for your server, if applicable to your license.
More info: *Installation Notes*,
SQL Interface Guide

Arbor Essbase Client Installation

1. Install Arbor Essbase Application Manager on your Windows client machine. (If your System Administrator has installed a master copy to the network drive, you can install from the network using this master copy.)
More info: *Installation Notes*
2. Connect to the Arbor Essbase OLAP Server using the default Arbor Essbase System Supervisor name and password.
More info: *Installation Notes*
3. Load data into the sample applications.
More info: *Installation Notes*
4. Add other user names and passwords.
More info: *Database Administrator's Guide*
5. Install the Arbor Essbase Spreadsheet Add-in on your client machine.
More info: *Installation Notes*, *Spreadsheet Add-in User's Guide for Excel*, 1-2-3, or *Excel Macintosh*
6. Connect to Arbor Essbase and the Sample Basic database.
More info: *Installation Notes*, *Spreadsheet Add-in User's Guide for Excel*, 1-2-3, or *Excel Macintosh*
7. Retrieve data from the sample applications.
More info: *Spreadsheet Add-in User's Guide for Excel*, 1-2-3, or *Excel Macintosh*

Installation and Migration Under Version 5

This section describes compatibility between Version 5 and previous versions of Arbor Essbase, and provides release notes on the Version 5 installations. See the *Installation Notes* for CD-ROM information. Before you install Version 5, you should back up all your Arbor Essbase Version 4.x files. You can then revert to Version 4.x if you have problems.

Opening a Version 5.0.1 Database Outline in 5.0 Application Manager

To open a Version 5.0.1 database outline, you must use the Version 5.0, Patch 2 Arbor Essbase Application Manager.

Version 5.0.1 outlines contain additional information for extended member comments. (Extended member comments are reserved for future use and are not required for Version 5.0.1.) If you use extended member comments in your Version 5.0.1 outline, and you attempt to open and save the outline in Version 5.0 Patch 2 Arbor Essbase Application Manager, the extended member comments that you added are deleted.

If you are using extended member comments in your Version 5.0.1 outline, and you need to open the outline in Version 5.0 Patch 2 Arbor Essbase Application Manager, open the outline in Read-only mode to ensure that you do not lose the Version 5.0.1 extended member comments. To open the outline in Read-only mode, uncheck **Lock file** in the Arbor Essbase Application Desktop window.

Opening a Version 5.0 Database Outline in 4.x Application Manager

If you open and save a Version 5.0 database outline using the Version 4.x Arbor Essbase Application Manager, Arbor Essbase deletes any Version 5.0 features from the outline. If you need to open a Version 5.0 outline in 4.x Arbor Essbase Application Manager, open the outline in Read-only mode to ensure that you do not lose the Version 5.0 features. To open the outline in Read-only mode, uncheck **Lock file** in the Arbor Essbase Application Desktop window.

Migrating Your Installation: 4.x or 5.0 to 5.0.1

This section tells you how to migrate your installation from Arbor Essbase Version 4.x or 5.0 to Version 5.0.1.

Upgrading the Server from 4.x

You can upgrade the server to Version 5.0.1 from Version 4, but not from earlier versions.

Compatibility Between Client and Server

Arbor Essbase OLAP Server Version 5.0.1 provides backward compatibility with Version 4.x or Version 5.0 clients. This includes Arbor Essbase Application Manager as well as Arbor Essbase Spreadsheet Add-ins. Arbor Essbase Application Manager versions prior to 4.x do not work with the 5.0.1 server, and this configuration is not supported. Version 4.x versions of Arbor Essbase Application Manager work on a limited basis with the 5.0.1 server.

Arbor Essbase Spreadsheet Add-in versions prior to and including 4.x work on a limited basis with the 5.0.1 server.

Because a 4.x or 5.0 client lacks many features of a 5.0.1 client, you should upgrade to 5.0.1 clients when you upgrade to the 5.0.1 server. If you need to phase your upgrades, use the following order:

1. Install 5.0.1 Arbor Essbase OLAP Server and Arbor Essbase Application Manager.
2. Install 5.0.1 Arbor Essbase Spreadsheet Add-in.

Server versions earlier than 5.0.1 are not compatible with the new features of 5.0.1 clients. This configuration is not recommended and is not supported.

More info: *Database Administrator's Guide, Spreadsheet Add-in User's Guide for Excel or 1-2-3*

Compatibility Between Client and Server with Personal Essbase

When installing on a Personal Essbase machine (either Windows NT or Windows 95), you must install new versions of both the 5.0.1 client and the 5.0.1 server. A 5.0 client/5.0.1 server configuration is not recommended.

Migrating Your Security File

If you install Arbor Essbase 5.0.x in the same directory as 4.x, which is recommended, your previous security settings are retained. If you install Arbor Essbase 5.0.x in a different directory from 4.x, you need to copy the `ESSBASE.SEC` file from its previous location to the new location, or else manually rebuild your security profile.

The `ESSBASE.SEC` file stores information about users, passwords, groups, privileges, applications, and their corresponding directories. When you first start the Arbor Essbase Agent (`ESSBASE.EXE`) after installing Version 5.0.x, the Arbor Essbase Agent converts Version 4.x `ESSBASE.SEC` to Version 5.0.x format. Thereafter, each time you successfully start the Arbor Essbase Agent, Arbor Essbase makes a backup copy of the security file as `ESSBASE.BAK`. If you attempt to start the Arbor Essbase Agent and you can't get a password prompt or your password is rejected, Arbor Essbase doesn't make a backup file. In this situation, you can restore from the last successful startup by copying `ESSBASE.BAK` to `ESSBASE.SEC`.

Migrating Your Databases: 5.0 to 5.0.1

This section tells you how to migrate your databases from Arbor Essbase Version 5.0 to Version 5.0.1.

What Files Will Migrate?

This section lists the files that migrate *for each database*. The following files migrate from Version 5.0 to Version 5.0.1 files of the same name:

<code>ESSxxxxx.IND</code>	Index file
<code>dbname.TCT</code>	Transaction control table

When Does Arbor Essbase Migrate the Files?

When Arbor Essbase migrates your databases depends on whether you specified **Allow Database to Start**, and **Start When Application Starts**, in the **Database Settings** dialog box, or in ESSCMD (**SETDBSTATE**). This section assumes you set your database to start when its application starts. The Storage Manager checks for the presence of files resulting from previous unsuccessful migrations, starting over the migration process if necessary.

Arbor Essbase migrates the `ESSxxxxx.IND` and `dbname.TCT` files when you start the application containing the database `dbname`. After these files are migrated, they are not backward-compatible with Version 5.0, and no backups are saved.

Steps for Migrating Your Applications and Databases

After migration, you can restore your Arbor Essbase Version 5.0 databases only by restoring from backups. Therefore, it is important to back up your Version 5.0 databases before starting the migration process.

To migrate, proceed in the following order for each database:

1. Back up all application and database files.

If you are using linked reporting objects (LROs) in a production environment, retain backups of databases as they existed before you implemented LROs. Read the remainder of these instructions to learn about cases in which you might need these backups.
2. If you are using LROs in a production environment, run the LISTLINKEDOBJECTS command in ESSCMD before migrating to 5.0.1. The LISTLINKEDOBJECTS command returns a list of LROs contained in your databases. In Version 5.0.1, the VALIDATE command checks specifically for LRO errors, and you may need information on LROs after migrating.
3. Stop the Arbor Essbase OLAP Server, if it is running.
4. Install Arbor Essbase Version 5.0.1 to the same directory as your Version 5.0 Arbor Essbase installation.
5. Start the Arbor Essbase Agent (`ESSBASE.EXE`).
6. If you want to change database settings, this is a convenient point at which to do so. If you change the settings now, you will not have to restart the database to make the settings effective.
7. Select a database, or load an application. The server migrates the files listed in "What Files Will Migrate?"
8. Run the VALIDATE command in ESSCMD against the Version 5.0.1 database. VALIDATE prompts you to specify a name for the error log file it will use.

9. If VALIDATE returns any LRO-related errors to the log file after migration, you must restore data from a Version 5.0 backup and recreate your LROs:
 - a. Either (1) restore data from a backup of the database that does not contain LROs, or (2) reload from a database export.
 - b. Restart the database in Arbor Essbase 5.0.1.
Arbor Essbase migrates the database to 5.0.1 format if the database was restored.
 - c. Run the VALIDATE command.
 - d. Recreate your LROs, using the information from the LISTLINKEDOBJECTS output as a guide. You may need to manually review the output from LISTLINKEDOBJECTS to verify its completeness.
10. If VALIDATE returns any index-related errors to the log file after migration, you must force an index-only restructure to remove the errors:
 - a. Add a dummy member to a sparse dimension in the database outline.
 - b. Delete the member you added.
 - c. Save the outline.
This forces Arbor Essbase to recreate the database index, which removes the errors detected by the VALIDATE command.
 - d. Run the VALIDATE command again.
11. Upon successful completion, unload the database and then back up the database files.

Reverting to Version 5.0

You cannot use Version 5.0.1 database files with Version 5.0 software. If you need to revert to Version 5.0, do one of the following:

- Delete your Version 5.0.1 database files, and restore your Version 5.0 database files from a recent backup.
- Copy your Version 5.0 database files to a different directory and set ARBORPATH and PATH to point to that directory.

Migrating Your Databases: 4.x to 5.0.1

This section tells you how to migrate your databases from Arbor Essbase Version 4 to Version 5.0.1.

Here are a few things to be aware of as you prepare to migrate:

- The security file, `ESSBASE.SEC`, has a new format. See “Migrating Your Security File” for more information.
- Essbase creates and uses a new server file, `dbname.TCT`, which contains transaction control information.
- The Storage Manager uses `ESSBASE.CFG` only for *initial* settings for your Version 5.0.1 databases. After migration, use the Arbor Essbase Application Manager settings dialog boxes or `ESSCMD` to customize settings for each database.
- There are many new database settings. Your Version 5.0.1 database inherits either Version 4 settings or Version 5.0.1 equivalents, and implements default values for the new settings.

More info: *Database Administrator's Guide*

Important: Prior to migration, allocate enough disk space for double the size of each Version 4 database, to allow for temporary data duplication during migration and update operations. Remember to do so on each volume you are using if your database spans volumes.

What Files Will Migrate?

This section lists the files that migrate *for each database*. The following files migrate from Version 4.x to Version 5.0.1 files of the same name:

ESSBASE . SEC	Security file
<i>dbname</i> . DB	Database file
<i>dbname</i> . OTL	Database outline file
<i>dbname</i> . ESM	Persistent database storage root file
<i>dbname</i> . IND	Data free space file
ESSnnnnn . IND	Index file
ESSnnnnn . PAG	Data (page) file

After these files are migrated, they are not backward-compatible with Version 4.x.

Upon migration, Arbor Essbase also creates a new file, *dbname* . TCT. This is the transaction control table, which stores information about transactions affecting the database.

When Does Arbor Essbase Migrate the Files?

When Arbor Essbase migrates your databases depends on whether you specified **Allow Database to Start**, and **Start When Application Starts**, in the **Database Settings** dialog box, or in ESSCMD (**SETDBSTATE**). This section assumes you set your database to start when its application starts. Arbor Essbase automatically migrates a database when you start the application if it detects a Version 4.x version of *dbname* . ESM. The Storage Manager checks for the presence of files resulting from previous unsuccessful migrations, starting over the migration process if necessary.

Arbor Essbase Migrates...	When...
The security file, ESSBASE . SEC	You run ESSBASE . EXE
<i>dbname</i> . DB <i>dbname</i> . OTL <i>dbname</i> . ESM <i>dbname</i> . IND ESSnnnnn . IND	You start the application containing database <i>dbname</i> .
ESSnnnnn . PAG	The Storage Manager reads data blocks, on a per-block basis.

The Storage Manager migrates data blocks as it reads them into the data cache, but does not save the new Version 5.0.1 format unless you update the block. The Storage Manager does not migrate an ESSnnnnn . PAG file as a unit, but on a block-by-block basis.

Steps for Migrating Your Applications and Databases

After migration, you can restore your Version 4 databases only by restoring from backups. Therefore, it is important to back up your Version 4 databases before starting to migrate.

To migrate, proceed in the following order for each database:

1. Back up all application and database files.
2. Allocate enough storage to accommodate double the Version 4 index, in addition to the data files. Arbor Essbase temporarily stores duplicate information during migration and update operations.

For example, suppose your Version 4 index files (*ESSnnnnn.IND*) total 300MB in size, and your data files (*ESSnnnnn.PAG*) total 700MB. Calculate your Version 5 disk space as follows:
 $2(300\text{MB}) + 700\text{MB} = 1,300\text{MB} = 1.3\text{GB}$

Remember to allocate storage, as described in this step, on each volume you are using if your database spans volumes.

3. Run the **VALIDATE** command in **ESSCMD** against the Version 4 database. **VALIDATE** prompts you to specify a name for the error log file it will use.

If **VALIDATE** returns any errors to the log file prior to migration, do not migrate that database. Restore data from an earlier backup, and contact Arbor Essbase Technical Support. Have your Arbor Essbase OLAP Server ID ready when you call.

4. Stop the Arbor Essbase OLAP Server, if it is running.
5. Back up the Version 4 security file, *ESSBASE.SEC*. See “Migrating Your Security File.”
6. Install Arbor Essbase Version 5.0.1 to the same directory as your Version 4.x Arbor Essbase installation.
7. Start the Arbor Essbase Agent (*ESSBASE.EXE*). The Arbor Essbase Agent converts *ESSBASE.SEC* to the Version 5 format.
8. If you want to change database settings, this is a convenient point at which to do so. If you change the settings now, you will not have to restart the database to make the settings effective.
9. Select a database, or load an application. The server migrates the remaining files, listed in “What Files Will Migrate?,” and creates *dbname.TCT*.
10. Upon successful completion, unload the database and then back up the database files.

How Arbor Essbase Migrates Your Persistent Storage Database Files

To migrate the persistent storage database files, Arbor Essbase automatically does the following:

1. Renames the Version 4 database root file, *dbname.ESM*, to *dbname.ESR*.
2. Renames the Version 4 *ESSxxxxxx.IND* files to *ESSxxxxxx.INM*.
3. Creates a new Version 5 database root file, *dbname.ESM*.
4. Creates new index files in Version 5.0.1 format, naming them *ESSxxxxxx.IND*.
5. Deletes the *dbname.ESR* file.
6. Deletes the *ESSxxxxxx.INM* files.

When starting migration, Arbor Essbase detects previous unsuccessful migration attempts by checking for the *dbname.ESR* file. If there is a *dbname.ESR* file, Arbor Essbase checks for its *dbname.ESM* counterpart. If both exist, Arbor Essbase deletes *dbname.ESM*, and renames *dbname.ESR* to *dbname.ESM*. If only *dbname.ESR* exists, Arbor Essbase renames it to *dbname.ESM*.

Arbor Essbase also detects previous unsuccessful migration attempts by checking for *ESSxxxxxx.INM* files. If there is an *ESSxxxxxx.INM* file, Arbor Essbase checks for its *ESSxxxxxx.IND* counterpart. If both exist, Arbor Essbase deletes *ESSxxxxxx.IND*, and renames *ESSxxxxxx.INM* to *ESSxxxxxx.IND*. If only *ESSxxxxxx.INM* exists, Arbor Essbase renames it to *ESSxxxxxx.IND*.

Reverting to Version 4

You cannot use Version 5.0.1 database files with Version 4 software. If you need to revert to Version 4, do one of the following:

- Delete your Version 5.0.1 database files, and restore your Version 4 database files from a recent backup.
- Copy your Version 4 database files to a different directory and set **ARBORPATH** and **PATH** to point to that directory.

Database Settings

In Version 4, you specified database settings such as DiskVolumes by means of `ESSBASE.CFG` parameters. `ESSBASE.CFG` settings apply to the entire server rather than to individual databases.

To provide more flexibility in customizing individual databases, Version 5.0.x uses ESSCMD and Arbor Essbase Application Manager dialog boxes to control database settings.

The following table shows inherited and default values you can expect from migration. For purposes of quick comparison, this table presents Version 5.0.x setting names somewhat generically. For exact Arbor Essbase Application Manager and ESSCMD setting names, see the *Database Administrator's Guide*, Arbor Essbase Application Manager online help, or ESSCMD online help.

Database Settings Migration

Version 5.0.x Setting	Version 4 Setting	Initial Value
Disk Volume	DISKVOLUMES volume_name in <code>ESSBASE.CFG</code>	Version 4 value
Partition Size (a Disk Volume parameter)	DISKVOLUMES disk_space in <code>ESSBASE.CFG</code>	Version 4 value. If not specified in Version 4, value is Unlimited.
File Type (a Disk Volume parameter)	N/A	Index and Data
Maximum File Size (a Disk Volume parameter)	MaxFileSize (not externalized in Version 4)	Version 4 value. If not specified in Version 4, value is 2G.
Commit Blocks	CommitBlocks in <code>ESSBASE.CFG</code>	Version 4 value. If not specified in Version 4, value corresponds to the Version 4 default value, which Arbor Essbase calculated based on index cache size and index page size.
IsolationLevel	N/A	Uncommitted
Commit Rows	N/A	0
Retrieval Buffer Size	ReptKByteBuf in <code>ESSBASE.CFG</code>	Version 4 value. If not specified in Version 4, value is 10K.
Retrieval Sort Buffer Size	ReptKByteSortBuf in <code>ESSBASE.CFG</code>	Version 4 value. If not specified in Version 4, value is 10K.
Data Compression	DATACOMPRESS and DATACOMPRESSIONTYPE in <code>ESSBASE.CFG</code> ; SetDbstate in ESSCMD; and Compress Blocks in the Database Settings dialog box.	Version 4 value. If not specified in Version 4, Bitmap compression is enabled. This setting now offers the choice of Bitmap, RLE, or None instead of having separate settings for compression yes/no and compression type.

Changes to the Arbor Essbase CD-ROM

In Version 5.0.1, there are several changes to the Arbor Essbase CD-ROM.

Adobe Acrobat Reader on the Arbor Essbase CD-ROM

The Arbor Essbase 5.0.1 CD-ROM contains an installable version of the Adobe® Acrobat Reader® (Version 3.0.1). Installing the Acrobat Reader is recommended so you can read the Spreadsheet Add-in or INTERSOLV .PDF files. Acrobat Reader is available in the \ADOBE directory on the Arbor Essbase CD-ROM. Macintosh, Windows 3.1, Windows 95, and Windows NT versions of the Acrobat Reader are provided. Translated versions are also provided. For information on installing Acrobat Reader, see “Viewing Arbor Essbase .PDF Documents” on page 32.

Translations on the Arbor Essbase CD-ROM

To accommodate future translations of the Arbor Essbase client products, the CD-ROM directory structure has been modified to put all client installations under a \LANGUAGE\lang directory structure.

For example, client products in English will be available in \LANGUAGE\ENGLISH, French clients in \LANGUAGE\FRENCH, German clients in \LANGUAGE\GERMAN, and so forth.

LOCALE/LOCALE16 Directory for Server and Client Products

Arbor Essbase 5.0.1 includes new support for multiple-byte character sets, such as Kanji. To work with these character sets and languages, Essbase now requires the installation of a LOCALE or LOCALE16 directory in your \ESSBASE directory structure, regardless of the language or character set you choose. The installation program creates this directory and populates it for you. LOCALE is for all 32-bit client and server products; LOCALE16 is for all 16-bit client products.

As a result of this feature, the disk space requirement to install all client, server, and API Arbor Essbase products increases by approximately 2 MB.

Sample Basic Outline Changes

The Sample Basic outline has changed to reflect new features. If you are upgrading to Version 5.0.x, you must clear existing data from Sample Basic and reload from CALCDAT.TXT after installing the Version 5.0.x server and sample applications.

Spreadsheet Add-in Change

You cannot cancel an Arbor Essbase retrieval in Lotus 1-2-3 Release 5.

System File Updates and Backups

The installation program updates your client or Windows NT system environment to run Version 5.0.x software. It backs up system files (.INI, .SYS) using the same names, but using the file extension .41, if a file with that name and extension doesn't already exist. For example, it backs up CONFIG.SYS to CONFIG.41 if an existing CONFIG.41 is not found. Similarly, OLE2.REG is backed up to OLE2REG.41, if a file with that name and extension doesn't already exist.

For AUTOEXEC.BAT files, the installation program uses an incremental extension, starting with the first backup as AUTOEXEC.001, the second backup as AUTOEXEC.002, and so on.

The AUTOEXEC.BAT and CONFIG.SYS files, and their backups, are in your root directory. OLE2.REG and its backup are in the \SYSTEM sub-directory of your Windows directory.

The following is a list of environment files that are updated by the installation program.

Windows NT System Files

Windows NT does not use an AUTOEXEC.BAT file. Instead, the Windows Registry is updated if you request it upon installation. Except for ESSBASE.SEC, which is in the \BIN directory where you installed Arbor Essbase, the following files can be found in the \SYSTEM32 sub-directory of your Windows NT directory, whatever it is named. In most cases, the Essbase installation does not replace system files that already exist, or create files that do not exist.

```
\ESSBASE\BIN\ESSBASE.SEC – updated
\ESSBASE\BIN\MSVCRT40.DLL – not replaced
SYSTEM32\CTL3D32.DLL – not replaced
SYSTEM32\COMPOBJ.DLL – not replaced
SYSTEM32\MSVCRT10.DLL – not replaced
SYSTEM32\MSVCRT20.DLL – not replaced
SYSTEM32\OLE2.DLL – not replaced
SYSTEM32\OLE2DISPL.DLL – not replaced
SYSTEM32\OLE2NLS.DLL – not replaced
SYSTEM32\STDOLE.TLB – not replaced
SYSTEM32\STORAGE.DLL – not replaced
SYSTEM32\TYPELIB.DLL – not replaced
```

OS/2 System Files

CONFIG.SYS is in your root directory.
ESSBASE.SEC is in the \BIN directory where you installed Arbor Essbase. The .INI files can be found in your \SYSTEM directory.

\ESSBASE\BIN\ESSBASE.SEC – updated
CONFIG.SYS – updated on request
ODBC.INI – updated on request
ODBCINST.INI – updated on request

Solaris Symbolic Links

After Arbor Essbase SQL Interface is installed, libesssql.insolv.sl uses the resources of the shared library, /usr/lib/libodbc.so.

Windows Client System Files

AUTOEXEC.BAT is in your root directory. The other files can be found in the WINDOWS\SYSTEM directory. The .INI files are located in the \WINDOWS directory.

WINDOWS\123R5.INI – updated on request
AUTOEXEC.BAT – updated on request
WINDOWS\SYSTEM\COMPOBJ.DLL* – replaced if ours is newer
WINDOWS\SYSTEM\CTL3DV2.DLL* – replaced if ours is newer
WINDOWS\SYSTEM\CTL3D.DLL – replaced if ours is newer
WINDOWS\ESSBASE.INI – updated on request
WINDOWS\EXCEL5.INI – updated on request
WINDOWS\SYSTEM\OLE2.REG – replaced if ours is newer
WINDOWS\SYSTEM\OLE2.DLL – replaced if ours is newer
WINDOWS\SYSTEM\OLE2CONV.DLL – replaced if ours is newer
WINDOWS\SYSTEM\OLE2DISP.DLL – replaced if ours is newer
WINDOWS\SYSTEM\OLE2NLS.DLL – replaced if ours is newer
WINDOWS\SYSTEM\OLE2PROX.DLL – replaced if ours is newer

WINDOWS\SQLDRILL.INI – updated on request
WINDOWS\SYSTEM\STDOLE.TLB – replaced if ours is newer
WINDOWS\SYSTEM\STDOLE.TLB – replaced if ours is newer
WINDOWS\SYSTEM\STORAGE.DLL* – replaced if ours is newer
WINDOWS\SYSTEM\TYPELIB.DLL – replaced if ours is newer
WINDOWS\SYSTEM\VSHARE.386 – replaced if ours is newer

* These files are for Object Linking and Embedding (OLE) support.

Location of Spreadsheet Add-in Files

The following lists the directories where different types of Arbor Essbase Spreadsheet Add-in files are installed:

\ESSBASE\BIN – Arbor Essbase Spreadsheet Add-in files, Arbor Essbase .DLL files, third-party .DLL files, help files, and README.TXT.
\ESSBASE\CLIENT\SAMPLE – sample spreadsheet files
\ESSBASE\DOCS\CLIENT – Spreadsheet Add-in User's Guide

The installation also installs Arbor Essbase program group icons in Windows 3.1 and Windows NT 3.51, and Start Menu commands in Windows 95 and Windows NT 4.0. For Excel 95 and Excel 97, the Registry gets updated if you request it upon installation.

List of Arbor Essbase Products and Documentation

Arbor Essbase, your enterprise OLAP database server, is available with a suite of companion products and documentation that helps you to reach other tools and data sources.

Product	Documentation	What it Does for You
Arbor Essbase	<p><i>Start Here</i> (this booklet) <i>Installation Notes</i> <i>Database Administrator's Guide</i> <i>Quick Technical Reference</i> <i>Spreadsheet Add-in User's Guide for Excel</i> <i>Spreadsheet Add-in User's Guide for Excel Macintosh</i> <i>Spreadsheet Add-in User's Guide for 1-2-3</i> Arbor Essbase Application Manager online help Arbor Essbase Spreadsheet Add-in online help ESSCMD online help HTML documentation provided in the \DOCS sub-directory of the directory where you installed Arbor Essbase Application Manager.</p>	Your enterprise Arbor Essbase OLAP Server lets you build business planning and analysis applications. It includes the application management and maintenance tool, called the Arbor Essbase Application Manager.
Arbor Essbase SQL Interface	<p><i>SQL Interface Guide</i> <i>INTERSOLV DataDirect ODBC Drivers Reference</i></p>	This interface to Arbor Essbase, included with a set of ODBC-compatible drivers, lets you load data from relational databases and other formats into Arbor Essbase.
Arbor Essbase Currency Conversion	<i>Database Administrator's Guide</i>	This feature allows you to convert financial data between different currencies.
Arbor Essbase Spreadsheet Toolkit	Arbor Essbase Spreadsheet Add-in online help	This set of spreadsheet macros and functions allows you to build custom applications and templates in the spreadsheet.
Arbor Essbase Partitioning	<i>Database Administrator's Guide</i>	This collection of features makes it easy to design and administer databases that span Arbor Essbase applications or servers.

Product	Documentation	What it Does for You
Arbor Essbase SQL Drill-Through	<p><i>SQL Drill-Through Guide</i> SQL Drill-Through chapter of the <i>Spreadsheet Add-in User's Guide for Excel</i> or <i>Spreadsheet Add-in User's Guide for 1-2-3</i></p>	<p>This interface to the Arbor Essbase Spreadsheet Add-ins lets you drill down to individual transactions stored in relational databases without requiring end users to write complex SQL statements. This feature is only available on Windows platforms.</p>
Arbor Essbase API	<p><i>Start Here</i> (this booklet) <i>Installation Notes</i> HTML documentation provided in the \DOCS or /docs sub-directory of the directory where you installed the API</p>	<p>This programming interface lets you read and write data from Arbor Essbase and build custom front ends in C or Visual Basic.</p>
Arbor Essbase Web Gateway	<p><i>Installation Notes for EWG</i> HTML documentation provided in the \DOCS or /docs sub-directory of the directory where you installed Arbor Essbase Web Gateway</p>	<p>This feature is a powerful, flexible tool for developing low-cost Intranet- and Internet-based financial analysis applications. An Arbor Essbase client product, it combines the power of Arbor Essbase with the advantages of the World Wide Web.</p>
Arbor Essbase Objects	<p><i>Getting Started Programming Guide</i>, provided in .PDF format in the \BIN directory Objects Reference online help</p>	<p>Arbor Essbase Objects is a comprehensive set of OLAP-aware, 32-bit ActiveX controls for developing robust OLAP applications. Arbor Essbase Objects provides a complete set of controls for data navigation, selection, reporting, and visualization.</p>

Viewing Arbor Essbase HTML Documents

Arbor Essbase Version 5.0.x API and Application Manager include the *API Reference* and *Technical Reference* documentation in HTML format. To view it, you must have:

- Arbor Essbase 5.0.x API or Application Manager installed on your server or client machine
- A Web browser such as Netscape® Navigator (Version 2.0 or higher) or Microsoft® Internet Explorer (Version 3.01 or higher) installed on your local computer

To View an Arbor Essbase HTML Document

1. Start your browser.
2. Open `\ESSBASE\DOCS\INDEX.HTM` wherever Arbor Essbase API or Application Manager is installed (either on the Local Area Network or your local computer). For example:
`C:\ESSBASE\DOCS\INDEX.HTM`

From the `INDEX.HTM` page, you can link to information about the Arbor Essbase API, Calculation commands, Report Writer commands, functions, and `ESSBASE.CFG` settings.

To Install a Web Browser

We recommend using Microsoft® Internet Explorer (Version 3.01 or higher) or Netscape® Navigator (Version 2.0 or higher) to view Arbor Essbase Version 5.0.x HTML documents. If you have another Web browser and are connected to the Internet, you can download them from the Web sites shown in this table.

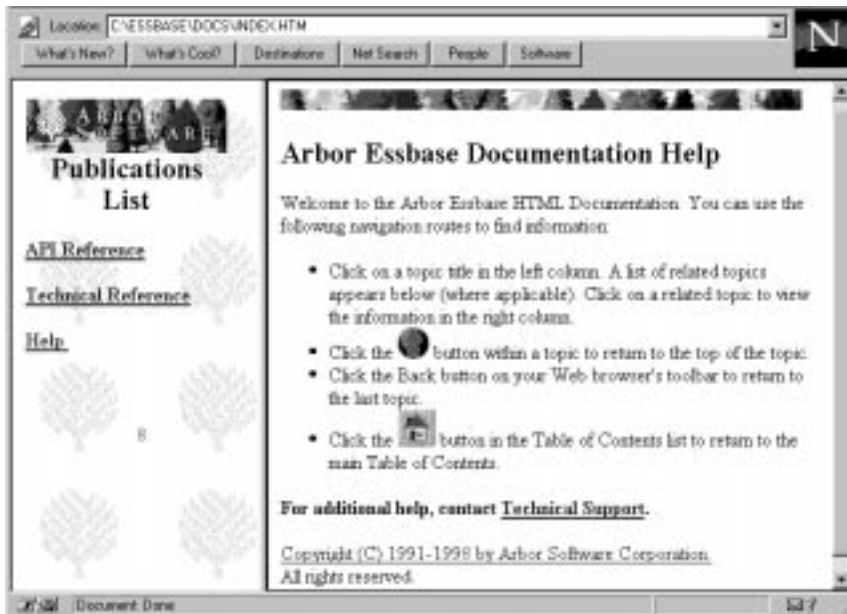
Product	Web Site
Microsoft® Internet Explorer	www.microsoft.com/ie/download/
Netscape® Navigator	www.netscape.com/download/

Microsoft® Internet Explorer is included with Windows 95. Netscape® Navigator can be purchased directly from Netscape. You can also purchase either browser from your software dealer.

Notes:

- After you obtain a Web browser, you do not need to have Internet connectivity to read Arbor Essbase Version 5.0.x HTML documents, because they are installed on your local or network drive.
- You can telephone Microsoft at (800) 426-9400 or Netscape at (650) 937-2555.
- You are responsible for the legal licensing of these browsers.
- ESSCMD is documented separately in its own ESSCMD online help file.

The following shows an example of Arbor Essbase HTML documentation in a Web browser:



Viewing Arbor Essbase .PDF Documents

The *Spreadsheet Add-in User's Guides* are now provided in .PDF format for online viewing and printing in Adobe® Acrobat Reader® (Version 3.0.1). The .PDF files are installed in your \ESSBASE\DOCS\CLIENT directory. There are three different versions of the book, corresponding to each spreadsheet platform:

- If you install the Arbor Essbase Spreadsheet Add-in for Excel, you get the Excel online book, ESSEXCEL.PDF.
- If you install the Arbor Essbase Spreadsheet Add-in for 1-2-3, you get the 1-2-3 online book, ESS123W.PDF.
- If you install the Arbor Essbase Spreadsheet Add-in for Excel Macintosh, you get the Excel Macintosh online book, ESSXLMAC.PDF.

The INTERSOLV ODBC drivers documentation is also included online in .PDF format. The files are installed in the \ESSBASE\ODBCDOCS directory. There are two different versions of this book:

- On Windows NT, the INTERSOLV 3.1 book (BOOKS.PDF) and two subdirectories (ODBCIG and ODBCREF).
- On OS/2, Solaris, and AIX, the INTERSOLV 2.11 book, ODBCREF.PDF. No other files or subdirectories are installed.

To Install Adobe Acrobat Reader

You must view the .PDF documents in Acrobat Reader Version 3.0.1. You can install Acrobat Reader from the Arbor Essbase CD-ROM or download it from WWW.ADOBE.COM.

To install Acrobat Reader from the Arbor Essbase CD-ROM:

1. From the ESSBASE\ADOBE directory, select the appropriate platform sub-directory (MAC, WIN31, or WIN95_NT).
2. In the appropriate platform directory, choose the appropriate language-version sub-directory.
3. Launch the Acrobat Reader executable file, follow the prompts, and provide the information requested.

To View a .PDF File

1. Start Adobe Acrobat Reader.
2. Choose File | Open and navigate to one of the following:
 - The \ESSBASE\DOCS\CLIENT directory for the *Spreadsheet Add-in User's Guide*
 - The \ESSBASE\ODBCDOCS directory for the INTERSOLV ODBC drivers documentation
3. Select the appropriate .PDF file and click **Open**.
4. Use Acrobat Reader's navigation and print tools to find and print the information you need in the .PDF file while viewing it online. For best printing results, print to a PostScript printer.
Note: For information about Acrobat Reader, choose Help | Reader Online Guide from the Reader menu bar.
5. If the text on your screen is unclear:
 - a. Choose File | Preferences | General from the Reader menu bar.
 - b. Clear the **Smooth Text and Monochrome Images** check box.

Platform Support and Hardware Requirements

Arbor Essbase Version 5.0.1 supports the following server and client platforms. Except where noted, these are minimum requirements.

Server Platforms

Windows NT Version	3.51 or 4.0 on 486 or higher machines* 4.0 on DEC Alpha machines
OS/2 Version	4.0 on 486 or higher machines
AIX Version	4.2 and 4.3 on PowerPC machines, including RS 6000
HP-UX Version	10.20 and 11.0 on PA-RISC machines
Solaris Version	2.5.1 and 2.6 on Sun SPARC or ULTRASPARC machines
Windows 95 Version	Personal Essbase for Windows 95 on 486 or higher machines
RAM	32 MB or greater (64 MB or greater recommended for UNIX platforms)**
Disk Space	24-33 MB for the server software and sample applications 8-11 MB for the SQL Interface software and samples
Network Protocol	TCP/IP or Named Pipes (only TCP/IP for Windows 95)

* Personal Essbase for Windows NT on Intel machines is also available.

** The base recommendation for running Arbor Essbase and its sample applications is 32 MB (64 MB on UNIX platforms).
Start with this amount, then allocate additional memory per the following table to accommodate your application.

Arbor Essbase Component	Approximate Amount of Memory Required
Code and static data	3-4 MB
Database outline	200 bytes per member
Index, data, and calculator caches	Per your settings. See the <i>Database Administrator's Guide</i> .

PC Client Platforms

Microprocessor	386 or higher for Arbor Essbase Spreadsheet Add-in 486 or higher for Arbor Essbase Application Manager
Windows Version	Windows 3.1, Windows for Workgroups 3.11, Windows 95, or Windows NT 3.51, or Windows NT 4.0
Excel Version	5.0, 95, or 97
Lotus 1-2-3 Version	5.0
Display	Resolution of at least 640 x 480 (800 x 600 or more recommended)
RAM	4 MB for Arbor Essbase Spreadsheet Add-in on Windows 3.1, Windows for Workgroups 3.11, or Windows NT 3.51 8 MB for Arbor Essbase Spreadsheet Add-in on Windows 95 or Windows NT 4.0 8 MB for Arbor Essbase Application Manager on all supported platforms
Disk Space	13 MB for Arbor Essbase Application Manager 11 MB for Arbor Essbase Spreadsheet Add-in for Lotus 1-2-3 12 MB for Arbor Essbase Spreadsheet Add-in for Excel 5.0 (16-bit) 8 MB for Arbor Essbase Spreadsheet Add-in for Excel 95 or Excel 97 (32-bit) .7 MB for Arbor Essbase SQL Drill-Through
Network Protocol	TCP/IP or Named Pipes

Macintosh Client Platforms

Microprocessor	PowerPC***
OS Version	7.1.2 or later (MacOS 8 not supported)
Excel Version	5.0 for PowerMac
Display	Resolution of at least 640 x 480
RAM	8 MB**** (16 MB recommended for large retrievals)
Disk Space	4 MB for Arbor Essbase Spreadsheet Add-in for Excel Macintosh and ESSCMDM
Network Protocol	TCP/IP

*** 68K Macintosh is not supported.

**** When using Arbor Essbase with Excel 5 on a PowerMac, the Excel application size needs to be at least 5 MB. To set the size, select the Excel program icon, and choose File | Get Info. In the Memory Requirements section, set the Preferred Size to 5000 or greater.

API Client Development Platforms

Windows Version	Windows 3.1, Windows for Workgroups 3.11, or Windows 95 on 386 or higher machines (486 or higher machines recommended)
Windows NT Version	Windows NT 3.51 or 4.0 on 486 or higher machines Windows NT 4.0 on DEC Alpha machines
OS/2 Version	4.0 on 486 or higher machines (Grid API not included)
Macintosh OS Version	7.1.2 or later (MacOS 8 not supported) on PowerPC machines (Grid API not included)
AIX Version	4.2 and 4.3 on PowerPC machines, including RS 6000
HP-UX Version	10.20 and 11.0 on PA-RISC machines
Solaris Version	2.5.1 and 2.6 on Sun SPARC or ULTRASPARC machines
RAM	4 MB (8 MB or more recommended) for Windows 3.1, Windows for Workgroups 3.11, or Windows 95 16 MB for Windows NT or OS/2 32 MB (64 MB or more recommended) for AIX, HP-UX, or Solaris 8 MB for Macintosh
Disk Space	10 MB for 16-bit Arbor Essbase API on Windows 3.1 or Windows for Workgroups 3.11 8 MB for 32-bit Arbor Essbase API on Windows NT or Windows 95 on x86 4 MB for Windows NT on DEC Alpha 4 MB for OS/2 5 MB for AIX 6 MB for HP-UX 6 MB for Solaris 3 MB for Macintosh

SQL Source Connectivity

INTERSOLV ODBC Drivers

INTERSOLV ODBC drivers Version 3.1 on Windows NT, and Version 2.11 on AIX and Solaris, are provided with Arbor Essbase Version 5.0.1 SQL Interface.

Arbor Software has tested the following database configurations.

Note: Arbor Software tests only a limited number of driver configurations. Contact the provider of your driver if you have problems with a configuration.

Database Source (via Database Client)	NT 3.51*	NT 4.0*	AIX 4.3	Solaris 2.6
DB2/2.1.1 (via CAE 2.1.2) DB2/5.0 (via CAE 5.0)	✓	✓	✓ ✓	
DBASE V	✓	✓	✓	✓
Informix 7.22 (via CLI 2.5)		✓	—	—
Oracle 7.3.3 (via SQL*Net 2.3.3) Oracle 8.0.4 (via SQL*Net 8.0)	✓	✓	✓	✓
SQL Server 6.0 SQL Server 6.5	✓	✓	N/A	N/A
Sybase 11.1.0 (via Sybase Open Client 11.1.0) Sybase 11.5.0 (via Sybase Open Client 11.5.0)	✓	✓	—	—

* Arbor Essbase SQL Interface for Windows NT on DEC Alpha is not supported.

✓ These drivers and database sources have been tested with Arbor Essbase. They work together successfully, subject to the limitations documented in the `README.TXT` file and the Arbor Essbase Technical Support Web site.

— These drivers and database sources have been tested with Arbor Essbase, and do not work.

N/A These drivers are not available for these databases.

A blank cell indicates that these drivers and database sources have not been tested.

Note: If you are using Arbor Essbase *Client SQL Drill-Through*, see the table in “Client SQL Drill-Through Configurations.”

Non-INTERSOLV ODBC Drivers

The following non-INTERSOLV drivers are *not* provided with Arbor Essbase Version 5.0.1 SQL Interface.

Arbor Software has tested the following database configurations.

Note: Arbor Software tests and supports only a limited number of driver configurations. Contact the provider of your driver if you have problems with a configuration that Arbor Software does not support.

Database Source (ODBC Driver via Database Client)	NT 3.51*	NT 4.0*	AIX 4.3
Access 95/97 (Microsoft driver)		✓	
DB2/2.1.1 (IBM driver via CAE 2.1.2)	✓		✓
DB2/5.0.0 (IBM driver via CAE 5.0)		✓	✓
DBASE V (Microsoft driver)	✓	✓	
Informix 7.22 (Informix driver via CLI 2.5)		✓	—
Oracle 8.0.4 (Oracle driver via SQL*Net 8.0)		✓	
SQL Server 6.0 (Microsoft driver)	✓		
SQL Server 6.5 (Microsoft driver)		✓	
Sybase 11.5.0 (Sybase driver via Sybase Open Client 11.5.0)		✓	—

* Arbor Essbase SQL Interface for Windows NT on DEC Alpha is not supported.

✓ These drivers and database sources have been tested with Arbor Essbase. They work together successfully, subject to the limitations documented in the README.TXT file and the Arbor Essbase Technical Support Web site.

— These drivers and database sources have been tested with Arbor Essbase, and do not work.

A blank cell indicates that these drivers and database sources have not been tested.

Note: If you are using Arbor Essbase *Client* SQL Drill-Through, see the table in “Client SQL Drill-Through Configurations.”

Client SQL Drill-Through Configurations

The following INTERSOLV drivers are *not* provided with Arbor Essbase Version 5.0.1. You must purchase and license the drivers yourself.

Note: Arbor Essbase Client SQL Drill-Through connects your Arbor Essbase client to a database via an ODBC driver installed on your client machine. The ODBC drivers supplied with Arbor Essbase SQL Interface are installed on your server machine and are not available for Arbor Essbase Client SQL Drill-Through.

Arbor Software has tested the following database configurations with Arbor Essbase 5.0.1 Client SQL Drill-Through, using INTERSOLV ODBC driver Version 3.1 for a database source on Windows NT, and Version 2.11 for a database source on AIX and Solaris.

Note: Arbor Software tests only a limited number of driver configurations. Contact the provider of your driver if you have problems with a configuration.

Database Source (via Database Client)	Spreadsheet Add-in and Operating System	SQL Drill-Through Add-in
DB2/2.1.1 (via CAE 2.1.2) DB2/5.0 (via CAE 5.0)	Excel 95 on Windows NT 4.0 Excel 97 on Windows NT 4.0	32-bit 32-bit
DBASE V	Excel 95 and Excel 97 on Windows NT 4.0	32-bit
Oracle 7.3.3 (via SQL*Net 2.3.3) Oracle 8.0.4 (via SQL*Net 8.0)	Excel 95 and Excel 97 on Windows NT 4.0 Excel 97 on Windows NT 4.0	32-bit 32-bit
SQL Server 6.5	Excel 95 and Excel 97 on Windows NT 4.0	32-bit
Sybase 11.5.0 (via Sybase Open Client 11.5.0)	Excel 95 and Excel 97 on Windows NT 4.0	32-bit

Version 5.0.x Tools and Modules

The following lists the available Arbor Essbase Version 5.0.x modules and the operating systems that they are supported on.

Module	Win 3.1	Win 95	Win 95 Personal Essbase	Windows NT on Intel	Windows NT on Intel Personal Essbase	Windows NT on DEC Alpha	OS/2	AIX	HP-UX	Solaris	Mac	PowerMac
C API - 16 bit	x	x	x	x	x							
C API - 32 bit		x	x	x	x	x	x	x	x	x	x	x
VB API - 16 bit	x	x	x	x	x							
VB API - 32 bit		x	x	x	x							
Grid API - 16 bit	x	x	x	x	x							
Grid API - 32 bit		x	x	x	x			x	x	x		
Spreadsheet Toolkit	x	x	x	x	x						x	x

© 1991-1998 Arbor Software Corporation. All rights reserved.

US Patent Number 5,359,724

Arbor and Essbase are registered trademarks of Arbor Software Corporation.

Microsoft is a registered trademark and Windows is a trademark of Microsoft Corporation. Excel is a product of Microsoft. Lotus, 1-2-3, and OS/2 are registered trademarks of International Business Machines Corporation. All other brand and product names are trademarks or registered trademarks of their respective holders.

No portion of this manual may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or information storage and retrieval systems, for any purpose other than the purchaser's personal use, without the express written permission of Arbor Software Corporation.

Notice: The information contained in this document is subject to change without notice. Arbor Software Corporation shall not be liable for errors contained herein or consequential damages in connection with the furnishing, performance, or use of this material.

Arbor Software Corporation
1344 Crossman Avenue
Sunnyvale, CA 94089