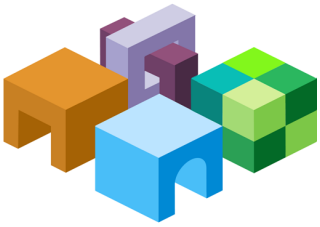

# ORACLE® ESSBASE

*RELEASE 11.1.2.1*

## NEW FEATURES

ORACLE
ENTERPRISE PERFORMANCE MANAGEMENT SYSTEM

This document describes the new features in Oracle Essbase Release 11.1.2.1. For detailed information on these features, see the *Oracle Essbase Database Administrator's Guide*, *Oracle Essbase Technical Reference*, and *Oracle Essbase API Reference*.

For information about the new features in Oracle Essbase Administration Services, see *Oracle Essbase Administration Services New Features*.

Contents In Brief

# Essbase 11.1.2.1 New Features

**Subtopics**



# Essbase Security Backup File Enhancements

**Subtopics**



## Managing Essbase Security Backup Files

You can manage the number of security backup files (`essbase_`*`timestamp`*`.bak`) that Essbase maintains; the interval at which the security backup files are created; and whether to switch to the latest, valid security backup file on startup if the `essbase.sec` file is invalid.

- NUMBEROFSECFILEBACKUPS configuration setting: Specifies the maximum number (up to 10) of security backup files that Essbase creates and maintains. By default, Essbase maintains two versions of `essbase_`*`timestamp`*`.bak`.
- SECFILEBACKUPINTERVAL configuration setting: Specifies the amount of time Essbase waits before creating a security backup file.
- ENABLESWITCHTOBACKUPFILE configuration setting: Specifies whether Essbase loads a valid security backup file at startup if the `essbase.sec` file is invalid.
- **Pre-upgrade Security File Backup**

  When you upgrade to Essbase 11.1.2.1 from an earlier release, a backup of the security file for the earlier release is created before the security file is upgraded. The security file backup, `Essbase.Bak_preUpgrade`, is in `ARBORPATH/bin`. Unlike the `essbase_`*`timestamp`*`.bak` file, which regularly backs up the latest state of Essbase security, this pre-upgrade backup file is kept intact and is not subsequently updated by further operations.

### Reconciling the Essbase Security File to the State of Essbase on an External Disk

When Essbase is started using the latest, valid security backup file (`essbase_timestamp.bak`) instead of `essbase.sec`, you can use the **alter system** MaxL statement to reconcile the security file to match the state of Essbase applications and databases on an external disk.

The **alter system reconcile** grammar logs messages in `essbase.log` when:

- An application or database folder is on the disk but not in the security file
- An application or database is in the security file but not on the disk. In this scenario, using the **alter system reconcile force** grammar removes the application or database from the security file.

## Communicating with Essbase Using SSL

Essbase supports the Secure Socket Layer (SSL) protocol for all client-to-server and server-to-server communication. SSL allows Essbase to communicate unilaterally across a network with Essbase clients, including Oracle Hyperion Provider Services, Oracle Essbase Administration Services, and Oracle Essbase Studio, while preventing eavesdropping and tampering. End-point authentication and communications occur confidentiality over the Internet using CipherSuite cryptography.

These configuration settings supply parameters that enable SSL communication:

- AGENTSECUREPORT
- CLIENTPREFERREDMODE
- ENABLECLEARMODE
- ENABLESECUREMODE
- NETSSLHANDSHAKETIMEOUT
- SSLCIPHERSUITES
- WALLETPATH

For information on using SSL with Essbase, see the *Oracle Hyperion Enterprise Performance Management System Security Administration Guide*.

## Logging In to Essbase Using Logical Names

Essbase cluster logical names can be used for login, in the form <*name*>:<*secure*>. The name is resolved by communication with the Provider Services servers specified in configuration files:

- APSRESOLVER in `essbase.cfg`—Server-to-server communication; for example, when defining Essbase servers for partitions or in the @XREF or @XWRITE calculation functions

- `aps.resolver.urls` in `essbase.properties`—Client-to-server communication; for example, when connecting to Essbase from Oracle Essbase Spreadsheet Add-in or Oracle Hyperion Smart View for Office, Fusion Edition

  See *Oracle Hyperion Provider Services Administration Guide*.

## Starting Essbase on Ports Qualified by Host Names

You can specify the host name to which Essbase binds by using the ESSBASESERVERHOSTNAME configuration setting in `essbase.cfg`. If no host name is specified, Essbase uses a system API to get the host name. Using host names enables you to partition network traffic on all the network interfaces of a computer. This is useful on computers with single network cards and those with multiple NIC cards.

## MDX Query Execution Management

The `essbase.cfg` settings QRYGOVEXECBLK and QRYGOVEXECTIME can now also control long-running MDX queries.

## Essbase API

**Subtopics**



### New C Main API Functions

New user and group identity functions are added, enabling the specification of user directories and unique identity attributes during typical operations. The parameters of these functions identify users and groups that are hosted in a directory.

- EssAddToGroupEx
- EssCreateExtGroup
- EssDeleteFromGroupEx
- EssDeleteGroupEx
- EssDeleteUserEx
- EssGetApplicationAccessEx
- EssGetDatabaseAccessEx
- EssGetGroupInfoEx
- EssGetGroupListEx
- EssGetUserInfoEx

- EssKillRequestEx
- EssListConnectionsEx
- EssListGroupsInfoEx
- EssListLocksEx
- EssListLoginsEx
- EssListRequestsEx
- EssListUsersInfoEx
- EssSetApplicationAccessEx
- EssSetCalcListEx
- EssSetDatabaseAccessEx
- EssSetFilterListEx
- EssSetGroupListEx

### New C Main API Structures

The following new structures are related to the specification of user directories and unique identity attributes.

- ESS_CONNECTINFOEX_T
- ESS_LOCKINFOEX_T
- ESS_REQUESTINFOEX_T
- ESS_USERAPPEX_T
- ESS_USERDBEX_T
- ESS_USERINFOID_T

## New MDX Functions

- DTS
- IsMatch

## New essbase.cfg Configuration Settings

- AGENTSECUREPORT
- APSRESOLVER
- CLIENTPREFERREDMODE
- ENABLECLEARMODE
- ENABLESECUREMODE
- ENABLESWITCHTOBACKUPFILE

- ESSBASESERVERHOSTNAME
- NUMBEROFSECFILEBACKUPS
- SECFILEBACKUPINTERVAL
- SSLCIPHERSUITES
- SSOPTIMIZEDGRIDPROCESSING
- WALLETPATH

# MaxL Statements and Grammar Changes

**Subtopics**



## New MaxL Statements

- The statement **display system** has new **configuration** grammar for displaying Essbase configured values set using the `essbase.cfg` file.

## Changed MaxL Grammar

- Changes to **alter system** statement: The **reconcile** keyword displays discrepancies in application and database information between the security file and the external disk; the **reconcile force** keyword removes from the `essbase.sec` security file applications or databases that do not exist on the external disk but that are listed in the security file.
- Changes to **login** statements:
  - The HOST-NAME parameter can be an Essbase cluster logical name provided that you use the APSRESOLVER configuration setting to specify a Oracle Hyperion Provider Services server to resolve the logical name to the corresponding physical name.
  - If using SSL, append `:secure` to the HOST-NAME parameter; for example:

    ```
    login essexer password on "localhost:secure";
    ```

# Essbase 11.1.2 New Features

### Subtopics



# EPM System Security Enhancements

### Subtopics



## EPM System Security for Users and Groups

When running Essbase in Oracle Hyperion Enterprise Performance Management System security mode, Essbase obtains user and group details (including user and group information and provisioning to Essbase applications) from Oracle's Hyperion® Shared Services. Essbase does not store all users and groups in the Essbase security file (`essbase.sec`); therefore, an Essbase Administrator does not need to explicitly synchronize security between Essbase and Shared Services.

When a user logs on to Essbase, Essbase queries Shared Services for that user's information. The privileges with which a user starts a session are preserved throughout the session, regardless of whether the user's privileges are changed in Shared Services during the session.

The Essbase Administrator can optionally delete a user or group from the Essbase security file. Any calculation or filter assignments are removed; however, the user still exists in Shared Services and is not deprovisioned.

Externally authenticated Essbase groups can be created. The specified group must exist in Shared Services.

Additionally, Essbase accepts the provider name along with the user or group name for user and group management and authentication. For example, users can be created and can log in with the format `userName@providerName`. This enables the coexistence of multiple Essbase users and groups with the same name, who are hosted on different provider domains. See "User and Group Identities" on page 8.

### User and Group Identities

Essbase, when in EPM System security mode, now enables user and group names to be non unique, if you specify the user or group's provider directory or unique identity attribute.

In MaxL, user and group names can be specified as `name@provider` or as a unique identity attribute.

The provider is the name of a user directory, such as LDAP or Active Directory, where the external user or group is hosted. The unique identity attribute, or "identity," is a unique string assigned to every user and group. The identity enables Essbase to distinguish between users and groups with the same name across providers.

## Allocations on Aggregate Storage Databases

Allocations are used in the budgeting process to distribute revenues or costs.

The allocations feature allows you to allocate a given source amount to a target range of cells in an aggregate storage database. The source amount can be allocated to the target proportionately, based on a given basis, or the source amount can be spread evenly to the target.

You can perform aggregate storage allocations using the MaxL statement **execute allocation**. Using the Essbase API, use the EssPerformAllocationAso function and provide the information about the allocation in the ESS_PERF_ALLOC_T API structure.

## Custom Calculations on Aggregate Storage Databases

Custom calculations extend the analytical capabilities of Essbase by enabling the execution of recurring calculations on aggregate storage databases.

You can write custom calculations for aggregate storage databases that update target level-0 cells. Custom calculation scripts are expressed in MDX.

Custom calculations on aggregate storage databases can be useful when the database is used for general ledger reporting, where double-entry accounting is in effect. Debit items, such as assets and expenses, must balance with credit items, such as equity and revenue.

You can perform custom calculations on an aggregate storage database using the MaxL statement **execute calculation** (aggregate storage version). Using the Essbase API, use EssPerformCustomCalcASO to perform or verify a custom calculation. Provide the information for the custom calculation in the ESS_PERF_CUSTCALC_T structure.

## Dynamic Write-back to Blocks During Calculation

Using the @XWRITE calculation function, Essbase can write to blocks other than the ones being calculated. The write can occur in the same database or on a remote database. @XWRITE, like @XREF, uses a location alias.

## Member Query Improvements

Applications developed to work with Essbase send numerous requests to Essbase upon startup or as a response to a user action. To improve response times when users query for member information, you can have the application send multiple similar queries as one, using these new API functions:

- EssOtlGetMemberInfoArray (an array version of GetMemberInfo)
- EssOtlQueryMembersExArray (an array version of QueryMembersEx)

## Alias Table Enhancements

**Subtopics**



### Increased Limit for Alias Tables

Essbase supports 32 alias tables for block storage and aggregate storage databases.

### Multiple Language Code Support for Alias Tables

Using the Essbase API, you can specify multiple language codes for an alias table. When you create an alias table, a language code is not specified. You can get the set of language codes and clear the language codes associated with an alias table.

When clearing aliases from an alias table, language codes are removed from the alias table.

When copying an alias table, language codes are removed from the copied alias table.

When renaming an alias table, language codes are preserved in the renamed alias table.

## Increased Length for User, Group, and Filter Names

Essbase supports these limits for user, group, and filter names:

- Non-Unicode application limit: 256 bytes
- Unicode-mode application limit: 256 characters

## Conversion of Block Storage Outlines to Unicode-mode Aggregate Storage Outlines

In addition to supporting the conversion of non-Unicode block storage outlines to non-Unicode aggregate storage outlines, Essbase supports these conversion scenarios:

- Non-Unicode block storage outline to Unicode aggregate storage outline
- Unicode block storage outline to Unicode aggregate storage outline

## IPv6 Support

Essbase supports the IPv6 internet protocol on Microsoft Windows 2008 and all UNIX platforms.

## OCI Support

Essbase supports connecting to Oracle databases using the Oracle Call Interface (OCI). You can load data from Oracle databases using Data Prep Editor in Administration Services Console by specifying an OCI connect identifier. Additionally, you can specify an OCI connect identifier when deploying a cube using the MaxL **deploy** statement. For information on Oracle Essbase Studio support for OCI, see *Oracle Essbase Studio New Features*.

## Monitoring Progress of Dimension Builds and Data Loads

Previously, data loads and dimension builds were always synchronized processes, meaning that Essbase has to wait for them to finish before making modifications.

If you use asynchronous data loads and dimension builds, during the process you can query for this information:

- State of dimension build/data load process: whether it is in progress, in the final stages, or completed
- Stage of the dimension build/data load process: whether opening the data source, reading the outline, building dimensions, verifying an outline, or writing an outline
- Number of data records processed and rejected so far
- The name and location of the error file
- Data records processed and rejected so far

These C Main API functions are added to handle asynchronous data loads and dimension builds:

- EssAsyncBuildDim issues an asynchronous dimension build request
- EssAsyncImport and EssAsyncImportASO issue asynchronous data load requests
- EssGetAsyncProcLog gets the error log for the asynchronous process
- EssGetAsyncProcState queries the state of the asynchronous process
- EssCancelAsyncProc cancels the asynchronous process
- EssCloseAsyncProc closes the connection for a finished or canceled asynchronous dimension build or data load

## Dataload Error Debugging Improvements

Essbase offers improved dataload error messages for debugging purposes, and records causing errors are included in the log files.

These C Main API functions are added to improve debugging of dataload failures:

- EssUpdateEx—Sends an update specification to the active database as a single string.
- EssUpdateUtf8Ex—Sends an update specification to the active database as a single UTF-8-encoded string.
- EssUpdateFileEx—Sends an update specification to the active database from a file.
- EssUpdateFileUtf8Ex—Sends an update specification to the active database from a UTF-8-encoded file.
- EssUpdateFileASOEx—Sends an update specification to the active aggregate storage database from a file.
- EssUpdateFileASOUtf8Ex—Sends an update specification to the active aggregate storage database from a UTF-8-encoded file.

## Increased Limit for MDX Query Size

Essbase supports MDX queries that exceed the $2^{32}$ query limit. Essbase sends 64-bit values representing cell offsets to the client. The Java MDX API now handles 64-bit offsets.

## User Names with Leading Special Characters

User names can contain any characters defined within the code page referenced by the ESSLANG variable.

## MaxL Shell Error Handling Improvements

The MaxL Shell **IfError** command can detect syntactical errors, nested script errors, and lack-of-permission errors. The MaxL Shell **Exit** command can accept a non-zero argument to return an exit status to the parent shell.

## Exception Messages in Calculation Scripts

Essbase can exit calculations immediately under specified logical conditions. You can use the IF... ELSEIF calculation command block to specify the logical error conditions, and use the new @RETURN function to exit the calculation with customized error messages and levels.

## Metadata Export to XML

You can extract metadata, either from the active database outline or an input outline file, to an XML file. Comparing versions of XML files enables you to view and track changes made to the outline over time.

The MaxL statement **export outline** is added to support exporting the metadata.

## Essbase Failover Support with OPMN

Essbase supports clustering of Essbase servers to provide active-passive failover with write-back capability. Active-passive Essbase failover clusters use the service failover functionality of the Oracle Process Manager and Notification (OPMN) Server. Essbase agent and server processes use leases to ensure that at any given point-in-time there is one and only one owner for a given shared resource. These processes acquire a lease against a particular shared resource upon startup, continue to renew the lease during their lifetime, and surrender the lease upon termination.

These configuration settings supply tuning parameters that support Essbase failover clustering:

- AGENTLEASEEXPIRATIONTIME—Sets the maximum amount of time an agent can own a lease before the lease expires.
- AGENTLEASEMAXTRETRYCOUNT—Specifies the number of times the agent attempts to acquire or renew a lease. If these attempts are unsuccessful, the agent terminates itself.
- AGENTLEASERENEWALTIME—Specifies the time interval in seconds after which the agent attempts to renew lease. This should always be less than AGENTLEASEEXPIRYTIME.
- FAILOVERMODE—Determines whether Essbase is deployed as a failover cluster.
- SERVERLEASEEXPIRATIONTIME—Sets the maximum amount of time Essbase Server can own a lease before the lease expires.
- SERVERLEASEMAXRETRYCOUNT—Specifies the number of times Essbase Server attempts to acquire or renew a lease. If these attempts are unsuccessful, Essbase Server terminates itself.
- SERVERLEASERENEWALTIME—Specifies the time interval in seconds after which Essbase Server attempts to renew lease. This should always be less than SERVERLEASEEXPIRYTIME.

## Specifying Shared Services Project Names

If you migrate Essbase Server and any existing users and groups to Oracle Hyperion Enterprise Performance Management System security mode, you can change the name of the global application and application project in Oracle's Hyperion® Shared Services by using the **alter system** MaxL statement with the **rename global registration name** grammar.

## MaxL Support in Java API

Essbase clients developed in Java can execute MaxL statements to facilitate Oracle Essbase administrative tasks.

## Calculation with Varying Attributes

These calculation functions and command are added to improve calculation of databases that use varying attributes:

- @ISMBRWITHATTR
- @ISATTRIBUTE
- SET SCAPERSPECTIVE

@WITHATTR is enhanced to allow varying attributes to be specified in the function argument.

## Essbase API

**Subtopics**



### New C Main API Functions

- EssAsyncBuildDim
- EssAsyncImport
- EssAsyncImportASO
- EssCancelAsyncProc
- EssCloseAsyncProc
- EssGetAsyncProcLog
- EssGetAsyncProcState
- EssPerformAllocationAso

- EssPerformCustomCalcASO
- EssUpdateEx
- EssUpdateUtf8Ex
- EssUpdateFileEx
- EssUpdateFileUtf8Ex
- EssUpdateFileASOEx
- EssUpdateFileASOUtf8Ex

### New C Main API Structures

- ESS_BLDDL_STATE_T
- ESS_PERF_ALLOC_T
- ESS_PERF_CUSTCALC_T

### New C Outline API Functions

- EssOtlSetAliasTableLanguage
- EssOtlGetAliasTableLanguages
- EssOtlClearAliasTableLanguages
- EssOtlGetAltHierarchyEnabled
- EssOtlSetAltHierarchyEnabled
- EssOtlGetHierarchyType
- EssOtlSetHierarchyType
- EssOtlOpenOutlineEx
- EssOtlWriteOutlineEx
- EssOtlQueryMembersExArray
- EssOtlGetMemberInfoArray

### New Visual Basic Outline API Functions

- EsbOtlSetAliasTableLanguage
- EsbOtlGetAliasTableLanguage
- EsbOtlClearAliasTableLanguages

## New Calculation Functions

- @BETWEEN
- @EQUAL

- @EXPAND
- @ISATTRIBUTE
- @ISMBRWITHATTR
- @LIKE
- @MBRCOMPARE
- @MBRPARENT
- @NOTEQUAL
- @RETURN
- @XWRITE

@WITHATTR is enhanced to allow varying attributes to be specified in the function argument.

## New Calculation Commands

SET SCAPERSPECTIVE

## New essbase.cfg Configuration Settings

- AGENTLEASEEXPIRATIONTIME
- AGENTLEASEMAXTRETRYCOUNT
- AGENTLEASERENEWALTIME
- APSRESOLVER
- ASOSAMPLESIZEPERCENT
- DIMBUILDERRORLIMIT
- FAILOVERMODE
- FILELOCKINGMODE
- NETSSLHANDSHAKETIMEOUT
- PERSISTUSERATLOGIN
- PRELOADUDANAMESPACE
- RTDEPCALCOPTIMIZE
- SERVERLEASEEXPIRATIONTIME
- SERVERLEASEMAXRETRYCOUNT
- SERVERLEASERENEWALTIME
- XOLAPSCHEMAVERIFICATION
- XOLAPMAXNUMCONNECTION
- XOLAPSQLIDLEPERIOD
- XOLAPENABLEHEURISTICS

# MaxL Statements and Grammar Changes

**Subtopics**



## New MaxL Statements

- New statement **execute allocation** (aggregate storage only)
- New statement **execute calculation** (aggregate storage version)
- New statement **export outline**

## Changed MaxL Grammar

- Changes to **alter user** and **alter group** statements to enable revoking filters.
- Changes to **create group** statement to enable creating external groups.
- Changes to **deploy** statement: the **odbc_dsn** keyword enables custom ODBC DSN names, and enables you to specify a Oracle Call Interface (OCI) connect identifier
- Changes to **drop user** and **drop group** statements to enable deletion from `essbase.sec` only.
- Changes to USER-NAME and GROUP-NAME terminals. All user and group names can be of the form *name*, *name@provider*, or **with identity** *STRING*.

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Essbase New Features, 11.1.2.1



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