

## OSID V3 Specifications locale package

Version Draft 2

This specifications represent a draft for OSID V3 interface definitions. These definitions may change at any time.

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Package Description

osid.locale package

Interfaces

osid.locale.LocaleProfile
osid.locale.LocaleManager
osid.locale.LocaleProxyManager
osid.locale.LocaleSession
osid.locale.LocaleAdminSession
osid.locale.UnitConversionSession
osid.locale.CurrencyConversionSession

osid.locale.CalendarConversionSession



| Package     | osid.locale  |
|-------------|--|
| Title       | Locale Open Service Interface Definitions  |
| Version     | 3.0.0  |
| Description | The Locale OSID provides the service of localizing applications defining interfaces for string translation, measurement unit conversion and currency conversion. |



| Interface   |  | osid.lo                   | ocale.LocaleProfile   |
|---|--|---------------------------|---|
| Implements  | osid.OsidProfile   |                           |   |
| Description   |  | scribes the interoperab   | ility of locale services.   |
| Method  |  | suppo                     | rtsVisibleFederation  |
| Description   | Tests if visible federa  |                           |   |
| Return  | boolean  |                           | true if visible federation is supported, false otherwise                      |
| Compliance  | mandatory  |                           | This method must be implemented.  |
| Method  |  | S                         | supportsLocale  |
| Description   | Tests if locale is sup   | ported.                   |   |
| Return  | boolean  |                           | true if locale is supported, false otherwise                                  |
| Compliance  | mandatory  |                           | This method must be implemented.  |
| Method  |  | supp                      | ortsUnitConversion  |
| Description   | Tests if unit conversi   | on is supported.          |   |
| Return  | boolean  |                           | true if unit conversion is supported, false otherwise                         |
| Compliance  | mandatory  |                           | This method must be implemented.  |
| Method  |  | support                   | sCurrencyConversion   |
| Description   | Tests if currency cor  | version is supported.     |   |
| Return  | boolean  |                           | true if currency conversion is supported, false otherwise                     |
| Compliance  | mandatory  |                           | This method must be implemented.  |
| Method  | supportsCalendarConversion   |                           |   |
| Description   | Tests if calendar conversion is supported.                               |                           |   |
| Return  | boolean  |                           | true if calendar conversion is supported, false otherwise                     |
| Compliance  | mandatory  |                           | This method must be implemented.  |
| Method  | supportsLocaleType   |                           |   |
| Description   | Tests if a given local   | e type is supported.      |   |
| Parameters | osid.type.Type   | localeType                | the type of locale  |
| Return  | boolean  |                           | true if the given locale type is supported, false otherwise                   |
| Compliance  | mandatory  |                           | This method must be implemented.  |
| Method  |  | supportsl                 | LocaleConversionTypes   |
| Description   | Tests if a given local   | e translation is support  |   |
| Parameters  | osid.type.Type   | sourceType                | the type of the source locale   |
| - arameters   | osid.type.Type   | targetType                | the type of the target locale   |
| Return  | boolean  |                           | true if the given source and target translation is supported, false otherwise |
| Compliance  | mandatory  |                           | This method must be implemented.  |
| Method  | getLocaleTypesForSource  |                           | caleTypesForSource  |
| Description   | Gets the list of targe   | t locale types for a give | n source language type.   |
| Parameters  | osid.type.Type   | sourceType                | the type of the source language   |
| Return  | osid.type.TypeList the list of supported types for the given source type |                           | the list of supported types for the given source type                         |
| Compliance  | mandatory  |                           | This method must be implemented.  |
| Method  |  | O                         | jetLocaleTypes  |
| Description   | Gets all the locale ty   | pes supported.            |   |
| Return  | osid.type.TypeList   | •                         | the list of supported locale types  |
| Compliance  | mandatory  |                           | This method must be implemented.  |



| Method                 | supportsUnitType  |                          |   |
|------------------------|---|--------------------------|---|
| Description            | Tests if a given unit type  |                          | ortsomerype   |
| Parameters             | osid.type.Type  | unitType                 | the type of unit                                    |
|                        | 71 71   |                          | true if the given unit type is supported, false     |
| Return                 | boolean   |                          | otherwise   |
| Compliance             | mandatory   |                          | This method must be implemented.                    |
| Method                 |   | supportsUnit             | TypesForConversion                                  |
| Description            | Tests if a given measur   | e conversion is supporte |   |
| Davamatava             | osid.type.Type  | sourceType               | the type of the source measure                      |
| Parameters             | osid.type.Type  | targetType               | the type of the target measure                      |
| Return                 | haalaan   |                          | true if the given source and target conversion is   |
| neturn                 | boolean   |                          | supported, false otherwise                          |
| Compliance             | mandatory   |                          | This method must be implemented.                    |
| Method                 |   |                          | tTypesForConversion                                 |
| Description            | Gets the list of target m   | easure types for a given |   |
| Parameters             | osid.type.Type  | unitType                 | the type of the source measure                      |
| Return                 | osid.type.TypeList  |                          | the list of supported measure types                 |
| Compliance             | mandatory   |                          | This method must be implemented.                    |
| Method                 |   |                          | :UnitTypes  |
| Description            | Gets all the unit types s   | supported.               |   |
| Return                 | osid.type.TypeList  |                          | the list of supported unit types                    |
| Compliance             | mandatory   |                          | This method must be implemented.                    |
| Method                 | supportsCurrencyType Tests if the given currency type is supported.                     |                          |   |
| Description Parameters |   |                          | the type of the source currency                     |
| Parameters             | osia.type.rype  | currencyType             | true if the given currency type is supported, false |
| Return                 | boolean   |                          | otherwise   |
| Compliance             | mandatory   |                          | This method must be implemented.                    |
| Method                 | ,   | supportsCurren           | cyTypesForConversion                                |
| Description            | Tests if a given currency conversion is supported.                                      |                          |   |
| Parameters             | osid.type.Type  | sourceType               | the type of the source currency                     |
| Parameters             | osid.type.Type  | targetType               | the type of the target currency                     |
| Return                 | boolean   | •                        | true if the given source and target conversion is   |
| neturii                |   |                          | supported, false otherwise                          |
| Compliance             | mandatory   |                          | This method must be implemented.                    |
| Method                 |   | getCurrencyTar           | getTypesForConversion                               |
| Description            |   | rrency types for a given |   |
| Parameters             | osid.type.Type  | currencyType             | the type of the source currency                     |
| Return                 | osid.type.TypeList  |                          | the list of supported currency types                |
| Compliance             | mandatory   |                          | This method must be implemented.                    |
| Method                 | getCurrencyTypes Gets the list of target measure types for a given source measure type. |                          |   |
| Description            |   | 1                        |   |
| Parameters             | osid.type.Type  | currencyType             | the type of the source currency                     |
| Return                 | osid.type.TypeList  |                          | the list of supported currency types                |
| Compliance             | mandatory   |                          | This method must be implemented.                    |
| Method Description     | Tests if the given calend   |                          | :sCalendarType                                      |
| Parameters             | osid.type.Type  | T                        | the type of the source calendar                     |
| r ai ailicici S        | osia.type.Type  | calendarType             | true if the given calendar type is supported, false |
| Return                 | boolean   |                          | otherwise   |
| Compliance             | mandatory   |                          | This method must be implemented.                    |
| Compliance             | manadory  |                          |   |



| Method      | supportsCalendarTypesForConversion                                     |              |   |
|-------------|--|--------------|---|
| Description | Tests if a given calendar conversion is supported                      |              |   |
| Parameters  | osid.type.Type   | sourceType   | the type of the source calendar                   |
| Parameters  | osid.type.Type   | targetType   | the type of the target calendar                   |
| Deturn      | haalaaa  |              | true if the given source and target conversion is |
| Return      | boolean  |              | supported, false otherwise                        |
| Compliance  | mandatory  |              | This method must be implemented.                  |
| Method      | getCalendarTargetTypesForConversion                                    |              |   |
| Description | Gets the list of target calerndar types for a given                    |              |   |
| Parameters  | osid.type.Type calendarType  |              | the type of the source calendar                   |
| Return      | osid.type.TypeList   |              | the list of supported calendar types              |
| Compliance  | mandatory  |              | This method must be implemented.                  |
| Method      | getCalendarTypes   |              |   |
| Description | Gets the list of target measure types for a given source measure type. |              | ource measure type.                               |
| Parameters  | osid.type.Type   | currencyType | the type of the source measure                    |
| Return      | osid.type.TypeList   |              | the list of supported currency types              |
| Compliance  | mandatory  |              | This method must be implemented.                  |



| Interface   |  | osid.locale                           | e.LocaleManager   |
|-------------|--|---------------------------------------|---|
|             | _  |                                       |   |
| Implements  | osid.OsidManager osid.locale.LocaleProfile   |                                       |   |
|             | The locale manager provides access to locale sessions and provides interoperability tests for various                                |                                       |   |
|             |  | The sessions included in              |   |
|             | • LocaleSession: a ses   | ssion translate strings               |   |
| Description | <ul> <li>LocaleAdminSession</li> </ul>   | n: a session to update the            | ne string translations for a locale   |
|             | <ul> <li>UnitConversionSess</li> </ul>   | sion: a session to conve              | rt measurement units  |
|             | CurrencyConversionSession: a session to convert currency   |                                       |   |
|             | CalendarConversionSession: a session to convert dates across calendars   |                                       |   |
| Method      |  |                                       | caleSession   |
| Description |  | associated with the Loca              |   |
| Return      | osid.locale.LocaleSes  | ssion                                 | a LocaleSession   |
| Errors      | OPERATION_FAILED   |                                       | unable to complete request  |
|             | UNIMPLEMENTED  |                                       | supportsLocale() is false   |
| Compliance  | optional   |                                       | This method must be implemented if  |
| Method      | ·  | maki aasia0                           | supportsLocale() is true.   |
| Description | Gote an OcidSoccion a  |                                       | SessionForLocales IeLookup service and the given locale types.                    |
| -           | osid.type.Type   | sourceType                            | the type of the source language   |
| Parameters  | osid.type.Type   | targetType                            | the type of the target language   |
| Return      | osid.locale.LocaleSes  | ssion                                 | a LocaleSession   |
|             |  |                                       | sourceType or targetType is null  |
|             | OPERATION_FAILED   |                                       | unable to complete request  |
| Errors      | UNIMPLEMENTED  |                                       | supportsLocale() or supportsVisibleFederation()                                   |
| 211013      | ONIMPLEMENTED  |                                       | is false  |
|             | UNSUPPORTED  |                                       | supportsLocaleTypesForConversion(sourceType,                                      |
|             | eneer enee   |                                       | targetType) is false This method must be implemented if                           |
| Compliance  | optional   |                                       | supportsLocale() and  |
| Compliance  |  |                                       | supportsVisibleFederation() are true.   |
| Method      | getLocaleAdn   |                                       |   |
| Description | Gets a locale administration service for updating  |                                       |   |
| Return      | osid.locale.LocaleAdr  |                                       | a LocaleAdminSession  |
| Гичана      | OPERATION_FAILED   |                                       | unable to complete request  |
| Errors      | UNIMPLEMENTED  |                                       | supportsLocaleAdmin() is false  |
| Compliance  | optional   |                                       | This method must be implemented if  |
| •           | Ориона   |                                       | supportsLocaleAdmin() is true.  |
| Method      | getLocaleAdminSessionForLocales  Gets a locale administration service for updating a locale dictionary using the given locale types. |                                       |   |
| Description |  | · · · · · · · · · · · · · · · · · · · | the type of the source language   |
| Parameters  | osid.type.Type   | sourceType                            |   |
| Return      | osid.type.Type   | targetType                            | the type of the target language   |
| neturn      | osid.locale.LocaleAdr<br>NULL ARGUMENT   | ninsession                            | a LocaleAdminSession  |
|             | OPERATION FAILED   |                                       | sourceType or targetType is null unable to complete request                       |
|             | _  |                                       | supportsLocaleAdmin() or  |
| Errors      | UNIMPLEMENTED  |                                       | supportsVisibleFederation() is false  |
|             |  |                                       | supportsVisible ederation() is raise supportsLocaleTypesForConversion(sourceType, |
|             | UNSUPPORTED  |                                       | targetType) is false  |
|             |  |                                       | This method must be implemented if  |
| Compliance  | optional   |                                       | supportsLocaleAdmin() and   |
| Compilation | I  |                                       | supportsVisibleFederation() are true.   |



| Method      | getUnitConversionSession              |                                       |  |
|-------------|---------------------------------------|---------------------------------------|--|
| Description | Gets a unit conversion session.       |                                       |  |
| Return      | osid.locale.UnitConversionSession     | a UnitConversionSession               |  |
| Errors      | OPERATION_FAILED                      | unable to complete request            |  |
| Errors      | UNIMPLEMENTED                         | supportsUnitConversion() is false     |  |
| Compliance  | antional                              | This method must be implemented if    |  |
| Compliance  | optional                              | supportsUnitConversion() is true.     |  |
| Method      | getCurrencyConversionSession          |                                       |  |
| Description | Gets a currency conversion session.   |                                       |  |
| Return      | osid.locale.CurrencyConversionSession | a CurrencyConversionSession           |  |
| Errors      | OPERATION_FAILED                      | unable to complete request            |  |
|             | UNIMPLEMENTED                         | supportsCurrencyConversion() is false |  |
| Compliance  | entional                              | This method must be implemented if    |  |
|             | optional                              | supportsCurrencyConversion() is true. |  |
| Method      | getCalendarConversionSession          |                                       |  |
| Description | Gets a calendar conversion session.   |                                       |  |
| Return      | osid.locale.CalendarConversionSession | a CalendarConversionSession           |  |
| Errors      | OPERATION_FAILED                      | unable to complete request            |  |
| Liiois      | UNIMPLEMENTED                         | supportsCalendarConversion() is false |  |
| Compliance  | ontional                              | This method must be implemented if    |  |
| Compliance  | optional                              | supportsCalendarConversion() is true. |  |



| Implements   |        |
|--|--------|
| The locale manager provides access to locale sessions and provides interoperability tests for varia aspects of this service. Methods in this manager support the passing of an Authentication object for purposes of proxy authentication. The sessions included in this manager are:  - LocaleSession: a session translate strings - LocaleAdminSession: a session to update the string translations for a locale - UnitConversionSession: a session to convert measurement units - CurrencyConversionSession: a session to convert currency - CalendarConversionSession: a session to convert dates across calendars  - Method - getLocaleSession - Description - Gets an OsidSession associated with the Locale service.  - Parameters - osid.authentication.Authentication   authentication   proxy authentication   - getLocaleSession   a LocaleSession   a LocaleSession   - getLocaleSession   a LocaleSession   - getLocaleSession   a LocaleSession   a LocaleSession   a LocaleSession   - getLocaleSession   a LocaleSession   a Locale |        |
| The locale manager provides access to locale sessions and provides interoperability tests for varia aspects of this service. Methods in this manager support the passing of an Authentication object in purposes of proxy authentication. The sessions included in this manager are:  - LocaleSession: a session translate strings - LocaleAdminSession: a session to update the string translations for a locale - UnitConversionSession: a session to convert measurement units - CurrencyConversionSession: a session to convert currency - CalendarConversionSession: a session to convert dates across calendars  - Method - getLocaleSession - Description - Gets an OsidSession associated with the Locale service.  - Parameters - osid.authentication.Authentication   proxy authentication   proxy authentication   - getLocaleSession   a LocaleSession   - NULL_ARGUMENT   authentication is null   - OPERATION_FAILED   unable to complete request   - PERMISSION_DENIED   authentication is invalid   - UNIMPLEMENTED   SupportsLocale() is false   - UNSUPPORTED   Uniset point in the provided in this manager supported in the session and provides interoperability tests for variaspects and provided in this manager support the passing of an Authentication object from purposes of proxy authentication for a locale   - LocaleSession   getLocaleSession   - QetLocaleSession   a LocaleSession   - QetLocaleSession   a LocaleSession   - Quit   Authentication is null   - QetLocaleSession   a LocaleSession   a LocaleSession   - QetLocaleSession   a LocaleSession   a LocaleS |        |
| aspects of this service. Methods in this manager support the passing of an Authentication object for purposes of proxy authentication. The sessions included in this manager are:  - LocaleSession: a session translate strings - LocaleAdminSession: a session to update the string translations for a locale - UnitConversionSession: a session to convert measurement units - CurrencyConversionSession: a session to convert currency - CalendarConversionSession: a session to convert dates across calendars  - Method - Gets an OsidSession associated with the Locale service.  - Parameters - Osid.authentication.Authentication   authentication   proxy authentication   - Return   Osid.locale.LocaleSession   a LocaleSession   - NULL_ARGUMENT   authentication is null   - OPERATION_FAILED   unable to complete request   - PERMISSION_DENIED   authentication is invalid   - UNIMPLEMENTED   supportsLocale() is false   - UNSUPPORTED   Unis method must be implemented if   |        |
| purposes of proxy authentication. The sessions included in this manager are:  - LocaleSession: a session translate strings - LocaleAdminSession: a session to update the string translations for a locale - UnitConversionSession: a session to convert measurement units - CurrencyConversionSession: a session to convert currency - CalendarConversionSession: a session to convert dates across calendars  - Method - getLocaleSession - Description - Gets an OsidSession associated with the Locale service.  - Parameters - Osid.authentication.Authentication   authentication   proxy authentication   - Return - Osid.locale.LocaleSession   a LocaleSession - NULL_ARGUMENT   authentication is null   - OPERATION_FAILED   unable to complete request   - PERMISSION_DENIED   authentication is invalid   - UNIMPLEMENTED   unable to complete request   - PERMISSION_DENIED   supportsLocale() is false   - UNSUPPORTED   This method must be implemented if  | or the |
| LocaleSession: a session translate strings     LocaleAdminSession: a session to update the string translations for a locale     UnitConversionSession: a session to convert measurement units     CurrencyConversionSession: a session to convert currency     CalendarConversionSession: a session to convert dates across calendars      Method  |        |
| LocaleAdminSession: a session to update the string translations for a locale     UnitConversionSession: a session to convert measurement units     CurrencyConversionSession: a session to convert currency     CalendarConversionSession: a session to convert dates across calendars    Method   getLocaleSession  |        |
| LocaleAdminSession: a session to update the string translations for a locale     UnitConversionSession: a session to convert measurement units     CurrencyConversionSession: a session to convert currency     CalendarConversionSession: a session to convert dates across calendars    Method   getLocaleSession  |        |
| UnitConversionSession: a session to convert measurement units     CurrencyConversionSession: a session to convert currency     CalendarConversionSession: a session to convert dates across calendars      Method  |        |
| CurrencyConversionSession: a session to convert currency     CalendarConversionSession: a session to convert dates across calendars      Method  |        |
| • CalendarConversionSession: a session to convert dates across calendars    Method   getLocaleSession  |        |
| Method   Gets an OsidSession associated with the Locale service.   |        |
| Description   Gets an OsidSession associated with the Locale service.   Parameters   osid.authentication   authentication   proxy authe   |        |
| Parameters   |        |
| Return   osid.locale.LocaleSession   a LocaleSession     NULL_ARGUMENT   authentication is null     OPERATION_FAILED   unable to complete request     Errors   PERMISSION_DENIED   authentication is invalid     UNIMPLEMENTED   supportsLocale() is false     UNSUPPORTED   the authentication service is not supported     This method must be implemented if  |        |
| NULL_ARGUMENT   authentication is null   |        |
| PERMISSION_DENIED unable to complete request  PERMISSION_DENIED authentication is invalid  UNIMPLEMENTED supportsLocale() is false  UNSUPPORTED the authentication service is not supported  This method must be implemented if  |        |
| Errors         PERMISSION_DENIED         authentication is invalid           UNIMPLEMENTED         supportsLocale() is false           UNSUPPORTED         the authentication service is not supported           This method must be implemented if  |        |
| UNIMPLEMENTED supportsLocale() is false UNSUPPORTED the authentication service is not supported This method must be implemented if   |        |
| UNSUPPORTED the authentication service is not supported  This method must be implemented if  |        |
| This method must be implemented if   |        |
| I This method must be implemented if   |        |
| Compliance optional supportsLocale() is true.  |        |
| Method getLocaleSessionForLocales  |        |
| Description Gets an OsidSession associated with the LocaleLookup service and the given locale types.   |        |
| osid.type. Type   sourceType   the type of the source language   |        |
| Parameters osid.type.Type targetType the type of the target language   |        |
| osid.authentication.Authentication authentication proxy authentication   |        |
| Return         osid.locale.LocaleSession         a LocaleSession   |        |
| NULL_ARGUMENT authentication, sourceType or targetType i   | s null |
| OPERATION_FAILED unable to complete request  |        |
| PERMISSION_DENIED authentication is invalid  |        |
| Errors supportsLocale() or supportsVisibleFedera   | tion() |
| UNIMPLEMENTED is false   |        |
| supportsLocaleTypesForConversion(sourceType,   |        |
| UNSUPPORTED targetType) is false or the authentication se  | rvice  |
| isnot supported  |        |
| This method must be implemented if   |        |
| Compliance optional supportsLocale() and   |        |
| supportsVisibleFederation() are true.  |        |
| Method getLocaleAdminSession  Description Gets a locale administration service for updating a locale dictionary.   |        |
| Parameters osid.authentication.Authentication authentication proxy authentication  | -      |
| Return osid.locale.LocaleAdminSession a LocaleAdminSession   |        |
| NULL_ARGUMENT authentication is null   |        |
| OPERATION_FAILED unable to complete request  |        |
| Errors PERMISSION_DENIED authentication is invalid   |        |
| UNIMPLEMENTED supportsLocaleAdmin() is false   |        |
| UNSUPPORTED the authentication service is not supported  |        |
| This method must be implemented if   |        |
| Compliance optional supportsLocaleAdmin() is true.   |        |



| Method             | getLocaleAdminSessionForLocales                                   |                         |   |
|--------------------|---|-------------------------|---|
| Description        | Gets a locale administ  |                         | ng a locale dictionary using the given locale types.    |
|                    | osid.type.Type  | sourceType              | the type of the source language                         |
| Parameters         | osid.type.Type  | targetType              | the type of the target language                         |
|                    | osid.authentication.Authentication                                | authentication          | proxy authentication                                    |
| Return             | osid.locale.LocaleAd  | dminSession             | a LocaleAdminSession                                    |
|                    | NULL_ARGUMENT   |                         | authentication, sourceType or targetType is null        |
|                    | OPERATION_FAILED  |                         | unable to complete request                              |
| Errors             | PERMISSION_DENIED   |                         | authentication is invalid                               |
| 211013             | UNIMPLEMENTED   |                         | supportsLocaleAdmin() or                                |
|                    | OTTEN LETTER TEXT   |                         | supportsVisibleFederation() is false                    |
|                    | UNSUPPORTED   |                         | supportsLocaleTypesForConversion(sourceType,            |
|                    |   |                         | targetType) is false This method must be implemented if |
| Commiliance        | antional  |                         |   |
| Compliance         | optional  |                         | supportsLocaleAdmin() and                               |
| Method             |   |                         | supportsVisibleFederation() are true.                   |
| Description        | Gets a unit conversion  |                         | ConversionSession                                       |
| Parameters         | osid.authentication.Authentication                                |                         | proxy authentication                                    |
| Return             | osid.locale.UnitCon   |                         | a UnitConversionSession                                 |
| Hotam              | NULL_ARGUMENT   | VCISIONSCSSION          | authentication is null                                  |
|                    | OPERATION_FAILED  | )                       | unable to complete request                              |
| Errors             | PERMISSION DENI   |                         | authentication is invalid                               |
| 2.1010             | UNIMPLEMENTED   | LD                      | supportsUnitConversion() is false                       |
|                    | UNSUPPORTED   |                         | the authentication service is not supported             |
| -                  |   |                         | This method must be implemented if                      |
| Compliance         | optional  |                         | supportsUnitConversion() is true.                       |
| Method             |   | getCurrenc              | cyConversionSession                                     |
| Description        | Gets a currency conversion session.                               |                         |   |
| Parameters         | osid.authentication.Authentication                                |                         | proxy authentication                                    |
| Return             | osid.locale.CurrencyConversionSession                             |                         | a CurrencyConversionSession                             |
|                    | NULL_ARGUMENT   |                         | authentication is null                                  |
|                    | OPERATION_FAILED  |                         | unable to complete request                              |
| Errors             | PERMISSION_DENIED   |                         | authentication is invalid                               |
|                    | UNIMPLEMENTED   |                         | supportsCurrencyConversion() is false                   |
|                    | UNSUPPORTED   |                         | the authentication service is not supported             |
| Compliance         | optional  |                         | This method must be implemented if                      |
| Mathad             |   | 10 1 1                  | supportsCurrencyConversion() is true.                   |
| Method Description | getCalendarConversionSession  Gets a calendar conversion session. |                         |   |
| Parameters         | osid.authentication.Authentication                                | 1                       | proxy authentication                                    |
| Return             | osid.locale.Calenda   |                         | a CalendarConversionSession                             |
| rictum             | NULL_ARGUMENT   | I COLLACT STOLL SESSIOL | authentication is null                                  |
|                    | OPERATION_FAILED  | <u> </u>                | unable to complete request                              |
| Errors             | PERMISSION DENI   |                         | authentication is invalid                               |
| LIIUIS             | UNIMPLEMENTED   | LD                      | supportsCalendarConversion() is false                   |
|                    | UNSUPPORTED   |                         | the authentication service is not supported             |
|                    |   |                         | This method must be implemented if                      |
| Compliance         | optional  |                         | supportsCalendarConversion() is true.                   |
|                    | 1   |                         | pappor cocarenaar conversion() is true.                 |



| Interface    | osid.locale.LocaleSession  |                              |   |
|--------------|--|------------------------------|---|
| Implements   | osid.OsidSession   |                              |   |
| Description  | This session defines me  | ethods to translate text be  | tween a source and target locale.                               |
| Method       |  | getSo                        | urceLocale  |
| Description  | Gets the source Locale   | used in this session.        |   |
| Return       | osid.type.Type   |                              | the source Locale   |
| Compliance   | mandatory  |                              | This method must be implemented.                                |
| Method       |  | getTa                        | rgetLocale  |
| Description  | Gets the target Locale   | used in this session.        |   |
| Return       | osid.type.Type   |                              | the target Locale   |
| Compliance   | mandatory  |                              | This method must be implemented.                                |
| Method       | canTranslate   |                              |   |
| Description  | Tests if this user can perform locale translations. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer lookup operations. |                              |   |
| Return       | boolean  |                              | false if translation methods are not authorized, true otherwise |
| Compliance   | mandatory  |                              | This method must be implemented.                                |
| Method       |  | tran                         | slateText   |
| Description  | Translates the given str   | ing into the current locale. |   |
| Parameters   | string   | text                         | the string to translate   |
| - Tarameters | string   | defaultText                  | the default string if no translation available.                 |
| Return       | string the translated string or the given default value translation available.   |                              |   |
|              | NULL_ARGUMENT  |                              | null argument provided  |
| Errors       | OPERATION_FAILED   |                              | unable to complete request                                      |
|              | PERMISSION_DENIE   | D                            | authorization failure   |
| Compliance   | mandatory  |                              | This method must be implemented.                                |



| Interface   |  | osid.locale.Lo              | caleAdminSession   |
|-------------|--|-----------------------------|--|
| Implements  | osid.OsidSession   |                             |  |
| Description | This session defines m   | ethods to translate and for | mat text between a source and target locale.               |
| Method      |  | getSo                       | ırceLocale   |
| Description | Gets the source Locale used in this session.   |                             |  |
| Return      | osid.type.Type   |                             | the source Locale  |
| Compliance  | mandatory  |                             | This method must be implemented.                           |
| Method      |  | getTa                       | rgetLocale   |
| Description | Gets the target Locale   | used in this session.       |  |
| Return      | osid.type.Type   |                             | the target Locale  |
| Compliance  | mandatory  |                             | This method must be implemented.                           |
| Method      |  |                             | dateLocale   |
| Description | Tests if this user can update localization strings. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer notification operations. |                             |  |
| Return      | boolean  |                             | false if changing locale is not authorized, true otherwise |
| Compliance  | mandatory  |                             | This method must be implemented.                           |
| Method      | addT   |                             | anslation  |
| Description | Adds or updates a string translation.  |                             |  |
| Parameters  | string   | sourceText                  | the source string  |
| - arameters | string   | targetText                  | the translated string                                      |
| Errors      | OPERATION_FAILED   |                             | unable to complete request                                 |
| 211010      | PERMISSION_DENIE   | :D                          | authorization failure                                      |
| Compliance  | mandatory  |                             | This method must be implemented.                           |
| Method      | removeTrans  |                             | Translation  |
| Description | Removes a translation.   |                             |  |
| Parameters  | string   | sourceText                  | the source string  |
| Errors      | OPERATION_FAILED   |                             | unable to complete request                                 |
|             | PERMISSION_DENIE   | D                           | authorization failure                                      |
| Compliance  | mandatory  |                             | This method must be implemented.                           |



| Interface   | osid.locale.UnitConversionSession   |                |   |
|-------------|---|----------------|---|
| Implements  | osid.OsidSession  |                |   |
| Description | This session defines methods to convert units across measurement systems.   |                |   |
| Method      | canConvertUnits   |                |   |
| Description | Tests if this user can perform unit conversions. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer look operations. |                | is known all methods in this session will result in a                               |
| Return      | boolean   |                | false if conversion methods are not authorized, true otherwise                      |
| Compliance  | mandatory   |                | This method must be implemented.  |
| Method      | con   |                | onvertUnits   |
| Description | Convert units.  |                |   |
|             | float   | sourceUnit     | the measure to convert  |
| Parameters  | osid.type.Type  | sourceUnitType | the type of measure specified   |
|             | osid.type.Type  | targetUnitType | the type of converted measure   |
| Return      | float   |                | resulting measure   |
|             | NULL_ARGUMENT   | •              | null argument provided  |
|             | OPERATION_FAIL  | ED             | unable to complete request  |
| Errors      | PERMISSION_DEN  | NIED           | authorization failure   |
|             | UNSUPPORTED   |                | LocaleManager.supportsUnitTypesForConversion(meas ureType, conversionType) is false |
|             | mandatory   |                | This method must be implemented.  |



| Interface            | osid.locale.CurrencyConversionSession   |   |   |  |
|----------------------|---|---|---|--|
| Implements           | osid.OsidSession  |   |   |  |
| Description          | This session defines methods to convert currency.   |   |   |  |
| Method               | canConvertCurrency  |   |   |  |
| Description          | Tests if this user can perform currency conversions. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer lookup operations. |   |   |  |
| Return               | boolean   |   | false if conversion methods are not authorized, true otherwise  |  |
| Compliance           | mandatory   |   | This method must be implemented.  |  |
| Method               | convertCurrency   |   |   |  |
| Description          | Converts currency.  |   |   |  |
|                      |   |   |   |  |
|                      | cardinal  | sourceCurrencyUnits                       | the currency units to convert   |  |
| Parameters           | cardinal<br>osid.type.Type  | sourceCurrencyUnits<br>sourceCurrencyType | the currency units to convert<br>the type of currency   |  |
| Parameters           |   | <u> </u>                                  | the type of currency the target currency units  |  |
| Parameters<br>Return | osid.type.Type  | sourceCurrencyType                        | the type of currency  |  |
|                      | osid.type.Type<br>osid.type.Type  | sourceCurrencyType                        | the type of currency the target currency units resulting currency units null argument provided  |  |
|                      | osid.type.Type<br>osid.type.Type<br>cardinal  | sourceCurrencyType                        | the type of currency the target currency units resulting currency units null argument provided unable to complete request                       |  |
|                      | osid.type.Type<br>osid.type.Type<br>cardinal<br>NULL_ARGUMENT   | sourceCurrencyType<br>targetCurrencyType  | the type of currency the target currency units resulting currency units null argument provided unable to complete request authorization failure |  |
| Return               | osid.type.Type<br>osid.type.Type<br>cardinal<br>NULL_ARGUMENT<br>OPERATION_FAILED   | sourceCurrencyType<br>targetCurrencyType  | the type of currency the target currency units resulting currency units null argument provided unable to complete request                       |  |



| Interface            | osid.locale.CalendarConversionSession   |   |   |
|----------------------|---|---|---|
| Implements           | osid.OsidSession  |   |   |
| Description          | This session defines methods to convert dates across calendar systems.  |   |   |
| Method               | canConvertCalendars   |   |   |
| Description          | Tests if this user can perform calendar conversions. A return of true does not guarantee successful authorization. A return of false indicates that it is known all methods in this session will result in a PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer lookup operations. |   |   |
| Return               | boolean   |   | false if conversion methods are not authorized, true otherwise  |
| Compliance           | mandatory   |   | This method must be implemented.  |
| Method               | convertCalendar   |   |   |
| Description          | Converts a date/time from one calendar to another.  |   |   |
|                      |   |   |   |
|                      | osid.calendaring.DateTime   | sourceDateTime                                    | the date/time units to convert  |
| Parameters           | osid.calendaring.DateTime osid.type.Type  | sourceDateTime<br>sourceCalendarType              | the date/time units to convert<br>the calendar type   |
| Parameters           |   |   |   |
| Parameters<br>Return | osid.type.Type  | sourceCalendarType<br>targetCalendarType          | the calendar type   |
|                      | osid.type.Type<br>osid.type.Type  | sourceCalendarType<br>targetCalendarType          | the calendar type the resulting calendar type   |
|                      | osid.type.Type<br>osid.type.Type<br>osid.calendaring.Dat  | sourceCalendarType<br>targetCalendarType          | the calendar type the resulting calendar type the resulting date/time   |
|                      | osid.type.Type<br>osid.type.Type<br>osid.calendaring.Dat<br>NULL_ARGUMENT   | sourceCalendarType<br>targetCalendarType<br>eTime | the calendar type the resulting calendar type the resulting date/time null argument provided unable to complete request authorization failure |
| Return               | osid.type.Type<br>osid.type.Type<br>osid.calendaring.Dat<br>NULL_ARGUMENT<br>OPERATION_FAILED   | sourceCalendarType<br>targetCalendarType<br>eTime | the calendar type the resulting calendar type the resulting date/time null argument provided unable to complete request                       |