



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.

Last Modified: 4 July 2008

prepared by:
Tom Coppeto
OnTapSolutions

Copyright © 2008 Massachusetts Institute of Technology

OSID License	
Copyright	Copyright © 2002-2008 Massachusetts Institute of Technology. All Rights Reserved.
License	<p>This Work is being provided by the copyright holder(s) subject to the following license. By obtaining, using and/or copying this Work, you agree that you have read, understand, and will comply with the following terms and conditions.</p> <p>This Work and the information contained herein is provided on an "AS IS" basis. The Massachusetts Institute of Technology, the Open Knowledge Initiative, and THE AUTHORS DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE WORK OR THE USE OR OTHER DEALINGS IN THE WORK.</p> <p>Permission to use, copy and distribute unmodified versions of this Work, for any purpose, without fee or royalty is hereby granted, provided that you include the above copyright notice and the terms of this license on ALL copies of the Work or portions thereof.</p> <p>You may modify or create Derivatives of this Work only for your internal purposes. You shall not distribute or transfer any such Derivative of this Work to any location or to any third party. For the purposes of this license, Derivative shall mean any derivative of the Work as defined in the United States Copyright Act of 1976, such as a translation or modification.</p> <p>The export of software employing encryption technology may require a specific license from the United States Government. It is the responsibility of any person or organization contemplating export to obtain such a license before exporting this Work.</p>

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.locale.LocaleProfile		
Implements	osid.OsidProfile		
Description	The locale profile describes the interoperability of locale services.		
Method	supportsVisibleFederation		
Description	Tests if visible federation is supported.		
Return	boolean	true if visible federation is supported, false otherwise	
Compliance	mandatory	This method must be implemented.	
Method	supportsLocale		
Description	Tests if locale is supported.		
Return	boolean	true if locale is supported, false otherwise	
Compliance	mandatory	This method must be implemented.	
Method	supportsUnitConversion		
Description	Tests if unit conversion is supported.		
Return	boolean	true if unit conversion is supported, false otherwise	
Compliance	mandatory	This method must be implemented.	
Method	supportsCurrencyConversion		
Description	Tests if currency conversion 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 locale 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	supportsLocaleConversionTypes		
Description	Tests if a given locale translation is supported.		
Parameters	osid.type.Type	sourceType	the type of the source locale
	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		
Description	Gets the list of target locale types for a given 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
Compliance	mandatory	This method must be implemented.	
Method	getLocaleTypes		
Description	Gets all the locale types 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 is supported.		
Parameters	osid.type.Type	unitType	the type of unit
Return	boolean		true if the given unit type is supported, false otherwise
Compliance	mandatory		This method must be implemented.
Method	supportsUnitTypesForConversion		
Description	Tests if a given measure conversion is supported.		
Parameters	osid.type.Type	sourceType	the type of the source measure
	osid.type.Type	targetType	the type of the target measure
Return	boolean		true if the given source and target conversion is supported, false otherwise
Compliance	mandatory		This method must be implemented.
Method	getUnitTargetTypesForConversion		
Description	Gets the list of target measure types for a given source measure type.		
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	getUnitTypes		
Description	Gets all the unit types supported.		
Return	osid.type.TypeList		the list of supported unit types
Compliance	mandatory		This method must be implemented.
Method	supportsCurrencyType		
Description	Tests if the given currency type is supported.		
Parameters	osid.type.Type	currencyType	the type of the source currency
Return	boolean		true if the given currency type is supported, false otherwise
Compliance	mandatory		This method must be implemented.
Method	supportsCurrencyTypesForConversion		
Description	Tests if a given currency conversion is supported.		
Parameters	osid.type.Type	sourceType	the type of the source currency
	osid.type.Type	targetType	the type of the target currency
Return	boolean		true if the given source and target conversion is supported, false otherwise
Compliance	mandatory		This method must be implemented.
Method	getCurrencyTargetTypesForConversion		
Description	Gets the list of target currency types for a given source measure type.		
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		
Description	Gets the list of target measure types for a given source measure type.		
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	supportsCalendarType		
Description	Tests if the given calendar type is supported.		
Parameters	osid.type.Type	calendarType	the type of the source calendar
Return	boolean		true if the given calendar type is supported, false otherwise
Compliance	mandatory		This method must be implemented.

Method	supportsCalendarTypesForConversion		
Description	Tests if a given calendar conversion is supported.		
Parameters	osid.type.Type	sourceType	the type of the source calendar
	osid.type.Type	targetType	the type of the target calendar
Return	boolean		true if the given source and target conversion is supported, false otherwise
Compliance	mandatory		This method must be implemented.
Method	getCalendarTargetTypesForConversion		
Description	Gets the list of target calendar types for a given source measure type.		
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.		
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.LocaleManager		
Implements	osid.OsidManager		
	osid.locale.LocaleProfile		
Description	The locale manager provides access to locale sessions and provides interoperability tests for various aspects of this service. The sessions included in this manager are: <ul style="list-style-type: none">• 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.		
Return	osid.locale.LocaleSession	a LocaleSession	
Errors	OPERATION_FAILED	unable to complete request	
	UNIMPLEMENTED	supportsLocale() is false	
Compliance	optional	This method must be implemented if supportsLocale() is true.	
Method	getLocaleSessionForLocales		
Description	Gets an OsidSession associated with the LocaleLookup service and the given locale types.		
Parameters	osid.type.Type	sourceType	the type of the source language
	osid.type.Type	targetType	the type of the target language
Return	osid.locale.LocaleSession	a LocaleSession	
Errors	NULL_ARGUMENT	sourceType or targetType is null	
	OPERATION_FAILED	unable to complete request	
	UNIMPLEMENTED	supportsLocale() or supportsVisibleFederation() is false	
	UNSUPPORTED	supportsLocaleTypesForConversion(sourceType, targetType) is false	
Compliance	optional	This method must be implemented if supportsLocale() and supportsVisibleFederation() are true.	
Method	getLocaleAdminSession		
Description	Gets a locale administration service for updating a locale dictionary.		
Return	osid.locale.LocaleAdminSession	a LocaleAdminSession	
Errors	OPERATION_FAILED	unable to complete request	
	UNIMPLEMENTED	supportsLocaleAdmin() is false	
Compliance	optional	This method must be implemented if supportsLocaleAdmin() is true.	
Method	getLocaleAdminSessionForLocales		
Description	Gets a locale administration service for updating a locale dictionary using the given locale types.		
Parameters	osid.type.Type	sourceType	the type of the source language
	osid.type.Type	targetType	the type of the target language
Return	osid.locale.LocaleAdminSession	a LocaleAdminSession	
Errors	NULL_ARGUMENT	sourceType or targetType is null	
	OPERATION_FAILED	unable to complete request	
	UNIMPLEMENTED	supportsLocaleAdmin() or supportsVisibleFederation() is false	
	UNSUPPORTED	supportsLocaleTypesForConversion(sourceType, targetType) is false	
Compliance	optional	This method must be implemented if supportsLocaleAdmin() and supportsVisibleFederation() are true.	

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

Interface	osid.locale.LocaleProxyManager		
Implements	osid.OsidProxyManager osid.locale.LocaleProfile		
Description	The locale manager provides access to locale sessions and provides interoperability tests for various aspects of this service. Methods in this manager support the passing of an Authentication object for the purposes of proxy authentication. The sessions included in this manager are: <ul style="list-style-type: none">• 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
Errors	NULL_ARGUMENT		authentication is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authentication is invalid
	UNIMPLEMENTED		supportsLocale() is false
	UNSUPPORTED		the authentication service is not supported
Compliance	optional		This method must be implemented if supportsLocale() is true.
Method	getLocaleSessionForLocales		
Description	Gets an OsidSession associated with the LocaleLookup service and the given locale types.		
Parameters	osid.type.Type	sourceType	the type of the source language
	osid.type.Type	targetType	the type of the target language
	osid.authentication.Authentication	authentication	proxy authentication
Return	osid.locale.LocaleSession		a LocaleSession
Errors	NULL_ARGUMENT		authentication, sourceType or targetType is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authentication is invalid
	UNIMPLEMENTED		supportsLocale() or supportsVisibleFederation() is false
	UNSUPPORTED		supportsLocaleTypesForConversion(sourceType, targetType) is false or the authentication service isnot supported
Compliance	optional		This method must be implemented if 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
Errors	NULL_ARGUMENT		authentication is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authentication is invalid
	UNIMPLEMENTED		supportsLocaleAdmin() is false
	UNSUPPORTED		the authentication service is not supported
Compliance	optional		This method must be implemented if supportsLocaleAdmin() is true.

Method	getLocaleAdminSessionForLocales		
Description	Gets a locale administration service for updating a locale dictionary using the given locale types.		
Parameters	osid.type.Type	sourceType	the type of the source language
	osid.type.Type	targetType	the type of the target language
	osid.authentication.Authentication	authentication	proxy authentication
Return	osid.locale.LocaleAdminSession		a LocaleAdminSession
Errors	NULL_ARGUMENT		authentication, sourceType or targetType is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authentication is invalid
	UNIMPLEMENTED		supportsLocaleAdmin() or supportsVisibleFederation() is false
	UNSUPPORTED		supportsLocaleTypesForConversion(sourceType, targetType) is false
Compliance	optional		This method must be implemented if supportsLocaleAdmin() and supportsVisibleFederation() are true.
Method	getUnitConversionSession		
Description	Gets a unit conversion session.		
Parameters	osid.authentication.Authentication	authentication	proxy authentication
Return	osid.locale.UnitConversionSession		a UnitConversionSession
Errors	NULL_ARGUMENT		authentication is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authentication is invalid
	UNIMPLEMENTED		supportsUnitConversion() is false
	UNSUPPORTED		the authentication service is not supported
Compliance	optional		This method must be implemented if supportsUnitConversion() is true.
Method	getCurrencyConversionSession		
Description	Gets a currency conversion session.		
Parameters	osid.authentication.Authentication	authentication	proxy authentication
Return	osid.locale.CurrencyConversionSession		a CurrencyConversionSession
Errors	NULL_ARGUMENT		authentication is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authentication is invalid
	UNIMPLEMENTED		supportsCurrencyConversion() is false
	UNSUPPORTED		the authentication service is not supported
Compliance	optional		This method must be implemented if supportsCurrencyConversion() is true.
Method	getCalendarConversionSession		
Description	Gets a calendar conversion session.		
Parameters	osid.authentication.Authentication	authentication	proxy authentication
Return	osid.locale.CalendarConversionSession		a CalendarConversionSession
Errors	NULL_ARGUMENT		authentication is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authentication is invalid
	UNIMPLEMENTED		supportsCalendarConversion() is false
	UNSUPPORTED		the authentication service is not supported
Compliance	optional		This method must be implemented if supportsCalendarConversion() is true.

Interface	osid.locale.LocaleSession		
Implements	osid.OsidSession		
Description	This session defines methods to translate text between a source and target locale.		
Method	getSourceLocale		
Description	Gets the source Locale used in this session.		
Return	osid.type.Type	the source Locale	
Compliance	mandatory	This method must be implemented.	
Method	getTargetLocale		
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	translateText		
Description	Translates the given string into the current locale.		
Parameters	string	text	the string to translate
	string	defaultText	the default string if no translation available.
Return	string	the translated string or the given default value if no translation available.	
Errors	NULL_ARGUMENT		null argument provided
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
Compliance	mandatory	This method must be implemented.	

Interface	osid.locale.LocaleAdminSession		
Implements	osid.OsidSession		
Description	This session defines methods to translate and format text between a source and target locale.		
Method	getSourceLocale		
Description	Gets the source Locale used in this session.		
Return	osid.type.Type	the source Locale	
Compliance	mandatory	This method must be implemented.	
Method	getTargetLocale		
Description	Gets the target Locale used in this session.		
Return	osid.type.Type	the target Locale	
Compliance	mandatory	This method must be implemented.	
Method	canUpdateLocale		
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	addTranslation		
Description	Adds or updates a string translation.		
Parameters	string	sourceText	the source string
	string	targetText	the translated string
Errors	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
Compliance	mandatory	This method must be implemented.	
Method	removeTranslation		
Description	Removes a translation.		
Parameters	string	sourceText	the source string
Errors	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		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 lookup operations.		
Return	boolean	false if conversion methods are not authorized, true otherwise	
Compliance	mandatory	This method must be implemented.	
Method	convertUnits		
Description	Convert units.		
Parameters	float	sourceUnit	the measure to convert
	osid.type.Type	sourceUnitType	the type of measure specified
	osid.type.Type	targetUnitType	the type of converted measure
Return	float	resulting measure	
Errors	NULL_ARGUMENT		null argument provided
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
	UNSUPPORTED		LocaleManager.supportsUnitTypesForConversion(measureType, conversionType) is false
Compliance	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.		
Parameters	cardinal	sourceCurrencyUnits	the currency units to convert
	osid.type.Type	sourceCurrencyType	the type of currency
	osid.type.Type	targetCurrencyType	the target currency units
Return	cardinal	resulting currency units	
Errors	NULL_ARGUMENT		null argument provided
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
	UNSUPPORTED		LocaleManager.supportsCurrencyTypesForConversion(sourceCurrencyType, targetCurrencyType) is false
Compliance	mandatory	This method must be implemented.	

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.		
Parameters	osid.calendaring.DateTime	sourceDateTime	the date/time units to convert
	osid.type.Type	sourceCalendarType	the calendar type
	osid.type.Type	targetCalendarType	the resulting calendar type
Return	osid.calendaring.DateTime		the resulting date/time
Errors	NULL_ARGUMENT		null argument provided
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIED		authorization failure
	UNSUPPORTED		LocaleManager.supportsCalendarTypesForConversion(sourceCalendarType, targetCalendarType) is false
Compliance	mandatory	This method must be implemented.	