Track: Interface Status: Accepted

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# **Id Assignment**

# **Status**

This document is a request for a specification change for review.

# Summary

This document is a request to expand the functionality of the Id OSID to include external management of Ids, creation of Ids based on sequence numbers, and management of external codes.

# **Table of Contents**

1.	Current Specification		
	Problem		
		Federation	
		Code Management	
		Conventions	
3.		Change	
-	a.	7.17	
	h	IdAdminSession	
	C.	7.15	
		Id Batch OSID	
1		Change	
5.	Impacts		3
	5.1	1. Specification	3
	5.2	<del>-</del>	
	5.3		
6.	Interopera	ability Considerations	4
	-	Interfaces	
	/.]	1. osid.id.IdIssueSession	4

	7.2.	osid.id.IdAdminSession	4
	7.3.	osid.id.IdForm	6
8.	Example		7
	1	atement	

# 1. Current Specification

The IdAdminSession defines a createId() method to return a new Id. This was intended for use as an underlying supporting service for the creation of entities in other OSIDs.

Ids are opaque to parties other than the one responsible for its construction. As an OsidPrimitive, Ids may be constructed by OSID Consumers or OSID Providers. However, only OSID Providers may assign the primary Id in a create operation.

The Id OSID has followed the principle of ownership by OSID Providers in that only the Id OSID Provider may assign an Id. This prevents the Id OSID from being used to manage Ids owned and generated, or partially specified, by its consumer.

The current specification also states that once an Id is assigned to an OsidObject, it is permanent and the Id may never be deleted. The OSIDs live in a fantasy world where entities exist forever and no system change should ever introduce incompatibilities. In other words, it leaves these issues to be addressed outside the specification.

## 2. Problem

## 1. Federation

There is an assumption that all Ids are being assigned out of the same authority and namespace. Different OSID ID Providers are required to manage Id assignment for more than one entity.

# 2. Code Management

It is desirable to be able to register an externally generated Id in the Id OSID to relating internally generated Ids to external codes using the aliasing mechanism.

## 3. Sequencing

It is desirable to use the Id OSID to manage assignment of unique sequences or portions of an Id identifier for code generation.

#### 4. Conventions

The create operations are well established. Using OsidForms, they communicate what an OSID Consumer may affect and what may be constrained by an OSID Provider. The current createId() method does not follow these conventions.

The batch version of createId is embedded in the same OSID Package where in all other OSIDs it is in its own package.

# 3. Proposed Change

#### a. IdlssueSession

This IdIssueSession will handle the simple issuing of new Ids where the OSID Consumer has no control of the Ids created. It will be set apart from the standard create pattern found in the administrative OsidSessions.

#### b. IdAdminSession

The IdAdminSession will follow standard patterns and create Ids via an IdForm submission.

#### c. IdForm

The IdForm will allow the components of the Id to be set by its OSID Consumer. It will also be possible to communicate an identifier prefix by which an OSID Provider can manage unique sequence numbers.

#### d. Id Batch OSID

The batch operations for both issuing and creating Ids will be moved out of the top-level package to the Id Batch OSID.

# 4. Scope of Change

- 1. This change does not challenge the "Ids should never go away" doctrine. There is no delete or update operation. The aliasing mechanism in the IdAdminSession requires both Ids be already known to the Id OSID Provider. As such, aliases may be removed and later assigned to other Ids without removing the Ids themselves.
- 2. The Id remains an OsidPrimitive. The scope of the Id OSID is to define the tools for handling Id assignment and mapping. The Id OSID, like the Type OSID, is not a registry where other information concerning an administrative process can be managed as part of the Id. Such management requires a complete OsidObject.

# 3. Impacts

#### 3.1. Specification

The set of changes is contained within the Id OSID. Relocation of bulk and issue functions and the addition of a new OsidSession and OsidForm.

## 3.2. OSID Consumers

Issuing Ids has moved to the IdIssueSession and batch operations moved to a sub-package. Aside from these incompatible location changes, the other changes are additive.

#### 3.3. OSID Providers

OSID Providers implementing these functions will need to relocate them to the new interfaces. OSID Providers are not required to support either Id issuing or creation (and it is not known anyone has at this time).

# 4. Interoperability Considerations

This change broadens the utility of the Id OSID and strengthens the alignment with other OSIDs. The Id OSID can be used for more detailed management of Ids as well as a tool for assignment of unique codes and sequences.

# 5. Proposed Interfaces

## 5.1. osid.id.ldlssueSession

Interface	osid.id.IdIssueSession	
Implements	osid.OsidSession	
Description	This is a simple session used to cre	eate new Ids.
Method	canIssueIds	
Description	Tests if this user can issue Ids. A return of true does not guarantee successful authorization. A return of false indicates that it is known create 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 create operations.	
Return	boolean false if create methods are not authorized, true otherwise	
Compliance	mandatory	This method must be implemented.
Method	issueId	
Description	Issues a new Id. This method creates a new Id for a predetermined authority and namespace.	
Return	osid.id.Id the new Id	
Errors	OPERATION_FAILED	unable to complete request
LIIUIS	PERMISSION_DENIED	an authorization failure occurred
Compliance	mandatory This method must be implemented.	

## 5.2. osid.id.ldAdminSession

Interface	osid.id.IdAdminSession	
Implements	osid.OsidSession	
Description	This session is used to manually create new lds.	
Method	Method issueId	

	Tests if this user can create Ids. A return of true does not guarantee successful authorize		
B	return of false indicates that it is known create methods in this session will result in a		
Description	PERMISSION_DENIED. This is intended as a hint to an application that may opt not to offer		
	create operations.		
Return	boolean		false if create methods are not authorized, true
netuiii	Doolean		otherwise
Compliance	<u>mandatory</u>		This method must be implemented.
Method	getIdFormForCreate		
Description	Gets the ld form for creating new Ids. A new form should be requested for each create		
_	transaction.		1 - 15
Return	osid.id.IdForm	,	an IdForm
Errors	OPERATION_FAILED	· <b>.</b>	unable to complete request
0	PERMISSION_DENIE	<u>:D</u>	an authorization failure occurred
Compliance	mandatory		This method must be implemented.
Method	0		eateId
Description Parameters			uested for each create transaction.
	osid.id.IdForm	idForm	an IdForm
Return	osid.id.Id		the new Id
	ALREADY_EXISTS		an Id for the authority, namespace, and identifier already exists
	ILLEGAL_STATE		idForm already used in a create transaction
	INVALID_ARGUMEN		the new Id
Errors	NULL_ARGUMENT	<u>I</u>	idForm is null
	OPERATION_FAILED		unable to complete request
	PERMISSION_DENIE	:D	an authorization failure occurred
	UNSUPPORTED	<u>.D</u>	
			Itha naw Id
Compliance			the new Id  This method must be implemented
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Compliance Method	mandatory		This method must be implemented.  AliasIds
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	NOT_FOUND	primaryId or equivalentId is not found or equivalentId not mapped to primaryId
Errors	NULL_ARGUMENT	primaryId or equivalentId is null
	OPERATION_FAILED	unable to complete request
	PERMISSION_DENIED	an authorization failure occurred
Compliance	mandatory	This method must be implemented.

# 5.3. osid.id.ldForm

Interface	osid.id.IdForm		
Implements	osid.OsidSession		
Description	This form provides a means of creating an Id.		
Method	getAu	thorityMetadata	
Description	Gets the metadata for the authority.		
Return	osid.Metadata	the metadata for the authority	
Compliance	mandatory	This method must be implemented.	
Method	S	etAuthority	
Description	Sets the authority.		
Parameters	string authority	the authority	
	INVALID_ARGUMENT	authority is invalid	
Errors	NO_ACCESS	authority cannot be modified	
	NULL_ARGUMENT	authority is null	
Compliance	mandatory	This method must be implemented.	
Method	cle	earAuthority	
Description	Clears the authority.		
Errors	NO_ACCESS	Metadata.isRequired() is true or Metadata.isReadOnly() is true	
0		· · ·	
Compliance	mandatory	This method must be implemented.	
Method Description	Gets the metadata for the identifier names	getIdentifierNamespaceMetadata	
Return	osid.Metadata for the identifier namespace.  the metadata for the identifier namespace		
Compliance	mandatory	This method must be implemented.	
Method		ntifierNamespace	
Description	Sets the identifier namespace.	ппенчашеѕрасе	
Parameters	string namespace	the identifier namespace	
Turumeters	INVALID_ARGUMENT	namespace is invalid	
Errors	NO_ACCESS	namespace cannot be modified	
2.10.0	NULL ARGUMENT	namespace is null	
Compliance	mandatory	This method must be implemented.	
Method		entiferNamespace	
Description			
		Metadata.isRequired() is true or	
Errors	NO_ACCESS	Metadata.isReadOnly() is true	
Compliance	mandatory	This method must be implemented.	
Method	getIdentifierPrefixMetadata		
Description	Gets the metadata for the identifier prefix.		
Return	osid.Metadata	the metadata for the identifier prefix	
Compliance	mandatory	This method must be implemented.	

Method	setIder	ntifierPrefix	
Description	Sets the identifier prefix.		
Parameters	string prefix	the identifier prefix	
	INVALID_ARGUMENT	prefix is invalid	
Errors	NO_ACCESS	prefix cannot be modified	
	NULL_ARGUMENT	prefix is null	
Compliance	mandatory	This method must be implemented.	
Method	clearIde	entiferPrefix	
Description	Clears the identifier prefix.		
Errors	NO_ACCESS	Metadata.isRequired() is true or	
Ellois	NO_ACCESS	Metadata.isReadOnly() is true	
Compliance	mandatory	This method must be implemented.	
Method		rSuffixMetadata	
Description	Gets the metadata for the identifier prefix.		
Return	osid.Metadata	the metadata for the identifier prefix	
Compliance	<u>mandatory</u>	This method must be implemented.	
Method		ntifierSuffix	
Description	Sets the identifier suffix.		
Parameters	string suffix	the identifier suffix	
_	INVALID_ARGUMENT	suffix is invalid	
Errors	NO_ACCESS	suffix cannot be modified	
	NULL_ARGUMENT	suffix is null	
Compliance	mandatory	This method must be implemented.	
Method	clearIdentiferSuffix		
Description	Clears the identifier suffix.	Make data iaDaguinad() ia tuwa an	
Errors	NO_ACCESS	Metadata.isRequired() is true or Metadata.isReadOnly() is true	
Compliance	mandatory	This method must be implemented.	
Method	mandatory	ifierMetadata	
Description	Gets the metadata for the identifier.	пенетации	
Return	osid.Metadata	the metadata for the identifier	
Compliance	mandatory	This method must be implemented.	
Method		dentifier	
Description	Sets the identifier.		
Parameters	string identifier	the identifier	
	INVALID_ARGUMENT	identifier is invalid	
Errors	NO ACCESS	identifier cannot be modified	
	NULL_ARGUMENT	identifier is null	
Compliance	mandatory	This method must be implemented.	
Method	clearIdentifer		
Description	Clears the identifier.		
Errors	NO_ACCESS	Metadata.isRequired() is true or Metadata.isReadOnly() is true	
Compliance	mandatory	This method must be implemented.	
Compilation	manageory		

# 6. Example

# Simple Id Issue

osid.id.Id newId = idIssueSession.issueId();

# Complex Id Creation

```
osid.id.IdForm form = idAdminSession.getIdFormForCreate();
form.setAuthority("osid.org");
form.setIdentifierNamespace("osr");
form.setIdentifierPrefix("OSR-");
osid.id.Id newId = idAdminSession.createId(form);
```

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