

OSID Specification Framework

Status

This document is a specification of the OSID framework.

OSID framework specifications are used to describe, constrain, and inform the design of OSIDs.

Abstract

An OSID Specification is expressed in terms and structure defined by the OSID Structure Specification. The OSID Specifications together with a specification for an OSID Language Binding produce the interfaces suitable for compiling in a native programming language.

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1. Introduction

OSIDs define a software based architecture based on a suite of service interfaces to contractually bind the behavior of both the service provider and service consumer. The Open Service Interface Definitions (OSIDs) are the interface specifications that define these contracts. The OSIDs are neutral to any programming language although a given programming language must meet a minimal number of requirements to successfully utilize the OSIDs. These requirements are outside the scope of this document.

This document provides a framework for the OSID specifications to delineate between the interface contracts and the programming language bindings.

2. Terminology

2.1. OSID Package

An OSID Package is a collection of interface contracts that define the data and operations within a service domain.

2.2. OSID Consumer

An OSID Consumer is the software that uses the OSID interfaces.

2.3. OSID Provider

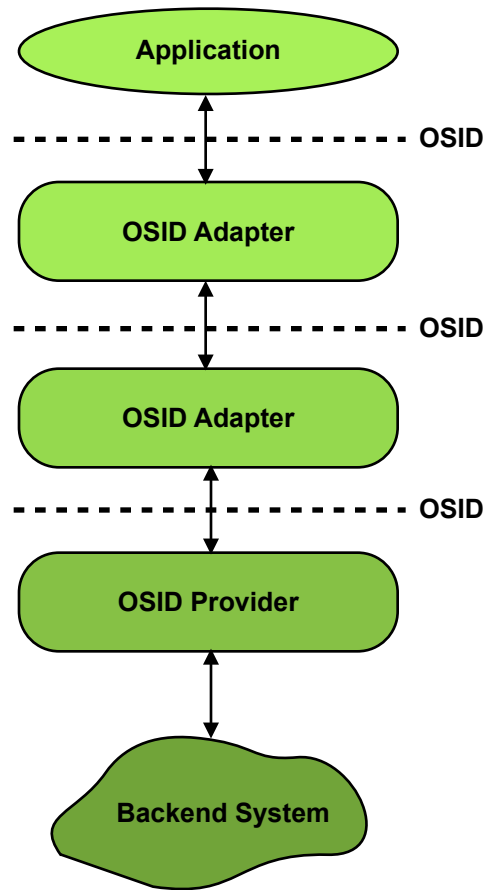
An OSID Provider is the software that implements the OSID interfaces.

2.4. OSID Adapter

An OSID Adapter is a software component that is both an OSID Consumer and an OSID Provider. In the most basic scenario, an OSID Consumer is the end-user application while the OSID Provider is the underlying system. OSIDs of the same or differing interfaces may be layered to further separate concerns and maximize reusability. More complex solutions may employ one or more OSID Adapters.

2.5. OSID

An OSID is the set of interface definitions within a service domain. The term itself refers to the interface contract definitions and defines the service boundary between any OSID Consumer and OSID Provider.



OSID Terminology.

3. Specification Types

3.1. OSID Structure Specification (S-OSID)

The OSID Structure describes the syntax of the OSIDs. The purpose of the S-OSID is to provide the means of defining the OSIDs such that they can be clearly understood and translated into various programming languages.

The S-OSID defines the notation, the semantic structure, and any primitive types used in OSID specifications.

3.2. OSID Specification

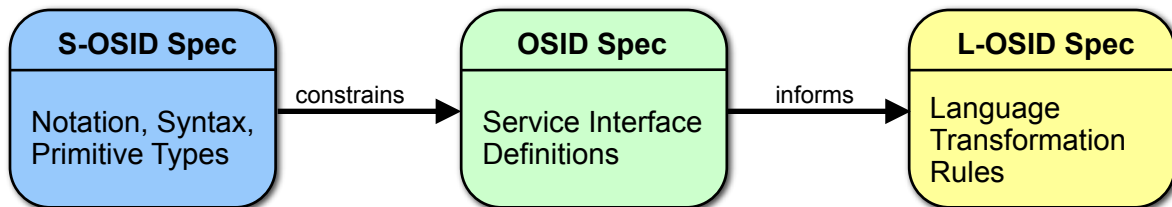
An OSID Specification defines a service contract between OSID Consumers and OSID Providers through an interface definition. An OSID Specification expresses the interface definition in a programming language neutral syntax using the S-OSID. There is one OSID

for each service definition but all OSIDs must be described using the S-OSID. An OSID definition may reference another OSID where the inclusion of another service is necessary to complete a service definition.

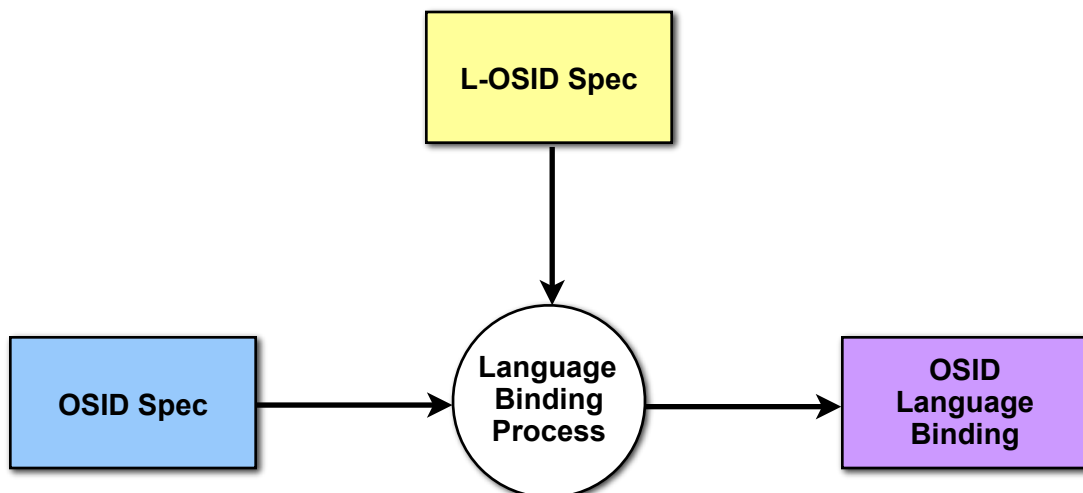
3.3. OSID Language Specification (L-OSID)

The OSID Language Binding Specification defines the rules using the syntax defined in the S-OSID by which the OSID Specification is transformed into a programming language specific binding. For each programming language supported, there must be a single L-OSID Specification that, to the extent the OSID Specification is not violated, creates a language specific binding that is compatible with the native programming language both in syntax and in spirit. A language specific binding is a collection of programmable interfaces in the form of compilable code used by programmers to create OSID implementations (providers).

4. Models



The Relationships among the specifications.



The OSID language binding process.

5. OSID Implementation Frameworks

An implementation framework is not defined through any specification. It serves to bridge the gap between the points the OSID language binding left off and what a programmer of a particular native programming language or other development environment expects. Included in a framework may be OSID language bindings for one or more OSIDs, templates, tools, and common utilities to simplify development and/or interoperate with development environments. Some issues may be better addressed inside an implementation framework rather than an OSID specification, such as an implementation of a concrete class. However, implementation frameworks must not modify or replace OSIDs for the services defined in the OSIDs.

6. Copyright Statement

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