Common Component Specification Proposal

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Spec Title	Cloud Data Service (CDS) Catalog (CCS-CDS-CAT)
Author	Peter Judge, Progress Software
Status	Supersedes v1.0 at https://github.com/CloudDataObject/CDO
Version	1.1

Executive Summary

This document contains a proposal to the Common Component Standards (CCS) Steering Committee to form a new project team whose goal it is to produce a specification for a **Cloud Data Service (CDS) Catalog** to define a means for a CDS to publish meta-data about resources such as the resource's schema and its available or exposed operations.

This specification builds on the existing specification publicly available at https://github.com/CloudDataObject/CDO , hence the v1.1 designation. This specification supersedes and replaces the existing v1.0 specification.

The following sections of the document describe in general terms what the component is, the benefits it provides to application developers, and what the team's deliverables would be.

Component Description

Client applications communicate with a server for data and business logic. A *Cloud Data Service (CDS)* defines the API for one or more server-side resources. Each resource provides access to a logical schema and its related business logic via a set of operations.

The *CDS Catalog* can be considered an Interface Description Language (IDL) for describing interaction with a REST-based relational-data-based service. It describes where (URL) and how (operation) to fetch and modify a particular resource as well as how the data must be formatted (schema). It is intended to work with relational (ie parent-child) sets of data, without any constraints on the number of rows being operated on in a single request.

The *CDS Catalog* provides a formal description of

- The available resources (service endpoints and/or relative URLs),
- The schema exposed by the service through its various operations,
- Individual read and write operations on the underlying resource; these are Create, Read, Update, Delete, collectively known as CRUD,
- Batch update operations (Submit) which may contain multiple records that have been updated and/or deleted and/or added,
- Other developer-defined publicly-exposed operations which are business logic-dependent (collectively known as Invoke operations).

The CRUDS operations may have a constrained calling convention (i.e. a fixed signature requirement on the underlying service interfaces or business logic). Invoke operations are effectively free-form calls into the business logic.

This component fits into the Service Interface layer of the OERA.

Benefits and Use Cases

The *CDS Catalog* allows data services that use a relational structure as their logical model to be easily exposed as REST-based services. These services can be consumed by a variety of clients. The primary use-case (and the one for which the Catalog was originally designed) is for a *Cloud Data Object (CDO)*, which is typically a JavaScript-based data model used in user-interface applications.

As mentioned above, the *CDS Catalog* is intended to allow existing business logic (particularly ABL business logic) to be easily exposed via REST, and also for client applications to be developed in a loosely-coupled manner; i.e. without requiring a complete implementation. This allows for easier testing of a client's backend services.

The *CDS Catalog* allows business application client functionality to be extended past simple CRUD operations with support for transactional data synchronization and business logic invocation to help actually manage synchronization across device boundaries.

Related / Dependent Common Component Specifications

This component is related to the CDO API component and both specifications could be produced by the same team as part of a single effort.

Project Team Requirements

A CDS Catalog team has not yet been formed. The team's formation will commence upon acceptance of this standards specification proposal by the CCS Steering Committee. The goal of this project team will be to submit a Community Review Draft of the Specification to the CCS Steering Committee within 90 days after the

team is formed. If the specification is accepted, it will be published to the entire CCS participant list for review.

Deliverables

- A formal specification of the CDS Catalog
- Samples of a catalog and the underlying business logic (in ABL)