

Broadening Time-Based Queries

Status

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

Summary

Include broader queries for time-based dimensions to facilitate reporting and construct OsidCatalogs from which we can manage the visible domain inside the lookup, admin, and notification sessions as well as their associated authorizations.

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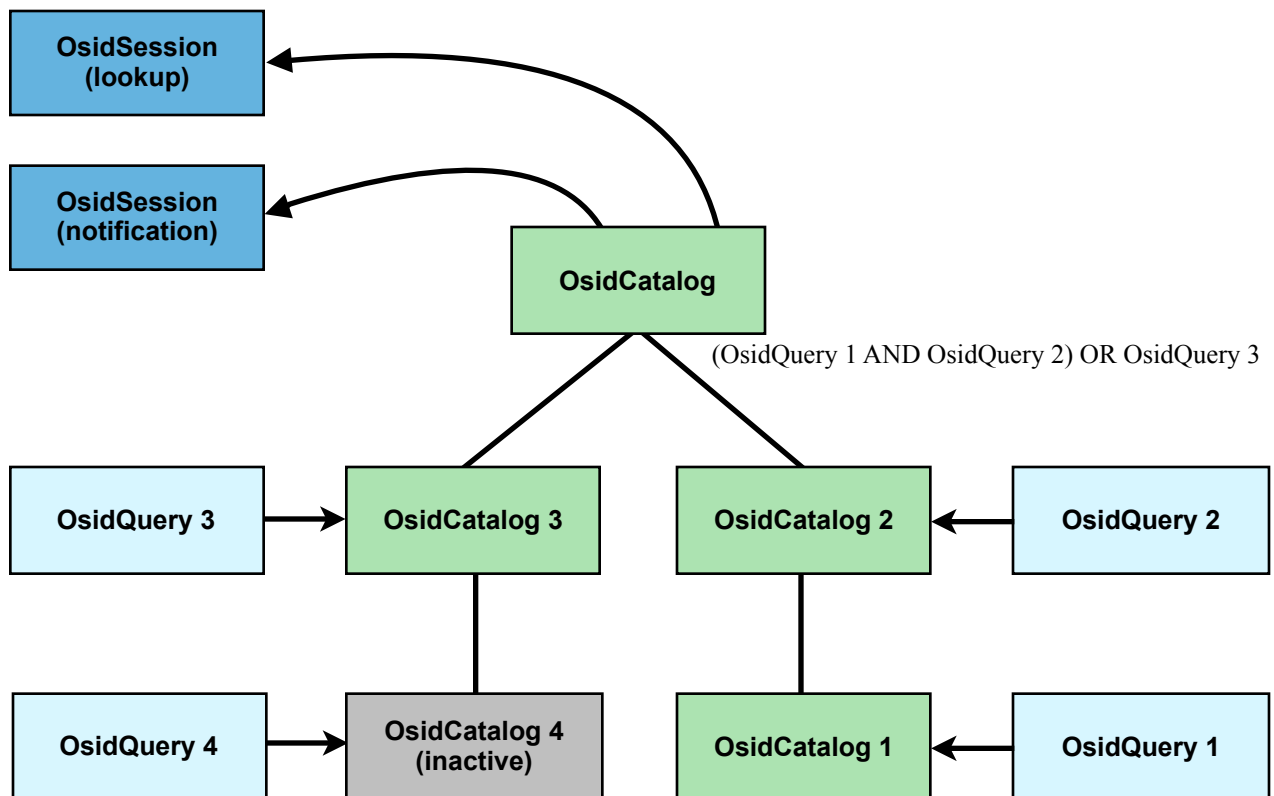
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1. Current Specification

OSID Consumers can query for OsidObjects through OsidQueries supplied to query OsidSessions. The core specification typically aligns the methods between OsidObjects and OsidQueries. For example, getDate() in an OsidObject will have a matchDate(fromDate, toDate, match) in an OsidQuery.

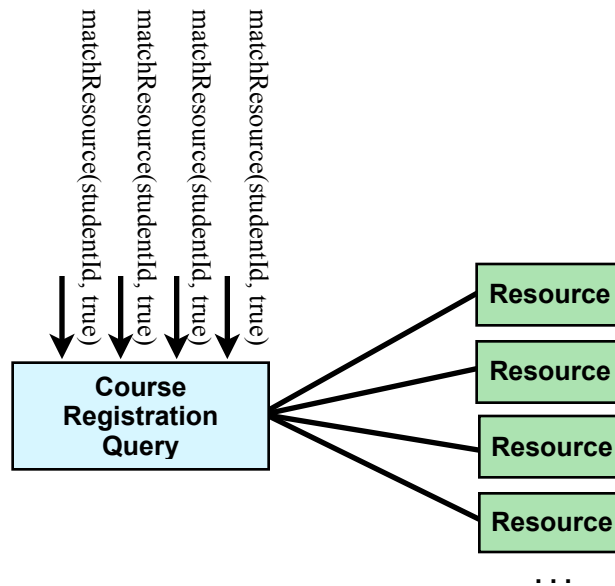
Querying is a more intricate service touchpoint than lookup. Lookup OsidSessions typically define methods along the major dimensions of an OsidObject. Thus, lookup OsidSessions do not offer the granularity possible in a query. An example of a granular query is getting all active Events offered in the upcoming weekend by a specific sponsor in a certain region. However, the flexibility gained by using detailed OsidQueries can be countered by the simplicity and lighter touch point of a lookup.

A remedy is to create a virtual OsidCatalog from an OsidQuery. The OsidCatalog can be used as a filter for a lookup OsidSession. Another remedy is to bury the query behind a genus Type. They can have the same effect. Using an OsidCatalog Id vs. a Type has the same interoperability impact. The OsidCatalog solution is more sophisticated in that it surfaces management of the query criteria in persisted OsidQueries and the combination of these queries using an OsidCatalog hierarchy. Furthermore, OsidCatalogs, if directly managed in the Catalog OSID, can be toggled to effect the active or inactive status of the query term and this status be dynamically managed through the management of CatalogEnabler rules.

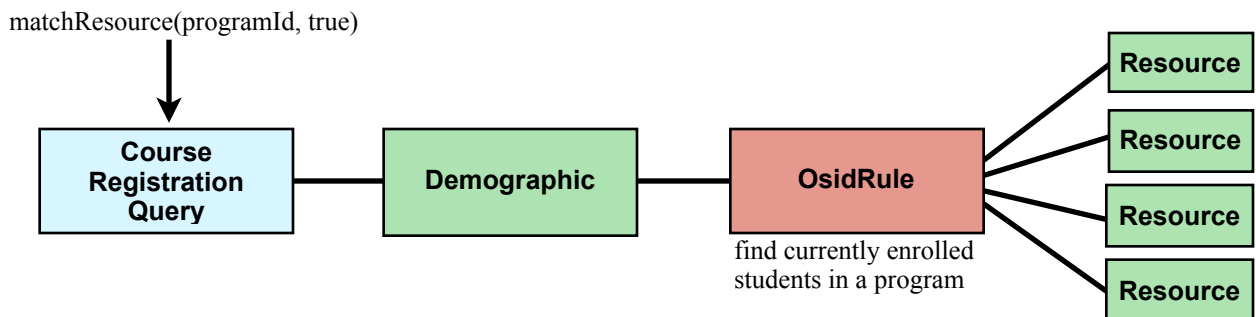


OsidCatalogs can be used to fine tune the filtering of events registered in notification OsidSessions. Notification OsidSessions define methods to subscribe to various events related to OsidObjects and, like the lookup OsidSessions, define filters along their major dimensions.

Because all Demographics are Resources, queries upon a specific set of Resources can be performed with a single query for a Demographic. This permits the use of population-based reporting within the existing OsidQueries.



To get the registration status of all students in a Program, repeated Resource matches in the CourseRegistrationQuery can be done where the list of students is passed from the OSID Consumer.



Or there can be a single query where a Demographic represents students who are currently enrolled in a Program. The “list” can be an OsidRule that examines effective ProgramEnrollments for the current Term to make this determination. The Demographic may be managed through explicit adds and changes of Resource Ids, tweaking the OsidRule, or by combining multiple Demographics while maintaining the same single touchpoint in the OSID Consumer.

2. Problem

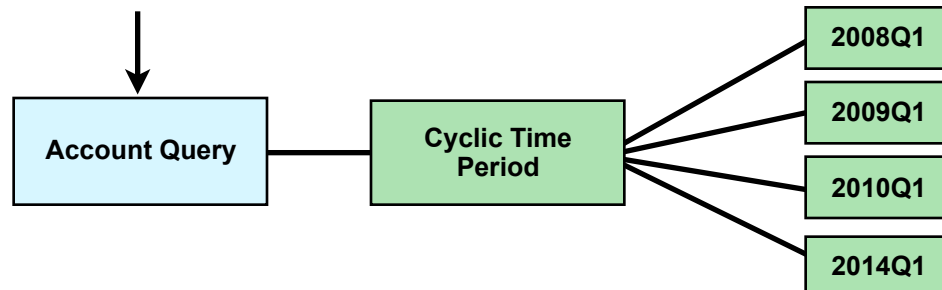
Dates and time periods each have an additional dimension as well. Dates can be inferred by Schedules, Events, and CyclicEvents. Time periods inferred by CyclicTimePeriods. This extra dimension is missing from OsidQueries preventing their use in reporting and OsidCatalogs that, in turn, can be used for advanced filtering of lookups and notification subscriptions.

3. Proposed Change

Consider queries by the extra dimensions:

- DateTime:
 - match on Schedule
 - match on Event
 - match on CyclicEvent
- time periods (TimePeriod, Term, Period, FiscalPeriod, etc):
 - match on CyclicTimePeriod

`matchCyclicTimePeriod(cyclicTimePeriodId, true)`



Getting financial information across multiple fiscal periods is an example of using cyclic time periods in queries.

4. Impacts

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4.1. Specification

This is a widespread change across many OsidQueries and OsidQueryInspectors. Each individual OsidObject requires inspection to determine applicability.

4.2. OSID Consumers

Impact is limited to adding methods to OsidQueries and OsidQueryInspectors.

4.3. OSID Providers

OSID Providers will need to implement these additional methods, but can do so easily without having to support the implied functionality.

5. Interoperability Considerations

There are two kinds of interoperability in OsidQueries.

- Mechanical interoperability: Specification compliance can be easily achieved by implementing nothing in OsidQueries. OSID Providers do not return any values.
- Functional interoperability: An OSID Consumer who is dependent upon a behavior has no idea whether any OSID Provider implements that behavior. This is an integration consideration that determines if an OSID Provider is suitable. This is currently the case in the existing OsidQueries. The other methods in an OsidQuery may have been blown off as well.

These additions do not change the current interoperability situation.

6. Copyright Statement

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