The CSW-ebRIM 1.0.1 spec does not address support for versioning of RegistryObjects. There is an ebRIM property, VersionInfo/@versionName, which is intended to track version numbering in a "versioning" registry. Clause 15.2.1 "General behaviour" (for Transactions) states that:

"This profile does not specify any form of versioning. The value of the versionName attribute of the rim:VersionInfo element shall be an empty string for all unversioned registry objects."

This renders a potentially useful property useless. The intent of this CR is to redefine this property in order to facilitate the development of additional registry capabilities based on change detection.

For example, in HTTP, the Entity Tag (E-Tag) header used in conjunction with the If-None-Match request header can enable a registry service to optimize responses (i.e. avoid resending content that has NOT changed) in a standardized manner.
**Summary of change:**

* Define VersionInfo/@versionName, in a non-versioning registry, to:
  * be managed by the registry (cannot be set/modified by transaction requests)
  * be initialized to 1 by the registry on creation.
  * be incremented by 1 on each subsequent update (whether normal update or other, as in Life-Cycle updates).

Adopt similar definition for ContentVersionInfo/@versionName which applies to ExtrinsicObject repository items.

Mandate support for the HTTP ETag header. It must be included in responses:
  * for GetRecordById ~ ETag value set from VersionInfo/@versionName
  * for GetRepositoryItem ~ ETag value set from ContentVersionInfo/@versionName

If incoming request includes the "If-None-Match" header, its value is compared to the appropriate 'versionName' property. If different, normal response is returned. If it matches, the response must be HTTP status code 304, "Not Modified".

Questions to be resolved:
~ whether use of the versionName directly is sufficient for all cases; might need to consider a combination of id value plus the versionName value in order to support ETag use on requests with multiple responses (i.e. GetRecords, though, even GetRecordById can return multiple records).
~ whether the ETag header can be applied to requests other than GetRecordById or GetRepositoryItem.

**Consequences if not approved:**

CSW-ebRIM registries will be stuck with a useless attribute. Registry client software will be unable to easily/efficiently detect whether a given RegistryObject has been modified since they last retrieved it. Registries services will have difficulty implementing a convenient means to inform Registry client software when a retrieved object has not change since they last retrieved it.

**Clauses affected:**

* Clause 15 "Transaction"

**Additional Documents affected:**

May affect: * OGC 07-144r3, CSW-ebRIM Registry Service - Part 2: Basic extension package * OGC 08-103, CSW-ebRIM Registry Service - Part 3: Abstract test suite

**Supporting Documentation:**
For information on the definition of the ETag and If-None-Match headers, please see: “HTTP: The Definitive Guide”, Gourley and Totty, published by O'Reilly 2002.

Status: Assigned

Disposition: Referred