

## CCB Process for Backward Compatible Information Model Changes (DRAFT)

The purpose of this technical note is to document the rules and implementation approach for backward compatibility across releases of the PDS4 Information Model. In PDS4, software is heavily dependent on the schemas produced by the Information Model. Changes to these schemas can limit backward compatibility. To ensure backward compatibility across versions for a period of time, PDS uses a deprecation approach that is built into ISO 11179, a standard for structuring the information model that PDS4 has adopted.

*Deprecation* is a status assigned to aspects of the information model that indicate that the feature should be avoided. Deprecation is a commonly used approach that allows for features of a specification to remain for a period of time. Users are discouraged from using deprecated features both in the specification and through validation tools.

The PDS is using a deprecation process for the information model that will ensure backwards compatibility for a period of time. This is implemented as follows:

- Items marked for *deprecation* will be retained in minor releases
- Items marked for *deprecation* may be dropped in major releases
- Items *required* to be present will only be made on major releases
- Items that are added for *optional* use will be included in minor releases

To support the process, PDS will use the following approach:

- (1) Changes to the information model identified as "non-backward-compatible" will be marked as deprecated.
- (2) Changes to the information model that have been marked as deprecated, will not be dropped from the IM until a major release. At that point, it will be determined whether a deprecated item is dropped.
- (3) Items marked as deprecated will include a "warning" message that indicates the use of the feature should be avoided.

In support of the above deprecation process, the PDS applies the following versioning scheme where *M.N.O.P* is defined as specific version of the information model following:

*M Major* -- changes to the structure of the information model where the changes are non-backward-compatible (e.g., add or delete required class or attribute); removal of deprecated artifacts.

*N Minor* -- changes to the structure of the information model where the changes are backward-compatible (e.g., add an optional class or attribute); identification of deprecated items.

*O Point* -- changes that are optimizations of the information model that do not introduce new (backward-compatible) features including addition of new standard values, value meanings, etc.

*P Extraneous* -- changes in: (1) Standards / documentation, and (2) bug fixes.

*Major* and *Minor* releases are performed on an PDS Management Council agreed cycle. Point and Extraneous releases are performed as needed.

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