DFDL Experimental Features Conventions

Status of This Document

Grid Working Document (GWD)

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2022-07-14 Added property enum feature

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Abstract

DFDL Implementations often need to add features to support new capabilities. These features should be properly isolated to insure that DFDL schemas using such features are easily identified and separated from DFDL schemas that use only portable features that are part of the standard.

The DFDL Workgroup expects that proposals for new standard features for future versions of DFDL will be first created in some implementation by way of these experimental conventions.

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# Introduction

The DFDL language [DFDL] was first created by generalizing the properties and features available in numerous data format description systems available in the marketplace and open-source.

Now that there are multiple DFDL implementations in existence, a discipline is needed for incorporating new innovations into a DFDL implementation, and ultimately into a future version of the DFDL standard.

These features should be properly isolated to insure that DFDL schemas using such features are easily identified and separated from DFDL schemas that use only portable features that are part of the standard.

This document specifies a set of conventions to insure the above.

# Conventions

## Namespace

Properties associated with new features will be defined in the namespace

<http://www.ogf.org/dfdl/dfdl-1.0/experimental>

By convention, this namespace will be bound to the prefix “dfdlx”.

The namespace prefix definition must appear on the top-level XSD schema element of a DFDL schema file that uses the extension feature.

## Annotation Forms

Extensions can be expressed by way of:

* Annotation elements: Ex:

<dfdlx:defineLayerSpecification name=”layer1” …. />

* New properties for use in existing DFDL annotation elements. Ex:

<dfdl:element dfdlx:layerRef=”layer1” encoding=”ascii” />

Note such property attributes are prefixed by dfdlx even though standard DFDL properties appearing inside a DFDL annotation element have no namespace prefix.

* New properties expressed in short form:

<xs:element name=”foo” dfdlx:layerRef=”layer1” …/>

* New properties expressed in element form:

<dfdl:property name="dfdlx:myNewProp">...</dfdl:property>

Note that the name attribute of dfdl:property above is given a QName for the extension property.

* New enumeration values for enum properties

<dfdl:element binaryNumberRep=”dfdlx:onesComplement” … />

<xs:element name=”num” dfdl:binaryNumberRep=”dfdlx:onesComplement” .../>

Note that the new enumeration value is a QName using the extension namespace prefix.

## Property Scoping Rules

DFDL existing standard scoping rules apply if it makes sense for the extension property.

Alternatively, extension properties may be non-scoped similar to the way some current DFDL properties are not. E.g., dfdl:inputValueCalc cannot be put into scope.

## Enabling/Disabling Properties

A property is needed to enable any experimental feature.

Specifically, the presence of the namespace prefix definition on the XSD schema root element is not sufficient by itself to indicate the usability of experimental features.

## Documentation and Proposal for DFDL Inclusion

An experience document will result from each experimental feature and will guide any inclusion in DFDL 2.0.

# Back Matter

## References

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| [DFDL] | Michael J Beckerle, Stephen Hanson. Data Format Description Language (DFDL) v1.0 Specification. February 2021, Open Grid Forum. ([https://www.ogf.org/documents/GFD.240.pdf](http://redmine.ogf.org/dmsf/dfdl-wg)) |

## Security Considerations

Experimental features may introduce security considerations. Such considerations must be documented in a section titled “Security Considerations” in the experience document that describes the feature.

Incorporation of any experimental feature into a future DFDL standard version will take into account these security considerations.

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