

# DFDL WG Call Minutes

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## Meeting about Meetings\OGF

Project	DFDL 1.0
Meeting Date	10-Jan-17 (Tues)
Meeting Time	15:00 - 16:00

Created by Steve Hanson on 09-Mar-11

Last Modified by Steve Hanson on 16-Jan-17

## OGF DFDL Working Group Call , 10 January 2017

### Agenda

**Prepare** for your meeting by describing the objectives (both immediate and long-term, if appropriate) of the meeting; and describe key plan details.

#### 1. Daffodil Open Source Project

Status update. NACHA schemas now supported.

#### 2. dfdl:choiceLength

Daffodil team suggesting it requires an associated way to set length units .

#### 3. dfdl:choiceBranchKey

Daffodil team suggesting it should be a List of DFDL String Literals .

#### 4. AOB

### Minutes

#### Meeting Minutes

**Reflect** on your meeting as you record all topics and issues discussed , and any tabled conversations . What went well, or what would you do differently next time ? Document those so others can take advantage of your learning .

#### Attendees

Steve Hanson  
Mike Beckerle

#### Apologies

#### Minutes

#### 1. Daffodil Open Source Project

GitHub NACHA schemas now supported but give warnings due to length=0 set from scope.  
Daffodil will change so that the warning is not issued if length=0 is picked up from dfdl:format.  
Mike will change the tdml to pull in the xml info:et files rather than embed a duplicate .

## 2. dfdl:choiceLength

Daffodil team suggesting DFDL requires an associated way to set length units as bits as they have examples of formats where there are fixed length choices where this is needed.

Two alternatives: a) add choiceLengthUnits 'bits'/'bytes' - incompatible change so must default to 'bytes' if not specified; b) extend choiceLengthKind enums but that is not architecturally consistent with lengthKind. Agreed that a) is preferable.

Agreed only to have 'bits' and 'bytes' initially as motivating examples are binary data.

**New issue** <https://redmine.ogf.org/issues/325> created.

Also spotted mis-spelt property 'choiceKind' in 12.3.6 - added to existing 'typos' issue.

## 3. dfdl:choiceBranchKey

Daffodil team suggesting it should be of type 'List of DFDL String Literals', as examples have been encountered where there are multiple tags for a given branch. Noted it is possible to handle this in the choiceDispatchKey expression, but the expression can get messy. Agreed to change choiceBranchKey to be of type 'List of DFDL String Literals' (which is a compatible upgrade from 'DFDL String Literal' as the latter disallows the space character).

**New issue** <https://redmine.ogf.org/issues/326> created.

## 4. Proposed new DFDL experience document

Daffodil team would like to create an experience document to record their experiences with their modelling with, and implementation of, the DFDL calculated value properties.

## 5. Incorporation of errata into a revision of the DFDL 1.0 spec

Discussed that it would be good to get the current errata experience document written up from the list of issue trackers, and then to fold that into a revision of the DFDL spec, some time in 2017.

## IPR Statement

"I acknowledge that participation in this meeting is subject to the OGF Intellectual Property Policy."

## Meeting closed

16:10 UK

## Next regular call

24th January @ 15:00 UK

## Create Action Items

Record the to-do's and individuals assigned by entering the appropriate information in the form below. Press the "Create Action Items" button to create specific to do's that can be tracked in the assignee's Work for Me views. " All Action Items will be tracked in the Action Items and Other Meeting Documents tab.

## Action Items and Other Meeting Documents

Subject	Document Type	Created	Modified

Next action: **292**

### Actions raised at this meeting

No	Action

### Current Actions :

No	Action
<b>228</b>	<b>Review set of tutorial lessons (All)</b> 17/9: Lesson 1 proposes a set of lessons, needs reviewing as over 2 years old. ... 22/10: No progress 31/10: Becoming a focus for Tresys. Steve to send his 'Modeling Data Formats using DFDL' powerpoint. ... 19/11: No further progress 26/11: Possibility of help from MITRE high-school student, and from Marisa at IBM. ... 11/3: No further progress 25/3: MITRE have produced a couple of new tutorials under the guidance of James Gariss . Jonathan to forward for review. Mike observed that an html tutorial could be generated from a tdml file using XSLT . 11/4: Not discussed 15/4: Jonathan will send 4 new mini-tutorials. Need to figure out best way to incorporate into the tutorial structure. 29/4: Tutorials received. Mark has taken a quick read. Mark & Steve to review and report back.

	<p>6/5: Still with Mark and Steve</p> <p>20/5: Mark has reviewed. Will ask IBM information development to recommend a way to portray the existing and new lessons, preferably web-based. Find somewhere to host them. OGF? GitHub? developerWorks? NCSA?</p> <p>3/6: Steve has also reviewed.</p> <p>...</p> <p>17/6: No further progress on tutorials. Tim is looking into the creation of some DFDL how-to videos using the IBM Integration Studio.</p> <p>...</p> <p>31/3: No further progress</p> <p>14/4: Agreed that the need for better tutorials has become pressing for Daffodil users who aren't using IBM's tools and material. Discussed creating tutorials based on a tdml file with comments that is processed to produce html. Mike to investigate.</p> <p>28/4: Mike has sent an example tdml file which embeds instances of a new 'tutorial' element in various places. These elements contain html which can be extracted and formatted in a browser. Suggest future DFDL tutorials are created using this technology.</p> <p>12/5: Not discussed</p> <p>...</p> <p>22/9: No further progress</p> <p>3/11: Daffodil team has someone working on the new 'tutorial' element in tdml files. In time this should result in some new tutorials and re-working of existing tutorials.</p> <p>5/1/16: Mike has started a bitOrder tutorial using the tdml file approach (uses stylesheets to render html).</p> <p>16/2: The bitOrder tutorial is available on the web @ <a href="https://opensource.ncsa.illinois.edu/bamboo/artifact/DFDL-MASTER21/JOB1/build-132/Tutorials/bitorder.tutorial.tdml.xml">https://opensource.ncsa.illinois.edu/bamboo/artifact/DFDL-MASTER21/JOB1/build-132/Tutorials/bitorder.tutorial.tdml.xml</a></p> <p>1/3: Awaiting review. Web-based try out facility under development at Tresys.</p> <p>...</p> <p>10/1/17: No further progress</p>
242	<p><b>Standardise on a single tdml format for DFDL tests (All)</b></p> <p>5/2: Steve has requested permission for IBM to view / use the Daffodil tdml files, as a precursor to trying to standardise on a common tdml format. Was formerly part of action 066.</p> <p>...</p> <p>18/2: No further progress</p> <p>11/3: Mike and Steve discussing the best way to share and cooperate on tdml format.</p> <p>25/3: Discussed the creation of an OGF document that will own and define a standardised tdml format.</p> <p>11/4: Proposal is for the OGF document to define a tdml format without Tresys or IBM copyright statement.</p> <p>15/4: Draft document on Redmine</p> <p>...</p> <p>6/5: No further progress</p> <p>20/5: Mark has read through the document. Particularly concerned with how namespaces are handled in the info set.</p> <p>...</p> <p>17/6: No further progress</p> <p>25/6: Mike has added bit order capability as per action 233.</p> <p>...</p> <p>9/12: No further progress</p> <p>6/1/15: Mike to resurrect this as Tresys would like to run their tdml suite against both Daffodil and IBM DFDL.</p> <p>...</p> <p>10/2: No further progress</p> <p>24/2: Mike updating the Daffodil TDML test runner to handle unparser (ie, serializer) tests</p> <p>...</p> <p>14/4: No further progress</p>

	<p>28/4: Tresys have enhanced their tdml runner to allow unparser tests and round-trip tests (parser-&gt;unparser-&gt;parser) as well as the new tutorial tag (see action 228)</p> <p>12/5: Not discussed</p> <p>...</p> <p>3/11: No progress</p> <p>5/1/16: No progress. Needs more interoperability between implementations to be really useful.</p> <p>...</p> <p><a href="#">10/1/17: No further progress</a></p>
250	<p><b>Public comment : dfdl:valueLength and dfdl :contentLength descriptions (Mike)</b></p> <p>19/11: <a href="http://redmine.ogf.org/boards/15/topics/63">http://redmine.ogf.org/boards/15/topics/63</a>. Agreed that the function names were ok as per errata 3.18, and that the spec is clear that they refer to the grammar regions. However the grammar regions mentioned do not fully include literal nil values. Discussed what happens when parsing - remember the length or re-parse? What about lengthUnits 'characters' when the data is binary? Also the 'Notes' that follow the table need to be reworked.</p> <p>26/11: Needs wording to handle all the issues found, assigned to Mike.</p> <p>...</p> <p>11/3: Still with Mike</p> <p>25/3: Mike has sent out revised wording, reviewed by Mark and Steve. Noted that the words need to explain the concept of building a complex element from the bottom up, and these words are equally applicable to several places in section 12.3. Mike to revise accordingly.</p> <p>11/4: More revised wording sent by Mike. Started to review but realised it needed some off-line preparation and thought. Review for next call.</p> <p>15/4: Review comments from Steve and Tim. The functions need to be clear that they work off the infoSet value. The detailed wording is needed but should be removed to a new sub-section of 12.3, probably at end. Most sub-sections of 12.3, and the functions in 23.5.3 will refer to this new sub-section. 23.5.3 should limit itself to behaviour specific to the functions, such as not potentially represented, the effect of the \$lengthUnits argument. Also discussed what happens if \$path argument returns a nodeSet &gt; 1; should be a processing error, can always use a predicate to select one node of an array.</p> <p>29/4: See various email discussions. Several things noted by Mike, and he recommends a rewrite of some of section 12.3. Then the description of the two functions becomes much simpler. Deferring for now, and will resurrect after current spec revision is finalised.</p> <p>6/5: Mike is working on a mind map for the length section. Deferring until needed.</p> <p>....</p> <p>23/9: Rewrite should be postponed to future 1.1. Still need to answer the original questions about the functions though...</p> <p>...</p> <p>25/4/2016: Undeferring action as some of these issues are now impacting Daffodil team as they write their unparser. Steve has sent the email threads on this action to Mike. Mike will combine with his issues and distill into a single thread.</p> <p>7/6: Thread to include use of a variable with dfdl:outputValueCalc. May be undefined at point of evaluation.</p> <p>5/7: Mike has been looking at this. Two main points:</p> <ol style="list-style-type: none"> <li>1) Computing the content length of a complex element with internal alignment.</li> <li>2) Computing length in chars of a complex element which is not 100% text</li> </ol> <p>Mike will send out a discussion via email. Noted that rules should also apply to prefixed length calculation.</p> <p>(Aside: IBM DFDL unparser does not support a prefixed length complex element with length units chars and variable width encoding).</p> <p>2/8: Mike has sent out several emails.</p> <p>#1: Proposes that term ComplexValue is added to the grammar to better handle ElementUnused. Knock-on effect on the wording of dfdl:valueLength(). Agreed on the change.</p> <p><b>Issue <a href="https://redmine.ogf.org/issues/316">https://redmine.ogf.org/issues/316</a> created.</b></p> <p>Spec says escapeCharacter, escapeBlockStart, escapeBlockEnd, escapeEscapeCharacter contribute to the content length of an element. This is not correct, they are part of the value length. <b>Issue <a href="https://redmine.ogf.org/issues/317">https://redmine.ogf.org/issues/317</a> created.</b></p>

	<p>#2: Gives some options for computing DFDL length functions when target complex element has interior alignment. Agreed that the DFDL processor should detect this and give runtime SDE. This is an example of expression forward reference deadlock. Need new paragraph in section 23 of spec to cover this. <b>Issue <a href="https://redmine.ogf.org/issues/318">https://redmine.ogf.org/issues/318</a> created.</b></p> <p>#3: Argues that DFDL should only encode/decode when it needs to when computing DFDL length functions, to allow for performance. Agreed that this behaviour was ok. <b>Issue <a href="https://redmine.ogf.org/issues/319">https://redmine.ogf.org/issues/319</a> created.</b></p> <p>13/9: Review issues created. Need to come up with the revised descriptions for dfdl:valueLength and dfdl:contentLength functions before action can be closed.</p> <p>...</p> <p><a href="#">10/1/17: No further progress</a></p>
279	<p><b>Improve defaulting description to explicitly cover local groups (Mike)</b></p> <p>28/4: Only talks about elements, should mention local sequence and choice.</p> <p>12/5: Not discussed</p> <p>23/6: Section 15.1.3 needs to say what happens when a choice branch does not contain any elements; such a choice branch is selected (but see action 280 below as minOccurs '0' might change this). Section 9.4 also needs updating to say what happens when local groups are found within a complex type.</p> <p>11/8: Steve did some tests with IBM DFDL. Just need some words as above. Action assigned to Mike.</p> <p>25/8: In progress</p> <p>...</p> <p>5/1/16: No progress</p> <p>...</p> <p><a href="#">10/1/17: No further progress</a></p>
287	<p><b>Find a way to handle a variable path step in DFDL expression (All)</b></p> <p>1/3: DFDL4S currently using a hack that embeds a regex in a path step.</p> <p>10/5: No progress</p> <p>24/5: Need example from DFDL4S</p> <p>..</p> <p>5/7: Need to ask DFDL4S for example.</p> <p>2/8: DFDL4S sent example. They use dfdl:contentLength() with a path that has a step that contains a regex as a wildcard. Mike has requested the wider set of schemas to be sent, in order to see if there is a viable alternative.</p> <p>13/9: Response received from DFDL4S, not yet analysed.</p> <p>...</p> <p><a href="#">10/1/17: No further progress</a></p>
288	<p><b>Decide on error function specification (Mike)</b></p> <p>5/7: An error function is useful for expressions when unparsing. Mike to evaluate XPath fn:error().</p> <p>2/8: Mike looked at fn:error(). Concern about use of QName argument, but as QNames are used elsewhere in DFDL this should be ok. Agreed that fn:error() looks suitable.</p> <p>13/9: Presumably fn:error() throws a processing error. Do we need to be able to throw a schema definition error too? Mike to think about it. Noted that QNames using a prefix maps to the DFDL namespace should be reserved.</p> <p>11/10: Prime use case is for unparsing which does not need to distinguish error types</p> <p>8/11: Mike to decide whether both error types needed, and to write up</p> <p><a href="#">10/1/17: Noted that Daffodil has implemented this in the meantime. Issue <a href="https://redmine.ogf.org/issues/324">https://redmine.ogf.org/issues/324</a> created. Issue needs resolving and documenting.</a></p>
289	<p><b>Unparsing: expression refers backwards to outputValueCalc which refers beyond it .</b></p> <p>2/8: Need to decide if this is allowed and if so if there are any restrictions .</p> <p>13/9: Motivating scenario is where a variable is being set to a length element using dfdl:setVariable, which on unparse is set using dfdl:outputValueCalc. So although the variable is referring backwards to the length element, it is effectively forward referencing so must block. Mike believes this is unavoidable.</p> <p>11/10: Daffodil has implemented this, Mike to provide scenario</p>

	<p>8/11: Mike couldn't find example, will continue to look</p> <p>10/1/17: Mike has realised that all the examples were reworked to avoid using variables , hence why can't be found.</p>
290	<p><b>Should utf16Width be optional ? (Steve)</b></p> <p>13/9: Adds complexity to implementing the core set of encodings . Steve to investigate IBM DFDL's support for utf16Width to assess the complexity.</p> <p>11/10: No further progress</p> <p>8/11: IBM DFDL uses the property to set the min/max bytes per char properties of its internal charset class. In that sense it is no different from any other variable-width encoding. Steve believes that there is no additional complexity beyond that needed for UTF-8. Mike to think further, particularly for the case when surrogate pairs are involved.</p> <p>10/1/17: Mike believes there are issues. Steve to do some testing with IBM DFDL to see if the implementation works.</p>
291	<p><b>Should complex fixed length element with variable width encoding be optional ? (Steve)</b></p> <p>IBM DFDL supports this but with restrictions on the child elements . Where did these restrictions come from?</p> <p>11/10: No further progress</p> <p>8/11: Steve believes that IBM added these restrictions unilaterally as the spec wasn't clear on the behaviour. The check is not difficult to implement; just need to set a flag when such an element is encountered, and any children (recursively) check the flag and ensure they comply with the parent (text rep, character units, encoding).</p> <p>10/1/17: Need to clarify the DFDL spec and decide whether the IBM restriction is valid.</p>

#### Closed actions

No	Action

#### Deferred actions

No	Action
241	<p><b>Public comment : Bi-di properties placement in precedence section (All)</b></p> <p>7/11: This looks deliberate but the asymmetry between parsing and unparsing is unclear . Really needs Daffodil or IBM DFDL to implement these properties , which has not happened yet. Deferring this action.</p> <p>...</p> <p>23/9: Candidate to be moved out to 1.1 ?</p>

#### Work items:

No	Item	Owner	Target	Status