#### **IBM TeamRoo**

# TeamRoom Plus

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#### Meeting about Meetings\OGF

Project DFDL 1.0

Meeting Date 16-Oct-12 (Tues)
Meeting Time 15:00 - 16:00

Created by Steve Hanson on 09-Mar-11 Last Modified by Steve Hanson on 23-Oct-12

OGF DFDL Working Group Call, 16 October 2012

#### Agenda

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

#### 1. Daffodil Open Source Project

Status.

#### 2. Order of evaluation of variable annotations .

We agreed a few calls ago on the rules for the timing of evaluation of dfdl:defineVariable annotations. Need to do the same for dfdl:newVariableInstance and dfdl:setVariable when multiple annotations exist on a component. Need to think about:

- Timing in relation to each other (eg. evaluate all newVariableInstance before any setVariable)
- Timing in relation to asserts and discriminators
- Timing in relation to processing of component's properties
- Any differences between parsing and unparsing

# 3. Prefix length type and its lengthKind .

The spec allows lengthKind 'explicit' with an expression, and lengthKind 'pattern' for a prefix length type. While these are not a problem when parsing, it does complicate unparsing, especially for complex elements, because the length of the prefix length type is then dependent on the data in the infoset, ie, it is variable length and not fixed length.

#### 4. Clarify the intent of leadingSkip property

For an array element, is it intended to apply to each occurrence in the array, or just to the array as a whole? The grammar implies the former, which is symmetric with trailingSkip, but Suman was expecting the same behaviour as IBM MRM which is the latter.

#### 5. Under what circumstances can assert /discriminator testKind 'pattern' be used?

Is this limited to text scenarios, or is it allowed under any circumstance?

Note that lengthKind 'pattern' is restricted via errata to use in text only scenarios.

# 6. Clarify the include /import of pure XML Schema by DFDL schema .

The spec does not preclude the include or import of a pure XML Schema (ie, one that is totally silent wrt DFDL annotations) as long as such a schema obeys the DFDL schema subset rules. One could

imagine such a scenario where the XML Schema contained only simple types.

#### 7. Calendar patterns with binaryCalendarRep 'packed', 'bcd', 'ibm4690Packed'

See email. For these binaryCalendarReps, the calendarPattern property is used, but restricted to those symbols that always result in the presentation of a digit. But the spec does not say how to take such a packed binary and convert it to text before applying the pattern. Does the parser simply take the nibbles, unpack them (discarding any sign nibbles) and use them directly? If so, then it should be noted that 'packed' will always result in an odd number of digits, and 'bcd' will always result in an even number of digits, and the pattern must cope with that.

## 8. Proposal: need dfdl:characterCode function for use when interoperating with XML

Mike is proposing two new functions that allow characters that are illegal in XML to be handled in a sensible way . Is this necessary, or is it something that is beyond the scope of DFDL and which should be handled via a transformation stage on the post-parse infoset?

#### 9. 7-bit ASCII encodings

Given that ASCII only uses code points 0-128, there are data formats that compress each byte into 7 bits which follow on from each other directly, giving a character encoding that is not byte aligned.

#### 10. 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 (IBM) Mike Beckerle Tim Kimber

#### **Apologies**

Suman Kalia

#### **Minutes**

#### 1. Daffodil Open Source Project

Not discussed

#### 2. Order of evaluation of variable annotations .

Not discussed

# 3. Prefix length type and its lengthKind .

Not discussed

#### 4. Clarify the intent of leadingSkip property

Intent is that it applies to each occurrence of a repeating element, like all the other framing properties. **Errata taken** to make that clearer in the spec.

# 5. Under what circumstances can assert /discriminator testKind 'pattern' be used?

Agreed that the pattern applied to the representation in the data itself starting at the current position. Need to decide whether the same restrictions apply as for lengthKind 'pattern', which limit the representation to text.

## 6. Clarify the include /import of pure XML Schema by DFDL schema .

Agreed that this is allowed by the spec as long as the XML Schema only uses DFDL subset
7. Calendar patterns with binaryCalendarRep 'packed', 'bcd', 'ibm4690Packed' Not discussed
8. Proposal: need dfdl:characterCode function for use when interoperating with XML Not discussed
9. 7-bit ASCII encodings Not discussed
Meeting closed
Next call Tues 23rd Oct (15:00)

#### 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: 190

# Actions raised at this meeting

No	Action

# **Current Actions:**

Current	ent Actions :					
No	Action					
123	DFDL tutorial (Steve) 13/10: Draft of first 3 chapters has been written and will be distributed to WG 10/11: Posted to grid forge here (http://forge.gridforum.org/sf/go/doc16106?nav=1), work continuing at IBM to define a standard example-based chapter framework and to author additional chapters. Contributors welcome!					
	17/11: Steve, Stephanie and Alan had a meeting to discuss the best structure for the tutorial and decide which examples to use throughout. The meeting raised more questions. Further discussions will be held.					
	24:11: The list of topics to be covered in the remaining lessons has been produced and a lesson template. Alan will write lesson 4 01/12: Alan has started lesson 4 which covers fixed and variable fields and arrays.					
	08/12: Alan has almost completed lesson 4. Will send out for review. 15/12: First draft of lesson 4 is available for review. Alan to send to Bob and Joe.					
	22/12: Alan has distributed drafts for tutorials on Basic Structure and Optional/Repeating elements. Please review 12/01: Alan distributed a tutorial for choices and updated the others. Alan and Steve reviewed					
	them and updated versions will be sent soon. Should start on the 'representation' tutorials soon. 19/01: The tutorials for basic structure, optional/arrays and choices have be updated. Please review. The tutorial for text elements should be available soon.					
	26/01: No comments received about 3 tuorials distributed last week. Alan is still working on Text representation. 02/02: Steve has sent comments on three tutorials. Alan to send updated versions by the end					
	of the week. Alan has also distributed the first part of the tutorial on text representation and would like feedback.  09/02: Steve had reviewed tutorials 3,4,5 and updated versions have been distributed. Joe					
reviewed lesson on text elements.  Main points. Using 'represented as text' is confusing. Examples are too cluttered. Suggestimple targeted examples but still build up to final complete schema						
23/02: New versions distributed and Steve has commented. 02/03: Alan has published the final versions of tutorials 4,5,6 and is working on text respresentations. There was some discussion about the detail that needs to be covered limit to 'common usage' and refer to the spec for details of edge cases.						
	09/03: Alan distributed an update to the text tutorial. Please review. 30/03: Steve has spent half a day tidying up lessons 1 to 6 and has uploaded them as pdfs to gridforge. They are now more coherent, and many inconsistencies and errors fixed. Ownership of draft lessons (text properties, binary properties, advanced features) has been passed to Steve. Also need to make a schema available for the examples. 13/04: Steve is working on the text properties tutorial. 04/05: No progress					
	15/06: This is on hold until Steve clears up spec issues and other workload. Steph has looked at the later lessons, and noted that they are more direct compared to the more wordy earlier lessons. 28/06: On hold.					
	29/11: Tim offered to take a look at the next outstanding tutorials. Steve / Tim to discuss 6/12: No progress					
	10/01: No progress, offer from Mike to help. First step is to make any corrections due to errata.					

17/01: No progress

24/01: No update

31/01: Daffodil project team will be working their way through the existing tutorials and reviewing

14/02: Daffodil team to start reviewing tutorials hopefully this Friday.

21/02: Moved to this coming Friday

28/02: No update

13/03: No progress

21/03: No progress from Daffodil team. IBMers are starting to use the tutorial and will feedback any comments.

28/03: No change

05/04: Steve will send Alan's two draft lessons on binary & text data to Mike to complete.

17/04: No progress 8/5: No update

...

4/9: No progress:

11/9: IBM DFDL infocenter will start to reference these directly before the end of the year, so they need updating soon.

18/9: Noted that several requests have been received asking for chapters 7 to 17 as implied by chapter 1. At minimum chapter 1 needs updating to make it clear what exists today.

28/9: Steve has updated and re-issued chapters 1 to 3.

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#### 16/10: No further progress

#### 140 Spec issue: Parsing: 'missing' v 'empty', role of initiators, default values (All)

01/06: See minutes.

08/06: Still under discussion. Tim has sent Mike a selection of data formats to guide the discussion.

15/06: Not discussed - an extra call has been scheduled to go through this.

28/06: A series of extra calls are being held between Mike, Steve, Tim and Steph.

05/07: Next extra call is Wed 6th July - Steve to send invite

12/07: Two more calls held. Next call is Wed 13th July.

19/07: More calls held, next call is Fri 22nd July.

26/07: More calls held, good progress

16/08: Steve will set up next call for when Tim has returned from holiday

23/08: Two more calls scheduled for this week, remaining issues: separator suppression, empty strings, sparse arrays (see action 136)

30/08: Call held earlier today. Still remaining - separator suppression (matrix); sparse arrays; empty strings; empty value delimiter policy. Steve to summarise where we have got so far before remaining items are tackled.

20/09: Steve has summarised where we are with action 140, which Tim and Mike have reviewed. 2 hours call planned for Thursday.

27/09: Calls held, progressing the separator suppression behaviour

4/10: More calls held, progressing separator suppression, sparse arrays (see action 136) and emptyValueDelimiterPolicy behaviour

18/10: All issues now in a single document, call held earlier today. Next call Thursday.

1/11: Extra calls still ongoing

8/11: Extra calls still going, when action 140 document complete will send to Steph for review

15/11: Mike is verifying the action 140 conclusions by writing an algorithm in SCALA which can be ultimately be used in Daffodil

22/11: Call to be held next week

29/11: Next call 30/11

6/12: Next call 7/12

13/12: Had call earlier today, making good progress. Next call first week of Jan.

10/01: Next call to be scheduled for Wed or Fri

17/01: No call last week, call tomorrow

24/01: Two calls held, next call Wed, looking at separator suppression

31/01: Separator suppression discussions ongoing, proposal to rename policy and enums. Call later this week.

14/02: Now looking at separator suppression and unparsing. Next call on Friday

21/02: Separator suppression on parsing/unparsing matrix agreed.

28/02: Two more calls this week

13/03: Call tomorrow

21/03: Two more calls held

28/03: Hopefully all issues now addressed. Steve to start folding in action 140 document comments into the body of the document.

05/04: Still with Steve. Noted that action 140 will not be in the next spec rev, likely the one after.

17/04: No further progress

8/5: Steve has started rewriting the action 140 document

23/5: Steve continuing the work on the action 140 document. Empty/missing/defaults and Arrays have been rewritten. Separators not started. Please review.

12/6: Steve will resend the latest action 140 document for review. Note use of 'missing representation' to describe zero length input data with same semantic as missing altogether.

19/6: Latest action 140 resent. Separate call on Thursday this week.

26/6: Call held, revisions need to be made before action 140 can be circulated more widely. Next call will be Tues 3rd July.

3/7: Steve not found time to update action 140 doc, call postponed to 10th July

10/7: Call held, document still being refined. Spin off **action 179** to sort out use of term 'representation' in spec and grammar.

17/7: No progress on core action 140.

25/7: No progress - Steve will aim to finish refinement before Aug 16

31/7: No progress

7/8: No progress

14/8: Steve has started to create v16 of the action 140 document and will mail it to Mike & Tim this week

4/9: v16 mailed to Mike & Tim - some issues noted in the email - Steve will set up a separate

11/9: Separate call held. Re-examining the role of minOccurs for occursCountKind 'parsed', 'expression', 'stopValue'. For these occursCountKinds, where the occurrences are extracted without reference to minOccurs, it seems more natural that a minOccurs violation is not a processing error but instead it is just a validation error. Need to evaluate the knock-on effect of this proposal - it potentially affects points of uncertainty, default values, use of terms required & optional, and separator suppression.

18/9: Tim and Steve have worked through the proposal, it looks good in principle. Steve to update action 140 document and see if anything problematic surfaces.

Note that current definitions of 'required' and 'optional' retained - it's just that now a required element missing from the infoset (after defaulting applied) is not necessarily a processing error (that now depends on occursCountKind). Please review for next call.

28/9: Tim & Mike to review Steve's updated document. Other things to do before it can be incorporated into the spec:

- SMH1 comment: What do dfdl:xxxlength() functions return when rep is absent? Error or 0?
- English words for separator suppression tables
- Decide the fate of Appendix A? Perhaps replaced by tutorials?

2/10: Key to explaining all this when it is rolled into the spec is defining the different reps plus 'missing' plus concepts of 'well-formed' and 'badly-formed' in the glossary. Clearly sections 13.15, 14 and 16 are affected in a major way, but it is likely that it affects several other sections such as 9.

Discussed the dfdl:xxxLength() functions and what they should return when there is nothing in the infoset. This led to a more general discussion of whether a failure to find a path should be treated as a schema definition error or a processing error. New **action 188** raised.

16/10: Steve to take one more pass through the document in the light of the above, and also try to put into words the separator suppression tables. In order to do this need action 187 needs

resolving.

# 161 Fold errata into DFDL spec (Mike/Steve)

17/01: Start with Steve updating spec to include his marked up changes

14/02: Steve has published errata document v8 which includes all resolved errata up until today, but has not yet started to fold into spec.

21/02: No progress but Steve will start this week

28/02: Steve has started on this. Editorial corrections made. Going through spec and flagging (using Word comments) where errata affect the spec (up to 2.16 so far).

If the errata is simple then he is fixing the spec at the same time. The outcome of this first pass will be a spec in which a reader can see which sections are affected by errata.

Then the second pass is to fold in the rest of the errata.

13/03: Steve has completed first pass and sent spec to Mike. Mike has made his editorial changes and is applying errata. Steve to check formatting not scuppered by Mike's editor.

21/03: Converted spec to docx format as this works better with Mike's editor, though Mike will switch to using Word for consistency. Mike folding in errata this week.

Errata doc is due an update but that is on hold until Mike has finished, as each errata will be tagged as folded in or not.

28/03: Steve has received updated spec from Mike. A few errata posed issues, Steve to resolve and respond to Mike. Mike to update spec and send back to Steve to review.

05/04: Steve is reviewing Mike's updated spec and adding comments for issues. Should be complete next week. Need to decide on numbering of spec rev, Steve to seek guidance from OGF board. Still need to resolve errata 2.54 on strict v lax parsing.

17/04: Steve has reviewed Mike's updated spec. Based on existing schemes for spec and errata, and taking into account OGF rules, the naming convention will be:

- "DFDL spec 1.0.3 GFD-P-R.174" (document gwdrp-dfdl-v1.0.3.doc)
- "Errata for DFDL spec 1.0.3" (document ogf-dfdl-v1.0-Errata-xxx.doc)
- "DFDL spec 1.0.4 Draft (document gwdrp-dfdl-v1.0.4-Draft-xxx.doc)

Note that xxx is the version number on GridForge.

8/5: Steve has received updated spec from Mike and needs to review it. Steve has created draft errata v009.

23/5: Steve to review Mike's spec. Steve to circulate error v009. Ideally errata 009 and action 140 should be included in next published spec, Mike to decide whether an intermediate spec at errata v008 level or errata v009 level is needed for Daffodil.

12/6: Steve seeing formatting loss in Word 2003. Steve will install Word 2010 and see if that is the problem. Steve will resend errata v009 for review. Next step is to get action 140 incorporated into errata v010.

19/6: Steve has applied for license at IBM, but will also check from home PC.

26/6: Steve now has Word 2010 installed. Steve has published errata v009 and v010 on GridForge. Latest internal spec draft is at errata v008. Mike to consider updating the spec to include errata v009 and v010 before action 140 incorporated. Naming convention for spec drafts is not as stated above, but is now **gwdrp-dfdl-v1.0.3-rxxx.yy** where **xxx** is Errata document version and **yy** is local draft.

3/7: Mike folding errata 10 document into spec, close to completion

10/7: Mike has sent updated spec for review.

17/7: Steve has not yet reviewed the updated spec

25/7: Steve has not yet reviewed the updated spec - aim to do so before Aug 16

31/7: No progress

7/8: Steve has reviewed most of the spec, and will complete by end of the week. Spec updated.

14/8: Meeting held to review remaining open comments in latest spec, Mike will update and mail out

4/9: Mike updated the spec and mailed it to Steve. Steve to review.

11/9: Still with Steve to review.

18/9: Steve has reviewed the latest spec, resolved several comments, and sent to Mike. Mike to identify unresolved comments and bring to WG as agenda items.

28/9: Mike to identify unresolved comments and bring to WG as agenda items

1	10/40 N. J. P				
	2/10: Not discussed				
172	16/10: Went through Mike's unresolved comments. See email thread.  Clarify how a DFDL string literal is matched against the data stream (Tim) 23/5: Non-trivial algorithm, worth stating it in the spec.				
	25/7: No progress.				
	31/7: Tim has been making notes but nothing written up formally. Will include treatment of %WSP*;				
	70VOI ,				
	16/10: No further progress				
178	OGF migration from SourceForge to Redmine (Steve)				
10/7: Opened to track any work arising					
	17/7: No action so far. 25/7: No action so far.				
	31/7: Steve has registered at the Redmine site. There is a skeletal section for DFDL WG. Admin				
	for mailing list has been automatically migrated. Nothing for documents, trackers, tasks, source				
	code. Steve has emailed the site admin for migration instructions. Need to decide what artifacts				
	we want to migrate - certainly documents and source code.				
	7/8: No reply received, Steve will chase.				
	14/8: Still no reply received - probably on holiday 4/9: Reply received. GridForge to be read-only after OGF 36. OGF have offered to help migrate				
	DFDL-WG content to RedMine. Steve has sent list of content.				
	2/10: Update received from OGF matter is in hand				
185	16/10: OGF have offered to have a phone call with Steve to progress  ICU rounding behaviour (Steve)				
100	18/9: ICU to verify rounding behaviour for text numbers, Steve to propose any DFDL spec				
	changes that result.				
	2/10: No update from ICU yet				
	16/10: ICU have updated the ticket but not yet completed the investigation				
186	Timing of asserts and discriminator evaluation (Mike) 18/9: Propose a scheme that allows downward path references and reliable evaluation in a				
	performant manner.				
	28/9: Mike sent out a proposal. Can it be rephrased in terms of the language used in section 9				
	of the spec (ie, known to exist, or known not to exist)?				
	Discussion about whether general discriminator expression failure is a processing error or a				
	schema definition error. Decided it is a processing error.  Steve observed that a path that contains an array element can succeed or fail depending on				
	circumstance.				
	Agreed that it is a schema definition error if an array element is not qualified by a predicate.				
	Errata taken for the latter point.				
	2/10: Steve and Time have sent comments on Mike's proposal.				
187	16/10: Not discussed Improve the definitions of the cardinality terms (All)				
'67	28/9: Review Steve's proposal (resolve scalar usage, dual required/optional usage, use of				
	occurrence)				
	2/10: Not discussed				
	16/10: Agreed to drop the term 'scalar', just refer to something not being an array if necessary.				
188	Steve will review action 140 and see if the dual use of required/optional is a problem.  Conditions for issuing a schema definition error or a processing error when evaluating				
100	expressions (All)				
	2/10: Spec makes some statements about this but does not cover all circumstances. Also spec				
	says an empty sequence gets treated as nil.				
	16/10: Started to discuss Mike's email. Agreed that a DFDL implementation needs to effectivel				
	wrap fn:exactly-one() around any path location in a DFDL expression if it using a standard				
1	XPath implementation (as well as checking for unsupported functions). That means empty				

	sequence will give an error.
189	Order of precedence section needs revising or replacing (All) 2/10: Can this section be expressed in terms of the updated and more detailed grammar? 16/10: Not discussed

# **Closed actions**

No	Action

# **Deferred actions**

<u>Delell</u>	red actions
No	Action
129	Press release to publicise DFDL (Steve) Steve is pulling together a press release at IBM. Want to include as many contributors and interested parties as possible.NCSA are keen to be included. Also likely that US National Archive will want to be included. Mike has indicated OCO are too.  17/11: no progress
	08/12: Still no response from IBM press office 15/12: no progress 09/03: No progress 30/03: Making this action deferred until IBM is in a position to say something more concrete about any implementation.
131	Transformation of DFDL properties to a canonical form (Joe) 08/12: Joe has produced a XSLT to transform a DFDL schema to a canonical element form. When tested it should be made available on the WG gidforge site. 15/12: Alan tested against test dfdl schema which worked correctly (after fixing some errors in the schema) 22/12: no update 12/01: Joe has some defects to fix before making available on gridforge. 19/01: There is a difficult problem to solve before Joe make the style sheet public 26/01: Working on problems 02/02: no progress 09/02: As it wasn't a simple as exoected this will be treated as a low priority action 23/02: Low priority
066	Investigate format for defining test cases (All) 25/11:IBM to see if it is possible to publish its test case format. 04/12: no update 17/02: IBM is willing in principle to publish the test case format and some of the test cases. May need some time to build a 'compliance suite' 24/03: No progress 03/03: Discussions have been taking place on the subset of tests that will be provided. 10/03: work is progressing 17/03: work is progressing 31/03: work is progressing 14/04: And XML test case format has been defined and is being tested. 21/04. Schema for TDML defined. Need to define how this and the test cases will be made public 05/05: Work still progressing 12/05: Work still progressing on technical and legal considerations

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25/08: Will chase to allow Daffodil access to test cases . The WG should define how implementation confirm that they 'conform to DFDL  $\nu$ 1'

01/09: IBM still progressing the legal aspect. Intends to publish 100 or so tests as soon as it can, ahead of a full compliance suite.

08/09: IBM still progressing

15/09: IBM still progressing, expect tests to be available within a few weeks

22/09: IBM still progressing, expect tests to be available within a few weeks

29/09:Test cases are being prepared.

06/10: Some test cases should be available next week. Steve would like to be able to show the test case information at OGF 30.

13/10: Still progressing

10/11: Legal issues cleared, IBM in process of collecting 100 example test cases, ideally ones that fit the 'extended conformance' of NCSA Daffodil

17/11: Work is progressing on verifying the test cases. It should be possible to distribute to the WG in 2 weeks.

24/11: About half the test cases have been completed and are being reviewed internally.

01/12: Test cases should be available shortly

08/12: The test cases are in internal IBM review. Probably need a bit of reorganising before publication

Stephanie gave a brief overview of the format of the test cases.

15/12: Ruth joined the call to provide the latest status. The test cases have been updated and a draft read.me produced. Although not ready for public distribution Ruth will send them to Joe for feedback.

22/12: Test cases were sent to Joe for initial testing which found some problems in the Daffodil parser

12/01: All current tests use a default format whih Daffodil doesn't currently support. Joe suggested that there should be test that defined the same function using different definition forms. Also suggested that default formats should be provided by the WG. This had always been the intention. Action 133 raised to track.

19/01: There is currently no resource available in IBM to make more tests available . IBM to discuss how/if it can make a 'minimal compliance test suite' available.

26/01: Action kicked off within IBM. There was a brief discussion abot naming and organisation of test cases but no preferences were expressed

02/02: IBM will not have the resources to develop a full test suite in the near future. Steve suggested that we produce a list of required test cases so that anyone could supply them.

09/02: Steve had previously sent a list of areas to be tested. Please review.

23/02: Please review Steve's list of areas to be tested

02/03: Alan had reviewed Steve's list and we went through his comments. Agreed there is no need for separate tests for the infoset or for dfdl: property lists, unions etc but comment will be added that these should be exercised during property testing.

09/03: Alan updated the test document. Need more introduction and perhaps adopting the OGF template.

30/03. Ownership of test document passed to Steve. This action is merged with 112 and will cover all aspects of compliance suite.

13/04: IBM will not have time to create a compliance suite in the near future. Probably best to make this action deferred for now.

. . .

10/07/2012: Discussed schemes to create interchangeable tests. Ideally need a DFDL defined error code per failure, in conjunction with specific inserts.

## Work items:

No	Item	Owner	Target	Status
043	Track errata list for 1.0 of the spec.	Steve	N/A	Draft 010 on
	http://forge.gridforum.org/sf/go/doc16280?nav=1			grid forge.

١	044	Incorporate errata list into DFDL spec.	Steve/Mike	N/A	Draft merged
ı					document.