Using NoSPA-RDF-Data-Cube-Validator

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Contents

Validating RDF data cube use NoSPA-RDF-Data-Cube-Validator

The NoSPA-RDF-Data-Cube-Validator is a standalone java implementation avialable at (https://github.com/yyz1989/NoSPA-RDF-Data-Cube-Validator). The jar file is available from (https://github.com/yyz1989/NoSPA-RDF-Data-Cube-Validator/releases).

The code below assumes the jar file is available at `/opt/NoSPA-RDF-Data-Cube-Validator-jar`.

The cd below in each code block is included because I could not find a quick way to get the code chunk executed in that directory. knitr is flexible enough to do it, I have not yet found the right way to do it. So, ignore the repeated cd ..

Integrity contstraints check on DC-DM-sample.ttl

```
cd ../extdata/sample-rdf
java -jar /opt/NoSPA-RDF-Data-Cube-Validator-jar/nospa-rdf-data-cube-validator-0.9.9-jar-with-dependenc
```

```
## ===NoSPA RDF Data Cube Validator===
## 2016-06-29 20:19:45,283 INFO - Loading cube file ...
## 2016-06-29 20:19:45,604 INFO - Normalizing cube at phase 1 ...
## 2016-06-29 20:19:45,610 INFO - Normalizing cube at phase 2 ...
## 2016-06-29 20:19:45,614 INFO - Validating all constraints ...
## 2016-06-29 20:19:45,614 INFO - Validating Integrity Constraint 1: Unique DataSet
## 2016-06-29 20:19:45,618 INFO - Validating Integrity Constraint 2: Unique DSD
## 2016-06-29 20:19:45,618 INFO - Validating Integrity Constraint 3: DSD Includes Measure
## 2016-06-29 20:19:45,620 INFO - Validating Integrity Constraint 4: Dimensions Have Range
## 2016-06-29 20:19:45,620 INFO - Validating Integrity Constraint 5: Concept Dimensions Have Code Lists
## 2016-06-29 20:19:45,621 INFO - Validating Integrity Constraint 6: Only Attributes May Be Optional
## 2016-06-29 20:19:45,622 INFO - Validating Integrity Constraint 7: Slice Keys Must Be Declared
## 2016-06-29 20:19:45,623 INFO - Validating Integrity Constraint 8: Slice Keys Consistent With DSD
## 2016-06-29 20:19:45,623 INFO - Validating Integrity Constraint 9: Unique Slice Structure
## 2016-06-29 20:19:45,624 INFO - Validating Integrity Constraint 10: Slice Dimensions Complete
## 2016-06-29 20:19:45,625 INFO - Validating Integrity Constraint 11: All Dimensions Required & Integri
```

```
## 2016-06-29 20:19:45,626 INFO -    Validating dataset http://www.example.org/dc/dm/ds/dataset-DM
##    Validating observation 1 of 68
   Validating observation 2 of 68
   Validating observation 3 of 68
   Validating observation 4 of 68
   Validating observation 5 of 68
   Validating observation 6 of 68
   Validating observation 7 of 68
   Validating observation 8 of 68
   Validating observation 9 of 68
   Validating observation 10 of 68
   Validating observation 11 of 68
   Validating observation 12 of 68
   Validating observation 13 of 68
   Validating observation 14 of 68
   Validating observation 15 of 68
   Validating observation 16 of 68
   Validating observation 17 of 68
   Validating observation 18 of 68
   Validating observation 19 of 68
   Validating observation 20 of 68
   Validating observation 21 of 68
   Validating observation 22 of 68
   Validating observation 23 of 68
   Validating observation 24 of 68
   Validating observation 25 of 68
   Validating observation 26 of 68
   Validating observation 27 of 68
   Validating observation 28 of 68
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   Validating observation 40 of 68
   Validating observation 41 of 68
   Validating observation 42 of 68
   Validating observation 43 of 68
   Validating observation 44 of 68
   Validating observation 45 of 68
   Validating observation 46 of 68
   Validating observation 47 of 68
   Validating observation 48 of 68
   Validating observation 49 of 68
   Validating observation 50 of 68
   Validating observation 51 of 68
   Validating observation 52 of 68
   Validating observation 53 of 68
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    Validating observation 54 of 68
    Validating observation 55 of 68
    Validating observation 56 of 68
    Validating observation 57 of 68
    Validating observation 58 of 68
    Validating observation 59 of 68
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    Validating observation 61 of 68
    Validating observation 62 of 68
    Validating observation 63 of 68
    Validating observation 64 of 68
    Validating observation 65 of 68
    Validating observation 66 of 68
    Validating observation 67 of 68
    Validating observation 68 of 68
2016-06-29 20:19:45,637 INFO - Validating Integrity Constraint 13: Required Attributes
## 2016-06-29 20:19:45,638 INFO - Validating Integrity Constraint 14: All Measures Present
## 2016-06-29 20:19:45,640 INFO - Validating Integrity Constraint 15: Measure Dimension Consistent & Int
## 2016-06-29 20:19:45,641 INFO - Validating Integrity Constraint 17: All Measures Present In Measures I
## 2016-06-29 20:19:45,643 INFO - Validating Integrity Constraint 18: Consistent Dataset Links
## 2016-06-29 20:19:45,643 INFO - Validating Integrity Constraint 19: Codes From Code List
## 2016-06-29 20:19:45,652 INFO - Validating Integrity Constraint 20: Codes From Hierarchy & Integrity (
## 2016-06-29 20:19:45,654 INFO - The validation task completed in 377ms
```

Integrity contstraints check on DC-AE-sample.ttl

```
cd ../extdata/sample-rdf
java -jar /opt/NoSPA-RDF-Data-Cube-Validator-jar/nospa-rdf-data-cube-validator-0.9.9-jar-with-dependenc
```

```
## ===NoSPA RDF Data Cube Validator===
## 2016-06-29 20:19:45,944 INFO - Loading cube file ...
## 2016-06-29 20:19:46,610 INFO - Normalizing cube at phase 1 ...
## 2016-06-29 20:19:46,624 INFO - Normalizing cube at phase 2 ...
## 2016-06-29 20:19:46,631 INFO - Validating all constraints ...
## 2016-06-29 20:19:46,631 INFO - Validating Integrity Constraint 1: Unique DataSet
## 2016-06-29 20:19:46,652 INFO - Validating Integrity Constraint 2: Unique DSD
## 2016-06-29 20:19:46,653 INFO - Validating Integrity Constraint 3: DSD Includes Measure
## 2016-06-29 20:19:46,654 INFO - Validating Integrity Constraint 4: Dimensions Have Range
## 2016-06-29 20:19:46,654 INFO - Validating Integrity Constraint 5: Concept Dimensions Have Code Lists
## 2016-06-29 20:19:46,655 INFO - Validating Integrity Constraint 6: Only Attributes May Be Optional
## 2016-06-29 20:19:46,656 INFO - Validating Integrity Constraint 7: Slice Keys Must Be Declared
## 2016-06-29 20:19:46,657 INFO - Validating Integrity Constraint 8: Slice Keys Consistent With DSD
## 2016-06-29 20:19:46,658 INFO - Validating Integrity Constraint 9: Unique Slice Structure
## 2016-06-29 20:19:46,658 INFO - Validating Integrity Constraint 10: Slice Dimensions Complete
## 2016-06-29 20:19:46,659 INFO - Validating Integrity Constraint 11: All Dimensions Required & Integrit
## 2016-06-29 20:19:46,661 INFO -     Validating dataset http://www.example.org/dc/ae/ds/dataset-AE
##     Validating observation 1 of 1406
    Validating observation 2 of 1406
    Validating observation 3 of 1406
    Validating observation 4 of 1406
    Validating observation 5 of 1406
    Validating observation 6 of 1406
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Validating observation 7 of 1406
Validating observation 8 of 1406
Validating observation 9 of 1406
Validating observation 10 of 1406
Validating observation 11 of 1406
Validating observation 12 of 1406
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2016-06-29 20:19:46,733 INFO - Validating Integrity Constraint 13: Required Attributes
## 2016-06-29 20:19:46,736 INFO - Validating Integrity Constraint 14: All Measures Present
## 2016-06-29 20:19:46,745 INFO - Validating Integrity Constraint 15: Measure Dimension Consistent & In
## 2016-06-29 20:19:46,746 INFO - Validating Integrity Constraint 17: All Measures Present In Measures I
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## 2016-06-29 20:19:46,748 INFO - Validating Integrity Constraint 18: Consistent Dataset Links
## 2016-06-29 20:19:46,748 INFO - Validating Integrity Constraint 19: Codes From Code List
## 2016-06-29 20:19:46,798 INFO - Validating Integrity Constraint 20: Codes From Hierarchy & Integrity
## 2016-06-29 20:19:46,802 INFO - The validation task completed in 863ms
```

Integrity contstraints check on DC-DEMO-sample.ttl

```
cd ../extdata/sample-rdf
java -jar /opt/NoSPA-RDF-Data-Cube-Validator-jar/nospa-rdf-data-cube-validator-0.9.9-jar-with-dependenc
```

```
## ===NoSPA RDF Data Cube Validator===
## 2016-06-29 20:19:47,136 INFO - Loading cube file ...
## 2016-06-29 20:19:47,507 INFO - Normalizing cube at phase 1 ...
## 2016-06-29 20:19:47,514 INFO - Normalizing cube at phase 2 ...
## 2016-06-29 20:19:47,519 INFO - Validating all constraints ...
## 2016-06-29 20:19:47,519 INFO - Validating Integrity Constraint 1: Unique DataSet
## 2016-06-29 20:19:47,526 INFO - Validating Integrity Constraint 2: Unique DSD
## 2016-06-29 20:19:47,527 INFO - Validating Integrity Constraint 3: DSD Includes Measure
## 2016-06-29 20:19:47,528 INFO - Validating Integrity Constraint 4: Dimensions Have Range
## 2016-06-29 20:19:47,529 INFO - Validating Integrity Constraint 5: Concept Dimensions Have Code Lists
## 2016-06-29 20:19:47,530 INFO - Validating Integrity Constraint 6: Only Attributes May Be Optional
## 2016-06-29 20:19:47,531 INFO - Validating Integrity Constraint 7: Slice Keys Must Be Declared
## 2016-06-29 20:19:47,532 INFO - Validating Integrity Constraint 8: Slice Keys Consistent With DSD
## 2016-06-29 20:19:47,533 INFO - Validating Integrity Constraint 9: Unique Slice Structure
## 2016-06-29 20:19:47,534 INFO - Validating Integrity Constraint 10: Slice Dimensions Complete
## 2016-06-29 20:19:47,534 INFO - Validating Integrity Constraint 11: All Dimensions Required & Integrit
## 2016-06-29 20:19:47,536 INFO -      Validating dataset http://www.example.org/dc/demo/ds/dataset-DEMO
##      Validating observation 1 of 132
   Validating observation 2 of 132
   Validating observation 3 of 132
   Validating observation 4 of 132
   Validating observation 5 of 132
   Validating observation 6 of 132
   Validating observation 7 of 132
   Validating observation 8 of 132
   Validating observation 9 of 132
   Validating observation 10 of 132
   Validating observation 11 of 132
   Validating observation 12 of 132
   Validating observation 13 of 132
   Validating observation 14 of 132
   Validating observation 15 of 132
   Validating observation 16 of 132
   Validating observation 17 of 132
   Validating observation 18 of 132
   Validating observation 19 of 132
   Validating observation 20 of 132
   Validating observation 21 of 132
   Validating observation 22 of 132
   Validating observation 23 of 132
   Validating observation 24 of 132
   Validating observation 25 of 132
```

```
Validating observation 26 of 132
Validating observation 27 of 132
Validating observation 28 of 132
Validating observation 29 of 132
Validating observation 30 of 132
Validating observation 31 of 132
Validating observation 32 of 132
Validating observation 33 of 132
Validating observation 34 of 132
Validating observation 35 of 132
Validating observation 36 of 132
Validating observation 37 of 132
Validating observation 38 of 132
Validating observation 39 of 132
Validating observation 40 of 132
Validating observation 41 of 132
Validating observation 42 of 132
Validating observation 43 of 132
Validating observation 44 of 132
Validating observation 45 of 132
Validating observation 46 of 132
Validating observation 47 of 132
Validating observation 48 of 132
Validating observation 49 of 132
Validating observation 50 of 132
Validating observation 51 of 132
Validating observation 52 of 132
Validating observation 53 of 132
Validating observation 54 of 132
Validating observation 55 of 132
Validating observation 56 of 132
Validating observation 57 of 132
Validating observation 58 of 132
Validating observation 59 of 132
Validating observation 60 of 132
Validating observation 61 of 132
Validating observation 62 of 132
Validating observation 63 of 132
Validating observation 64 of 132
Validating observation 65 of 132
Validating observation 66 of 132
Validating observation 67 of 132
Validating observation 68 of 132
Validating observation 69 of 132
Validating observation 70 of 132
Validating observation 71 of 132
Validating observation 72 of 132
Validating observation 73 of 132
Validating observation 74 of 132
Validating observation 75 of 132
Validating observation 76 of 132
Validating observation 77 of 132
Validating observation 78 of 132
Validating observation 79 of 132
```

```
Validating observation 80 of 132
Validating observation 81 of 132
Validating observation 82 of 132
Validating observation 83 of 132
Validating observation 84 of 132
Validating observation 85 of 132
Validating observation 86 of 132
Validating observation 87 of 132
Validating observation 88 of 132
Validating observation 89 of 132
Validating observation 90 of 132
Validating observation 91 of 132
Validating observation 92 of 132
Validating observation 93 of 132
Validating observation 94 of 132
Validating observation 95 of 132
Validating observation 96 of 132
Validating observation 97 of 132
Validating observation 98 of 132
Validating observation 99 of 132
Validating observation 100 of 132
Validating observation 101 of 132
Validating observation 102 of 132
Validating observation 103 of 132
Validating observation 104 of 132
Validating observation 105 of 132
Validating observation 106 of 132
Validating observation 107 of 132
Validating observation 108 of 132
Validating observation 109 of 132
Validating observation 110 of 132
Validating observation 111 of 132
Validating observation 112 of 132
Validating observation 113 of 132
Validating observation 114 of 132
Validating observation 115 of 132
Validating observation 116 of 132
Validating observation 117 of 132
Validating observation 118 of 132
Validating observation 119 of 132
Validating observation 120 of 132
Validating observation 121 of 132
Validating observation 122 of 132
Validating observation 123 of 132
Validating observation 124 of 132
Validating observation 125 of 132
Validating observation 126 of 132
Validating observation 127 of 132
Validating observation 128 of 132
Validating observation 129 of 132
Validating observation 130 of 132
Validating observation 131 of 132
Validating observation 132 of 132
2016-06-29 20:19:47,553 INFO - Validating Integrity Constraint 13: Required Attributes
```

```
## 2016-06-29 20:19:47,554 INFO - Validating Integrity Constraint 14: All Measures Present
## 2016-06-29 20:19:47,557 INFO - Validating Integrity Constraint 15: Measure Dimension Consistent & In
## 2016-06-29 20:19:47,558 INFO - Validating Integrity Constraint 17: All Measures Present In Measures
## 2016-06-29 20:19:47,559 INFO - Validating Integrity Constraint 18: Consistent Dataset Links
## 2016-06-29 20:19:47,560 INFO - Validating Integrity Constraint 19: Codes From Code List
## 2016-06-29 20:19:47,577 INFO - Validating Integrity Constraint 20: Codes From Hierarchy & Integrity
## 2016-06-29 20:19:47,579 INFO - The validation task completed in 448ms
```

Display of the validation files

```
cd ../extdata/sample-rdf
cat validation_result_*.md
```

```
## RDF Cube Validation Result
## ===========================
##
## Validator: NoSPA
## Wed Jun 29 20:19:42 CEST 2016
## DC-DM-sample.ttl
##
## Integrity Constraint 1: Unique DataSet
## --------------------------------------
##
## Pass.
##
## Integrity Constraint 2: Unique DSD
## ----------------------------------
##
## Pass.
##
## Integrity Constraint 3: DSD Includes Measure
## --------------------------------------------
##
## Pass.
##
## Integrity Constraint 4: Dimensions Have Range
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 5: Concept Dimensions Have Code Lists
## ----------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 6: Only Attributes May Be Optional
## -------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 7: Slice Keys Must Be Declared
## ---------------------------------------------------
```

```
## 
## Pass.
## 
## Integrity Constraint 8: Slice Keys Consistent With DSD
## ------------------------------------------------------
## 
## Pass.
## 
## Integrity Constraint 9: Unique Slice Structure
## ------------------------------------------------
## 
## Pass.
## 
## Integrity Constraint 10: Slice Dimensions Complete
## --------------------------------------------------
## 
## Pass.
## 
## Integrity Constraint 11: All Dimensions Required
## ------------------------------------------------
## 
## Pass.
## 
## Integrity Constraint 12: No Duplicate Observations
## --------------------------------------------------
## 
## Pass.
## 
## Integrity Constraint 13: Required Attributes
## --------------------------------------------
## 
## Pass.
## 
## Integrity Constraint 14: All Measures Present
## ---------------------------------------------
## 
## Pass.
## 
## Integrity Constraint 15: Measure Dimension Consistent
## -----------------------------------------------------
## 
## Pass.
## 
## Integrity Constraint 16: Single Measure On Measure Dimension Observation
## -----------------------------------------------------------------------
## 
## Pass.
## 
## Integrity Constraint 17: All Measures Present In Measures Dimension Cube
## -----------------------------------------------------------------------
## 
## Pass.
## 
## Integrity Constraint 18: Consistent Dataset Links
```

```
## -----------------------------------------------
##
## Pass.
##
## Integrity Constraint 19: Codes From Code List
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 20: Codes From Hierarchy
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 21: Codes From Hierarchy (Inverse)
## -------------------------------------------------------
##
## Pass.
##
## RDF Cube Validation Result
## ==========================
##
## Validator: NoSPA
## Wed Jun 29 20:19:42 CEST 2016
## DC-AE-sample.ttl
##
## Integrity Constraint 1: Unique DataSet
## --------------------------------------
##
## Pass.
##
## Integrity Constraint 2: Unique DSD
## ----------------------------------
##
## Pass.
##
## Integrity Constraint 3: DSD Includes Measure
## --------------------------------------------
##
## Pass.
##
## Integrity Constraint 4: Dimensions Have Range
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 5: Concept Dimensions Have Code Lists
## ---------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 6: Only Attributes May Be Optional
## -------------------------------------------------------
##
```

```
## Pass.
##
## Integrity Constraint 7: Slice Keys Must Be Declared
## -----------------------------------------------------
##
## Pass.
##
## Integrity Constraint 8: Slice Keys Consistent With DSD
## -------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 9: Unique Slice Structure
## -----------------------------------------------
##
## Pass.
##
## Integrity Constraint 10: Slice Dimensions Complete
## ---------------------------------------------------
##
## Pass.
##
## Integrity Constraint 11: All Dimensions Required
## -------------------------------------------------
##
## Pass.
##
## Integrity Constraint 12: No Duplicate Observations
## ---------------------------------------------------
##
## Pass.
##
## Integrity Constraint 13: Required Attributes
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 14: All Measures Present
## ----------------------------------------------
##
## Pass.
##
## Integrity Constraint 15: Measure Dimension Consistent
## ------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 16: Single Measure On Measure Dimension Observation
## ------------------------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 17: All Measures Present In Measures Dimension Cube
## ------------------------------------------------------------------------
```

```
##
## Pass.
##
## Integrity Constraint 18: Consistent Dataset Links
## --------------------------------------------
##
## Pass.
##
## Integrity Constraint 19: Codes From Code List
## ----------------------------------------------
##
## Pass.
##
## Integrity Constraint 20: Codes From Hierarchy
## ----------------------------------------------
##
## Pass.
##
## Integrity Constraint 21: Codes From Hierarchy (Inverse)
## ------------------------------------------------------
##
## Pass.
##
## RDF Cube Validation Result
## ==========================
##
## Validator: NoSPA
## Wed Jun 29 20:19:44 CEST 2016
## DC-DEMO-sample.ttl
##
## Integrity Constraint 1: Unique DataSet
## --------------------------------------
##
## Pass.
##
## Integrity Constraint 2: Unique DSD
## ----------------------------------
##
## Pass.
##
## Integrity Constraint 3: DSD Includes Measure
## --------------------------------------------
##
## Pass.
##
## Integrity Constraint 4: Dimensions Have Range
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 5: Concept Dimensions Have Code Lists
## ---------------------------------------------------------
##
## Pass.
```

```
##
## Integrity Constraint 6: Only Attributes May Be Optional
## ----------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 7: Slice Keys Must Be Declared
## ---------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 8: Slice Keys Consistent With DSD
## ---------------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 9: Unique Slice Structure
## ------------------------------------------------
##
## Pass.
##
## Integrity Constraint 10: Slice Dimensions Complete
## ----------------------------------------------------
##
## Pass.
##
## Integrity Constraint 11: All Dimensions Required
## --------------------------------------------------
##
## Pass.
##
## Integrity Constraint 12: No Duplicate Observations
## ----------------------------------------------------
##
## Pass.
##
## Integrity Constraint 13: Required Attributes
## ----------------------------------------------
##
## Pass.
##
## Integrity Constraint 14: All Measures Present
## -----------------------------------------------
##
## Pass.
##
## Integrity Constraint 15: Measure Dimension Consistent
## -------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 16: Single Measure On Measure Dimension Observation
## -------------------------------------------------------------------------
##
```

```
## Pass.
##
## Integrity Constraint 17: All Measures Present In Measures Dimension Cube
## ----------------------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 18: Consistent Dataset Links
## ------------------------------------------------
##
## Pass.
##
## Integrity Constraint 19: Codes From Code List
## --------------------------------------------
##
## Pass.
##
## Integrity Constraint 20: Codes From Hierarchy
## --------------------------------------------
##
## Pass.
##
## Integrity Constraint 21: Codes From Hierarchy (Inverse)
## ------------------------------------------------------
##
## Pass.
##
## RDF Cube Validation Result
## ==========================
##
## Validator: NoSPA
## Wed Jun 29 20:19:45 CEST 2016
## DC-DM-sample.ttl
##
## Integrity Constraint 1: Unique DataSet
## -------------------------------------
##
## Pass.
##
## Integrity Constraint 2: Unique DSD
## ---------------------------------
##
## Pass.
##
## Integrity Constraint 3: DSD Includes Measure
## -------------------------------------------
##
## Pass.
##
## Integrity Constraint 4: Dimensions Have Range
## --------------------------------------------
##
## Pass.
##
```

```
## Integrity Constraint 5: Concept Dimensions Have Code Lists
## ----------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 6: Only Attributes May Be Optional
## --------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 7: Slice Keys Must Be Declared
## ----------------------------------------------------
##
## Pass.
##
## Integrity Constraint 8: Slice Keys Consistent With DSD
## -------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 9: Unique Slice Structure
## -----------------------------------------------
##
## Pass.
##
## Integrity Constraint 10: Slice Dimensions Complete
## ---------------------------------------------------
##
## Pass.
##
## Integrity Constraint 11: All Dimensions Required
## -------------------------------------------------
##
## Pass.
##
## Integrity Constraint 12: No Duplicate Observations
## ---------------------------------------------------
##
## Pass.
##
## Integrity Constraint 13: Required Attributes
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 14: All Measures Present
## ----------------------------------------------
##
## Pass.
##
## Integrity Constraint 15: Measure Dimension Consistent
## ------------------------------------------------------
##
## Pass.
```

```
##
## Integrity Constraint 16: Single Measure On Measure Dimension Observation
## ------------------------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 17: All Measures Present In Measures Dimension Cube
## ------------------------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 18: Consistent Dataset Links
## -------------------------------------------------
##
## Pass.
##
## Integrity Constraint 19: Codes From Code List
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 20: Codes From Hierarchy
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 21: Codes From Hierarchy (Inverse)
## -------------------------------------------------------
##
## Pass.
##
## RDF Cube Validation Result
## ==========================
##
## Validator: NoSPA
## Wed Jun 29 20:19:45 CEST 2016
## DC-AE-sample.ttl
##
## Integrity Constraint 1: Unique DataSet
## --------------------------------------
##
## Pass.
##
## Integrity Constraint 2: Unique DSD
## ----------------------------------
##
## Pass.
##
## Integrity Constraint 3: DSD Includes Measure
## --------------------------------------------
##
## Pass.
##
## Integrity Constraint 4: Dimensions Have Range
```

```
## ------------------------------------------------
##
## Pass.
##
## Integrity Constraint 5: Concept Dimensions Have Code Lists
## -----------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 6: Only Attributes May Be Optional
## -------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 7: Slice Keys Must Be Declared
## ---------------------------------------------------
##
## Pass.
##
## Integrity Constraint 8: Slice Keys Consistent With DSD
## ------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 9: Unique Slice Structure
## ----------------------------------------------
##
## Pass.
##
## Integrity Constraint 10: Slice Dimensions Complete
## --------------------------------------------------
##
## Pass.
##
## Integrity Constraint 11: All Dimensions Required
## ------------------------------------------------
##
## Pass.
##
## Integrity Constraint 12: No Duplicate Observations
## --------------------------------------------------
##
## Pass.
##
## Integrity Constraint 13: Required Attributes
## --------------------------------------------
##
## Pass.
##
## Integrity Constraint 14: All Measures Present
## ---------------------------------------------
##
## Pass.
##
```

```
## Integrity Constraint 15: Measure Dimension Consistent
## ----------------------------------------------
##
## Pass.
##
## Integrity Constraint 16: Single Measure On Measure Dimension Observation
## --------------------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 17: All Measures Present In Measures Dimension Cube
## ----------------------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 18: Consistent Dataset Links
## -----------------------------------------------
##
## Pass.
##
## Integrity Constraint 19: Codes From Code List
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 20: Codes From Hierarchy
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 21: Codes From Hierarchy (Inverse)
## -----------------------------------------------------
##
## Pass.
##
## RDF Cube Validation Result
## ==========================
##
## Validator: NoSPA
## Wed Jun 29 20:19:47 CEST 2016
## DC-DEMO-sample.ttl
##
## Integrity Constraint 1: Unique DataSet
## --------------------------------------
##
## Pass.
##
## Integrity Constraint 2: Unique DSD
## ----------------------------------
##
## Pass.
##
## Integrity Constraint 3: DSD Includes Measure
## --------------------------------------------
```

```
##
## Pass.
##
## Integrity Constraint 4: Dimensions Have Range
## --------------------------------------------
##
## Pass.
##
## Integrity Constraint 5: Concept Dimensions Have Code Lists
## ---------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 6: Only Attributes May Be Optional
## ------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 7: Slice Keys Must Be Declared
## --------------------------------------------------
##
## Pass.
##
## Integrity Constraint 8: Slice Keys Consistent With DSD
## -----------------------------------------------------
##
## Pass.
##
## Integrity Constraint 9: Unique Slice Structure
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 10: Slice Dimensions Complete
## -------------------------------------------------
##
## Pass.
##
## Integrity Constraint 11: All Dimensions Required
## -----------------------------------------------
##
## Pass.
##
## Integrity Constraint 12: No Duplicate Observations
## -------------------------------------------------
##
## Pass.
##
## Integrity Constraint 13: Required Attributes
## -------------------------------------------
##
## Pass.
##
## Integrity Constraint 14: All Measures Present
```

```
## ----------------------------------------------
##
## Pass.
##
## Integrity Constraint 15: Measure Dimension Consistent
## ------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 16: Single Measure On Measure Dimension Observation
## -----------------------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 17: All Measures Present In Measures Dimension Cube
## -----------------------------------------------------------------------
##
## Pass.
##
## Integrity Constraint 18: Consistent Dataset Links
## -------------------------------------------------
##
## Pass.
##
## Integrity Constraint 19: Codes From Code List
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 20: Codes From Hierarchy
## ---------------------------------------------
##
## Pass.
##
## Integrity Constraint 21: Codes From Hierarchy (Inverse)
## -------------------------------------------------------
##
## Pass.
```

(This is not a very nice way to do it).