

# DMN

## Technology Compatibility Kit (TCK)

# Making it Real

Keith D Swenson  
Fujitsu America  
April 19, 2017

Way back ... at bpmNEXT in 2016 .....

Lots of  
discussion  
about  
Decision  
Model &  
Notation



This is the Year  
for DMN

# Questions for each Implementer

Can you take a model from A to B?

No!

Can you enter a model in two different tools the same way?

No!

If you invest in DMN technology, is your investment protected?

No!

What is the point of a  
*standard* ...

if everyone implements it  
*differently?*

# The “Promise” of DMN

Decision  
Modeled

- Can be Reused Elsewhere

Investment  
Made

- Will be Preserved

People  
Trained

- Able To Return Benefit

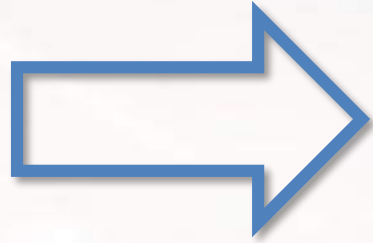
Modeled  
Decision

- Executes the Same Everywhere

# Launching a Standard Can Be Tricky



Standards Team



Vendors & Public



Sometimes freely available support technology can be the key to success.

It is all about  
“Running Code”

Committee  
doesn't make code,  
vendors do.

How to help vendors to conform to the spec?

Make a  
**TEST PLATFORM**

Vendors demonstrate  
capability.

Consumers gain  
assurance.

# The Goals of the TCK



Define a set of Test Cases



Carefully assure conformance to spec.



Provide tools to run the tests



Recognize the vendor success





# TCK with NOT



Extend or enhance the DMN spec

→ The RTF is already doing that



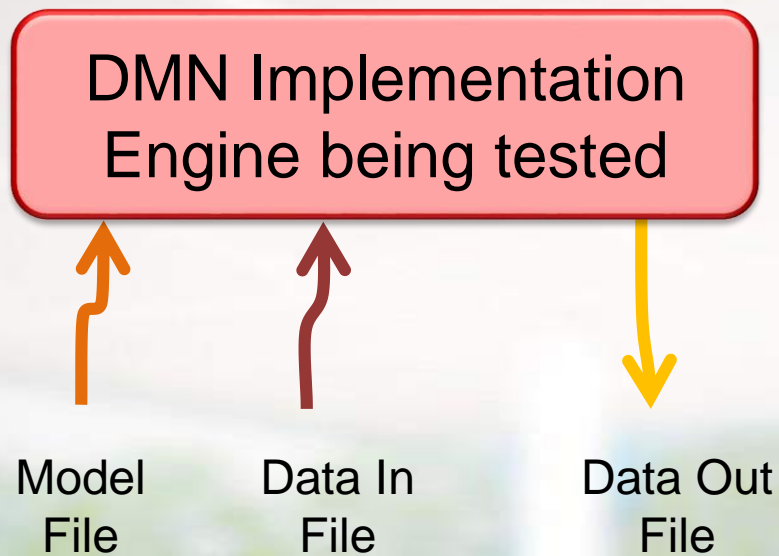
Focus on esoteric unimportant features

→ Only features that exists in one or more implementations



Favor any implementation over another

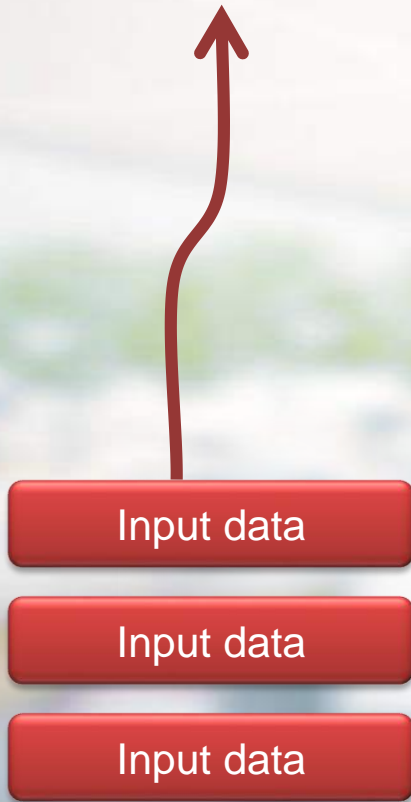
→ Remain technology neutral



- Vendor's execution engine tested as Black Box
- No requirement on runtime environment
- Model and test input all defined as machine or operating system independent files
- As long as the engine produces the correct results, it is considered in compliance.



- DMN Model specifies in DMN-standard interchange format based on XML
- Used according to spec without any extensions
- Validate that model is conforming to spec

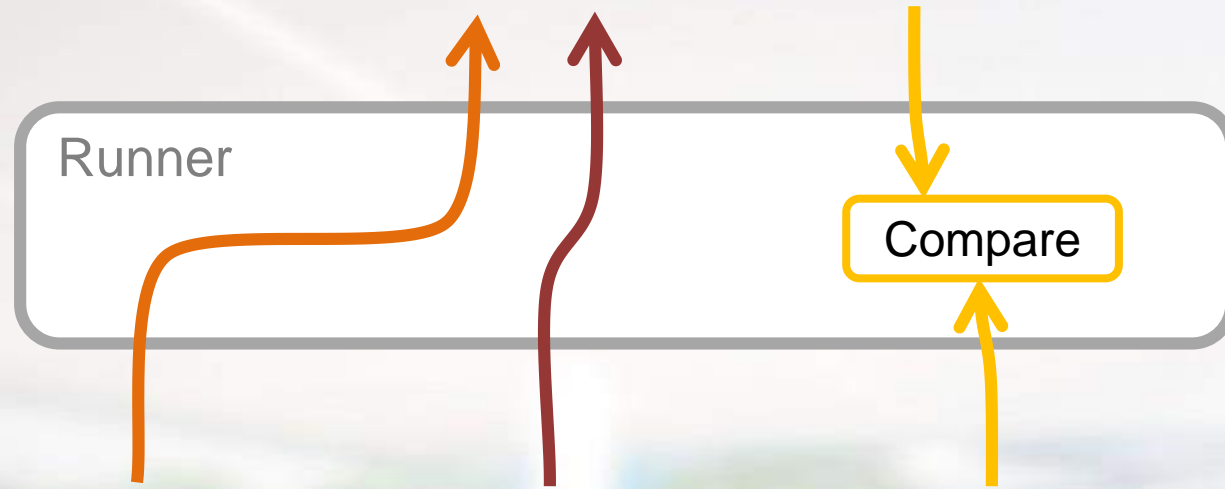


- Input data is name / value pairs
- Multiple input sets allow testing various scenarios on the same DMN model
- XML format is accessible to everyone
  - Name and string values
- No data typing!
  - The DMN model defines the types of the input data,
  - Implementation must provide a way to take the value as a string



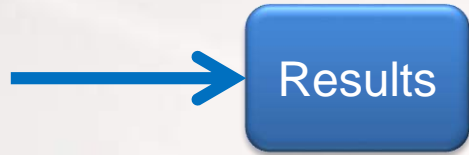
- Results are name / value pairs
- No data typing!
  - Output type is defined by DMN model
- Strings compared exactly
- Numeric values compared to 8 digits
  - Tests should not push numeric library boundaries

# The Runner

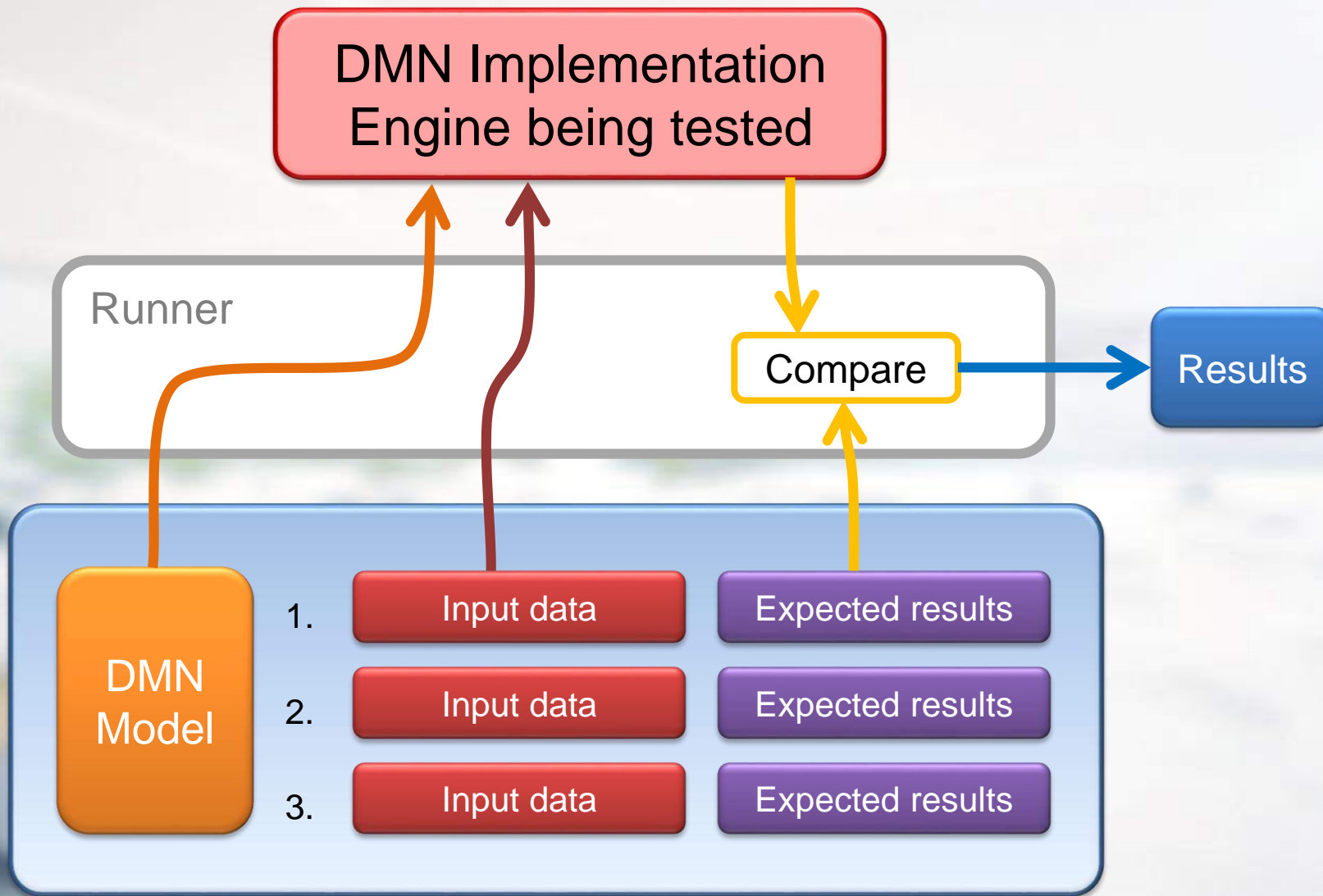


- **Read** the files, **submit** to the engine, and **compare** the results.
- Might depend on the Engine
- Each vendor might have to implement their own runner to use TCK tests

- TCK created a Java-based runner
- Available for free!
- It is not a requirement to use this runner.



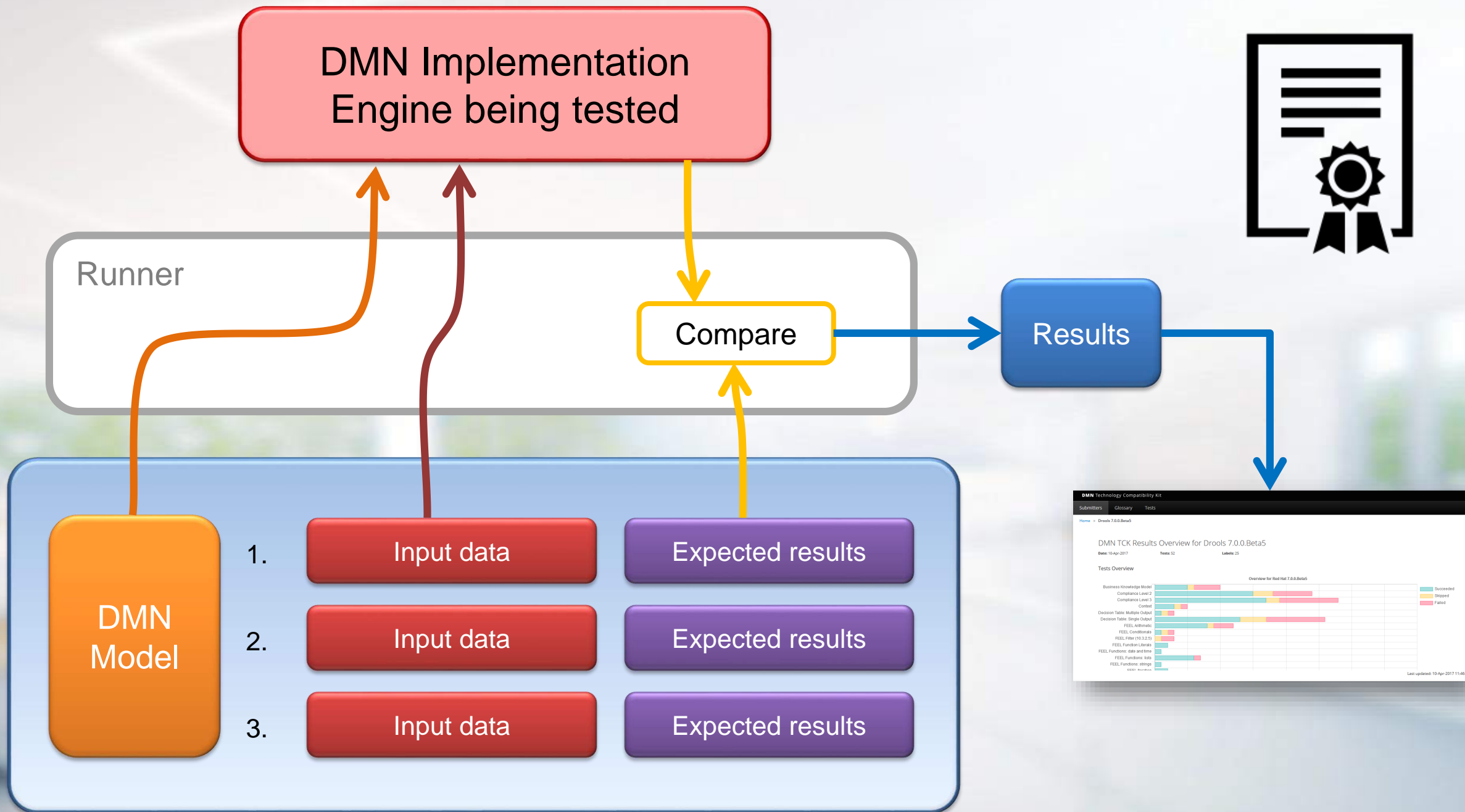
- Pass/fail results are expressed as CSV files
- Vendors submit results to TCK by checking into GitHub site
- CSV files from all vendors can be combined into consolidated report web site



We make available many tests, each with a DMN model with multiple input and output data sets.

Results are collected on TCK site for public reference.





# DMN TCK Results Overview for XXXXXXXXX

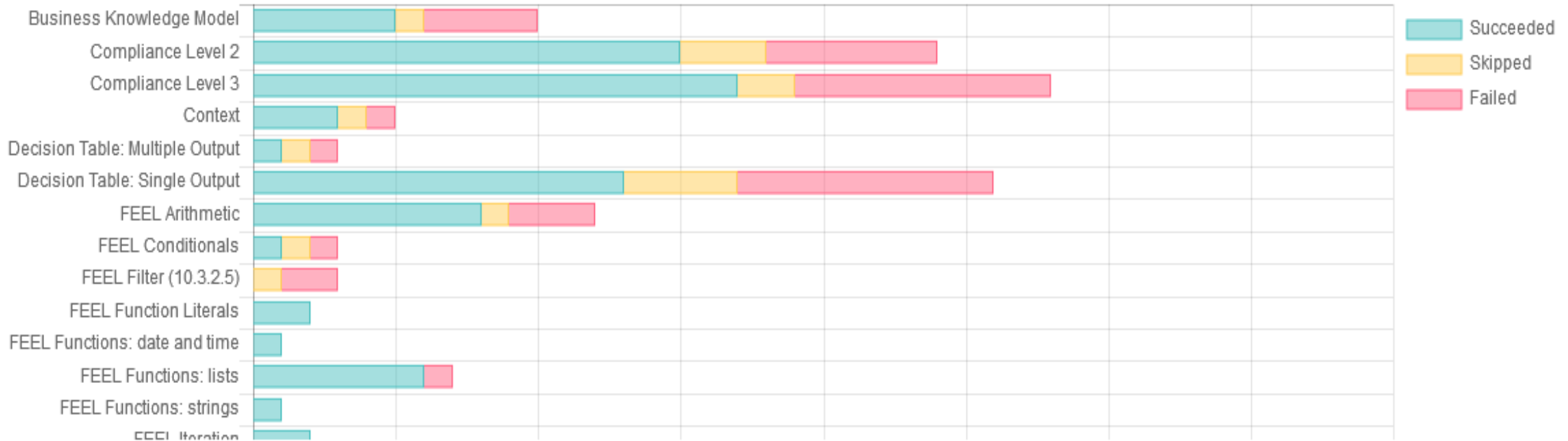
Date: 10-Apr-2017

Tests: 52

Labels: 25

## Tests Overview

XXXXXXXXXX



# Filter and Drill Into Result Details

Filter By: FEEL Arithmetic

Compliance	Test Suite	Test	XXXXXXXX
compliance-level-2	0008-LX-arithmetic-test-01	001	✓
		002	✓
		003	✓
	0009-invocation-arithmetic-test-01	001	✓
		002	✓
		003	✗
compliance-level-3	0003-iteration-test-01	001	✓
	0004-lending-test-01	001	⚠
	0005-literal-invocation-test-01	001	✗
		002	✗
		003	✓
	0014-loan-comparison-test-01	001	✓
<b>Total</b>			8/12

DMN TCK is

A way for vendors to

→ **demonstrate** their compliance to standard

Provide files to help vendors

→ test for errors and become **compliant**

Customers to assess

→ how **compliant** a vendor is.