

Decision Model and Notation

TECHNOLOGY COMPATIBILITY KIT

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Disclaimer

- ▶ This presentation is delivered on behalf of Keith Swenson, that is leading the DMN TCK initiative, and was not able to attend.
- ▶ Most of the content in this presentation is taken from his original presentation at **bpmNEXT 2017**.
 - ▶ <http://bpmnext.com/2017-conference-program/2017-videos-presentations/>

The promise of DMN

Bridge the gap between technical and business users

- Common high-level language accessible to business users
- Standard execution semantics: the model is executable

Lower Costs

- Leverage training across tools
- Reuse models across organization

Preserve Investment

- Decision Models not locked-in on tools
- Availability of professionals, resources and support

Conformance Levels

▶ **Conformance Level 1:**

- ▶ Requires the ability to draw DRG/DRD, define Decision Logic and Decision Tables
- ▶ No need to be executable, any language can be used, including natural language

▶ **Conformance Level 2:**

- ▶ Same as conformance level 1, but must use S-FEEL to define decision logic
- ▶ Fully executable

▶ **Conformance Level 3:**

- ▶ Everything in Conformance Level 2, plus support to FEEL and boxed expressions

Conformance Level 1

Question: can Microsoft claim **Conformance Level 1** for its Microsoft Paint software, from Windows 3.0, released in 1990?

DMN Support Claims

- ▶ DMCommunity website lists 17 vendors claiming some level of DMN compatibility (and more claims not listed)
- ▶ How many actually comply to some level of the standard?

#	Product	Select
1	AlfrescoActiviti	<input type="checkbox"/>
2	Avola	<input type="checkbox"/>
3	BiZZDesign	<input type="checkbox"/>
4	Blueriq	<input type="checkbox"/>
5	Camunda	<input type="checkbox"/>
6	DecisionsFirstModeler	<input type="checkbox"/>
7	Drools	<input type="checkbox"/>
8	FICO	<input type="checkbox"/>
9	FlexRule	<input type="checkbox"/>
10	IDIOM	<input type="checkbox"/>
11	OneDecision	<input type="checkbox"/>
12	OpenRules	<input type="checkbox"/>
13	RapidGen	<input type="checkbox"/>
14	Sapiens	<input type="checkbox"/>
15	Signavio	<input type="checkbox"/>
16	Sparkling Logic	<input type="checkbox"/>
17	Trisotech	<input type="checkbox"/>

DMN Standard?

What is the point of a standard if everyone is implementing it differently?

Conformance Levels: Reality Check!

- ▶ Many vendors claiming compliance, few go beyond level 1
- ▶ Most implementations driven by internal and/or external requirements:
 - ▶ Mix of compliant and non-compliant features
 - ▶ Mix of features from different levels of compliance
 - ▶ Not fully level 2, but some features from level 3
 - ▶ Features not completely implemented (e.g., partial support for decision tables)
- ▶ Only a few vendors targeting conformance level 3
- ▶ OMG does not publish a TCK or a reference implementation
 - ▶ No means to assess or verify compliance

Conclusion

Classification by **Conformance Level is not enough** to represent an accurate picture of the state of the market, standard support and players!

Solution: a community driven TCK

- ▶ Started from discussions at **bpmNEXT 2016**
- ▶ Led by Keith Swenson (Fujitsu)
- ▶ Supported by a growing group of vendors and users



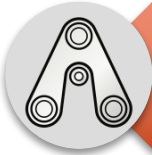
Goals of the TCK



Define a set of test cases



Carefully assure conformance to the spec



Provide tools to run the tests



Recognize vendor successes

TCK will NOT



Extend or enhance the DMN Spec

- RTF is responsible for that



Focus on esoteric features

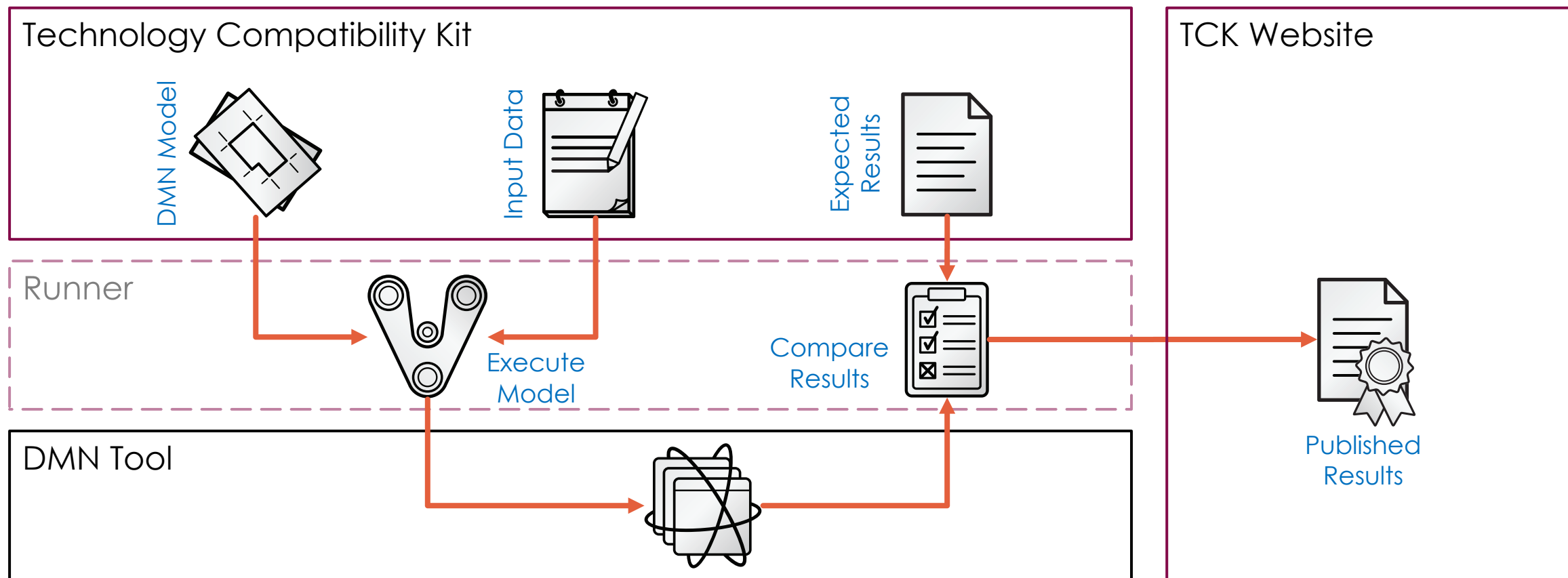
- Only features that exist in one or more implementations



Favor um implementation over another

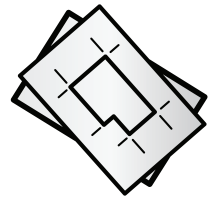
- Remain technology and vendor neutral

TCK Overview



Technology Compatibility Kit

- ▶ DMN Model defined in DMN-standard interchange format (XML)
- ▶ Completely compliant with the specification
 - ▶ No extensions
- ▶ Validated by the TCK tools



DMN Model

Technology Compatibility Kit

- ▶ Name/value pairs according to the defined model inputs and decision outputs
- ▶ Multiple input sets allowing test of multiple scenarios for the same model
- ▶ Multiple corresponding sets of expected results, one for each set of inputs
- ▶ Defined in XML files
 - ▶ Schema published as part of the TCK



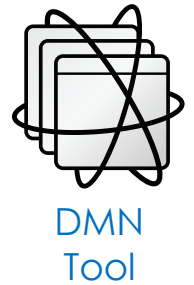
Input Data



Expected
Results

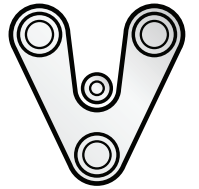
Technology Compatibility Kit

- ▶ Vendor's DMN Tool is tested as a black box
- ▶ No requirement or limitation on runtime environment
- ▶ Vendor is responsible for executing their own tests and providing results
 - ▶ Results provided as set of CSV and property files for simplicity



Technology Compatibility Kit

- ▶ TCK provides a java runner, free and open source
 - ▶ Reads the model files, invokes the DMN tool, retrieves and compare results
 - ▶ Provides the infrastructure for running tests
 - ▶ Requires vendor to implement the vendor-specific component for invocation (SPI)
- ▶ Optional component: vendors do NOT have to use this runner
 - ▶ Provided only to facilitate automated test execution for java-based tools



TCK Runner



Results
Checker

Technology Compatibility Kit

- ▶ Results are automatically published on the TCK website
- ▶ Website is work in progress, but already publishes some results
- ▶ Offers multiple views for the tests and vendor results
- ▶ Allows filtering by “labels”
 - ▶ Labels denote features or areas of interest being tested
 - ▶ Offers a more detailed picture than the standard “Conformance Levels”



Technology Compatibility Kit

Website “demo”

Recap: the DMN TCK is...

- ▶ ... a way to help vendors to become compliant with the standard
 - ▶ clarify and solve specification ambiguities
 - ▶ promote compatibility
- ▶ ... a way for vendors to demonstrate compliance with the standard
- ▶ ... a way for users to assess vendor compliance

Q & A

- ▶ Important links:

- ▶ TCK Website: <http://dmn-tck.github.io/tck>

- ▶ TCK Tests, Code and Docs: <https://github.com/dmn-tck/tck>

- ▶ Keith's presentation at bpmNext 2017:

- <http://bpmnext.com/2017-conference-program/2017-videos-presentations/>