IMS Executive Board on Assessment

Marc Oswald

Co-founder & CEO

Open Assessment Technologies S.A.

QTI Interoperability

APIP/QTI CONFORMANCE STATEMENTS

Id	Feature	QTI Delivery System & Authoring System				APIP Authoring System		APIP Delivery System		APIP PNP System	
		QTIv2.1 ASI Base	QTIv2.1 Summative	QTIv2.1 Formative	QTIv2.1 Core	APIP Entry	APIP Core	APIP Entry	APIP Core	APIP PNP Entry	APIP PNP Core
Tests											
T1	Outcome Declaration	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
T2	Time Limits	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
T2	Stylesheet	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
T4	Test Parts	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
T5	Item Session Control	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
T6	Time Limits	e	e	X	e	e	e	e	e	N/A	N/A
T7	Sections	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
T8	Test Feedback	e	X	**R**	**R**	X	e	X	e	N/A	N/A
T9a	Outcomes Processing-Full	e	e	X	e	e	**R**	e	**R**	N/A	N/A
T9b	Outcomes Processing-CC	e	**R**	**R**	**R**	**R**	X	**R**	X	N/A	N/A
T10	Test Feedback	e	e	**R**	**R**	e	e	e	e	N/A	N/A
Sections											
S1	Item Session Control	e	e	X	e	e	e	e	e	N/A	N/A
S2	Time Limits	e	e	X	e	e	e	e	e	N/A	N/A
S3	Selection	e	X	X	e	X	e	X	e	N/A	N/A
S4	Ordering	e	X	X	e	X	e	X	e	N/A	N/A
S5	Rubric Block	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
S6	Include	e	e	X	e	e	e	e	e	N/A	N/A
S7	Items	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
S8	Sections	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
Interactions											
Q1	Associate Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q2	Choice Interaction	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A

Id	Feature	QTI Delivery System & Authoring System				APIP Authoring System		APIP Delivery System		APIP PNP System	
		QTIv2.1 ASI Base	QTIv2.1 Summative	QTIv2.1 Formative	QTIv2.1 Core	APIP Entry	APIP Core	APIP Entry	APIP Core	APIP PNP Entry	APIP PNP Core
Q6	Extended Text Interaction	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
Q7	Gap Match Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q8	Graphic Associate Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q9	Graphic Gap Match Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q10	Graphic Order Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q11	Hot-spot Interaction	e	**R**	X	**R**	e	**R**	e	**R**	N/A	N/A
Q12	Hot-text Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q13	Inline Choice Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q14	Match Interaction	e	**R**	X	**R**	e	**R**	e	**R**	N/A	N/A
Q15	Media Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q16	Order Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q17	Position Object Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q18	Selection Point Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q19	Slider Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q20	Text Entry Interaction	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
Q21	Upload Interaction	e	e	X	e	e	e	e	e	N/A	N/A
Q22	Custom Interaction (proprietary)	e	X	X	X	e	e	X	e	N/A	N/A
Items											
I1	responseDeclaration	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
I2	outcomeDeclaration	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
I3	templateDeclaration	e	e	X	e	e	e	e	e	N/A	N/A
I4	Shared Stimulus	e	e	e	e	e	e	e	e	N/A	N/A
I5	templateProcessing	e	e	X	e	e	e	e	e	N/A	N/A
I6	stylesheet	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
I7	Item Body	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
I8	HTML (Block)	e	**R**	**R**	**R**	**R**	**R**	**R**	**R**	N/A	N/A
I9a	Response Processing-Full	e	e	X	e	e	e	e	e	N/A	N/A

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Id	Feature	QTI Delivery System & Authoring System				APIP Authoring System		APIP Delivery System		APIP PNP System	
		QTIv2.1 ASI Base	QTIv2.1 Summative	QTIv2.1 Formative	QTIv2.1 Core	APIP Entry	APIP Core	APIP Entry	APIP Core	APIP PNP Entry	APIP PNP Core
I9b	Response Processing-Fixed Template	e	R	R	R	R	R	R	R	N/A	N/A
I10	Modal Feedback	e	e	R	R	e	e	e	e	N/A	N/A
I11	APIP Accessibility	N/A	N/A	X	e	e	R	e	R	N/A	N/A
Accessibility											
A1	Spoken, Text Only	N/A	N/A	N/A	e	e	R	e	R	e	R
A2	Spoken, Text & Graphics	N/A	N/A	N/A	e	e	R	e	R	e	R
A3	Spoken, Non-Visual	N/A	N/A	N/A	e	e	e	e	e	e	e
A4	Spoken, Graphics Only	N/A	N/A	N/A	e	e	e	e	e	e	e
A5	Spoken, Directions Only	N/A	N/A	N/A	e	e	e	e	e	e	e
A6	Spoken, user preferences, including recording speed (slow, medium, fast) and voice type (human or synthetic)	N/A	N/A	N/A	e	e	e	e	e	e	e
A7	Screen Reader preferences (usage, speech rate, pitch, etc., for synthetic text-to-speech)	N/A	N/A	N/A	e	e	e	e	e	e	e
A8	Braille	N/A	N/A	N/A	e	e	e	e	e	e	R
A9	Braille user preferences (grade, dots, cells, etc.)	N/A	N/A	N/A	e	e	e	e	e	e	e
A10	Tactile	N/A	N/A	N/A	e	e	e	e	e	e	e
A11	Signing: ASL	N/A	N/A	N/A	e	e	e	e	e	e	e
A12	Signing: Signed English	N/A	N/A	N/A	e	e	e	e	e	e	e
A13	Item Translation	N/A	N/A	N/A	e	e	e	e	e	e	e
A14	Keyword Translation	N/A	N/A	N/A	e	e	e	e	e	e	e
A15	Simplified Language	N/A	N/A	N/A	e	e	e	e	e	e	e
A16	Alternate Representation	N/A	N/A	N/A	e	e	e	e	e	e	e
B1	Magnification	N/A	N/A	N/A	e	N/A	N/A	R	R	R	R
B2	Magnification, Amount (user preference)	N/A	N/A	N/A	e	N/A	N/A	e	e	e	e
B3	Reverse Contrast	N/A	N/A	N/A	e	N/A	N/A	e	e	e	e
B4	Alternate Text and Background Colors	N/A	N/A	N/A	e	N/A	N/A	R	R	R	R
B5	Alternate Text and Background Colors, Color Preferences	N/A	N/A	N/A	e	N/A	N/A	e	e	e	e

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B6	Color Overlay	N/A	N/A	N/A	e	N/A	N/A	e	e	e	e
B7	Color Overlay, Color Preferences	N/A	N/A	N/A	e	N/A	N/A	e	e	e	e
C1	Answer Masking	N/A	N/A	N/A	e	N/A	N/A	e	R?	e	R?
C2	Masking	N/A	N/A	N/A	e	N/A	N/A	e	e	e	e
C3	Auditory Calming (background music)	N/A	N/A	N/A	e	N/A	N/A	e	e	e	e
C4	Additional Testing Time (including time & additional testing time tags)	N/A	N/A	N/A	e	N/A	N/A	e	e	e	e
C5	Breaks	N/A	N/A	N/A	e	N/A	N/A	e	e	e	e
C6	Keyword Emphasis	N/A	N/A	N/A	e	e	e	e	e	e	e
C7	Line Reader	N/A	N/A	N/A	e	N/A	N/A	e	e	e	e
C8	Line Reader, Color Preferences	N/A	N/A	N/A	e	N/A	N/A	e	e	e	e
C9	Language Learner Guidance	N/A	N/A	N/A	e	e	e	e	e	e	e
C10	Cognitive Guidance	N/A	N/A	N/A	e	e	e	e	e	e	e
D1	Calculator Companion Material	N/A	N/A	N/A	e	e	e	e	e	N/A	N/A
D2	Rule Companion Material	N/A	N/A	N/A	e	e	e	e	e	N/A	N/A
D3	Protractor Companion Material	N/A	N/A	N/A	e	e	e	e	e	N/A	N/A
D4	Reading Passage Companion Material	N/A	N/A	N/A	e	e	e	e	e	N/A	N/A
D5	Digital Companion Material	N/A	N/A	N/A	e	e	R?	e	R?	N/A	N/A
D6	Physical Companion Material	N/A	N/A	N/A	e	e	e	e	e	N/A	N/A
Results											
R1	Context	e	N/A	X	e	N/A	N/A	N/A	N/A	N/A	N/A
R2	Test result	e	N/A	X	e	N/A	N/A	N/A	N/A	N/A	N/A
R3	Item Result	e	N/A	X	e	N/A	N/A	N/A	N/A	N/A	N/A
QTI Metadata											
M1	Item Template	e	e	R	R	e	e	e	e	N/A	N/A
M2	Time Dependent	e	e	R	R	e	e	e	e	N/A	N/A
M3	Composite	e	e	R	R	e	e	e	e	N/A	N/A
M4	Interaction Type	e	e	R	R	e	e	e	e	N/A	N/A
M5	Feedback Type	e	e	R	R	e	e	e	e	N/A	N/A

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M6	Solutions Available	e	e	R	R	e	e	e	e	N/A	N/A
M7	Tool Name	e	e	X	e	e	e	e	e	N/A	N/A
M8	Tool Version	e	e	X	e	e	e	e	e	N/A	N/A
M9	Tool Vendor	e	e	X	e	e	e	e	e	N/A	N/A
Packaging											
P1	Test Instances	e	R	R	R	R	R	R	R	N/A	N/A
P2	Section Instances	e	R	R	R	R	R	R	R	N/A	N/A
P3	Item Banks	e	e	R	R	e	R	e	R	N/A	N/A
P4	Item Instances	e	R	R	R	R	R	R	R	N/A	N/A
P5	Manifest Metadata (LOM)	e	R	R	R	R	R	R	R	N/A	N/A
P6	Resource Metadata (LOM)	e	R	R	R	R	R	R	R	N/A	N/A
P7	Resource Metadata (QTI)	e	e	R	R	e	e	e	e	N/A	N/A
P8	Curriculum Standards Metadata	e	e	e	e	e	e	e	e	N/A	N/A
P9	External Metadata	e	e	e	e	e	e	e	e	N/A	N/A
P10	Learning Tools Interop v1.1	e	e	e	e	e	e	e	e	N/A	N/A
Legend											
'X' Denotes that this features is PROHIBITED; **(Wording change)**											
'R' Denotes that an implementation MUST support the feature;											
'e' Denotes that an implementation MAY ELECT to support the feature;											
'N/A' Denotes that the feature is unavailable to this profile i.e. it is covered by another established profile;											
All cells that are shaded (light red) denote functionalities for which IMS conformance testing is not available in the initial release of the IMS Assessment Conformance System; testing for one or more of these functionalities may become available later, even before a succeeding version of the APIP specification. Note that currently, all the shaded functionalities are elective. Conformance testing of systems will be through self-testing using an IMS provided set of APIP packages. Conformance testing of content instances will be through the corresponding Online IMS Validator and will ONLY address the validity of the XML with respect to the APIP specification; semantic integrity between the accessibility data and the original content will NOT be addressed.											
Green cells denote a change from 'X' to 'N/A'											
Yellow cells denote a change from 'R' to 'e'											
Cyan cells denote a change from 'X' to 'e'											
Orange cells denote a change from 'R' to 'e' on I11 for consistency with written documentation											

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EBA Members

EBA Mission

- Set Assessment industry direction for years to come
    - Standards compliance
    - Content interoperability and portability
    - QTI enhancements and usability (user and developer-friendly)

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EBA Objectives

- Provide business guidance to aQTI standards committee
  - Improve QTI 2.x interoperability
  - Achieve aQTI 3.0 compliance and interoperability from the get-go
  - Drive QTI enhancements and usability

- Foster long-term alignment between APIP and AT and bring them together under the aQTI specification

- Promote QTI as the de-facto standard for e-assessment interoperability.

- Provide marketing support to vendors for promoting QTI compliant content and products

Progress To Date

- Goal is to help users make educated procurement decisions

- Approved point score system for measuring QTI conformance
  - Inspired by HTML5
  - https://html5test.com/results/desktop.html

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Progress To Date

- Interop. task force: ACT, BPS, Cito, ETS, OAT, PARCC

- Surveyed needs (users) and feats (vendors)

- Finalizing new interop. levels for QTI 2.2
  - Level 1 = …
  - Level 2 = Level 1 + …
  - Level 3 = Level 2 + …

Progress To Date

- QTI 2.2 interoperability measure
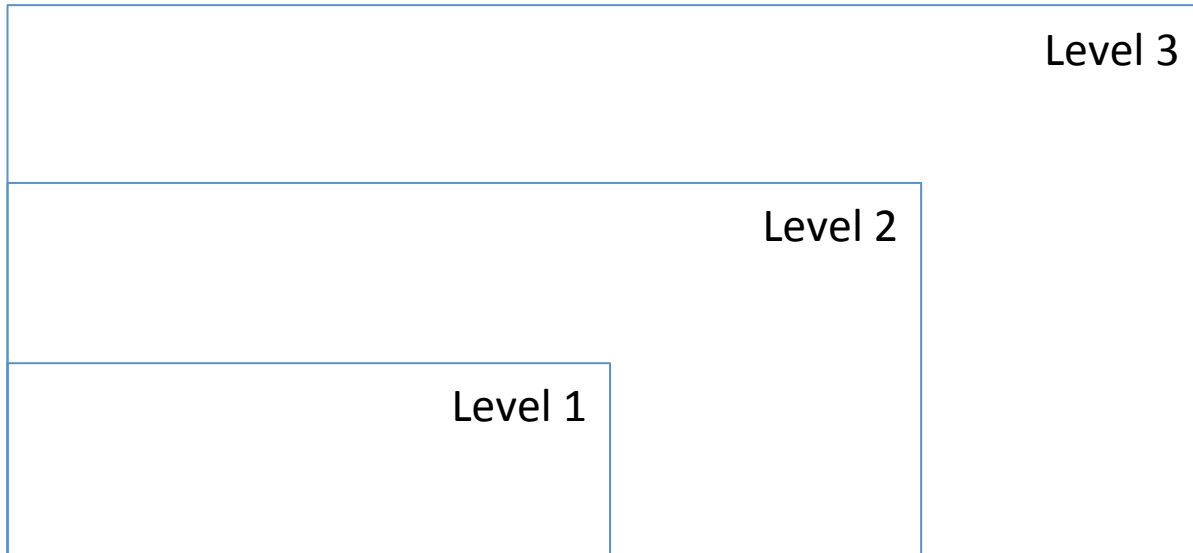
What's Next

- Define QTI conformance & interoperability certifications

- Call on vendors to:

  1. Measure product conformance a per point score system

  2. Certify interoperability using IMS reference content

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What's Next

- European QTI user group meeting
  - Report back to IMS groups
- Finalize aQTI 3.0 charter document

  - https://docs.google.com/document/d/1WWwWNicxTzD1PnOoKZPL46ksIWMRYOlRuEjwQBocrxU/edit?usp=sharing

Backup Slides

EBA Operating Principles

- Self-governing group
  - Chair reports to IMS Board
- Consists of IMS contributing members
- Membership is always open
  - Join by making the pledge

User Pledge

- Commit to defining interoperability requirements to be met by the vendor community
  - Like one user put it: "Draw a line in the sand that vendors must cross."
- Commit to requiring QTI interoperability via RFPs and product acquisitions
- Commit to be internal and external advocate for QTI content interoperability

Vendor Pledge

- Commit to developing and executing collaborative project plan with key milestones
  - Contribute to definition and advancement of QTI
  - Commit to early definition of QTI compliance
  - Commit to early product builds and/or test content based on 1st Internal Draft
  - Commit to participating in Plug-Fests and/or providing content
- Commit to be internal and external advocate for QTI interoperability
- Commit to remedy situations where lack of resources would endanger EBA's mission
  - If unable to provide remedy, group membership may be forfeited

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Conducting Business

- Rolling monthly meeting:
    - First call May 20, 11:00-12:30 ET
    - 3rd Wed. each month at 11:00-12:00 ET
- Discussion board and document sharing
  http://members.imsglobal.org/forum/ims/dispatch.cgi/w.executivebo/
- Email to post to discussion board
  AssessmentEB@imsglc.net
- Email to communicate with all members
  eaboard@imsglobal.org
- Email to correspond with the board's leaders (chair, vice-chair)
  eachair@imsglobal.org

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