

Actionable e-Assessments: Strategies for Open, Interoperable Online Assessments

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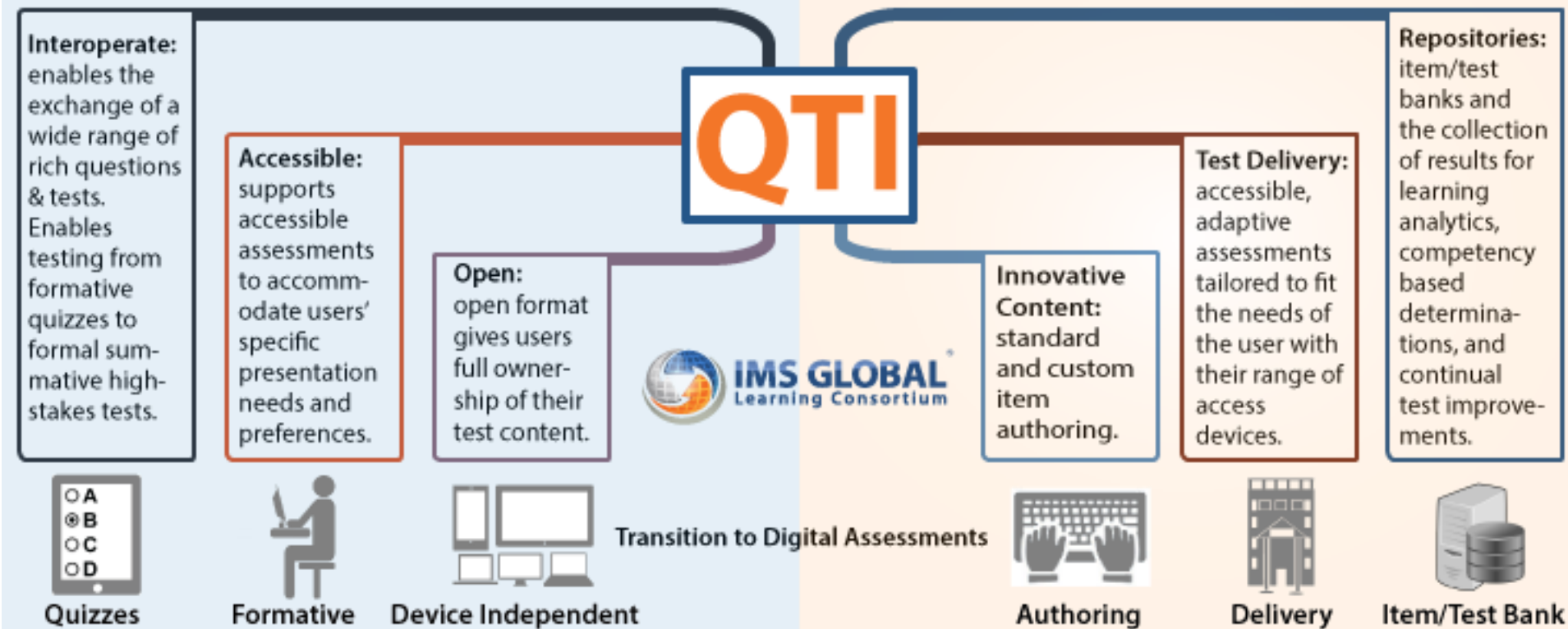
Agenda

- Introduction to IMS Assessment Activities
 - *Mark McKell, Manager of Projects IMS Global*
- Minnesota Department of Education
 - *Cheryl Alcaya, Division of Statewide Testing*
- Maryland State Department of Education
 - *Dale Cornelius, Program Manager Online Testing*
- Partnership for Assessment of Readiness for College and Careers (PARCC)
 - *Chloe Torres, Associate Director of Technology*
- Q & A

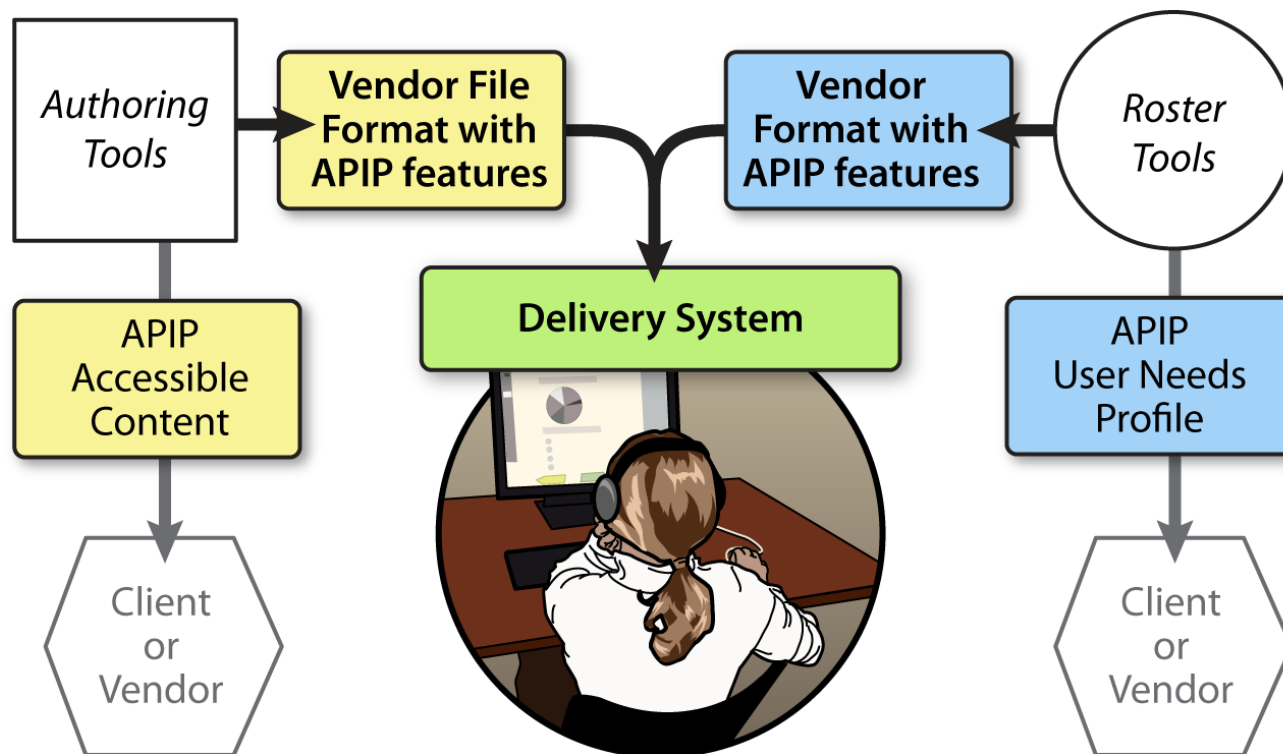
What Does QTI Do?

QTI End User Features & Benefits

QTI Vendor/Supplier Features & Benefits



Accessible Portable Item Protocol (APIP) =
QTI + Accessibility





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IMS Certified Product Directory

IMS certified products implement the open architecture that provides the foundation for education innovation to the requirements set by the IMS community.

This is the **official listing** of products that have passed IMS Global interoperability. Using these products will enable your institution to achieve the benefits associated with IMS. Products that are listed in this directory are **guaranteed** to meet the IMS standards for which they have passed testing. If you have experienced an integration issue with a product listed here IMS will work with the supplier to resolve the problem. If a product is NOT listed here it has either not passed IMS testing or its certification has expired. **Require IMS certification in your EdTech procurements!**

Want to get your product certified and listed in this directory? Join the IMS developer network! IMS provides the standards, code libraries, APIs, reference implementations and the testing harnesses you need. **To join** decide which membership level best meets your needs and follow the [directions on the membership page](#).



Browse Our Product Directory

To see all conformance certified products, leave all search areas and filters empty. You may narrow your search by using the filters on the left or filling in the search boxes below. Click "Apply" after choosing filters or search terms.

You may compare up to 3 products by clicking the checkbox above the product name in the table below and clicking "Compare Products" button. To compare products against a baseline, click the checkbox above the product in the table below and click the "Compare Against Baseline" checkbox and click the "Compare Products" button.

Make sure to "Reset" to start a new search.

Search Parameters - Total Products: 20

View as table/grid

Items Per Page

9

☐ Compare Against Baseline ?

Refine by

-
-
- ☒ QTI/APIP
 - ☐ APIP Authoring Support (Core)
 - ☐ APIP Authoring Support (Entry)
 - ☐ APIP Delivery Support (Entry)
 - ☐ APIP Delivery Support (Core)
 - ☐ APIP Item Test Bank Support
 - ☐ APIP PNP Support (Core)

Learning Tools and Content		Assessment		Education Data and Analytics		
CC	LTI	QTI	APIP	Caliper Analytics	LIS	OneRoster
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☐ Computerized

Assessment Future: aQTI

- Bring together QTI and APIP
- Align with W3C Accessibility and Web standards
- Support end-to-end accessibility
- Add presentation information for consistent rendering
- Improve interoperability with other IMS specifications: LTI[®], Caliper[™] and Access for All[™] PNP
- New extensions: Computer Adaptive Testing and PCI

aQTI Leaders



Minnesota Department of Education

Contributing IMS Member

Cheryl Alcaya

February 22, 2017

Minnesota Statewide Assessments

Year	Subject	Notes
2006	Science	<ul style="list-style-type: none">• Developed for computer delivery from the start (not a paper to computer transition)• 50% multiple choice items; 50% technology-enhanced items• Includes video and simulations• TEI and simulations originally developed partially in Flash; transitioned to AIR; transitioned to APIP/QTI (Pearson)
2011	Math	<ul style="list-style-type: none">• Transitioned from paper to online delivery• Some TEI had been developed in Flash for anticipated move to online; transitioned to AIR; transitioned to APIP/QTI
2012	Math CAT	<ul style="list-style-type: none">• 80-95% MC, 5-20% TEI
2013	Reading	<ul style="list-style-type: none">• Transitioned from paper to online delivery
2016	Reading CAT	<ul style="list-style-type: none">• 80-95% MC, 5-20% TEI
2016	ACCESS for ELLs 2.0 (WIDA)	<ul style="list-style-type: none">• Transitioned from paper to online delivery

Why MDE Requires Open Standards

- Accessibility
 - Accessible Portable Item Protocol (APIP) grant consortium: Common end-user goals relayed to developer community
 - Evolution: Include third-party software and devices in test delivery while assuring security
- Portability
 - Item banks:
 - Math ~4000 items
 - Reading ~2000 items + passages
 - Science ~1300 items + stimuli + simulations
 - Evolution: Consistent rendering across vendor systems, including custom interactions

MDE's Open Standards Requirements

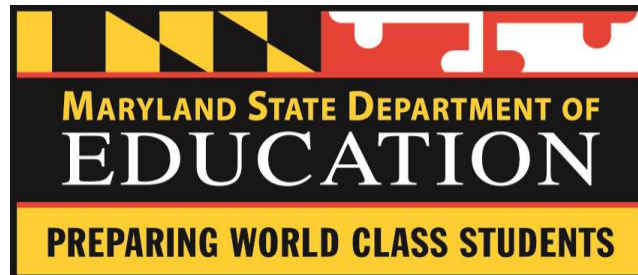
- Pass APIP interoperability testing
- Provide APIP conformance certification for content and test delivery systems
- Support for full range of QTI 2.2 interaction types
- IMS membership and active participation by vendors

Why MDE Values its IMS Participation

- It's not for the technical expertise we bring to the discussion!
- It is for the collaborative environment in which we as end users can share our needs with the developer community
- It is for the opportunity to shape the future of accessibility and portability in online assessment

The Vital Role of APIP in Maryland's Migration to 100% Online Assessment

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Benefits of APIP: Universal Design

- Supports Maryland's larger goal of making all state web applications and electronic communications universally designed (WCAG 2.0 AA).
- Provides accessibility features for all students so they can test online with needed supports.
- Provides accommodations for students with disabilities so they can test online with needed supports.
- Helps create a more valid, and reliable, measure of what a student knows.
- Helps a state migrate to 100% online testing. Maryland currently testing 95% online.

MD's PARCC APIP Profile Accessibility Features for All Students:

- Answer Masking
- Bookmark (flag items for review)
- Color Contrast(Background/Font Color)
- Eliminate Answer Choices
- Highlight Tool
- Line Reader Masking Tool
- Magnification/ Enlargement Device
- Notepad
- Pop-up Glossary
- Spell Check
- Text-to-Speech
- Writing Tools

Notes:

This is an incomplete list.
For a complete list go
here to download:

<http://www.parcconline.org/assessments/accessibility/manual>

To see some of these
features online go here:
<https://parcc.pearson.com/sample-items/>

PARCC APIP Profile: Presentation Accommodations for Students With Disabilities:

- Assistive Technology
- Screen Reader Vision (for a student who is blind or visually impaired)
- Refreshable Braille Display with Screen Reader Version
- Tactile Graphics
- Closed-Captioning of Multimedia
- ASL Video
- Text-to-Speech

Notes:

This is an incomplete list. For a complete list go here to download:

<http://www.parcconline.org/assessments/accessibility/manual>

To see some of these features online go here:

<https://parcc.pearson.com/tutorial/>

PARCC APIP Profile: Response Accommodations for Students With Disabilities:

- Assistive Technology
- Braille Note-taker
- Braille Writer
- Calculation Device
- Word Prediction

Note:

This is an incomplete list.
For a complete list go
here to download:

<http://www.parcconline.org/assessments/accessibility/manual>

Moving from Paper to Digital Assessments- State Considerations

- **Assessment System**-States need system to support paper and online assessments because transition to online is phased in over time.
- **APIP**-Without APIP it is impossible to go 100% online. State RFPs need to include language requiring vendors to be APIP compliant or the vendors will not complete the work.
- **Funding**-Some states have enacted legislative funding specific to going online. VA had close to 1 Billion over 10 years, block grants to schools. Other states, like Maryland, have given additional funding to districts through grants. Maryland's two recent/biggest federal grants:
 - **Race to the Top** (additional funding for tech to schools)
 - **American Recovery and Reinvestment Act of 2009 (ARRA)**, Broadband Technology Opportunities Program (BTOP) for the implementation of the OMBN

Moving from Paper to Digital Assessments-District Considerations

- **Assessment System**-Districts provide technology and assessment support to schools. Technology setup, assessment platform training, etc. The more standardization (e.g., devices, browsers, internet connectivity, proctor caching) the easier.
- **APIP**-In Maryland the districts load the Student Registration files for assessments, working in concert with schools. District-level RFPs for assessment systems should include language about vendor's need to be APIP compliant. Districts with electronic IEP systems have an easier time implementing APIP supported tests.
- **Funding**-Most of the funding that districts allocate to online testing, in Maryland, comes from district investments in technology, not just hardware, and software, but in terms of human capital.

Moving from Paper to Digital Assessments-School Considerations

- **Assessment System**-Schools in MD typically have a School Test Coordinator (STC) who doubles as Vice Principal. Some large schools have dedicated STCs. The STC typically trains Test Administrators (teachers) to administer tests. Some schools have dedicated Technology Coordinators, but most do not. The ones that do have an easier time transitioning to online testing.
- **APIP**-School staff identify students with IEPs and 504 plans to complete Student Registration file. Schools with electronic IEP systems have an easier time.
- **Funding**-In Maryland, some schools have more technology than others. It depends on investments made over time by Principals. Like most places, there is not 100% equity 100% of the time although in most counties in MD all schools have equitable technology infrastructures.

Challenges and Opportunities

- Not all MD state tests have the same level of AIP compliance as PARCC tests. PARCC, MISA, and High School Exams will all be AIP compliant by end of 2017. Other tests given in MD with differing levels of accessibility features and accommodations: MSAA, Alt-MISA, WIDA Access 2.0. With 4 online testing platforms this work is difficult to manage especially for districts and schools.
- Student Registration/Personal Needs Profile (called SR/PNP for PARCC) for the various state tests are not uniform. Districts have to handle multiple file formats, one for each testing vendor, and sometimes the data is not captured in Student Information Systems, creating challenges.
- Not all districts have electronic IEP systems and it becomes challenging for them to fill out Student Registration files for the different testing vendors with the students' Personal Needs Profile (called SR/PNP for PARCC).

Maryland's History with APIP and Next Steps

- 2009: Worked with Minnesota (lead state) and other states on USED-funded Enhanced Assessment Grant to develop APIP standards.
- 2009: Joined IMS Global Learning when they became involved in APIP.
- 2014: Implemented APIP-supported PARCC assessments starting in 2014
- 2017: Implementing APIP-supported Maryland Integrated Science Assessments (MISA) aligned to Next Generation Science Standards (NGSS).
- 2017: Implementing APIP-supported new High School Assessments Government and Science (MISA),
- 2018: Working to get APIP fully implemented in remaining assessments:
 - Multi State Alternate Assessment (MSAA) (ELA and mathematics assessments for 1% population)
 - Alt-MISA (science assessment for 1% population)
 - WIDA ACCESS 2.0 (English Language Learner assessment)

PARCC

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PARCC envisioned a modularized program, allowing states to choose different vendors for different purposes.

- Multiple content development partners
- Single test delivery system for PARCC states
- Limited licensing opportunities for non-PARCC states/entities

New options for providing access to high-quality assessment content for 2016/17

- Vendor choice for PARCC program delivery
- PARCC-hybrid programs: state-designed tests using PARCC content
- Free-standing item bank available for license

PARCC has required QTI/APIP compliance since its inception.

- Support content transition from development vendors to delivery vendor
- Set consistent expectations for PARCC states and vendors
- Support flexibility in vendor choice

QTI/APIP compliance \neq Interoperability

- Version alignment across vendors
- Feature alignment across vendors
- Implementation interpretations vary by vendor
- Innovation outpaces standards evolution

Interoperability awareness

- Authoring  Delivery

Adherence to industry standards and best practices for content interoperability

- Member of IMS Global Learning Consortium
- Developed the PARCC APIP Profile

Participate in and collaborate with open-standards community

- Member of the Executive Board on Assessment
- Committed to evolving to aQTI

PARCC worked directly with IMS Global to develop and publish the PARCC APIP Profile.

- Defines PARCC content and feature requirements
- Provides conformance testing tools
- Addresses version alignment, feature alignment, and implementation interpretation issues

Results:

- Improved compliance with PARCC requirements
- States can clearly articulate detailed requirements

Next steps:

- Add metadata requirements to the profile
- Maintain the profile until we can support aQTI
- PCI code release

- Limit the use of proprietary custom interactions as much as possible
- Support aQTI and develop/communicate a clear transition plan
- Get involved and share what you are doing and what you have learned

PARCC

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