

January 17, 2011
Submitted to: RTTA-RFI@ed.gov

Steve Midgley, Office of Educational Technology
Attention: Assessment RFI
U.S. Department of Education
400 Maryland Avenue, SW., Room 7E202
Washington, DC 20202-0001

RE: Assessment RFI Response

Dear Mr. Midgley:

On behalf of the Software & Information Industry Association (SIIA) and our member high-tech companies, I write in response to the United States Department of Education's (USED) "Assessment Technology Standards" Request for Information (RFI) in the December 20th Federal Register. SIIA has long provided leadership for the development and adoption of interoperability standards in education and other sectors, as well as for the enhanced adoption of technology to meet education needs, including student assessment. SIIA commends the Obama Administration for providing leadership in these areas. We appreciate the opportunity to respond to this USED request for information on assessment technology standards, and provide below our initial comments on these important but challenging issues.

The Software & Information Industry Association (SIIA) is the principal trade association for the software and digital content industry. SIIA provides global services in government relations, business development, corporate education and intellectual property protection to more than 500 leading software and information companies. SIIA members include some 150 publishers and developers of digital content, software applications, data systems, e-learning and related technologies used in education curriculum, instruction, assessment and classroom/enterprise management. SIIA member companies invest many millions of dollars each year to research, develop and deploy innovative educational technologies. All SIIA members depend on the nation's schools to provide a skilled, high-tech workforce. SIIA and our member companies have long collaborated with educators, policymakers and other stakeholders to improve education through the use of innovative learning technologies.

SIIA supports the further development and adoption of interoperability standards in the United States education system, including for the management and delivery of education-related assessments and for the capture and reporting of student assessment results. In addition, SIIA supports the Race to the Top Assessment (RTTA) plan to develop technology-enhanced assessments item types, to deliver them online, and to leverage that technology for the more robust – i.e., comprehensive, authentic, timely and adaptive – measurement of student knowledge and skills to inform teaching, learning and accountability. Finally, SIIA supports the U.S. Department of Education's requirement that RTTA grantees "maximize the interoperability of assessments across technology platforms and the ability for States to switch their assessments from one technology platform to another . . ."

However, SIIA has questions about the apparent intent of each RTTA consortia, with USED support, to develop and deploy a national platform and related value-added technologies that go beyond the core RTTA grant purpose of developing and providing access to test items and tests, and even beyond an

assessment delivery platform. SIIA is concerned with the negative consequences if a single (or two) entity has control of both the assessment content and the platform/application (even if they are open technologies). This sole sourcing could lock out, or at least discourage, alternative and related technologies and ongoing innovations, as well as then limit the choices of state and local education officials.

Further, while USED is appropriately advocating for interoperability, SIIA is concerned those efforts and goals may be compromised by this potentially conflicting use of RTTA resources. Adoption of test item and student test data interoperability may fall short of driving innovation if RTTA grantees are building a comprehensive delivery system that becomes the default instructional management system used by state and local agencies. In addition, if the interoperability is not robust enough to easily allow plug and play with other systems and migration of assessment content and student data, then local and state education agencies will more likely choose, or be forced to choose, the default RTTA platform for not only the delivery of RTTA assessments, but also more broadly for content, data and learning management. This could lock out alternatives and innovation.

Interoperability standards have improved products and services for both end users and providers in many markets, but have not yet been fully appreciated or comprehensively adopted in the preK-12 system with regard to digital assets and information technologies. Fulfilling the promise of data and content interoperability would, for example, enable and maximize our ability to personalize learning, whereby student performance and other data is available dynamically to identify student needs, and whereby educators, students, and software applications can assemble the best unique blend of learning resources from a variety of sources customized to each student. Interoperable assessment content and data can be more seamlessly organized, searched, and accessed across sources and platforms in a manner necessary to efficiently scale personalized learning. But these benefits will only be realized if interoperability is properly implemented, and if standardization is balanced with innovation.

Following are several recommendations and considerations we ask the Department, and the RTTA consortia, to take into account when making decisions regarding the RTTA initiatives and the related technology standards. Most significantly, SIIA makes many of these recommendations with the goal and priority of ensure standardization is not be achieved at the expense of innovation.

- **RTTA Focus on Assessments not Technology Platforms.** SIIA urges the RTTA consortia to focus its resources on development of high quality, robust and interoperable test items and NOT on the development of delivery systems and value-added learning platforms and resources. SIIA further urges that the RTTA consortia look to, encourage and support third parties (including for-profit, governmental and non-profit entities) to develop and service delivery platforms and other value-added systems. Rather than trying to specify and develop a turnkey system for delivering, scoring, and managing assessment and assessment data (not to mention functionality to act on that data through identification and delivery of individualized learning resources), the RTTA consortia should be strongly encouraged by USED to instead focus on creating a secure database repository of correlated test items, as well as on the interoperability specification for defining assessment data types/models and meta-data schema expressed in an open technology like XML.

This strategy will best leverage limited RTTA resources on the core mission to develop robust assessments, recognize varying local technology decisions, catalyze innovation of value-added educational technologies, and therefore best leverage the RTTA consortia (and federal resources) to drive educational improvement. Further, while the USED RTTA requirement emphasizes “the ability for States to switch their assessments from one technology platform to another,” this should also be the case at the local level. And it may not be practical or appropriate in some cases for states to host the delivery of all RTTA developed assessments, especially with regard to interim benchmark and

formative assessments. Only in this context will the RTTA investment in interoperability be best leveraged – both providing a supportive environment for development of these technologies, and allowing state and local educational agencies to dynamically integrate the best of breed resources to meet their evolving needs. RTTA promises to drive improvement in assessment, but that will not fully translate to driving innovation in teaching and learning (and the related technologies) unless the assessments themselves are unbundled from their management and delivery.

- **RTTA Developers Group & License Models.** SIIA recommends that USED support an RTTA developers group with full RTTA consortia participation to support developers and users (including i3 grantees, educational agencies and their vendors) of related, value-added assessment, instructional, learning and data management systems that depend on and build from the RTTA core deliverables of an open but secure test item repository. SIIA recommends that the RTTA consortia should provide information on a regular basis needed to support such developers, should not give special preference to any third-party developer including those that include consortia members, and should not use consortia funding to support any single developer that does not simultaneously and equally support all third party developers. Further, SIIA recommends that RTTA developed specifications and code (arising from non-proprietary sources) should be available under licenses that spur innovation and reuse. Use of BSD-style licenses allow for their innovative use and commercialization in the assessment arena. The proper license choices will allow RTTA-funded innovation to spread rapidly without forcing proprietary derivative works to become open-source in a manner that will hamper further investment and value-added development.
- **Participation in Existing Recognized Standards Bodies.** As we expect would be done, SIIA recommends that any USED and RTTA grantee initiatives and funding should rely on existing non-governmental standards organizations and the standards they develop through open collaboration between and among educators, private sector technology developers and other stakeholders. Standards should not be (federal) government developed and determined. Further, SIIA recommends that USED support RTTA consortia participation in these existing international and national standards organizations such as W3C, IEEE, IMS, ADL, and SIFA. This will also help ensure the two RTTA consortia agree on the minimum interoperability standards. The opportunities are great, and so therefore are the stakes. SIIA presumes that the interoperability and related technology standards adopted by the RTTA consortia – if well developed – may both become the de facto K-12 education standards and drive the broad market adoption of interoperability standards, extending even beyond assessment. These and other organizations have a long history of balancing the standardization and innovation. The RTTA effort would inject a set of specific needs and goals – e.g., “use cases” or “voice of the customer” – which would accelerate the existing efforts of such organizations. Since these standards bodies include diverse vendors who already incorporate standards into their products, this allows the consortia to leverage the experience and investments of the private sector without picking winners or losers.
- **Focus on Test Item & Data Interoperability.** SIIA recommends that the USED focus its RTTA standards policy around those technical standards specific to the interoperability of test items and student test data necessary for their migration across applications and platforms (including student information and other non-assessment standards needed to meet this narrow purpose). The RFI investigates “innovative technologies to support management, delivery and exchange,” and so seems to be promulgating a broader definition of standard, going beyond item and student-profile portability and heading towards operational standards for platform components. Instead, SIIA suggests this is unnecessary and recommends that USED, and the RTTA consortia, not involve itself in such technologies or standards. If the core test/data interoperability standards are effective, the particulars of the delivery platforms – provided standards are met – should be less of a concern and will be addressed by other dynamics of education demand and technology innovation. For example, Chicago

Public Schools likely will not be interested in deploying Shibboleth for authentication – they have currently standardized on Microsoft Active Directory to centrally manage permissions across systems. Similarly, Miami-Dade County uses CSV extracts from their mainframe to generate weekly batch updates for learning systems. The further the USED and RTTA consortia get from assessment item interoperability (e.g. RTI and IEP management systems), the more complex the considerations and the more flexibility is appropriate relative to the RTTA mission. Timeliness is also aided by avoiding over specification.

- **Flexible Technology Standards for Innovation.** SIIA recommends that technology standards decisions be made with a primary goal of fostering competition, innovation and therefore choice for educational agencies around the full range of related educational products and services, including the technologies to deliver and manage the RTTA assessments to schools and students. USED RTTA requirements and future related requests for proposals should not overprescribe the interoperability standards to be used in the funded proposal. For example, standards should not specify in any limiting way a universal methodology for sequencing assessment items. Intelligent, personalized assessment and instructional systems are evolving in their underlying science and in their technology and instructional implementation, and this innovation should be encouraged not prematurely ossified by standardization on how items are sequenced. Moreover, such systems are extremely sophisticated development projects requiring large investments that are likely beyond the scope of the RTTA consortia given its core mission priorities. As another example, interoperability standards must be dynamic enough to support delivery on a wide range of devices and platforms, including adaptability to tomorrow’s technologies. The standards should focus on *what* is being transmitted, and less on *how*. The implementation of RTTA consortia assessments across a broad array of current and emergent technologies should not be foreclosed through needless technology assumptions. For example, the existing SCORM 2004 standard over-specified how items and associated outcomes would be transmitted between the learner and the learning platform. They chose a single winner – browsers with frames plus JavaScript – and inadvertently closed off emerging technologies such as web services, rich Internet clients and mobile applications. ADL is in the process of correcting that error in their Project Tin Can – separating the *what* from the *how*. RTTA should learn from those errors and not choose specific winners when interoperability standards don’t mandate the need for such a choice.
- **Standards Adoption.** SIIA recommends that USED not only support RTTA consortia adoption of interoperability standards and participation with standards bodies, but also that it undertake efforts to increase awareness and adoption of interoperability standards by education decision makers. An extensive set of interoperability standards has been developed for education, including through SIFA and IMS, but awareness and adoption in K-12 education is very low. Many reasons exist, and include both limited awareness and value recognition, but also may reflect the possibility that existing specifications may be too specific and burdensome in the interest of providing a comprehensive solution. Any requirements and initiatives around interoperability must therefore include a strong educational campaign to inform educational leaders about the opportunities, impact and implications of interoperability standards implementation. Increased awareness and understanding is needed to ensure broader participation in the development process to best meet education needs, and to ensure interoperability is leveraged and valued. SIIA supports the USED in using this RFI to identify interoperability standards initiatives, including some that may not exist to fill gaps or shortfalls, and encourages follow up investment in their development and enhancement. In part, this funding could provide a vehicle to enable increased access for all stakeholders to shape the standards that may not be otherwise possible under certain current “pay to play” standards development processes and organizations.

- **Balancing Assessment Item Innovation and Interoperability Standards.** As the Department, RTTA grantees and other stakeholders are aware, interoperability standards do not exist in many areas likely required to meet the ambitious goals of the RTTA grantees. While SIIA encourages the leveraging of RTTA to support further development (and adoption) of standards, we believe that the ongoing emergence of such standards should NOT delay the development and deployment of robust test items and assessment system. By working through the standards bodies, RTTA consortia can use those processes for proposing extensions or revisions to ensure that innovations are usable within a context of ongoing standardization.
- **Non-Standard Extensions or Additions.** Non-standard extensions or additions should be recognized and supported. Interoperability standards have their limits, and additional function and value can be added to the educational process in “non-standardized” ways without compromising interoperability. In some cases, that extension may take place within a proprietary application, or in other cases in more collaborative situations but outside a more formal standards development process. Key is that these extensions allow for the backward interoperability so that imported assessment information is not inappropriately locked within a proprietary system and is passed through either untouched or enriched, but not degraded. Other extensions may break off into new standards (organizations) that likely have different agendas, maturities and motivations if they cannot be folded back into the whole. Further, RTTA interoperability should respect proprietary code and content, and recognize that open and interoperable technologies can coexist with proprietary technologies in the service of education needs.
- **Technology Access and Infrastructure.** While not core to this RFI, SIIA takes this opportunity to reinforce the challenge – and opportunity – ahead to put in place the technology infrastructure needed for delivery of the computer and Internet-delivered assessments being developed by the RTTA consortia. This is especially the case with ongoing interim benchmark and other formative assessments. As a recent FCC report found, some 80% of responding E-Rate recipients identify their broadband connectivity as insufficient to meet their *current* education needs. Meanwhile, the average school still has only about one Internet-connected device for every four students. In many schools, the existing limited summative assessments cause schools to suspend technology-based instruction during the “testing windows.” Expanded testing requires expanded access to ensure the assessments can be delivered, and to avoid instruction being further squeezed out. RTTA could be the tipping point in the movement to move education to a digital platform as needed to deliver and leverage the RTTA consortia assessments. To do so, USED, the RTTA consortia, and participating state educational agencies should take leadership to help state lawmakers and local education leaders understand, plan for and invest in this technology access, including around how this access can be leveraged beyond assessment to support more engaging instruction and personalized learning.
- **Online Learning Platforms.** Under “Background,” the RFI notes the investigation of standards for delivery “via online learning platforms.” While SIIA supports the continued migration of applications, services and data online and to a hosted or cloud model, we encourage USED and the RTTA consortia to recognize that the assessment items and resulting student data may exist in many cases, at least at times, in an alternative format. Many educational systems still rely heavily on locally installed applications and legacy systems, and so even if the RTTA assessments are delivered online, the data will likely be used at some point on “platforms” that are not online. This may especially be the case with any interim benchmark and formative assessments themselves coming out of the RTTA consortia. Developing with the assumption of 100% online may not be prudent and could exclude many schools and communities without significant further investment and planning, including around high-speed broadband and network infrastructure.

- **Accessibility.** SIIA recommends that existing standards governing the accessible use of technology (e.g., Web Content Accessibility Guidelines [WCAG 2.0; <http://w3c.org/WAI/>] and Section 508 of the Rehabilitation Act [<http://section508.gov/>]) are appropriate, and conformance should be required. Beyond this, there is the risk that additional standards hinder opportunities for innovation by over specifying solutions. Application of Universal Design for Learning (UDL) principles is appropriate, but it should be recognized that these are not (interoperability) standards but instead provides high-level principles and suggested best practices for educational design and practices. Guidelines co-developed by CAST are publicly available (<http://www.pearsonassessments.com/udcbt>) and represent an approach for applying UDL to innovative technology-based testing.

On behalf of the Software & Information Industry Association (SIIA) and our member education publishers and developers, we appreciate the opportunity to comment on these important issues. We commend the Obama Administration for its leadership in the areas of computer-enhanced assessment and interoperability. We look forward to ongoing dialogue on these and related issues to ensure both federal policies and RTTA consortia initiatives are appropriately developed and implemented. Please do not hesitate to contact me with any further questions or requests at marks@siaa.net or 202-789-4444.

Sincerely,



Mark Schneiderman
Senior Director of Education Policy

cc: Joanne Weiss, Chief of Staff
Jim Shelton, Assistant Deputy Secretary for Innovation and Improvement.
Karen Cator, Director of the Office of Educational Technology