



The Power of Global Collaboration
Defense | Government | Industry | Academia

Next Generation SCORM Phase I – Tin Can API

Mobile Summit

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ADL Vision

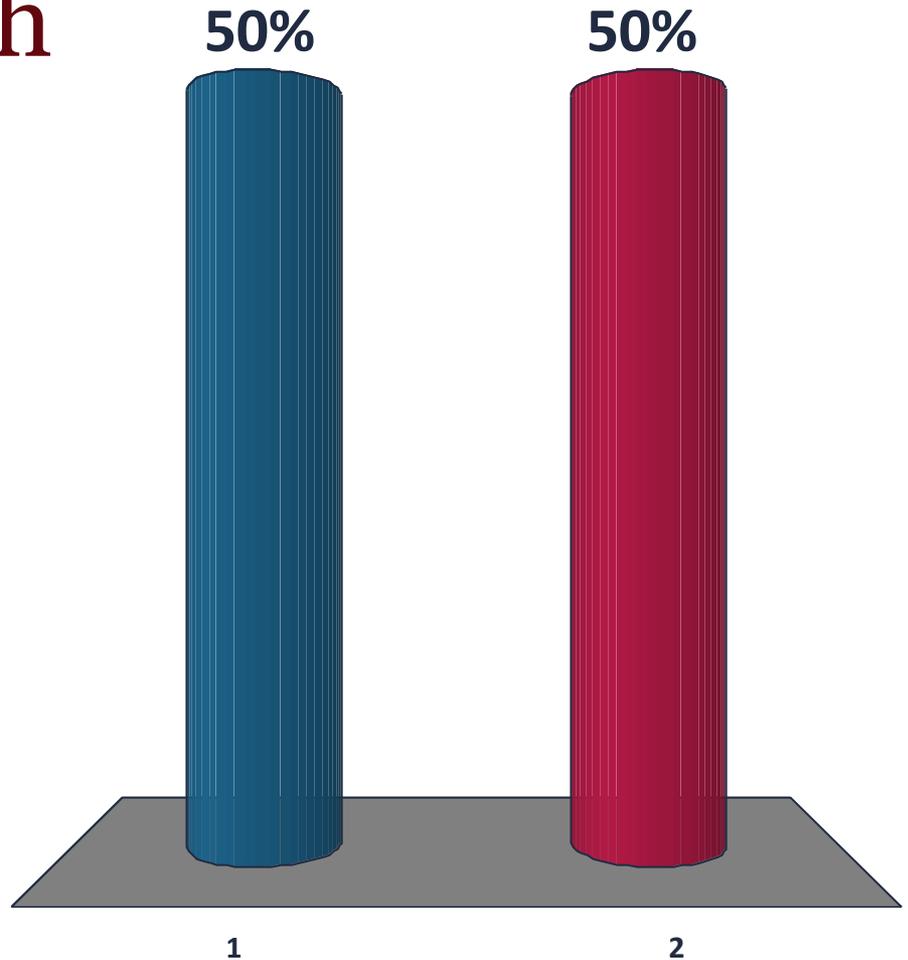


Provide access to the highest quality education and training,
tailored to individual needs,
delivered cost effectively, anywhere
and anytime.



Are you familiar with or have you used SCORM?

1. Yes
2. No





SCORM



SCORM enables an interoperable e-learning environment that has become the de facto global learning standard



SCORM Adopters

SCORM "CAN'T"

- Allow me to get My Data*
- Launch and Track Out-of-Browser Content*
- Manage Group Learning*
- Track Rich Simulation Data*
- Assess After Learning*
- Manage Learning not 'known' by the LMS*

The Solution

Next Generation SCORM 2012 R&D



DIGITAL GOVERNMENT:
**BUILDING A 21ST
CENTURY PLATFORM
TO BETTER SERVE THE
AMERICAN PEOPLE**

MAY 23, 2012

“I want us to ask ourselves every day, how are we using technology to make a real difference in people’s lives.”
—President Barack Obama

The Speed of Digital Information
When a 5.9 earthquake hit near Richmond, Virginia on August 23rd, 2011, residents in New York City read about the quake on Twitter feeds 30 seconds before they experienced the quake themselves

To keep up with the pace of change in technology, we need to securely architect our systems for interoperability and openness from conception. We need to have common standards and more rapidly share the lessons learned by early adopters

Introduction

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The Speed of Digital Information

When a 5.9 earthquake hit near Richmond, Virginia on August 23rd, 2011, the Twitter feeds 30 minutes later had already reported the quake.

New expectations require the Federal Government to be ready to deliver and receive digital information and services anytime, anywhere and on any device. It must do so safely, securely, and with fewer resources. To build for the future, the Federal Government needs a Digital Strategy that embraces the opportunity to innovate more with less...

ities, and the need to deliver better services at a lower cost—whether an individual warfighter overseas, a teacher in a rural classroom, or a family figuring out how to get a child into college. The Federal Government is pushing every level of government to do more with less, and enables entrepreneurs to better leverage technology to improve the quality of services to the American people.

of computing, ever-smarter mobile devices, and cloud-based information tools is changing the way we do business and leading into government as both an opportunity and a challenge for the Federal Government to be ready to deliver and receive digital information anywhere and on any device. It must do so safely, securely, and with fewer resources. To build for the future, the Federal Government needs a Digital Strategy that embraces the opportunity to innovate more with less, and enables entrepreneurs to better leverage technology to improve the quality of services to the American people.

Early mobile adopters in government—like the early web adopters—have paved the way for a new suite of innovation. Some have created products that leverage technology to improve the quality of services to the American people. Others have launched programs and strategies and brought together different agencies. In some cases, however, the work is being done in isolation.

Building for the future requires us to think beyond programmatic line items. In a world of rapid change in technology, we need to securely architect our systems for interoperability and openness from conception. We need to have common standards and more rapidly share the lessons learned by early adopters. We need to produce better content and data, and present it in a program and device-agnostic⁴ way. We need to adopt a coordinated approach to information and security in a digital age.

1. Source for “The Speed of Digital Information”: <http://mashable.com/2011/08/23/viral/>; “The Rapidly Changing Mobile Landscape”: <http://hugin.info/1061/R/1561267/483/getdoc.jsp?containerId=prUS23028711>, <http://pewinternet.org/Reports/2012/Smartphones.aspx>, <http://tech.fortune.cnn.com/2011/02/07/idc-smartphone-shipment-number/>
2. Digital information is information that the government provides digitally. Informal A-130, is any communication or representation of knowledge such as facts, data, or images, including textual, numerical, graphic, cartographic, narrative, or audiovisual forms (http://www.gpo.gov/omb/circulars_a130_a130trans4 for more information).
3. Digital services include the delivery of digital information (i.e. data or content) and the use of digital information (i.e. data or content) in a variety of forms, benefits applications) across a variety of platforms, devices and delivery mechanisms (e.g. web, mobile, social media).
4. Device-agnostic means a service is developed to work regardless of the user's device (e.g. desktop, laptop, smartphone, media tablet or e-reader), whether viewed on a desktop computer, laptop, smartphone, media tablet or e-reader.

DIGITAL GOVERNMENT: BUILDING A 21ST CENTURY PLATFORM
TO BETTER SERVE THE AMERICAN PEOPLE

These imperatives are not new, but many of the solutions are. We can use modern tools and technologies to seize the digital opportunity and fundamentally change how the Federal Government serves both its internal and external customers—building a 21st century platform to better serve the American People.

The Rapidly Changing Mobile Landscape

- Mobile broadband subscriptions are expected to grow from nearly 1 billion in 2011 to over 5 billion globally in 2016.
- By 2015, more Americans will access the Internet via mobile devices than desktop PCs.
- As of March 2012, 46% of American adults were smartphone owners – up from 35% in May 2011.
- In 2011, global smartphone shipments exceeded personal computer shipments for the first time in history.

Strategy Objectives

The Digital Government Strategy sets out to accomplish three things:

- **Enable the American people and an increasingly mobile workforce to access high-quality digital government information and services anywhere, anytime, on any device.**

Operationalizing an information-centric model, we can architect our systems for interoperability and openness, modernize our content publication model, and deliver better, device-agnostic digital services at a lower cost.

- **Ensure that as the government adjusts to this new digital world, we seize the opportunity to procure and manage devices, applications, and data in smart, secure and affordable ways.**

Learning from the previous transition of moving information and services online, we now have an opportunity to break free from the inefficient, costly, and fragmented practices of the past, build a sound governance structure for digital services, and do mobile “right” from the beginning.

- **Unlock the power of government data to spur innovation across our Nation and improve the quality of services for the American people.**

We must enable the public, entrepreneurs, and our own government programs to better leverage the rich wealth of federal data to pour into applications and services by ensuring that data is open and machine-readable by default.

Enable the American people and an increasingly mobile workforce to *access high-quality digital government information and services* anywhere, anytime, on any device.

Ensure that as the government adjusts to this new digital world, we seize the opportunity to *procure and manage devices, applications, and data* in smart, secure and affordable ways.

Unlock the power of government data to spur innovation across our Nation and improve the quality of services for the American people.

Strategy Principles

To drive this transformation, the strategy is built upon four overarching principles:

- An **“Information-Centric”** approach—Moves us from managing “documents” to managing discrete pieces of open data and content¹⁷ which can be tagged, shared, secured, mashed up and presented in the way that is most useful for the consumer of that information.
- A **“Shared Platform”** approach—Helps us work together, both within and across agencies, to reduce costs, streamline development, apply consistent standards, and ensure consistency in how we create and deliver information.
- A **“Customer-Centric”** approach—Influences how we create, manage, and present data through websites, mobile applications, raw data sets, and other modes of delivery, and allows customers to shape, share and consume information, whenever and however they want it.
- A platform of **“Security and Privacy”**—Ensures this innovation happens in a way that ensures the safe and secure delivery and use of digital services to protect information and privacy.

Information-Centric

The Federal Government must fundamentally shift how it thinks about digital information. Rather than thinking primarily about the final presentation—publishing web pages, mobile applications or brochures—an information-centric approach focuses on ensuring our data and content are accurate, available, and secure. We need to treat all content as data¹⁸—turning any unstructured content into structured data—then ensure all structured data are associated with valid metadata.¹⁹ Providing this information through web APIs helps us architect for interoperability and openness, and makes data assets freely available for use within agencies, between agencies, in the private sector, or by citizens. This approach also supports device-agnostic security and privacy controls, as attributes can be applied directly to the data and monitored through metadata, enabling agencies to focus on securing the data and not the device.

17. Open data and content for the purposes of this document refers to digital information that is structured and exposed in a way that makes it accessible for meaningful use beyond its system of origin, be that internal to the government or external to the public. This builds upon the definition of “openness” in OMB Memorandum M-10-06 (Open Government Directive), which specifically addresses the release of information to the public: “Agencies shall respect the presumption of openness by publishing information online...To the extent practicable and subject to valid restrictions, agencies should publish information online in an open format that can be retrieved, downloaded, indexed, and searched by commonly used web search applications. An open format is one that is platform independent, machine readable, and made available to the public without restrictions that would impede the re-use of that information.” See <http://www.whitehouse.gov/open/documents/open-government-directive> for more information.

18. To treat content as data and turn unstructured content into structured data, web-based documents must be created as pieces of structured information. For example, a fact sheet may be broken into the following component data pieces: the title, body text, images, and related links.

19. Metadata are information used to describe certain attributes of a piece of digital information, such as page title, author, date updated, and other classifications. Consistent quality metadata tagging can improve search results and also be used to structure content so that it can be more widely disseminated.

Strategy Principles
“Information Centric”
“Shared Platform”
“Customer Centric”
“Security and Privacy”

Fueling the App Economy

The City of San Francisco releases its raw public transportation data on train routes, schedules, and to-the-minute location updates directly to the public through web services. This has enabled citizen developers to write over 10 different mobile applications to help the public navigate San Francisco’s public transit systems—more services than the city could provide if it focused on presentation development rather than opening the data publicly through web services

Next Gen SCORM - Tin Can API

- “I Did This” Activity Stream Model
- API Specification 0.9 Available
- Mobile Demonstrations/Use Case-Focused
- Open Programming Libraries
- ADL LRS Reference Implementation
- Get Involved

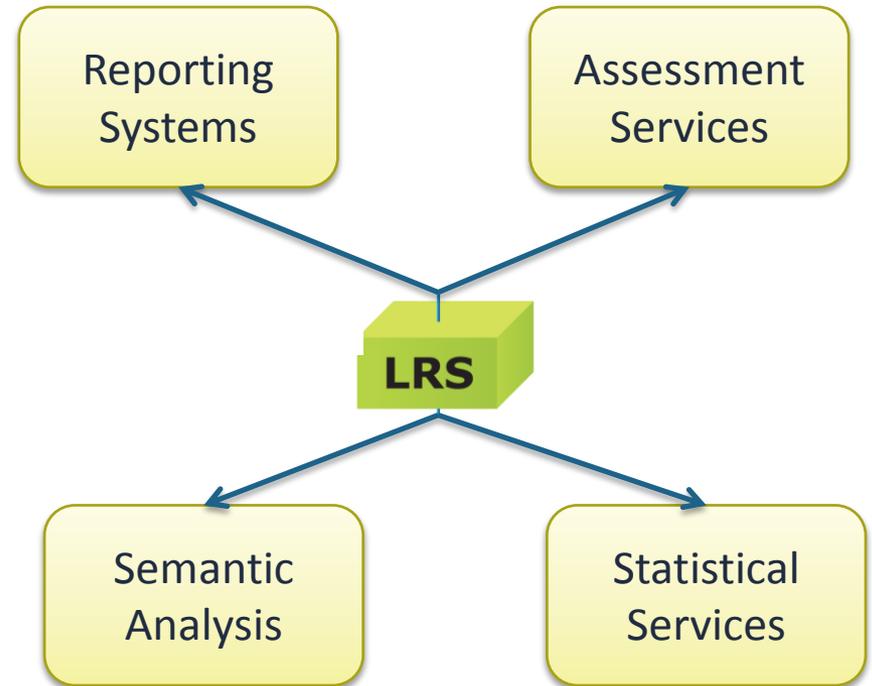
Near-Term

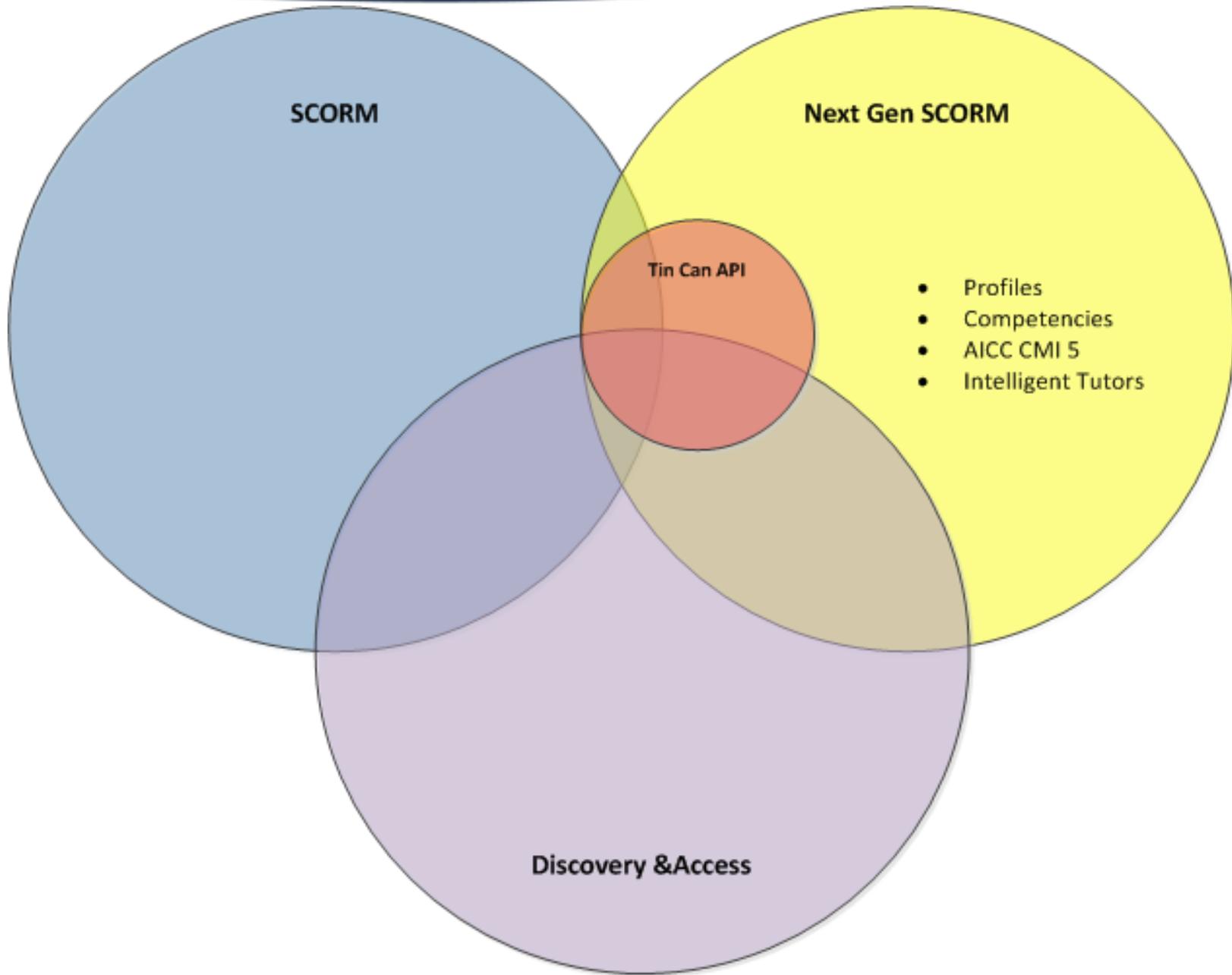


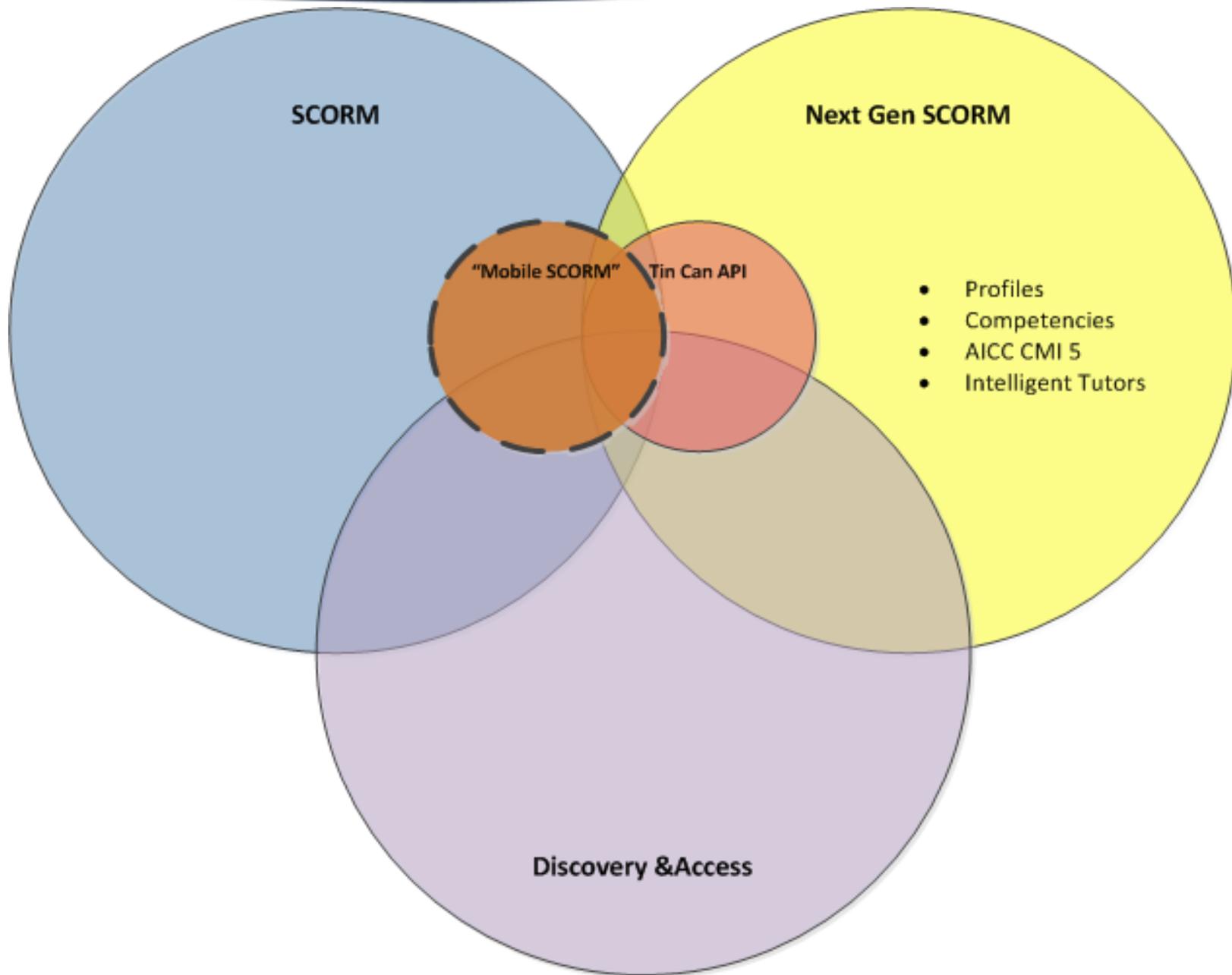
Near-Term



Mid/Long-Term



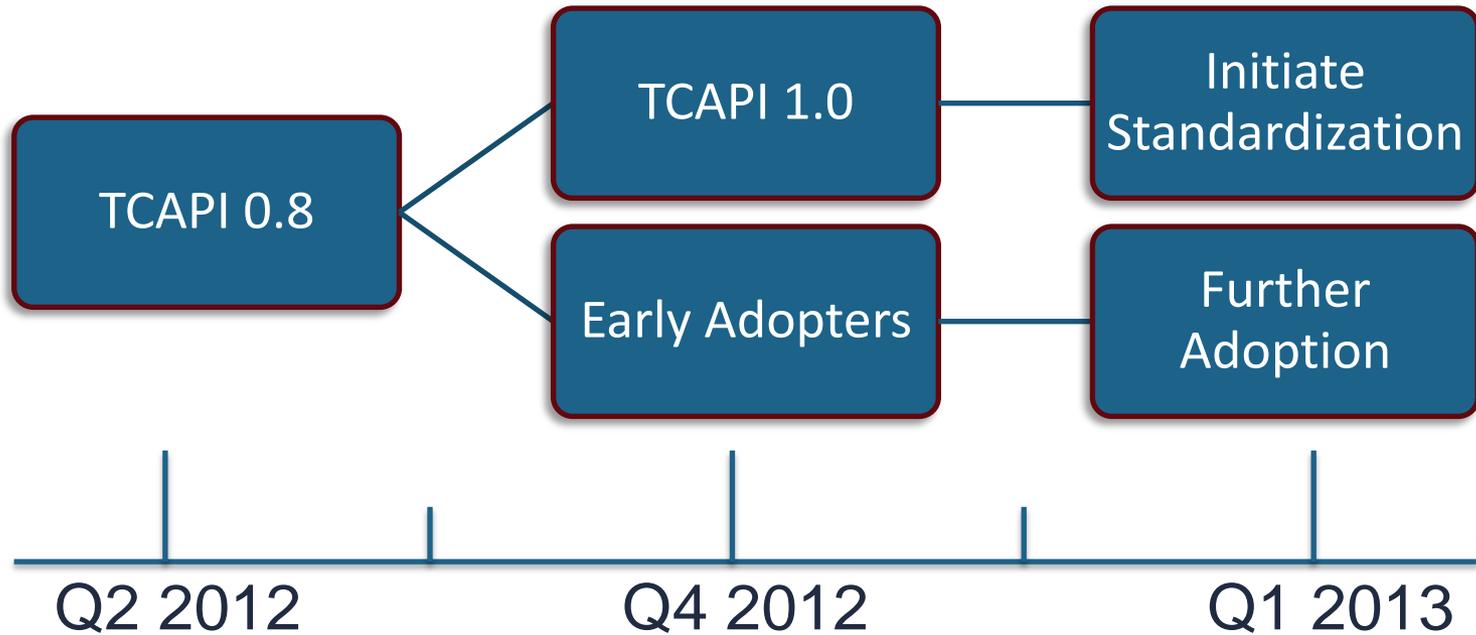




The Community Needs a Solution.

- 400+ Stakeholders Signed Up
- 350 at the Kick-Off Meeting
- 60,000 Web Hits a Month
- 20-30 Active Specification Contributors
- LMS Vendors, Authoring Tools, Content Developers, Government, DoD, Academia, Industry

Timeline





Resources



SCORM

<http://www.adlnet.gov/capabilities/scorm>

Next Gen SCORM

<http://www.adlnet.gov/capabilities/next-generation-scorm>

Tin Can API & Public Groups

<http://tincan.adlnet.gov>

Tin Can API Wiki

<http://tincanapi.wikispaces.com/>

ADL Github

<https://github.com/adlnet>

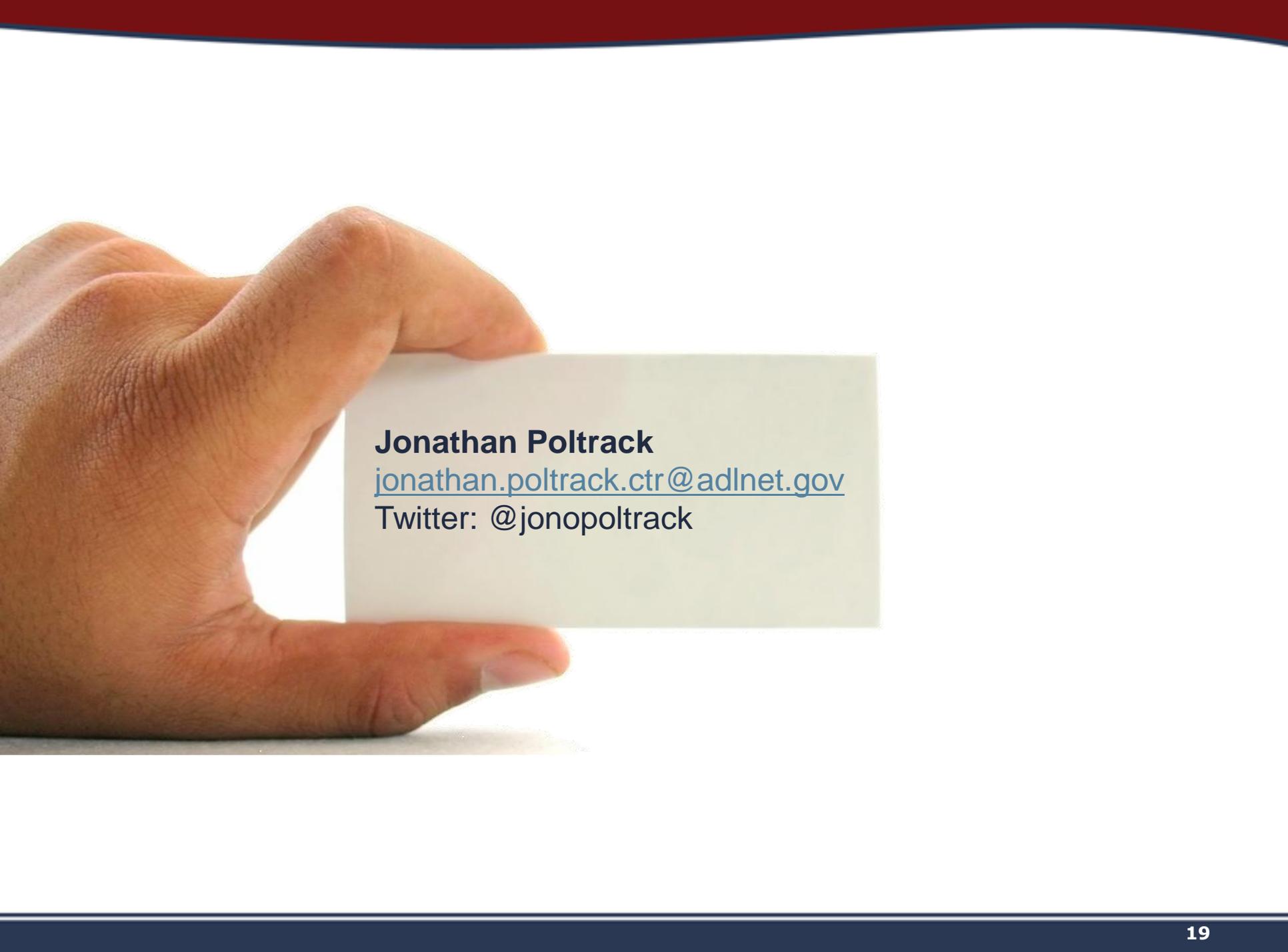
ADL Tech Team Blogs

http://www.adlnet.gov/?s=+&tag=next-generation-scorm&category_name=blog-post

ADL Tech on Twitter

[@ADLTechTeam](https://twitter.com/ADLTechTeam)

Help Us Name it! <http://www.adlnet.gov/whats-in-a-name>

A close-up photograph of a person's hand holding a white rectangular card. The hand is positioned on the left side of the frame, with the thumb and index finger gripping the edges of the card. The card is held horizontally and contains contact information. The background is a plain, light-colored surface.

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