National Schools Interoperability Program NSIP

Access 4 Learning Community

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Towards Learning Services Architecture 2.0

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Towards L.S.A 2

→ **Towards Learning Services Architecture 2.0**

- → The data we have and the data we need to support education reform
- → Progress with the integration capability review
- → The role of interoperability standards into the future

→ **Speakers:**

- → **Matt Farmer**, NSIP Program Lead – Products and Market Engagement
- → **Simon Maizels**, R/Group Director, Teaching and Learning Experience, NSW Department of Education (NSIP Chair)
- → **Dave Burns**, Executive Director Digital Solutions, Department of Education Qld (SIFAAMB Chair)

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LSA2 & A4L

Inputs

→SIF Post-Implementation Review

- 30th October, Melbourne; vendors, states, nsip

→Gonski 2.0 / ERA

Organisational

- → Best Practices & Guidelines
  - → Specific to AU implementations
  - → UTF-8, GUID rules, whitespace handling
- → Continuous Improvement
  - → How quickly are changes taken up
  - → How effective are they

Immediate Changes

→Revision of Timetable

→Schema negotiation (version management)

→Leverage existing mechanisms: (http) Last-Modified, Correlation-ID, etc.

Barriers

→ Infrastructure:

- → Discoverability, simplicity of participation;
- → Complexity of environments, zones, contexts
- → Security as separated concern, contemporary; OAuth, JWT etc.
- → Deliver on promise of separated infrastructure

→ Data-model:

- → Composite payloads for complete business transaction
- → Non-ACID (RI) exchange models

Architecture

→ Consumer-centric APIs

  → Student, Teacher, Parent as consuming roles as well as systems

→ New Events Model

  → Lightweight

  → Full control of participants

  → Changes Since

→ Ephemoral clients

  → Data only exists at source of truth, discarded after processing by client

Strategic Responses

→ Focus on discoverability and simplicity of participation

→ Claims-based security model

→ Streaming data as core infrastructure abstraction

→ JSON as first-class citizen

→ Unified assurance for Interoperability, Privacy & Security

LSA 2

→ Gonski 2.0, the new ERA:

- → Deliver at least one year's growth in learning for every student every year.
- → Equip every child to be a creative, connected and engaged learner in a rapidly changing world.
- → Cultivate an adaptive, innovative and continuously improving education system.

LSA 2

Gonski Recommendations > National Education Reform Agreement:

(2) Evidence-based tools

(3) ***All students to be partners in their own learning***

(4) Reporting

(8) School-community engagement

(10) ***Contemporary pedagogy***

(11) On-demand assessment

(12) ***Professional learning to maximise student growth***

(21) ***School and system self-review***

(22) USI

LSA 2

- → Multi-Standard:
  - → SIF, LTI, xAPI/Caliper, LISS, gCORE, AS4590, iCal
- → Personalisation:
  - → APIs built for consumer needs not data structures
  - → Easily combine data from multiple input formats to answer users questions

LSA 2

→ Privacy:

- → End to End encryption and signing
- → Dynamic privacy rules
- → Explicit accountability and ownership

→ Security

- → Claims based / Capability based; OAuth2, JWT

→Infrastructure

- →Discoverability
- →Profile-based configuration
- →Streaming support
- →Multiple payload expressions

Actions, underway

→Timetable review (DSWG, SIFAAMB), Q1 2019

→JSON; PESC/A4L with ITB now, transforms available from NSIP

→Utilise HTTP features; proposal to ITB

→Version/Schema negotiation, proposal to ITB (thanks NSW)

→New Eventing Model, proposal to ITB (thanks VIC)

→Multi-standard, streaming infrastructure; under development with NSW Digital Classroom

Challenges

- → Simplify discoverability, environment management & participation
- → Claim-based security a key enabler, revisit authorisation and authentication processes
- → Support all viable data models
- → Business interfaces; separation of write & read models, remove RI constraints

National services

- → National & State curriculums/syllabuses as machine readable assets
- → National profiles for experiential data models
- → National data vocabularies
- → Badging, micro-credentials and transcripts
- → Resource Commons