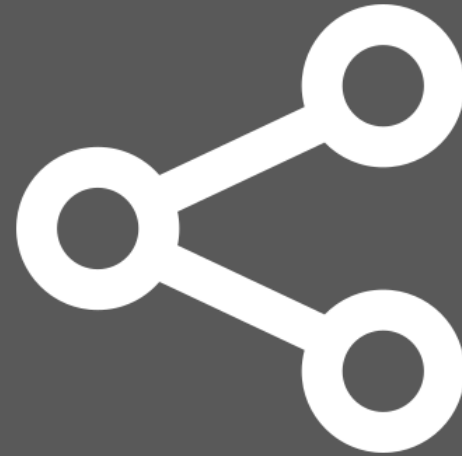


xAPI Cybersecurity

**IEEE Learning Technology Standards
Committee P9274.4.2 Working Group**

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How do systems and applications in a learning environment securely share xAPI data?



**xAPI will soon be an
IEEE global standard.**

**It is in the 9274 suite
of the LTSC portfolio.**



Easter Egg...

“9274” = “xAPI”



xAPI Cybersecurity = P9274.4.2 Working Group.

P9274.4.2 Purpose

To provide cybersecurity guidance to technical implementers of xAPI.



Includes best practices in:

- **xAPI implementation**
- **LRS communication**
- **Mitigations of common cybersecurity issues**
- **Cybersecurity lifecycle**



Common Misconceptions

- xAPI is “different”
- “Security” & “Content Policy” are the same
- Cybersecurity is static



Common Issues

- API Implementation
- LRP-to-LRS communication



Common Issues

- **Transport Level Security**
- **Network Security**



Common Issues

- **DOS Attack**
- **Malicious Payload**



Common Issues

- Zero-trust
- Complications
- Certificates



Common Issues

- Profile Server
- Activity Control



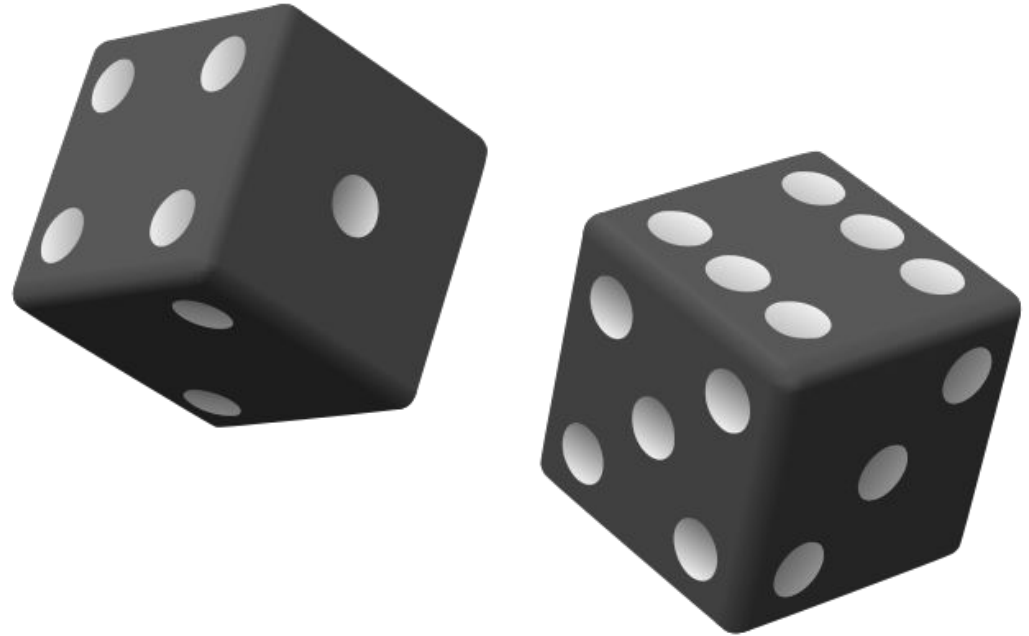
Common Issues

- Lifecycle
- Auditing and Response Practices



Risk Management

- PREPARE
- CATEGORIZE
- SELECT
- IMPLEMENT
- ASSESS
- AUTHORIZE
- MONITOR



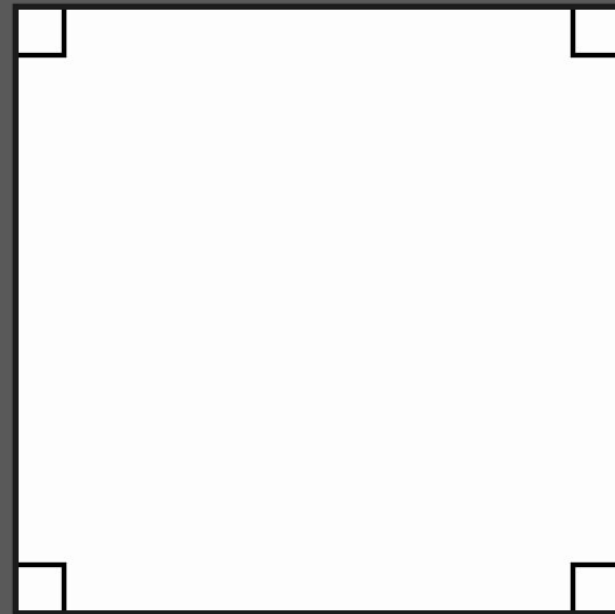
- NIST RMF

PII: IEEE Approaches

- **IEEE P7002 Data Privacy Process**
- **IEEE P7004 Standard for Child and Student Data Governance**
- **IEEE P7004.1 Recommended Practices for Virtual Classroom Security, Privacy and Data Governance**
- **IEEE P7005 Standard for Transparent Employer Data Governance**
- **IEEE P7012 - Standard for Machine Readable Personal Privacy Terms**

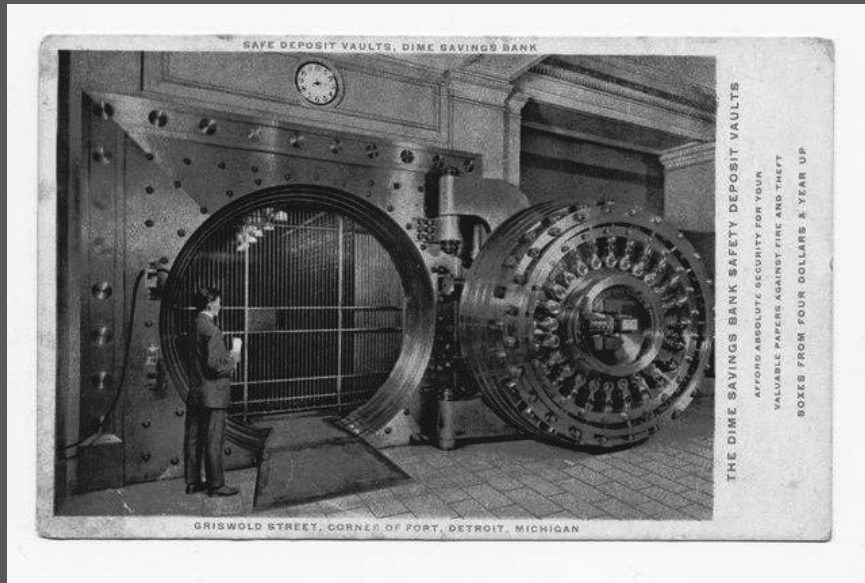
xAPI Data Conformance

- LRS: ADL Test Suite
- LRP: ADL conformant LRS
- xAPI Profiles: DATASIM



xAPI & DevSecOps

- Open Source Apache 2.0 SQL LRS is available on Platform One's Iron Bank
- Find more secure ADL resources there



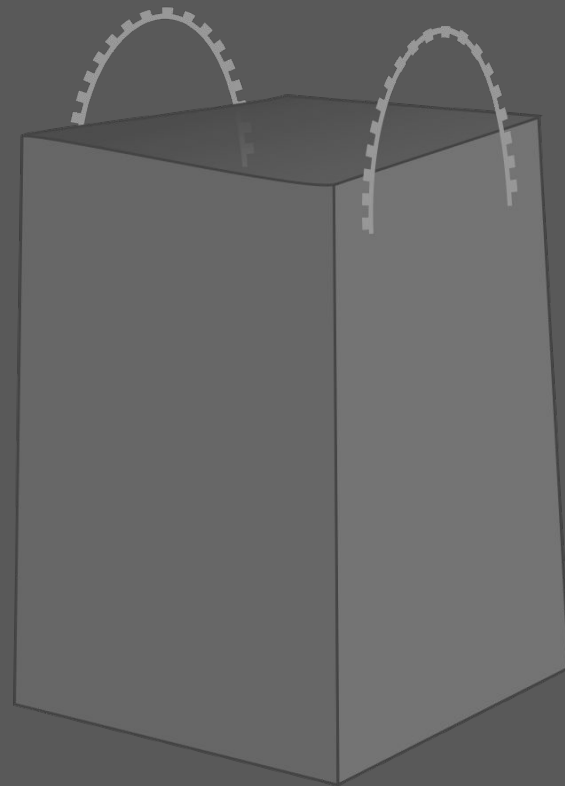
Take Aways

- **xAPI fits into common security practices**
- **Communication between LRP and LRS is foundational**



Take Aways

- **LRS conformance ensures system integrity**
- **Secure implementations should leverage capabilities with DevSecOps chops**



**To join the IEEE xAPI Cybersecurity
Working Group, contact:
shelly@yetanalytics.com**

Participation is free and open to the public.