The Uniform Electronic Legal Material Act

Implementation in California and Minnesota

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For: National Conference of State Legislatures
Date: August 19, 2014
UELMA

- Approved July 12, 2011 by Uniform Law Commission
- Approved February 6, 2012, by American Bar Association
- Establishes an outcomes-based, technology-neutral framework
- To provide online legal material with the same level of trustworthiness traditionally provided by publication in a law book
What does UELMA require?

• Official electronic legal material must be:
  • Authenticated by providing a method to determine that it is unaltered
  • Preserved either in print or electronic form, and
  • Accessible for use by the public on a permanent basis
Enactments!

**Legislative Tracking**

**2014 Introductions & Enactments**

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Outcomes – Based Standards

• Permit variety of implementation methods and costs
  • Purchase of commercially-available software
  • Development in-house by states
• Allow for future technology development
California - UELMA in Statutes

• Enacted in California Statutes in 2012 (Article 4 commencing with Section 10291 of Government Code)
  • Chapter 310. Uniform Electronic Legal Material Act
• Legal materials covered by the statute (Article 4 Section 10291 of Government Code)
  1. The California Constitution;
  2. The California Codes;
  3. The Statutes of California
• Official publisher – Legislative Counsel Bureau
• Preservation(Article 4 Section 10296 of Government Code)
  1. Ensure the integrity of the record.
  2. Provide for backup and disaster recovery of the record.
  3. Ensure the continuing usability of the material.
California - Strategy

- Developed a the list of legal materials to preserve.
  - Legal and Information Technology Staff
  - State Library and State Archives
- Identified what historical data we have electronically
- Worked with State Archives to identified meta data for audit trail.
- Formalized preservation business procedures.
- Outlined audits and disaster recovery guidelines
- Identified three archival repositories for the documents:
  - On Site,
  - State Archives
  - Cloud.
- Developed a white paper outlining Authentication methods and cost
- Met with various stakeholders (Legal Librarians and State Agency representatives) to seek their opinion on what Authentication methods to use and what level of authentication would be useful.
California - Authentication Process

Legal Services
- Publish / Release
  - Release
  - Publish

Publishing Services
- Creates the PDF
  - Measure
  - Statutes
  - Code

Office of State Publishing

Document Services Mid-Tier

Digital Signature Process
- Hash PDF Document (SHA-256)
- Send HSM Hash Key
- Returns Digital Signature
- Get Time
- Time Stamp
- Insert Digital Signature and Time Stamp into PDF Document
- Store Signed Document

Itext Jar

PKCS#11 Library

Hardware Security Modules (HSM)

Adobe CDS Certificate

Document Services

Time Stamping Authority (TSA)
California - Flow of Document
California - Signed Pdf Samples

1. Statutes (Chaptered Measures)
   Chapter 223
2. Full Code
   Fish and Game
3. Code Section
   Government Code 429.6
4. Constitution
   Article III Sec. 2.
State of California
GOVERNMENT CODE
TITLE 1. GENERAL
DIVISION 2. STATE SEAL, FLAG, AND EMBLEMS
CHAPTER 1. STATE SEAL AND EMBLEMS
§ 4296.

4296. The California State Military Museum and Resource Center is the official state military museum.

(Added by Stats. 2004, Ch. 133, Sec. 2; Effective January 1, 2005.)
State of California
GOVERNMENT CODE
TITLE 1. GENERAL
DIVISION 2. STATE SEAL, FLAG, AND EMBLEMS
CHAPTER 6. STATE FLAG AND EMBLEM
§ 420.6.

420.6. The California State Military Museum and Resource Center is the official state military museum.

(Added by Stats. 2014, Ch. 133, Sec. 2. Effective January 1, 2015.)
California - Public Access

California Legislative Information
http://leginfo.legislature.ca.gov/

1. Chapter 223
http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB14&search_keywords=

2. Government Code 429.6

3. Article III Sec 202
http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=CONS&sectionNum=SEC.%202.&article=III

• Estimated deployment Spring 2015
California - UELMA Still to do

- Implement Preservation
- Authenticate XML Versions
- Integrate with State Archives
- Implement the Business Process for audits and upgrades
- Implement Disaster Recover procedures
Minnesota - UELMA in Statutes

• Enacted in Minnesota Statutes 2013
  • Chapter 3E. Uniform Electronic Legal Material Act
  • https://www.revisor.mn.gov/statutes/?id=3E&view=chapter

• Legal materials covered by the statute
  • Section 3E.02 subd. 3
    (1) the Minnesota Constitution;
    (2) Laws of Minnesota;
    (3) Minnesota Statutes;
    (4) Minnesota Rules.

• Official publisher – Office of the Revisor of Statutes

• Authentication requirement

3E.05 AUTHENTICATION OF OFFICIAL ELECTRONIC RECORD.

An official publisher of legal material in an electronic record that is designated as official under section 3E.04 shall authenticate the record. To authenticate an electronic record, the publisher shall provide a method for a user to determine that the record received by the user from the publisher is unaltered from the official record published by the publisher.
Minnesota - IT Architecture

Publication App.

- Ready to Publish:
  - 9555.5105
  -

[Publish]

Database of documents

Web Server

- (Get PDF of Document) 9555.5105.pdf
- (Authenticate my PDF) Authenticate

Database of published documents

Internet

authenticate

XML

PDF

Hash value

Meta data

https
Publication App.

Ready to Publish:
- 9555.5105
- ...

Retrieve document
Compose document. Create PDF.
Compute hash digest, SHA-2(256) of PDF
Save to database - PDF
Save to database - hash digest
Save to database - metadata
End

Database of documents
Database of published documents

PDF
Hash value
Meta data

9555.5105.xml
Database of published documents

- PDF
- Date PDF composed
- Size of PDF
- Hash algorithm name
- Date hash value computed (future use)
- Date PDF available to public (versioning)

Only: INSERT, SELECT
No: UPDATE, DELETE

- Reason for publishing
- Date of passage
- Date effective
- Date expired
- Law specific info (e.g., session info)
- Admin. Rule specific info (e.g. category info)

No: DELETE
User specifies PDF on his/her computer → Copy PDF from his/her computer to server → Compute hash digest, SHA-2(256) of PDF → Using hash digest, retrieve meta data about document → Inform user: PASS or FAIL → Database of published documents

Web Server

Authenticate

Get PDF of Document

9555.5105.pdf

Authenticate my PDF

Authenticated

Internet

https
**Save a PDF to my computer**

1. Go to Rule 9555.5105 (https://www.revisor.mn.gov/rules/?id=9555.5105)
2. Right mouse click on the **Pdf** link. 
3. Save target as ...

**Authenticate the PDF on my computer**

1. Go to any **Authenticate** link on the Minnesota Revisor's web site (https://www.revisor.mn.gov/laws/current/)
2. Click the Browse button
3. Select the file saved in step 3. Click the Open button.
4. Click the Authenticate button at bottom of page.
5. See message –
   1. "Your file is an authentic PDF copy of ..."
   2. "Your file is NOT authenticated"
Minnesota - UELMA Solution

• Disadvantages
  1. Not as user friendly as Signed PDFs.
  2. Custom software needs to be developed and maintained.
     • 5 developers worked 9 months to develop authentication feature for first (of 4) document types.
  3. Authenticating every version adds complexity to the database and software design.
  4. Database size will grow over time, as PDFs are published.
     • Database performance will suffer unless partitioning or other tactics are utilized.
Minnesota - UELMA Solution

• Advantages
  1. System can identify obsolete versions of a document.
  2. No new software was purchased.
  3. Scalability. After system is built for 1 document type, additional doc types can be added using variations of the architecture.
  4. Easy to add new hash algorithms in the future.
  5. System can be expanded to authenticate additional file formats: images, audio, video, etc.
Additional Resources

- U.S. Government Printing Office

- California White Paper
  - Discusses 5 methods of authentication
  - Outlines pricing options for each method
  - Find at:
    - [http://ccusl.ca.gov/sites/ccusl.ca.gov/files/Authentication%20of%20Primary](http://ccusl.ca.gov/sites/ccusl.ca.gov/files/Authentication%20of%20Primary)
    or
    - [http://www.mnhs.org/preserve/records/legislativerecords/authentication.htm](http://www.mnhs.org/preserve/records/legislativerecords/authentication.htm)

- Minnesota White Paper
  - [https://www.revisor.mn.gov/revisor/pubs/Minnesota_Authentication_Prototype.pdf](https://www.revisor.mn.gov/revisor/pubs/Minnesota_Authentication_Prototype.pdf)

- District of Columbia Open Source Demonstration
  - The source code is at [https://github.com/unitedstates/authentication](https://github.com/unitedstates/authentication)

- American Association of Law Libraries “AALL”
  - developing a best practices paper
  - should be available in fall, 2014