

**PRESERVING ACCESS
FOR ELECTRONIC
RECORDS**

Kalani Kirk Hausman
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E-Records Conference 2013
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ABSTRACT

Retention standards for electronic State records can include extended terms up to infinite “permanent” duration mandates. This will eventually render data storage formats and media unavailable. This session will address strategies to protect long-term electronic record access.

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EARLY DATA STORAGE



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LESS THAN 1MB OF DATA




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STORAGE FOR DATA LARGE AND SMALL




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DATA RETENTION REQUIREMENTS

- Texas Agency Hiring Documents – **3 Years**
- Infant Delivery Records – **21 Years**
- Sex Offender Registry Data – **75 Years**
- Health Records (*Hansen's*) – **Permanent**
- State of Texas Records Retention Schedule
- Federal Records Retention Schedule (*Clergy Act, etc*)



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RETENTION CODES

AC - After Closed, Terminated, Completed, Expired, Settled	AV - Administrative Value	CE - Calendar Year End
FE - Fiscal Year End	LA - Life of Asset	MO - Months
PM - Permanent	US - Until Superseded	

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STORAGE MEDIA



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MEDIA AND LOST DATA



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LOST MOVIES/LOST DATA

- 90% of the silent movies made before 1929.
- Half of all movies made before 1950.



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MEDIA ACCESS



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STEADY PROGRESS



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OPTICAL STORAGE

LaserDisc (0.3GB) Blu-Ray (128GB)



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NEAR-FUTURE STORAGE

- Experimental Holographic Optical Disc (6TB – 50TB)
- 7-platter Magnetic 3.5" Drive (6TB)



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DATA FORMAT AND SOFTWARE



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ROSETTA STONE



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MY COMPUTER IN COLLEGE



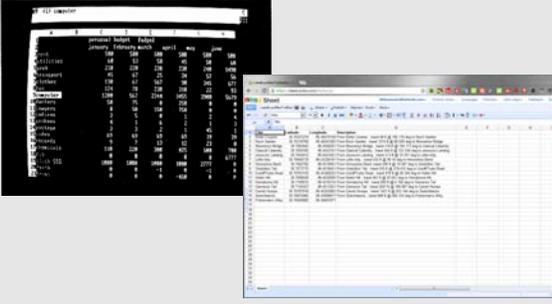
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EARLY WORD PROCESSERS



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THEN TO NOW



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APPLICATIONS IN THE CLOUD



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SILOS AND COMPLEXITY

- **Cloud Resources**
 - Data Storage
 - Applications
 - Desktop Virtualization
- **Mobile Technologies**
 - Smart-phones
 - Tablets
 - Laptops
- **Bring Your Own Devices (BYOD)**

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WHERE EVERYTHING LOOKS LIKE A NAIL



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OUR LIBRARY



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WHAT WE IMAGINE IT WILL LOOK LIKE



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WHAT IT ACTUALLY LOOKS LIKE



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WHAT WE HAVE TO STORE



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SKILLS AND EQUIPMENT



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STRATEGIES

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1) PRINT EVERYTHING

- *Not everything is static content*
- Space and Pests

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2) USE ARCHIVAL-QUALITY MEDIA

- 100 yr Best-Case
- 11 yr Common Use
- Environment
 - UV lighting
 - Temp
 - Humidity
 - Vibration

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3) KEEP SPARES OF EVERYTHING



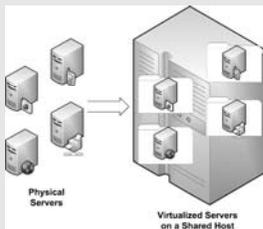
- Complexity Increases
- Space and Expense
- Maintenance Requirement
- Component Availability

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4) VIRTUALIZE HARDWARE



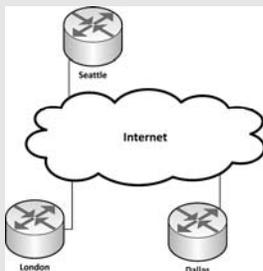
- Retain Complexity
- Expand Skill Sets
- Enhance Online Threat
- Risk App/Host Compatibility

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5) USE REDUNDANCY IN THE CLOUD



- Loss of Local Control
- Subject to By-Use Cost (*utility model*)
- Requires Operational Internet Contact

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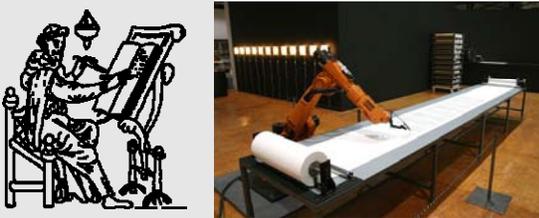
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IS THERE ANOTHER PATH?



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MODERN DAY SCRIBES



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NOT JUST A VAULT



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ACCIDENTS HAPPEN



- Accidents and Acts of Nature Skill Set Availability
- Preservation Not Just Protection Needed

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6) BUILD A CULTURE OF PRESERVATION

- Select and Maintain Standards
- Build Bridges Between Silos
- Implement a Cycle of Tech Refresh for Storage and Apps
- Identify Data For Preservation
- Store Only What Is Needed

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QUESTIONS ?



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THANKS

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My thanks to the IT professionals in the State of Texas for their tireless efforts to protect a record of data resources documenting the evolution of our Government and its agencies.

I thank you all for taking time to give me your attention and interest during this Conference. I hope you will take this idea and build the State's future data preservation "vaults" well.

- *Kalani Kirk Hausman*

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