

No Moving Parts:

How Ball State Deployed a Virtualized
ECM Solution on Linux Running on z9
and Windows

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Introduction

Our Environment

- ❑ Mid-sized public university
 - ❑ 19,000 students in 270 fully-accredited undergraduate, graduate and doctoral programs
 - ❑ 2,800 employees
 - ❑ Distributed environment with about 85% of mission-critical data housed on the mainframe, but about 90% of user-facing software hosted on Windows-based servers
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The System We Replaced

- ❑ Windows-based departmental system installed in 1997
 - ❑ Optical 'jukebox'
 - ❑ Dependant on SCSI-connected scanners with special interface boards
 - 'Clunky' interface
 - Multiple points of failure
 - Difficult to diagnose and repair
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The System We Replaced, cont.

- Significantly over-extended for the system's architecture...
 - JBOD
 - No records management
 - No index deletion, just index removal
 - Security and stability issues

 - Yet vital to the university's content management needs
 - Access to accounting reports
 - Archival of images
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Drivers for the Project

- ❑ Outages during year-end closing week, two years' running
 - ❑ Users needing blended access were being forced to maintain two (or more) user IDs
 - ❑ Director's imperative – figure out what content management is and how we can do it better
 - ❑ Manually-intensive work to change the security and/or other settings
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Problems to be Solved

- ❑ Outdated, overextended existing system
 - ❑ No document retention/destruction capability
 - ❑ Instability in hardware and software
 - ❑ Inability to use blended security for line date reports/'clunky' security
 - ❑ Inability to have DR/BC capability
 - ❑ Locked into one platform - no support for the Macintosh platform
 - ❑ No workflow capabilities
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Determining the Shape

Determining the Shape

- What content will be managed?
 - In our case, no web-based content managed.
 - Indexed images – TIF format in the old system, TIFF in the new
 - PDF's
 - COLD reports
 - No AFP transforms in use.
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Determining the Shape

□ Factors considered:

- Speed
 - Flexibility
 - Reliability
 - Scalability
 - The right chassis for the right system
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Determining the Shape

- ❑ Legacy data was not going to go away.
 - ❑ User-based processing needed to remain as similar in the new system as possible.
 - ❑ A chance to correct issues with legacy systems
 - ❑ Future growth potential
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Determining the Shape

- Complete design and creation of related 'pieces'
 - Scanning batch classes
 - Index lookups
 - From mainframe system
 - From CM itself
 - Plan for future growth potential
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Determining the Shape – Drivers to Virtualize on the Mainframe

- ❑ DR
 - ❑ No additional cost for the IFL
 - ❑ Opportunity to innovate and use a new technology
 - ❑ SOA-enabling from the source of mission-critical data
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Determining the Shape – Initial Configuration

- ❑ zLinux environment - SUSE 9.0 SP3
 - ❑ Hosted on a z9 running z/VM 5.3
 - 6 instances
 - ❑ CM Test/Production
 - ❑ OD Test/Production
 - ❑ TSM Test/Production
 - Media
 - ❑ Disk array – IBM DS8100
 - ❑ Magstar 3494 robot-fed tape drives
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Determining the Shape – Initial Configuration

- Imaging system
 - Kofax Ascent Capture 7.5, Service Pack 6
 - Mixture of Canon and Bowe, Bell & Howe scanners
 - Old SCSI scanners could be used – no add'l capital costs
 - New USB scanners – flexible, more economical, allow small form factor machines

 - User interface
 - eClient running on a Windows server
 - WEBi running on a Windows server
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Determining the Solution

Determining the Solution

□ RFP Process

- Determine what is needed
 - Cross-disciplinary team
 - Evaluation process to be followed
 - Making the determination
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Determining the Solution

- Construction of an RFP
 - Not unlike determining the purchase of a new car (extras versus must-haves, valuation of optional functions, etc.)
 - The onus of specifying what you need lies on you, the onus of delivering a proposal lies on the provider
 - Be clear
 - Make a proposal that requires consideration
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Determining the Solution

□ Removing Subjectivity

- Assigning a priority to features before receiving responses
 - Having a team from various 'camps'
 - Be firm on must-haves, flexible on features
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Determining the Solution

- Handling legacy data
 - Keep in native repository or migrate
 - Methods to migrate
 - Ability to leverage data formatting
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Determining the Solution

- Lessons learned with legacy data
 - Keeping it in place might have been easier, but the old hardware architecture would bring old problems forward
 - Annotations are NOT generally able to be brought over from legacy systems.
 - There are no annotation standards that are followed.
 - Each system handles annotations in a different way.
 - Legacy data may likely need to be 'de-wrapped' so that proprietary coding is removed.
 - Loading of legacy data must be carefully done, with attention to what data is required day-forward versus what data exists in the past.
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Determining the Solution

Recommendations:

- 1) Don't give up on the annotations. If they are done in one system, it is possible to figure out how they can be done in the new one.
 - 2) Develop a data dictionary, and only create a new index when one is required.
 - 3) Handle the issue of 'missing' back data on a case-by-case basis. If the users need to require something that wasn't there in the past, you can either force a default via the CM administrative setup, or if scanning is going to be the only method used to ingest new data, requiring an attribute value in the scanning software and leaving it not set to required in CM accomplishes the same goal.
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Into the Future

Into the Future – First, What We Accomplished

- ❑ Scalability/Reliability
 - ❑ Ability to manage deletion of and retain documents within the system
 - ❑ Platform independence
 - ❑ Support for the users who have Macintosh computers
 - ❑ Granular, document-level security based on multiple values and supported by the ability to utilize SSL connections from the users' desktops
 - ❑ Deployment on a platform with successful DR testing
 - ❑ Capability to initiate approval-based workflows
 - ❑ Ability to use electronic forms
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Into the Future – What Comes Next

- ❑ Thesis repository
 - ❑ Virtualized scanning interface
 - ❑ Cradle-to-grave records management
 - ❑ Customized interfaces
 - ❑ Federation across line data, image data and departmental document data
 - ❑ One-day user-centered joint application design rollout for simple applications
 - ❑ Immersive experience for students to design, develop and deploy content management solutions
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- ❑ Center of ECM Excellence