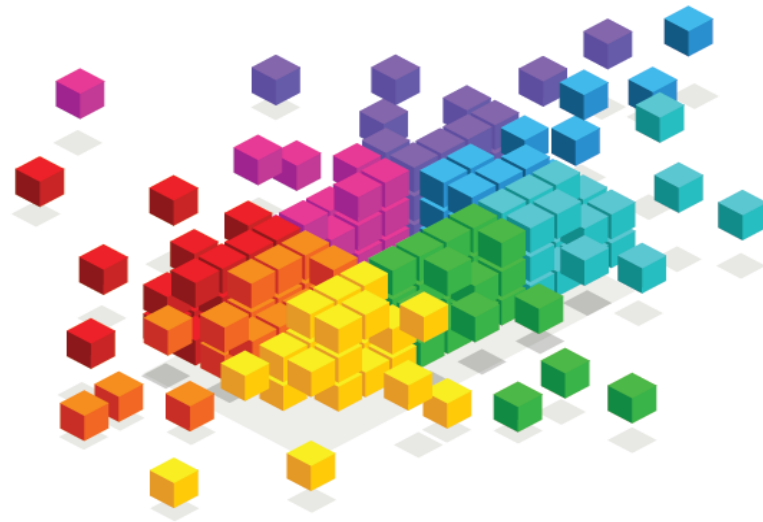


Improving Enterprise Asset Management with IBM FileNet

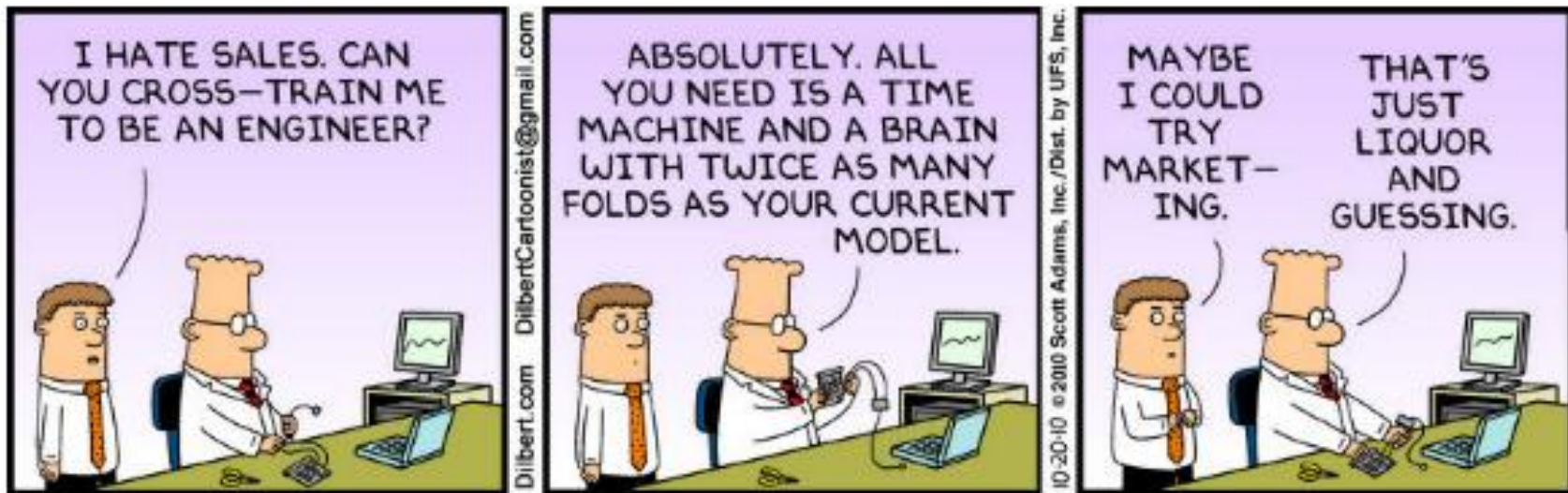
Tom Marshall
ECM Industry Solutions
Manufacturing & Energy

Putting Content to Work
ECM UserNet 2011

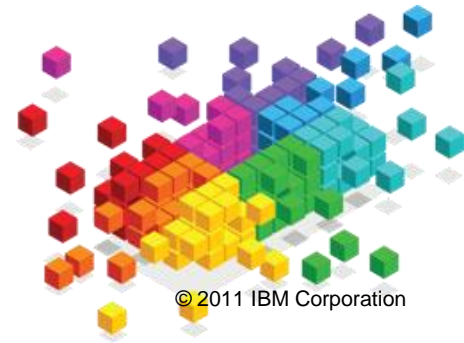


The Disclaimer...

My apologies upfront – I'm an engineer!

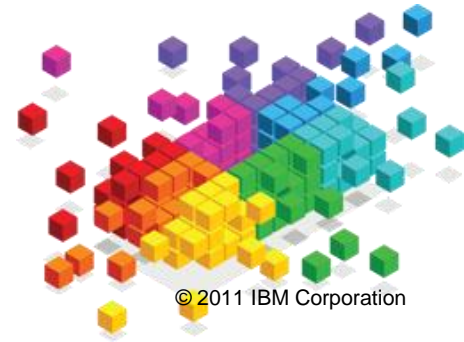


- Joined FileNet Industry Marketing Team 2005
- 8 years Pre-sales Engineer at Cimage/Sword
- 12 years GE Aircraft Engines in Data Management



About this session.....

- Introduction
- What is Enterprise Asset Management?
- Why ECM and EAM?
- Business Drivers and Pain Points
- Integrated Solution and Benefits
- Use Cases
- Is this for you?
- Who has done this?
- Summary

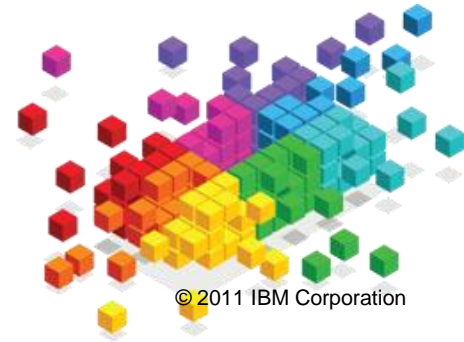


Introduction

- Most asset intensive organizations have content management and asset management systems. But, these systems are frequently silos within operations and/or engineering departments and lack meaningful integration.
- However, input from multiple departments is necessary to supply the knowledge workers with information that's necessary to perform crucial jobs.
- An integrated Enterprise Asset Management and ECM solution will bridge the gap between silos in operations, maintenance and engineering, resulting in trusted content, optimized processes and ensured corporate compliance.

Capture the Opportunity.....

Optimize Knowledge Between Asset Management, Enterprise Content and Process Management

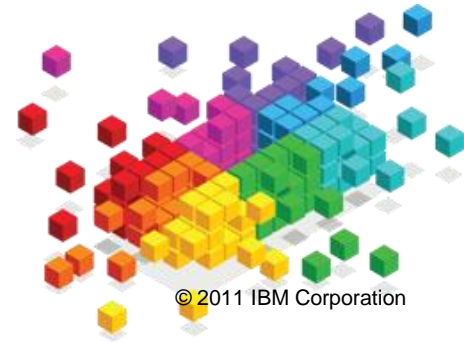


What industries need comprehensive asset management?

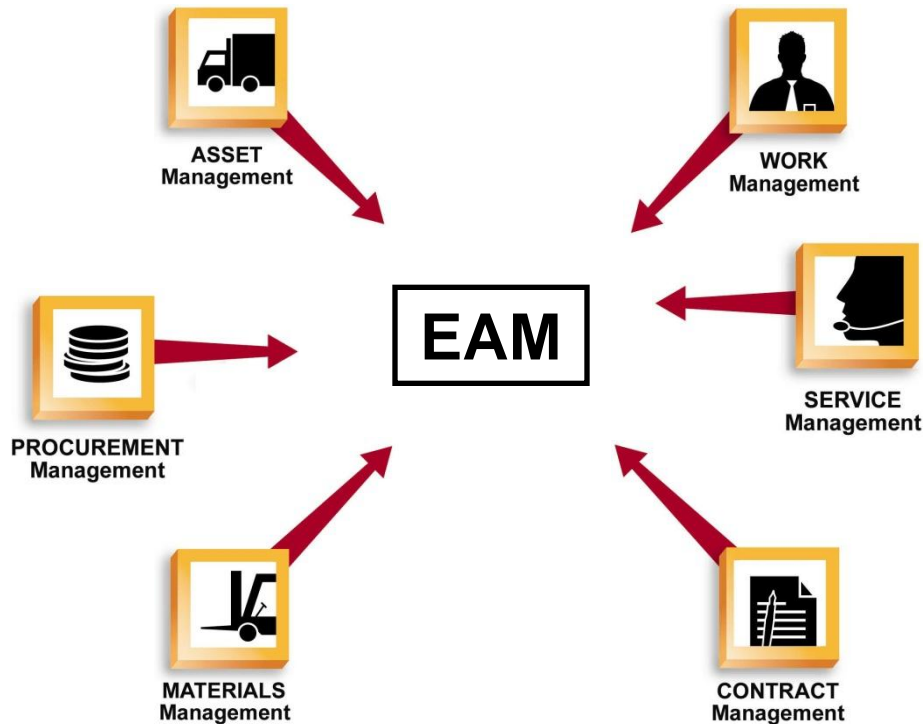


Drivers of comprehensive asset management:

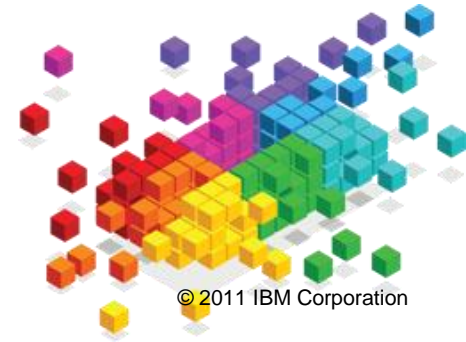
- Cost inefficiencies and complexity associated with redundant asset management infrastructure
- Need to measure and manage the availability and use of all strategic assets
- The convergence of information technology with operational technology



Enterprise Asset Management Provides Total Lifecycle Asset & Service Management.....

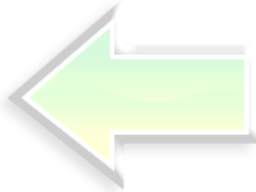


- **Asset Management**
Assets, Locations, Failure Reporting, Condition Monitoring, Meters, Configuration Management
- **Work Management**
Preventive, Corrective, Projects, Emergency, Safety Plans, Work Hierarchies, Planning, Status, Assignments, Actual Metrics
- **Procurement Management**
PR's, PO's, Receipts, Invoices
- **Materials Management**
Items, Storerooms, Inventory, Reorder, Issues, Returns
- **Contract Management**
Master, Purchase, Warranty, Lease/Rental, Labor Rate
- **Service Management**
Self Service Requests & Status
Performance Based Logistics

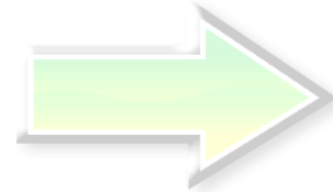


Competitive Landscape

Best of Breed
EAM Vendors



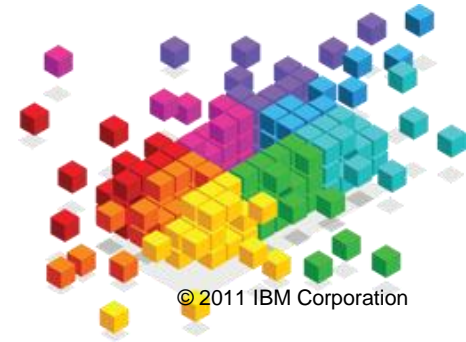
maximo™



ERP
Suite
Vendors



Niche Vendors



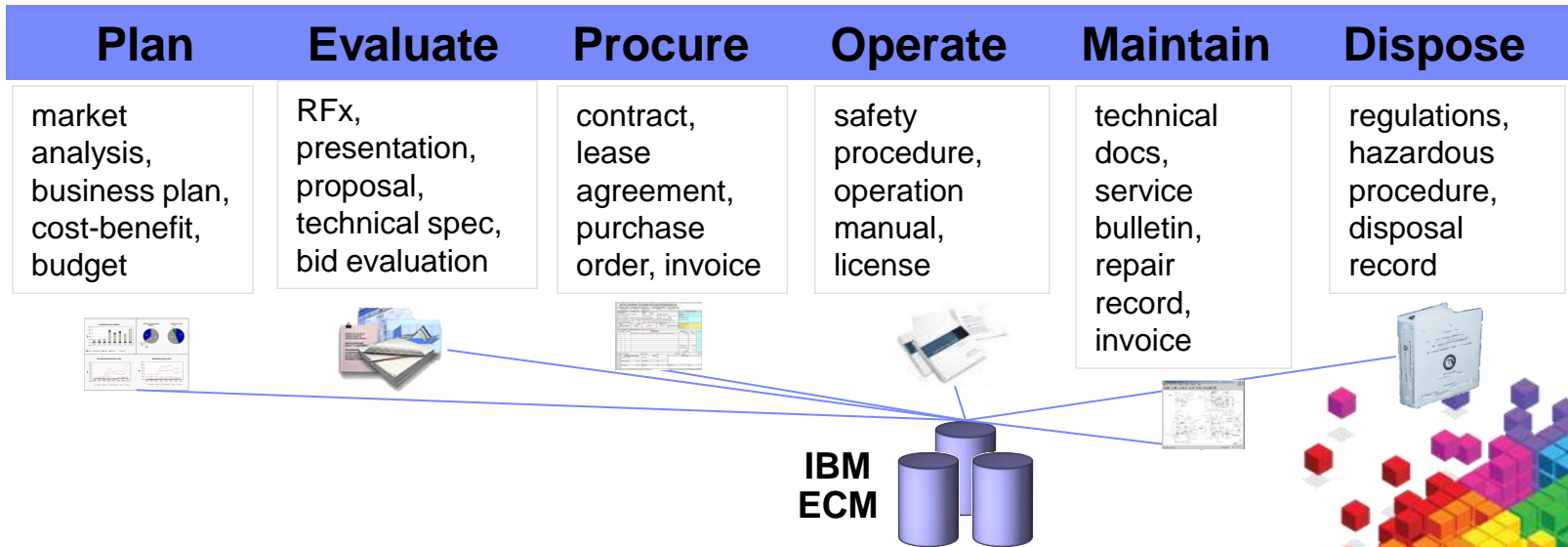
- ERP vendors pushing 'full-suite' industry approach
- Niche vendors (geographies and/or industries) offering a more complete feature package for the market they are in.
- IBM is the EAM leader (Source: Gartner)

FileNet Manages All Documents Related to Facilities & Assets



Capabilities include:

- Enhanced Workforce Effectiveness through collaboration, communication and information sharing
- Improved Business Processes through integration of content and automation of related processes
- Optimized infrastructure for compliance through content capture, archive, retention, discovery and retrieval



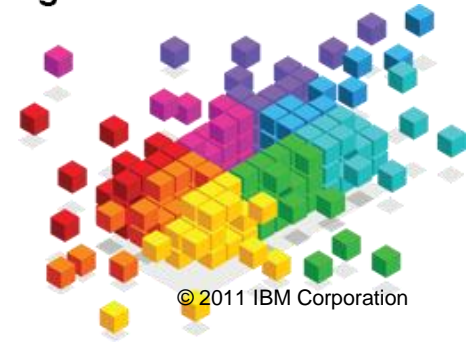
Customer Pain Points

- Maintenance personnel carrying out work scheduled and managed by Maximo may not have easy access to all the information they need to perform the work.
- Valuable asset (the plant being down) usage may be lost as workers search for information, or return from the plant to gather additional information in order to perform their tasks
- Worse than not having the relevant information is workers using out of date or incorrect information. By putting together content from the FileNet vault we can be sure that only the latest approved versions are used in the field



News Release – Embargoed until
10 a.m. CDT Aug. 17, 2005

U.S. Chemical Safety and
Hazard Investigation Board



Solution Description

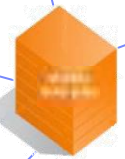
EAM and FileNet Integration.....

Optimizes Knowledge Between Asset Management, Enterprise Content and Process Management

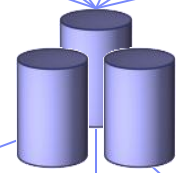


- Mobile workforce readiness, etc.
- Planning & scheduling activities
- Service level management
- Facilities management
- Field service & repair
- Audits & inspections
- Asset database
- Work activities
- Spare parts
- Reporting
- Inventory
- ECM, ERP, GIS, SCADA integration

IBM Maximo



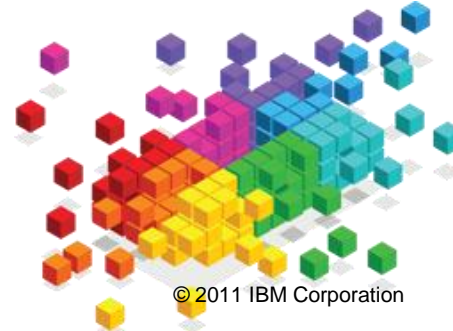
IBM FileNet



LOB



ERP



Solution Screenshots

The screenshot displays the FileNet Workplace XT interface. A Maximo record is visible in the background, and an 'Attachment Properties' dialog box is open in the foreground. The dialog shows the following details:

- Created in Folder: Attachments
- Description: Attachments
- Print with Work Pack?
- Version: 00
- Get Latest Version? N
- Path: 33186561-BC62-4672-9E89-C2565F334C4B (highlighted with a red circle)
- Description: Asset Site Location
- Created By: MAXADMIN
- Created Date: 1/19/11 9:01 AM

Below the dialog, a 'Where Used' table shows the application and document details:

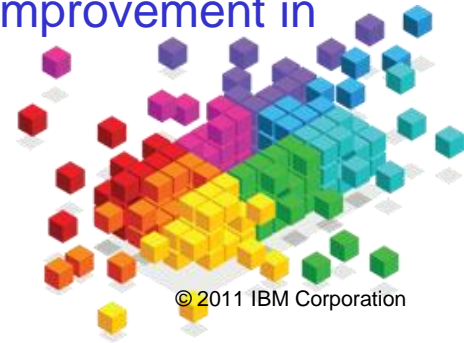
Application	ID	Document Folder
ASSET	1,201	Attachments

Maximo record linked to specific FileNet document version

Business Value

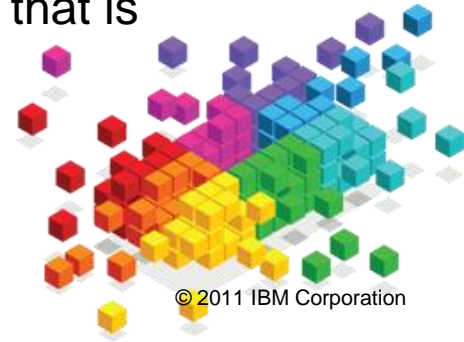
- EAM maintains control of the work processes and structured asset data
- FileNet maintains control of the unstructured operations content and corporate records processes
- Bridge the gap between operations, maintenance and engineering
- Streamline the process linking between systems
- Provide access to data and content from correct source
- Manage engineering and operations document lifecycles and versions
- Provide work history for controlled documents

Resulting Benefit: Improve plant availability by linking current content with work processes for operational and maintenance personnel. A 1% improvement in asset availability means 3 ½ + days of operation per year



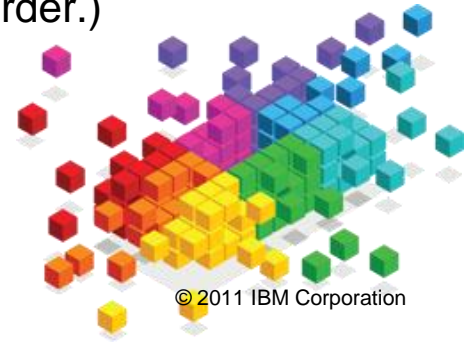
Use Case: Operations

- An operational planner receives a new or updated asset from the vendor.
- Before making the new asset available for work, the planner needs to associate the work instructions, maintenance documentation, and all current engineering drawings and specifications to the asset.
- Each of the documents needs to be added to the FileNet P8 repository and classified as a Tivoli Maximo type document, causing each document to receive its initial revision.
- Upon saving the document, FileNet P8's workflow process is started and all business rules and processes are applied.
- Once all approvals have been made FileNet P8 will send the URL reference for the new document to the Tivoli Maximo Attachment Library. (Note: depending on how FileNet is configured, this URL could be pointing to this specific revision or pointing to a virtual URL that is always pointing to the most current revision.)



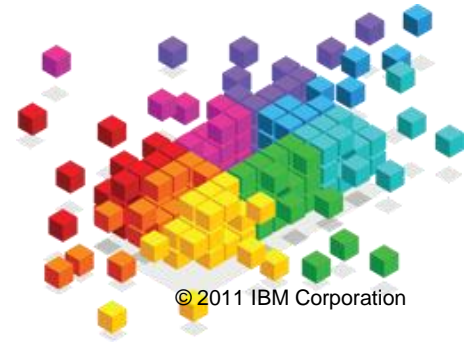
Use Case: Maintenance

- Tivoli Maximo maintenance user logs into Tivoli Maximo and sees all the work assignments for the day.
- On selecting the first work order, the user decides to print a work packet.
- The work packet will contain the work order information and all related documents for the asset being worked on. This may include CAD drawings, maintenance procedures, Safety plans, Hazard warnings, etc.
- The work order also shows what materials maybe required to perform the maintenance or install / remove process.
- As part of the companies' policies, a digital picture is taken to show the state and condition the asset is in before work is performed. As a result, the maintenance user, takes a digital picture and downloads the picture to his local system and adds the picture to the work order as an attachment. (Note: during this process, Maximo is encoding the digital picture and through a FileNet web service sending the photo to FileNet for storage and versioning. Once the initial versioning is complete, FileNet uses a Maximo web service to send the new URL for this photo. And the URL is attached to the current work order.)



Use Case: Engineering

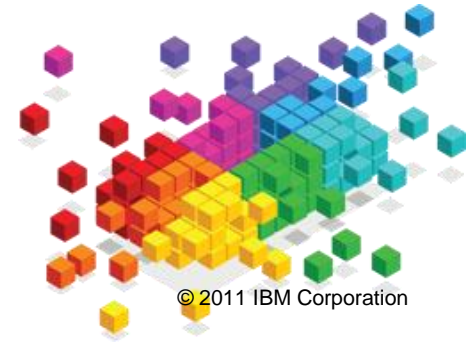
- The engineering department receives a notice from the maintenance department, that one of the maintenance steps is no longer required.
- As a result, the engineer assigned to this specific asset is notified and the maintenance work instruction document is flagged for review.
- After going through all the research and approval processes, it is determined that one of the steps is indeed not needed anymore and the document is updated and another revision is created. (Note: once the new revision has been approved, the updated document will be available in the Maximo attachment library).



Do you know.....



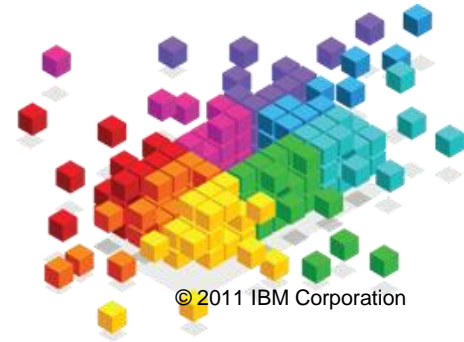
- **Which industries can benefit from this integration?**
 - Any industry that has large, complex facilities or fleets that require ongoing maintenance. Examples include power plants, refineries, manufacturing plants, airports, departments of transportation, university campuses, military bases, etc....
- **Are any maintenance activities currently outsourced to third parties?**
 - Personnel unfamiliar with the facility or the equipment can only depend on the accuracy of the documentation in order to efficiently and safely complete the work. Having the complete, correct documentation in a timely manner is critical.
- **Does your facility currently use paper-based maintenance manuals?**
 - Even with stringent update procedures, paper-based manuals are never going to reflect the latest versions of documents at all times. With the ability to print all related documents at the time the work order is issued, workers are guaranteed to have the correct versions of documents required to complete work.



Qualifying Questions, cont'd

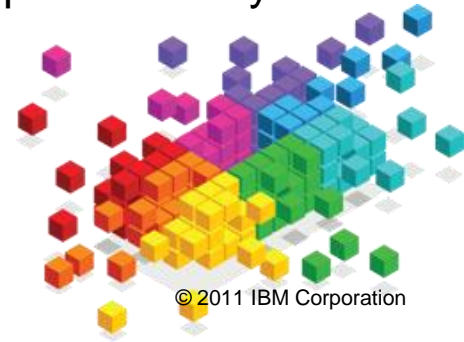
- **How do maintenance personnel find all documents required to complete their assigned work?**
 - In a manual environment, workers can spend significant time searching for the schematics and operating procedures required for a specific job. With the FileNet/Maximo integration, maintenance planners are able to link all related documentation, making the current versions available at the time the work order is issued.

- **How do changes in the as-built condition of the plant as a result of maintenance get communicated back to Engineering?**
 - Maintenance workers are able to note any field changes when updating Maximo at the completion of any work orders. This can trigger a change request process within FileNet to update the associated documents, helping to assure regulatory compliance.
 - This same process can be utilized to document work processes currently performed by members of the Aging Workforce and used for training of younger workers.



But they said.....

- **Why would I use this integration when I already have document attachments in my Maximo system?**
 - Using this integration allows you to take advantage of all of the document management and records management features of FileNet. For example all of the documents are part of the corporate records system with appropriate retention rules applied. Also this ensures that you access the most current released version of each document, and the FileNet system may have relevant documents that are not in the Maximo attachments.
- **My Maximo users don't want to learn yet another application, is that needed?**
 - No, the Maximo users stays in the Maximo system with the same UI that they're used to using. They just have transparent access to a broader set of content.
- **Maximo users are happy with the current Attachment capability and won't want to learn a new tool.**
 - The integration utilizes the existing Maximo Attachment interface with minimal enhancements that leverage additional FileNet capabilities, providing a broader set of content. Furthermore, the Maximo Attachment capability provides only a static link to a file in the filesystem, increasing the odds of providing out-of-date content.





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- Meet corporate procedures for electronic documents
- Implement a “near” paperless system by using electronic documents
 - Over 500 linear feet of calibration certificates & quality records currently reside in file cabinets
- Capability to send at least 2600 documents to FileNet every month
- 100% reliability is required – no missed documents
 - Error recovery will be necessary
- Certificates & Quality Records maintained for 75 years
- User access controls in place
 - Certificates & Quality records are read-only (no versioning)

- Documents are manually attached in FileNet
 - Need to login to FileNet (or single sign-on)
 - User adds document to a particular folder
 - Will be available after our upgrade to 7.1
- Documents become visible in Maximo
 - User must manually attach documents to Maximo Objects



- All documents moved to FileNet programmatically
 - Minimal or no customization
- FileNet user login will be transparent
- User attaches and views documents from within Maximo
- Maximo checks document into FileNet using an automated process (transparent to the user)
- URL is programmatically returned and added to the Maximo object for new documents
- Documents can be retrieved from FileNet by WebFOCUS report
 - Some users do not have access to Maximo
- Meta data & access groups to be used for access control

- Consistent Business Process
 - All documents stored in one repository (FileNet)
 - Reduces file backup overhead
 - Only one system to manage
- Configuration
 - No Maximo base objects customized
 - Can be used for attachments on any Maximo object
- Return-on-investment – Increased Productivity
 - All new documents quickly available
 - All documents attached in Maximo (if desired)

Summary: Benefits of FileNet/Maximo integration

- Leverage investment in “Best of Breed” software
 - Let Maximo control the work processes and structured asset data
 - Let FileNet control the unstructured operations content and corporate records processes
- Bridge and Federate silo information stacks
 - Streamline the process linking between systems
 - Provide access to data and content from correct source
 - Eliminate duplicate and inconsistent information
 - Add control and automation
 - Manage engineering and operations document lifecycles and versions
 - Provide work history for controlled documents
- Bridge the gap between operations, maintenance and engineering

