

IBM FileNet P8 Architecture Overview

Paul Reeves, Laurent Vincent Zurich, March 30 – April 1, 2010

Information Management software



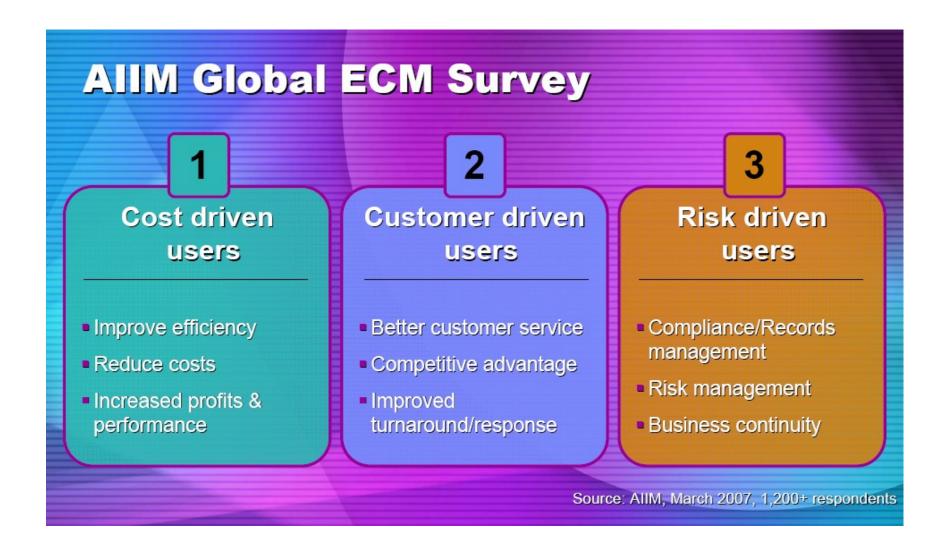


Topics

- ECM Product Strategy
- High Level Architecture
- (Products in the Demonstration)
- Platforms Support
- Scalability and HA
- CM, CFS-IS, BPM, eForms, Records Manager, Content Collection
- Summary



Key ECM Drivers





ECM Product Strategy

Process

Workflow Consimulation C
Analytics
Forms
Development Framework

Active Content

Imaging / Capture
Document
Management
Web Content Mgt.
Content Federation
Collaboration

IBM ECM Platform

Compliance

Records Mgt. Email Mgt. Search & Discovery Shared Drive Mgt. Classification



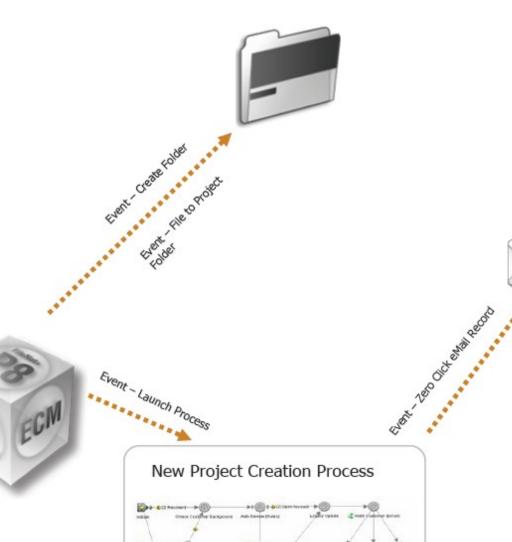
Active Content Content Manager



Content is brought in:

- Capture
- Fax
- •Email Manager
- Record Crawler
- Office Integration
- Entry Templates

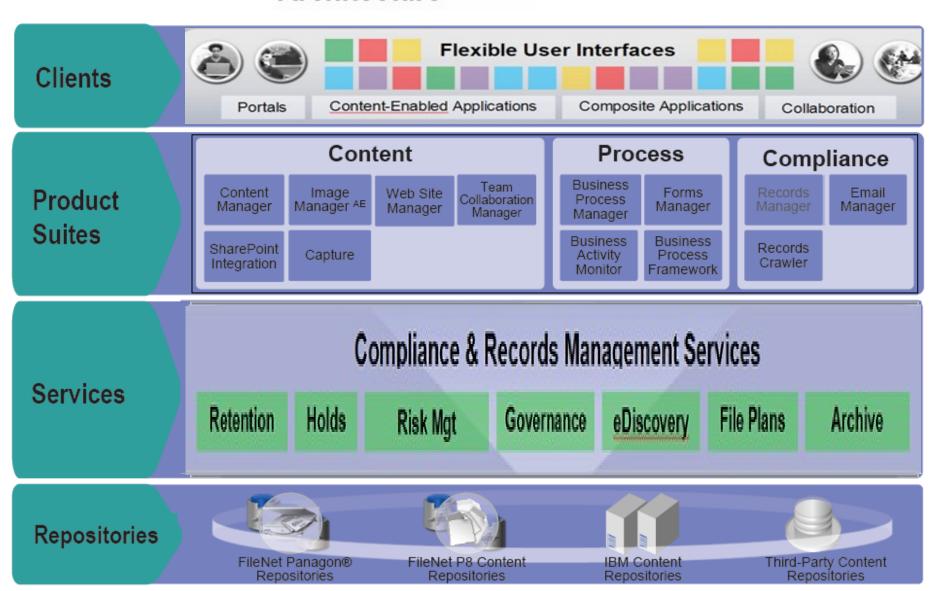
Active Content







IBM FileNet P8 Architecture





Products in Demo Today





Portals & Web Applications

Content



LOB & Partner Solutions



Desktop Applications

Product Suites



Integration

Image Manager ^{AE}

Capture

Web Site Manager Team Collaboration Manager

Business Process Manager

Business Business Activity Process Monitor Framework

Process

Compliance

Records Manager

Email Manager

Records Crawler

Services

Develop

Integration

Application Services

FileNet P8 Platform

Content, Process & Compliance Services

Content Federation Services

Security

Manage

Repositories



FileNet Panagon® Repositories



FileNet P8 Content Repositories

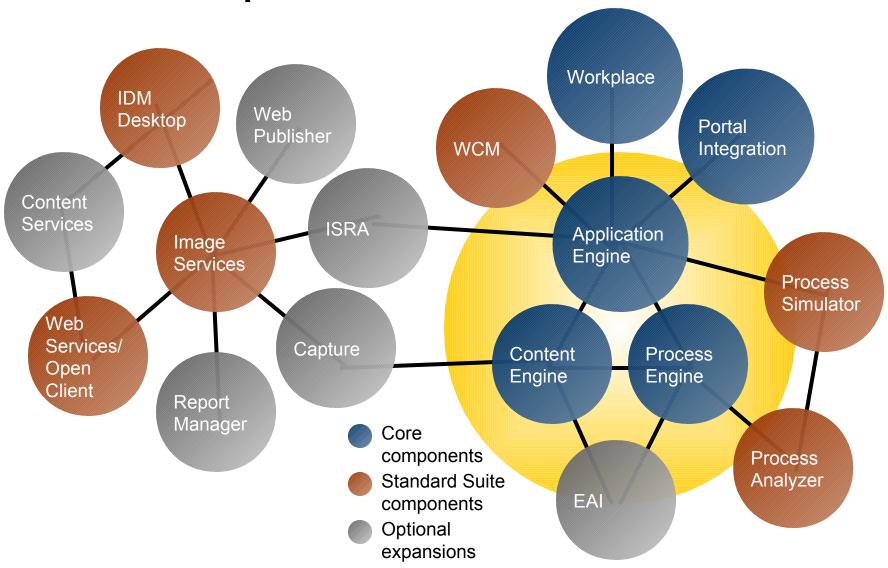


IBM Content Repositories









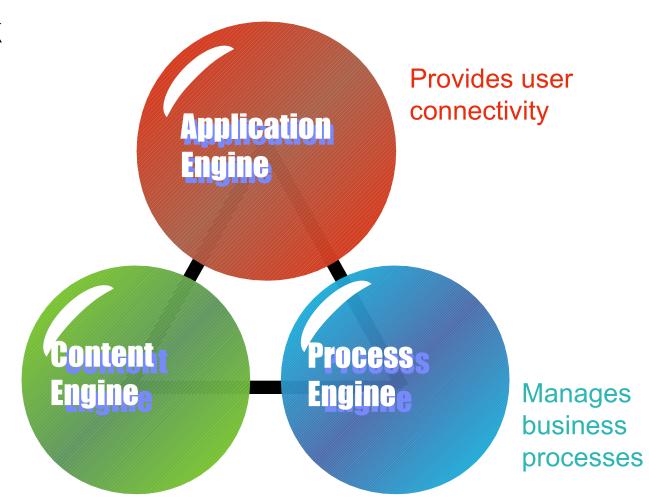


General Architectural Features – Enterprise

- Open and extensible
 - Industry standards XML, J2EE, LDAP, HTTP, SOAP
 - FileNet P8 APIs for custom development
- Scalability Enterprise-Level
 - Multi-Tiered, Distributed Architecture
 - Vertical and Horizontal Scaling
 - Vertical Multiple Instances on a box
 - Horizontal Farming
 - RDBMS can be remotely configured



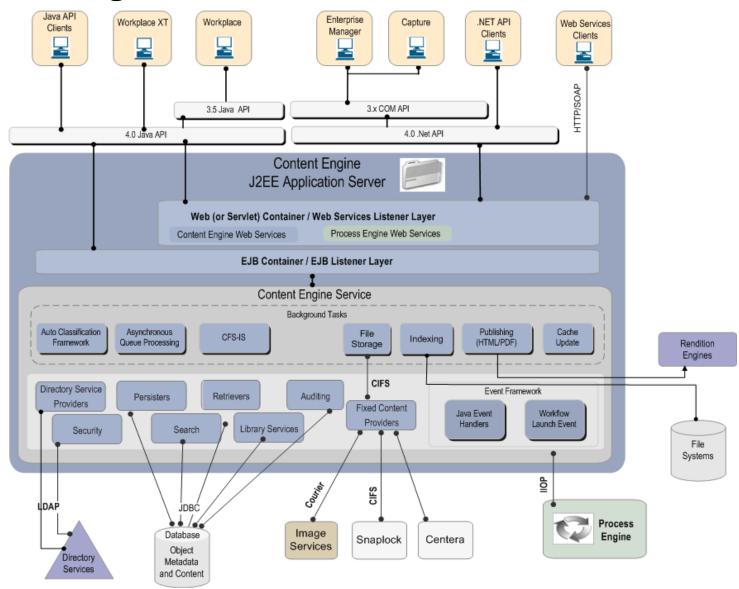
IBM ECM Framework



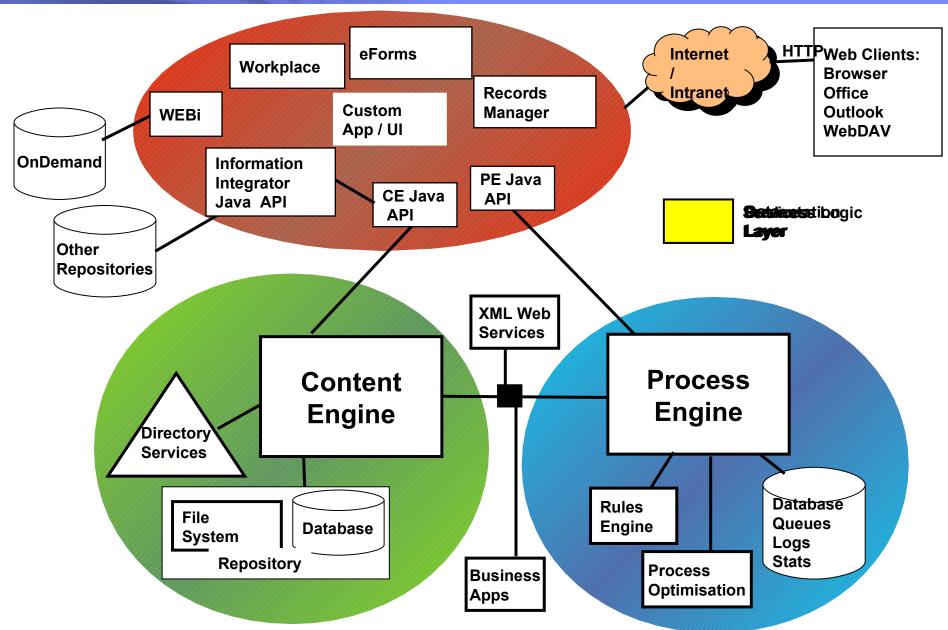
Manages content



Content Engine Architecture

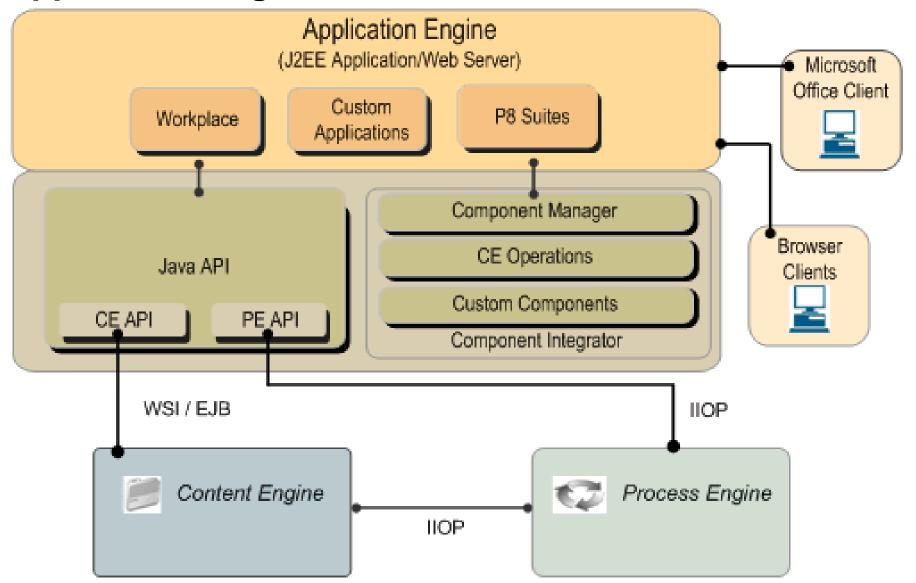








Application Engine Architecture





Application Engine information for the Programmer

- Web Application Toolkit
- Case APIs
- Solution Templates
- IBM FileNet P8 Workplace code can be reused to build applications
- Reusable UI modules
- XML output from the Java API



J2EE Standards Leveraged by Content Engine

- Connection Pools
- Data Sources
- Deployment
- Enterprise Java Beans (EJB)

- Farming
- Java Authentication and Authorization Service (JAAS)
- Java Connector Architecture(JCA)
- Transactions

Benefit: Familiar Infrastructure for Operations

and System Management Staff



Platform Support – Your Choice

- Operating Systems
 - Solaris
 - AIX
 - HP-UX (HP9000 and Integrity)
 - Linux (CE and AE)
 - Windows (2003/ 2003 R2)
- Databases
 - MS SQL Server
 - Oracle
 - DB2

- Application Servers
 - IBM WebSphere (all flavors except Express)
 - BEA WebLogic
 - JBoss
- Directory Servers
 - MS Active Directory
 - MS ADAM
 - IBM Tivoli Directory Server
 - Novell eDirectory
 - Sun Java Directory Server



Scalability

Information Management software





What is Scalability?

- Vertical Scalability
 - The ability of the system to handle increasing workloads as one or more additional resources (e.g. CPU) are added to a particular system.
- Horizontal Scalability
 - The ability of the system to handle increasing workloads as additional servers are added to the system.

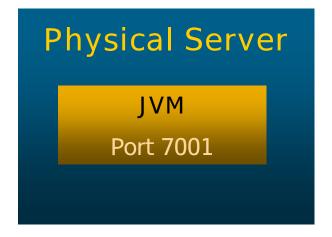


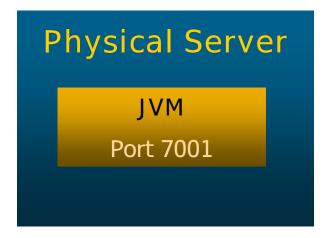
FileNet P8 4.0 Content Engine & Application Engine Scalability

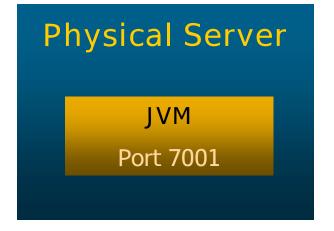
- Traditional scalability options
 - Vertical scalability
 - Horizontal scalability
- J2EE scalability
 - Traditional horizontal and vertical options
 - Multiple JVMs on a single server



J2EE Scalability Options



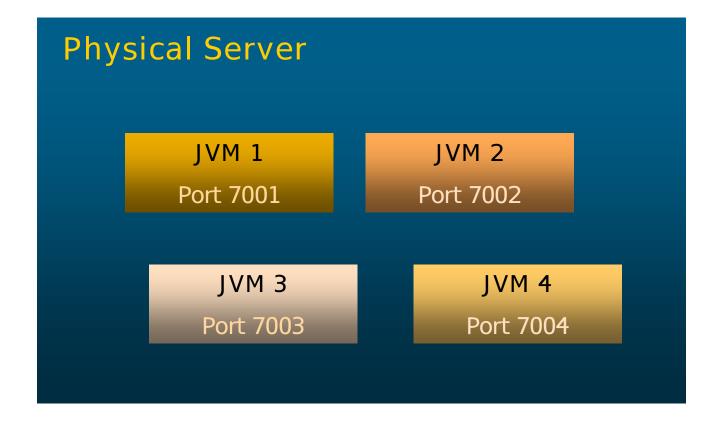








J2EE Scalability Options



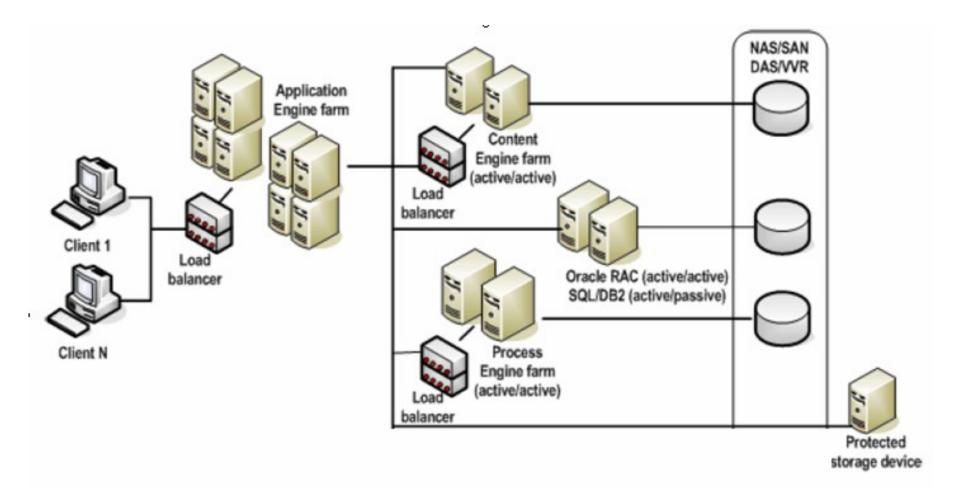


High Availability

- Addresses localized Failures server, disk
- Multiple servers
 - Many small servers better than one large server
- Farming and clustering
 - Web Server farms
 - Load Balanced Clones
 - Server Clusters
 - Data Tier

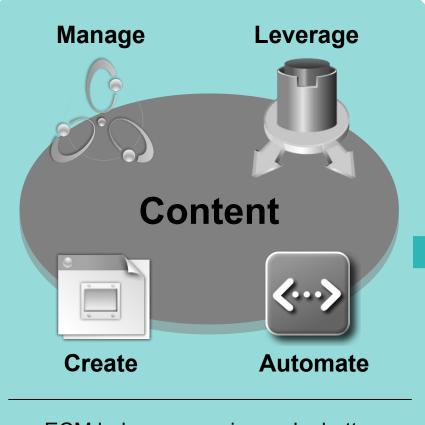


IBM FileNet Farming - an example





IBM Enterprise Content Management is Essential to Your Enterprise



ECM helps companies make better decisions, faster

Content

Improve workforce effectiveness with faster access to trusted content in context

Business Process Management

Improve workflow Activates content in business applications and event driven decisions

Compliance

Ensure electronic information is captured and managed in accordance to policies and regulations

Search & Discovery

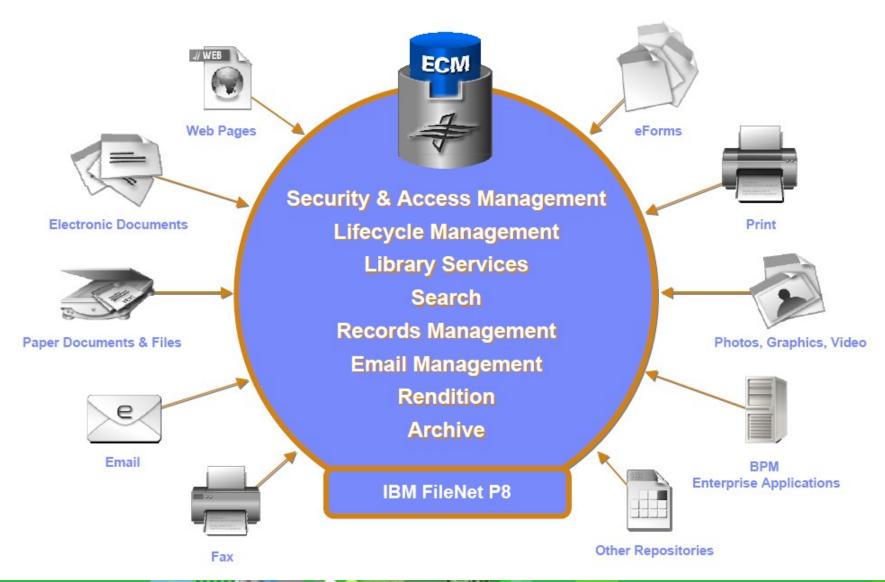
Secure scalable enterprise wide search delivers highly relevant results for new insights

ECM Platform

Unified, open J2EE architecture for SOA environments to simplify application deployment and lower TCO



Content





What is FileNet P8 Content Manager?

- Underpinning of the tightly integrated FileNet P8 platform
 - Enterprise services such as BPM, Records Management and eDiscovery are applied to content managed by P8 CM
- Manages all types of content
 - High volume imaging, Electronic Documents, Compound Documents
 - Audio, Video, File Shares, E-mail,...
- Federated Content
 - IBM and Non-IBM Repositories
- Fully-functional Content Mgmt
 - Check-in, Check-Out
 - Versioning & Multi-level Versioning
 - Security Multiple Levels
 - Document Lifecycle
 - Image viewing and manipulation, annotations

- Advanced Search
 - Powered by Verity K2
 - Any type of content & folders, cross repository search, content-based - full-text, relevancy ranking, ...
- Event-Driven Architecture
 - "Active Content"
- Multiple client interface options
 - Workplace XT Web 2.0 based
 - Microsoft Office Integration
 - Lotus Quickr and Sharepoint
- FileNet P8 APIs for custom development
 - Web Services, Java API, .NET API, Source-licensed client
- Enterprise-class
 - Multi-Tiered, Distributed Architecture, Vertical and Horizontal Scaling, RDBMS can be remotely configured
 - Multiple HA and DR options



Content Federation Services for IS (CFS-IS)

- Allows Image Services customers to leverage P8 advanced capabilities such as:
 - Business Process Management
 - Records Management and Compliance
 - Enhanced Security and Directory Options
 - Events, Advanced Catalog Services, etc.
- Allows Image Servers customers to continue using IS as a content store, while viewing and updating (annotating) that content, storing annotations in P8
- CFS-IS now bundled with P8 and IMAE
 - No need to buy it separately



Protect Your Investment in IS With Content Federation Services (CFS-IS)

- Actively manage and use federated content in place through P8 applications
- FileNet's unique approach goes beyond federated search to:
 - Unify enterprise content in the FileNet P8 metadata catalog regardless of repository
 - Retrieve, manage and use remote content as native through P8 applications and User Interface
 - Automatically synchronize P8 catalog to federate:
 - New content
 - Updates to existing content



What are optionally available on this Enterprise Platform

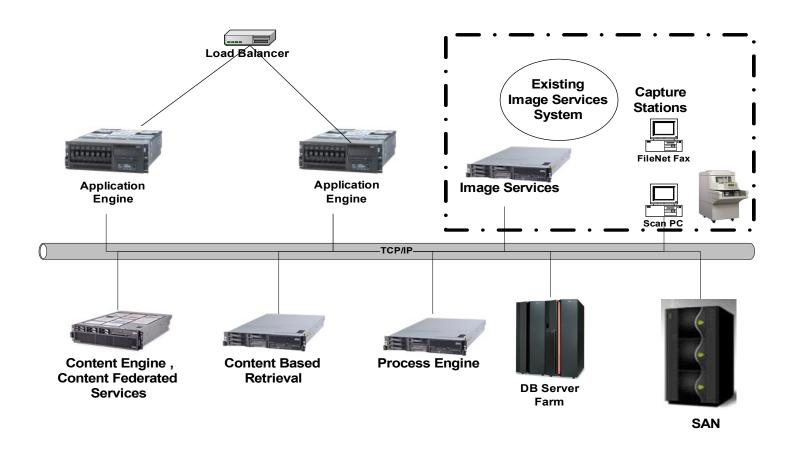
- Records Management
- E-mail, File and Sharepoint Archiving
- eDiscovery
- Business Process Management
- eForms
- Scan Capture, Capture Advanced Document Recognition

- Advanced Document Classification
- Text Analysis
- Rendition Engine
- Advanced System Monitoring
- Fax
- Business Collaboration Systems

These capabilities are tightly integrated with FileNet P8 Content Manager



Sample Infrastructure model





Process





BPM Features and Benefits

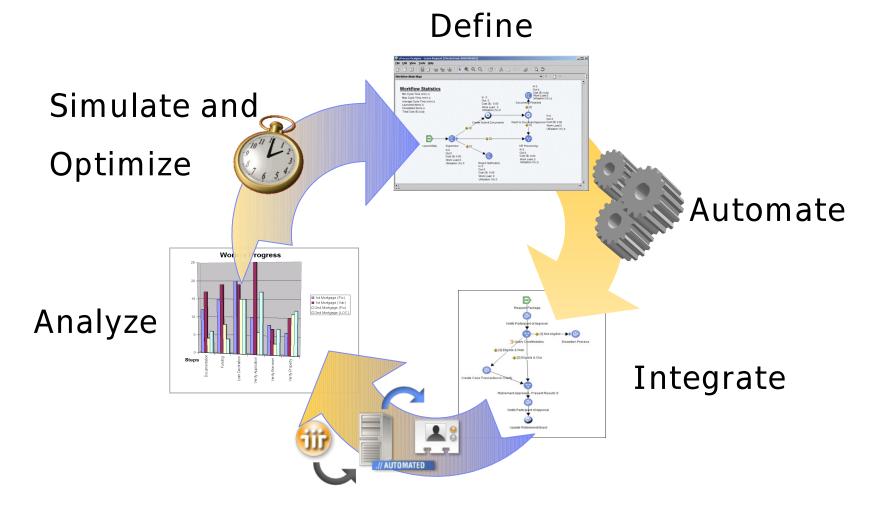
- Focus on business transactions
 - End to end process efficiency
- Event-based architecture
 - Event-driven processes
 - React instantly to change
- Data aggregation
 - Present all relevant information regardless of source
- Connect users and systems
 - Seamless flow of information
- Ease of use
 - Receptive to change
- Context sensitive analysis
 - Continuous improvement of process



- Automation
 - Intelligent Routing Logic
 - Feature Rich Design Environment
- External Process Enablement
 - Integration with external sources
 - Partner Collaboration
- Process Optimization
 - Enforce consistency & control
 - Measure, manage, report on processes
 - Address bottlenecks
 - Make better decisions faster



BPM Suite Provides



Manage



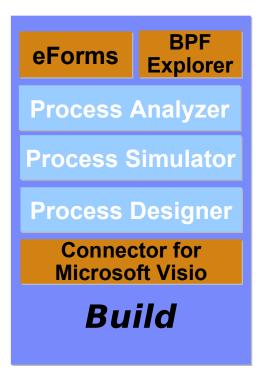
The FileNet BPM 4.0 Suite manages the full lifecycle of your content-centric processes

BAM
Process Analyzer
Process Tracker
BPM Admin
Manage

Process Engine

Content Engine

Execute



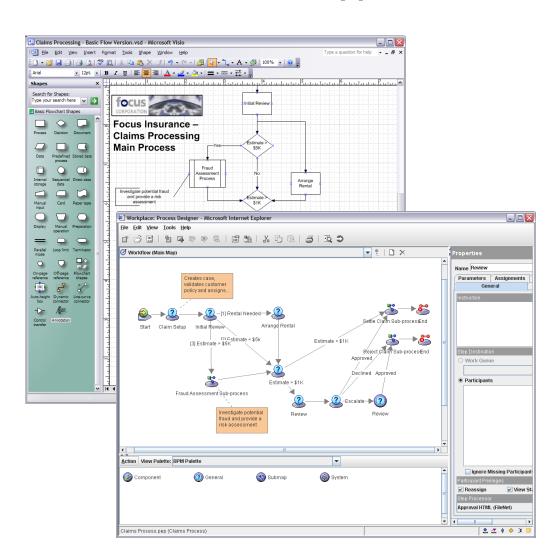


FileNet Connector for Microsoft Visio – BPMN Support

BPMN Support & Import Visio process diagrams

Highlights:

- Mapping of BPMN from Visio to XPDL in Process Designer
- Decrease BPM implementation time
- Organizations often document their processes in Visio
- Out-of-the-box BPMN Template
- BPMN Stencil with complete set of shapes and a BPMN Template



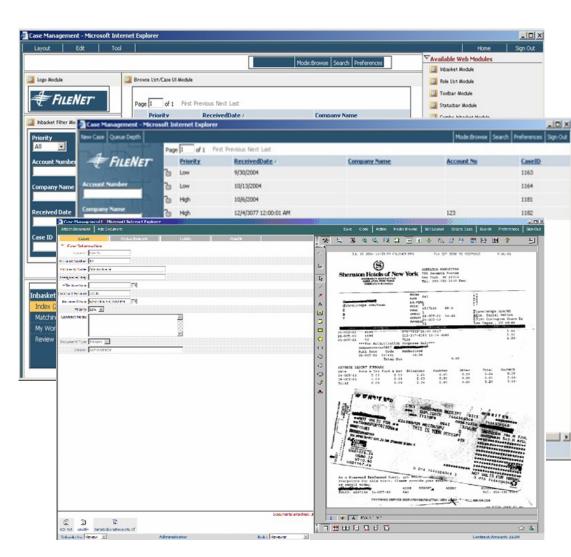


FileNet Business Process Framework (BPF)

A process application development framework for IBM FileNet BPM

Highlights:

- Proven through Lab Services BPM best practices
- The "face" on P8 BPM apps
- Build BPM apps faster; configure instead of code
- Flexible, role-based UI
- Better and richer user experience
- Leverages P8 Process and Content
- Ideal for Case Management apps
- Integrated with eForms
- Java & AJAX based



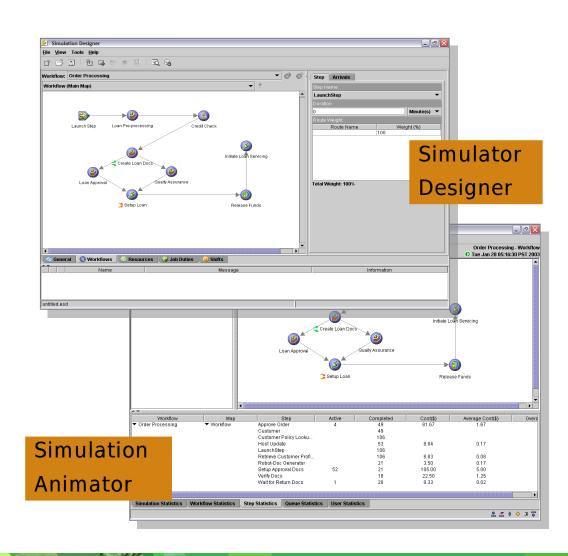


FileNet Process Simulator

Provides process simulation on defined business scenarios to do what-if analysis

Highlights:

- Design simulation scenarios from designed processes
- High process fidelity
- Perform what-if analyses
- Identify bottlenecks prior to deployment
- Mitigate Risk
- Refine business model
- Predictive modeling
- Simulation data is fed into Process Analyzer for analysis



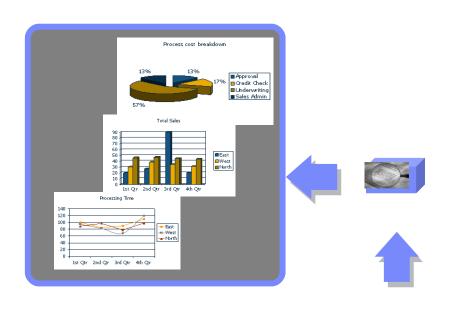


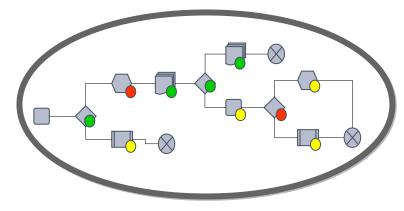
FileNet Process Analyzer

Analyze business performance, productivity, efficiency and cycle time

Highlights:

- Historical Performance Visibility
- Business intelligence (BI) within BPM – In process BI
- Make better decisions faster
- Based on OLAP technology; 6 pre-defined cubes result in many customizable reports by simple drag-n-drop
- Use any OLAP enabled reporting client including MS Excel
- Analyzes both Process Engine execution data and simulation data





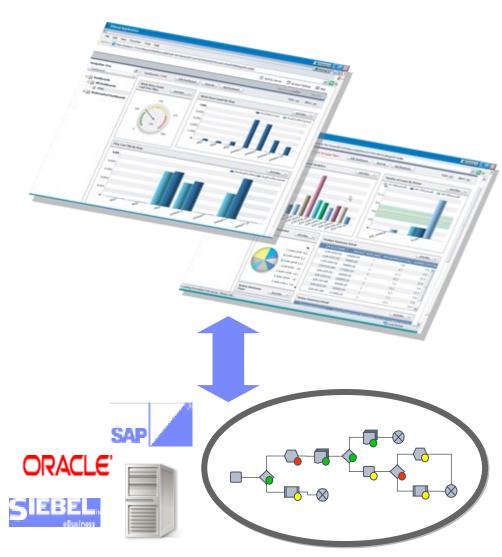


FileNet Business Activity Monitor (BAM)

Real-time proactive monitoring & business performance

Highlights:

- Comprehensive event detection & correlation
- Aggregate and correlate multiple data sources
- Real-time threshold monitoring & alerts
- Actions tied to alerts
- User-configurable dashboards with many UI gadgets





Operational Dashboards

- Continuous Operational Visibility
 - Metrics continuously updated
 - Correlation across multiple operational systems
 - Temporal "time-based" processing
- Self-Service Interface
 - Customizable by business users
- Business Rules
 - Configurable rule and alert creation
 - Graphical watch points
 - User goal setting and tracking
- Role Based
 - Operational visibility by job title or function
 - Personalized Consoles by role, function or individual with central control
 - Automatic data filtering
 - Role based security





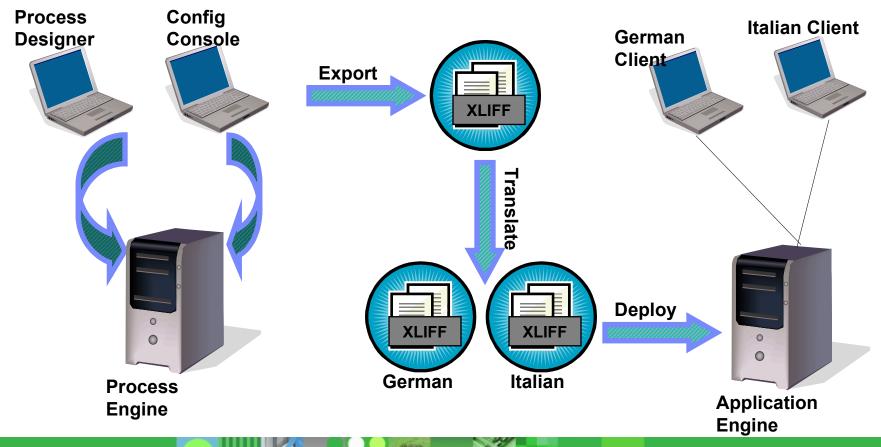


Line of Business Dashboard (Divisional Performance)



Multi-Lingual BPM Applications in BPM 4.0

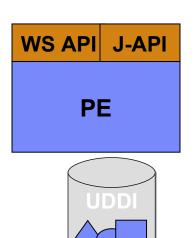
- Steps within an app in different languages and locales
- Fully localized and improved user experience; email in local language
- Addresses globalization issues





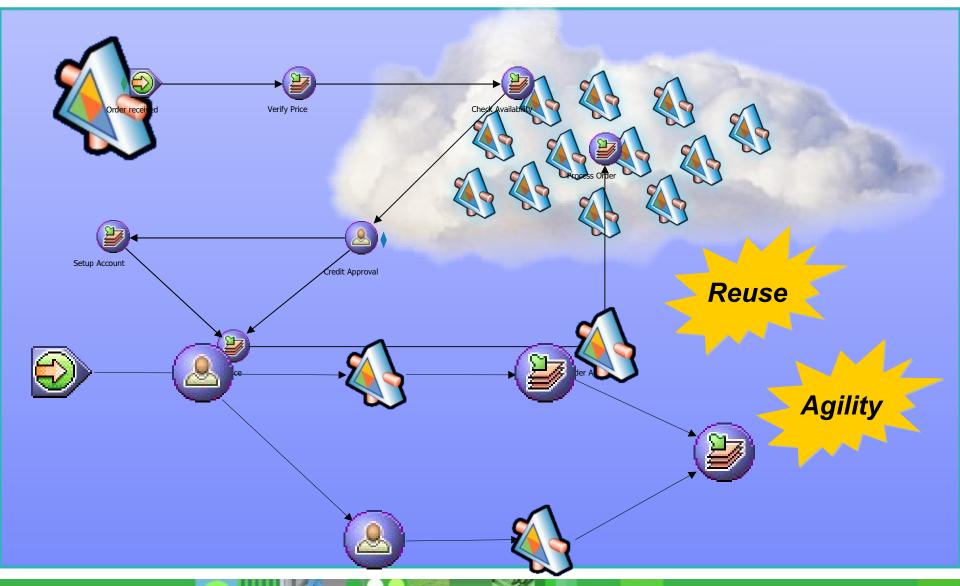
P8 BPM & Web Services

- WS-I compliant WS API in PE
- Process consumes a WS
 - Invoke
- Publish a process as a WS to a repository
 - Receive, Reply
- Support for a subset of BPEL
- WS-Security
- WS-ReliableMessaging
 - Guarantee of message delivery per criteria, only once, at most once, etc.





P8 BPM & Web Services





"Active Content" Benefits

Enterprise App Integration **Property Information Customer Data LookupEvents Order Information** Create External Activity Exceptions Triggers

Approval Doc Received

Customer Approval Policy

Lifecycle Manageme Pre-processing **Order Processing Fulfillment**

Processes

Shipment Workflow

Workflow

Order Processing Approval Workflow

Content Approval Doc Signature Card

Security Info Customer Administrator

Rules





IBM FileNet eForms Manager





eForms Integration

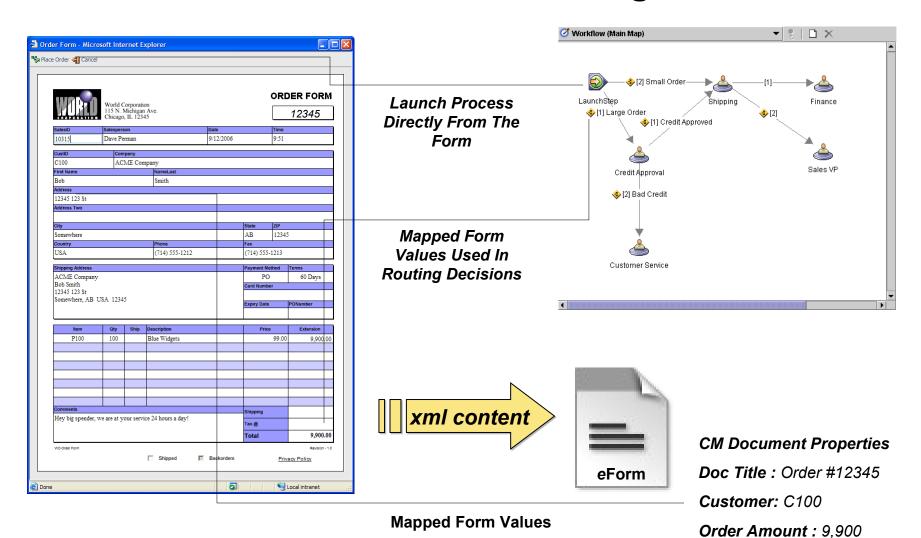


Features:

- Out of the box P8 Integration
- High-fidelity eForms
- Point and click eForm designer
- XML based
- Digital Signatures
- Benefits:
 - Faster ROI
 - Rapid end-user acceptance
 - Single enterprise eForm standard



IBM FileNet P8 4.0 with eForms Integration





IBM FileNet Records Manager





IBM FileNet Records Manager Overview

- Business User Tools
 - FileNet ZeroClick Records Capture
 - Workplace and Office Integration
- Records Manager Application
 - FileNet ZeroClick Records Administration
 - Based on FileNet P8 Platform
 - Web Based Application (Zero Footprint)
 - Records Manager API
 - International RM Standards Support

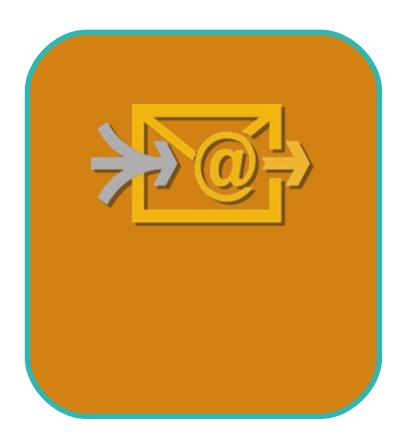


IBM FileNet Records Manager

- Fully Automated Record Declaration and Classification
 - Semi-automated / wizard driven
 - Email integration
 - Office integration
- Dedicated Records Administrator Console
 - Central or departmental File Plan management
 - Manage classification schemes, retention & disposition schedules and record folders
- Processes driven
 - Record Capture
 - Record Disposition
 - Physical Record Management
- Standard and Custom Reports



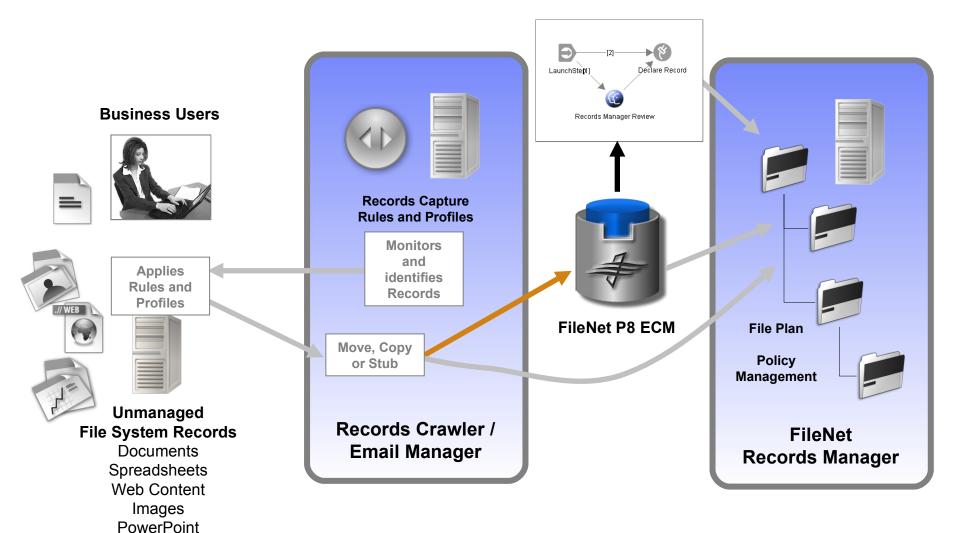
IBM FileNet Content Collector: Email Manager / Records Crawler







IBM FileNet Email Manager / Records Crawler Supports FileNet ZeroClick & BPM





FileNet P8 Architecture

- Standards-based architecture
- Enterprise-level scalability and flexibility to handle:
 - the most demanding content challenges,
 - the most complex business processes and
 - integration with all your existing systems
- Scalable framework for functional expansion
 - Manage enterprise content
 - Create, deploy and administer Web content
 - Provide great process control and consistency



FileNet P8 4.0 Delivers

- Content Engine multi-platform support
- CFS / Annotations allowing full use and integration of FileNet Image Manager Active Edition
- Scalable and farmable architecture for reduced server costs.
- Distributed Content Caching Model providing fast performance across sites
- Advanced Security Services, comprehensive auditing and standards-based authentication framework supporting Single Sign On
- Flexible APIs for Java and .NET application development
- Enterprise-level systems management capabilities and integration with leading systems management tools
- Multilingual system capabilities for decentralized, federated system architectures
- Rapid application development and deployment agility through BPF
- Facilitate communication between business users and IT through BPMN support (Visio process modeling)



IBM FileNet P8 Platform Overview

