

## Direct to operations complete business processes

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**Abstract:** Straight to Operations (S2O) is one of the biggest global IT transformation initiatives of in Bank in Consumer Banking division to deliver standard operating models (process, controls, KPI's, policy and governance) for end-to-end service requests and application processing. Complete document management project from scanning the documents using eFlow as scanning solution to workflow management using IBM FileNet. We have been managing end to end functional requirements for multiple countries. The key areas were streamlining and optimizing complete business processes of Consumer Banking division in these countries.

**Index Terms:** IBM FileNet5.2,CE,PE,AE,IBM Workplace ,LDAP

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### I. Introduction

FileNet developing custom enterprise systems, offering much functionality out of the box and capable of being customized to manage a specific business process. Based in Costa Mesa, California, the company markets Enterprise Content Management (ECM) and Business Process Management (BPM) solutions in more than 90 countries through its own global sales, services and support organizations, as well as via its ValueNet Partner network of resellers, system integrators and application developers. IBM ECM delivers high value solutions that can help companies transform the way they do business by enabling them to put content in motion: capturing, activating, socializing, analyzing and governing it throughout the entire lifecycle. Learn more about the entire portfolio: IBM enterprise content management provides a complete list of all the software offerings

FileNet Content Manager provides powerful document management and ready-to-use workflow that helps you capture, manage, and share content. FileNet Content Manager includes these FileNet components:

- Content Navigator,
- Content Federation Services,
- FileNet Image Services,
- FileNet Rendition Engine,
- FileNet services for IBM Quickr,
- Workplace XT

### II. Problem Formulation

User-friendly and designed specifically to meet the needs of SME businesses, Direct2 Bank lets you perform many key business functions with ease. Information can be accessed anytime and anywhere (24X7 availability), making it a viable alternative to branch and manual transactions. The platform gives you global access and usage to enable cross-border trading with just one click. Real-time reporting and file download of account information with access to balance and transaction level information. Access to multiple users with maker checker option for transaction initiation

A 5-level flexible, multi-layered approval matrix based on payment amount, payee name and payment type. Batch uploads for bulk and multiple payments in a spreadsheet format 3 levels of login access with complete data confidentiality and integrity of information through use of features such as encryption and digital signatures

#### II.1 System Model

The main components that build the FileNet P8 core products are the following engines:

- Content Engine
- Process Engine
- Application Engine

Each engine consists of a collection of services and applications that perform well-defined sets of services and tasks. The following figure illustrates the FileNet P8 architecture and how each engine interacts with each other and databases.

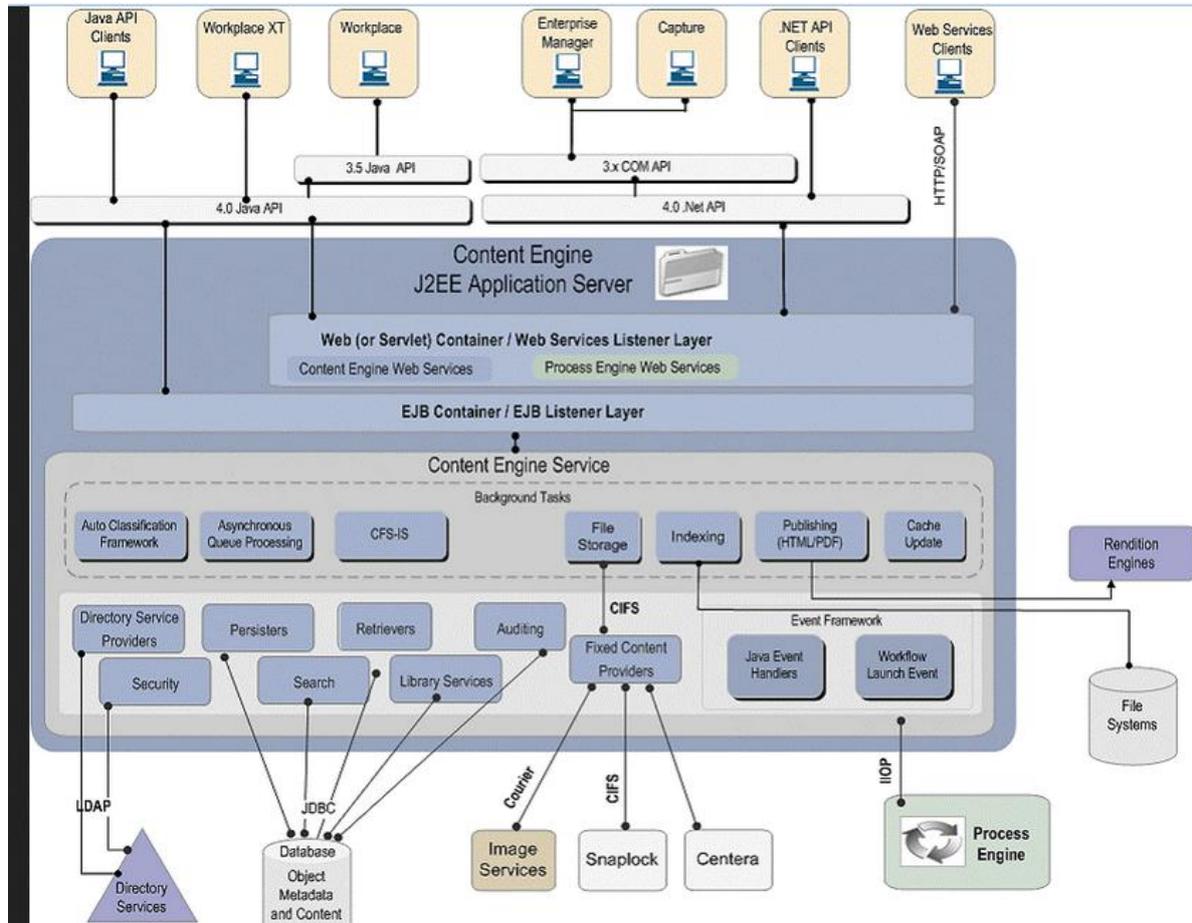


Figure 1. FileNet P8 architecture

### III. User Authentications

Authentication is the act of verifying users' identities based on credentials that those users present. This section describes FileNet P8 authentication, which operates within Java™ 2 Enterprise Edition (J2EE)-established standards. Content Engine leverages JAAS for authentication (but not for authorization and it does not support the Java Security Manager). See the Directory Service Provider section for information about how Content Engine handles authorization. JAAS provides a policy-based framework for reliably and securely determining who is invoking a Java application. Using this pluggable framework, applications like Content Engine can remain independent of the underlying authentication technologies. Likewise, application server vendors, authentication providers, and single sign-on (SSO) providers can package solutions that can be leveraged by all J2EE applications and clients. Customers can plug in new or updated SSO solutions without modifying already deployed client and server applications. The Content Engine Enterprise Java Bean (EJB) resides within the J2EE Application Server's EJB container. The Content Engine EJB is therefore accessible only by authenticated callers, those who can pass any authorization checks that the administrator has placed on the EJB.

### IV. Literature Survey

FileNet acquired *Saros Corporation* in 1995 for its electronic document management. FileNet also acquired *Watermark Software*, a document imaging solution, *Watermark Enterprise* and *Ensemble*, and a Windows-based COLD product called *Greenbar*. This would help FileNet become the first document management company to have a complete "Integrated Document Management" suite with document imaging, electronic document management, COLD and workflow offerings. Around the same time, FileNet delivered their own internally developed entry-level system called *Workgroup*. The *Watermark* products were retired by 1999. In the mid-1990s, FileNet's *WorkFlo Business System* had evolved into *Visual WorkFlo*, one of the first workflow solutions with a graphical interface for process modeling.

## **V. PROBLEM FORMULATION**

Efficiency and responsiveness are two of the driving force of any business. Beholding these two fundamentals Bank offers the Straight 2 Bank service to all SME customers. Banking was never as easy as Straight 2 Bank. Straight2Bank is positioned to become the key channel for all SME Banking clients by providing enhanced product offering, greater geographic reach, time efficiency, improved operational support model, and comprehensive secured platform. Straight 2 Bank is an online service through which you can view your bank statements and make certain crucial transactions like fund transfer, DD instruction etc. You can also view your daily transactions, which is updated every half an hour! Enjoy the true essence of real-time banking. Enjoy banking with Standard Chartered anytime, anywhere!

### **A. Framework Model**

#### **Content Engine**

Using FileNet P8 suite of products the content of each document is stored and managed by the Content Engine server. The Content Engine is implemented as a J2EE application, and so it runs within a J2EE application server. The Content Engine supports WebSphere®, WebLogic, and JBoss application servers. The properties associated with each document comprise the document's metadata. Typical metadata properties include: creator of the document, creation time of the document, and the type of the document. The metadata is stored in a database that is known as the document catalog. Content Engine supports DB2®, Oracle, and SQL Server databases. Searching for a particular document consists of querying the Content Engine database, and then retrieving the content corresponding to the matching documents

More than one piece of content, which is called a content element, can be associated with a single document. The content elements can be stored in any of the following locations:

- Database
- Conventional file system
- Fixed-content device

Although content can be stored in the Content Engine database, it is not recommended that you use this configuration, because the database can become too large and therefore difficult to manage if it holds all the content. To store content you should use either the file system or a fixed content device. If a file system is used, it is most often stored on a network-attached storage (NAS) or storage-attached network (SAN) device. Implementing a Redundant Array of Independent Disks (RAID) system provides both higher performance and high availability of the data. Fixed content devices typically include specialized storage subsystems that meet certain compliance requirements, such as the ability to guarantee that content is never modified and that it cannot be deleted until a specified date in the future. The Content Engine supports user-extensible document classes, allowing users to define new types of documents that can be stored and what additional metadata these classes of documents will maintain.

The Content Engine also supports event processing, that is, the ability to perform a user-defined action whenever a chosen event happens, such as creating, deleting, checking in, and checking out documents. Security can be configured on document classes or on an individual document using an Access Control List (ACL), allowing the owner of a document to define precisely who can access or modify the document. Content can be versioned, so that revisions to the content of the document can be checked into the Content Engine, and the Content Engine maintains a list of all these versions over time. Documents within Content Engine can be arranged hierarchically by filing them into one or more folders.

The Content Engine uses any of a number of supported Lightweight Directory Access Protocol (LDAP) servers to perform user authentication. Using an LDAP server simplifies the installation and administration of the Content Engine system, because most corporations use an LDAP system for maintaining their user IDs and passwords. The Content Engine caches the responses from the LDAP server (keeps a copy for a period of time), which reduces the number of LDAP queries and reduces future response times.

The Content Engine uses TCP/IP to carry communication using the EJB communication protocol.

To use the Content Engine you must have setup one of following types of databases:

- DB2
- Oracle
- SQL

#### **Process Engine**

The Process Engine is a C++ based application that provides an enterprise-wide process management platform on which to build and deliver enterprise applications. The Process Engine allows you to create, modify, and manage automated business processes. The Process Engine provides software services, such as process execution and routing, integration of external rules engines, process analysis, and process simulation. These

processes can be performed by applications, enterprise users, or external users, such as partners and clients. Processes run inside of an isolated region that acts as an individual processing space. The Process Engine uses the Process Engine database in which all process-related data is stored.

To use the Process Engine you must have setup one of following types of databases:

- DB2
- Oracle
- SQL

Process Engine uses Content Engine for user authentication, again simplifying its installation and administration. It also uses TCP/IP to carry communication using the IIOP communication protocol.

### **Application Engine**

The Application Engine hosts the Workplace Web application, Workplace Java™ applets, and Application Programming Interfaces (APIs). It is the presentation tier for both content and process. The Application Engine also handles user authentication against the directory service. An Application Engine consists of an application server with one or more deployed applications. Clients of Application Engine are Web browsers. They use the HTTP or HTTPS protocols in connecting to Application Engine. As a client of Content Engine and Process Engine, Application Engine uses their client protocols to connect to them.

## **VI. Related Work**

Fig. 8(a) illustrates the re-encryption time cost of the In this section, we review three categories of work: administration server in PRMSM. As we can see, for searchable encryption, secure keyword search in cloud the same average number of keywords per owner, the computing, and order preserving encryption. more data owners are involved, the more time is spent on re-encryption. When there are 300 data owners,

### **Acknowledgments**

We described the main solution building blocks of an ECM system. We described features and characteristics of Content Manager and add-ons that can be used for the implementation of a huge range of applications from small departmental applications to large Enterprise Content Management applications that cross the boundaries of many departments. As a reference, we used these solution building blocks for the implementation of the five use cases that we introduced in Chapter 2, “Solution examples and design methodology”

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