Impact of DMS

Emerging Challenges & way forward

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Document Management Solution

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Agenda

1. Introducing Acyutah

2. Existing Process

3. Challenges & Objectives

4. Ways to Achieve (DMS)

5. Acyutah's Solutions

6. Benefits

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Acyutah Technologies

- **Established 1996**
  - **Continuous growth in customer relationships, revenue, employment & services**

- **Headquartered in Atlanta, GA**
  - **Offshore Development Center in Noida, India**
  - **Branch offices in Bangalore, Hyderabad & Bhopal**
  - **Branch offices in Birmingham, AL and Baltimore, MD**

- **Size**
  - **700+ employees**
  - **$75+ Million**

- **Business Practices**
  - **Scanning Solutions**
  - **Document Management System**
  - **Business Process Management System**
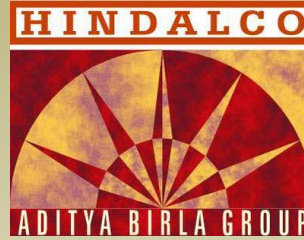 - **IT Solutions and Services**

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Acyutah's Alliances

Acyutah's Partial Clientele

Acyutah's Partial Clientele Cont...

Business Impacting Software Solution

Business solution is generally any software program that helps a business increase productivity or measure their productivity.

The term covers a large variation of uses within the business environment, and can be categorized by using a small, medium and large matrix.

There could be various business solution depending on the functionality. Broadly there could be following two types of business solution.

Enterprise Level Transactional systems could be like Accounting software, ERP (Enterprise Resource Planning), CRM (Customer Relationship Management), SCM (Supply Chain Management),, HR (Human Resource) & Payroll etc.

Enterprise Level Other Solution could be like DMS (Document Management System), BPM (Business Process Management), ECM (Enterprise Content Management), PLM (Project Life Cycle Management), BI (Business Intelligence) etc.

Business Impacting Software Solution

➢ *Enterprise Level Transactional Systems*

- ✓ *Transactional Systems are enterprise level business solutions which works on transaction level of the solution stack within the organization.*
- ✓ *Transactional Systems are used to capture enterprise wide transaction data & store it on the single database for easy sharing of the information within the organization.*
- ✓ *Transactional systems data on the single database can be used to churn out various reports for the top management.*

➢ *Enterprise Level Other Systems*

- ✓ *Some business solutions either works over the transaction level of the solution stack within the organization or they works independent irrespective of any layer in the solution stack.*
- ✓ *Solution like DMS, BPM & ECM works independently.*
- ✓ *Solution like BI works over transactional system/layer.*

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Existing Process of Managing Documents
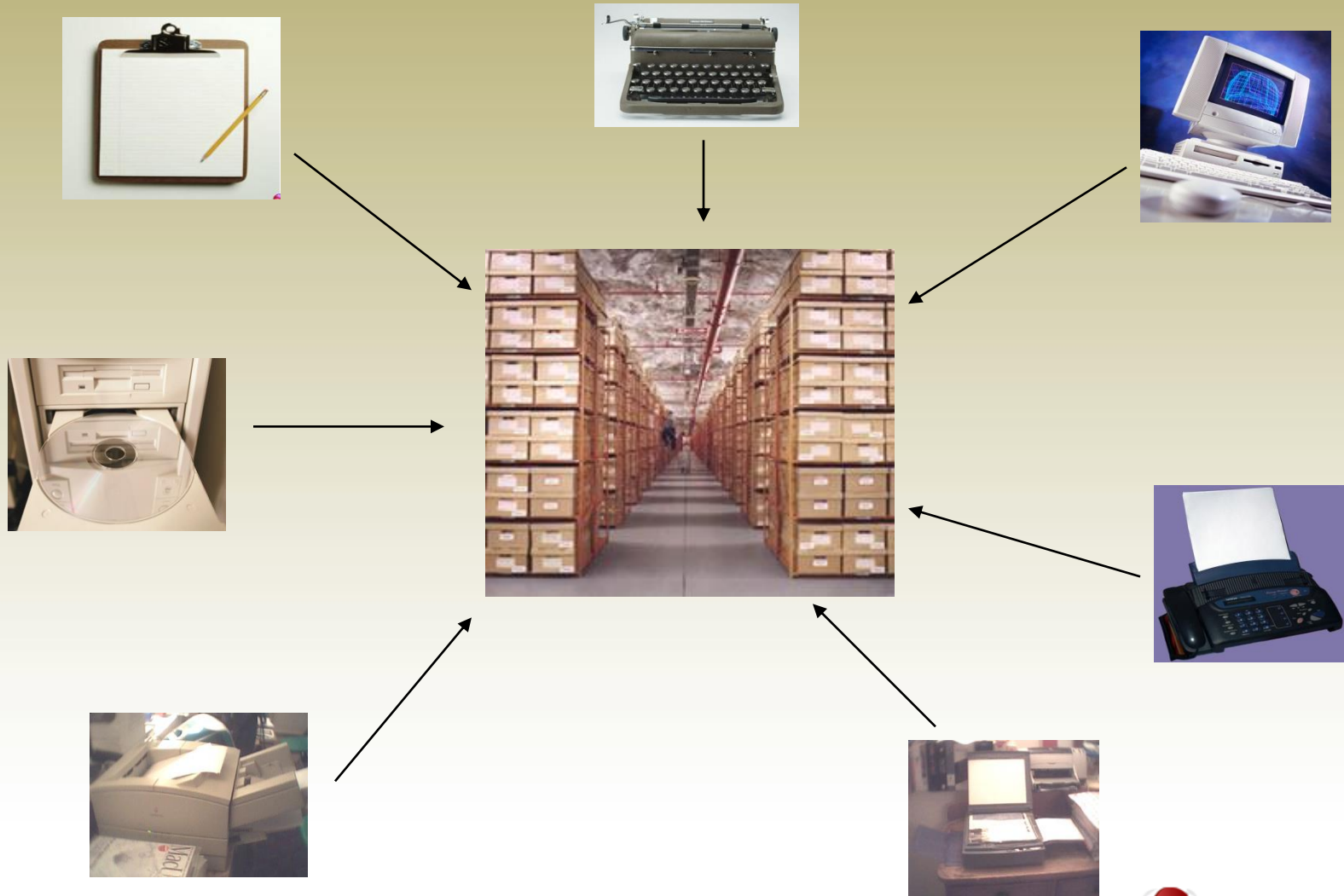
Leading Challenges

➢ *How & where to start automation process.*

➢ *Multiple point applications are running on different platform with no integration interface.*

➢ *Agencies all over the world, deal with a plethora of documents in the course of their day to day work.*

➢ *Mostly documents are papers/fax/files/notes/paper cuttings & very few are electronics documents like emails/web forms.*

➢ *Inward and Outward Correspondence management is one of the biggest challenges in any Agency.*

➢ *There is an ever-increasing need to improve the efficiency of Operations and to provide more and more efficient services to citizens.*

➢ *Most of the Agencies in the world lacks a powerful system that complements the transactional aspects of e-Governance applications.*

Leading Challenges

➢ *High turn around time for citizen facing agencies due to time taking processes*

➢ *NO DOCUMENT CONTROL*

➢ *Intra-department co-ordination continues to be a big problem*

➢ *Due to isolated functioning within the group tracking of file/document is difficult*

➢ *Considerable time involvement in referring to past stored documents in record room*

➢ *Cost involvement & human dependency in sharing documents across locations*

➢ *Business documents are liable to be tampered, prone to damage, lost due to only physical storage*

➢ *Lack of supervision in remote areas which leads to problems of decentralization*

➢ *Slower File Processing, Longer Wait & Longer Queues.*

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Objective

➢ *Solution which must provide functionality to convert mass paper documents into electronic documents & capture them along with electronic documents, fax messages as well as Email Messages into a Central Document Repository*

➢ *Solution which must provide functionality to process form & support various recognition techniques to avoid data entry for citizen facing Agencies*

➢ *Comprehensive multi-user Solution which must help Agencies to capture, store, organize, secure, index and search any documents that an organization deals with*

➢ *Solution which must provide Workflow automation through a powerful document based workflow functionality*

➢ *Solution which must help in compliance with statutory obligations and regulations which are of utmost importance to Agencies so far document management is concerned*

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Objective

➢ *Solution which must provide Workflow automation functionality that helps Agencies in intra-departmental process automation*

➢ *Powerful reports which can help in providing useful MIS reporting to heads of Different Departments.*

➢ *Solution which ensures transparency and integrity in the Public Grievance Management for Agencies*

➢ *Solution which must provide seamless integration with Different applications*

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Document Management Solution
(Way to Achieve Objective)

Document Management System is a business solution which provides an enterprise repository for the document creation, storage, retrieval & archival along with the management of critical business documents.

A complete document life cycle can be segregated into three parts:

Document Acquisition

- *Scan & Upload images of paper document into DMS in electronic form after image processing*
- *Import already existing electronic document into the DMS*
- *Import Fax messages directly into the DMS*
- *Import Email Messages directly into the DMS*

Document Classification

- *Index electronic documents*
- *Simple indexing in the form unique document identifiers*
- *Classification through the documents Metadata*
- *Classification through word indexes extracted from the documents contents*

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Document Management Solution
(Way to Achieve Objective)

Document Storage

- *Store electronic documents*
- *Management of the stored electronic documents*
- *Migration of the electronic documents from one storage media to another*
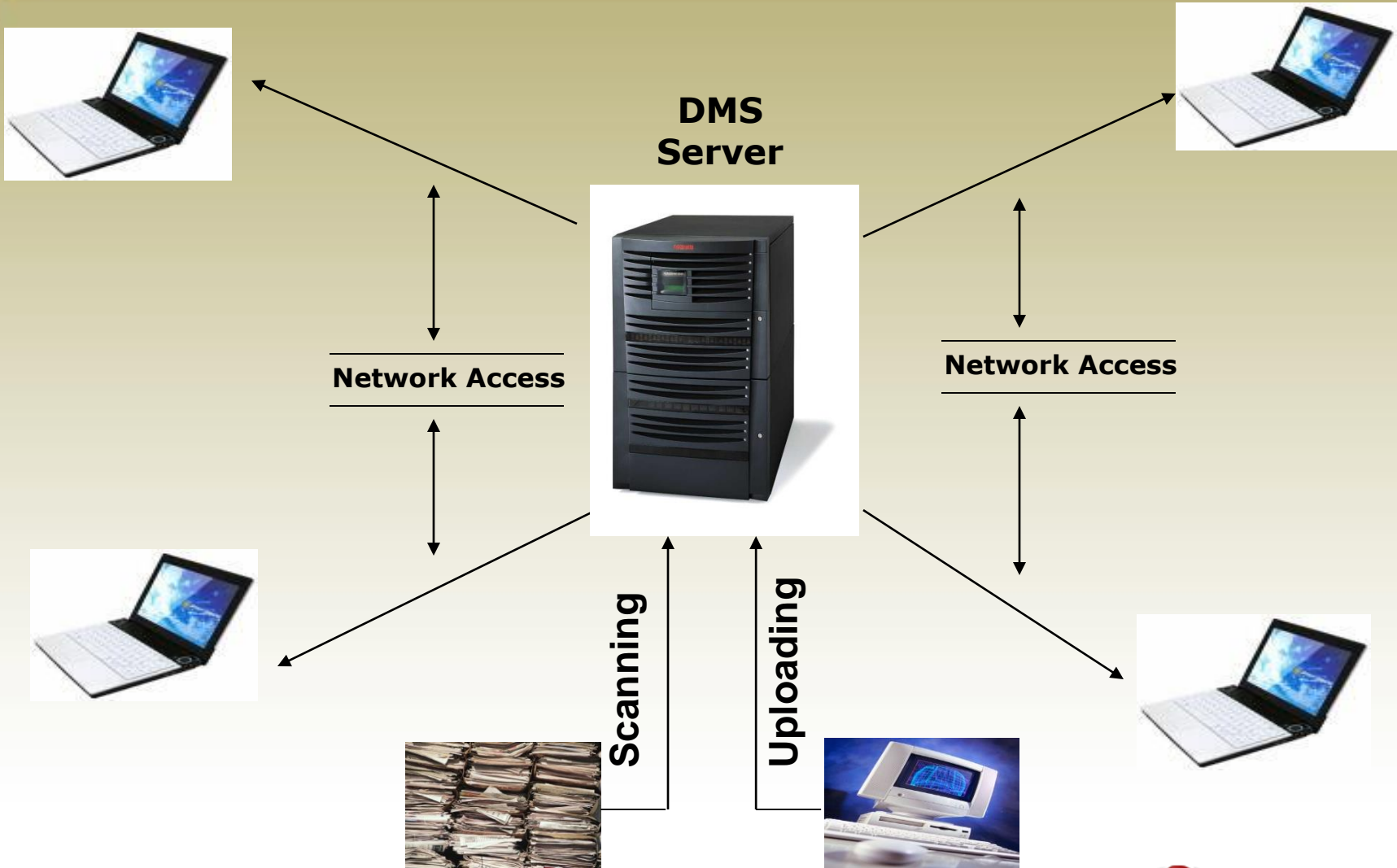
Document Retrieval

- *Simple retrieval of individual documents can be supported by allowing the user to specify the unique document identifier and having the system use the basic index to retrieve the document*
- *More flexible retrieval allows the user to specify partial search terms involving the document identifier and/or parts of the expected metadata*
- *Some systems provide the capability to specify a Boolean expression containing multiple keywords or example phrases expected to exist within the documents' contents*

Document Distribution / Archival / Destruction

- *Distribute documents to the people who need it electronically*
- *Distribute documents electronically maintaining integrity of the document*
- *Preserve/Archive documents for future readability*

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Document Management Solution
(Way to Achieve Objective)

DMS Server

Network Access

Network Access

Scanning

Uploading

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Document Management Solution Essential

Document Management System should address the following areas:

Location: Where will documents be stored? Where will people need to go to access documents? Physical journeys to filing cabinets and file rooms are analogous to the onscreen navigation required to use a document management system.

Filing: How will documents be filed? What methods will be used to organize or index the documents to assist in later retrieval? Document management systems will typically use a database to store filing information.

Retrieval: How will documents be found? Typically, retrieval encompasses both browsing through documents and searching for specific information.

Security: How will documents be kept secure? How will unauthorized personnel be prevented from reading, modifying or destroying documents?

Disaster Recovery: How can documents be recovered in case of destruction from fires, floods or natural disasters?

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Document Management Solution Essential

Document Management System should address the following areas:

Retention Policy: How long should documents be kept, i.e. retained? As organizations grow and regulations increase, informal guidelines for keeping various types of documents give way to more formal Records Management practices.

Archiving: How can documents be preserved for future readability?
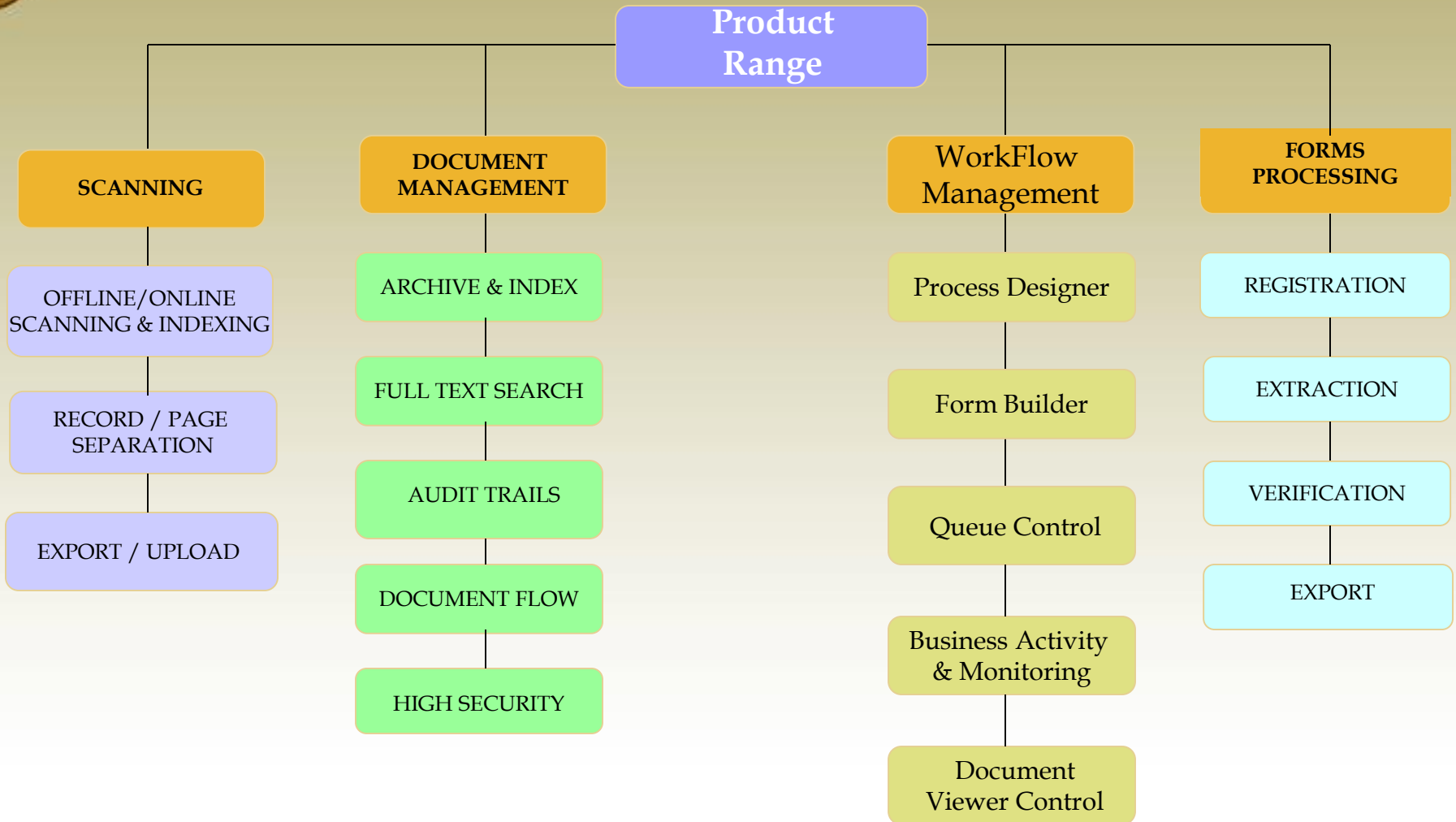
Distribution: How can documents be available to the people that need them?

Workflow: If documents need to pass from one person to another, what are the rules for how their work should flow?

Creation: How are documents created? This question becomes important when multiple people need to collaborate, and the logistics of version control and authoring arise.

Authentication: Is there a way to vouch for the authenticity of a document ?

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Acyutah's Solution Stack

Product Range

SCANNING

- OFFLINE/ONLINE SCANNING & INDEXING
- RECORD / PAGE SEPARATION
- EXPORT / UPLOAD

DOCUMENT MANAGEMENT

- ARCHIVE & INDEX
- FULL TEXT SEARCH
- AUDIT TRAILS
- DOCUMENT FLOW
- HIGH SECURITY

WorkFlow Management

- Process Designer
- Form Builder
- Queue Control
- Business Activity & Monitoring
- Document Viewer Control

FORMS PROCESSING

- REGISTRATION
- EXTRACTION
- VERIFICATION
- EXPORT

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Acyutah's Solution Stack

FineDocs – Scanning

- *FineDocs Scanning software allows authentic users to upload scanned documents or files either in FineDocs Web Interface or to store on local machines.*

- *It provides efficient scanning and quality control features to convert paper documents into electronic format.*

- *A superior technology providing high volume scanning, high volume data capture, key entry, OCR, image scanning, drawing scanning and PDF conversion to capture any form of information to digitized form.*

- *The basic scanning module is a desktop application.*

Acyutah's Solution Stack

FineDocs-Form Processing

- *FineDocs forms processing solution automates the slow, labor-intensive data entry process.*

- *The result is efficient and accurate automated forms processing, data collection and input environments that scale to fit the needs of any size company.*

- *The forms processing works by collecting paper forms and documents and digitizing them, then delivering them to the right databases and other business applications as needed.*

- *It integrates seamlessly with databases and can be easily incorporated with other document management applications using the application programmers interface (API).*

Acyutah's Solution Stack

FineDocs – Document Management System

- *FineDocs intelligent web based DMS meets the requirements for companies of any size by using scalable client/server architecture.*

- *The architecture of FineDocs offers enterprises the ability to design their information system to meet their needs, with simultaneous consideration for security, scalability, performance, and flexibility.*

- *FineDocs DMS server is a software platform for the implementation of the electronic document repository. It saves, administers, and controls all information for one or multiple business process.*

- *Based on robust database FineDocs enables storage of metadata of the documents (not the documents themselves) and administers data (e.g. version and revision details, author, creation, and change dates, etc.).*

- *In addition, it stores the original documents on the FTP Server or the local machine where the documents are stored. The database and the file location are, therefore, seamlessly connected with each other.*

Acyutah's Solution Stack

FineFlow – Business Process Management

- *FineFlow is a .Net based enterprise business process workflow solution to Design, Implement, Manage and Optimize business processes.*

- *The comprehensive business process management software helps business users and IT staff to collaborate to solve complex business situations.*

- *It offers a powerful business tool for managers to document, control and monitor critical processes and then improve them at the same time offers IT staff an easy and simple way to deliver highly complex process management for changing business needs.*

Acyutah Solution Flow

Incoming DAK / Files

Scanning

Stamping

DMS

Integration layer

| ERP Systems | CRM Systems | SCM Systems | HR Systems | ... |

Transactional Systems

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FineDocs – Functionality

- *FineDocs - Scanning*

- *FineDocs - Search / Retrieval*

- *FineDocs - Audit Trails*

- *FineDocs – Document Flow*

- *FineDocs - Archival*

- *FineDocs - Security*

- *FineDocs – Administration*

- *FineDocs – File View*

- *FineDocs – Document View*

- *FineDocs – Integration*

- *FineDocs – Scalability*

- *FineDocs – Usability*

- *FineDocs – Disaster Recovery*

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FineDocs Scanning

Batch Scanning

- *FineDocs Batch scanning function provides volume scanning for TWAIN & ISIS compatible scanners with ADF.*

- *Multiple documents may be scanned in a single batch with an option of saving the digitized format on the local machine or is sent to FineDocs Document Management System for indexing.*

- *Batch scanning is ideal for backfile scanning and for large volumes of paper documents such as enrolment forms, resumes or invoices.*

- *FineDocs Batch scanning uses an easy to use, simple interface which requires minimal setup.*

- *It increases scanning and indexing efficiency and simplifies the scanning process by creating multiple scanning profiles to simplify a complex scanning environment.*

Online Scanning & Indexing

- *The FineDocs Scanning software is 100% integrated with the FineDocs.*

- *While connected, the FineDocs scanning software sends the digitized documents to FineDocs DMS for indexing and archiving for future retrieval.*

- *The Online scanning feature allows an easy and quick way to import electronic files into FineDocs by dragging and dropping files.*

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FineDocs Scanning

Offline Scanning

- *FineDocs scanning software can work independently to scan single or bulk documents without committing itself to the use of the DMS software.*

- *The user is empowered with either using FineDocs DMS or some other document management software to archive and restore information.*

- *It has sophisticated OCR/ICR technology can recognize hand print, machine print and mixed text, OMR for check boxes, radio groups any kind of mark and barcode recognition for EAN13, EAN8, Check Code 3, Check interleaved 25, code 39, code 128.*

Offline Indexing

- *Documents scanned through FineDocs ; scanning software can be viewed, indexed and stored on local machine.*

- *Indexing can be done on Files and/or Folders in which the files are stored.*

- *If the user chooses to import the scanned and indexed documents to the FineDocs DMS all values associated with the files and folders is imported automatically into the DMS*

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FineDocs Scanning

Other Features

Provides Scanning, Image viewing & Image Processing / Cleaning Features like:-

- *Deskew*
- *Despeckle*
- *Remove Dots*
- *Remove Border*
- *Remove Punch Holes etc.*

Form Processing Capabilities (OCR / ICR / MICR / OMR & Barcode)

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FineDocs Search / Retrieval

- *FineDocs presents a powerful search engine to find all indexed documents.*

- *Apart from the attributes used during indexing documents, it also has search capabilities based on date of creation or indexing and the author of the document.*

- *The documents can link to other relevant credentials, which are hyperlinked to the master document.*

- *The search module provides Indexed search, Profile search, Full text search, Clustered search and Fuzzy search.*

- *User can save the given search criteria to use same query several times.*

- *The software saves Search criteria/information given by user date-wise and user-wise (security).*
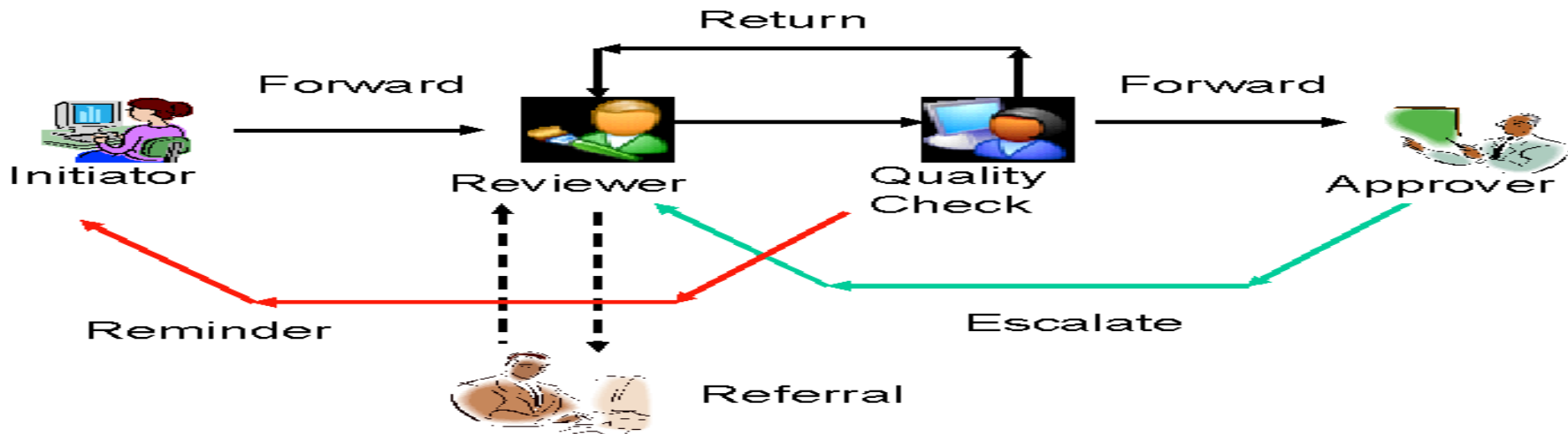
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Audit Trail

- *FineDocs provides audit trails in the form of*

  - *Graphical and Transactional reports*
  - *Web based reports*
  - *Reports for user and process performance*
  - *Work load reports*
  - *Reports to measure the correctness of process definitions*
  - *Detailed process history and extensive reports based on objects like cabinets, folders, documents, users or groups.*

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Document Flow

- *The documents can be passed on to multiple users within the organization for viewing, modifications, comments and approvals.*

- *FineDocs DMS provides an integrated document flow to route the documents in a corporate decision making process.*

- *Create Sequential / Flexible routes for electronic document / file movement*

- *Escalation option to intimate any user in the workflow if work item is pending after permissible / defined time*

Return

Forward — Forward

Initiator   Reviewer   Quality Check   Approver

Reminder   Referral   Escalate

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FineDocs Archival

- *FineDocs Documents are stored in the parent-folder/subfolders with document and folder level locking.*

- *FineDocs has an built-in version control mechanism.*

- *The documents can be protected with 128 bit security or 32 bit security layer.*

- *The documents can also be stored offline in SAN or NAS storage devices which can store millions of objects including images, audio and multimedia files.*

- *Users can select a specific directory in the hard disk location to store the searched data and document*

- *The stored data and document can be transferred to a portable media along with a viewer.*

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FineDocs Security

- *FineDocs addresses the security concerns by incorporating Lightweight Directory Access Protocol (LDAP) to authenticate users to login to FineDocs DMS.*

- *Only authenticated users have access to the documents stored in the DMS.*

- *Stores document in encrypted format*

FineDocs Administration

A web based administration module determines
- *Access security*
- *User level permissions*
- *Create/delete groups, users and objects such as volume, cabinets, folders, and documents.*

✓ *FineDocs provide access permissions on cabinets, folders and documents to groups.*
✓ *Users accessing the FineDocs have one of the three roles - Administrator, Group*
✓ *Manager, and User. Each role has different set of profile.*
✓ *Administrator have full rights on the FineDocs objects (cabinets, folders, documents, Groups etc).*
✓ *Administrator can perform all of the functions including - Creating, deleting & modifying groups, users, cabinets, folders, document types and viewing documents.*
✓ *Group Managers have rights based on the privileges assigned to them by the admin on one or more groups.*
✓ *Users have rights based on the privileges assigned to them by the administrator or group manager*

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FineDocs File View

- *FineDocs presents a powerful search engine to find all indexed documents.*

- *Apart from the attributes used during indexing documents, it also has search capabilities based on date of creation or indexing and the author of the document.*

- *The documents can link to other relevant credentials, which are hyperlinked to the master document.*

- *The search module provides Indexed search, Profile search, Full text search, Clustered search and Fuzzy search.*

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- *The software saves Search criteria/information given by user date-wise and user wise (security).*

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FineDocs Document View

- *FineDocs supports easy document viewing.*

- *The selected documents from the search result displays in the view window, in their original format.*

- *It offers multiple viewing capabilities such as Stretch, Zoom in-out, Pan Window, Magnifying glass, and bulk viewing of data.*

- *The module allows the user to view and access the documents in a windows explorer view.*

- *It provides the ability to import any documents into document management system and assign indexes.*

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FineDocs Integration

FineDocs provide Prepackaged integration with third party applications like

- *Enterprise resource planning suites (ERP)*

- *Customer relationship management applications (CRM)*

- *Portal infrastructures*

- *E-mail applications*

- *Messaging applications*

- *Computer-aided design graphics systems*

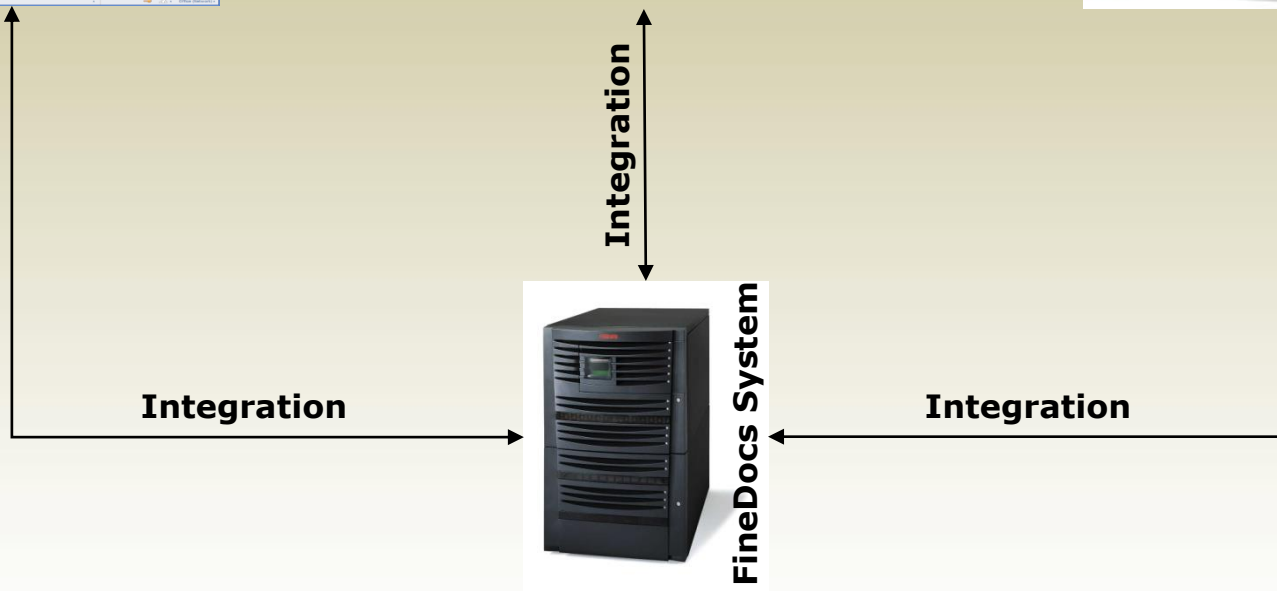- *Document capture applications & e-forms.*

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FineDocs Integration

Email & Messaging Solution
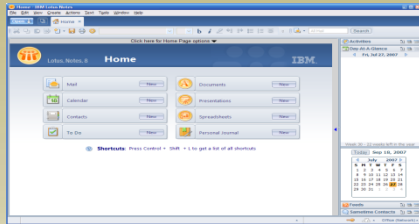
Business Applications

Legacy Applications

Integration

FineDocs System

Integration

Integration

Example: Integration of Business application with FineDocs DMS in an organisation

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FineDocs Scalability

- *FineDocs can be easily scaled to N-number of users & size of the repository.*

- *It has support for number of concurrent users & excellent response time for access to content from anywhere in the globe.*

- *FineDocs uniformly handles a variety of contents such as documents, images & web pages.*

FineDocs Usability

- *Consistent user interface across the entire product suite.*

- *It provides connectivity to mail clients with customized user interface with self learning user functionality*

FineDocs Disaster Recovery

- *Disaster recovery is the process, policies and procedures related to preparing for recovery or continuation of technology infrastructure critical to an organization after a natural or human-induced disaster*

- *Disaster Recovery Plan is set up in order to achieve Continuity of Business in case any mishap happens with the system.*

- *Since September 11, 2001, the importance of disaster recovery and contingency planning has come to the forefront of executive agendas. While terrorist attacks may not be a major concern, vital information can be lost in manifold ways:*

  - ✓ *Misfiled and Lost Documents*
  - ✓ *Inadvertently Destroyed and Deleted Files*
  - ✓ *Building Fires*
  - ✓ *Water Damage*
  - ✓ *Employee Malicious Destruction*
  - ✓ *Industrial Espionage*

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FineDocs Disaster Recovery

- *FineDocs & FineFlow are an all-in-one solution for your document protection from disasters like fire, white ants and such. There is a full fledged backup and restore facility.*

- *There can be two kinds of disaster recovery viz. on-site recovery & off-site recovery. In either case, back up of database & image files will be required to make system up & running in event of disaster.*

Database Back Up

The database can be hosted on Oracle or SQL. Both provides in-built feature for back up. Alternatively, Mirroring or Clustering can be used for on-line or scheduled back up. In addition, third party software can be used for on-line or scheduled back up.

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FineDocs Disaster Recovery

Image File Back Up

Image data resides on hard disk or external storage device (MO Jukebox/SAN/NAS) connected to the Image Server. Image Server stores image files in the following three areas:

<u>Immediate</u>: All scanned images are stored in this area.

<u>Late</u>: As and when immediate area reaches its maximum capacity, oldest image files are moved to Late area for permanent retention.

<u>Scratch</u>: All requested images are retrieved from Image Server & stored in this area temporarily. This enhances the response time for image viewing. The recommended size of Scratch area is 1200 MB. This area can be compacted as required (it is recommended to keep Scratch size less than 500 MB).

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FineDocs Disaster Recovery

Server Cluster

- *A server cluster is the combination of two or more servers that are interconnected to appear as one, thus creating a virtual resource that enhances availability, scalability, or both.*

- *Clustering servers might include the goal of increasing availability by ensuring that if a server becomes unavailable due to failure or planned downtime, another server in the cluster can assume the workload (see the Failover Cluster pattern).*

- *This type of clustering avoids loss of service to the users or applications that access the cluster and can occur transparently, without the users' knowledge.*

- *Clustering can be used to enhance scalability.*

- *Server clusters can support more users at the current level of performance or improve application performance for the current number of users by sharing the workload across multiple servers.*

- *A byproduct of clustering servers for scalability is that the additional redundancy of the multiple servers helps increase system availability, as mentioned earlier (see the Load-Balanced Cluster pattern).*

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FineDocs Disaster Recovery
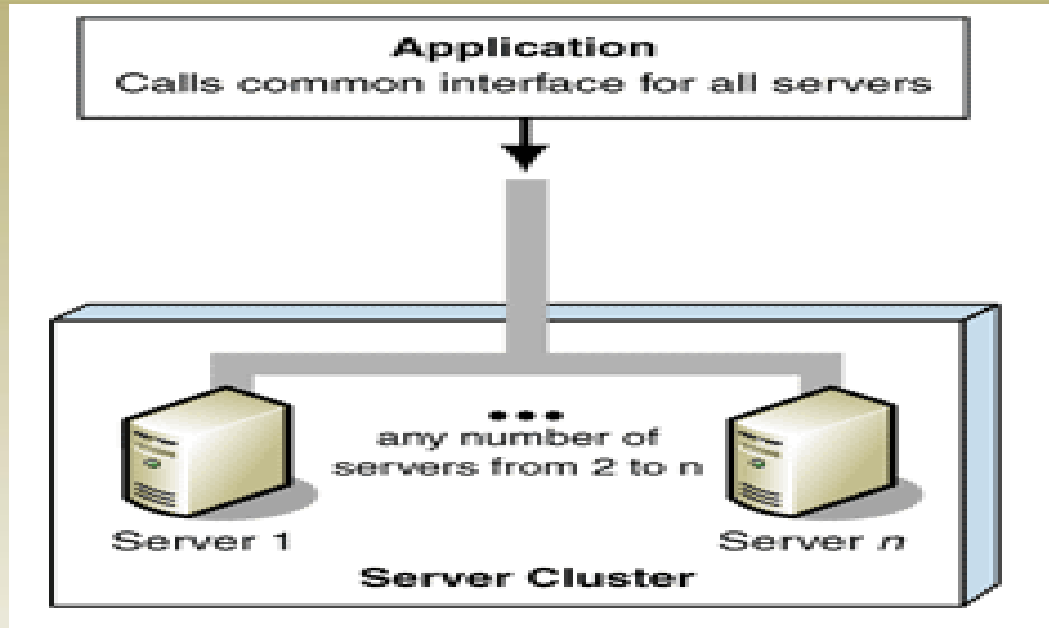
Basic clustering concepts
Figure illustrates how server clustering can make two or more servers (Server 1 through Server n) appear as one virtual resource to a dependent application.

FineDocs Disaster Recovery

Symmetric Cluster

- *In symmetric clusters, every server in the cluster performs useful work. Typically, each server is the primary server for a particular set of applications.*
- *If one server fails, the remaining server continues to process its assigned set of applications as well as the applications on the failed server.*
- *Symmetric clusters are more cost-effective because they use more of the cluster's resources more often; however, in the event of a failure, the additional load on the remaining servers could cause them to fail as well.*
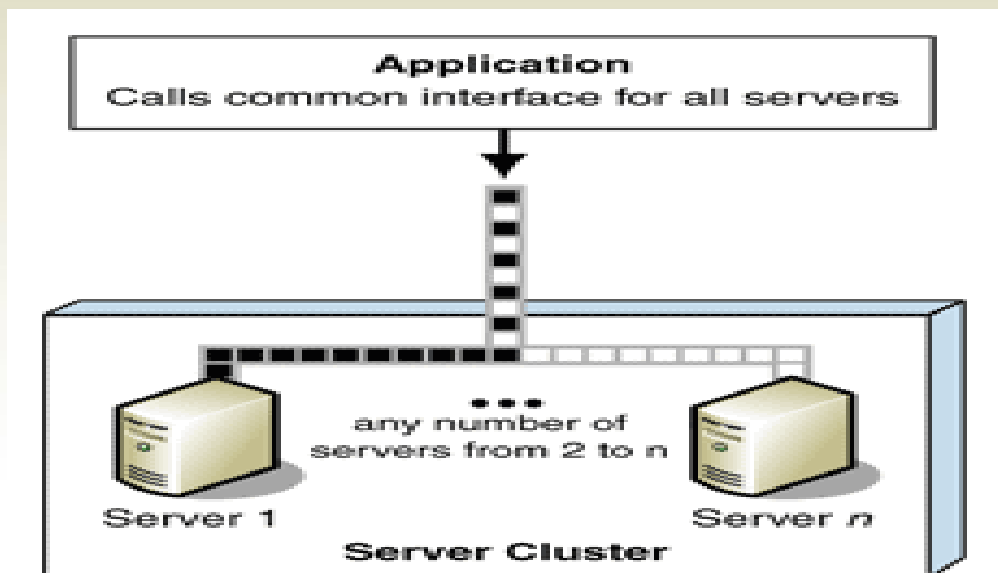
FineDocs Disaster Recovery

One common type of symmetric cluster is a load-balanced cluster (see the Load-Balanced Cluster pattern).

Load-balanced clusters enhance the performance, availability, and scalability of services such as Web servers, media servers, VPN servers, and read-only stores by distributing requests across all of the healthy servers in the server cluster.

Load Balancing

In computer networking, load balancing is a technique to spread work between two or more computers, network links, CPUs, hard drives, or other resources, in order to get optimal resource utilization, maximize throughput, and minimize response time.

Using multiple components with load balancing, instead of a single component, may increase reliability through redundancy.

The balancing service is usually provided by a dedicated program or hardware device (such as a multilayer switch).

It is commonly used to mediate internal communications in computer clusters, especially high-availability clusters.
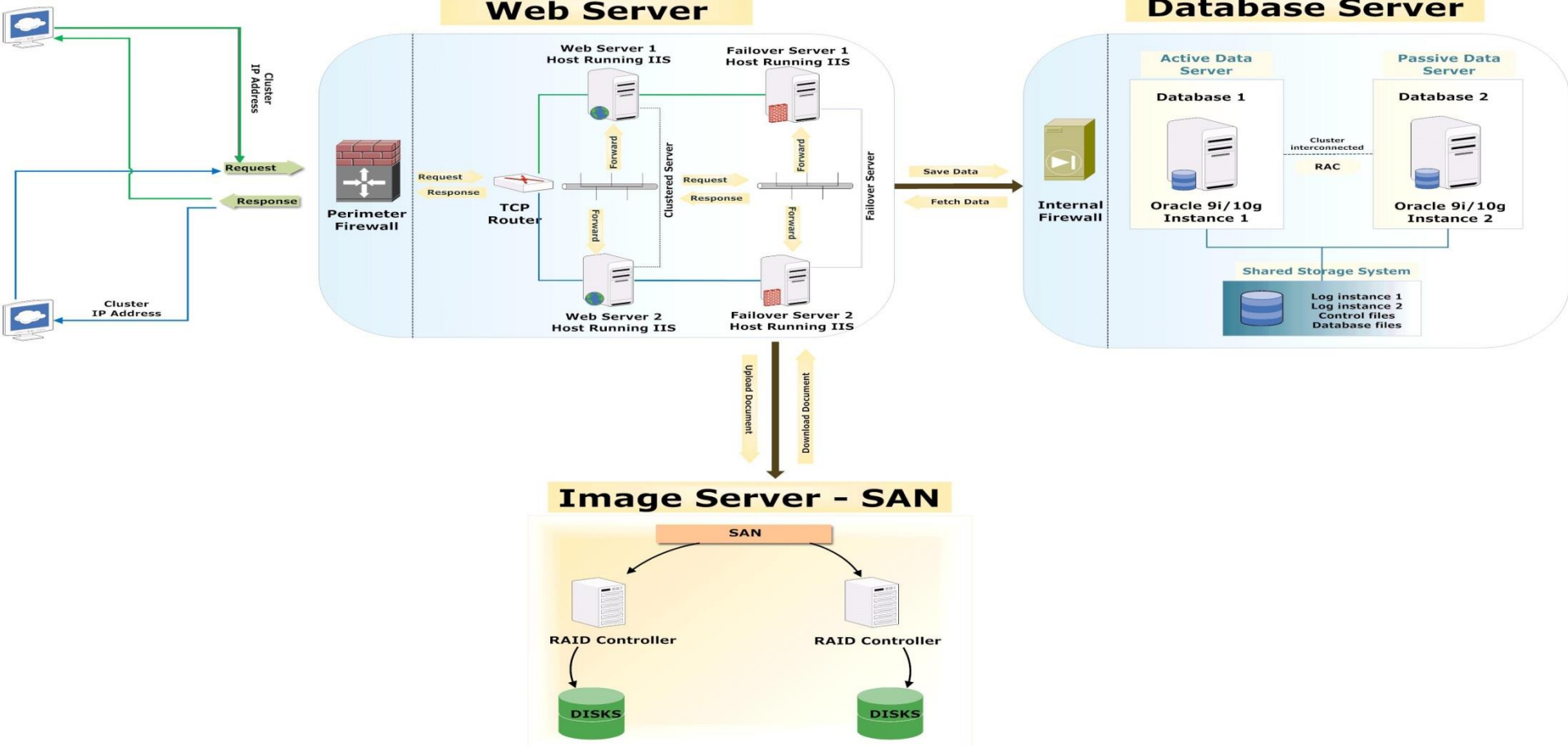
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In Line
(Network-centric Load Balancer)
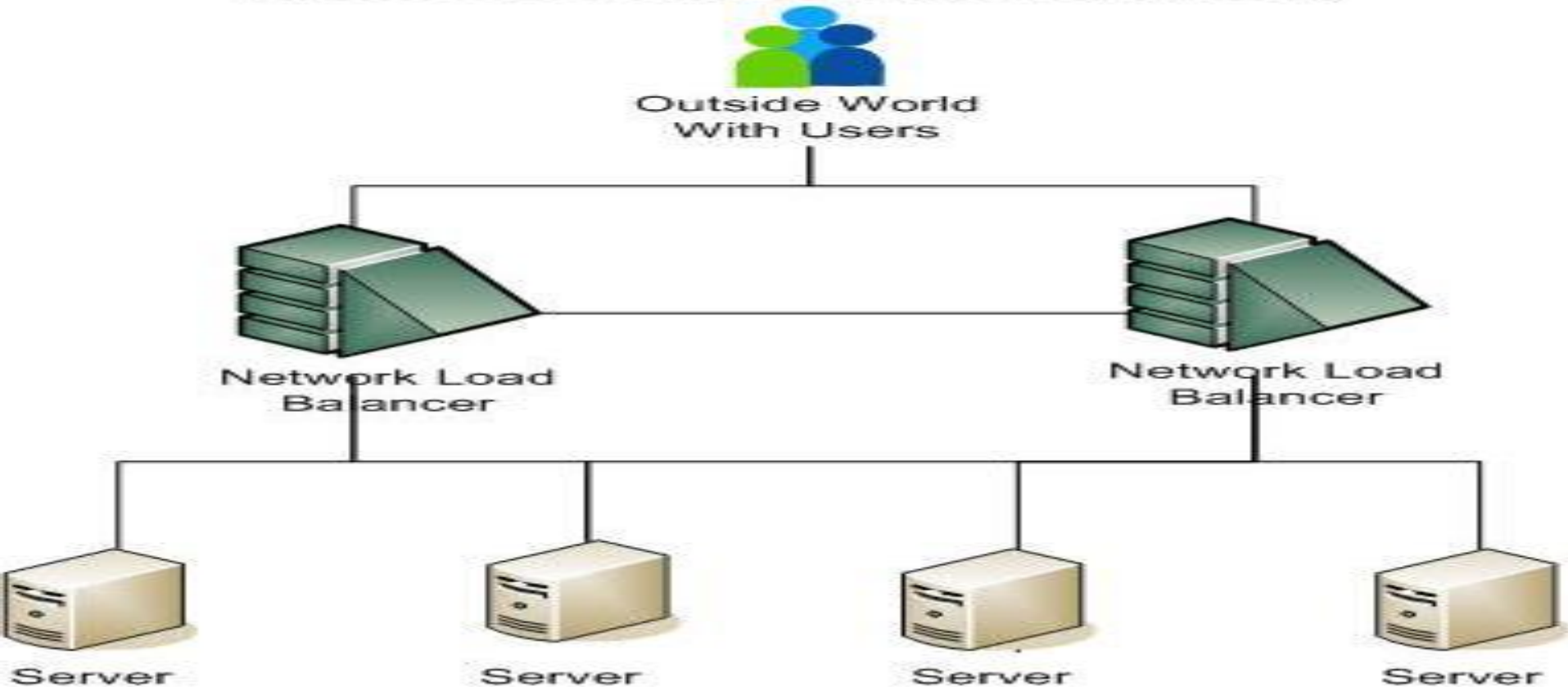
FineDocs Disaster Recovery

Data Centre Architecture

FineDocs Disaster Recovery

- *The architecture diagram depicts the IP Clustering that can be provided for the Web/Application Server.*

- *Network load balancer can be deployed with two Failover servers.*

- *Similar architecture is proposed for the Database server with Oracle instance in Active-Active mode or Active-Passive mode with RAC for data replication and auto failover depending on the business requirements.*

- *The images and the data can be stored on a SAN*

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FineDocs Licensing Policy

ONSITE LICENSING POLICY

Concurrent User Licensing

- *Concurrent user license, sometimes known as a Floating or shared license, allows the software to be used by more than one user on the same network but limits the number of simultaneous users to the number of licenses purchased.*
- *The goal of a floating license is to allow multiple individuals to leverage a single license of the software*

Named User Licensing

- *A named user license allows the software to be used by one specific user named when you purchase the software.*
- *The installed software may be accessed by the licensed user only, it may not be shared in any way. A named user license may not be used at the same time on different computers.*

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FineDocs Licensing Policy

SaaS/ASP Model

- *Software as a Service (SaaS) is a model of software deployment where an application is hosted as a service provided to customers across the Internet.*

- *By eliminating the need to install and run the application on the customer's own computer, SaaS alleviates the customer's burden of software maintenance, ongoing operation, support, back up & disaster recovery.*

- *Using SaaS also can conceivably reduce that up-front expense of software purchases, through less costly, on-demand pricing.*

- *The SaaS software vendor may host the application on its own web server, or this function may be handled by a third-party application service provider (ASP). This way, end users may reduce their investment on server hardware too.*

- *There are two types of licensing policy within the SaaS/ASP model for FineDocs application*
    - ➢ *Rental per page/Year*
    - ➢ *Rental per User/Year*

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DMS Benefits

With the help of a Document Management Solution:

- *A combination of rich functionality and elaborate security can be provided to government agency.*

- *It also helps in compliance with statutory obligations and regulations which are of utmost importance to Government agencies.*

- *Document Management System helps in all steps of the correspondence and file management.*

- *The documents captured, can be organized into logical folder structures and indexed with appropriate attributes (like date of correspondence, sender, addressee, subject etc).*

- *Easy & cost effective storage of documents/files*

- *Converts of paper based documents to electronic format*

- *Facility for inserting text, graphic and image annotations on document pages*

- *Easy search and retrieval with scientific indexing*

- *Provides collaborative environment to share documents*

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DMS Benefits

With the help of a Document Management Solution:

- *Easy search and retrieval with scientific indexing*

- *Provides collaborative environment to share documents*

- *Automate document/file flow between users*

- *Download through http and support for mail*

- *Version control*

- *Audit-trails at user, folder and document levels*

- *Highly secured*

- *Event based notification and alarms*

- *Easy monitoring and tracking of files*

- *The inward correspondence can be assigned to specific users/departments for further action*

Fine Docs™
Document Management Solution

Any Questions???

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Thank You….