Who can benefit from this solution?

- A business that wants to improve management of ever-growing email volumes and email server operational performance
- A business that wants to maximize their investment in email archiving by simplifying its implementation and satisfy a compliance need
- A business that recognizes the need to start planning for a future implementation of a more comprehensive business compliance strategy that includes records management
Preface

How to Use Starting Point Assets

This set of solution enablement materials provides a starting point that helps you develop and deploy a solution for a particular type of customer problem. It provides a framework around which you can build similar solutions that meet your customer's unique needs.

Solution Overview

- Helps you understand solution concepts, business value, and system architecture considerations

- Solution concepts and business value
- Solution architecture
- Recommended software, hardware, tools

Solution Planning Guide

- Helps you plan your customer engagement

- JSP programming
- Networking
- SQL
- Skills required to implement the solution
- Spreadsheet of time estimates to plan services engagement
- Task descriptions and best practices

Implementation Guide

- Structured learning opportunity that shows you how to set up an instance of the solution and helps you learn important techniques that you can use to develop and deploy a custom solution

- Implementation checklist
- Instructions, tips, techniques for solution installation
- Customization information
- Use cases that can be used as part of demo or education
- Sample code, data, scripts, configurations to get started quickly

Demo Toolkit

- Provides customizable demonstration assets to help you sell the solution

- Customizable presentation: Solution benefits and overview
- Video clips of the solution
- How-to document to assist with using and customizing the assets
Comments Welcome
Your comments are important to us. Please send your feedback about this and other IBM Solutions Builder starting points directly to us at sbuilder@us.ibm.com

Legend

Used to identify worksheets, sample code, or other reusable files that are provided with this specific solution.

Used to identify areas where there is more than one implementation option for the solution.

Used to identify tasks or places that require special attention.

Used to identify websites referenced in this solution.

Used to identify IBM Redbooks referenced in this solution.

What's New in Version 2.2.6 of this Solution Starting Point

In version 2.2.6 of eMail Archiving and Records Compliance Foundation, you will find:

- Version updates to product fixpacks
- Updated link to product fixpacks
- Additional instructions on installing fixpacks
- Updated instructions for creating user IDs and configuring products

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**Prerequisites**

There are no prerequisite Solution Starting Points.

However, this Solution Starting Point requires that the customer already has either a Domino or Microsoft Exchange e-mail system and either LDAP or Active Directory in their environment.

**Related Solutions**

The following additional solutions can be used to enhance this solution:

• **Collaborative Portal** - This Solution Starting Point illustrates a portal that centralizes access to critical information such as business applications, productivity tools, people, team workspaces, document repositories, and electronic meeting facilities.

• **How to Rapidly Assemble and Deploy Solutions** - This Technical Reference illustrates how to create, build, and update solution deployment accelerators created using the IBM Solution Assembly Toolkit
- *Managing User Accounts Inside Your IT Infrastructure* - This Solution Starting Point illustrates how to rapidly deploy and configure a user identity management solution into an existing environment.

- *Managing the Health and Availability of your IT Infrastructure* - This Solution Starting Point illustrates the creation and deployment of a monitoring solution for a mid-market company.

- *Secured External Access To Company Resources* - This Solution Starting Point illustrates how to secure access to internal company IT resources via both wired and wireless networks.

- *Providing Basic Services to Maintain Hardware Platform Health* - This Solution Starting Point enables hardware resellers and/or RSIs to provide IT implementation services and efficiently maintain the hardware health of multiple SMB customer networks.
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Chapter 1. Understanding the Solution

This section helps you identify the reasons why a customer would need this type of solution and how it will satisfy their business problem.

Market Drivers and Requirements

Mid-market companies understand that email archiving is no longer just "nice to have". It is now a must have component of any business infrastructure. The need for a compliance strategy that integrates with and complements email archiving is less understood and business leaders are looking for guidance. Understanding how to assemble a solution that meets the current need, extends to tomorrow's need and is scaled to grow as the budget becomes available is the real challenge.

Mid-market businesses that are considering an email archiving solution are typically reacting to one or more of these internal issues:

- Resource concerns driven by a need to manage growing email volumes
- A need to improve user satisfaction and productivity related to poor performance of email servers
- A desire to enable users to better manage their own email in a way that allows more efficient business communications while eliminating or greatly reducing the role that user plays in facilitating the management of the email record.

Over time, both the email infrastructure and its users are taxed by exponential growth of email data. This progression introduces problems mid-market businesses experience. They include:

- Mandating pre-set size limits on a user's email to reduce storage costs. Taking this approach usually forces a company's employees to operate less efficiently. They are forced to spend time maintaining their email to be within the established size limits and may even be less effective communicators in order to reduce email traffic. Instead of having the freedom to perform business communications in a natural way, they are instead constricted by the infrastructure’s "storage model".
- Slow down in access to email results in poor productivity for users and administrators.
- Rising resource and administration costs to keep email systems running at peak performance and availability
- Diminished productivity as a result of users needing to spend more time managing their email within size constraints

Eliminating these problems requires implementing a solution that provides data organization the user understands and can interact with. This solution should include data storage and administrative tools that complement both the business need and the physical demand brought by a company’s email infrastructure.

To be successful, an email archiving solution should:

- Decrease storage costs by moving low-use data to less expensive media / storage, yet insuring high-use data is available when needed
- Decrease administrative costs of managing high data volumes at the server
- Improve server performance and system availability for users
- Shorten the window required to perform server backup operations
Simple eMail Archiving

Consider the following implementation of an email archiving solution.

*Figure 1. Simple eMail Archiving*

It is important to note that the two roles depicted (User and Administrator) are limited in their interactions. The User is limited to access through the email client to only their own data (email). The Administrator is limited to implementing archiving policies. By default, neither role has the ability to view the email of all users.

Implementation of an email archiving solution typically has the following characteristics:

- May range from a fully-automated administrative utility at the server to a manually initiated action available to a user via their email client (or some combination of both)
- Allows view, search, and retrieval of the user's email data, usually limited to only that user
- Storage media is matched to the frequency of use of the email data stored (data use characteristics).

An Approach for Migration from eMail Archiving to a Compliance Strategy

While email archiving alone is a big investment, the value of this investment can be increased even more by leveraging the enterprise class content management products and tools introduced to support email archiving to also support the implementation of a compliance strategy.

Compliance solutions require more functionality than simple email archiving provides. The following figure illustrates a migration approach that extends a simple email archival solution to also address compliance needs.
Typically, this implies a full compliance implementation that includes a records management product and addresses the compliance requirements of the entire business at once. This is an expensive approach and few mid-market customers are mature enough in their knowledge of compliance related issues, tooling and standards to engage in this full implementation model as a first step.

When discussing the need for a compliance solution with a customer, it is important to understand that the return on investment is difficult to measure. The risk of non-compliance is often not realized by the customer until fines are levied from a regulatory agency or exorbitant legal costs occur when trying to organize a defense during compliance related litigation.

At this point, it becomes clear to customers they must understand and address their compliance or regulatory requirements and the effort required to establish the technical foundation and culture to support it. Helping them to plan a strategy can be difficult, but in this instance, addressing this requirement sooner rather than later can save the customer money.

At the same time, industry standards are still forming and laws are still tightening. With a potentially high cost to implement a full compliance solution, this can be high risk for the business. One answer is to leverage investments that can be clearly validated (like email archiving) as a foundation (or down payment) to insure the business has a smooth and efficient migration path integrated to complement a sound compliance strategy.

A migration plan that leverages email archiving to provide a compliance strategy for the future should:

- **Provide a compliance administration function** - This includes some method to view and manage the entire archive to satisfy information requests initiated by some legal or business requirement.

- **Satisfy a records management organizational model** - Once a record (like an email) is complete and will remain unchanged, it can become a declared record. The basic records management model for data starts with a static "record" that is then tracked in a structured lifecycle and followed to its final disposition. Records management data must be:
  - Managed within a fileplan that maps to the companies organizational model
  - Classified (indexed) within the company fileplan so they are easily retrievable
Managed in accordance with the record's lifecycle (e.g., retention periods, destruction, compliance security standards, etc.)

- **Avoid costly barriers to future migration** - Consider and provide a data model that supports future solutions. If the system must be migrated to some extended solution, some tools that allow for this migration to occur smoothly should be available before the need to migrate occurs.

Tips on how to assess the Return-on-Investment (ROI) for an eMail Archiving solution as well as a compliance strategy are located in the *Planning Guide* of this Solution Starting Point.

**Solution Scope**

This eMail Archiving and Records Compliance Foundation Solution Starting Point illustrates how to implement email archiving in the shortest time possible. It also addresses a valuable risk mitigating strategy in how to leverage simple email archiving as an entry-level compliance strategy. In addition to showing value at an entry level, this Solution Starting Point also highlights ways in which to add external disk storage to the solution, with an eye towards growing the infrastructure as the business grows.

Combined with business partner services, the code samples and other assets provided with this Solution Starting Point can be used to solve all of the business needs outlined in *Market Drivers and Requirements* on page 2 of this Overview Guide. Most importantly, in a world where the standards and the law are still changing, this solution ensures the business is preparing for its future without overstating its commitment today.

Beyond the scope of this solution, there are other services you can offer your customers. Refer to the *Chapter 4. Extending and Enhancing the Solution* on page 27 section in this *Overview Guide* and *Additional Services* in the *Planning Guide* for ideas. Instructions for customizing this solution are included in the *Implementation Guide*.

**Use Case Overview**

Following is a high-level description of the use cases implemented in this solution. The details of implementing these use cases are in the *Using the Solution with IBM Lotus Domino* and *Using the Solution with Microsoft Exchange* sections of the scenario Implementation Guides. Use cases are performed by users with specific goals in mind who interact with solution components.

- **Manual eMail archiving** - Illustrates the manual method available to an email user to initiate the archiving of individual emails to a storage repository. It also demonstrates granular archive options that let users choose to archive the entire contents of the email or attachments only.

- **Batch eMail archiving** - Demonstrates a level of automation available to an email user by illustrating how folders may be used to archive multiple emails at once.

- **Automation of eMail archiving** - Shows how the administrative user may fully automate the email archival process explicitly for one or more users.

- **Retrieval from a user's eMail from their archive** - Demonstrates how email users can perform retrievals of their email from the email archive.

- **Search an entire eMail archive** - Demonstrates how an administrator could leverage email in compliance request actions by searching for records across the entire email archive.

- **Search an entire eMail archive using IBM eMail Search for CommonStore** - Demonstrates how compliance administrators can search across email boxes and place legal holds on documents.

- **Classifying email as a record** - Demonstrates how users and administrators can classify email as records to make them more consumable in a basic compliance solution, and later, in a full compliance solution that includes a records management environment.
Applying to Industries

The eMail Archiving and Records Compliance Foundation Solution Starting Point may be applied in any industry. However, addressing compliance with this solution may be affected by the laws, regulations, and standards governing specific industries.

The table below identifies some industries and an example of some of the compliance standards or legal regulations typical for that industry area.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Law, Regulation, or Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking</td>
<td>BASEL II - International Banking Regulations</td>
</tr>
<tr>
<td>Accounting</td>
<td>Sarbanes-Oxley (SOX) - Securities Exchange Act of 2002</td>
</tr>
<tr>
<td>Insurance</td>
<td>ACORD - Agency for Cooperation and Research in Development</td>
</tr>
<tr>
<td>Healthcare</td>
<td>HIPAA - Health Insurance Portability and Accountability Act of 1996</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>TITLE 21 - Food and Drugs Chapter I - Food &amp; Drug Administration Department of health and Human Services</td>
</tr>
<tr>
<td>Cross Industry - Design Criteria for ERM ¹</td>
<td>DOD5015.2 - US Federal Regulation for Department of Defense</td>
</tr>
</tbody>
</table>

Note: ¹ Countries each have many laws and regulations. However, a number are adopted and used worldwide regardless of the country of origin. DOD5015.2 is an example of this. This United States Department of Defense regulation has been adopted world-wide as a standard design criteria for implementing ERM (Enterprise Resource Management).

Solution Assets

This solution includes the following standard reusable materials to enhance your ability to sell and deliver a solution. Refer to How to Use the Starting Point Assets in the Preface for more information about these assets:

- Solution Overview Guide (this document)
- Solution Implementation Guide, including implementation worksheets
- Solution Planning Guide, including a task list spreadsheet
- Demo Toolkit
- Source files for all figures (Microsoft PowerPoint) and for all documents (Microsoft Word) to allow easy re-use
- IBM Solution Deployment Accelerator (SDA) - Automates the process of installing and deploying a solution. The SDA enables you to deliver a multi-product solution that can be installed "out-of-the-box", much like a single application.

This Solution Starting Point also includes the following unique technical assets that assist you with developing and prototyping this solution:

- Compliance Administration Console - A tool that allows the customer to perform limited records management of the archived emails. It accomplishes this by providing an interface for an administrative user who needs to fulfill a compliance request and view the organization's archived emails.
emails. This capability is a temporary bridge that a customer can use until a full compliance records management solution is deployed.

- **Meta-data Configuration Manager** - An interface that allows a user to classify his email before archiving it. A classification is a basic records management function and is necessary to assign the document to a specific archiving rule.

- **Item Type Migration Model** - A sample data model that defines standard email item types and their attributes. This data model:
  - Delivers a smoother transition (migration path) to a full records management compliance solution in an environment where the implementation of simple email archiving is planned
  - Supports the use of the Meta-data Configuration Manager and Compliance Administration Console assets by providing the item type taxonomy they require
  - Complements the Solution Deployment Accelerator as a quick deployment asset

**Implementing a Full Compliance Strategy with Technical Assets**

The figure below illustrates how these unique solution assets are related to the other elements of this solution when implementing a compliance strategy.

*Figure 3. Implementing a Full Compliance Strategy*

Of special note in this figure are the two roles (User and Administrator) and how they interact with their environment. The User now has the ability to classify email records using the Meta-data Configuration Manager and the Administrator (who could previously just implement archive policies) can now view and leverage all archived user email.

Though not depicted, development of compliance policy and fileplans is now available. In addition, the new data model driven by a combined email archiving and compliance strategy development approach may be managed using the Item Type Migration Model.

For more information on the types of enhancements that could be constructed for these technical assets, check the following locations for details
The section, *Chapter 4. Extending and Enhancing the Solution* on page 27, explains the *What's next* vision and how integrated services are focused through positioning and recommending enhancements to the customer.

**Enhance Compliance Administration Console and Customize the Meta-data Configuration Manager** in the *Planning Guide* - to learn how the enhancements to technical assets can be used to manage the costs of both the business partner and of the customer while fulfilling the customer compliance requirement.

In the *Customize the Solution* sections of the Implementation Guides, learn how the enhancements might be implemented, if integration points exist in the current sample and review extended discussions on ideas and methods for developing the enhancements using the technical asset sample as a base.

**How to Define the Solution Value**

This Solution Starting Point uses the sale of an email archiving as an entry point to the customer engagement. The reasoning behind this is that email archiving is now a market tested and proven technology the business partner can implement with confidence. Customers have reached an understanding that this is a must-have application so the business partner can achieve quick success and develop a rapport with the customer.

Although the customer also sees compliance as a major concern, they are not as comfortable with technologies that would address their compliance needs. Products introduced to the customer environment by an email archiving solution also provide the foundation for more demanding content management applications. Implementing a compliance strategy is a natural extension of this investment.

In the *Planning Guide* (see *Define Solution Value*) an outline describing how the business partner can develop a *What's Next* vision with complimentary services strategies for their customers is presented. This information shows you how to leverage the technical assets delivered with this Solution Starting Point.
Chapter 2. Solution Architecture

This section helps you understand the architectural requirements of the solution and how it integrates in the customer's environment.

Runtime Environment

The following figure illustrates the runtime services needed to implement this solution. For this solution, the Compliance Administration Console and the Meta-data Configuration Manager technical assets are part of the runtime environment.

Figure 4. Runtime Architecture

The figure above depicts the following services:

- **Database Services** - A repository for storing configuration data and content management objects for the content management archival system.
- **Compliance Administration Console** - Provides an interface for a records manager or compliance administrator to view the organization's emails that have been archived to the repository.
- **eMail Archiving Storage** - Serves as the content management archival storage server providing librarian and resource management.
- **Meta-data Configuration Manager** - Provides user initiated manual and batch capabilities, as well as fully automated classification of email documents with enhancements for compliance support.
- **eMail Archiving Management** - Serves as the email archive management system responsible for managing archive and retrieval activities for data being moved to and from the content management system.
- **eMail Archiving Management Task** - Serves as protocol manager passing requests between the email server and the email archive management system.
- **eMail Application** - Existing email system(s)
- **Directory Services** - Provided by an existing directory and is used for user authentication and authorization purposes.
Systems Architecture

Examples of operational architecture for this solution are shown in the figures in the following sections. These diagrams illustrate the physical nodes necessary to host the various runtime components in four scenarios (A, B, C and D). The scenarios describe three system nodes that could be implemented to satisfy a variety of architectures demanded by customer requirements.

The systems are known as:

- **eMail Archiving Storage System** - Serves as the content management archival storage server providing librarian and resource management.
- **Resource Management System** - Serves as the email archive management system and as protocol manager between the email server and the email archive management system. This system is not implemented but is provided as the basis for discussion of sizing options.
- **Directory and eMail System** - An existing email server that includes a directory used for user authentication and authorization.

Basic Architecture

This Solution Starting Point provides what you need to deliver any one of four scenarios. The sizing assumes a low or no growth implementation of the solution domain that includes an existing server (the Directory and eMail System) and one new server (eMail Archiving Storage System). The figures below show simple renditions of the two architecture options that can be implemented in this Solution Starting Point, without visualization of the optional design elements discussed (but not implemented) in the solution.

Figure 5. Simple Solution Architecture - One Machine Option
Scenario A: Apply Solution to an Existing Domino Infrastructure

The figures below illustrate the architecture choices if this solution will leverage an existing Lotus email environment. The first figure covers the single server option, which is sufficient for low email archiving volumes and low expected growth. The second figure depicts the architecture and primary software components that would require two new systems. This configuration is recommended if your customer requires high volume email archiving capabilities.
Lotus business partners have a real advantage with this scenario due to the recent changes (e.g.,
integration points with Lotus Workplace, complimentary development tooling refinements, others) to the
Lotus product portfolio that exploits the power of products like WebSphere, Portal and DB2 solutions. If you have already been exploring integration points between the Lotus products and these other IBM products, this scenario architecture is a natural extension of that work.

**Scenario B: Apply Solution to an Existing Microsoft Exchange Infrastructure**

The figures below illustrate the architecture choices if this solution will leverage an existing Microsoft Exchange email environment. The first figure covers the single server option, which is sufficient for low email archiving volumes and low expected growth. The second figure depicts the architecture and primary software components that would require two new systems. This configuration is recommended if your customer requires high volume email archiving capabilities.

*Figure 9. Solution Scenario B - One Machine Option*
The Microsoft business partners also have a play. There is a good migration story to tell for the Microsoft Exchange email customer also. Integration to the Microsoft Outlook email environment is straightforward, using the steps provided in this Solution Starting Point. Installation of the essential solution software is made much easier using the Solution Deployment Accelerator (SDA).

If the customer might consider a migration to a Lotus email environment, you should review the Planning Guide for performance information. Although the throughput characteristics for this architecture are already impressive, performance of a solution using Scenario A are up to 50% better. If your customer needs performance more than they need Microsoft Exchange and Microsoft Outlook, there may be a cross-sell opportunity to replace the email environment Lotus Notes.

**Scenario C: Apply Solution to an Existing Domino and Tivoli Infrastructure**

The figures below illustrate the architecture choices if this solution will leverage an environment that already includes both Domino email as well as IBM Tivoli Storage Manager (TSM). The figure below covers a single server option, which is sufficient for low email archiving volumes and low expected growth.

Note that IBM DB2 Content Manager is not required in this scenario.
Although this architecture removes the need for IBM DB2 Content Manager, it does not support a compliance implementation that could be easily introduced later. This scenario is appropriate for customers who have a need for only a simple email archiving requirement and already have TSM in the environment.

Typically, a customer who has IBM Tivoli Storage Manager already implemented in their environment has a high volume data management requirement. This may indicate the need for the higher performance architecture that leverages 2 servers.

This architectural option is not intended to sell email archiving without IBM DB2 Content Manager. It is intended to demonstrate that TSM customers who only have a requirement for simple email archiving have an option with this solution. In addition, this option provides Tivoli business partners a way to step in their skills gradually and join in this product and services market.

**Scenario D: Apply Solution to an Existing Microsoft Exchange and Tivoli Infrastructure**

The figures below illustrate the architecture choices if this solution will leverage an environment that already includes both Microsoft Exchange as well as IBM Tivoli Storage Manager (TSM). The figure below shows a single server option, which is sufficient for low email archiving volumes and low expected growth.

Note that IBM DB2 Content Manager is not required in this scenario.
As in Scenario C, a customer who has IBM Tivoli Storage Manager already implemented in their environment has a high volume data management requirement. This may indicate the need for the higher performance architecture that leverages 2 servers.

Although this architecture removes the need for IBM DB2 Content Manager, it does not support a compliance implementation that could be easily introduced later. This scenario is appropriate only for customers who have only a simple email archiving requirement wish to avoid a more complex implementation.

This architectural option is not intended to sell email archiving without IBM DB2 Content Manager. It is intended to demonstrate that TSM customers who only have a requirement for simple eMail Archiving have an option with this solution. In addition, this option provides Tivoli business partners a way to step in their skills gradually and join in this product and services market.

**Note:**
As with Scenario A, this scenario offers a cross-sell opportunity that will improve performance if the customer is willing to switch to a Lotus Notes email environment. See the Planning Guide for more details.

**Architectural Considerations**

There are several additional considerations when choosing an appropriate architecture:

- It is important to have a high-level view of the interaction between the many processes that enable an email archiving environment. This view allows you to consider the system architecture from the context of purpose. This architecture may need to be adjusted (e.g. scaled up) based on customer needs. For more information on scaling this architecture, see Determine Physical Sizing in the Solution Planning Guide.

- Not all technical assets provided with this Solution Starting Point apply to all the architectural options. This table identifies the supported combinations:
Table 2. Technical Assets for Scenarios

<table>
<thead>
<tr>
<th>Technical Asset</th>
<th>Scenario A</th>
<th>Scenario B</th>
<th>Scenario C</th>
<th>Scenario D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance Administration Console</td>
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<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Meta-data Configuration Manager</td>
<td>✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item Type Migration Model</td>
<td>✔</td>
<td></td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>

Storage

To provide additional capacity for storage of archived e-mail, IBM external storage can be attached to the servers/blades running IBM Tivoli Storage Manager and IBM System Storage Archive Manager. Adding external disk (such as the DS4200 Express) provides additional capacity (highly scalable), greater performance (the controllers have an integrated cache to enhance both archive and retrieve performance), and provides additional options for data protection (RAID, hot spares, mirroring).

IBM's DS4200 Express offers excellent scalability (up to 8 TBs per enclosure), multiple paths to the data, and 2 GB of cache. As the repository for archived email, the DS4200 provides quick archives, fast retrieves, and a robust, highly available pair of controllers to manage the reads and writes.

Servers

The topic of server selection is one of correctly positioning the customer for projected growth. If the speed and scale of growth is significant, a growth solution strategy may be required, while low or slow growth may indicate the customer can leverage an entry solution strategy. To provide the best market coverage possible, work has been done and information provided supporting the investment decision either way. This solution has been verified on both the BladeCenter (LS21 Blade, growth strategy) and the xSystem (x3655, entry strategy) platforms.

Before deciding on the best approach for your situation, review the detail provided in Define the Architecture and Determine Physical Sizing in the Planning Guide. This information is helpful in making a determination of the best physical architecture for your purpose.

Addressing Barriers to Adoption

Each of the scenarios is designed to bring value to each of the marketing channels this solution domain represents (e.g., Lotus, Tivoli, and Microsoft channels). To help you communicate the value of this solution to these channels, four key barriers to aggressive adoption of this solution have been identified. Selection of the right architecture, proper positioning of the products involved, and development of technical assets (if needed) will resolved these barriers and reduce your risk of building services and marketing strategies for this solution.

Business Partners need a Business Story for Up-sell

Business partners say they have no problem selling simple email archiving but cannot get beyond this to the repeat business, or up-sell, because they lack a solid business story. Compliance is becoming a buzz word that customers have heard but they really don't understand it yet and are looking for an education. Sales cycles for compliance solutions are long, and educating customers without making sales is expensive for business partners.

THE SOLUTION: Use the technical assets provided with this Solution Starting Point to build a compliance services strategy and line them up along the migration path leading from email archiving to a compliance up-sell target. Sell the design ideas for customization and enhancing these assets as services that provide immediate compliance solutions for the customer (fast ROI) and whose implementation mirrors the customer's educational needs and matches their budget. This strategy also has the effect of reducing
the sales cycles for compliance solutions from a 12 to 24 month cycle down to 6 to 10 week cycles. This Solution Starting Point delivers this strategy and explains it in detail in the Planning Guide.

**Installation of the Middleware is Complex**

One common pain point felt by business partners was the complexity and the amount of time required to install the middleware for this solution. In some cases, installing the basic software was taking weeks. This extensive time impact can cause the customer to question the competence of their business partner.

**THE SOLUTION:** Use the Solution Deployment Accelerator (SDA) provided with this Solution Starting Point to perform an efficient and reliable installation of the solution software. This will reduce installation time to less than a day, not including configuration tasks. See the SDA Quick Start Guide for details on how to use the SDA for this solution and the How to Rapidly Assemble and Deploy Solutions Technical Reference at the IBM Solutions Builder Express website, [www.ibm.com/partnerworld/solutionsbuilder](http://www.ibm.com/partnerworld/solutionsbuilder) to understand how you can customize SDAs for your own custom applications.

**Tivoli Up-sell Incentive Missing**

If your customers already leverages IBM Tivoli Storage Manager in their environment, you may not see the value of selling them the additional middleware recommended for this solution (IBM DB2 CommonStore and IBM DB2 Content Manager). This may be due to issues developing skills for this environment or perhaps a lack of understanding about these products and how they relate to each other.

**THE SOLUTION:** Use this Solution Starting Point to understand the solution architecture and product relationships in a context based on how it applies to common customer requirements and challenges. In addition, the implementation details presented in the Implementation Guide for this solution allow the Tivoli-focused business partner to select simplified implementation architectures that compliment their current skills sets and customer’s existing infrastructures.

**Lotus Partners See Functional Redundancy**

IBM DB2 CommonStore is a Lotus application and yet there is often low adoption by Lotus business partners. Lotus partners claim that they already have product and services strategies that functionally deliver similar email archiving capabilities. While this can be true if the customer’s needs are relatively simple, the Lotus business partner should watch for customer requirements that reach or exceed a certain threshold and be prepared to move in with a more advanced and compliance-strategic solution if necessary.

**THE SOLUTION:** With recent additions to the Lotus product line, Lotus Partners should be seeing the value of investing in the DB2 and WebSphere-based middleware this solution includes. The Planning Guide provides information to help the Lotus Partner assess how and when (what threshold) to use products like IBM DB2 CommonStore, IBM DB2 Content Manager and IBM Tivoli Storage Manager. Additionally, this solution enables the business partner to introduce these enterprise class solutions at mid-market prices. The time has never been better for a second look!
Chapter 3. Product Recommendations

To deploy this solution, the following software configurations are suggested and the following hardware configurations have been tested. These suggestions are based on deployment experiences and are typically more robust configurations than the minimum requirements specified by the product documentation.

Table 3. Suggested Software and Hardware - Single New System

<table>
<thead>
<tr>
<th>Machine Name</th>
<th>Scenarios</th>
<th>Software Components</th>
<th>Software Prerequisites</th>
<th>Tested Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>eMail Archiving Storage System</td>
<td>A, B</td>
<td>IBM DB2 Content Manager Enterprise Edition V8.3 multiplatform components:</td>
<td>Microsoft Windows 2003 Server or higher with the latest Service Packs</td>
<td>2-CPU AMD Duo-Core Athlon 2.4 GHz 4 GB RAM per processor 11 GB free disk space</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Content Manager Information Integrator for Content V8.3 Windows Multilingual</td>
<td></td>
<td>e.g. System x3655 or LS21 Blade Server with sufficient hard disk space to support</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- IBM Tivoli Storage Manager Extended Edition V5.3.4 for Content Manager Enterprise</td>
<td></td>
<td>archiving needs of the customer. If archive requirements exceed the capacity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Edition V8.3 (includes TSM Server and Client)</td>
<td></td>
<td>of the server, a DS4200 Express is recommended.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- IBM DB2 Net Search Extender Fixpack 14 for Version 8.1 (also known as Fixpack 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>for V8.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- WebSphere Application Server 5.1 for Content Manager Enterprise Edition V8.3 with</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fixpack 1 for Windows</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- DB2 UDB for Content Manager Enterprise Edition V8.3 with Fixpack 14, or later</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Optional: IBM System Storage Archive Manager V5.3.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>*Optional: IBM eMail Search for CommonStore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A, C</td>
<td></td>
<td>IBM DB2 CommonStore for Lotus Domino V8.3.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B, D</td>
<td></td>
<td>IBM DB2 CommonStore for Exchange Server V8.3.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C, D</td>
<td></td>
<td>IBM Tivoli Storage Manager Extended Edition V5.3.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directory and eMail System</td>
<td>A</td>
<td></td>
<td>Microsoft Windows</td>
<td>Already in customer environment</td>
</tr>
</tbody>
</table>
Table 3. Suggested Software and Hardware - Single New System

<table>
<thead>
<tr>
<th>Machine Name</th>
<th>Scenarios</th>
<th>Software Components</th>
<th>Software Prerequisites</th>
<th>Tested Hardware</th>
</tr>
</thead>
</table>
| (existing system) | B         | IBM DB2 Content Manager Enterprise Edition V8.3 with fixpack 4 or later multiplatform components:  
  - Content Manager Information Integrator for Content V8.3 Windows Multilingual  
  - IBM Tivoli Storage Manager Extended Edition V5.3.4 for Content Manager Enterprise Edition V8.3 (includes TSM Client)  
  - IBM DB2 Net Search Extender Fixpack 14 for Version 8.1 (also known as Fixpack 7 for V8.2)  
  - DB2 UDB for Content | 2003 Server or higher with the latest Service Packs  
  Lotus Domino R7  
  Microsoft Windows 2003 Server or higher with the latest Service Packs  
  Microsoft Exchange V2000,2003 | Already in customer environment |

Note:
1. This solution will most likely warrant consideration of Direct Access Storage Devices (DASD) and also external storage solutions that compliment the hierarchical storage management software included with the essential software for each new customer engagement. In the Planning Guide, see Assess Performance and Determine Physical Sizing for details needed to determine the customer need.

Table 4. Suggested Software and Hardware - Two New Systems

<table>
<thead>
<tr>
<th>Machine Name</th>
<th>Scenario(s)</th>
<th>Software Components</th>
<th>Software Prerequisites</th>
<th>Tested Hardware</th>
</tr>
</thead>
</table>
| Library System | A, B        | IBM DB2 Content Manager Enterprise Edition V8.3 with fixpack 4 or later multiplatform components:  
  - Content Manager Information Integrator for Content V8.3 Windows Multilingual  
  - IBM Tivoli Storage Manager Extended Edition V5.3.4 for Content Manager Enterprise Edition V8.3 (includes TSM Client)  
  - IBM DB2 Net Search Extender Fixpack 14 for Version 8.1 (also known as Fixpack 7 for V8.2)  
  - DB2 UDB for Content | Microsoft Windows 2003 Server or higher with the latest Service Packs | 2-CPU AMD Duo-Core Athlon  
  2.4 GHz  
  4 GB RAM  
  11 GB free disk space  
  e.g. System x3655 or LS21 Blade Server¹  
  with sufficient hard disk space to support archiving needs of the customer.  
  If archive requirements exceed the capacity of the server: DS4200 Express |
<table>
<thead>
<tr>
<th>Machine Name</th>
<th>Scenario</th>
<th>Software Components</th>
<th>Software Prerequisite</th>
<th>Tested Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A, C</td>
<td>Manager Enterprise Edition V8.3 with Fixpack 14, or later Optional: IBM eMail Search for CommonStore</td>
<td></td>
<td>Already in customer environment</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>IBM DB2 CommonStore for Lotus Domino V8.3.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>IBM DB2 CommonStore for Exchange Server V8.3.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directory and eMail System</td>
<td>A, C</td>
<td>Microsoft Windows 2003 Server or higher with the latest Service Packs Lotus Domino R7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B, D</td>
<td>Microsoft Windows 2003 Server or higher with the latest Service Packs Microsoft Exchange V 2000, or 2003</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Resource Management System   | A         | IBM DB2 CommonStore for Lotus Domino V8.3.2 IBM DB2 Content Manager Enterprise Edition V8.3 with fixpack 4 or later multplatform components:  
- Content Manager Information Integrator for Content V8.3 Windows Multilingual  
- IBM Tivoli Storage Manager Extended Edition V5.3.4 for Content Manager Enterprise Edition V8.3 (includes TSM Server and Client)  
- DB2 Net Search Extender V8.2 with Fixpack 7  
- WebSphere Application Server 5.1 for Content Manager Enterprise Edition V8.3 with Fixpack 1 for Windows and Cumulative Fix | Microsoft Windows 2003 Server or higher with the latest Service Pack | 2-CPU AMD Duo-Core Athlon 2.4 GHz  
4 GB RAM  
11 GB free disk space  
e.g. System x3655 or LS21 Blade Server¹ with sufficient hard disk space to support archiving needs of the customer. If archive requirements exceed the capacity of the server: DS4200 Express |
### Table 4. Suggested Software and Hardware - Two New Systems

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<tr>
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<th>Scenario(s)</th>
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<th>Tested Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13</td>
<td>DB2 UDB for Content Manager Enterprise Edition V8.3 with Fixpack 14, or later</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lotus Domino R7 client</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Optional IBM eMail Search for CommonStore V8.3.1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>IBM DB2 CommonStore for Exchange Server V8.3.2</td>
<td>IBM DB2 Content Manager Enterprise Edition V8.3 with fixpack 4 or later multiprocessor components:</td>
<td></td>
<td>2-CPU AMD Athlon 1.4 GHz</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Content Manager Information Integrator for Content V8.3 Windows Multilingual</td>
<td></td>
<td>4 GB RAM per processor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IBM Tivoli Storage Manager Extended Edition V5.3.4 for Content Manager Enterprise Edition V8.3 (includes TSM Server and Client)</td>
<td></td>
<td>11 GB free disk space</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DB2 Net Search Extender V8.2 with Fixpack 7</td>
<td></td>
<td>e.g. System x3655 or LS21 Blade Server(^1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WebSphere Application Server 5.1 for Content Manager Enterprise Edition V8.3 with Fixpack 1 for Windows and Cumulative Fix 13</td>
<td></td>
<td>with sufficient hard disk space to support archiving needs of the customer.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DB2 UDB for Content Manager Enterprise Edition V8.3 with Fixpack 14, or later</td>
<td></td>
<td>If archive requirements exceed the capacity of the server: DS4200 Express</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outlook Client</td>
<td>Optional: IBM System Storage Archive Manager V5.3.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Optional IBM eMail Search for CommonStore V8.3.1.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C, D</td>
<td>IBM Tivoli Storage Manager Extended Edition V5.3.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
1. This solution will most likely warrant consideration of Direct Access Storage Devices (DASD) and also external storage solutions that compliment the hierarchical storage management software included with the essential software for each new customer engagement. In the Planning Guide, see Assess Performance and Determine Physical Sizing for details needed to determine the customer need.
Product Descriptions

This solution represents a cost effective delivery for the middle market, offering the products and price point required to introduce enterprise content management at a mid-market price. The following products are part of this solution.

IBM DB2 CommonStore

- **For Lotus Domino** manages email archiving and retrieval for any Notes database or Lotus Notes email. This product is tightly integrated with Domino ND7 and with IBM DB2 Content Manager repositories. In addition, it provides options to integrate email content with images, facsimiles, and for a policy driven archive, a Single Instance Store assures that messages are archived just once.

- **For Exchange Server** is offered as an option for managing email archiving and retrieval in Microsoft Exchange email environments. V8.3 supports Microsoft Exchange 5.5 Servers and easier migration from Microsoft Exchange 5.5 to Microsoft Exchange 2000 Server or Microsoft Exchange 2003 Server. It also supports:
  - Additional Microsoft Outlook client platforms
  - Windows Services to automate tasks
  - HTTPS to prevent unauthorized access to critical data

This product provides automated offloading to archives, reduces requirements to manage email server growth, Single Instance Store assures that messages are archived just once, and direct access to archives lets users view via browser or the Microsoft Outlook desktop.

IBM eMail Search for CommonStore is an application that is installed in IBM WebSphere Application Server V5.1 or V6.0. The interface is a Web-based application. The following list shows the features that are provided by eMail Search (eMS):

- An easy-to-use Web-based interface that supports Internet Explorer 6.0.
- Full-text search of e-mails captured and stored by IBM DB2 CommonStore in IBM DB2 Content Manager V8.3:
  - Search e-mail header data fields: To, From, Date, cc, bcc, Subject
  - Search with keywords, phrases, boolean logic, and wildcard characters
  - Body and attachment searching of all e-mails stored in IBM DB2 Content Manager with exact or wildcard search, Boolean operations (and, or, not), "fuzzy" search, proximity (same sentence) search, and "stemmed" search for English words
- Ability to save and reuse searches
- Ability to view individual e-mails returned from a search in "HTML rendering format" with highlighting (of body or subject of e-mail)
- Ability to view attachments as HTML rendering without using the native application
- Ability to export selected Lotus Domino e-mails to a Notes database (NSF) or Microsoft Exchange e-mails to a PST archive
- Ability to place "holds" on e-mails using either Content Manager capabilities or IBM Records Manager

The following additional components are delivered with IBM eMail Search for CommonStore but are not shown in this Solution Starting Point:

- The eMail Search Server component, which handles long running tasks such as moving search results into a folder, applying or removing legal hold, and exporting documents to a NSF or PST file
• An Outboard Conversion Server to be used when the Content Manager library server is running on AIX, but attachments such as Microsoft Binder files or WinRAR files need to be converted. The **INSO_FILTER** conversion code used for attachment conversion supports these file types only on a Windows machine.

• A high speed indexing application to increase the rate of indexing and improve management of the process

• A Lotus Domino agent to expand groups in addresses so that each of the addresses is indexed and can be viewed

• A purge utility to delete expired e-mails that are not held and not declared as records; this utility will also clean up Domino mailboxes by deleting the documents if they were archived from a mailbox.

If you need further assistance with eMail Search, refer to the **IBM eMail Search for CommonStore Guide**, found in the `<emsinstall>`\doc directory under the installation language, or refer to the **IBM eMail Search for CommonStore First Steps and Problem Determination**, found in the `<emsinstall>`\docs directory of the drive on which you installed eMail Search.

**IBM DB2 Content Manager** manages all types of digitized content including HTML and XML, web content, document images, electronic office documents (including email), printed output, audio, and video. It also supports LAN cache for application-transparent caching.

The multi-tier, distributed architecture offers:

• Scalability to grow from a single department to a geographically dispersed enterprise

• Openness to support multiple operating systems (including Linux), databases, applications and resources

• A secure environment and a single source of access for administration

• A powerful XML-ready data model

**IBM DB2 Content Manager**

leverages a number of other products that include but are not limited to: DB2 Universal Database, WebSphere Application Server, DB2 Information Integrator for Content.

**IBM Tivoli Storage Manager (TSM) Extended Edition V5.3.4 for Content Manager Enterprise Edition V8.3** (TSM Server and Client is included) enables you to protect your organization's data from failures and other errors by storing backup, archive, space management and bare-metal restore data, as well as compliance and disaster-recovery data in a hierarchy of offline storage.

Because it is highly scalable, IBM Tivoli Storage Manager can help protect computers running a variety of different operating systems on hardware ranging from notebooks to mainframe computers and connected together through the Internet, wide area networks (WANs), local area networks (LANs) or storage area networks (SANs). It uses Web-based management, intelligent data move-and-store techniques and comprehensive policy-based automation that are working together to help increase data protection and potentially decrease time and administration costs.

This product is included with a limited license with IBM DB2 Content Manager but includes all the capabilities of the fully licensed IBM Tivoli Storage Manager. However, it may only be applied to an organization's data stored within the IBM DB2 Content Manager repository. If your customer already has TSM in their environment, you can also use this Solution Starting Point to leverage that version providing it is v5.3 Extended Edition. See the **Solution Planning and Implementation Guides** of this Solution Starting Point for additional information.

**IBM System Storage Archive Manager** enables you to protected archived data from accidental or malicious erasure. Data archived is managed by IBM System Storage Archive Manager for the specified period of time (1 year, 3 years, etc.). When the data is expired, it is then deleted from the disk pool and that space can be used to new data.
IBM System Storage Archive Manager is highly scalable and designed to accommodate many types of data.

**Hardware**

The **IBM System Storage DS4200 Express Model 7V** disk storage system is SATA-only disk storage solution designed to be an economical alternative for data archiving, reference data, and near-line storage applications. With four 4 Gbps Fibre Channel host ports the system is designed for high throughput for your most demanding applications. The 3U system also features redundant, dual-active intelligent RAID controllers supporting RAID levels 0, 1, 3, 5, and 10. The DS4200 has an internal physical storage capacity of up to 8 TB using optional DS4200 500 GB Enhanced Value Disk Drive Modules. Physical storage capacity can be increased up to 56 TB by attachment of up to six EXP420 Storage Expansion Units.

Some reasons for choosing an **AMD based architecture** include a lower total cost of ownership because there is a seamless Dual-Core to Quad-Core upgrade. There is a lower power consumption thereby allowing you to concentrate more on the business rather than energy consumption.

**Ordering Software**

The following table lists the software products and licenses recommended for purchase (available through Passport Advantage):

<table>
<thead>
<tr>
<th>Table 5. Software Products to Order</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>For Licenses Only:</strong></td>
</tr>
<tr>
<td>IBM DB2 Content Manager Enterprise Edition Authorized User License + SW Maintenance 12 Months</td>
</tr>
<tr>
<td>IBM DB2 CommonStore for Exchange Server Authorized User License + SW Maintenance 12 Months OR IBM DB2 CommonStore for Lotus Domino Authorized User License + SW Maintenance 12 Months</td>
</tr>
<tr>
<td>(OPTIONAL) IF STORAGE IS USED: IBM System Storage Archive Manager Terabytes License + SW Maintenance 12 Months</td>
</tr>
<tr>
<td>(OPTIONAL) IBM eMail Search for CommonStore for Lotus Domino Authorized User License + SW Maintenance 12 Months OR (OPTIONAL) IBM eMail Search for CommonStore for Exchange Server Authorized User License + SW Maintenance 12 Months</td>
</tr>
<tr>
<td><strong>For Media:</strong></td>
</tr>
<tr>
<td>IBM DB2 Content Manager for Multiplatforms Version 8.3 Multilingual CD ROM 128 Bit Media Pack</td>
</tr>
<tr>
<td>IBM DB2 CommonStore for Exchange Server for Multiplatforms Version 8.3 Multilingual CD ROM 128 Bit Encryption Media Pack OR IBM DB2 CommonStore for Lotus Domino for Multiplatforms Version 8.3 Multilingual CD ROM 128 Bit Media Pack</td>
</tr>
<tr>
<td>(OPTIONAL) IF STORAGE IS USED: IBM System Storage Archive Manager for Multiplatforms Version 5.3.2 Multilingual CD ROM Media Pack</td>
</tr>
<tr>
<td>Software</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>For Licenses Only:</td>
</tr>
<tr>
<td><strong>(OPTIONAL) IBM eMail Search for CommonStore for Multiplatforms Version 8.3.1 Media Pack</strong></td>
</tr>
</tbody>
</table>
Chapter 4. Extending and Enhancing the Solution

The Solution Starting Point can be extended or enhanced for your customer.

This section is all about a What's next strategy. The customer is looking for business partners that know today's solutions but can also take them down a path that delivers them safely to the technologies they will need tomorrow. It is important that you provide this vision to the customer.

This Solution Starting Point is designed to provide a content management entry point (email archiving), a clear migration path to a compliance and records management up-sell (e.g., IBM Records Manager), and a comprehensive strategy to generate and deliver value-added services that integrate migration activities with risk mitigating, cost saving solution assets.

The center piece of this strategy is contained in technical assets provided with this solution. Extensions for this Solution Starting Point can be implemented as enhancements for your customer in the following suggested ways:

- **Define and communicate a clear vision** to a strategy with a starting point (initial needs), middle (or stepped implementation), and an end point (future needs). This strategy repeats business and grows the relationship between you and your customer.

- **Position technical assets** (samples provided with this Solution Starting Point) as meaningful elements of this vision's migration strategy. These assets serve as the basis for relating the enhancements you recommend to the vision and strategy you have communicated to your customer.

- **Recommend select enhancements** based on your assessment of the customer requirements as a means to mitigate risk the customer will encounter. The goal is to save money your customer would otherwise spend (perhaps less wisely) without your guidance in the implementation of this strategy.

Positioning Technical Assets

To understand how to select the enhancements you will recommend during consultations with the customer, you must understand what technical assets are available, ways they can be extended, and what part these assets play in the migration strategy. The assets delivered with this solution are designed by business partners and built by the IBM Solutions Builder Express team for the global IBM business partner community to use.

Two assets (Solution Deployment Accelerator and Item Type Migration Model) are specifically designed to support the total solution and are delivered more as utility assets that assist with solution set up. The other two assets (Compliance Administration Console and Meta-data Configuration Manager) are extensible application assets that focus on compliance and can be easily extended to support additional features. Although we focus on the application assets in the following section, all assets are part of the migration vision and can be delivered with your services to deliver these two values:

- Act as the basis for designing and then developing a compliance strategy for your customer
- Act as the means to introduce a stepped implementation of the compliance strategy that meets the needs and the budget of the customer today

Selling email archiving is a good starting point to begin selling more complex content management solutions to your customers. Customers have learned the value of email archiving technology over the past years and the Return On Investment (ROI) for such solutions is easy to measure in hard-dollar returns like performance gains for users/administrators and a direct savings in storage hardware costs (to
name just a few). This forms a strong baseline for this solution's What's next vision and the services strategy that takes the customer there.

While customers can easily anticipate and identify problems that will lead to needing an email archiving solution, issues related to compliance generally come without warning. For most customers, an understanding of compliance and the problems associated with non-compliance occur as a result of unplanned litigation or regulatory fines.

Difficult to measure, these costs are really a soft-dollar metric that is hard to accommodate and plan for in a capital budget strategy. Combined with the high cost of implementing a full compliance and records management strategy, business partners can expect longer, more costly sales cycles. This is due to the fact that customer education takes time and, historically, compliance and records management projects are implemented company-wide (which takes longer than addressing just specific segments of the business initially).

To meet these challenges, the business partner introduces this Solution Starting Point's technical assets when their discussion with the customer shifts to the cost of that What's next vision. The journey to a solid compliance and records management infrastructure is expensive for both the customer and the business partner. The customer needs to mitigate risk while controlling costs, while the business partner must educate and foster good decision making by the customer over a long sales cycle.

The technical assets can be used to ease the burden on both sides. The business partner can use the assets to educate the customer and provide an immediate risk mitigation return with modest investment by the customer. At the same time, the services sold with these assets help the business partner to bridge their investment from the entry point (email archiving) until the time their customer has the compliance and records management infrastructure they need established.

Opportunities to Enhance the Solution

These customizations and enhancements can be leveraged during customer interviews to help outline their requirements. They were identified by business partners who found they were commonly needed to fulfill compliance requirements for their customers. Specifically, the technical assets allow you to focus the interviews on two key elements that are critical to educating the customer, determining their solution needs, and reducing the cost of the final compliance solution. They are:

- Development of the customer's fileplan and compliance rules
- Used as recommended (see Define Solution Value in the Planning Guide), deployment of these assets represent an outline of the plan for managing the development, implementation process and also the requirement for the tooling used for planning organization of customer records data.

The following is a list of enhancements that may be used to identify compliance-based services. They are organized beneath the technology asset they apply to. More detail is available in the Customize the Solution section of the Implementation Guides. Some of the features listed below have been implemented as proof of concepts within the sample. Some are suggestions while others will require customization and optimization (sometime extensive), depending on the customer's specification. User interface (UI) design, error handling, and internationalization are just some of the features that could potentially be added or changed.

- Compliance Administration Console - This technical asset provides an interface for a compliance administrator to view the organization's archived emails. This allows the customer to perform limited records management.
  - Logon and Custom Privileges - Depending on a customer's need and usage, security should be customized so that legal or regulatory rules are not violated and expose the customer to risk.
  - Extended Search Capability - Provide support for the typical search operators, such as "not equals", AND, OR, etc.
- **Complex Data Models** - Expand the console to support complex data relationships in the business (e.g., child components, documents, document parts, security)

- **Delete Function** - Introduce a simple delete function or a "disposition" document routing process that validates the email can be deleted according to business policy.

- **Re-Classify Attributes of a Record** - Includes restricting the console so that only the records management attributes are editable within the interface. It would also allow reassignment of a classification to new item types, thus supporting the management of the item type model as needed during discovery and development of the fileplan with the customer.

- **Viewing a Document in the Result List** - Add ability for an administrator to view an email from the search result list of the Compliance Administration Console.

- **Document Forwarding** - When viewing an email, it may be necessary for an administrator to forward an original email to another individual.

- **Batch Functionality** - This capability allows an administrator to alter large collections of emails at a single time rather than individually. This could be used to perform batch deletes, re-classifications, email forwarding, etc., thus helping the administrator manage large volumes of data.

- **Meta-data Configuration Manager** - Provides opportunity for both user initiated manual and batch operation as well as (with enhancements) fully automated classification of emails to support implementation of a compliance and records management customer strategy. A document's classification provides the meta-data (or index) by which the email is identified and then managed for records management tasks.

- **Fileplan Folder Security** - An access list that controls security at the user, user group, or agent level (to use in conjunction with auto-classification).

- **Auto-classification** - A collection of enhancements that support automation for the classification of email as records.
  - **Automation Agents** - Agents that use information from the Meta-data Configuration Manager database to assign an email to an item in the fileplan.
  - **Automation Profile** - Stores information defining the fileplan objects and compliance rules for the customer. The Automation Agents would reference Automation Profile information stored there to manage this meta-data for selection by the automation agents or by a user initiated method for classification.
  - **Profile Type** - A switch (e.g., STANDARD, CRM, etc...) that the Automation Agents would use to support specialized legacy integration (e.g., special handling supporting auto-forward of CRM related content, legal hold processing, etc.).

- **TO DO List** - A user control point that allows them to control automated batch classification (e.g., so the user can see and select a group of emails for processing)

- **Alternative Centralized eMail Repository** - Modify the Meta-data Configuration Manager to copy emails to the Meta-data Configuration Manager database and process archival from that location. This is an example of DB2 CommonStore's ability to extend archiving beyond email to Lotus Notes applications.

### Extending the Solution for Records Management

The discussion of **compliance** is directed at raising the value of the customer's investment in simple email archiving. There is information included with this solution that describes leveraging technical assets in the migration of the email archiving investment to provide a level of compliance the customer needs. This may or may not include implementation of a full records management system (e.g., IBM DB2 Records Manager).
This solution includes a technical asset called the Item Type Migration Model. This asset describes methods for managing the underlying data model of the CommonStore data (in this case, email). Business partners whose customer will eventually implement a full records management solution will benefit from leveraging this asset.

The Item Type Migration Model, Meta-data Configuration Manager, and Compliance Administration Console are tools that not only act as compliance tooling for the customer today, but also serve to provide data and a data model compliant with the requirement the IBM DB2 Records Manager customer will need tomorrow.

**Extending Lotus Applications**

Although mentioned, there is no focus on an important feature of CommonStore included in this Solution Starting Point. If your customers have an investment in Lotus Domino that includes a Lotus Notes application infrastructure, additional value is there for them. This value comes from the fact that IBM DB2 CommonStore for Lotus Domino supports common Lotus Notes applications as well as email.

The Meta-data Configuration Manager technical asset has enhancement ideas that can be directed at the Lotus Notes application designs. Although characterized in this solution as enhancements to serve an email infrastructure, business partners who have customers with Lotus Notes application infrastructures can apply the information to that customer's applications as well (see Customizing the Sample Mail Template in the Customizing the Meta-data Configuration Manager section of the Implementation Guides for scenarios A and C only.).

**Enhancing Deployment**

This solution's customizations to the Solution Deployment Accelerator provide two options (Option One: Single Machine Setup and Option Two: Two Machine Setup). Leveraging these options, the partner can provide solutions to customers with a static or low growth requirement specified or deliver a much more scalable solution for the customers who have specified a solid growth requirement.

In addition, an important change in the way IBM distributes software has been ushered in with this solution. Under this new rapid deployment model, IBM distributors can offer the business partners solutions that are pre-loaded on the customer's hardware when ordered by the business partner. This allows the business partner to concentrate on design and delivery of the business solution.

For more on this customization, see the Customize SDA Wrappers in the Customize the Solution sections of the Implementation Guides.

**IBM eMail Search for CommonStore**

IBM eMail Search for CommonStore is a Web-based application. It delivers a subset of the overall content-discovery marketplace whose requirements are driven by the growth of email as a corporate-compliance concern. This eMail Search feature addresses that portion of the marketplace requirement.

IBM eMail Search for CommonStore provides discovery capability to companies who choose scenario A or scenario B. A system with IBM DB2 Content Manager, IBM Tivoli Storage Manager, IBM DB2 CommonStore and IBM eMail Search for CommonStore delivers a more comprehensive eMail archiving, compliance and discovery solution.
The following list shows the features that are provided by eMail Search:

- An easy-to-use Web-based interface
- Full-text search of e-mails captured and stored by IBM DB2 CommonStore in IBM DB2 Content Manager:
  - Search e-mail header data fields: To, From, Date, cc, bcc, Subject
  - Search with keywords, phrases, Boolean logic, and wildcard characters
  - Body and attachment searching of all e-mails stored in IBM DB2 Content Manager with exact or wildcard search, Boolean operations (and, or, not), "fuzzy" search, proximity (same sentence) search, and "stemmed" search for English words
- Ability to save and reuse searches
- Ability to view individual e-mails returned from the search in "HTML rendering format" with highlighting (of body or subject of e-mail)
- Ability to view attachments as HTML rendering without using the native application
- Ability to export selected Lotus Domino e-mails to a Notes database (NSF) or Microsoft Exchange e-mails to a PST archive
- Ability to place "holds" on e-mails using either Content Manager capabilities, or IBM Records Manager
- Ability of case management
- Ability to audit users' activities

The following additional components of IBM eMail Search for CommonStore are delivered to provide a complete solution:

- The eMail Search Server component, which handles long running tasks such as moving search results into a folder, applying or removing legal hold, and exporting documents to a NSF or PST file.
- An Outboard Conversion Server to be used when the Content Manager library server is running on AIX, but attachments such as Microsoft Binder files or WinRAR files need to be converted.
  The INSO conversion code used for attachment conversion supports these file types only on a Windows machine.
● A high speed indexing application to increase the rate of indexing and improve management of the process.

● A Lotus Domino agent to expand groups in addresses so that each of the addresses is indexed and can be viewed.

● A purge utility to delete expired e-mails that are not held and not declared as records. This utility will also clean up Domino mailboxes by deleting the documents if they were archived from a mailbox.
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