

Six Reasons Why a COO Should Be Interested in BPEL, IAM and DRM

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BPEL, IAM AND DRM**

A WHITE PAPER

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“The Business of Identity Management”**

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EXECUTIVE SUMMARY

The paper outlines six reasons why a chief operating officer should be interested in BPEL (Business Process Execution Language), IAM (Identity Access Management) and DRM (Digital Rights Management). They can be used to significantly reduce costs, improve productivity, improve response time, leverage existing legacy applications, improve acquisition maneuverability and strengthen security.

Each of the component tools is quickly reviewed (XML, DRM, Web Services, IAM and BPEL). This is followed by a review indicating how the tools should be used to achieve the benefits.

INTRODUCTION

As the chief operating officer, you're facing continual efforts to reduce operating costs, improve productivity and reduce operational risk. The position of this paper is that the elements are in place at the global protocol and vendor level for a sea change in how your enterprise business is done at the operational level.

The sea change is that now you can quickly leverage your existing legacy infrastructure and do business processes faster and cheaper using open protocols widely accepted by vendors. As importantly, you can now interface your business processes and applications with those of your business partners and suppliers more easily and quickly than before.

It's not one "thing" that enables this. Rather, it is the accumulation of globally accepted protocols, with wide vendor support that enables the sea change to occur. The key protocols cover XML (Extensible Markup Language), Web Services, IAM (Identity and Access Management), DRM (Digital Rights Management) and BPEL (Business Process Execution Language).

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THE BENEFITS

By threading all of these components together your enterprise can:

1. Cut operating costs
 - a. Automate all or portions of many business processes
 - b. Reduce handling costs associated with forms
2. Shorten business process response times
 - a. Reduce time for user data entry into enterprise systems
 - b. Quickly interchange information in your enterprise regardless of the application type
 - c. Quickly interchange information with business partners in B2B's regardless of the applications being used by your business partners
3. Improve productivity
 - a. Reduce labor associated with processing of information
 - b. Shorten labor time spent on approving business processes
4. Leverage existing legacy systems
 - a. Exchange information between legacy systems without having to code unique application programming interfaces
5. Improve acquisition maneuverability
 - a. Integrate new employees quickly into your enterprise systems
 - b. Quickly integrate acquisition applications with your existing applications
 - c. Reduce time to deploy information to the acquisition employees
6. Enhance security
 - a. Apply enterprise identity standards
 - b. Apply enterprise authentication standards
 - c. Apply enterprise risk to authorization standards
 - d. Apply enterprise security to web service business processes
 - e. Provide low cost regulatory compliance

To understand how the benefits can be achieved, first you need to understand the component pieces.

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THE TOOLS

There are several tools you need to understand in order to deploy them:

- XML (Extensible Markup Language)
- Digital Rights Management (DRM) represented by Adobe LiveCycle
- Web Services
- Identity and Access Management (IAM)
- Business Process Execution Language (BPEL)

XML

One of the biggest challenges in the past has been the unique application programming interfaces (API's) required to get one application talking to another. Today, the great news is that a [standard protocol \(XML\)](#) has been widely adopted by almost all major software vendors to alleviate this.

For example, the data taken out a IBM DB2 database can be transferred easily via XML into a PeopleSoft application running on a Oracle database. Information filled in an online form can be easily extracted via XML and entered into a purchasing application.

XML offers:

- Global protocol
- Wide support by software vendors
- Ease of use in transferring data between applications
- No requirement for customized API coding development and maintenance

Digital Rights Management (DRM)

Enterprise information is often still paper based. When it does become electronic, there is often little or no control information around the electronic document indicating who can view the information, who can edit it, document version control, digital signatures, etc.

Digital Rights Management (DRM) is the activity of producing, managing and archiving electronic documents. [Adobe's LiveCycle](#) product is used as a DRM example in this paper.

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LiveCycle offers:

- Ability to create online forms exactly matching existing paper based forms
- Use of XML such that online form document information can be easily extracted and used with other applications
- Ability to control who can produce the document
- Ability to control who can view the document
- Ability to control who can edit the document
- Document version control
- Workflow approval processes
- Document encryption
- Document auditing
- Wide acceptance of user browser plugin to view the documents (Adobe Acrobat pdf)

While LiveCycle can be deployed on its own, this paper recommends integrating it with IAM, web services and BPEL to provide:

- Seamless interaction between applications and business processes
- Enterprise wide security policy enforcement

Web Services

Taking XML documents and doing something with them, across disparate networks, applications and with different users requires the use of “Web services”. Web services are a [globally accepted set of protocols](#) that almost all software vendors support. The protocols offer enterprises the ability to:

- Transfer information between networks using TCP/IP (internet protocols)
- Transfer documents between applications using XML
- Secure the type of connection being used
- Define the security around the XML document

Therefore, by converting existing applications and processes to web services, the enterprise can:

- Avoid the pain of inter-application exchange of information
- Avoid the pain of inter-network exchange of information
- Provide enterprise security standards for web services

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Identity and Access Management (IAM)

Most mid to large enterprise currently have some form of identity and access management infrastructure deployed. Your IAM infrastructure should offer:

- Unique identifiers for each individual using your systems and applications
- Unique identifiers for each application within the enterprise
- Enterprise directory services for quick reference to an identity's tombstone level identity information
- Enterprise provisioning services for applications, assets and systems access
- Enterprise authentication services (Single sign on/reduced sign on)
- Enterprise role definitions (roles, title, positions, groups, macro-roles)
- Enterprise audit services
- Web service policy enforcement
- Federated identities

IAM thus is critical to providing the identities and quickly provisioning them. It also provides the security policies governing what an identity and/or an application can do.

IAM also operates under global protocols for federating the identities. These include [SAML](#), [WS Security](#), [Liberty Alliance](#) and [Shibboleth](#).

Business Process Execution Language (BPEL)

BPEL is a set of globally recognized [protocols](#) (supported by most software vendors) to standardize the coordination or “orchestration” of web services. It therefore creates the sequence of activities for executing web services.

BPEL allows the enterprise to:

- Automate portions or all of traditional business processes
- Query data stores, extract the data using XML and transfer to other applications, identities or business partners
- Orchestrate interactions of lengthy business processes

Now let's look at how assembling the pieces enable the business results listed above.

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ACHIEVING THE BENEFITS

Practical examples of the benefits listed below are outlined using practical purchasing and human resource examples in the following papers “[Saving Operating Dollars Using BPEL, IAM and DRM](#)”, “[Rethinking HR Business Processes](#)” and “[Rethinking Corporate Counsel Business Processes – An Example](#)”.

Cutting Costs

As the COO, you need to evaluate your business processes and identify areas where the low hanging business process fruit is:

1. Discover processes where time and or handling costs can be significantly improved by using XML
 - a. Between two applications
 - b. Between multiple applications and people in a business process
 - c. Between your enterprise and business partners
2. Identify business processes where automation in part or in whole of a business process would cut costs. The key question to ask is what is going to be the time and cost to convert them to web services? Take the easy ones and get them going first. Avoid legacy applications where conversion to XML and web services will take long times and cost significant dollars.
3. Convert the business processes using BPEL. If you have web services up and running and, if the business process is relatively simple, the deployment can take 30-90 days. Get some BPEL experience under your belt before taking on more complicated business processes which require more planning.
4. As part of the business process conversion, look for areas where LiveCycle can help reduce costs. LiveCycle has its own business process for passing document information between users. This can be run independently or, integrated with the existing identity infrastructure and BPEL. LiveCycle can reduce handling costs associated with paper or electronic forms.

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Improve Business Response Times

Identify business processes where you can:

1. Reduce time from user input to data entry into enterprise systems
 - a. Apply Live Cycle, XML, BPEL and IAM to:
 - i. Standardize the form input using LiveCycle
 - ii. Automatically extract XML information out of the forms using BPEL and LiveCycle
 - iii. Route it to the appropriate system using BPEL
 - iv. Input into the application using XML
2. Quickly interchange information in your enterprise regardless of the application type
 - a. Use XML as the application information exchange standard
 - b. Use LiveCycle as the document interchange standard
 - c. Use BPEL to automatically route information between web services
3. Quickly interchange information with business partners in B2B's regardless of the applications being used by your business partners
 - a. Get agreement from the business partners to standardize information exchange to XML
 - b. Have the partners create web services
 - c. Use BPEL to orchestrate the web services business process between your enterprise and the business partners

Improve Productivity:

Identify business processes where you can:

1. Reduce labor associated with processing of information
 - a. Use XML, web services and BPEL to automate portions of a business process where manual data entry is being done
 - b. Use XML, web services and BPEL to automate portions of a business process where automation of the approval can be accomplished (see the papers "[Saving Operating Dollars Using BPEL, IAM and DRM](#)" and "[Rethinking HR Business Processes](#)" for examples)
2. Shorten labor time spent on approving business processes
 - a. Use BPEL, LiveCycle and IAM to quickly route documents and forms for approval using roles and/or specific individuals.

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Leverage existing legacy systems

1. Examine legacy applications and determine which ones can be easily converted to XML
2. Convert the data exchange to XML and web services
3. Orchestrate the business processes between the legacy applications and other web services using BPEL. Note: Be aware that XML is more data intensive than other data forms. Therefore, your business case needs to factor in the additional processing times and infrastructure overhead. There are many off the shelf hardware products that can offload XML document processing in your data centers.
4. Note: Some of the existing legacy applications will not be cost effective to either convert to XML and/or create web services. XML, web services and BPEL are effective tools for many applications and business processes but this is not a magic bullet. Identify the low hanging fruit and get these done.

Acquisition maneuverability

Your enterprise can gain significant advantages when integrating new acquisitions into your enterprise. You can:

1. Integrate new employees quickly into your enterprise systems
 - a. Use you IAM infrastructure to quickly assign acquisition employees new uid's or federate their existing ones with your enterprise uid's
2. Quickly integrate acquisition applications with your existing applications
 - a. Quickly assign enterprise portal rights to new acquisition employees based on your IAM roles, titles, group membership, etc.
 - b. Quickly provision new acquisition employees with your enterprise applications using IAM
 - c. Provide single or reduced sign on to the new acquisition enterprise according to your enterprise standards using IAM
3. Reduce time to deploy information to the acquisition employees
 - a. Use IAM to enable quick access for new acquisition employees to enterprise portal
 - b. Use LiveCycle to quickly help provide enterprise documents to new employees

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Enhance Security

By integrating IAM, BPEL and DRM you can:

1. Use IAM to apply enterprise identity standards to all identity types
 - a. Create authoritative sources for all identity types including contractors, temps, consultants, business partners, vendors, customers and employees
 - b. Quickly provision the identities with system, application, assets and security badges
 - c. Quickly deprovision identities when they no longer need access to systems, applications, assets and security badges
2. Apply enterprise authentication standards
 - a. Use IAM to enforce enterprise authentication standards for accessing all applications
 - i. Use stronger authentication based on enterprise risk
 - b. Use IAM to apply enterprise risk to authorization standards
 - i. Match enterprise risk to authorization standards for enterprise applications
 - c. Apply enterprise security to web service business processes
 - i. Use IAM to create security policies for web service business processes
 - ii. Use IAM to enforce security policies at the firewall
 - iii. Use Adobe LiveCycle for creating security polices applying to documents used in web services
 - d. Provide low cost regulatory compliance
 - i. Use IAM to automate regulatory compliance reports relating to identities
 - ii. Use Adobe LiveCycle to automate regulatory compliance reports relating to identities and their information

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CONCLUSION

The elements are now in place for a sea change in how business processes are done. XML, web services, BPEL, DRM and IAM are all off the shelf technologies. Most medium to large enterprises have most of these components already in place.

This paper has outlined the benefits by rethinking your enterprise business processes using the tools listed above. As mentioned earlier, the papers "[Saving Operating Dollars Using BPEL, IAM and DRM](#)", "[Rethinking HR Business Processes](#)" and "[Rethinking Corporate Counsel Business Processes – An Example](#)" demonstrate the benefits outlined in this paper. Another paper "[Five Reasons Why Corporate Counsel Should Rethink Their Business Processes](#)" outlines the benefits to Corporate Counsel.

The good news is that almost all vendors support the protocols. The protocols are now established. If your enterprise has a good IAM infrastructure in place that can support web services AND, if you have a number of business processes and applications you can quickly convert to web services, then applying BPEL can be done quite quickly.

I have outlined in another paper "[The Challenges With Using BPEL](#)", the cautions for this protocol and toolkit from the vendors. In it, I caution against trying to "BPEL-ize" all your business processes. Some processes may not be worth the effort. Other more complex business processes may require using additional tools I recommend in the paper.

The drivers for the change now reside in each of your business units and departments. While IT and Corporate Security must be involved, it's the business units who should be made aware of the technologies and new ways of rethinking their business processes. They need to set the risk level appropriate for the business process and then have IT and Corporate Security meet the risk by configuring the security policies in the IAM, web services and DRM.

Gain a competitive edge over your competitors who are slow to see the advantages of rethinking their business processes by integrating BPEL, IAM and DRM.

ABOUT THE AUTHOR:

Guy Huntington is an independent identity management consultant. He has been the lead consultant on several large Fortune 500 projects including Boeing's global single sign on, Capital One's single sign on, Capital One's Sarbanes-Oxley provisioning and Kaiser Permanente's web single sign on review. Guy can be reached at 604-921-6797, guy.huntington@hvl.net or www.hvl.net.