

A ClearPerspective on

HylandTM

Hyland Experience (Hx) Automate

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ClearCadence

Process, Improved.

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Introduction

In this document we will introduce and describe the **Hyland Experience Automate** (Hx Automate) platform and its place within the overall **Hyland Experience** strategic product set.

We'll explain the advantages of Hx Automate over legacy content repository native workflow tools, such as OnBase Workflow.

We'll give you tips on what you should be considering to help ensure a successful Hx Automate implementation.

And we'll also provide use cases based on our experience gained in implementing real-world content management and business process solutions.

Why Did We Write this Document?

Hx Automate is a platform that may be unfamiliar to your organization. With this document we wanted to provide information you can use to understand the platform and make decisions on why you should consider implementing and utilizing it.

It's important to understand the “why” of Hx Automate as much as the “what”.

Our experience implementing some of the largest, and most complex, cloud-, content-, and process-based solutions gives us a unique perspective on this platform. We understand its strengths and the considerations organizations need to be aware of for success.

Who We Are

ClearCadence is a long-standing, trusted partner of Hyland with deep, specialized expertise in implementing content and process management solutions across a range of industries and platforms to solve enterprise-scale business problems.

We have extensive, hands-on experience in the architecture and design that forms the basis of Hx Automate.

What Will I Learn From this Document?

This document will give you the information you need to:

- Describe Hyland Experience Automate.
- Understand how it relates to, and differs from, native Content Management System specific workflow solutions, such as OnBase Workflow.
- Visualize how it can be implemented to provide solutions to business problems.
- Anticipate what practicalities to consider when planning an implementation.

After reading, you'll be better placed to engage with Hyland and ClearCadence in taking the next step in further evaluating Hyland Experience Automate.

What is Hyland Experience?

Hyland Experience Automate (Hx Automate) is one element of Hyland's evolving set of strategic platform solutions known collectively as **Hyland Experience**.

Intended for integration with existing applications, content management systems, and enterprise implementations, the Hyland Experience platform provides the tools to solve complex business problems by leveraging AI and advanced content and process capabilities.

See more at <https://www.hyland.com/en/products/hyland-experience>

What is Hyland Experience Automate?

Hx Automate in a Nutshell

- Hx Automate is a cloud-based, hosted (PaaS), scalable business process platform.
- It provides the tools to build Enterprise solutions to solve complex problems involving content and workflow.
- It has an intuitive graphical interface for process design and administration adhering to the latest BPMN standards.
- It has an out of the box end user interface which is richly featured and readily configurable.
- Its public REST API makes features available to custom developed applications as desired.
- It is designed for low-code, rapid implementation of workflow solutions utilizing reusable and configurable components, while also allowing for use of custom elements as needed.
- It provides pre-built connectors and modules for straightforward integration with Hyland's products, external applications and other Enterprise Content Management solutions as well as providing the capabilities for integration via REST APIs.
- The platform is built on solidly established and well supported technology - primarily the Activiti workflow engine and the Angular web application framework.

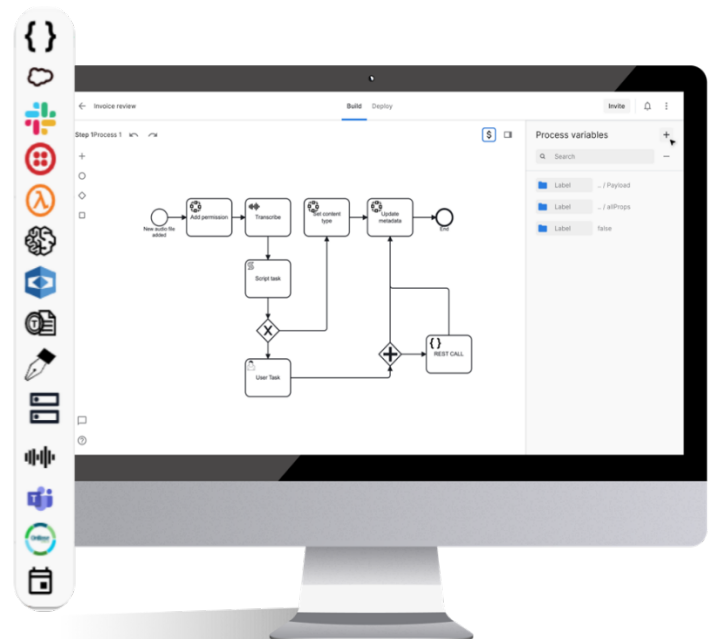


Figure 1- The Hyland Experience Automate Process Designer
Graphic © Hyland Software, Inc.

Benefits Right Out of the Gate

It's All About Being Hyland Cloud-Hosted



Simplicity is a major feature with Hx Automate. Being a platform as a service (PaaS) hosted in the Hyland Cloud means that you don't have the worry of determining optimal system architectures, provisioning servers, managing network connectivity, monitoring performance, or maintaining system availability. That's all taken care of by Hyland. In addition, you won't need to manage platform upgrades - you'll always be on the latest version with the latest functionality.

And, as more Hyland Experience cloud-based offerings are released, like Hx Insight and Hx Credentials, they'll be ready to integrate with Hx Automate.

This all means that you can focus your resources where they're needed - on building and implementing the process solutions that help your organization succeed.

Go Beyond Native ECM Workflow Functionality

Most content management solutions include their own native workflow components or dedicated content life cycle tools. While this approach has the advantage of the tools being developed to tightly integrate with the specific content management repository, they are typically simpler in nature, limited in the BPM features they provide, and can prove difficult or impossible to extend beyond their native environment.

OnBase Workflow is a great example of this. It's successful in handling content life cycles and business processes within the OnBase ecosystem, however it becomes constrained when it comes to extending processes for integration with external systems. This *can* sometimes be done, but typically involves complex customization requiring specialist skills, which in turn can also lead to support and maintenance headaches and costs down the road.

Also of significant note is that native process tools typically don't provide the ability to create shared components for development efficiencies and re-use across different workflow instances.

These inflexibilities can mean that they tend to be best suited to the development of departmental workflows rather than for complex, Enterprise business process solutions.

And that's where Hx Automate comes in...

Connectors – Integration Made Easy

There are virtually no truly standalone applications anymore.

Consider all the system implementations within your organization and all the processes in use. Are there any that completely rely on information sourced from and stored in a single technology solution or application? And even if this is the case today for some legacy applications – is that just because that's all they could do given their constraints? Integration is challenging, especially for incumbent legacy systems.

This is where Hx Automate has a dramatic advantage.

Right there within the platform it provides connectors that work seamlessly with existing Hyland content

repositories: **OnBase**, **Alfresco**, **Nuxeo**, and **Perceptive**, and more, with new connectors being added all the time. Having these configurable components means setting up connections between systems that drive your business processes is easy – they're straightforward to apply, and very easy to update when new versions are available, without the need to modify multiple processes.

Also, you're not just limited to the connectors provided as part of Hx Automate – it also has capabilities to take advantage of the web services and REST APIs of other stores and 3rd party applications, greatly expanding your integration options.

How about this example: a business use-case entails when a customer provides information as a document, the document must be properly indexed, tagged with classification data, stored in a defined filing structure, reviewed and, if necessary, acted upon.

A process in Hx Automate could be triggered by incoming documents from Outlook email which would extract data from the email, or the content itself, and submit this to Salesforce CRM.

Customer specific data is retrieved from Salesforce as well as initiating CRM activities. Once that is done, the process continues, determining which groups need to be notified of the incoming document, and sends an alert via Slack. Finally, the content is stored in its correct location in OnBase.



This can all be configured to happen in a process on a single platform, Hx Automate, using a mixture of supplied connectors, tasks making REST API calls, configured components, and custom scripting where appropriate.

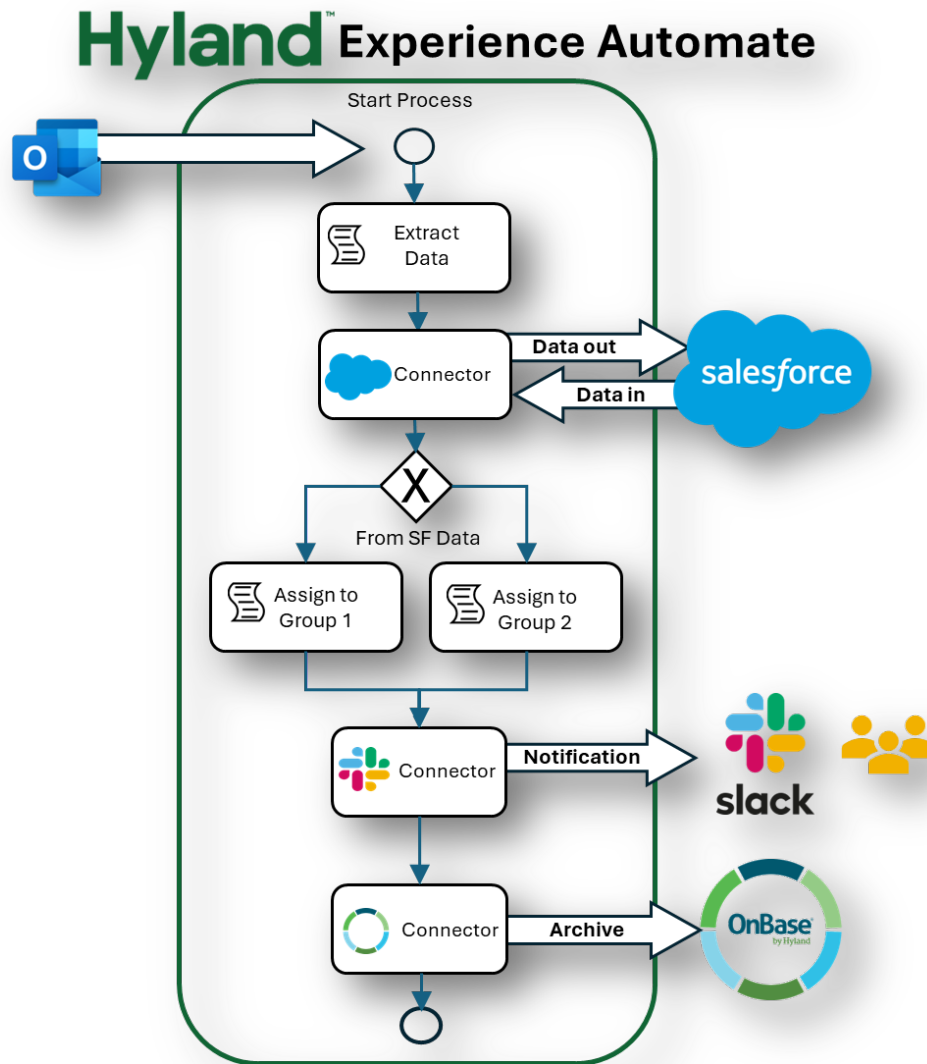


Figure 2 - Hyland Experience Automate Connects to Your Business Applications

Seamless integration achieved quickly and with limited custom coding.

Reuse and Recycle - To Reduce Time and Cost

Another extremely powerful feature of Hx Automate is that it allows for the development of low-code, reusable process components that are easily deployed and shared.

This concept allows you to maintain a library of reusable processes, sub-processes, tasks, connectors and other elements within Hx Automate that can be leveraged anywhere within your

Enterprise process solutions, saving on development effort and significantly shortening the time to get solutions into production.

To illustrate, consider a typical enterprise with several different departmental business functions. It's certain that some of them have very similar processes or need to handle the same types of content.

Let's take two departments: **Customer Service** receives *documents supporting an insurance application*. **Human Resources** is concerned with *onboarding of employees*.

Both departments must gather documents to verify an individual's identity.

The similarities are clear as are the opportunities for utilizing common solutions.

They may be dealing with content arriving or held in different repository instances, or sourced in differing ways, but both need to know what constitutes a valid form of ID and to perform verification on it.

The ID document verification process could be configured in Hx Automate to take content as input, determine if it's a known type of ID document, then perform the necessary ID verification (maybe integrating with external systems, see previous section).

This process then can be saved and made available for reuse as a sub-process in both departments' specific business processes.

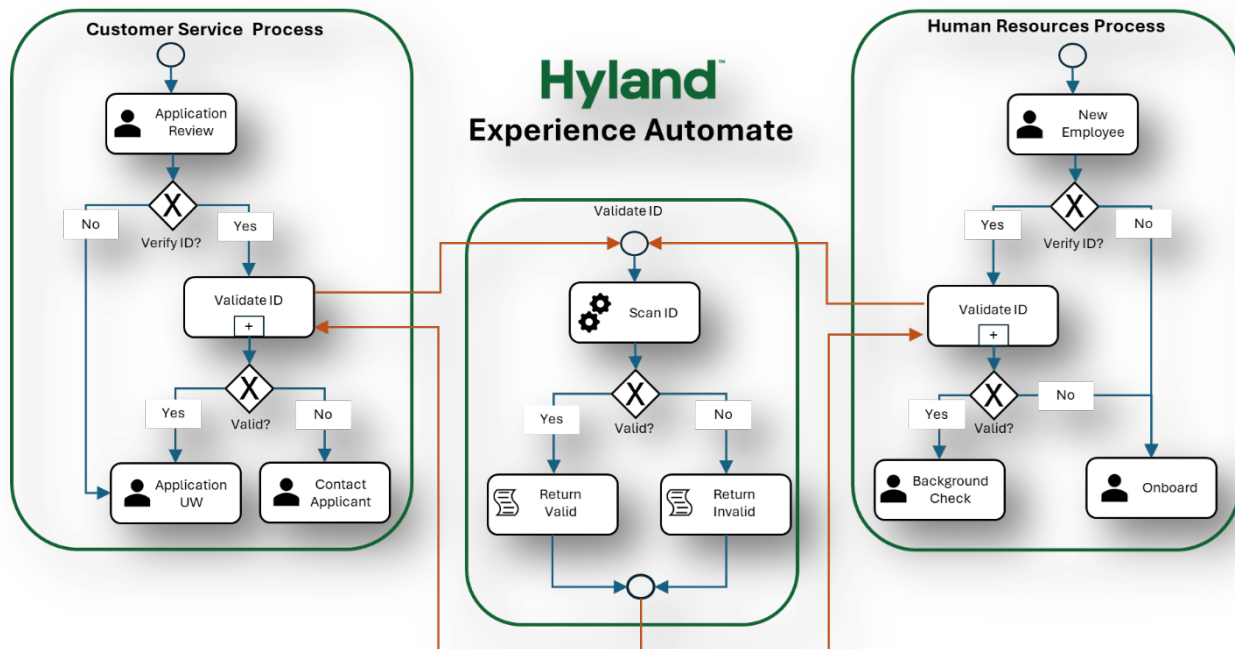


Figure 3 - Example of Process Reusability

Consider if a new form of ID document is introduced, or alternative 3rd party sources for verification become available, changes to accommodate this need now only be made in one place.

The benefits are clear. Reusable components save time and cost in design, development, maintenance and support.

Audit – Peace of Mind and Effective Support



Hx Automate also provides the ability for complete end-to-end auditing of each of the elements of a business process, stages, actions, and roles. For example, what step is the verification in? Which role or person has current ownership? How long did the verification take from start to finish? Is a step in the verification process stuck and needs to be automatically re-routed to another role or person due to a growing backlog or out-of-office situation? Should automatic emails be generated to roles and/or specific users based on certain thresholds or business conditions?

These types of efficiencies are available as part of the platform and should be reviewed and leveraged when implementing process automation.

Whether it's satisfying compliance requirements, maintaining process security or having the information to support and maintain your solutions, Hx Automate has it covered.

Solving Business Problems with Hx Automate – What You Need to Know

Hx Automate is an impressive application, capable of providing effective solutions and significant benefits to an organization. To be successful there are several things to consider when planning for and implementing Hx Automate. In this section we'll identify a few of the most significant based on our practical experience.

Made for the Enterprise

Hx Automate is set up to be a key cog in an organization's technical architecture. Instead of having silos of separate technology, business knowledge, and processes, Hx Automate can help bridge the gap and overarch all of these.

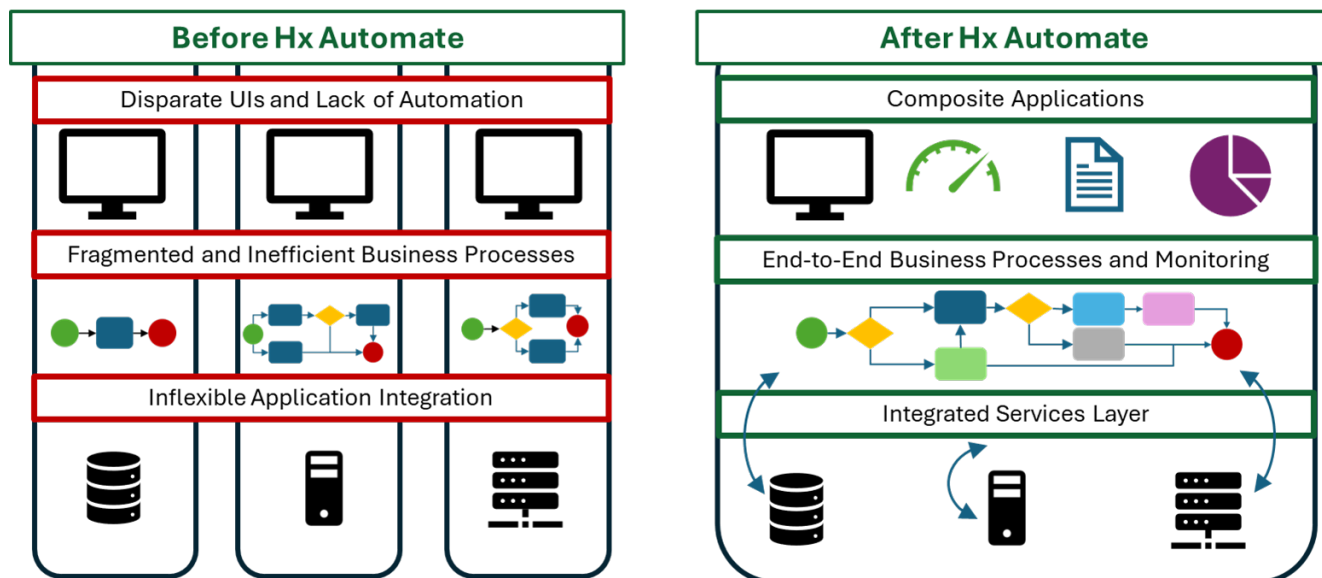


Figure 4 - Hyland Experience Automate Can Streamline Your Business Solutions

An Example Use Case

Let's take a look at how we can implement a Business Process use-case with Hx Automate. We'll go from a very simple approach, add in some complexity with rules and conditions, then show how Hx Automate can be used to implement sub-processes, making a complex process more flexible and manageable.

As our example, we'll examine a process where:

- Content is ingested triggering the workflow.
- Information is logged to a reporting database.
- Data is retrieved from a back-end system.
- The data is processed to be used as properties in the workflow.
- The type of content is determined.
- If the content is an email, then Subject, Address etc. information is extracted from it.
- Depending on how complete this information is, the document is routed to an appropriate user task for action.

Using **Business Process Model and Notation** (BPMN), and the easy-to-use graphical modelling UI, you'll see how Hx Automate can support your business processing rules, from the quite simple to very complex.

Modelling the Basic Workflow

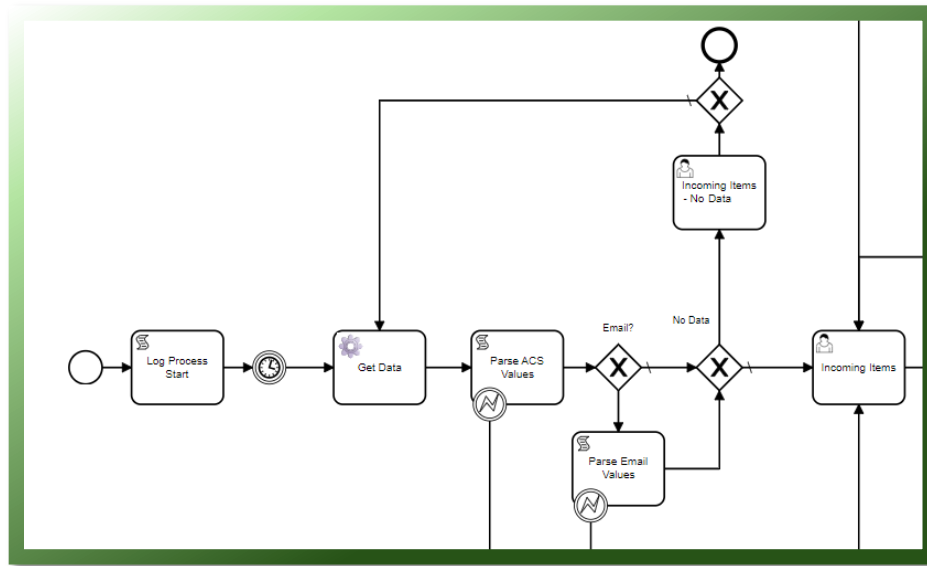


Figure 5 - A Simple Process Flow

Here we show this portion of the workflow in the Hx Automate process design tool.

It's not particularly complex – content enters the workflow, logging happens, back-end data is retrieved and parsed, email content has its information extracted which determines which user task to route the content to. Ultimately, content ends up going to a task to have users add required data, or to an 'Incoming Items' task for whatever the next step in the content's lifecycle will be.

This does the job. However, there's no error handling. What happens if there's a failure at any of the points where data is retrieved or extracted?

Adding Some Complexity

Now let's add in some conditional error handling.

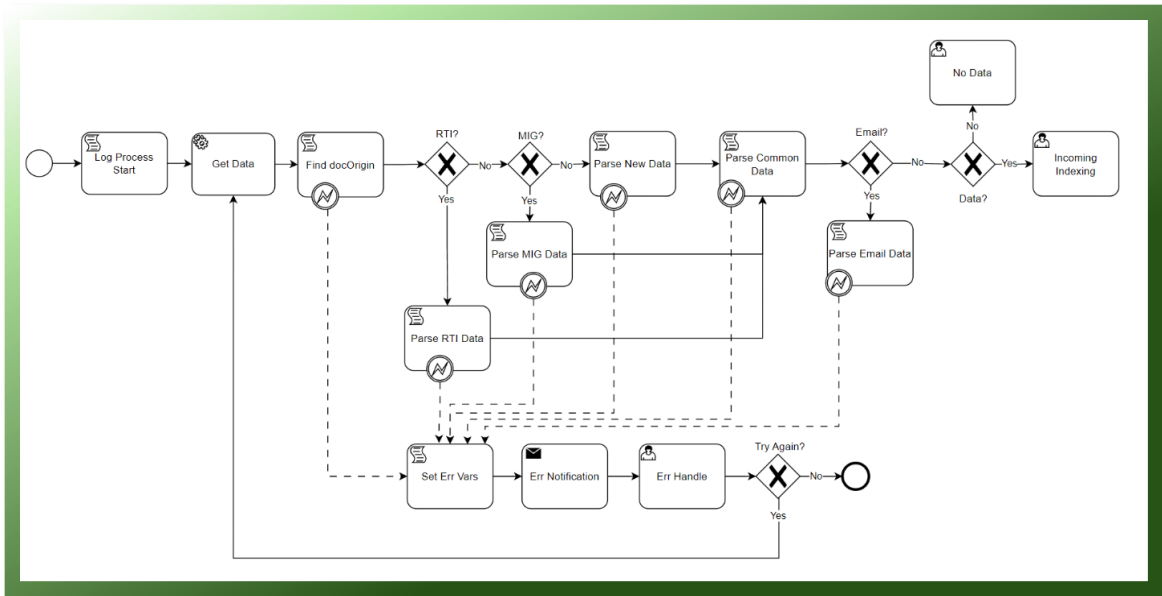


Figure 6 - Adding Process Complexity

Here we've added in more evaluations of data and document types and sent the process on different paths accordingly. We've also implemented basic error handling. Each step where a data parsing error could occur now routes to a task for a user to take some action.

Again, this provides good functionality that achieves our objective, however the design is somewhat clumsy, as illustrated by the routes for the different error events crisscrossing the process map making it difficult to follow. Also, all errors will be handled and routed in the same way, irrespective of what they may relate to. This may not fit in with how the organization really needs them to be handled.

How could Hx Automate address this?

Going Further with Sub-Processes and Reusability

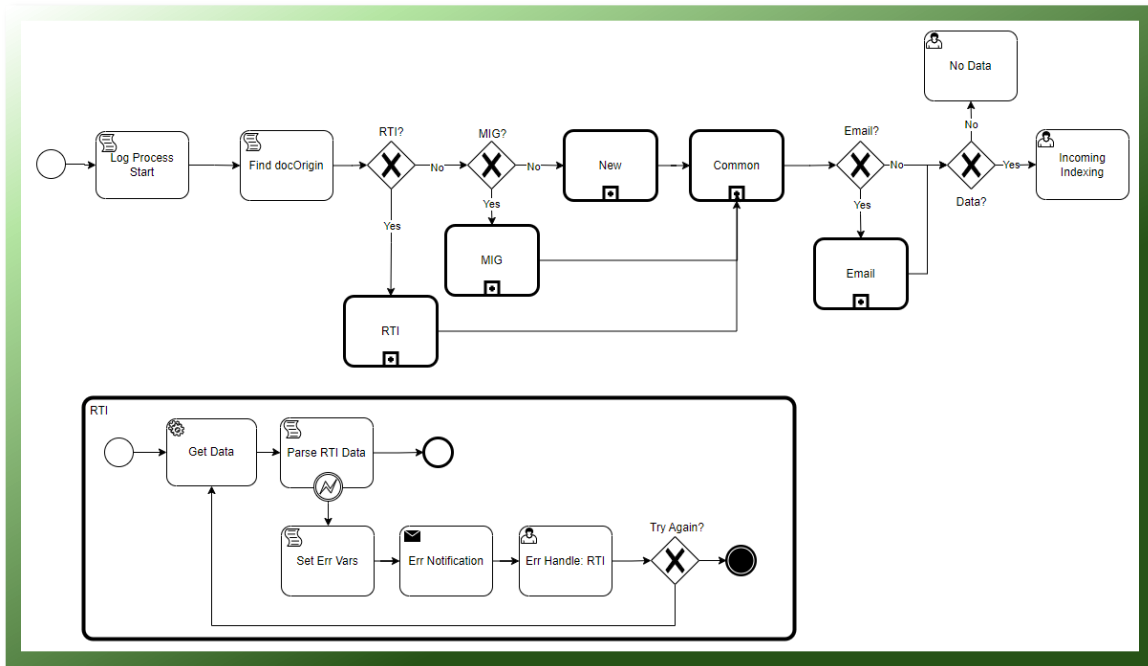


Figure 7 - Keeping Complexity - But Making it Reusable

Immediately you'll see how the workflow above looks so much cleaner.

What we've done is to take our various content type evaluation and extraction tasks (RTI and MIG) and created sub-processes for each of them (the RTI one is shown above). This means that we have more control over the error handling for each content type. Data errors can now be directed to an appropriate audience rather than just routed to a general error pool. A far more efficient, cleaner, and flexible design.

That's not all though. Hx Automate allows the standalone sub-processes you define to be saved as shared components so that they can be reused in other workflows as necessary. Reuse is as simple as a few clicks to export your process from one application and upload it to another.

It also allows for the process to be shared with or reused in other Hx Automate applications. This is done within the process modeling tool by exporting a process from one application and then uploading it to a new application (as shown in the image below).

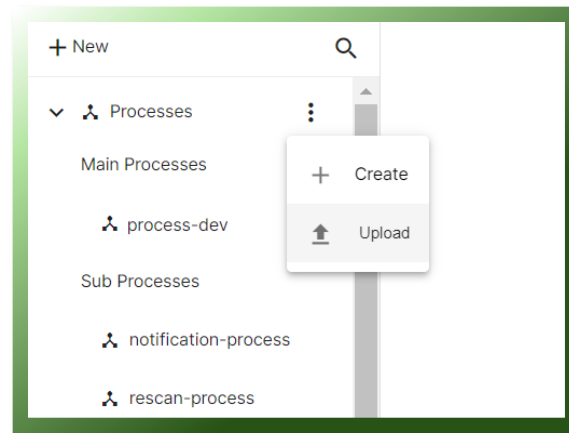


Figure 8 - How to Add a Reuseable Sub-Process to a New Process

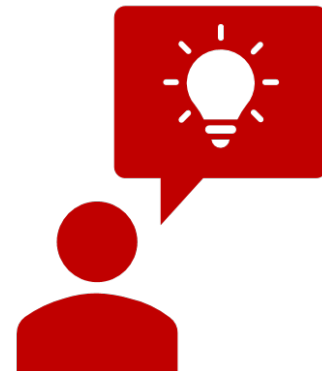
Not only does this save on design and development effort, but it also has the very significant advantage that any subsequent changes to this sub-process can be made in this component without having to modify the main (or parent) process.

So above we've seen how the Hx Automate process modeler provides a clear graphical UI for building BPMN processes, how those processes can be as simple or complex as you wish depending on the problem you're solving, and how the notion of reusable components can simplify design and streamline development and maintenance of your applications.

Avoiding Headaches - Some Important Considerations

Great, you now have the tools to create impactful business processes to solve your complex problems. So, let's jump in and get building, right?

Not so fast... Do that and you might find yourself with a migraine before your project's through. There are a few things you ought to consider as you get started on Hx Automate implementation planning. While by no means a comprehensive list, what follows are some of the vital points and best practices based on our field experience that require particular consideration.



Avoid Déjà Vu

It's the most significant best practice, and the core of BPM 101, but it often gets overlooked – Don't just try to recreate the same legacy process on the shiny new platform. Avoid the 'Lift and Shift' mindset.



This can't be stressed strongly enough. Just because an activity happens in a particular way today, doesn't mean it should tomorrow. Always consider the problem that you're attempting to solve. How can I shorten my time-to-market or quote-to-cash? How can I reduce labor-intensive costs with automation? How can I speed up the loan approval process? Your legacy solution may

'do the job', but it's likely that the way it's solving a problem is based on its inherent inefficiencies, constraints, or capabilities – technology will almost certainly have moved on and will provide more options today.

Similarly, re-examining the problem or business use-case being addressed may highlight differences between the details of a legacy solution and the actual work that's currently needed. Quite often we talk to customers who don't always fully understand how their current processes work. Understanding the "as is" and eventually the "to-be" process flows are crucial for a successful outcome.

We're Used to How it Looks and Functions Today

When implementing a replacement to a legacy workflow you'll likely be under pressure to minimize the amount of change that existing users will experience. It stands to reason that if all the interfaces, features, controls, and buttons can look and work like the old system then less training will be needed, the users will be happy, and adoption will be fast, right? Well, in our experience, not so much actually. Trying to make an application look and feel like its predecessor when the platforms are completely different simply invites opportunities for failure and frustration. Plus, it may put you in a position where you won't be utilizing and leveraging new features, functions, and more efficient UI constructs. Web applications are inherently different to client-server systems, legacy interfaces may rely on features developed specifically for their host. Too much time and effort will be spent for little to no reward.

It's far better to implement a solution that efficiently meets your business needs with modern adaptable features, intuitive interfaces and an efficient architecture. If you've got it right, your users won't miss the old system one bit.

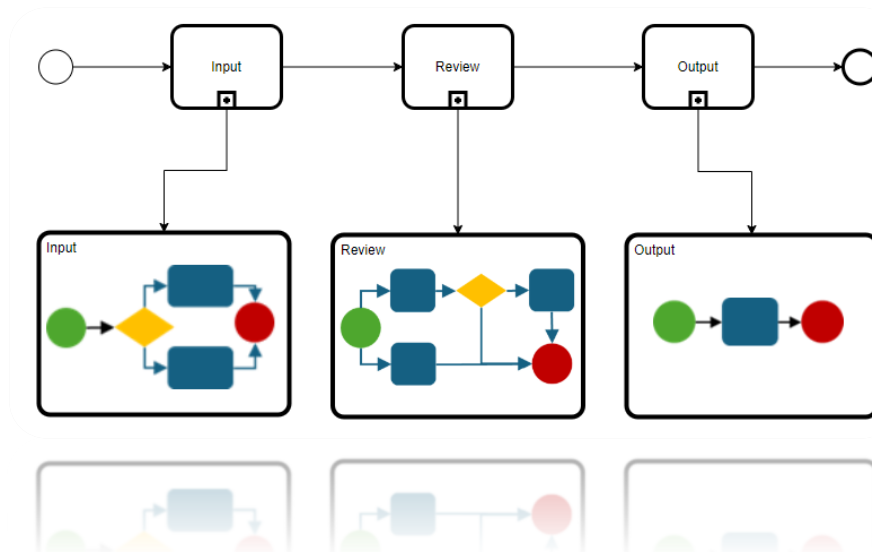
Breaking Up – The Sooner the Better

Plan to use sub-processes – it's an important best practice.

It may not be at all easy to take a complex workflow you've developed and troubleshoot issues. Breaking it down to manageable sub-processes once it's built and deployed is hard and an open invitation to errors.

Based on our experiences, it's always better to start off identifying, designing and building sub-processes during the initial development stages, then plugging them into the larger flow. You'll be able to manage the development effort more efficiently, testing and validation will go more smoothly, and support and maintenance will be much less frustrating

Build UP so you don't break down.



Hx Automate has been developed to allow for the design of processes with these considerations in mind. Efficient components for tasks and connections have been developed and are available to optimize performance. Plus, the modular nature of its process architecture allows for building sub-processes that can be

easily combined to build more complex flows as we showed in the sub-process example earlier.

Don't Let Your Big Data Surprise You

As discussed, Hx Automate is designed to make building and deploying structured, simple-to-complex, scalable workflows straightforward and flexible. Its Cloud-hosted architecture is designed expressly for this.

So, you don't need to worry about resources or the technology behind the curtain, correct?

Well, correct, but... Developers and implementors still need to take into account certain, key information that contributes to the overall complexity and size of your process applications.



You need to be sure you've assessed things such as the number of steps involved in your processes, what and how many departments, roles, and users need to participate, what type of data needs to be handled and how much of it, and what are the integration points that need to be configured.

In our experience, this analysis is vital to identify levels of complexity and anticipate issues that may impact Production systems but don't present themselves as problems in development or test environments, where realistic content, data and use cases just aren't encountered.

A real-world example involves the volume of audit data generated by workflow applications and its impact on application performance, resources, storage and usability.

Earlier we highlighted the advantage of Hx Automate's very rich audit trail, which is enabled by default. This is great for satisfying compliance, reporting, monitoring and other requirements. However, what this means is that every decision taken, and action performed within Hx Automate, is captured in its audit database tables. All property changes, variables used, reads, writes etc. all this data is being stored.

You see where this is going. A more complex workflow can have an exponential impact on the audit data that needs to be stored.

This is why it's important to have developers appreciate how many tasks, properties, decisions, etc. are involved in their processes. It's not just about whether these processes do their functional job, but also what the impact may be on non-functional things like the rate of the underlying database growth and storage needs, not to mention REST API call frequencies and payload size, Query Service activity, and even end user web interface response times.

Our point here isn't to discourage anyone from fully utilizing all the rich features of Hx Automate – quite the opposite, we want you to make the most of what's available. So, we strongly advise that your successful implementation on Hyland's Cloud-hosted platform will benefit from more detailed planning than may be the case with an on-premise solution where there is typically more opportunity for configuring infrastructure resources to support the design, rather than the other way around.

Hx Automate is a modern, effective and powerful platform – implementing it is an opportunity to engineer modern, well-designed, and flexible solutions to your business challenges.

In Conclusion

We've covered a lot of ground in this document. To summarize:

- Hx Automate is a dramatic step towards a process solution that meets the customer where they are – whatever their platform or content solution.
- Its Cloud-native platform provides a highly scalable, component-based Enterprise level Process development environment.

- Built on proven technologies such as Activiti BPM and the Angular framework, it's configurable, customizable, and extensible, using readily available technical skills.
- Reusable components and ready-to-use connectors to popular ECM and 3rd party systems make it flexible, rapid to deploy, and straightforward to manage.
- Effective analysis of existing Business Processes, considering the volume of elements involved, and upfront planning to manage complexity are key to taking advantage of the powerful Hyland Experience Automate platform.
- As an element in the rapidly evolving Hyland Experience product set, it is perfectly positioned to seamlessly integrate with your existing Enterprise systems, and to make full use of emerging next level technologies such as AI.

About ClearCadence

ClearCadence has the knowledge and resources necessary to help you get the best experience out of Hyland Experience Automate.

We have built our business on knowing the full spectrum of what process automation can do for an organization. As your trusted consulting partner, we have expert-level consultants who know BPMN and the core orchestration model within Hx Automate, and have the skills and experience to build modern, full-featured and intuitive applications on this powerful platform.

We feel your future is our future and we have the experience and expertise to develop and guide your roadmap to success.

Contact us and let us assist with your business process automation challenges.



About the Authors



Steve Stott is a Principal Architect at ClearCadence, with a primary focus on designing and delivering effective content-based, process automation solutions for Fortune 1000 clients.



Kevin Beddingfield is a Managing Director at ClearCadence and a long-time BPM architect and hands-on practitioner, with a specific focus on automating business processes - from training on BPM concepts to designing, developing and implementing end-to-end BPM solutions for Fortune 1000 clients.

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