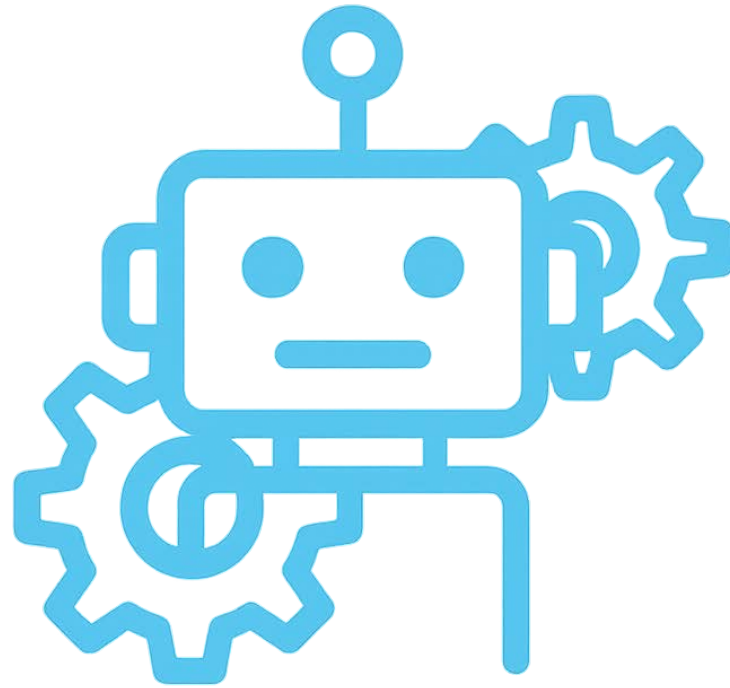




Synaptein Solutions



ROBOTIC PROCESS AUTOMATION



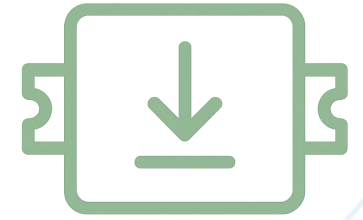
RPA - Key Technical Areas



SCALABILITY



SECURITY



EXTENDIBILITY



RESILIENCE



COMPLIANCE





Scalability

Fully centralized command & control, centrally updated re-usable objects, drag & drop design, expression builder with built-in debug, automatic process design error check, dynamic queue management, and many-to-many robot / process assignment

Control Room

Fully centralized command & control of the Digital Workforce

The screenshot displays the Control Room interface, which is used for managing digital workers and sessions. The interface is divided into several sections:

- Control Panel:** Contains session management options (Last 2 hours, Last 15 minutes, Last 4 hours, Last 8 hours), queue management (Queue Demo, Excel Demo, Customers, DMR, Email Monitor Queue, Invalid PO, Pending Vendor, Ready To Post, SOPS_Email, SOPS_Exception_Queue, SOPS_Mgmt_Report_Queue, SOPS_Region_Queue, Status A, Status B, VBOs to Load, Visual Recognition Queue), active queues, scheduler, reports, recent activity, timetables, today & tomorrow, schedules, and retired schedules.
- Sessions - Control currently running sessions:** This section includes a list of available processes and a table of resources.
- Available Processes:** A list of processes that can be assigned to resources. The list includes: Default, Start Resources, Banking, American Bank - CRM, Populate Customer Queue, Blue Prism, Import VBOs, Demo, NGSC, Process Status - A, Finance, and Invoice Processing.
- Resources:** A table showing the status of resources. The table has columns for Name, State, Session Info, and Member. The resources listed are: Default, BP0381, BP0381.1, BPSUPUS-WIN10, BPSUPUS-WIN10:8182, and BPSUPUS-WIN10:8183.
- Filtered Work View:** A table showing the status of sessions. The table has columns for ID, Process, Resource, User, Status, Start Time, End Time, Latest Stage, and Stage Started. The sessions listed are: 64... Populate Customer Queue, 63... American Bank - CRM, 63... American Bank - CRM, and 63... Populate Customer Queue.

Annotations highlight specific features:

- Digital Workers & Connectivity:** Points to the Resources table.
- Schedules & Active Queues:** Points to the Scheduler and Schedules sections in the Control Panel.
- Filtered Work View:** Points to the Filtered Work View table.

Work Queues

Robotic Process Automation Software

File Home Studio Control Analytics Releases System

Control

Session Management
Queue Management
Queue Demo
Excel Demo
Customers
DMR
Email Monitor Queue
Invalid PO
Pending Vendor
Ready To Post
SOPS_Email
SOPS_Exception_Queue
SOPS_Mgmt_Report_Queue
SOPS_Mgmt_Report_Queue
SOPS_Region_Queue
Status A
Status B
VBOs to Load
Visual Recognition Queue
Active Queues
Scheduler

Queues - Configure work queues

14 queues (Running: 12, Paused: 2)

Queue Name	Status	Worked	Pending	Referred	Total	Average Case Duration	Total Case Duration
Invalid PO	Paused	0	0	0	0	00:00.000	00:00.000
Status A	Paused	8	0	0	8	00:06.500	00:52.000
Customers	Running	0	0	0	0	00:00.000	00:00.000
DMR	Running	0	0	0	0	00:00.000	00:00.000
Email Monitor Queue	Running	0	0	0	0	00:00.000	00:00.000
Pending Vendor	Running	0	0	0	0	00:00.000	00:00.000
Ready To Post	Running	0	0	0	0	00:00.000	00:00.000
SOPS_Email	Running	0	0	0	0	00:00.000	00:00.000
SOPS_Exception_Queue	Running	0	0	0	0	00:00.000	00:00.000
SOPS_Mgmt_Report_Queue	Running	0	0	0	0	00:00.000	00:00.000
SOPS_Mgmt_Report_Queue	Running	0	0	0	0	00:00.000	00:00.000
SOPS_Region_Queue	Running	0	0	0	0	00:00.000	00:00.000
Status B	Running	0	0	0	0	00:00.000	00:00.000
VBOs to Load	Running	70	0	26	96	00:04.208	06:44.000
Visual Recognition Queue	Running	147	0	8	155	00:25.768	01:06:34.000

Queue History

SLA Info.

Tags & Exception Info.

Queue Contents

Clear Filters Show Positions in Queue

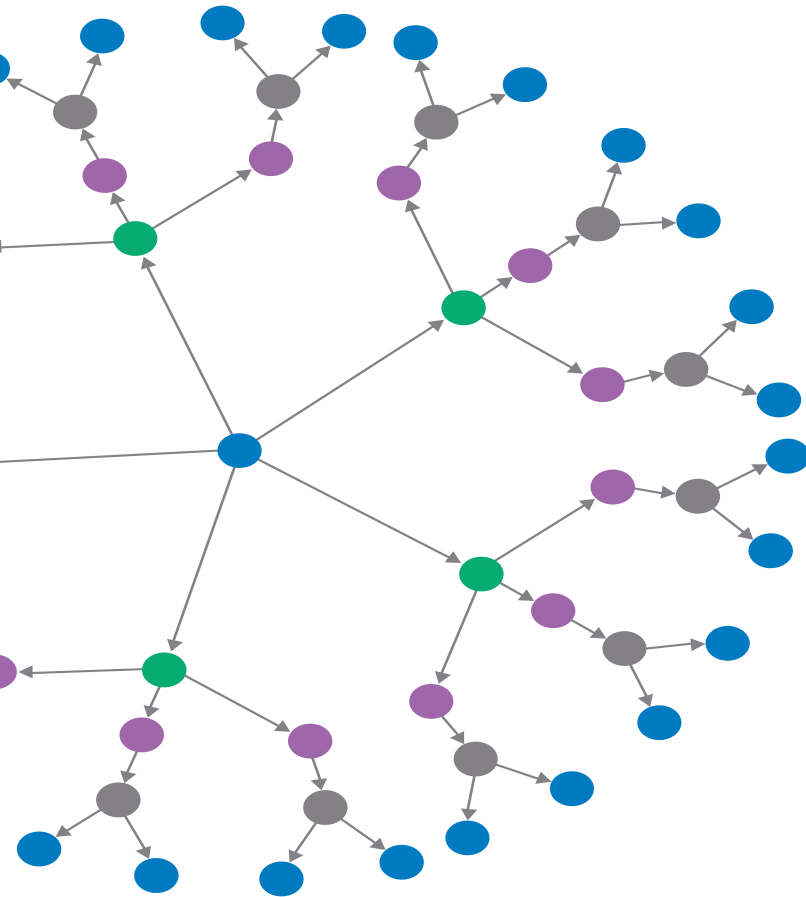
All	All	All	All	All	All	All	All	All	All	All	All	All
Item Key	Priority	Status	Tags	Resource	Attempt	Created	Last Updated	Next Review	Completed	Total Work Time	Exception Date	
331884118	1	Deposit Co	Confirmation Number:	BPSUPUS-WIN10	1	4/12/2019 8:14:53 AM	4/12/2019 8:15:31 AM		4/12/2019 8:15:31 AM	00:16		
457566489	1	Deposit Co	Confirmation Number:	BPSUPUS-WIN10	1	4/12/2019 8:14:53 AM	4/12/2019 8:15:50 AM		4/12/2019 8:15:50 AM	00:19		
149161464	1	Deposit Co	Confirmation Number:	BPSUPUS-WIN10	1	4/12/2019 8:14:53 AM	4/12/2019 8:16:13 AM		4/12/2019 8:16:13 AM	00:23		
557373391	1		Exception: Business Ex	BPSUPUS-WIN10	1	4/12/2019 8:14:53 AM	4/12/2019 8:16:13 AM			00:00	4/12/2019 8:16:13 AM	
654932673	1		Silver	BPSUPUS-WIN10	1	4/12/2019 8:14:53 AM	4/12/2019 8:14:53 AM			00:00		
557373391	1		Silver	BPSUPUS-WIN10	2	4/12/2019 8:14:53 AM	4/12/2019 8:14:53 AM			00:00		
956795352	2		Silver	BPSUPUS-WIN10	1	4/12/2019 8:14:53 AM	4/12/2019 8:14:53 AM			00:00		
558239465	2		Silver	BPSUPUS-WIN10	1	4/12/2019 8:14:53 AM	4/12/2019 8:14:53 AM			00:00		
933193982	2		Silver	BPSUPUS-WIN10	1	4/12/2019 8:14:53 AM	4/12/2019 8:14:53 AM			00:00		
265439815	3		Silver	BPSUPUS-WIN10	1	4/12/2019 8:14:53 AM	4/12/2019 8:14:53 AM			00:00		
985424394	3		Silver	BPSUPUS-WIN10	1	4/12/2019 8:14:53 AM	4/12/2019 8:14:53 AM			00:00		

Process Locks

Process Priority

Objects : Building Blocks for Scale

By modelling the parts of the application that you are going to use first, then creating re-usable objects that interface with the system like a user, processes can be layered on top that chain together this **library of objects** with business rules to create flexible, maintainable processes.



If a system changes, **change the model. Once.**

If an application interaction needs to change, **update the object. Once.**

All of the processes that use this information inherit these changes, without re-recording or rebuilding them. And processes can be written more quickly as the building blocks that already exist can be re-used in different business scenarios.

With **Synaptein**, the Total Cost of Ownership exponentially reduces over time.



Resilience

Intelligent tracking of underlying application logic, real-time logging to a central database for rollback or hot-failover, no license fee for DR, support for hybrid-cloud infrastructure, no-code exception handling, and build & debug in one studio

Object Studio

Enables the creation of re-useable RPA Objects (Application Actions) as the building blocks for the business process (Lego Pieces).

The screenshot displays the Object Studio interface with several key components highlighted:

- Visual Element Identification:** A callout points to a web browser window showing a login form. The form fields are highlighted with green boxes, and a red arrow points to the 'User Name' field.
- Attribute Tracking (not screen scraping):** A callout points to the 'Application Modeller' window, which shows a tree view of the application model. The 'Login Page' is selected, and the 'Attribute Tracking' tab is active, displaying a table of attributes.
- Automated Debug:** A callout points to the 'Object Studio - Edit - National Bank Pro' window, which shows a flowchart of the login process. The 'Automated Debug' button is highlighted.
- Intelligent Wait:** A callout points to the 'Wait' action in the flowchart, which is used to wait for the application to load or for a specific condition to be met.

The 'Application Modeller' window shows the following attributes for the 'Login Page':

Name	Match Type	Value
Tag Name	= (Equal)	INPUT
Input Type	= (Equal)	text
ID	= (Equal)	ctl00_
Enabled	= (Equal)	True
Class Name	= (Equal)	textbo
Y	= (Equal)	65
	= (Equal)	0
	= (Equal)	148
	= (Equal)	
Title	= (Equal)	/HTM
Path	= (Equal)	http://
Parent URL	= (Equal)	http://
Link	= (Equal)	
Input Identifier	= (Equal)	

Process Studio : Action Stage Properties

Action Properties

Name: Save File

Description:

Business Object: Notepad

Action: PDF

Inputs: FileName, Overwrite?

Outputs:

Logging Options for Every Object

Stage logging: Enabled

Warning threshold: System Default

Number of minutes: 5

(0 to disable)

Centrally Re-Usable Objects

Action Properties

Name: Export to PDF

Description:

Business Object: MS Word VBO

Action: Add Table Row

Inputs: handle, documentname, Table Number

Outputs:

Action to take within Object

Group: ☐ Page ☒ Data Type

☐ View All Items

Binaries

Collections

Dates

DateTimes

Flags

Images

Numbers

Passwords

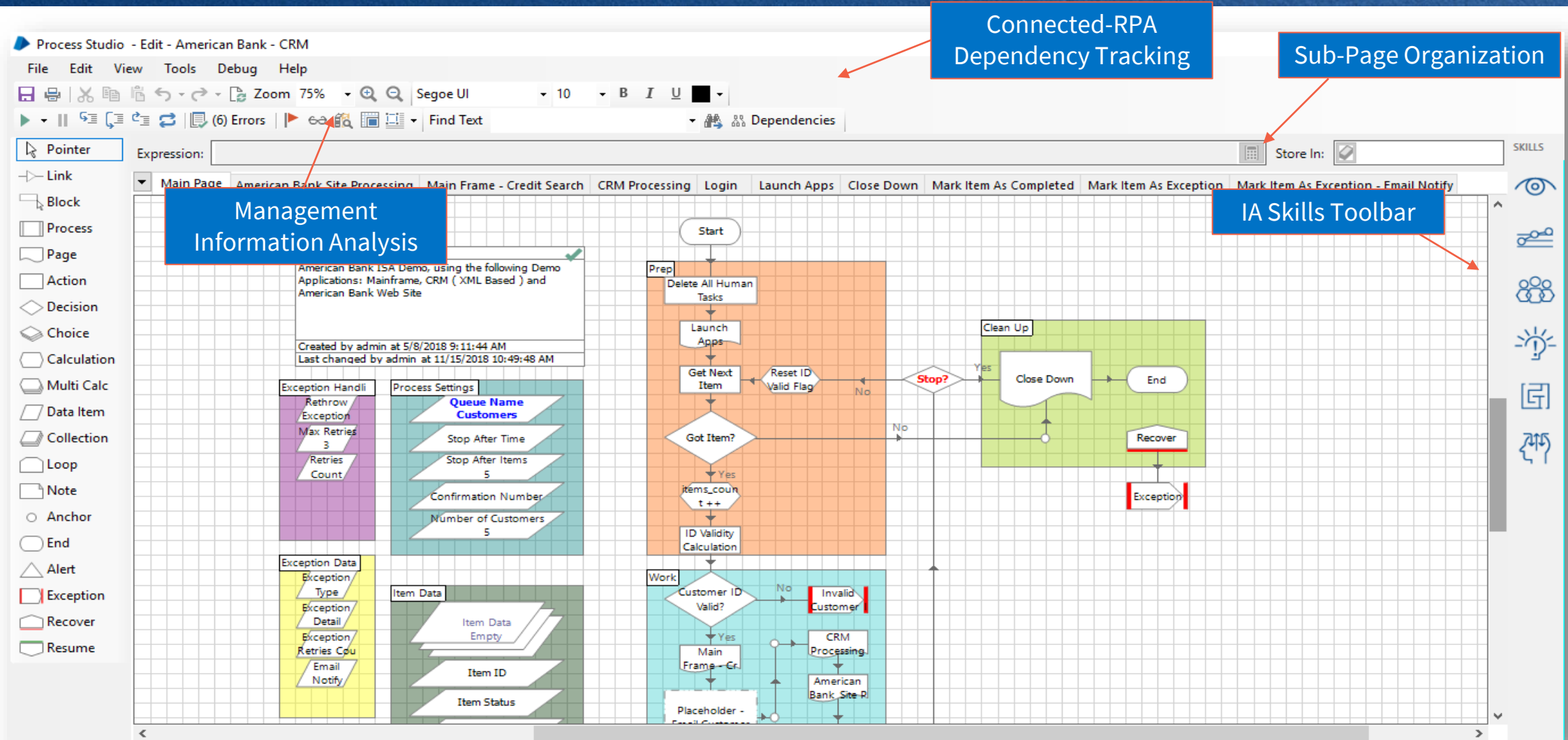
Text

Times

TimeSpans

Process Studio

Enables SME to design, build, edit and test processes, constructed from RPA Objects.



Decision Property Wizard

The screenshot shows the 'Decision Properties' window with the following components and annotations:

- Name:** Max Retries Exceeded
- Description:** (Empty text box)
- Expression:** `[Exception Retries Count] > [Max Retries]`
 - Annotation: **MS Access-Style Expression Logic** points to the expression text.
- Buttons:** **Validate** and **Evaluate Expression**
- Function Library:** A tree view on the bottom left showing categories like Environment, Exceptions, File, Logic, and Number. The **Number** category is selected.
 - Annotation: **Function Library** points to the Number category.
- Function Detail:** A panel on the bottom right showing details for the **Multiply (*)** function, including its description and operand input fields.
 - Annotation: **Expression Builder** points to the Multiply function detail.
- Data Items:** A panel on the right showing a list of data types: Binaries, Collections, Dates, DateTimes, Flags, Images, Numbers, Passwords, Text, Times, and TimeSpans.
 - Annotation: **Data Elements** points to the Numbers category.

Continuous Improvement : Management Information

Process Studio - Edit - Bulk IFA Application Process

Process MI for Bulk IFA Application Process

Process Management Information

Resources to search

Name	State	Members	Last Error
Active Queue			
CustomerServices	Offline	6	
Finance	Offline	4	
HumanResources	Offline	8	
JWALDEN	Connecting		No such host is know
Operations	Offline	24	
RPA-VMDEVELOP	Connected		
RPA-VMDEVELOP:8183	Connecting		No connection could
RPC-FINSERVDEMO	Connecting		No such host is know
SAPSERVER	Offline		

From 7/11/2017 5:00:00 AM To 8/12/2017 5:00:00 AM

☐ Debug Sessions Only 35 Sessions found Search

Sessions to query

Resource	Process	Start Date	End
✓ RPA-VMDEV...	Bulk IFA Applica...	8/7/2017 3:40:14 ...	8/7/...
✓ RPA-VMDEV...	Bulk IFA Applica...	8/7/2017 3:07:12 ...	8/7/...
✓ RPA-VMDEV...	Bulk IFA Applica...	8/7/2017 12:12:4...	8/7/...
✓ RPA-VMDEV...	Bulk IFA Applica...	8/7/2017 10:42:1...	8/7/...
✓ RPA-VMDEV...	Bulk IFA Applica...	8/4/2017 12:26:1...	8/4/...
✓ RPA-VMDEV...	Bulk IFA Applica...	8/3/2017 12:52:3...	8/3/...
✓ RPA-VMDEV...	Bulk IFA Applica...	8/3/2017 12:32:3...	8/3/...
✓ RPA-VMDEV...	Bulk IFA Applica...	8/3/2017 12:01:2...	8/3/...
✓ RPA-VMDEV...	Bulk IFA Applica...	8/3/2017 11:37:1...	8/3/...
✓ RPA-VMDEV...	Bulk IFA Applica...	8/3/2017 10:47:2...	8/3/...
✓ RPA-VMDEV...	Bulk IFA Applica...	7/27/2017 4:47:3...	7/27/...
✓ RPA-VMDEV...	Bulk IFA Applica...	7/27/2017 3:56:0...	7/27/...
✓ RPA-VMDEV...	Bulk IFA Applica...	7/27/2017 3:54:0...	7/27/...
✓ RPA-VMDEV...	Bulk IFA Applica...	7/27/2017 12:26:...	7/27/...
✓ RPA-VMDEV...	Bulk IFA Applica...	7/27/2017 12:25:...	7/27/...
✓ RPA-VMDEV...	Bulk IFA Applica...	7/27/2017 12:23:...	7/27/...
✓ RPA-VMDEV...	Bulk IFA Applica...	7/25/2017 9:26:2...	7/25/...

35 Sessions selected Select All Select None

Stages to analyse

- ☐ Check Eligibility
 - ☐ Actions
 - ☐ Alerts
 - ☐ Calculations
 - ☐ Choices
 - ☒ Decisions
 - ☐ Ends
 - ☐ Exceptions
 - ☐ Multiple Calculations
 - ☐ Processes
 - ☐ Recovers

Actions to Analyze

Overlay's Log History for Path Analysis

Update Local Excel Record

Start

Locate Customer

Get Eligibility Data

Staff Marker?

Reason - Staff

Resident?

Reason - Overseas

Over 18?

Reason - Under 18

Check ISAs

ISA Already?

Reason - ISA Held

Ineligible = True

Access to MF?

0/142

142/142 (100%)

142/142 (100%)

0/142 (0%)

142/142 (100%)

180/180 (83%)

38/218 (17%)

38/180 (21%)

142/142 (100%)

0/142 (0%)

142/142 (100%)

0/142 (0%)



Security

Military-grade credential management, integration with AD/LDAP/CyberArk, encryption of data in transit/at rest, business-level segregation of object and process permissions, decoupled build & run via granular roles-based access control, integrated password vault, disk level encryption, data masking, and integrated release management

Security & Compliance Imperatives

With the widespread adoption of Robotic Process Automation (RPA), organizations have come to understand that a digital workforce requires oversight, security, and governance safeguards similar to their human counterparts.

There are four high-level considerations business leaders must address to ensure the security and compliance of their digital workforce.



1

Infrastructural Security

What You Need to Know: At a minimum, organizations that plan to implement RPA should create an environment where their robots can operate—as well as be configured and assigned—that is free from interference, informal or casual inspection, and especially, tampering.



Action Item: Segregate processing and management environments and impose separate governing controls for each.

2

Centrally-Managed User Access Control

What You Need to Know: Looser access controls, such as team-level access, are not sufficient for fail-safe security and compliance. Access parameters that are managed per robot, process, and even specific objects are inherently more secure.



Action Items: Enable only specific users to build specific processes using specific objects. Then enable multifactor security that mandates secondary approval for all changes.

3

Systemized Activity Logging

What You Need to Know: Organizations can only ensure accountability and responsibility when 100% of all transactions for every single process are recorded in real-time and securely stored.



Action Item: Only consider RPA operating systems that systematically record 100% of every action taken and changes made—creating an unmalleable and irrefutable audit trail.

4

Irrefutable Audit Trail

What You Need to Know: Ultimately, the quality and integrity of the audit trail will not only discourage malicious activity but will provide non-repudiation.



Action Item: Implement an RPA operating system that not only logs everything, but centrally stores the log to eliminate any and all tampering of the record.

Credential Manager Overview

Environment Security

Zero Retention

- Passwords are used transiently and not retained

- Runtime environment subject to rigorous physical and logical security controls
- All access audited
- Optionally secured further using RPA Secure Windows Authentication software

Encryption Key Held on RPA Server

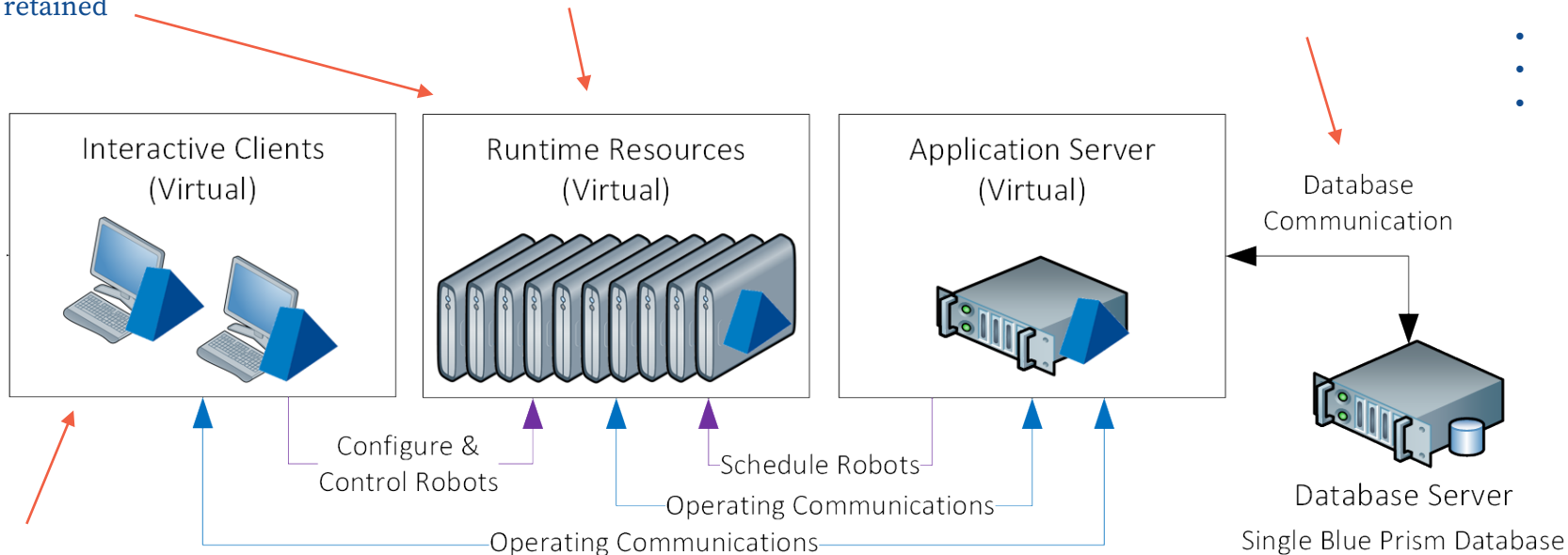
- Enables separation of roles/responsibilities
- Ensures no DBA can access encrypted data in isolation
- Enables different keys to be used across DTAP configurations

Recommended



Active Directory

- Message content security and integrity
- Single sign-on for the RPA Platform
- Runtime Resources authenticate using a domain account



Access Control Policy

- Implemented on a per credential basis, restricted by combination of user / process / resource
- Allows strict control over how credentials are used (in addition to expiry and change frequency rest requirements)

Secure Network Communications

- Passwords transmitted securely using a trusted .NET Remoting or WCF connection
- Clients & Resources can connect to Application Servers using the host name, IPv4 or IPv6.

Encrypted repository

- Passwords securely held within SQL Server database
- Encrypted using industry recognised techniques (3DES/192 or AES/256)

Optional



CYBERARK®

The RPA CyberArk Integration allows for credentials to be retrieved from the CyberArk Credential store, whilst retaining the controls over their context within the RPA environment, using existing functionality

Exception Handling : Password Protected Screen Capture

The screenshot illustrates a password-protected screen capture exception. A file explorer window shows the file 'Accounts to Process DONE.xlsx' in the Documents folder. A 'File In Use' dialog box is displayed, stating 'The action can't be completed because the file is open in Excel 2013. Close the file and try again.' The background shows a Microsoft account login page for 'MSCOM-SiteMuse' and a 'Resources' table listing various runtime sessions.

Resources Table:

Name	State	Session Info	Control State
USA			
Boston			
Runtime499	Idle	No active sessions	Connected
Runtime500	Working	1 active, 1 pending	Connected
Runtime501	Offline		
Runtime502	Warning	2 active, 1 warning	Connected
Runtime503	Missing	Connection lost - 55s	Offline
New York			
Runtime750	Working	1 active	Connected
Runtime760	Logged Out		Connected
Runtime765	Warning	1 active, 1 warning	Connected
Orlando			
San Francisco			

The 'Runtime765' row is highlighted, and a context menu is open, showing options: Members, Capabilities, Show latest screen capture, Available resources only, and Unavailable resources only.

User Permissions & Access Control

Login Agent

RPA's Login Agent provides a mechanism to assist with automating the login process for a Windows machine so that a RPA Runtime Resource can be started. This capability allows digital workers to be fully autonomous, maintain their own passwords, report they are clocked in for work, and clean-up their workspace.

A number of example RPA processes are provided within the release package:

Change Password - Resets the password for the currently logged on user and overwrites the password associated with the credential record. Provides support for configuring the complexity of the password that will be generated.

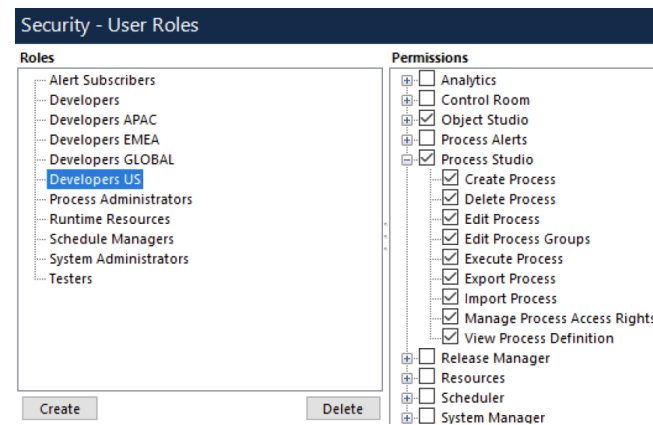
Check Logged In- Checks the current logged in state of the device where the Runtime Resource is running.

Login - Instructs a Login Agent Runtime Resource to retrieve a credential and execute a login.

Logout- Instructs a RPA Runtime resource to close all programs in the user session and logout of Windows. An optional delay can be passed in as the parameter 'Delay' which will hold off from logging out for the time specified. The process will still complete immediately, and the session will log out after the delay has passed.

User Access Control (UAC) & Environmental Context

Fully customizable role-based access is available, using the Principle of Least Privilege. Individual users and whole groups of users can be assigned administrator-configurable combinations of system access rights.

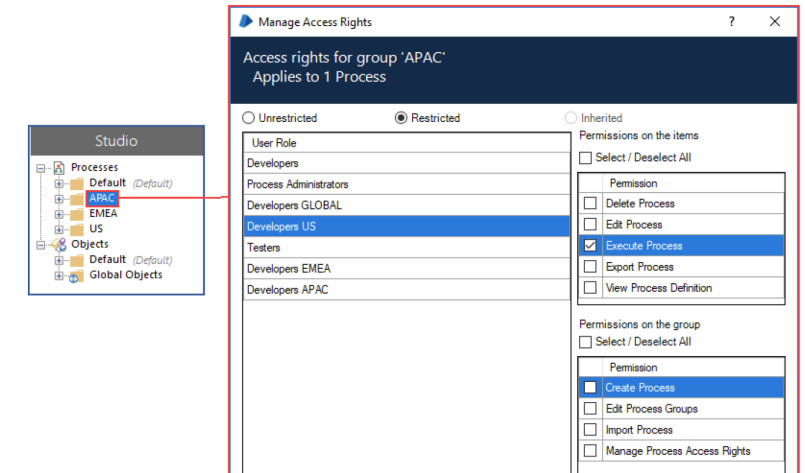


This access is defined separately within the context of each environment: Development, UAT and Production so that, for example, wholesale editing rights need not be granted across the board but instead in strict isolation.

User Access can also be governed centrally by means of integration with Microsoft Active Directory. This allows system access to be maintained under the central control and governance of an authorised administrator, in the context of users' other access rights across the network.

Multi-Team Environments

Multi-Team Environments enable organizations to model increasingly complex security configurations within RPA by extending the existing role-based access controls to enable more granular configurations.



These capabilities better enable organizations to share RPA assets, such as Business Objects and Runtime Resources, with multiple teams within a given RPA environment by allowing permissions to be assigned, not only based on the type of asset, but also based on the hierarchical structure of the assets.



Compliance

Cradle-to-grave object & process change history, visual side-by-side process history comparison, real-time entity-level session logging, system audits, process execution audits, work queue snapshots, password protected exception screen capture, and integrated release management

Process Change Audit

File | **Home** | **Studio** | **Control** | **Analytics** | **Releases** | **System**

Studio

Processes

- Default (Default)
- ABBY
- FlexiCapture 12 Listener
- Appian
- Banking
- Blue Prism
- Chatbot
- CustomerServices
- New Account Onboarding
- Cyclops
- Demo
- Ephesoft
- Finance
- Geographic MTE Demo
- Hemstad
- Intelligent Services
- KYC Demo
- Microsoft - KYC Process - Full**
- Login Agent
- NBS
- Oracle
- SAP
- TrustPortal
- VBO Import Utility

Objects

- Default (Default)
- ABBY
- American Bank
- Appian
- Banking
- Blue Prism OOTB
- BP

View detail about Processes or Business Objects

Microsoft - KYC Process - Full

This is a single process that incorporates five separate processes.

Version history for this object / process:

Date and Time	Type of Edit	By User	Edit Summary	Available?
9/4/2018 9:00:43 PM	Modification	NRudy	Updated email component to use fewer actions	Yes
9/4/2018 8:50:59 PM	Modification	NRudy	working to slim down email component	Yes
8/28/2018 11:42:53 ...	Modification	NRudy	Updated Email profile for Rosie	Yes
8/9/2018 8:07:16 AM	Modification	LBachenhei...	1 grid spacing	Yes
8/9/2018 8:04:56 AM	Modification	LBachenhei...	1 pt grid	Yes
8/1/2018 10:53:00 ...	Modification	LBachenhei...	Microsoft	Yes
7/16/2018 11:42:16 ...	Modification	NRudy	Tested new data item clearing functionality	Yes
7/16/2018 11:36:15 ...	Modification	NRudy	Updated Process to clear all data items at the end of the process	Yes
7/13/2018 2:43:55 P...	Modification	NRudy	Removed unnecessary anchor on main page	Yes
7/13/2018 12:14:59 ...	Modification	NRudy	Process overwritten by importing a release	Yes
7/11/2018 11:45:34 ...	Modification	NRudy	Process overwritten by importing a release	Yes
7/11/2018 10:11:29 ...	Modification	NRudy	Updated API URL to East	Yes
7/10/2018 9:42:10 P...	Modification	NRudy	Updated to call appropriate credentials	Yes
7/10/2018 9:35:58 P...	Creation (vi...	NRudy	Process created	Yes

Summary of Changes

Immutable Update History

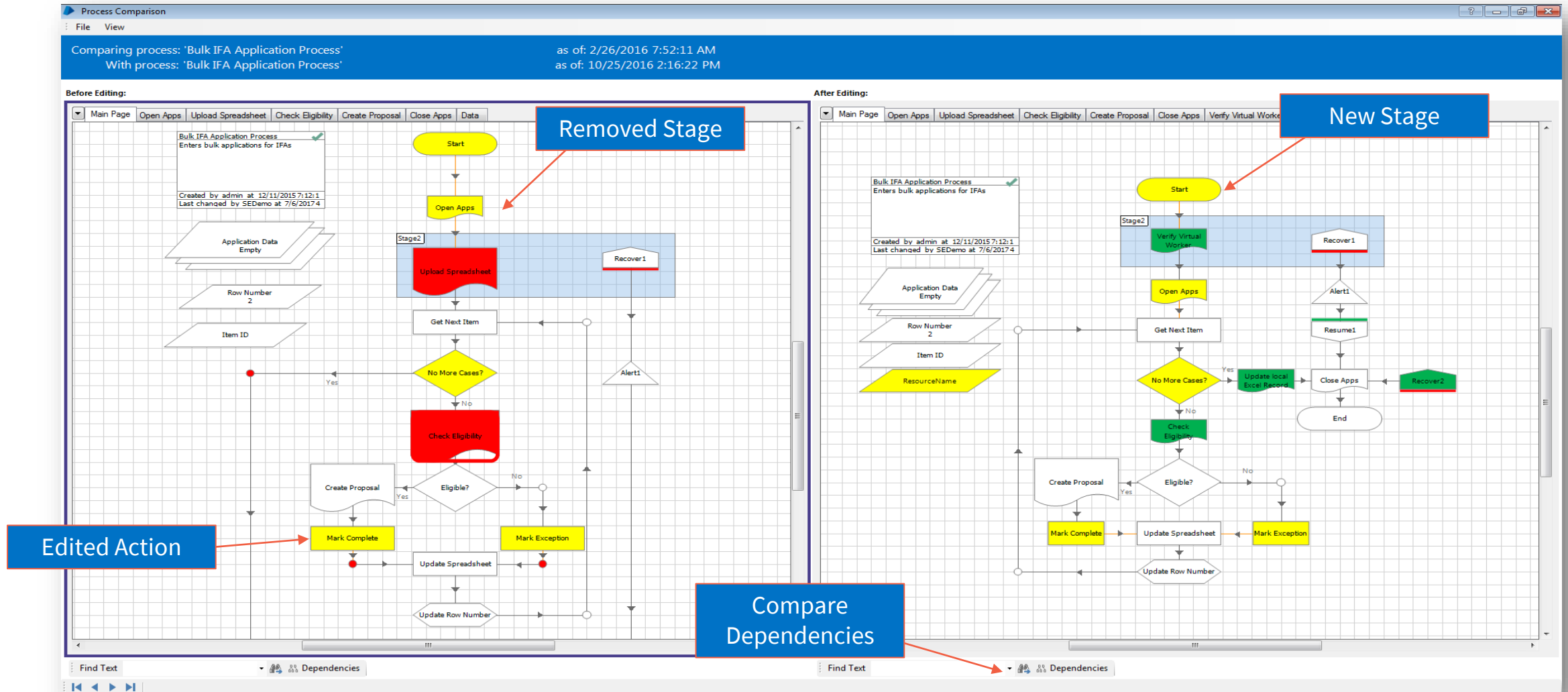
Publisher

Highlight 2 Versions for Comparison (next slide)

View

Compare

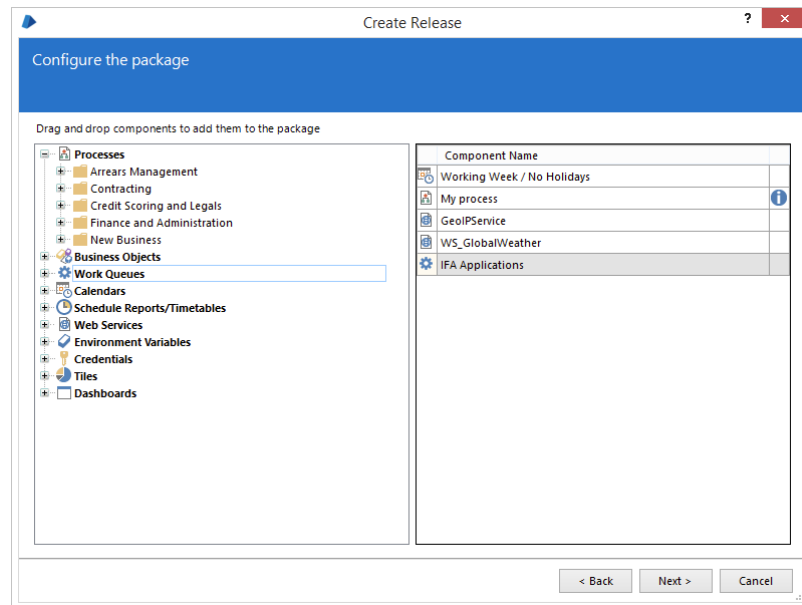
Process Version Comparison



Change Management & Version Control

Release Manager

The RPA Release Manager provides a secure, audited and managed means of deploying changes from one environment to another – eg. From Development to Test & Production environments.



The Release Manager takes the form of an intelligent wizard that helps the user to wrap all of the components and dependencies of an automation into a single unit, allowing changes to be implemented atomically.

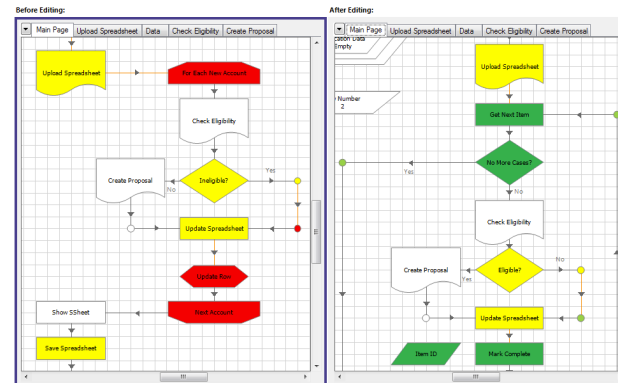
The resulting package is exported in an open xml-based file format which can be stored and versioned in independent repositories, if required.

Process Change and Version Control

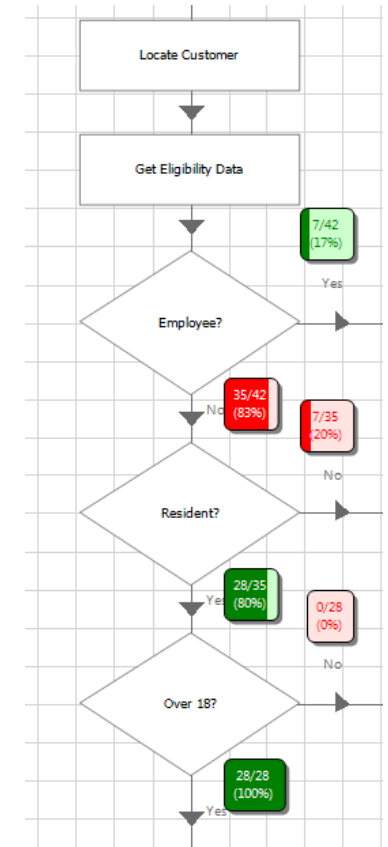
Users are required to document their changes each time they save a change to a process and a full version history is captured along with the date/time and identity of the person making each change.

Processes - History				
Bulk IFA Application Process				
Date and Time	Type of Edit	By User	Edit Summary	Available?
27/10/2015 13:04:29	Modification	GJones	Updated Operational Fo...	Yes
02/10/2015 15:13:07	Modification	LWinter	Process overwritten by L...	Yes
20/03/2015 13:49:34	Modification	MMayhew	Remove start time variable	Yes
20/03/2015 13:49:22	Modification	GJones	Monitor start time for m...	Yes
20/03/2015 13:48:54	Modification	LWinter	Add status stage	Yes
20/03/2015 13:48:11	Modification	GJones	Updated case complete ...	Yes
18/11/2014 08:31:48	Modification	LWinter	Updated for new system ...	Yes
17/11/2014 16:36:42	Creation (vi...	admin		Yes

A full visual comparison can be made between any two versions in "Process History" and this uses a red / amber / green convention to highlight any deleted / modified / new stages, respectively.



Process History exists not only as an audit feature but also to facilitate rollback to old versions and in order to facilitate the correct interpretation of historic log files against the corresponding process, as it appeared at the time.



Platform & Process Audit

Platform Audit

Changes to the platform itself are audited as well as changes within it. Each *event*, as well as each *change*, is audited.

“In effect, the System Administrator's behaviour is subject to the same level of scrutiny as that of ordinary users.”

Events include actions such as merely logging in to the system; for example. *Changes* include interventions such as amending environment variables; making changes to users' privileges; the importing and exporting of data; etc.

Audit Log 17/11/2014

Time	Narrative	Comments
16:36:35	User 'admin' logged in to resource 'WIN-7B76RM...	
16:36:37	User 'admin' logged in to resource 'WIN-7B76RM...	
16:36:37	The user 'admin' imported the business object 'MS...	Object imported from file C:\Users\BluePrism\A...
16:36:38	User 'admin' logged in to resource 'WIN-7B76RM...	
16:36:38	The user 'admin' imported the business object 'Util...	Object imported from file C:\Users\BluePrism\A...
16:36:39	User 'admin' logged in to resource 'WIN-7B76RM...	
16:36:39	The user 'admin' imported the business object 'NB...	Object imported from file C:\Users\BluePrism\A...
16:36:42	User 'admin' logged in to resource 'WIN-7B76RM...	
16:36:42	The user 'admin' imported the business object 'Nat...	Object imported from file C:\Users\BluePrism\A...
16:36:42	User 'admin' logged in to resource 'WIN-7B76RM...	

In effect, this means that the System Administrator's behaviour is subject to the same level of scrutiny as that of ordinary users.

Operational Audit: Process Logs

Work items are typically captured in an RPA queue. This provides Operations teams with immediate access to case status and outcomes as well as management information on case times, creation & completion dates, etc.

The screenshot shows a 'Queue Contents' window with a table of work items. A context menu is open over the table, listing actions like 'Refresh View', 'Select All', 'Unlock Selected Case(s)', 'Mark Selected Case(s) with Exception', 'Delete Worked Case(s) from Selection', 'Force Retry', 'Edit Status', 'View all attempts of this item', 'Copy Item Key to clipboard', 'Export current view as report ...', and 'View Log'. The table has columns for Item Key, Priority, Status, Tags, Resource, and Attempt. The first row shows Item Key 24021542532808, Priority 0, Status 0, Tags, Resource AUTHORISEDPC, and Attempt 1.

Item Key	Priority	Status	Tags	Resource	Attempt
24021542532808	0	0		AUTHORISEDPC	1
24071313382094	0	0			1
24129830875012	0	0			1
24071313382094	0	0			1
24148247204724	0	0			1
24081312332144	0	0			1
24129830875012	0	0			1
12345612345678	0	0			1
24129830875012	0	0			1
24021542532808	0	0			1
24071313382094	0	0			1
24021542532808	0	0			1
24071313382094	0	0			1
24129830875012	0	0			1
24071313382094	0	0			1

A detailed history of activity is captured by runtime robots on a case by case basis, who record all of their activity in a session log. This record includes - for example - every button pressed, every piece of data that is read, every decision made, etc.

Where sensitive data is concerned, the logged information can be masked or omitted if necessary in order to comply with data standards such as PCI. The detail of the log relates directly back to the structure of the process diagram, making it easy to interpret for business users.

Log Contents

System Usage

- Login attempts, both successful & failed
- User activities, locations and outcomes

Administration

- Changes to system configuration
- User Management – deletions, additions, amendments
- Changes to endpoints, input/output locations, environment variables, etc.

Development Lifecycle

- Creation of new processes
- Process Changes – prominent audit trail and ability to provide peer review
- Change management – publication, import / export, migration, etc.

Operations

- Which user has started which process
- Where and when a process has executed and how long for
- Complete record of robot activities

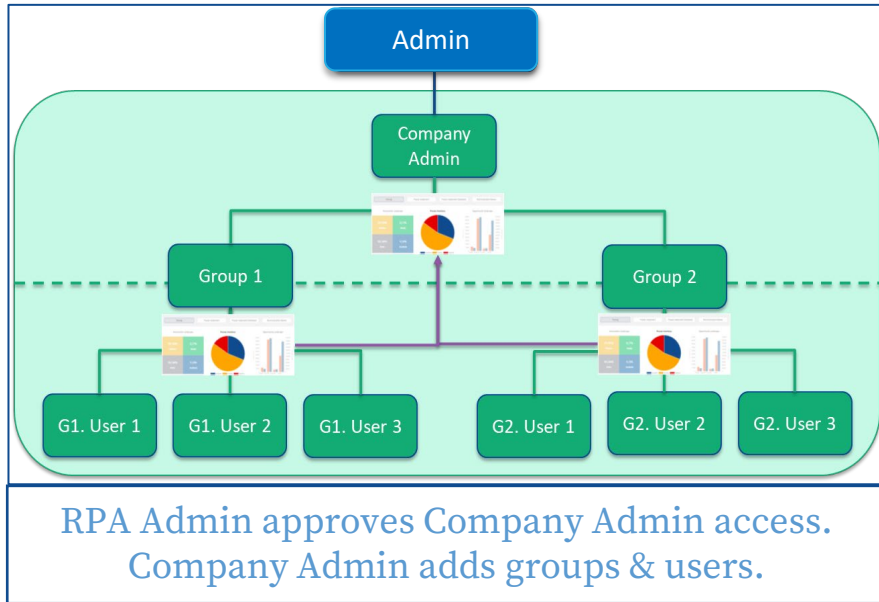


Extensibility

Process Discovery Tool, Public & Private Digital Exchange, API Configurator, Data Gateways, Drag & Drop IA Skills Toolbar, & Intelligent Document Processing (Decipher Beta)

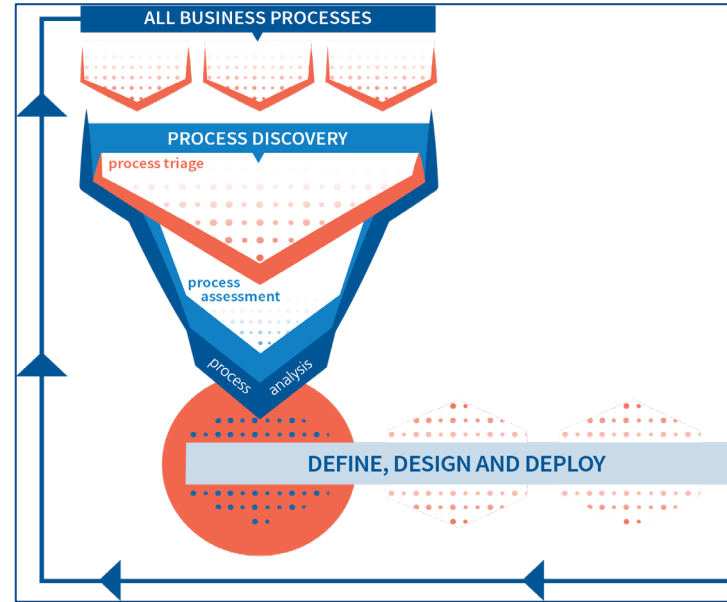
Process Discovery Tool

Group-Based Access



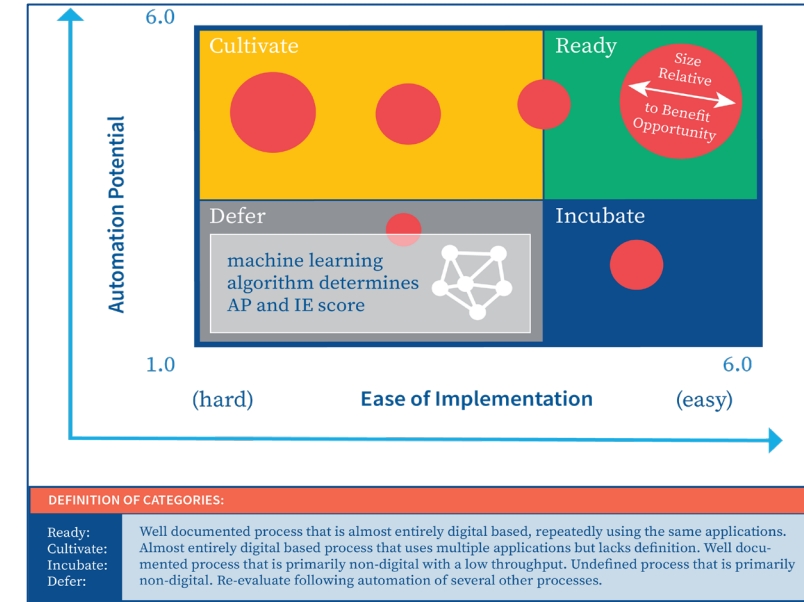
- Structure the Tool to reflect the organization & autonomously control User access.
- Drives engagement whilst maintaining centralised governance.

Inventory Management



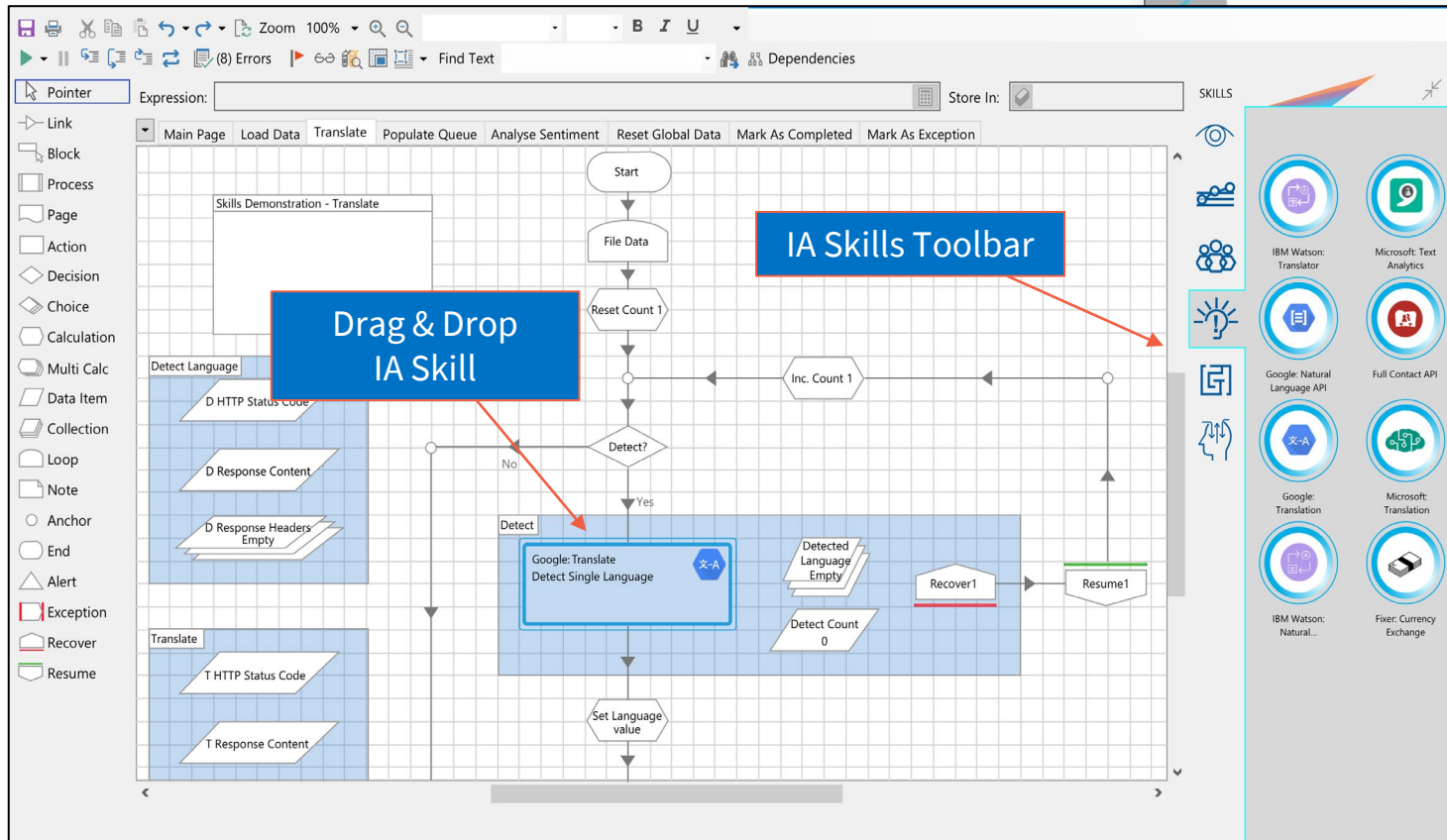
- Create a unique record of, & track, every process assessed.
- Enables progress tracking & benefit realisation calculation

Process Assessment



- Determine readiness for automation & relative benefit opportunity
- Facilitates decision making & management reporting

IA Skills & The Digital Exchange



Digital Exchange

Assets • About the Digital Exchange • Submit Asset • Become a Partner

Search for ASSETS, PARTNERS, CATEGORIES

HIGHEST RATED

Google Vision API

Enables understand the content of an image by encapsulating powerful machine learning

Google Cloud Platform

Visual Perception

Planning & Sequencing

Knowledge & Insight

Problem Solving

Collaboration

Learning

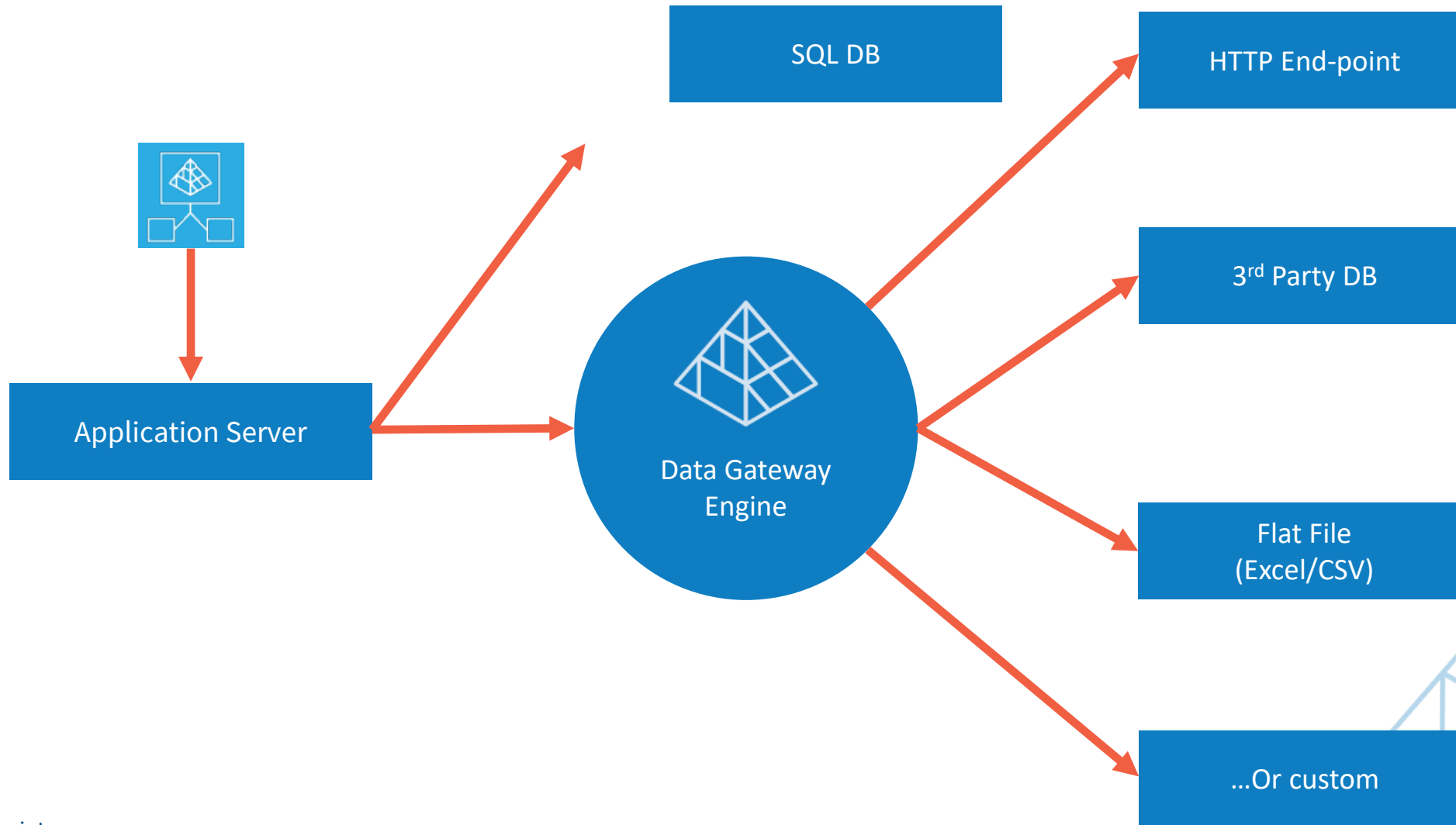
Technology

Industry

Business Process

Provider

Digital Workers - operating a process



Key Technical Areas Summary

Scalability

- Fully centralized command & control
- Centrally updated reusable objects
- Drag & drop design ('Plain English development')
- Expression builder with built-in debugging
- Automatic process design error check
- Dynamic work queue management, and many-to-many robot / process assignment

Resilience

- Intelligent tracking of underlying application logic
- Real-time logging to a central database (facilitates rollback, hot-failover, and disaster recovery)
- No license cost for Disaster Recovery
- Support for hybrid-cloud infrastructure (With reference architectures & build support from Professional Services)

Security

- FIPS 140-2 compliant
- Compliant with ICAM guidance from OMB Memorandum M-19-17 (NPE identity management – Digital Workers have their own identities)
- Robust support for Privileged Account Management solutions: AD/LDAP/CyberArk
- Encryption of data in transit and at rest
- No logging on local file system (logs encrypted in database)
- Business-level segregation of object and process permissions
- Decoupled build & run via granular roles-based access control (RBAC)
- Integrated encrypted password vault
- Data masking

Compliance

- Cradle-to-grave object & process change history
- Visual side-by-side process history comparison
- Real-time entity-level session logging (Both humans and Digital Workers)
- All aspects of the platform are auditable: System, Process Execution, etc
- Encrypted exception screen capture
- No shared user credentials or desktops between humans and Digital Workers

Extensibility

- Process Discovery Tool – Helps organizations quickly identify prime candidates for automation
- Public & Private Digital Exchange – download reusable objects developed by world-class technology alliance partners
- API Configurator
- Data Gateways – easy enhanced analytics output
- Drag & Drop Intelligent Automation Skills
- AI-powered Intelligent Document



Synaptein Solutions

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