What's New in IBM Business Process Manager v8.6

Technical Overview of New Features and Functions

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V1.5

This deck: https://ibm.box.com/s/g3obo5rhgtlmsp3py33oe62azwyhpg2e
Recording: http://w3.tap.ibm.com/medialibrary/media_view?id=413041

IBM

BPM 8.6 - release summary on one page

IBM BPM on Cloud
- Benefit from securer passwords for user accounts. .

IBM BPM
- Benefit from a single edition of IBM BPM
- Use Java 8 on WebSphere® Application Server
- Use the latest technology to create content management user interfaces
- Determine artifact usage across toolkits
- Build a custom deployment service flow
- Convert your coach-based UIs to use the state-of-the-art coach views from the BPM UI toolkit
- Author and edit user attribute definitions in the web Process Designer
- Author and edit exposed process values (EPVs) in the web Process Designer
- Author and edit governance processes in the web Process Designer
- Call Advanced Integration Services from a process or service flow in the web Process Designer
- Easily identify possible problems by using new metrics with IBM Cloud Product Insights
- Integrate with external services by using IBM App Connect
- Capture IBM BPM events for external use
- Claim tasks that were implemented by using an external user interface
- Experience improved performance in Process Portal when you have access to a large number of saved searches
- Configure custom JDBC driver paths
- Migrate process instances individually by using the new JavaScript API
- Pause and resume Event Manager by using a new REST API

Agenda

Single BPM Edition

Web Process Designer

IBM BPM Analytics

IBM Cloud Integration

Process Federation Server

Responsive Portal

New API

BPM on Cloud, SOE, Quality, Serviceability, Migration

Simplified Packaging - Single BPM Edition

- V8.6 combines *BPM Standard* and *BPM Advanced* into a single edition called IBM Business Process Manager Server

- IBM Business Process Manager Server includes all the same server profiles (IBM Process Center, IBM Process Server, IBM BPM Advanced, IBM BPM Advanced only, IBM BPM Standard, and IBM Process Federation Server) as separately deployable components of IBM BPM Server.

IBM BPM Express - PID 5725-C96
Configured for first BPM project

- For small number of users – single server, no clustering
- Low entry price ; Install in a few clicks

IBM BPM Server - PID 5737-A57
Configured for typical BPM projects with advanced BPM capabilities

- For multi-project improvement programs, with high business involvement; Basic system integration support
- Rapid time-to-value: improved user productivity
- Extended support for high-volume process automation, with high quality-of-service
- Built-in SOA components for extensive enterprise-wide service integration, orchestration

Simplified Pricing

- Merged **Process Center** into Process Server
  - Additional PC license is priced the same as PS license

- **Web Process Designer** no longer requires a separate charge.

- **Desktop Process Designer (deprecated)** V8.5.7 CF 2017.09 still available, supports IBM BPM V8.6 and is licensed separately with an additional charge

Getting Started with IBM Process Designer 8.5.7 CF2017.09 (Deprecated) Learn more

Need Help?
View online help topics

Community and support
Community wiki
IBM Support
IBM BPM FAQ

BPM Pricing Simplification from 8 chargeable components to 3

Advanced Edition 5725-C94

- Process Server Advanced
- Process Center Advanced
- Process Server Adv Non-Prod

Standard Edition 5725-C95

- Process Server Standard
- Process Center Standard
- Process Server Std Non-Prod

Tools 5725-C97

- Integration Designer
- Process Designer

New Packaging 5737-A57

BPM Server
- Process Server
- Process Center (with web Process Designer)
- Process Federation Server

BPM Server Non-Prod
- Process Server Non-Prod

5725-C97
- Integration Designer

Agenda

Single BPM Edition

Upgrade and Migration

Web Process Designer

IBM BPM Analytics

IBM Cloud Integration

Process Federation Server

Responsive Portal

New API

BPM on Cloud, SOE, Quality, Serviceability

Release to Release Continuity

From		To							
Version	EOS	BPM 751x	BPM 800x	BPM 801x	BPM 850x	BPM 855	BPM 856	BPM 857	BPM 860
BPM 750	09/2016	Upgrade	Migration	Migration	Migration	Migration	Migration	Migration	Migration
BPM 751	09/2016	Upgrade	Migration	Migration	Migration	Migration	Migration	Migration	Migration
BPM 800	09/2017		Upgrade	Upgrade	Migration	Migration	Migration	Migration	Migration
BPM 801	09/2017			Upgrade	Migration	Migration	Migration	Migration	Migration
BPM 850	09/2019				Upgrade	Upgrade	Upgrade	Upgrade	Upgrade

- BPM 8.5 EOS is Sep-30-2019 (extended recently from original 2018) with extended support of Sep-30-2022

- BPM 8.6
  - Despite 2nd digit version change 8.5.x to 8.6 in a simple upgrade!
  - New release, resets lifecycle clock for customer planning
  - Continuous delivery lifecycle policy with 3 years support (plus min 1 year extended)

Release to Release Continuity

- BPM 8.5 EOS
  - https://www-01.ibm.com/software/support/lifecycleapp/PLCSearch.wss?q=business+process+manager+8.5&ibm-search=Search

- BPM 8.6 EOS
  - https://www-01.ibm.com/software/support/lifecycleapp/PLCSearch.wss?q=business+process+manager+8.6&ibm-search=Search

Upgrading form 8.5.x to 8.6

- Use IBM Install Manager to update the packages

Update Packages
Select a package group to find updates for.

Package Group Name	Directory
IBM Integration Designer	C:\IBM\IID
IBM Process Designer	C:\IBM\ProcessDesigner\v8.5
IBM WebSphere Application Server V8.5	C:\IBM\WebSphere\AppServer
IBM WebSphere Application Server V8.5_1	C:\IBM\FNWAS

- Upgrade database schema

```
Administrator: Command Prompt - DBUpgrade.bat  -profileName  qbpmaps
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\Administrator>cd C:\IBM\WebSphere\AppServer\bin

C:\IBM\WebSphere\AppServer\bin>DBUpgrade.bat  -profileName  qbpmaps
```

- Two additional steps (different from 8.5.X upgrades)
    1. Java 8 needs to be downloaded and installed (WAS limitation)
    2. 3rd party JDBC drivers need to be downloaded and installed (IBM legal)

Upgrading to IID 8.5.7 CF 2017.09

- Delivered an IID 8.5.7 CF 2017.09
  - Compatible with both BPM 8.5.7 and BPM 8.6
  - IID 8.5.7 CF 2017.09 would EOS 1 year (April/Sept) after IID 8.6 is announced
  - IID 8.6 would be delivered in the future based on latest RAD/eclipse

- Install: http://www-01.ibm.com/support/docview.wss?uid=swg1JR58314
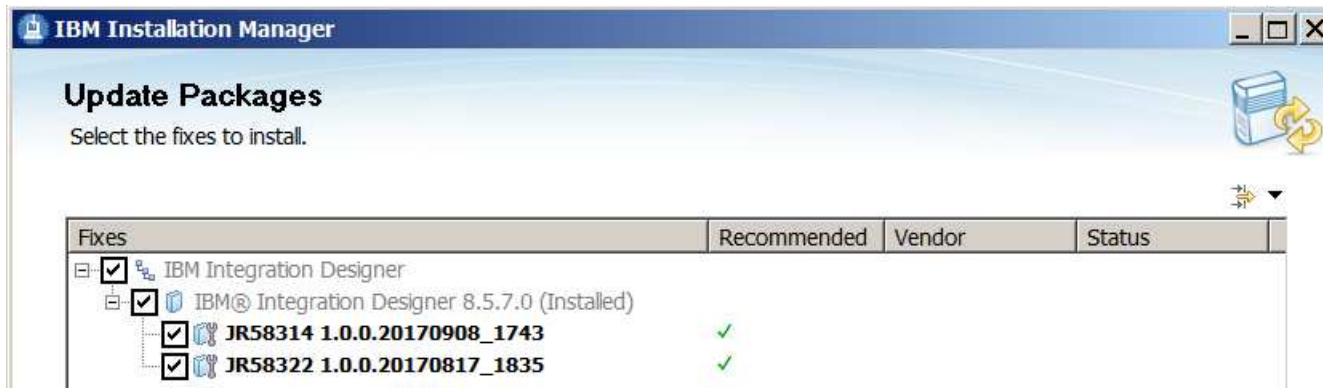
Agenda

Single BPM Edition

Upgrade and Migration

Web Process Designer

IBM BPM Analytics

IBM Cloud Integration

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BPM on Cloud, SOE, Quality, Serviceability

BPM UI Toolkit Quality Initiative

Available with CF 2017.06   **BPM UI toolkit (8.6.0.0)**

- Improved WYSIWYG behavior

- More consistent and thorough theme support

- Functional runtime defects

- Improved national languages support
  - i.e. bidi support in Date Coach View

- Improved accessibility support

Content Management Toolkit

Content Management 8.5.7

- Document Explorer Content Management
- Document List Content Management
- Document Viewer Content Management
- Heritage Document Explorer Content Manag...
- Heritage Document List Content Management
- Heritage Document Viewer Content Manage...

Content Management 8.6

- BPM Document List Content Management
- BPM File Dropzone Content Management
- BPM File List Content Management
- BPM File Properties Content Management
- BPM File Revisions Content Management
- BPM File Uploader Content Management

Work with IBM BPM local documents attached to a process instances or references to External ECM documents

- Document Explorer Content Management
- Document Reference Content Management
- ECM Document List Content Management

Explore BPM documents or ECM document references attached to a process instance

- ECM File List Content Management
- ECM File Properties Content Management
- ECM File Revisions Content Management
- ECM File Uploader Content Management
- ECM Folder List Content Management
- File Viewer Content Management

Work with External ECM documents Process instance, must provide ECM server definition for these documents

- Heritage Document Explorer Content Manage...
- Heritage Document List Content Management
- Heritage Document Viewer Content Managem...
- Responsive Document Explorer Content Man...
- Responsive Document List Content Managem...
- Responsive Document Viewer Content Manag...

View documents content either documents or document references

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Content Management Toolkit

BPM Document List — Displays (in tabular form) files in the IBM BPM content store.
- Provides the ability to upload, delete, and change the properties of documents
- Allows users to view revisions associated with a file.
- Aggregates BPM File List, BPM File Properties, BPM File Revisions, and BPM File Uploader controls as a simpler-to-use but less customizable alternative to the modular controls it contains.

BPM File Dropzone — Drag or select files to store in the IBM BPM document store.

BPM File List — Displays (in tabular form) files and documents in the IBM BPM content store.

BPM File Properties — Show, view, change, and delete properties associated with a BPM file or document.

BPM File Revisions — Displays (in tabular form) revisions of an BPM file or document given the ID of that document.
- Events can be fired from user actions on the list, such as by clicking a file.

BPM File Uploader — Select and upload a file from their computer.
- The file can be given specific properties and can be targeted to a particular BPM folder.

Document Explorer — Displays documents in the IBM BPM content store and any other referenced ECM folders and documents in the folder structure of a process instance.
- Authorized users, can search, create, delete and rename folders; upload, view, check out and remove documents.

Content Management Toolkit

Document Reference   Displays referenced files and folders.

ECM Document List   Displays (in tabular form) files and documents from a folder in a configurable ECM store.
- Events can be fired from user actions on the list, such as clicking on a file to view its content.
- Files can also be deleted from the list, if allowed through configuration.

ECM File List   Displays (in tabular form) files and documents from a folder in a configurable ECM store.

ECM File Properties   View, change, and delete properties associated with an ECM file or document.

ECM File Revisions   Displays (in tabular form) revisions of an ECM file or document given the ID of that document.
- Events can be fired from user actions on the list, such as by clicking a file.

ECM File Uploader   Select and upload a file (the file can be given specific properties) to an ECM folder.

ECM Folder List   Displays (in tabular form) folders from the ECM content store.
- Events can be fired from user actions on the list, such as clicking a folder.
- Folders can also be deleted from the list, if allowed through configuration.

File Viewer   View files that have been uploaded by using either the BPM File Dropzone control or BPM File Uploader control.
- Use the File Viewer control with the BPM File List Control.

ECM Document List Coach View

Can be used with or without Process Instance. You must point to your ECM server in the ECM Document List Coach View Configuration

BPM Document List Coach View

To use it with Process Instance, you must enable Folder Management options in Process Settings to be able to use Internal BPM Document repository for local documents/folder and external document/folder references

Determine Artifact Usage Across Toolkits

- Prior to v8.6 you could only view dependencies within a ProcessApp or a Toolkit

New Global Scope option

∨ **Referenced By (Global Scope)**

- In v8.6 you can now view the artifacts and their dependencies that are used across all toolkits in the IBM Process Center repository by choosing the new Global Scope option.
  - You can find out with what other Toolkits or ProcessApps use an artifact denied in a Toolkit snapshot

Determine Artifact Usage Across Toolkits

2. We a re looking at the use of **UI Template Coach View**

1. We opened a snapshot of **Header and Footer Toolkit**

3. Click Referees icon

1. You need to open a **snapshot** (not the tip!)

4. Click Global Scope icon

5. See the usage across Process Center!
For example….
- In Travel Approval ProcessApp
- This Coach View is used in three CSHSes

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Control Points of Diagram Links

- In very busy flows sometimes the links connecting activities cross over areas that it shouldn't thus making the diagram hard to follow

- In v8.6 you can add a control point to a link in the flow and use it to make a link flow around an activity or other links

Control Points of Diagram Links

BEFORE

AFTER

Use Control Link to rearrange the connection between activities
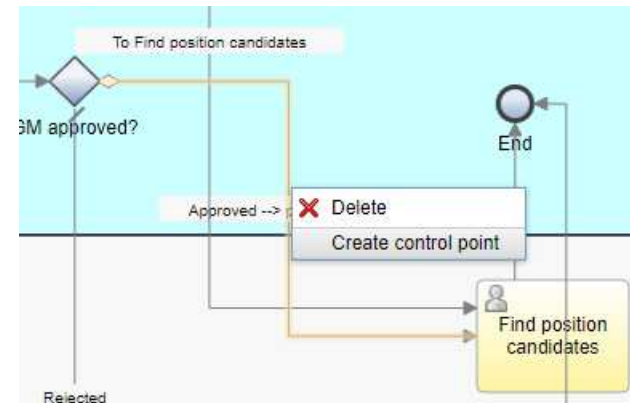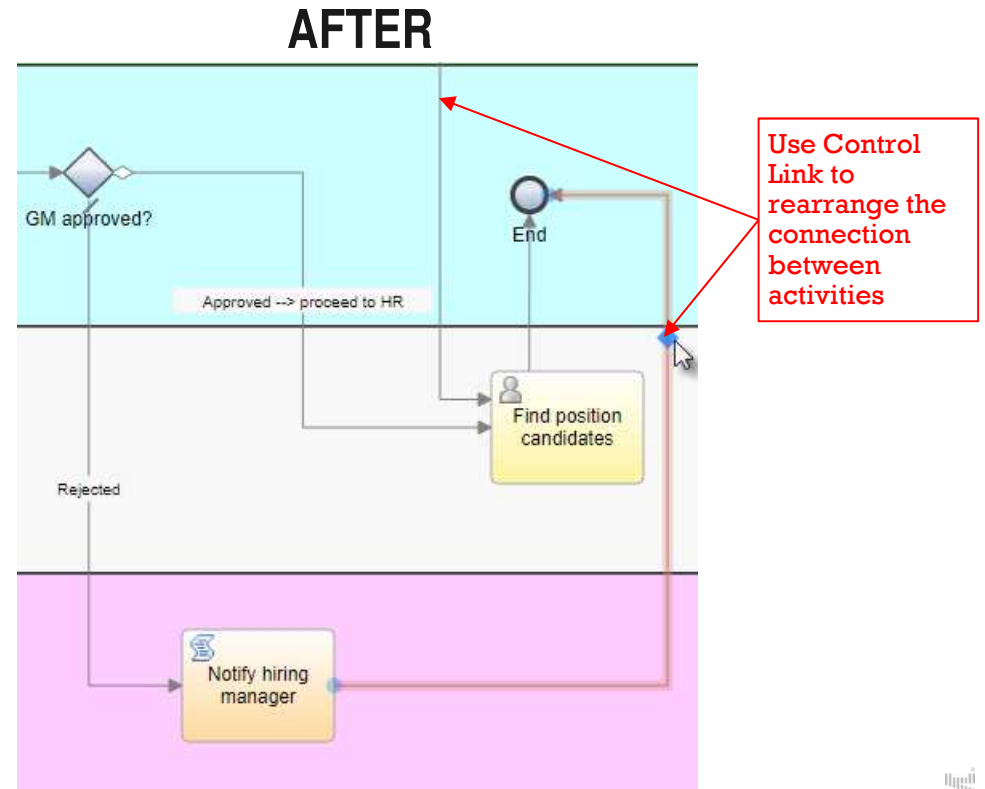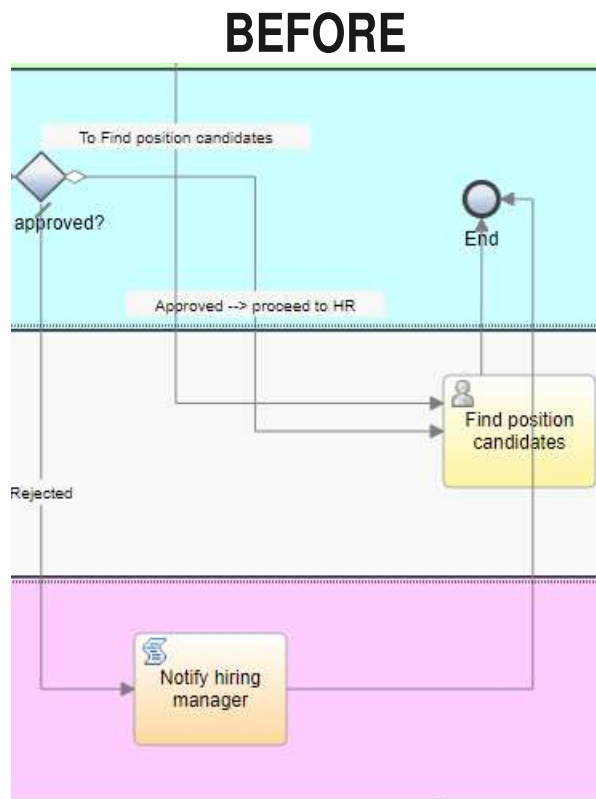
Deployment Service Flow available in Web PD

- Prior to v8.6 Installation Service was a Heritage Service and only visible/editable in Desktop PD

- In v8.6 Deployment Services is a Service Flow and is available in Web PD

- Installation Service is converted to Deployment Service in Service Conversion in Process App Settings

What is Deployment Service?
Flow When you create a process application, a deployment service flow is created that is used when you install a snapshot. You can customize the deployment service flow to handle actions in your target environment, such as creating or updating database tables, updating environment variables, and determining which snapshots are already installed.

Deployment Service Flow available in Web PD

IN DESKTOP PD
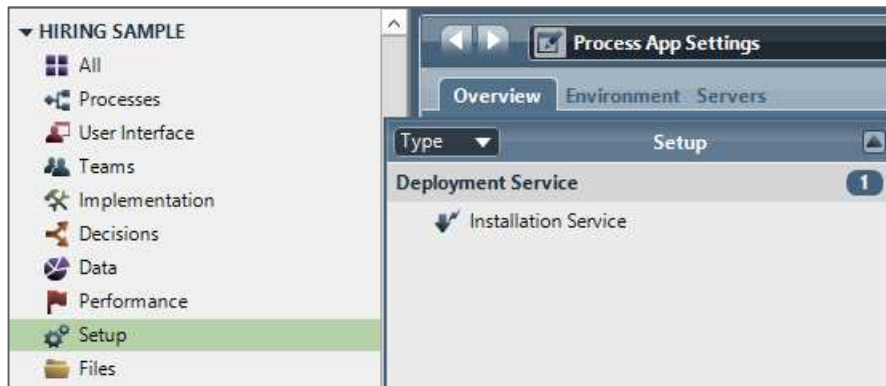
IN WEB PD
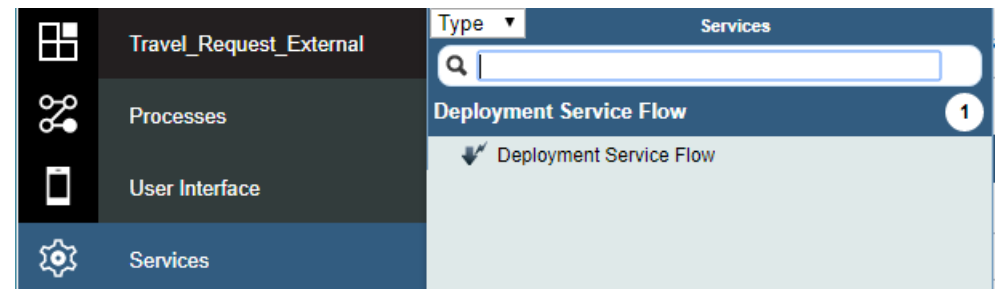
SERVICE CONVERSION IN WEB PD
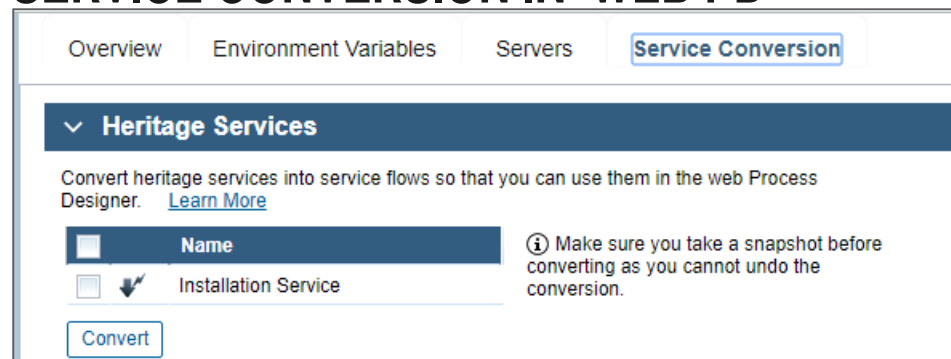
Convert Deprecated Coach Views

In v8.6 we added automated conversion of deprecated Coach Views contained in: Custom Coach Views and Coaches in CSHS and HHS

Coaches (deprecated) (8.6.0.0) ➡ BPM UI toolkit (8.6.0.0)

Responsive Coaches (deprecated) (8.6.0.0) ➡ BPM UI toolkit (8.6.0.0)

Heritage Document Explorer (deprecated)
Heritage Document List (deprecated)
Heritage Document Viewer (deprecated)
Responsive Document Explorer (deprecated)
Responsive Document List (deprecated)
Responsive Document Viewer (deprecated)
➡ Content Management (8.6.0.0)

UI Conversion in Process App Settings

Coaches Toolkit Conversion to BPM UI Toolkit

Coach Views (introduced in V8.0)

Coach Views (BPM UI 8.6)

Responsive Coaches Conversion to BPM UI Coaches

Responsive Coach Views (8.5.7)

Coaches Views (BPM UI 8.6)
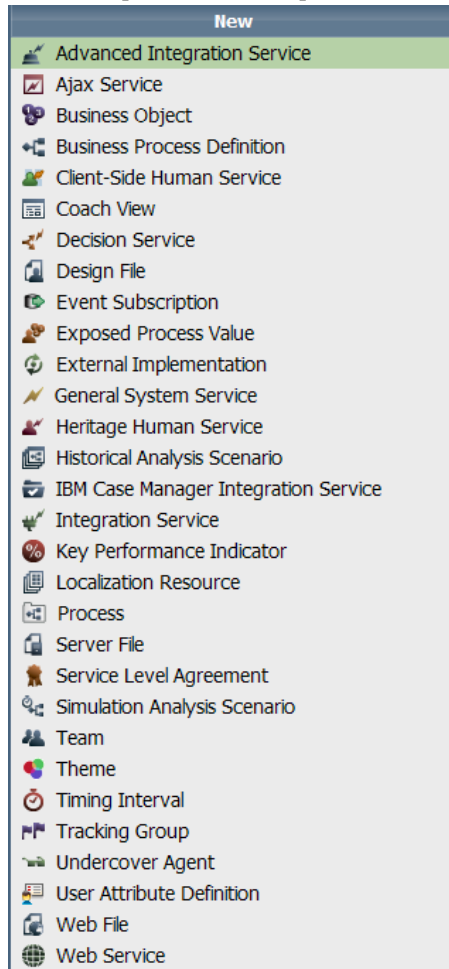
Legacy Content Management Coach View Conversion
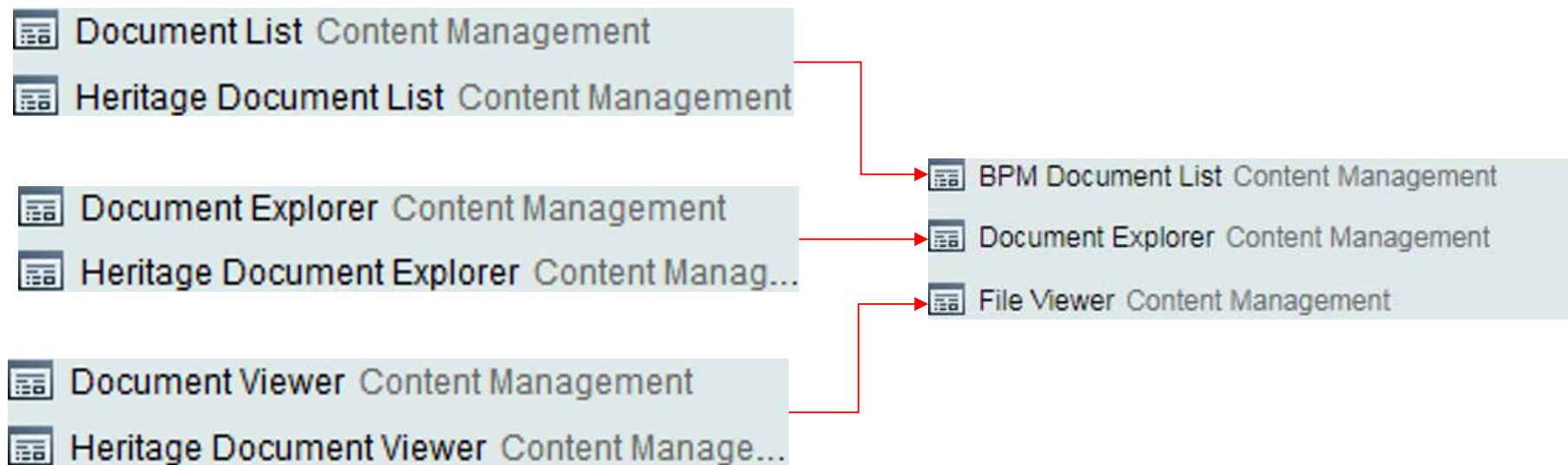
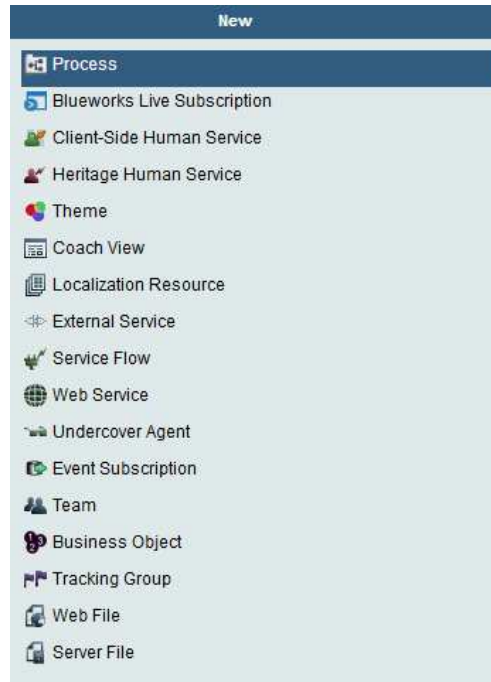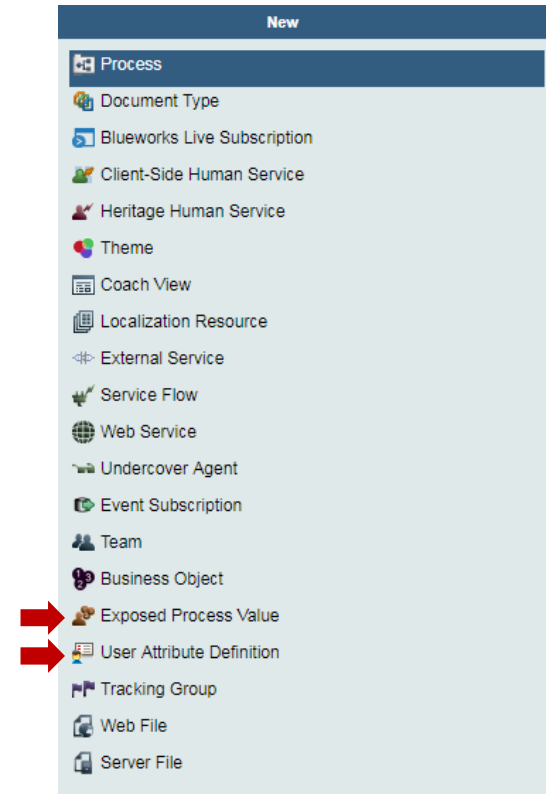**NOTE:** *For now, configuration options are not explicitly migrated. Neither are data bindings*

Desktop PD (deprecated)

New
Advanced Integration Service
Ajax Service
Business Object
Business Process Definition
Client-Side Human Service
Coach View
Decision Service
Design File
Event Subscription
Exposed Process Value
External Implementation
General System Service
Heritage Human Service
Historical Analysis Scenario
IBM Case Manager Integration Service
Integration Service
Key Performance Indicator
Localization Resource
Process
Server File
Service Level Agreement
Simulation Analysis Scenario
Team
Theme
Timing Interval
Tracking Group
Undercover Agent
User Attribute Definition
Web File
Web Service

Web PD 8.5.7 2017.06

New
Process
Blueworks Live Subscription
Client-Side Human Service
Heritage Human Service
Theme
Coach View
Localization Resource
External Service
Service Flow
Web Service
Undercover Agent
Event Subscription
Team
Business Object
Tracking Group
Web File
Server File

Web PD 8.6

| New |
|---|
| Process |
| Document Type |
| Blueworks Live Subscription |
| Client-Side Human Service |
| Heritage Human Service |
| Theme |
| Coach View |
| Localization Resource |
| External Service |
| Service Flow |
| Web Service |
| Undercover Agent |
| Event Subscription |
| Team |
| Business Object |
| ➡ Exposed Process Value |
| ➡ User Attribute Definition |
| Tracking Group |
| Web File |
| Server File |

User Attribute Definition and EPVs

- Author and edit user attribute definitions and exposed process values in the web Process Designer

- No conversion!
  - Both Desktop and Web Process designer can use it interchangeably to author these artifacts.
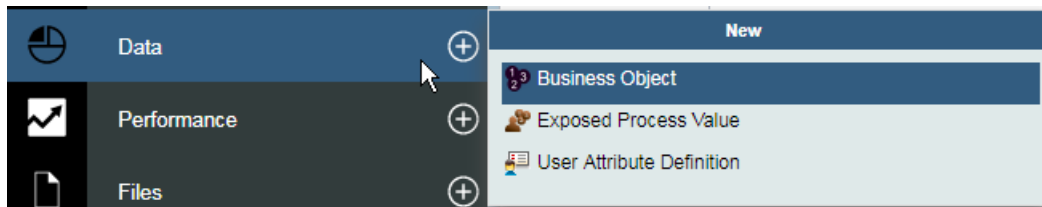
What are User Attribute Definitions?
A user attribute definition enables you associate unique capabilities or qualities with one or more users

What are EPVs?
EPVs are process variables you want to expose to specific users. These variables can be modified by the users while instances of a process are running and are visible to all running process instances

User Attribute Definition and EPV Editors

Governance Processes

- Prior to v8.6 governance processes were **BPD-based**
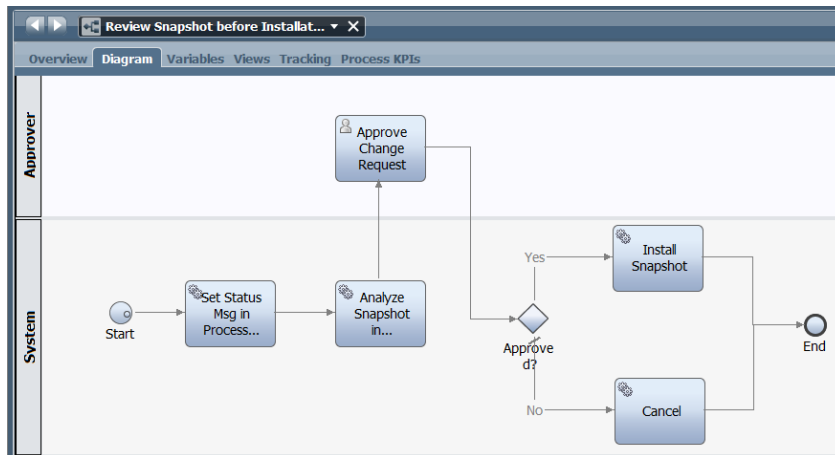
- In v8.6 you can author and edit **Process-based** governance processes in the web Process Designer

What are Governance Processes?

The Installation Request Process controls the installation of process applications (it can be used to prevent installation). Snapshot Status Change Process or to notify users whenever a snapshot is created or changes status.

Creating a Governance Processes in Web PD

System Governance (8.6.0.0)
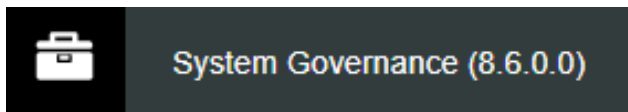
You must have the System Governance Toolkit

New Process

A process captures a set of activities and the data and content to support the activities. These activities can be part of a structured flow, ad-hoc activities that are not part of a structured flow, or a combination of the two.

Name: Snapshot Status Change Process

If you are creating a Process for governance, then select a template from the System Governance toolkit. The template will ensure compatibility between your Process and a specific governance event.

Snapshot Status Change Template   System Governance   Select...

FINISH   CANCEL

New Process

A process captures a set of activities and the data and content to support the activities. These activities can be part of a structured flow, ad-hoc activities that are not part of a structured flow, or a combination of the two.

Name: Installation Request Process

If you are creating a Process for governance, then select a template from the System Governance toolkit. The template will ensure compatibility between your Process and a specific governance event.

Installation Requested Template   System Governance   Select...

FINISH   CANCEL

Select either:
Installation Request
Snapshot Status Change

Governance Process - Desktop PD Users

- Desktop PD users continue to be able to create custom governance BPDs

- However if they want to use governance services they will need to have the pre-8.6 Governance Toolkit because 8.6 Governance toolkit uses Services and Service Flows

- Governance BPDs created in Desktop PD can be converted to Processes
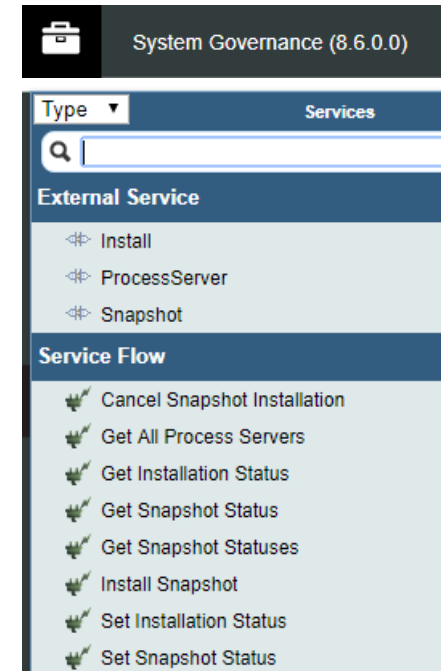
AIS Service in Web Process Designer

- Prior to V8.6 you could not open the AIS definition in Web PD
- In V8.6 you AIS editor was added.
  - Possible to change some runtime settings
  - However there is no way to change AIS definition.

What is Advanced Integration Service?

AIS is used to model a call to a service that is developed in IBM Integration Designer. AIS can be invoked from a BPDs, Processes and from a Heritage Services and Service Flows.

AIS is implemented in IBM Integration Designer.

Possible to change some runtime settings
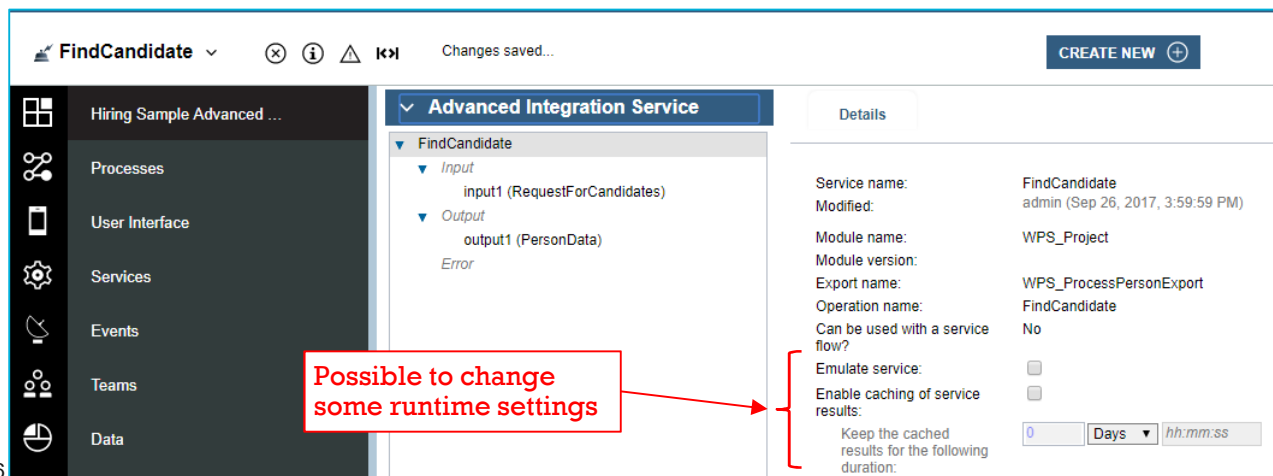
AIS Use in Web PD (available prior to v8.6 – review)

Process
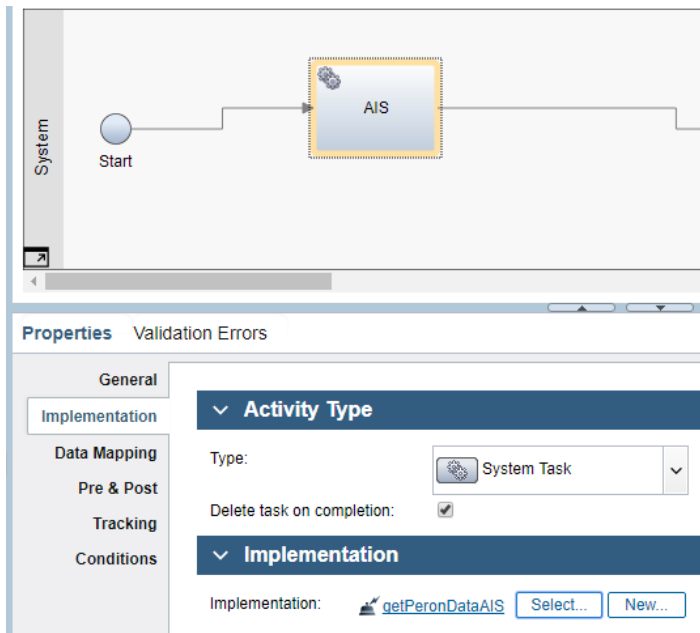
Service Flow
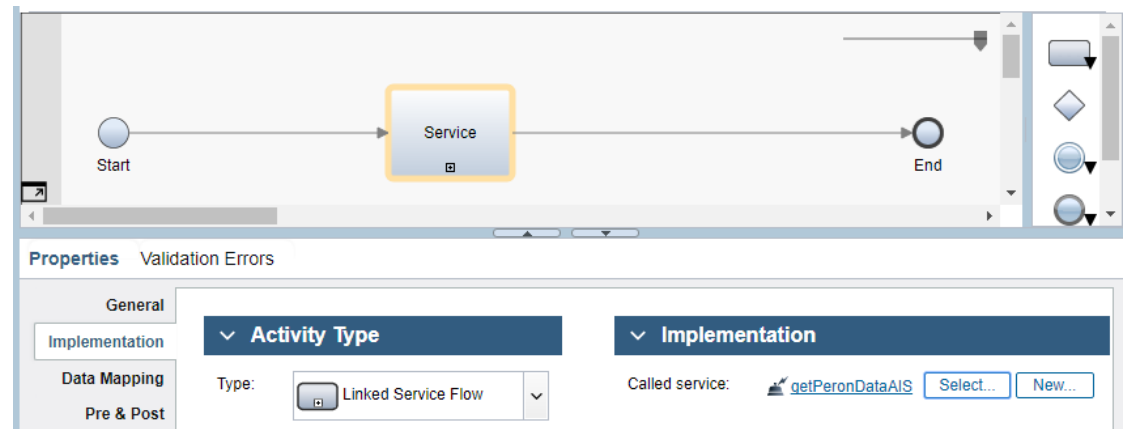
- Set Implementation and select from the AIS
- For Service Flows the Type must be set to Linked Service Flow and for Process to System Task

AIS Use in Web PD (available prior to v8.6 – review)

Service Flow
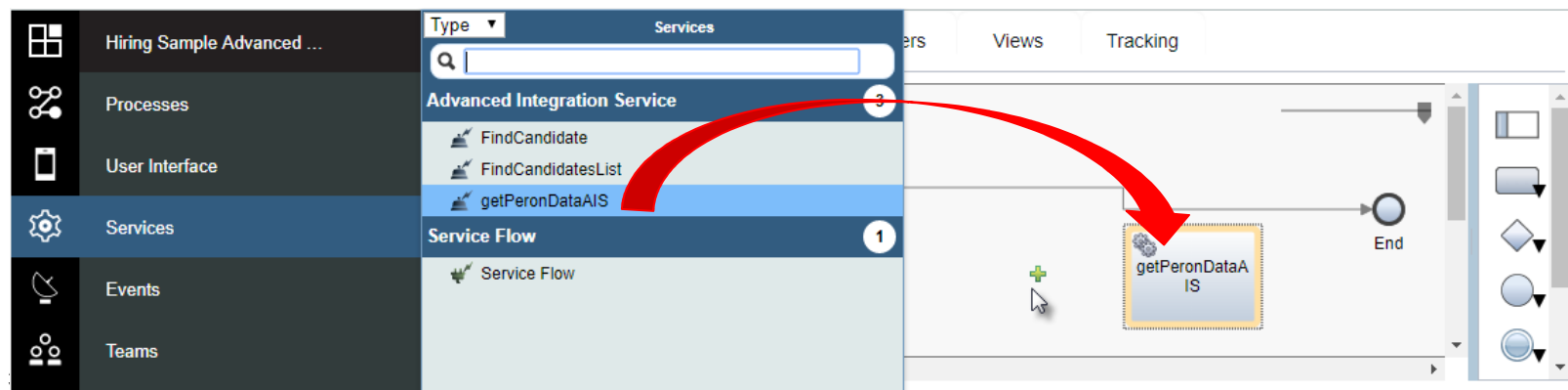
Drag and Drop the AIS from
Services > Advanced Integration Services

Process

Agenda

Single BPM Edition

Web Process Designer

IBM BPM Analytics

IBM Cloud Integration

Process Federation Server

Responsive Portal

New API

BPM on Cloud, SOE, Quality, Serviceability, Migration

Updated IBM BPM Analytics

BPM can stream process events to **elasticsearch** to enable self service reporting using **Kibana**

- DEF Connector for converting and streaming BPM events

- Sample code of Kibana based BPM Operational Dashboards

- Use Object Storage to archive / dearchive

- Support sending DEF events to the Kafka through the BPMEventEmitter (configurable – default is elasticsearch)

- Support archive/restore the raw events to/from OpenStack Swift or IBM Object Storage (Bluemix service)
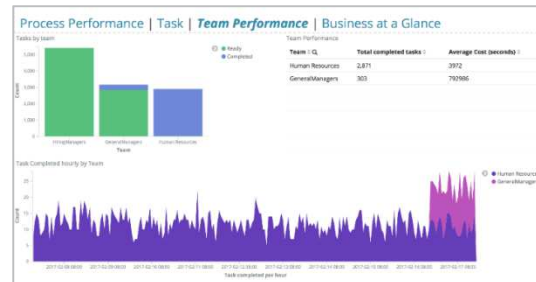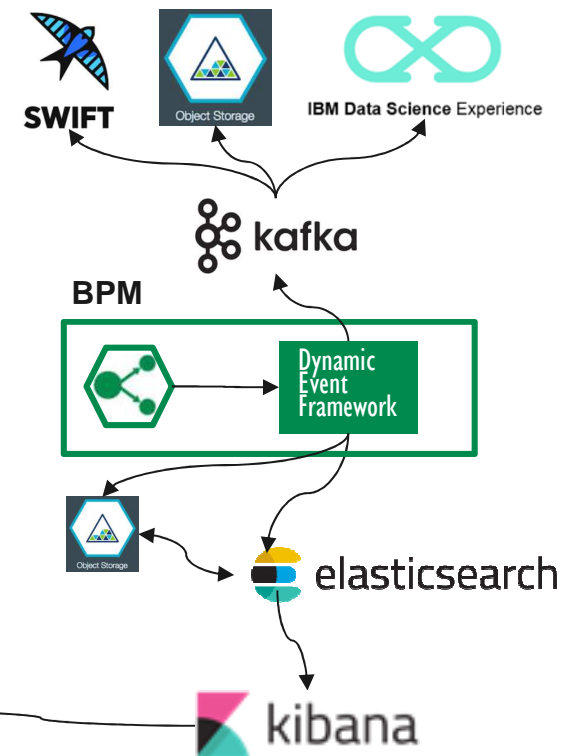
Install IBM BPM Analytics Technology Demonstration

- Download: https://github.com/ibmbpm/bpm_analytics

- Contents:
  - BPMEventEmitter.war
    - Receives tracking events from DEF and transforms to JSON
  - EventSummaryAgent.tar
    - Monitors the new events added in the configured elasticsearch index and then generate summary events
  - BPMDashboardKibana.zip
    - Contains five Kibana dashboards
  - IBM BPM Analytics - Develop your own dashboard.pdf
    - How to develop custom dashboards
  - IBM Business Process Manager Analytics.pdf
    - Install instructions

NEW
- Removed. Now is part of the BPM and Installed with the product. Use single command to enable it.
- Enhanced performance of the DEF emitter
- Added new Task Event type

NEW
New document.
- Includes "Create My First Dashboard" tutorial.
- Leverages some of the enhancements to the event framework to make it easier to create complex dashboards

BPM Analytics Tech. Preview - Default Topology

BPM Process Engine

Raw Business Events

JMS

JSON Formatted Events

BPM Event Emitter MDB

Kibana

Raw Event

Elasticsearch

Event Summary Agent

Restore

Combined Event

Archive

Event Summary Agent

Restore

Archive

Object Storage

NEW

Optional
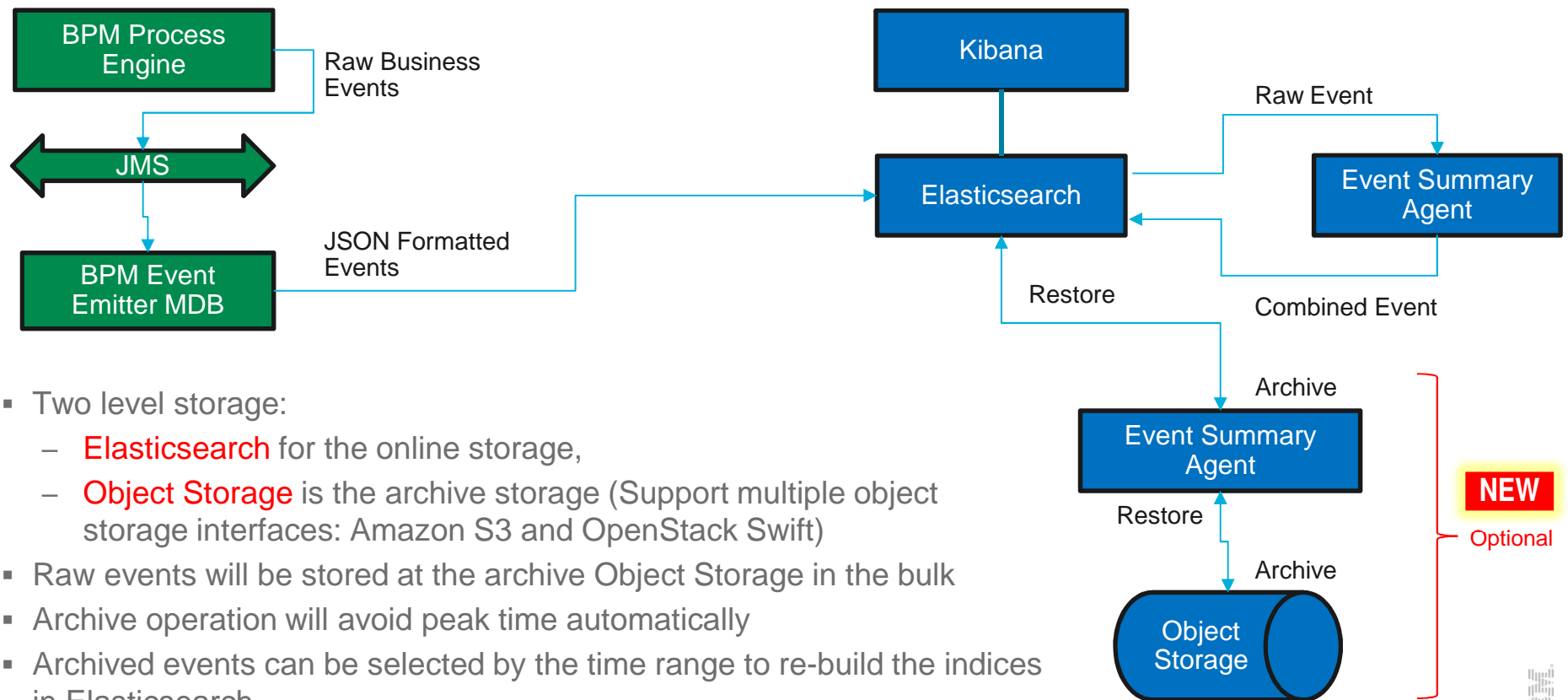
- Two level storage:
  - Elasticsearch for the online storage,
  - Object Storage is the archive storage (Support multiple object storage interfaces: Amazon S3 and OpenStack Swift)
- Raw events will be stored at the archive Object Storage in the bulk
- Archive operation will avoid peak time automatically
- Archived events can be selected by the time range to re-build the indices in Elasticsearch

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BPM Analytics Tech. Preview - Kafka Topology

- Kafka can be configured as the event cache in front of all consumers (including elasticsearch)
- Other consumers can subscribe to BPM events

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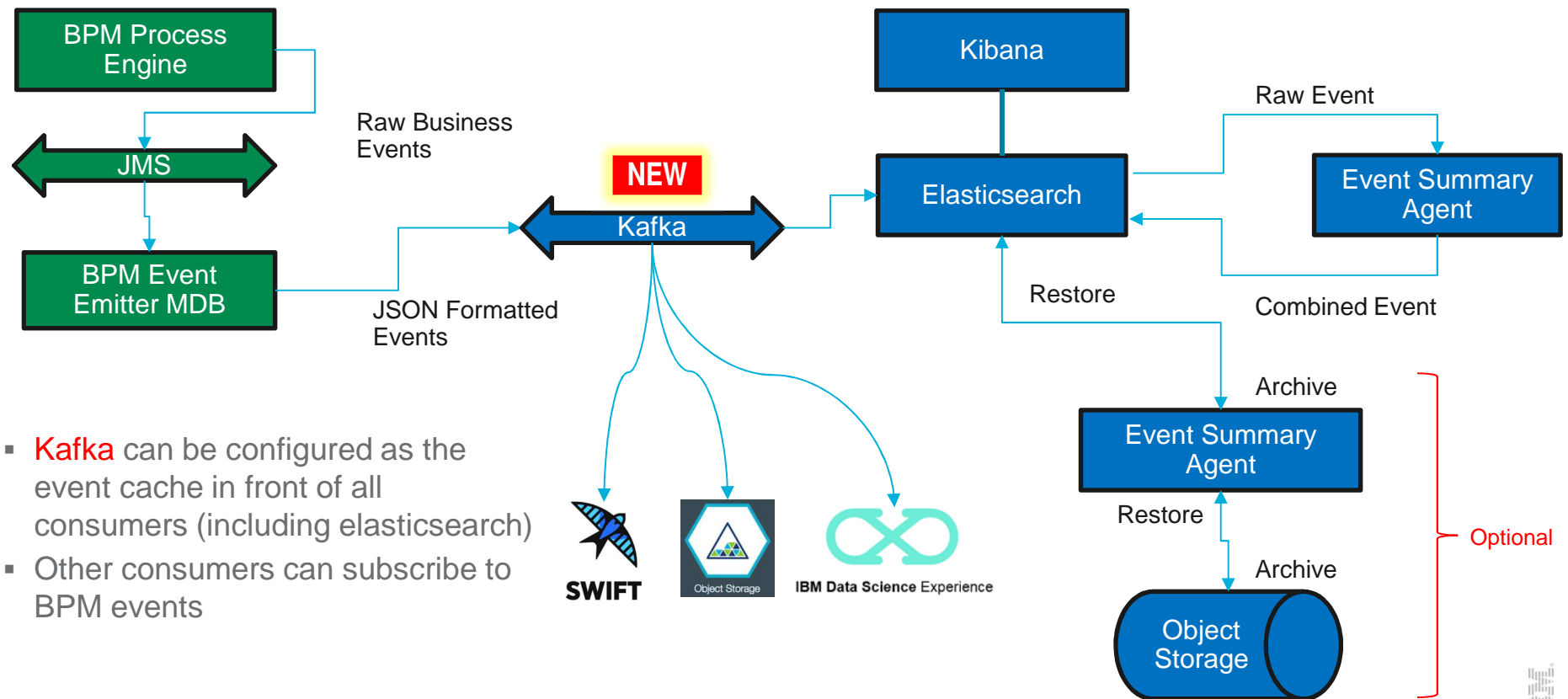
IBM BPM Analytics Architecture – Kibana Dashboards
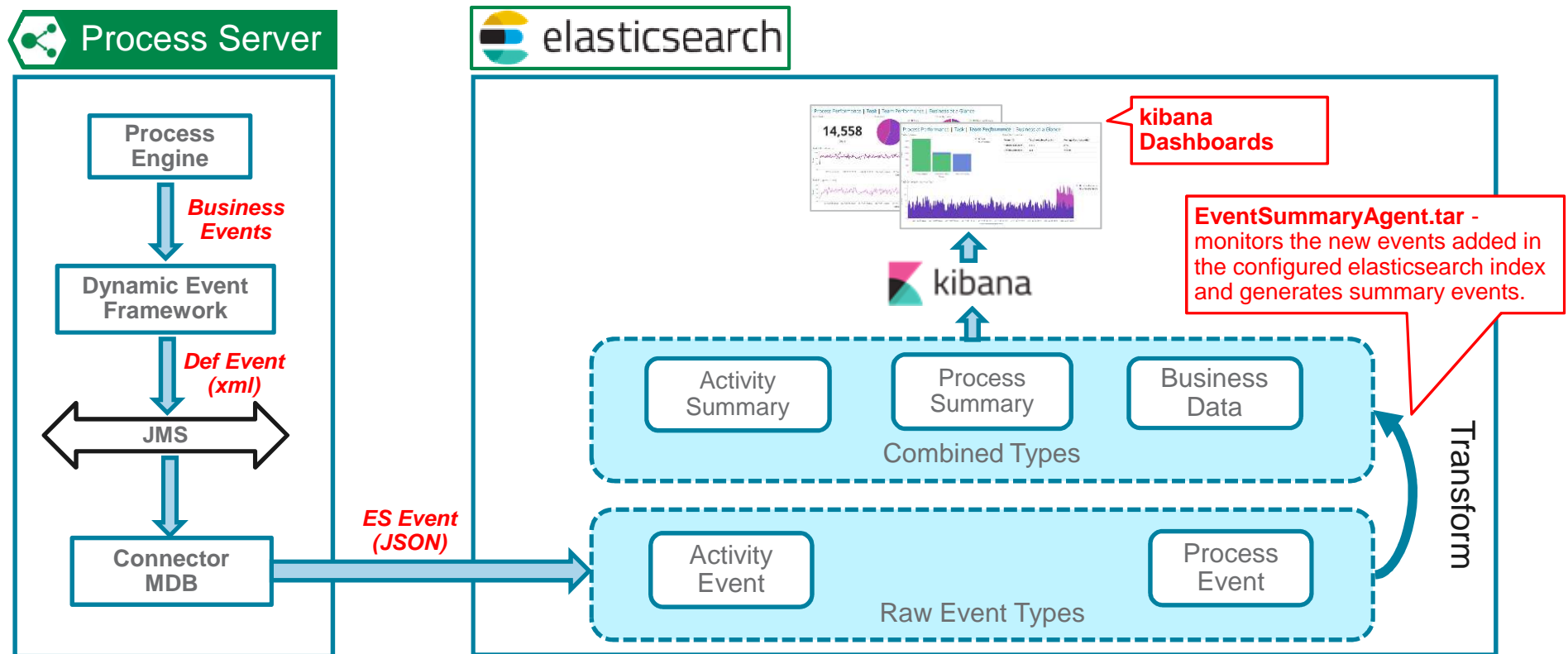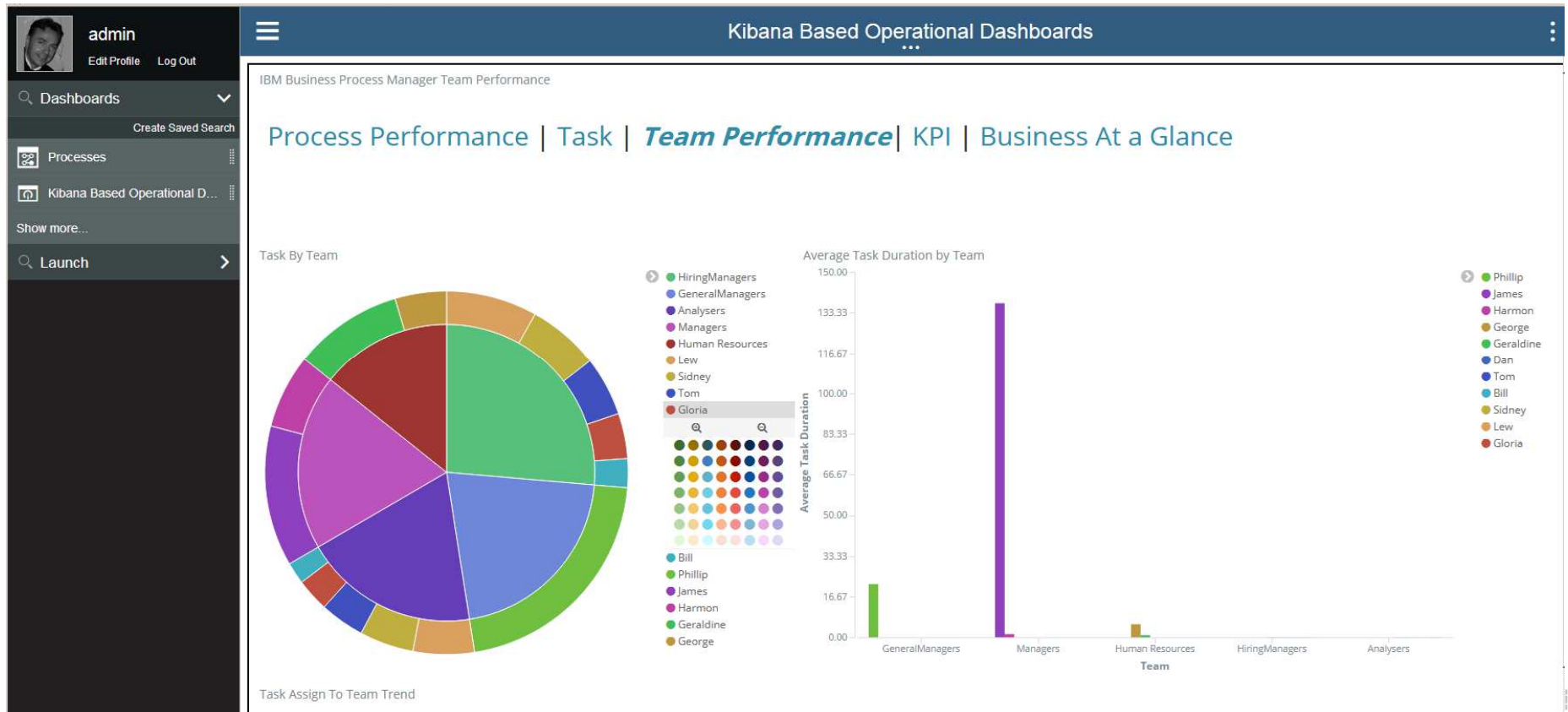
Process Server

elasticsearch

Process Engine

Business Events

Dynamic Event Framework

Def Event (xml)

JMS

Connector MDB

ES Event (JSON)

kibana Dashboards

kibana

Combined Types
- Activity Summary
- Process Summary
- Business Data

Raw Event Types
- Activity Event
- Process Event

Transform

EventSummaryAgent.tar - monitors the new events added in the configured elasticsearch index and generates summary events.

Display Kibana Dashboards in BPM Process Portal

Display Kibana Dashboards in BPM Process Portal
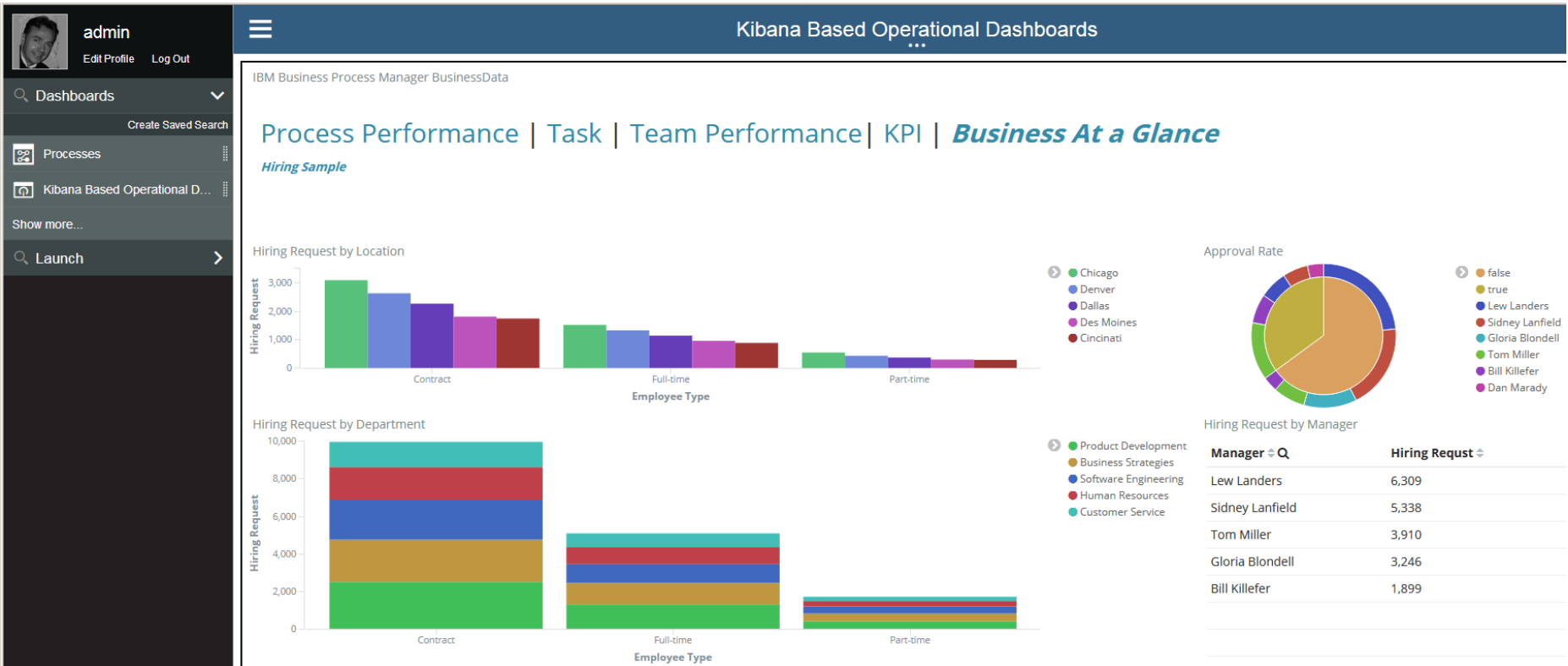
Display Kibana Dashboards in BPM Process Portal
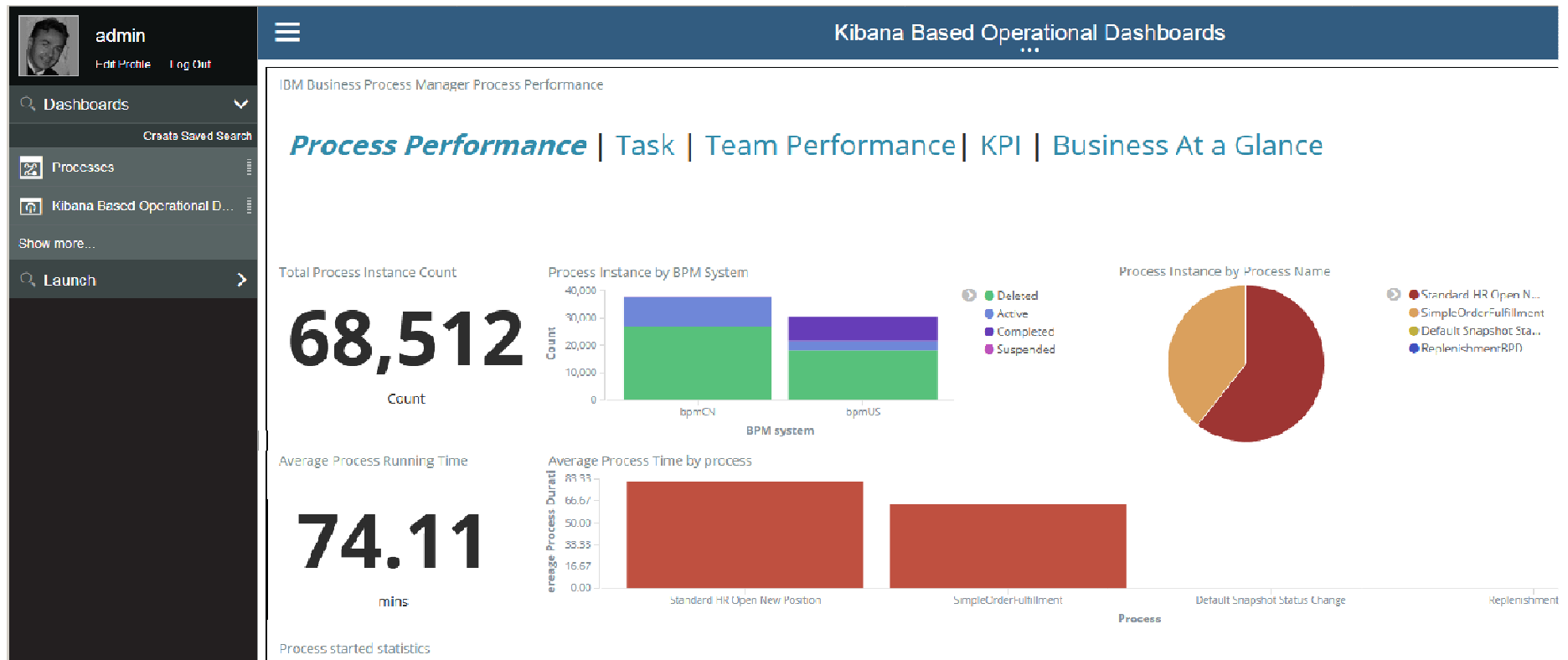
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Single BPM Edition

Web Process Designer

IBM BPM Analytics

IBM Cloud Integration

Process Federation Server

Responsive Portal

New API

BPM on Cloud, SOE, Quality, Serviceability, Migration

Use IBM App Connect on Bluemix

App Connect
Connect your applications, automate tasks, and improve productivity
Lite IBM

- Use IBM App Connect to connect IBM BPM processes to applications and services such as Salesforce, Marketo, Google sheets, Google Drive, Dropbox, and more

- The integration with IBM App Connect supports both outbound invocations and event-driven inbound invocations from and to your IBM BPM process applications.

Atlassian JIRA Service Desk	Google Sheets	Message Hub	Slack	Watson Retrieve And Rank
BigCommerce	HTTP	Microsoft Office 365	Stripe	Watson Tone Analyzer
Box	HubSpot CRM	NetSuite CRM	Sugar CRM	WordPress
Coupa	HubSpot Marketing	NetSuite ERP	SurveyMonkey	Wufoo
Dropbox	InsideView	NetSuite HCM	Trello	Yammer
Equals 3 Lucy	Insightly	Salesforce	Twilio	Zoho CRM
Eventbrite	Intacct	Salesforce Pardot	Watson Campaign Automation	
Freshdesk	Magento	Salesforce Service Cloud	Watson Language Translator	
Gmail	MailChimp	SAP	Watson Natural Language Classifier	
Google Drive	Marketo	ServiceNow	Watson Personality Insights	

IBM BPM Connectivity would be a nice addition!

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App Connect and BPM

- You can use two interaction modes
  - BPM Processes invoke App Connect endpoints
  - App Connect notifies BPM processes of external events

Use HTTP connector to invoke REST API to launch a process

Provide Open API (swagger) file to BPM
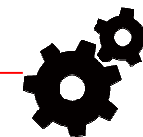
Use IBM App Connect to Create Managed API

Services and Application in App Connect provide a list of exposed API
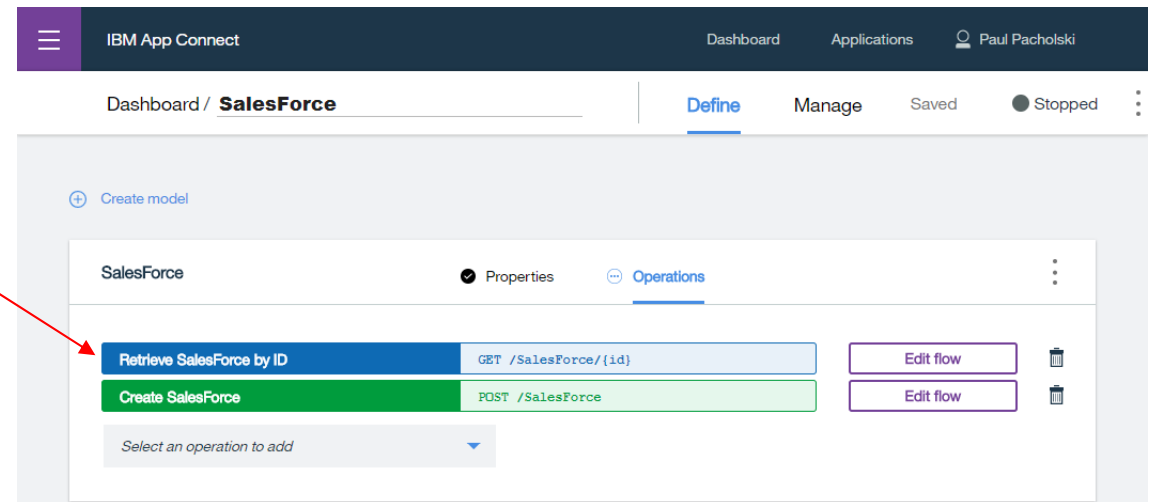
Edit flow to provide Request / Response data mapping or call other services

Use IBM App Connect – Get Connection Info

Use Download API to export Open API (swagger) file to create Service in IBM BPM

SalesForce.json

Use security credentials to define a REST server in INBM BPM

Create App Connect External Service

Invoke Salesforce.com endpoint from Service Flow
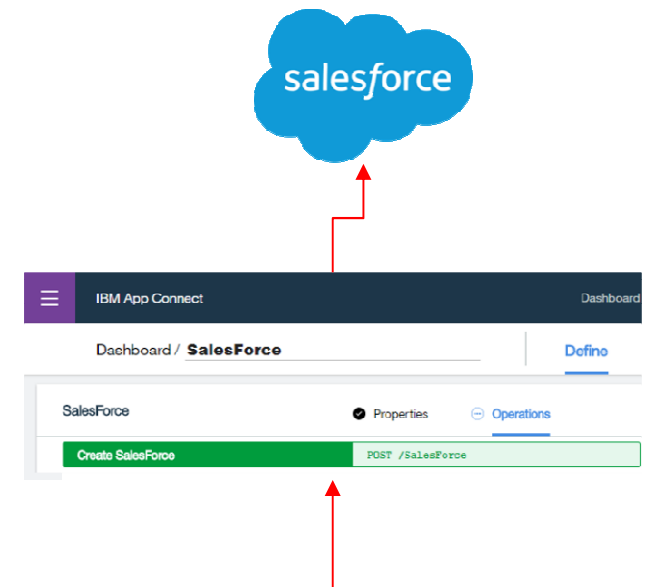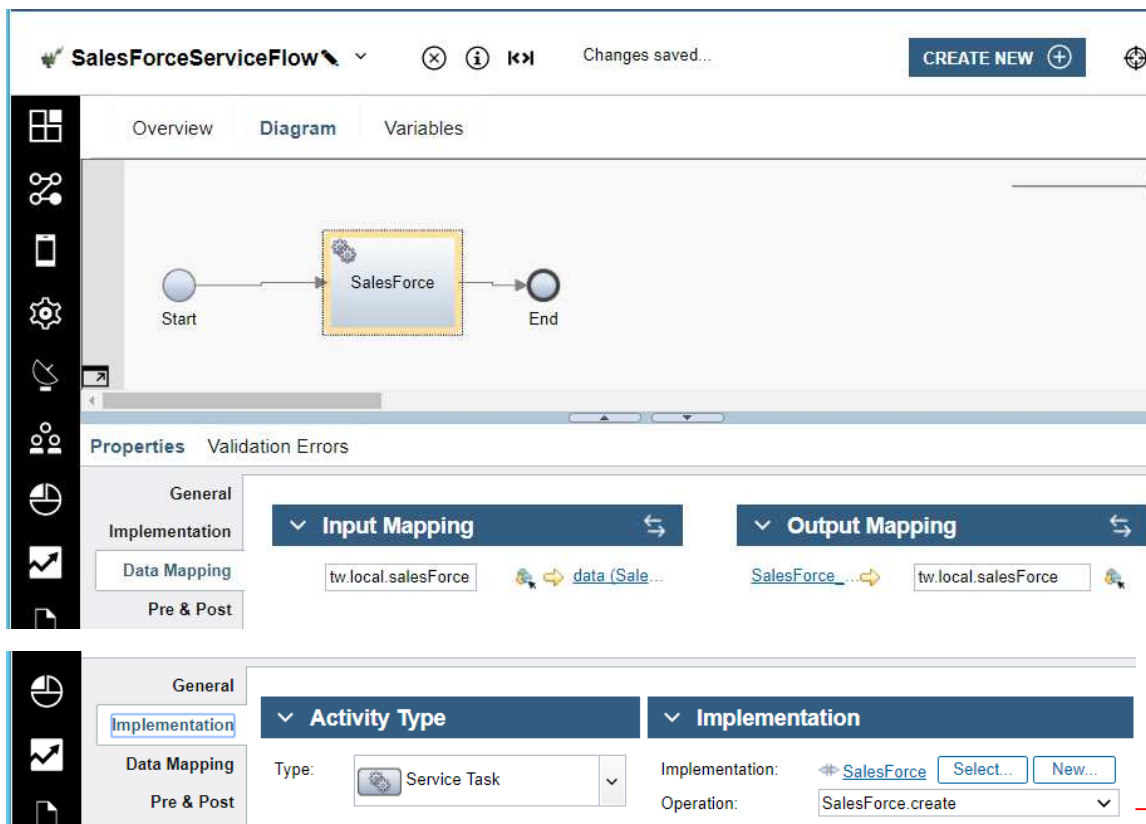
IBM BPM and IBM Cloud Product Insights

Product Insights

Connect IBM products to track inventory and understand usage

IBM

- Cloud Product Insights enables customers to register IBM products (on-premise or on-cloud), so that platform data is captured during registration and usage data is captured during run-time.

- Platform data is useful for support when diagnosing issues and for sales to understand how many deployments we have for a specific configuration.

- Use the IBM Cloud Product Insights service to access dashboards for usage information for your Business Process Manager instances

- In v8.6 we have added the following metrics:
  - Concurrent users
  - BPD instances: Started, Completed, Failed, Terminated
  - BPEL instances: Started, Completed, Failed, Terminated

IBM BPM Product Insights (Bluemix) Integration

- Requires configuration steps in BPM and in Bluemix

Detailed install and configuration instructions for both Bluemix and BPM are shown below…

IBM BPM Product Insights (Bluemix) Integration

High level steps in BPM

- Update BPM profile (or create with Product Insights if installing new one)

```
to create: BPMConfig -create -de <properties file> or
to update: BPMConfig -upgrade -de <properties file>  -component ProductInsights
```

- Create was-productinsights.properties (set url to Product Insights Gateway)

```
# required
url=<target url>
apiKey=<apiKey>
#
# optional lines below.  Remove the '#' if the line is used.
#
# trustStore=<trustStore>
# trustStorePassword=<trustStore password>
# groups=<groups>
# proxyUrl=<proxy url>
# proxyUser=<proxy userid>
# proxyPassword=<proxy password>
```

- Configure security (i.e. TrustStore, TrustStorePassword)

IBM BPM Product Insights - Overview

Details
Software versions,
Operating system
details, APARs, etc..

Advisor
Recommended Bluemix Services
Recommended BPM Updates

Usage
BPM processes and
WAS statistics

IBM BPM Product Insights – Overview

IBM BPM Product Insights – New Features
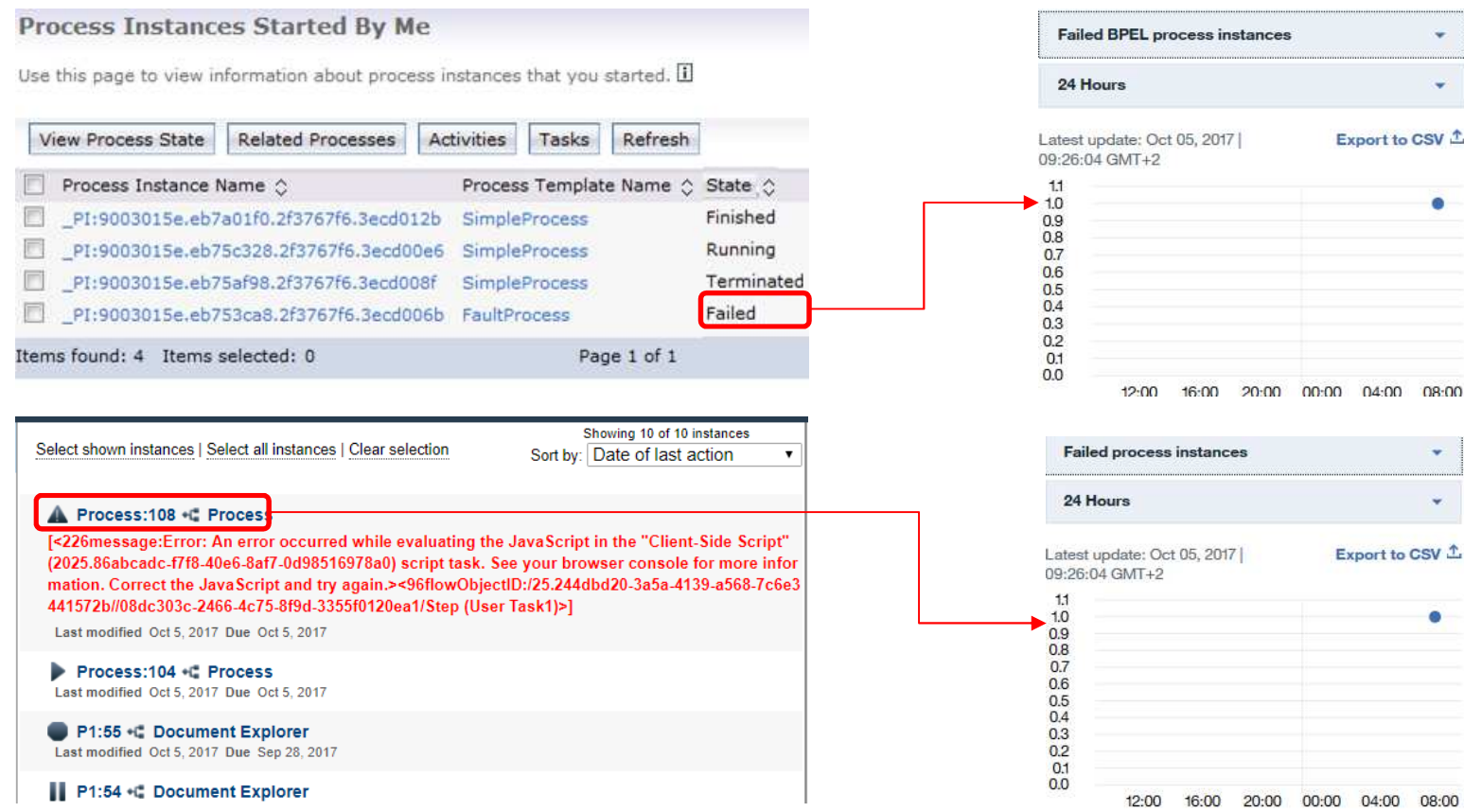
Agenda

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BPM on Cloud, SOE, Quality, Serviceability, Migration

Improved PFS Administration an Operations

- Saved searches export
  - Improved the Transfer REST API (introduced in CF2017.06) to allow to import saved search definitions exported from the Process Federation Server database.

- Improved performance of BPEL and BPD indexers by adding additional properties to server.xml file
  - dbIndexLogBatchSize, useIndexLogFile, useIndexLogFile, useIndexLogFile, maxIndexLogFileSize, maxIndexLogFileSize, useIndexLogFile

- Control a duration between requests (to federated IBM BPM systems) to refresh cached saved search metadata using a new server.xml configuration parameter
  - bdFieldsCheckInterval

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Launch External Task UI - Overview

- Authoring for BPMN Processes
  - In External Implementation specify a URL and pass the task id in the URL
    - When federated, the system will automatically add a parameter (restUrlPrefix) to identify from which process server the task originated.
    - The parameter is used in your custom web-app to call BPM REST API to claim the task, retrieve and save task data, and to complete task

- Authoring for BPEL
  - Same as above except HTM API are used to interact with Human Activities

Using External Task UI – how does it work?

This User Task is implemented as an external JSP

The External Task UI implementation JSP is required use BPM RETS API to:
- *claim task,*
- *copy task data,*
- *set task data,*
- *complete task*

JSP pointing to external EAR. Passing to the JSP via URL parameters
- taskId to invoke from JSP REST API for this task instance
- Task data passed from the process instance

Using External Task UI – how does it work?

Note: BPM Process Portal does not show the claim dialog for external activities. The external activity must perform that action via REST.

External Task Completion UI

New "do not claim external UI" configuration setting

To turn off the ability to claim tasks that were implemented by using an external user interface (that is, not based on a coach), set the **com.ibm.bpm.portal.doNotClaimExternalUI** mashup configuration property to true.
This property controls the Process Portal behavior, not runtime behavior.
For example, if a flow is designed to automatically claim tasks when a process starts, this property does not affect the flow behavior.

- Across all task lists in the Work, Team, and Performance, Process Instance dashboards claiming the task was inconsistent (some of them claimed the task automatically)

- To make the implementation of external UI consistent you can now specifically not to claim the tasks that were implemented as an external user interface

- Use the new **com.ibm.bpm.portal.doNotClaimExternalUI** mashup configuration property

Improved BPM Process Portal Performance

- Prior to v8.6 with a large number of Dashboards and Saved Searches IBM Process Portal suffered from performance issues:
  - Slow to open
  - Became unresponsive every 60 seconds (due to auto-refresh)
  - Unresponsive when performing Saved Search operations: create, edit, delete

- In v8.6 we introduced two configurable lazy-load settings
  - Customer can expect up to 50% improvement in both federated/non-federated environments

BPM Process Portal Lazy-load Configuration

Resource environment providers

Resource environment providers > Mashups_ConfigService > Custom properties

- **com.ibm.bpm.portal.launchList.showMore.strategy**
  - **incremental** (default value)
    each click on Show More displays the additional number of saved searches that is defined by the value of the count parameter. If the list contains more elements than the count value, the user must click Show More again to display the next ones.
  - **full**
    loads the complete list of elements to display when the user clicks Show More.
  - **preload**
    loads the complete list of elements for immediate display, without waiting for the user to click Show More. This value reflects the previous default behaviour and is not recommended because it reduces display performance.

- **com.ibm.bpm.portal.launchList.showMore.count**
  - default is 25.
  - value that is not strictly positive (such as characters or a negative value) is defaulted to 25
  - positive value from 0 to 9 are defaulted to 10

Lazy Loading of Saved Searches and Dashboards

15 Saved Searches to show

5 Saved Searches to show

Show More Count variable set to 10

BPM Process Portal Performance Improvements
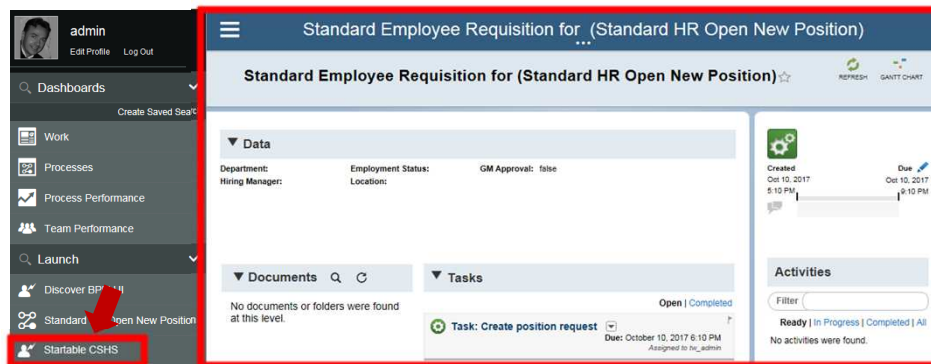
Improved performance by approximately 40 to 60% of
- Startable CSHS Service
- Process Instance UI

- In 8570 CF 2017.06 we used similar technique to optimize other part of BPP Process Portal
  - DOM simplification
    - Better visual rendering on iOS device
    - Smaller footprint
  - Remove 1 iFrame (browser) and 1 Dojo instance (CSHS)
    - Quicker to load and refresh

Process Portal Performance - Architecture Changes

BPM 8.5.7 CF 2017.06

Portal CSHS
Portal Coach
Action Bar CV
CSHS
Coach
Launch CV
Context CV

BPM 8.6

Portal Coach
Action Bar CV
Launch CV
Coach
Context CV

CSHS window/frame   Coach frame   Coach View (CV)
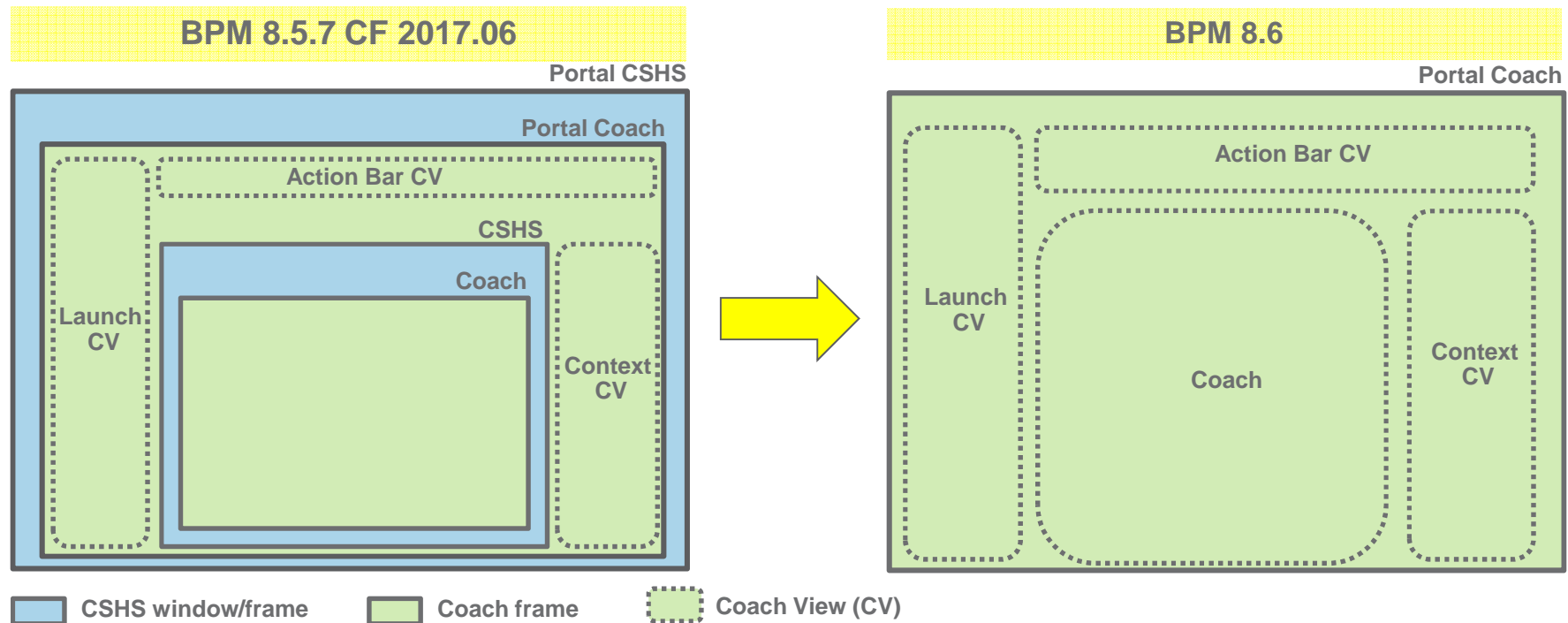
- Only Process Portal Toolkit implementation and runtime changes
  - Customers that modified BPM Process Portal do not need to change their code

Agenda

Single BPM Edition
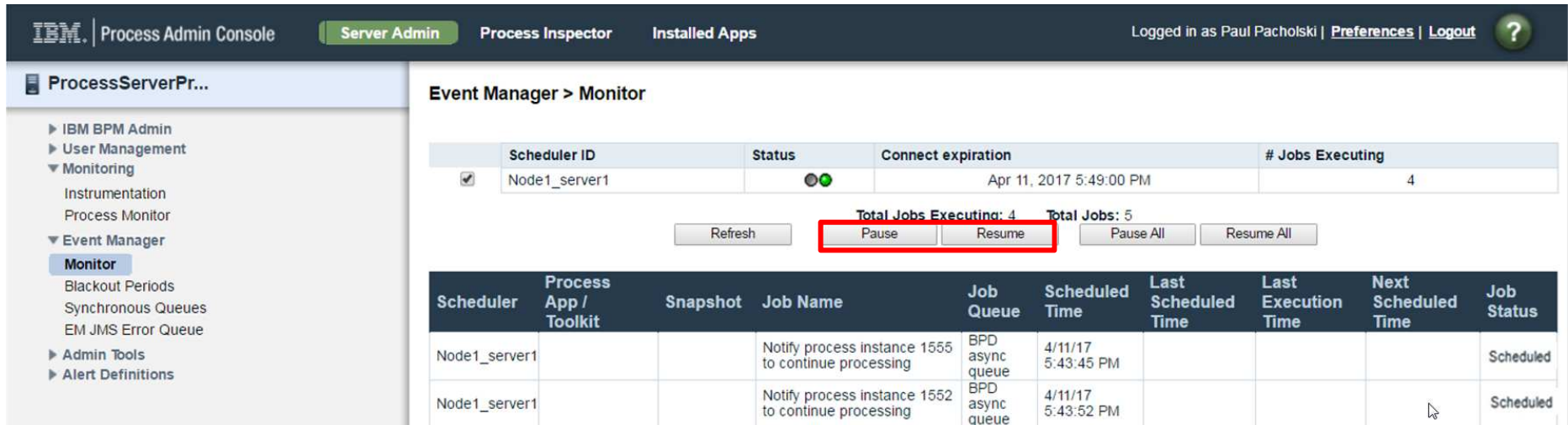
Web Process Designer

IBM BPM Analytics

IBM Cloud Integration

Process Federation Server

Responsive Portal

New API

BPM on Cloud, SOE, Quality, Serviceability, Migration

New Event Manager REST API

- Pause and resume Event Manager by using a new REST API
  - /rest/bpm/wle/v1/eventmgr/pause
  - /rest/bpm/wle/v1/eventmgr/resume
- For example, use the API to pause and resume operations for Event Manager when installing software patches during scheduled IBM BPM maintenance

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BPM on Cloud, SOE, Quality, Serviceability, Migration

Java 8 in BPM 8.6

Application servers

Application servers > **server1** > **Java SDKs**

This page lists the software development kits (SDKs) that are installed on the server. These SDKs are available to the servers.

⊞ Preferences

| Make Default |
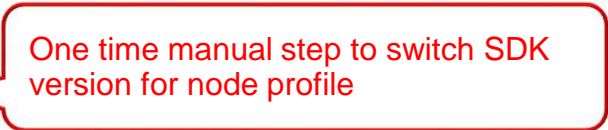
Select	Name ⬍	Version ⬍	Location ⬍	Bits ⬍	Default ⬍
You can administer the following resources:					
☐	1.8_64_bundled	1.8	${WAS_INSTALL_ROOT}/java	64	true

Total 1

- WAS V8.5 with Java SE 6, will no longer be support for the Java SE 6 after April 2018
- WAS Support for the Java SE 7.x versions will be discontinued after September 2019
- BPM V8.6.0 (IBM BPM Server) now uses the newest Java version supported on WebSphere Application Server V8.5.5.x.
- IBM BPM Server now supports Java 8 as the only Java version.

Impact on Upgrade from BPM 8.5.X – 2 More Steps

1. IM update WAS to 8.5.5.12

2. IM install Java SE 8 extension package

   One time manual step to install Java SE 8

3. IM update BPM to 8.6 - Java SE 8 will set as default command SDK and default SDK for new profile automatically.

4. DBUpgrade to upgrade database

5. Start dmgr (profile upgrade + bootstrap + BPMUpdateSystemApp) - During profile upgrade, switch SDK version to Java SE8 for dmgr profile or stand-alone profile automatically

6. Switch node java version

   One time manual step to switch SDK version for node profile

7. Start node

8. Start DE

IBM Integration Designer & Desktop PD Java Version

- **Desktop PD** V8.5.7. CF201709 continues to use a Java 7 runtime and is deprecated.

- **IID** 201709 iFix JR58314 switches to use Java7 runtime, and also support Java 8 based server.

Installed JREs

Add, remove or edit JRE definitions. By default, the checked JRE is added to the build path of newly created Java

Installed JREs:

Name	Location
☐ IBM Process Server v8.5.7 JRE	C:\IBM\IID\v8.5\runtimes\base_v85_stub\java_1.7_64\jre
☑ jdk	C:\IBM\IID\v8.5\jdk
☐ WebSphere Application Server V8.5 JRE	C:\IBM\IID\v8.5\runtimes\base_v85_stub\java\jre
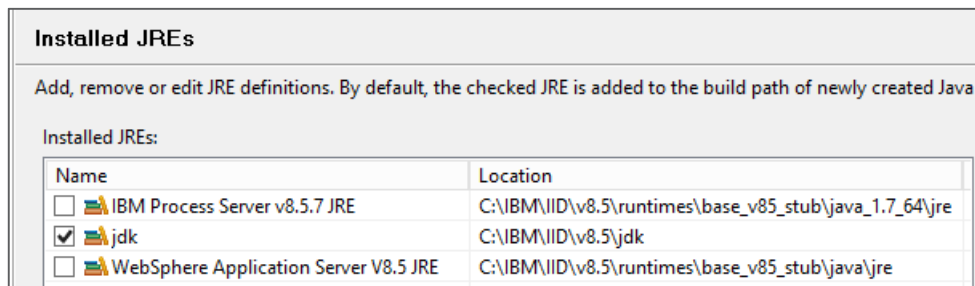
IID 2017.09 still uses Java 1.7 and 1.6 for snippets

Task Flows Build Activities Properties Problems

IBM Process Center v8.5.7 at ibmbpm-rpa [Started]
IBM Process Center v8.6 at ibmbpm-rpa [Started]
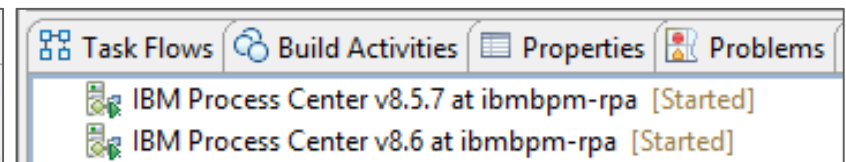
IID 2017.09 can deploy to booth 8.5.7 and 8.6 Servers.
8.6 Servers use Java 8

IBM BPM Security Enhancements

- Protection against **Cross-Site Request Forgery (CSRF)** improved in two areas:
  – If you enable the Referer header whitelist feature, the server will now accept parameter free GET requests even for Referer header values that are not whitelisted. This allows you to embed a link to your Process Portal or other BPM web interfaces on e.g. a wiki page without whitelisting the wiki host.
  – If you enable the CSRF session tokens, you can now also protect URLs that start with /teamworks/cs_
    These URLs refer to pages in Process Admin Console that submit HTML form data to the server. See JR58302

- For details on enabling CSRF protection, see Security-hardening properties.

- Hardened security is a **HTTP methods whitelist**.
  – Vulnerability scanners have reported findings for tests in which they tampered with HTTP methods. In particular the HTTP method TRACE is a concern for penetration testers. Per RFC a server reflects the exact HTTP request as it was received by the server.
  – In scenarios with web servers, reverse proxy and other intermediaries, HTTP headers might be injected to control the request flow through the network. Using the TRACE method, an attacker might gain insight into these setups. BPM 8.6 has a whitelist for acceptable HTTP methods described in Security-hardening properties.
  – The default whitelist is very restrictive. If you are one of the few customers customizing Heritage Portal themes using WebDAV, you need to whitelist WebDAV methods temporarily.

- The new version of Interpreting IBM Security AppScan findings for IBM Business Process Manager has been restructured and provides more background information.

- For complete details see Jens' security blog

Jens Engelke

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Create Oracle and SQL Server Driver Paths

- In v8.6 the Oracle and SQL Server JDBC drivers that previously came with IBM BPM have been removed (legal requirement)

- Expose new property named jdbcDriverPath in BPM Configuration, Typical Install, and DE Wizard

- Expose new properties named bpm.dmgr.jdbcDriverPath and bpm.de.node.#.jdbcDriverPath Silent Install

New Process Instance Migration API
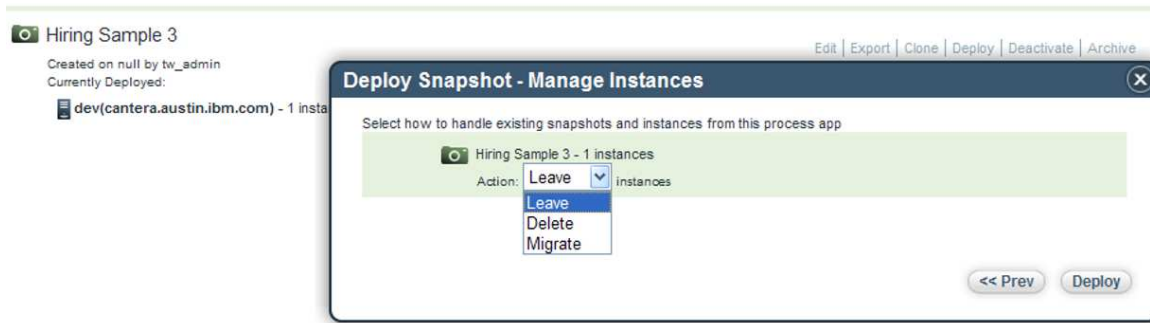
- Prior to v8.6 it was not possible to fully automate process instance migration, tasks with orphaned tokens needed to be migrated manually using the BPM Process Admin Console

- In v8.6 a new API allows to specify orphaned token policy:

  – TWProcessInstance#migrateWithPolicyTo (targetSnapshot, policyFileUrl)

  – Migrates an instance and its context to the specified snapshot and applies orphaned token policy file. Using this API has the same effect as migrating inflight data from the Process Admin console.

BPM on Cloud Improved User Password Security

- Enforce more securer passwords for user accounts
- Required for compliance with FedRamp, HIPAA and ISO specifications

First name

test

Last name

test

Password

••••••••••••

Confirm Password

••••••••••••

The password does not satisfy the password policy:
Minimum length: 12
Minimum number of uppercase characters: 1
Minimum number of lowercase characters: 1
Minimum number of numeric characters: 1
Minimum number of special characters: 1 (_-|@.,?/!#$%&*
()[]{}=)
Password history: 24

BPM on Cloud NPS

- Provide a simple survey of users to gather feedback on how satisfied users are with BPM on Cloud

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New BPM Performance Dashboard

New dashboard in Process Admin Console provides BPM Database health information related to BPM performance

- Overview of number of BPM artifacts in the system:
  - Process Instances, grouped by state
  - Tasks, grouped by state
  - Users
  - Groups by group type
  - Top10 largest groups
  - Named and unnamed ProcessApp and Toolkit snapshots
  - Orphaned Toolkit Snapshots snapshots
  - Environment variables, Exposed process variables, durable messages, ...

- Process Instance / Task creation history charts to correlate past situations of performance degradation

- Information on housekeeping activities for each BPM artifact

- Automatic generation of WSAdmin commands to delete snapshots, delete instances, etc…

- Warnings to alert BPM admin:
  - High amount of completed process instances
  - Bad practices database configuration

- Export functionality (CSV, Excel), with additional information on database state
  - Last statistics date for BPM tables and indexes
  - BPM table cardinality
  - Structure of indexes on BPM tables
  - Database configuration

Performance Dashboard

Performance Dashboard

Process Instance Data ⌄

	Status	↕	Count	↕
☐	Active		9	
☑	Completed		1	
☐	Failed		1	
☐	Terminated		1	
☐	Suspended		1	

Show Snapshot Data   **Show History Data**   ⓘ Housekeeping

Per page: 10

	Snapshot ID ↕	Snapshot acronym ↕	Process Instances in selected statuses ↕	Total number of tasks ↕
⦿	29d9b76e-4ed3-44c3-a65d-68f0a56e6297	29d9b76e-4ed3-44c3-a65d-68f0a56e6297	1	3

Previous **1** Next

AdminTask.BPMArchive('[-containerSnapshotAcronym 29d9b76e-4ed3-44c3-a65d-68f0a56e6297 -containerAcronym TAD2 -containerTrackAcronym Main]')   ✕

AdminTask.BPMSnapshotCleanup('[-containerSnapshotAcronyms 29d9b76e-4ed3-a65d-68f0a56e6297 -containerAcronym TAD2 -containerTrackAcronym Main]')   ✕

Automatic generation of WSAdmin commands
Just copy/past and run
All parameters are prefilled!

Performance Dashboard

Snapshot Data

Performance Indicator		Count
⚪ Number of process application snapshots (named) witho...		13
⚪ Number of Process Application Snapshots (unnamed)		123
⦿ Number of toolkit snapshots (unnamed)		13
⚪ Number of process application snapshots (named)		13
⚪ Number of toolkit snapshots (named)		12
⚪ Number of orphaned Toolkit Snapshots		2

Show Snapshot Data

ℹ **Housekeeping**

Per page: 10

Housekeeping Tips

You can purge snapshot data by using the Process Admin Console:

- IBM BPM Admin > Health Management

Or by using these wsadmin commands:

- BPMDeleteSnapshot
- BPMSnapshotCleanup

The following wsadmin commands also purge related snapshot data.

- BPMRemoveProcessApplication
- BPMRemoveToolkit

For more housekeeping tips, see:

- BPMShowOrphanedToolkits command
- Purging data in IBM BPM
- Deleting unnamed snapshots from a Process Center server, automated method

OK

Snapshot ID			Container acronym
⚪ 5dfc5eca-e662-4265-8c3d-ed19055e7768			TWSYS
⚪ d14c71c9-454c-4576-b108-b441c5877c7f			TWSYS
⚪ 2b73dd6a-31dc-4b32-b1af-a858743e1370			TWSYSG
⚪ e01d46a5-6dc9-4545-9940-7e843777321d			SYSC
⚪ 091c559c-c82f-4309-8050-1b66d98f6100			SYSRC
⚪ 45d2f595-26cc-48b7-885e-e85e57d4d90c			SYSRC
⚪ 29dbc7ff-aace-481a-ba72-be56c0180448			SYSCM
⚪ 24d7efbe-2444-43d4-9c26-7938f5a1c101			SYSD
⚪ a6a5cd8c-64ca-484e-b3ad-13ff55317cbc			SGW
⚪ c3230282-22ff-4728-8d68-be2aec89484d	c3230282-22ff-4728-8d68-be2aec89484d		SYSBPMUI

Previous 1 2 Next

Proactive Housekeeping Tips and Best Practices – Tips!
Example: snapshot cleanup including the unnamed snapshots. Unnamed snapshot proliferation impacts Process Designer performance!

Performance Dashboard
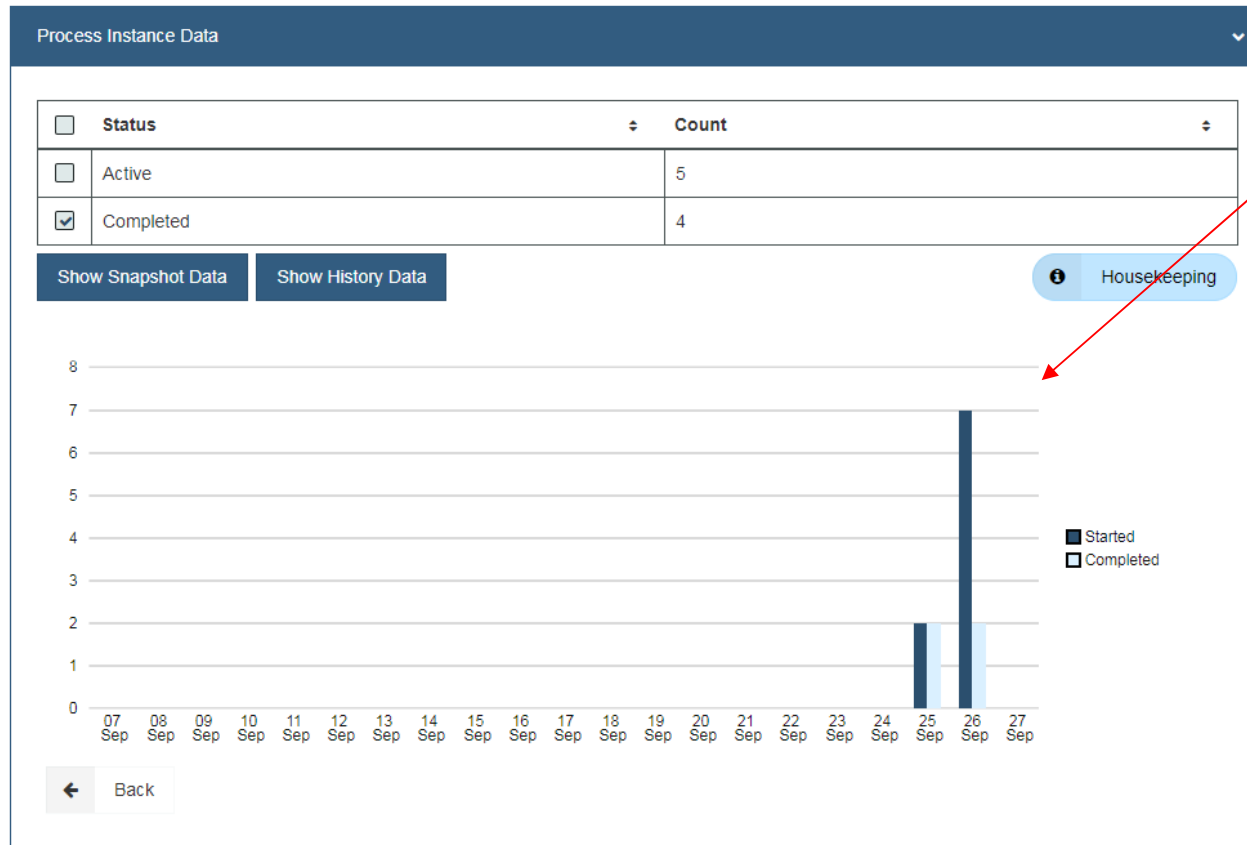
Process Instance Count with History
Examine how Active and Completed instance count fluctuate over time to detect peak times and help with infrastructure planning to accommodate peak demand!

Statement of Environment Updates

IBM Process Federation Server
- Liberty 17.0.0.3

IBM BPM
- WAS 8.5.5.12
- Firefox 54 browsers
- Google Chrome 59 browser
- Support Freedom Scientific JAWS screen reader 18
- SUSE Linux Enterprise Server 12.2
- AIX 7.2 Hypervisor
- RHEL POWER 8 LE h/w
- Installation Manager 1.8.7
- DB2 11.1 AWSE (typical install)
- Safari 10.1 browserDB2 for z/OS 12.1
- Bundle IBM Security Access Manager 9.0.2.1
- Red Hat KVM 6.7-6.9
- SLES 12.2

Fixes

72 fixes are included in BPM 8.6

Fixes that involve security are indicated with a check mark ✓.

IBM Business Process Manager V8.6

APAR	Security APAR	Behavior Change	Title
JR58043	✓		SECURITY APAR CVE-2017-1424 HTML INJECTION VULNERABILITY IN IBM BPM SOCIAL FEATURES
JR58044	✓		SECURITY APAR CVE-2017-1425 - CROSS-SITE-SCRIPTING VULNERABILITY IN COACH NG ERROR HANDLING
JR58150	✓		SECURITY APAR CVE-2013-0464 - BUSINESS SPACE HELP IS VULNERABLE TO A CROSS-SITE (XSS) SCRIPTING ATTACK
JR58188	✓		SECURITY APAR - CVE-2017-1527 - THE XML EXTERNAL ENTITY EXPANSION VULNERABILITY AFFECTS IBM BPM
JR58231	✓		SECURITY APAR - MULTIPLE CVEs - VULNERABILITIES IN NODE.JS MIGHT AFFECT THE IBM BPM CONFIGURATION EDITOR
JR58241	✓		SECURITY APAR - CVE-2017-1639 - GROUP MEMBERSHIPS OF SECURITY GROUPS ARE SYNCHRONIZED WITH INTERNAL GROUPS THAT SHARE THE SAME NAME
JR58292	✓		SECURITY APAR - CVE-2017-1530, CVE-2017-1531 - PERSISTED CROSS-SITE SCRIPTING VULNERABILITIES IN IBM BPM CONSOLES
JR58297	✓		SECURITY APAR - MULTIPLE VULNERABILITIES IN IBM JAVA SDK AFFECT IBM PROCESS DESIGNER
JR58000		Business objects with date properties will keep their millisecond precision.	CLIENT-SIDE HUMAN SERVICE REMOVES MILLISECONDS FROM THE DATE PROPERTIES OF A BUSINESS OBJECT
JR58078		WebDAV HTTP methods and TRACE are no longer supported by default. Enabling WebDAV for customizing Heritage Portal or Business Space themes requires manual whitelisting.	NO RESTRICTION FOR HTTP METHODS
JR58192		IBM BPM date and time data types are displayed more consistently.	THE PROCESS INSPECTOR DATA SECTION IN THE WEB PROCESS DESIGNER DOESN'T SHOW HH:MM:SS FOR THE DATE OR TIME VARIABLES
JR58243		Only the expected duplicate artifact is shown.	THE HERITAGE HUMAN SERVICE AND COACH VIEW ARE GENERATED WHEN YOU DUPLICATE A BUSINESS OBJECT IN A TOOLKIT
JR58204			PAGINATION DOES NOT WORK FOR HERITAGE HUMAN SERVICES
JR54140			IBM PROCESS DESIGNER MIGHT STILL LIST THE BLUEWORKS LIVE PROCESS SUBSCRIPTION AFTER IT HAS BEEN DELETED

THANK YOU