



BJ's Success Story of Monitoring SAP Portfolio and 215+ Stores

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About the Speakers

Suraj Pabbathi

- Lead IT SAP Program Analyst, BJ's Wholesale Club Inc.
- 15 Years of experience
- Technical Areas: SAP ABAP, PI, CPI, BODS, SLT, Fiori, Hana Modeling, Solution Manager
- Functional Areas: POSDTA, UDF
- Founder and President of People For India Inc. (Non-Profit Organization)

Leandro Fernandes

- Premium Engagements Directors
- SAP

Agenda

- BJ's at a glance
- Upgrade from 7.1 to 7.2
- Bjs footprint on Solution Manager
- Dashboards
 - Business Process Monitoring
- PI Monitoring
- Interface Monitoring
- SAP Support Backbone Update

BJ's at a Glance

- 215 CLUB IN 16 STATES FROM MAINE TO FLORIDA
- 133 gas stations
- 5.3 million members
- 25,000 employees
- Assortment variety of grocery items including fresh meat, produce and private brands – **Wellsley Farms and Berkley Jenson**
- Other service options include **Travel, Cellular and Optical**
- Increased Digital Presence to offer strong engagement with our members



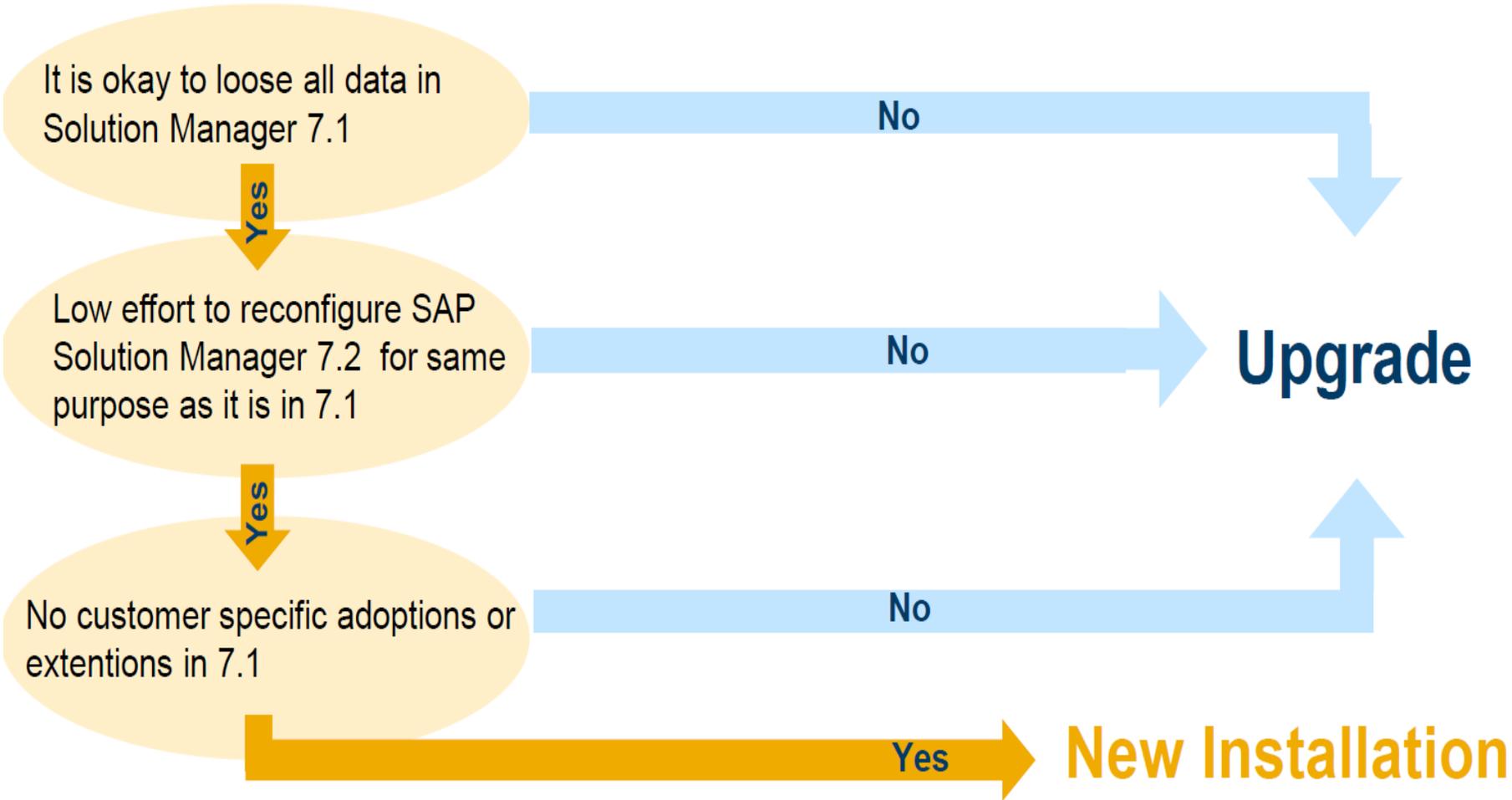
Why Upgrade?

- We are running an older version 7.1 for which Maintenance has ended on Dec, 31'2017
- There are more features in 7.2 that shall benefit Bjs

Upgrade Variants

- Upgrade vs New installation
- Type of Database – Oracle Vs Hana
- Cloud vs On-premise

Upgrade or new Installation?



Based on the following factors, We think that a new installation in the cloud is the best option.

- No Customer specific adoptions
- No Data in the system that cannot be lost
- Low effort to reconfigure existing setup



Upgrade vs New Installation

Option	Advantages	Disadvantages
Upgrade	<ol style="list-style-type: none">1. Post Upgrade configuration of Solution Manager would be significantly less time consuming than that of a new installation.2. No loss of historical data in Solution Manager.3. System Monitoring and Business Process Monitoring alerts would available post upgrade	<ol style="list-style-type: none">1. A large Solution Manager 'clean-up' in advance of the Upgrade is required. Currently Solman is ~1TB.2. Estimated upgrade effort of 2 – 4 months.3. Currently the Solution Manager Development and Production systems are not 'like for like'. The development system would require patching and configuration in preparation for the upgrade so that a true 'mock' upgrade can take place.4. BJ's are moving Solution Manager to AWS, this move would need to be factored into the upgrade plan.
New Installation	<ol style="list-style-type: none">1. A clean installation of Solution Manager 7.2 allowing BJ's to configure only live monitoring and alerts.2. Initial build on AWS means no migration required. Building a development system will ensure that development and production are 'like for like' going forward.3. No time wasted investigating the current 1TB database. If there is database growth post go-live, this should be review in a performance and optimization service.4. A new installation will not require as much time to technically stand up the system (not configuration) as an Upgrade.5. The new Solution Manager 7.2 can co-exist with the 'current' Solution Manager 7.1 system. This will allow monitoring cut-over with no downtime.	<ol style="list-style-type: none">1. New Installation will require a fresh technical installation and complete reconfiguration of monitoring.2. All historical data will be lost

Type of Database – Oracle Vs Hana

Hana	Oracle	Comments
High Performance	Low Performance	There are no application currently built that need high performance. ✓ Oracle
Higher TCO	Lower TCO	Run with low TCO ✓ Oracle
	Switch over is possible	It is possible to switch over to Hana any time. ✓ Oracle
Roadmap to S/4		✓ Oracle

oracle

oracle

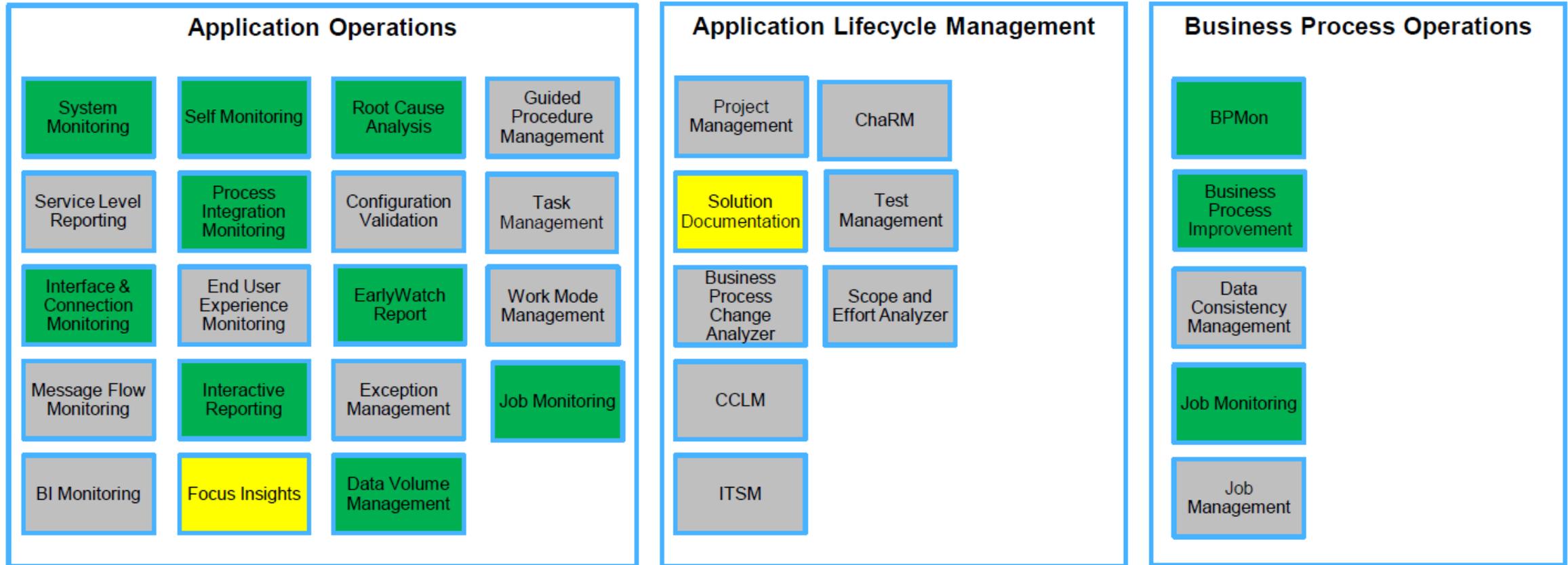
Cloud Vs On-Premise

	Cloud 	On-Premise
Bjs Strategy		
Low Capital Investment	 	
Maintenance efforts		
Technical Innovations		

Decision Time

- Upgrade vs New installation -- **New Installation**
- Type of Database – Oracle Vs Hana -- **Hana**
- Cloud vs On-premise -- **Cloud**

Bjs Footprint on Solution Manager



■ Currently configured for SP1 7.1

■ Future recommended configuration for BJ's Wholesale

■ Not used at BJ's Wholesale

BJ's SAP Portfolio Solutions

monitored with segregation of duties spread across IT and BUS COE

Browser List Search Result Where Used List Reporting

< Solution > Business Processes > Finance > FI IT COE > ECC Sales Monitoring

The screenshot shows the SAP Fiori 'Where Used List' for the 'ECC Sales Monitoring' object. The breadcrumb path is 'Solution > Business Processes > Finance > FI IT COE > ECC Sales Monitoring'. The interface is divided into four columns of objects, each with a checkbox and a pin icon. The first column contains 'Business Processes' and 'Libraries'. The second column contains 'Finance', 'Supply Chain', 'Sales Operations', 'Test', 'Sales Distribution', and 'Basis'. The third column contains 'CAR Club Sales Monitoring', 'CAR Fuel Sales Monitoring', 'FI IT COE', 'FI BUS COE', and 'Sales Queue Monitoring'. The fourth column contains 'Number Ranges Monitoring', 'ECC Sales Monitoring', 'CAR Sales Monitoring', 'Aggregated sales to ECC', and 'Tax Flags Monitoring'. Below the object lists is a table titled 'Elements of 'ECC Sales Monitoring'' with columns for Name, Type, Group, and Path. The table lists three elements, with the second one, 'Optical Sales IB Monitoring', selected.

Name	Type	Group	Path
<input type="checkbox"/> Finance IB IDocs from CAR	Alerting <Ref.>	Operations	/Solution/Business Processes/Finance/FI IT COE/ECC Sales Monitori...
<input checked="" type="checkbox"/> Optical Sales IB Monitoring	Alerting <Ref.>	Operations	/Solution/Business Processes/Finance/FI IT COE/ECC Sales Monitori...
<input type="checkbox"/> Optical Sales IB Monitoring	Alerting <Ref.>	Operations	/Solution/Business Processes/Finance/FI IT COE/ECC Sales Monitori...

BPM

SAP Home

Business Process Monitoring | Business Process Operations Dashboards | Alert Inbox Business Process O...

SAP Business Process Monitoring | Last refresh : 02.10.2018 15:17:30

Solution Context

Last Selected *
 Prod_Solution - Operations | Production System

Solution Documentation > All Business Processes > Finance >

- >>> CAR Club Sales Monitoring
- >>> CAR Fuel Sales Monitoring
- >>> FI IT COE
- >>> FI BUS COE
- >>> Sales Queue Monitoring

Selected Items

FI BUS COE

Select

SAP Business Process Monitoring | Last refresh : 02.10.2018 15:17:30

Status Overview

8	3	1	4	0	3
Objects	Error	Warning	Success	No Data	Alerts

Variant Selected : Last Selected

Process Overview

Name	Alerts
Finance	
>>> FI BUS COE	3

Variant Selected : Last Selected

Alerts

- Table Entry Counter**
of NonSCAN items (over \$1K)
7 hours 3 minutes ago
- POS Transactions**
CAR POS Transactions in Error
9 hours 3 minutes ago
- High number of erroneous iDocs (Real-time) (Total)**
Finance IB iDocs from CAR (iDOC):HCP-ABAP->EP1-ABAP
9 hours 10 minutes ago

Alert Inbox

Auto Refresh: Never [Refresh]

Throughput & Backlog (1) | Job (0) | Interface (1) | Consistency (0) | **Exceptions (1)** | Performance (0)

View: [Standard View] | Confirm | Show Action Log | Change Configuration | Postponement

Alert for: Table Entry Counter | Managed Object: # of NonSCAN items (over \$1K)

Alert Details: Alert for "Table Entry Counter" at "# of NonSCAN items (over \$1K)"

Confirm | Assign | Create Incident | Create Notification | Create Analysis Report | Show Action Log | Add Comment | Search Guided Procedures

Alert Header

Alert Name: Table Entry Counter | Managed Object: # of NonSCAN items (over \$1K) | Work Mode: | Number of Alerts: 1

Start Date and Time: 10/02/2018 08:14:48 EST | End Date and Time: 10/02/2018 08:14:48 EST | Reason for closure: |

Alert Processing and Guided Procedures

Processor: [User ID] | Status: Open | Incident Status: | Notification Type: [X]

Comments: [] | Incident Number: |

Alert Description and Analysis

The generic "Table Entry Counter" enables you to run dynamic database queries to count the number of entries (or the number of distinct values) in any database table in a monitored system. It supports flexible filtering by five table fields. This monitor is useful in areas with no specific application monitor.

Alert Details

Include metrics with: Red Rating Yellow Rating Green Rating Gray Rating

Description	Type	Managed Object	First	Worst	Last	Min	Max	Last	Text Value
Status for monitor Table Entry Counter		# of NonSCAN items (over \$1K)	⊗	⊗	⊗				
Number of Counted Entries		# of NonSCAN items (over \$1K)	⊗	⊗	⊗				
001		# of NonSCAN items (over \$1K)	⊗	⊗	⊗	2	3	3	Number of entries in table ZDT_UNKNOWN_UPC = ...

Metric Description

Key figure "Number of Counted Entries" creates an SQL query in the format SELECT COUNT(*) FROM table WHERE field1 IN filterrange1 (up to 5 filters).

Launch Detail Analysis on System MCP-200

Where-Used-List

Alerts - "Table Entry Counter" at "# of NonSCAN items (over \$1K)"

Timeframe: All | From: | at: 00:00:00 | To: | at: |

View: [Standard View] | Export | Confirm | Assign | Show Details | Create Incident

Rating	No...	Status	Processor	Comments
⊗	1	Open		

Detail display of table ZDT_UNKNOWN_UPC (3 lines)

Menu | [] | Back | Exit | Cancel | System | Details | Sort in Ascending Order | Sort in descending order | Set filter | Total | Print preview | Local file...

Store	Posting Date	Trans.Ind.	Type	POS Number	Transaction Number	Article Identifier	CC	Trans. End	Cashier or Na
303	09/27/2018	0	1001	67	8672	00748369324732	1	20180927113400	284011
165	09/26/2018	0	1001	250	6167	00037000491651	1	20180926100700	370617
31	09/29/2018	0	1001	250	4399	00037000491651	1	20180929104200	370617

BPM Dashboard Contd..

The image displays two overlapping screenshots of the SAP Business Process Monitoring (BPM) dashboard. The top screenshot shows the 'Status Overview' section with six colored tiles representing different process states: 8 Objects (grey), 3 Error (red), 1 Warning (orange), 4 Success (green), 0 No Data (dark grey), and 3 Alerts (light grey). Below this is the 'Process Overview' section, which lists various processes under the 'Finance' category, with 'FI BUS COE' highlighted and a red arrow pointing to its status icon. The bottom screenshot shows the 'Metrics' section for 'FI BUS COE', displaying a table of metric details. A red arrow points to the 'Trend and Value' column for the '001' variant, which shows a value of 3.

Status Overview

8	3	1	4	0	3
Objects	Error	Warning	Success	No Data	Alerts

Process Overview

Name	Chart	Icon	Value
Finance			
FI BUS COE			3

Alerts

- Table Entry Counter**
of NonSCAN items (over \$1K)
7 hours 3 minutes ago
- POS Transactions**
CAR POS Transactions in Error
9 hours 3 minutes ago
- High number of erroneous IDocs (Real-time) (Total)**
Finance IB IDocs from CAR (IDOC):HCP-ABAP->EP1-ABAP
9 hours 10 minutes ago

Metric Detail for FI BUS COE

Monitoring Object > Metric > Variant	System	Status	Last Date and Time	Trend and Value
# of NonSCAN items (over \$1K)	HCP:200		10/02/2018 - 08:13:50	
Number of Counted Entries	HCP:200		10/02/2018 - 08:13:50	
001	HCP:200		10/02/2018 - 08:13:50	3

Confirming and commenting Alerts

Auto Refresh: Never [Refresh]

Throughput & Backlog (0) Job (0) Interface (0) Consistency (0) **Exceptions (155)** Performance (0)

View: [Standard View] Confirm Show Action Log Change Con

Alert for	Managed Object	
Table Entry Counter	Club Sales Trickle Failure for	200
Table Entry Counter	Club Sales Trickle Failure for	200
Table Entry Counter	Club Sales Trickle Failure for	200
Table Entry Counter	Club Sales Trickle Failure for	200
Table Entry Counter	Club Sales Trickle Failure for	200
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Table Entry Counter	Club Sales Trickle Failure for	200
Table Entry Counter	Club Sales Trickle Failure for	200

Confirm Selected Alerts

⚠ Confirmation of an alert is an irreversible process

Comments: Club Sales is received

Classification: SLA relevant

Category: General

Confirm the selected alerts?

Yes No



Tiles

Collapse All Tiles

Expand All Tiles

Availability 0 0 6 0	
EP1~ABAP EP1~ABAP	100%
FP1~ABAP FP1~ABAP	100%
GP1~ABAP GP1~ABAP	100%
LP1~ABAP LP1~ABAP	100%
PI JAVA XP1~JAVA	100%
PORTAL SYSTSEM PP1~JAVA	100%

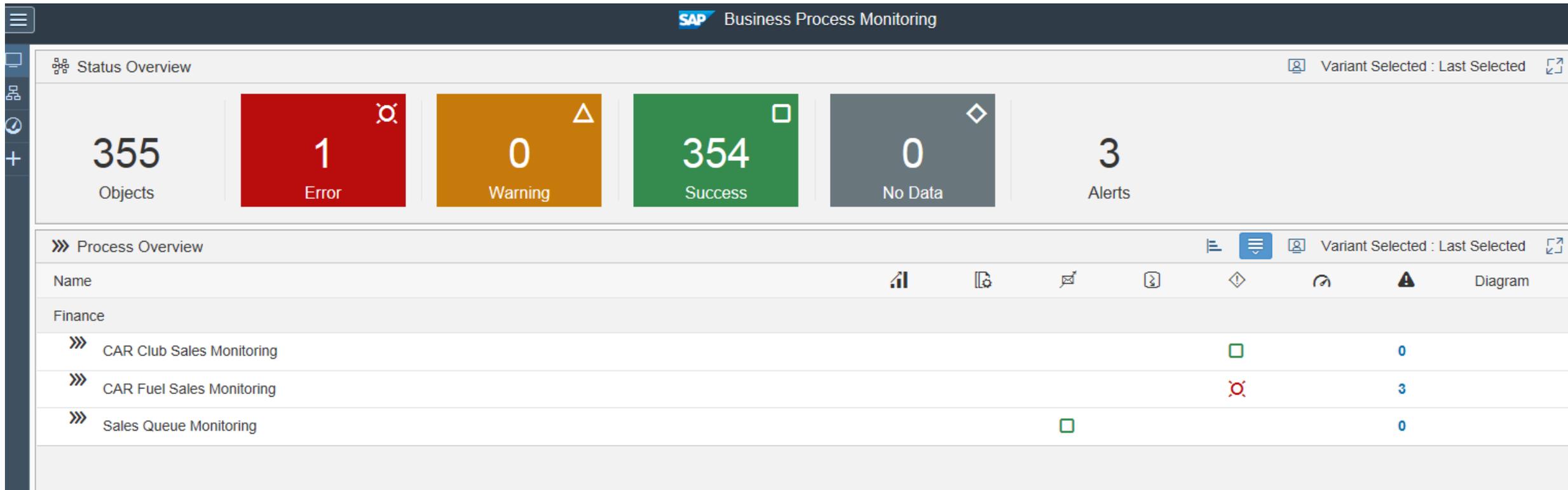
Database Growth 2 0 6 0	
EP1~ABAP EP1~ABAP	19335.24 GB 97.17%
FP1~ABAP FP1~ABAP	63.65 GB 74.08%
GP1~ABAP GP1~ABAP	201.02 GB 61.58%
HCP~ABAP HCP~ABAP	1375.43 GB 60.41%
HSP~ABAP HSP~ABAP	117.08 GB 86.40%
LP1~ABAP LP1~ABAP	86.12 GB 62.04%
PI JAVA XP1~JAVA	557.09 GB 70.39%
PORTAL SYSTSEM PP1~JAVA	37.15 GB 46.62%

Hardware Resources 0 4 5 0		
EP1~ABAP EP1~ABAP	CPU 21.0%	MEM 70.8%
FP1~ABAP FP1~ABAP	CPU 6.9%	MEM 96.0%
GP1~ABAP GP1~ABAP	CPU 25.4%	MEM 97.9%
HBP~ABAP HBP~ABAP	CPU 18.1%	MEM 69.8%
HCP~ABAP HCP~ABAP	CPU 10.1%	MEM 88.3%
HSP~ABAP HSP~ABAP	CPU 4.6%	MEM 84.2%
LP1~ABAP LP1~ABAP	CPU 36.3%	MEM 61.1%
PI JAVA XP1~JAVA	CPU 13.8%	MEM 98.0%
PORTAL SYSTSEM PP1~JAVA	CPU 4.2%	MEM 72.3%

Performance 0 0 9 0	
EP1~ABAP EP1~ABAP	581 ms
FP1~ABAP FP1~ABAP	110 ms
GP1~ABAP GP1~ABAP	936 ms
HBP~ABAP HBP~ABAP	718 ms
HCP~ABAP HCP~ABAP	1133 ms
HSP~ABAP HSP~ABAP	155 ms
LP1~ABAP LP1~ABAP	3 ms
PI JAVA XP1~JAVA	154 ms
PORTAL SYSTSEM PP1~JAVA	36 ms

Users Load 0 0 8 0	
EP1~ABAP EP1~ABAP	145
FP1~ABAP FP1~ABAP	0
GP1~ABAP GP1~ABAP	2
HBP~ABAP HBP~ABAP	5
HCP~ABAP HCP~ABAP	2
LP1~ABAP LP1~ABAP	0
PI JAVA XP1~JAVA	9
PORTAL SYSTSEM PP1~JAVA	29

215+ Clubs and 133+ Gas Stations



PI Monitoring

SAP Process Integration Monitoring

Status Overview of Channels

602 Channels

0 Error

22 Inactive

521 Successful

59 Stopped/NA

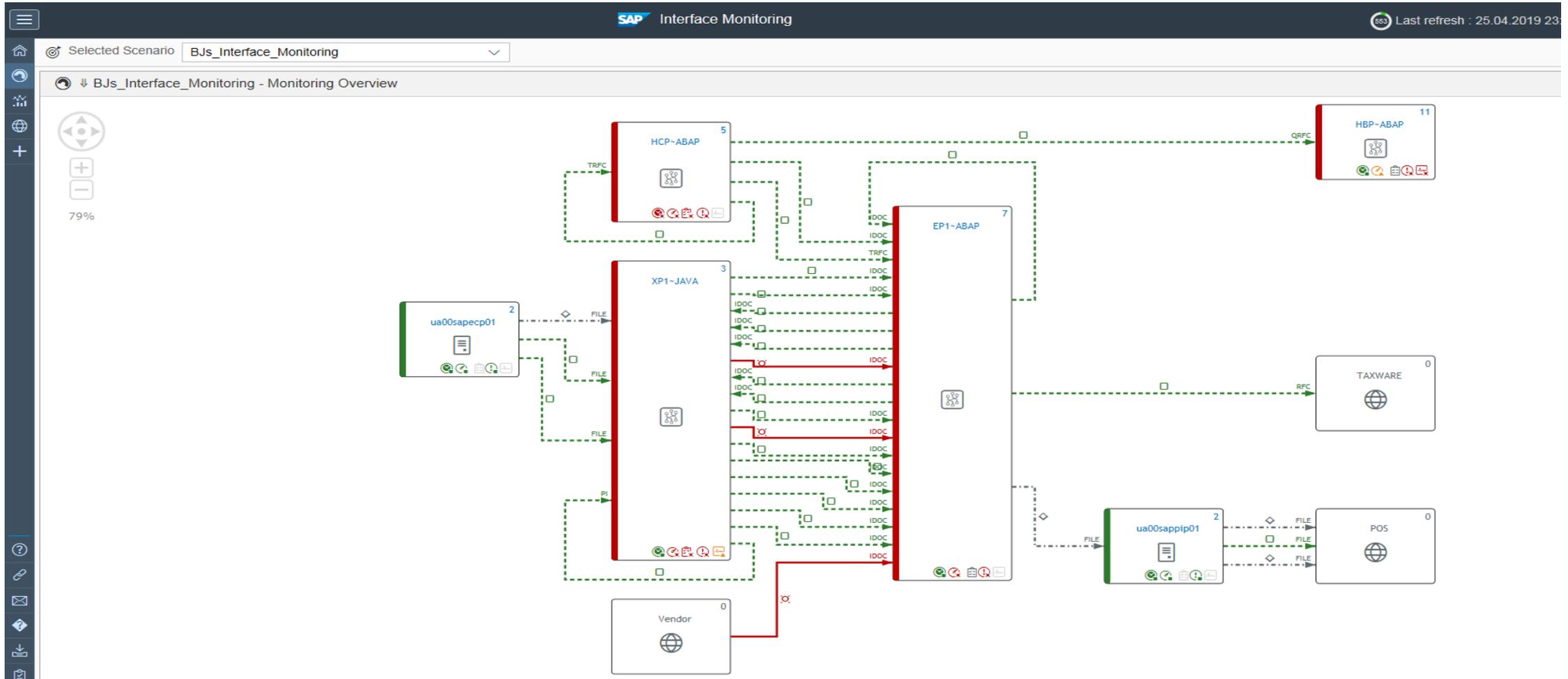
Channel Monitor Details

Selected Scope: domain.30.ua00sappip01 || Filtered Columns: Status || Last Refreshed on April 25, 2019 at 11:44:33 PM GMT-04:00

Start Stop Channel Control

Channel Name	Status	Adapter Engine	Component	PI Domain
<input type="checkbox"/> FILE_JDAE3_SuggestedPurchaseOrders_SEND	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	JDAE3PD	domain.30.ua00sappip01
<input type="checkbox"/> FILE_JDAE3_SuggestedPOs_RECV	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	MAINFRAMEPD	domain.30.ua00sappip01
<input type="checkbox"/> FILE_MAINFRAME_SalvageDonation_RECV	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	MAINFRAMEPD	domain.30.ua00sappip01
<input checked="" type="checkbox"/> FILE_EDIPARTNER_856_ASN_XML_SEND	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	EDIPARTNERPD	domain.30.ua00sappip01
<input type="checkbox"/> JMS_WMSDC800_GoodsReceiptStarted_SEND	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	WMSDC800PD	domain.30.ua00sappip01
<input type="checkbox"/> FILE_JDAEP_AHIntegrationLayerOD_RECV	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	JDAEPPD	domain.30.ua00sappip01
<input type="checkbox"/> MAIL_JDAE3_POError_RECV	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	JDAE3PD	domain.30.ua00sappip01
<input type="checkbox"/> FILE_MAINFRAME_StockTransferOrder_RECV	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	MAINFRAMEPD	domain.30.ua00sappip01
<input type="checkbox"/> FILE_MAINFRAME_AssortmentList_RECV	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	MAINFRAMEPD	domain.30.ua00sappip01
<input type="checkbox"/> JMS_WMSDC840_GoodsReceiptStarted_SEND	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	WMSDC840PD	domain.30.ua00sappip01
<input type="checkbox"/> FILE_MAINFRAME_SalesHistory_SEND	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	MAINFRAMEPD	domain.30.ua00sappip01
<input type="checkbox"/> FILE_MAINFRAME_SuggestedPOs_RECV	▲ 4/24/19, 9:19 PM	Central Adapter Engine: XP1	MAINFRAMEPD	domain.30.ua00sappip01

Interface Monitoring



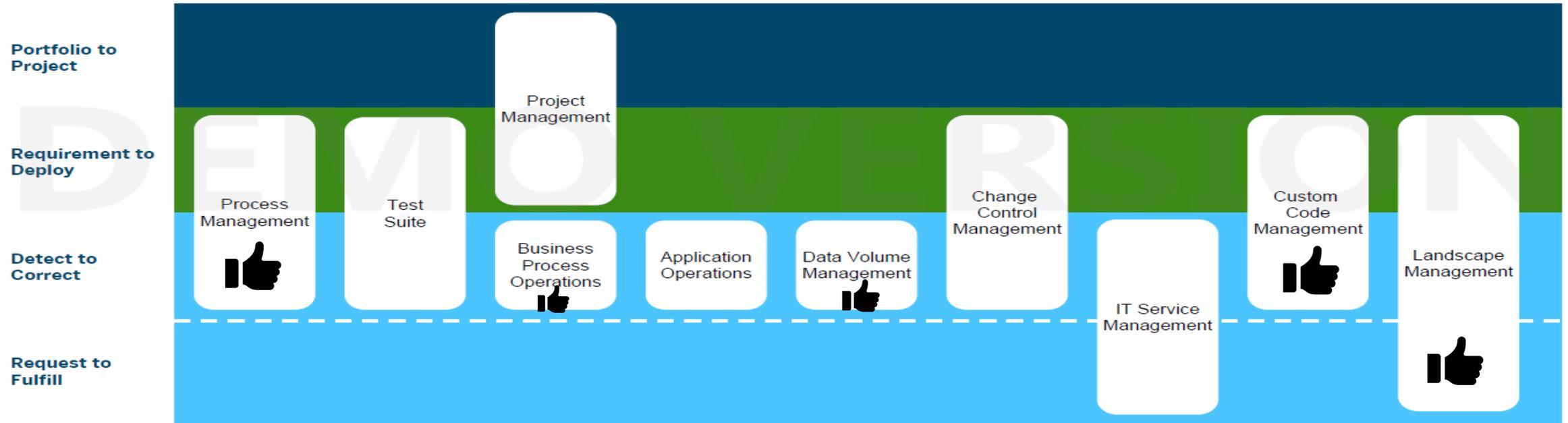
Vision – Part 1

- One umbrella
 - For monitoring SAP applications
 - For documenting SAP Solution
 - For documenting SAP Process

Vision – Part 2

SAP Solution Manager 7.2 Functional Areas

 Represents the Areas That will be configured some time in Bjs



Application Monitoring of SAAS solutions

Current and planned innovations for application operations

Improved support for SAP-centric hybrid scenarios

Planned innovations

Topic	on Premise	SAP HANA Enterprise Cloud	SAP S/4HANA	SAP S/4HANA Cloud	SAP Cloud Platform	SAP SuccessFactors	C4C SAP Cloud for Customer	SAP Hybris	SAP Business ByDesign	SAP Ariba	SAP Fieldglass	CONCUR
Exception Management	Fully Available	Fully Available	Fully Available	Planned (2017)	Fully Available	Available (1)	Fully Available	Planned (2018)	Fully Available	Available (1)	Planned (2018)	Available (1)
Integration Monitoring	Fully Available	Fully Available	Fully Available	Planned (2017)	Available (1)	Available (1)	Fully Available	Planned (2018)	Fully Available	Available (1)	Planned (2018)	Available (1)
End User Experience Monitoring (Synthetic User Monitoring)	Fully Available	Fully Available	Fully Available	Fully Available	Fully Available	Fully Available	Fully Available	Fully Available	Fully Available	Fully Available	Fully Available	Fully Available
End-to-End Trace Analysis	Fully Available	Fully Available	Fully Available	Planned (2017)	Planned (2017)	Planned (2017)	Planned (2017)	Planned (2018)	Planned (2018)	Product vision	Product vision	Product vision
Data Consistency Management	Fully Available	Fully Available	Fully Available	Available (2)	Available (2)	Available (1)	Available (2)	Available (2)	Fully Available	Available (1)	Product vision	Available (2)
Business Process KPI Monitoring	Fully Available	Fully Available	Fully Available	Available (2)	Available (2)	Available (2)	Available (2)	Available (2)	Fully Available	Planned (2017)	Product vision	Available (2)

Limitations

- 1) Integration and exceptions can be monitored in general. Instrumentation at cloud product side is still missing or incomplete.
- 2) Infrastructure is prepared, but there is currently no instrumentation at cloud product side available.

This is the current state of planning and may be changed by SAP at any time.

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SAP Support Backbone Update

SAP Solution Manager and Focused Run for SAP Solution Manager connect to the SAP Support Backbone to exchange data for various purposes:

Support incidents,

System data for Maintenance Planner,

SAP EarlyWatch Alert data, and many more....

The following are affected upon upgrade of SAP Solution Manager

- Landscape Management
- License Management
- Test Suite
- IT Service Management
- SAP Engagement and Service Delivery

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Presentation Materials

Access the slides from 2019 ASUG Annual Conference here:

<http://info.asug.com/2019-ac-slides>

Q&A

For questions after this session, contact us at [email] and scourtney@bjs.com.

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