



**APPOS**

This webinar will begin at 11:00 am Eastern Time (New York)

Presented By:

- Peter Warren, APOS
- Fred Walther, APOS



**\*\*Webinar includes audio, please ensure that your computer speakers are turned on\*\***

**IF YOU DO NOT HAVE COMPUTER SPEAKERS**

Please call the telephone number listed in the webinar console. When prompted, you must enter the meeting number shown in your webinar console or provided in your webinar confirmation email.

Your audio connection will be on mute and will be silent until the webinar begins.

# Flashes of Insight: SAP BusinessObjects Report Testing

# Today's Session

## *Key Topics*

### **TOPIC**

- Regression Testing
- Upgrade/Migration Testing
- Performance Testing
  
- Q&A – see webinar console



## *Today's Presenters*



**Peter Warren**

*Account Manager*  
APOS



**Fred Walther**

*Senior Solution Consultant*  
APOS

# Who is APOS?

- Formed in 1992
- Enabling BI platform management, administration, migration, governance and compliance
- Simplifying, automating, extending SAP BusinessObjects and SAP Analytics Cloud
- Strategic SDK development and consulting
- Hundreds of customers globally



**APOS**



**SAP  
BusinessObjects**



**Hybrid BI**



**SAP  
Analytics Cloud**



## HOUSEKEEPING



**You will have  
access to the  
slides via  
email**



**You will get  
the recording  
within 24  
hours**



**Tell us how  
we did in the  
survey**

# APOS Insight – Deep System Knowledge





# APOS Insight – Deep System Knowledge



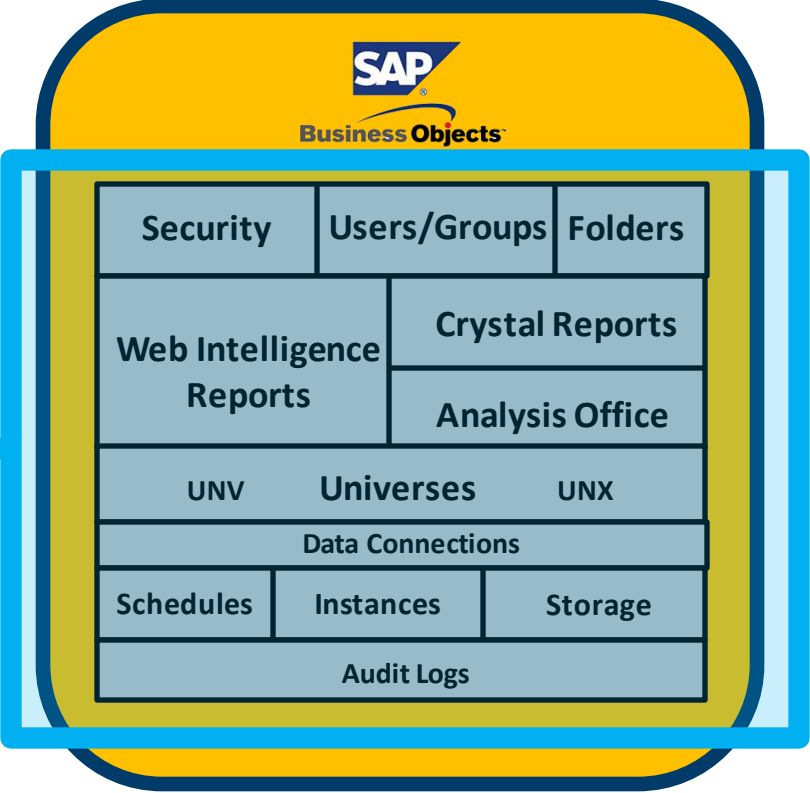
# APOS Insight

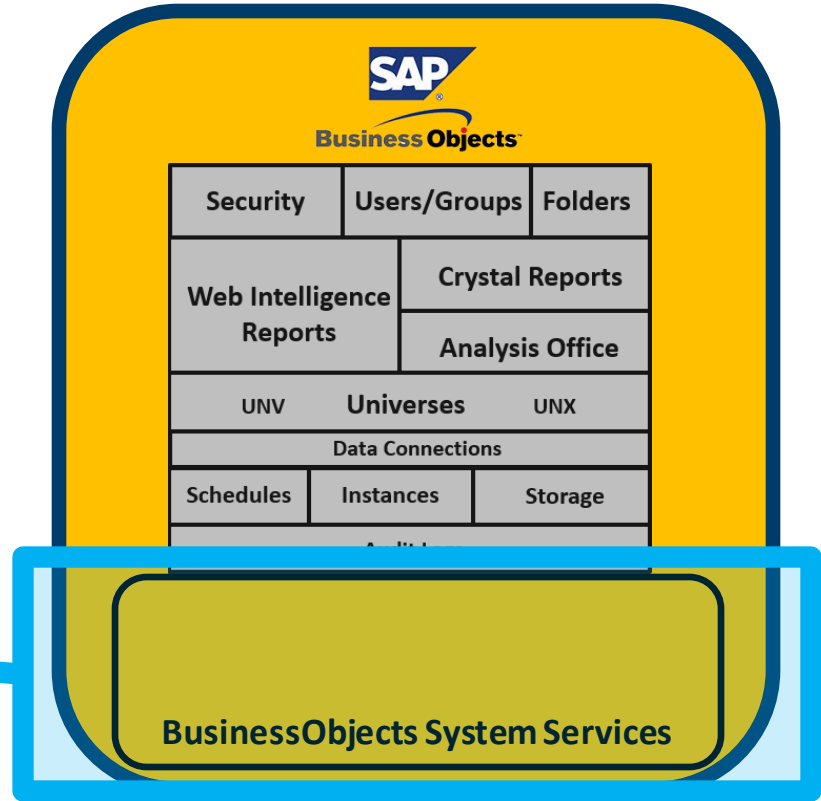
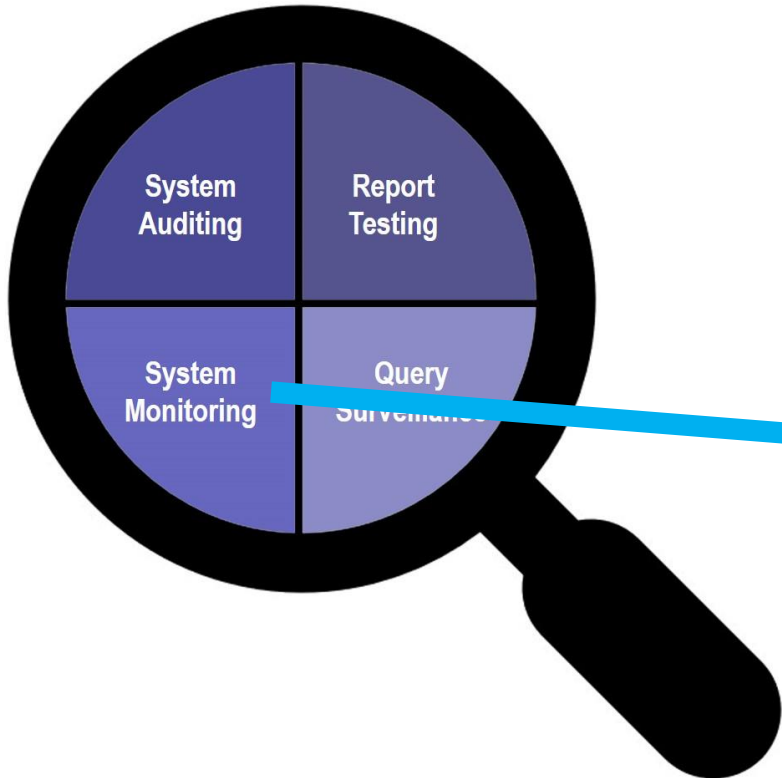


**SAP**  
Business Objects

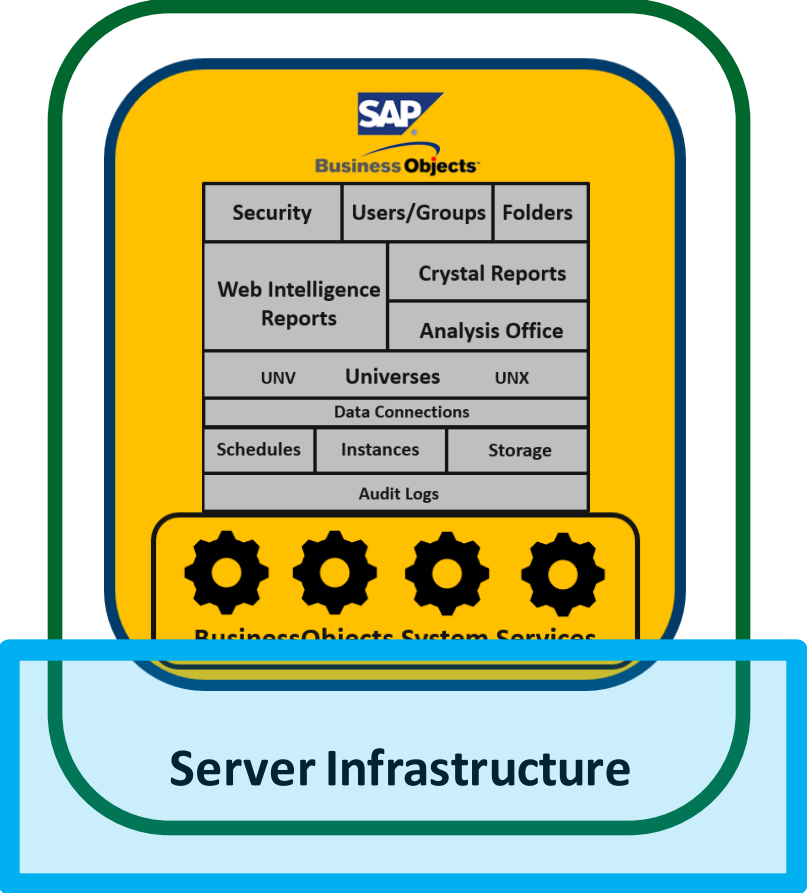
Security	Users/Groups	Folders
Web Intelligence Reports	Crystal Reports	
	Analysis Office	
UNV	Universes	UNX
Data Connections		
Schedules	Instances	Storage
Audit Logs		

# APOS Insight

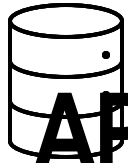




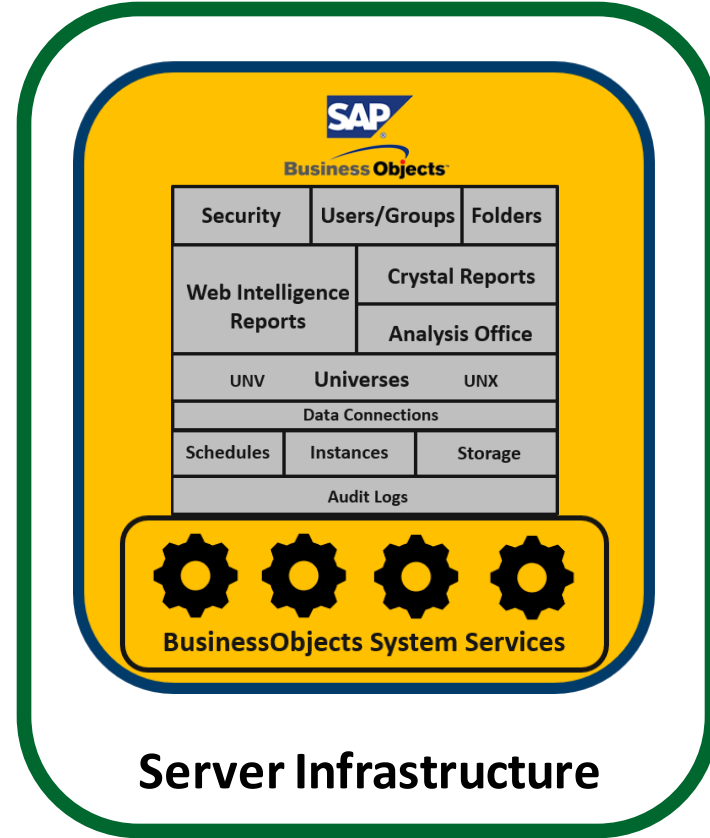
# APOS Insight



Server Infrastructure



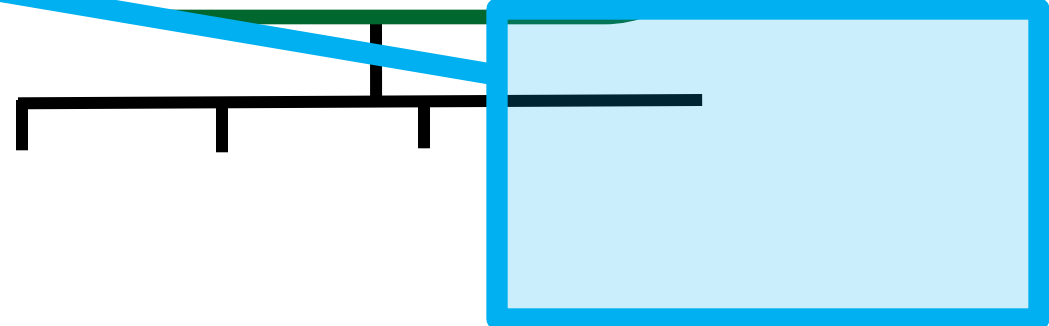
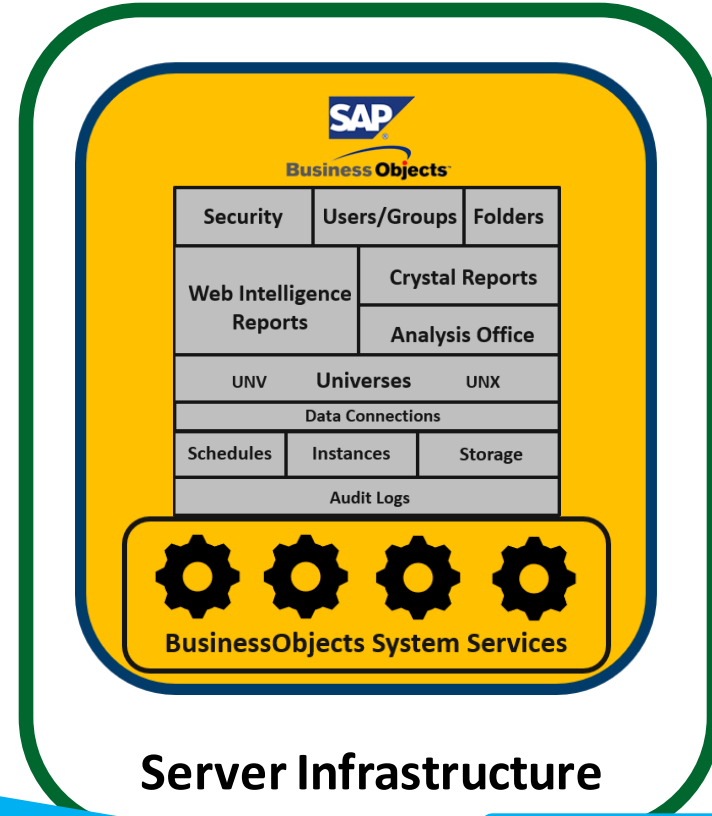
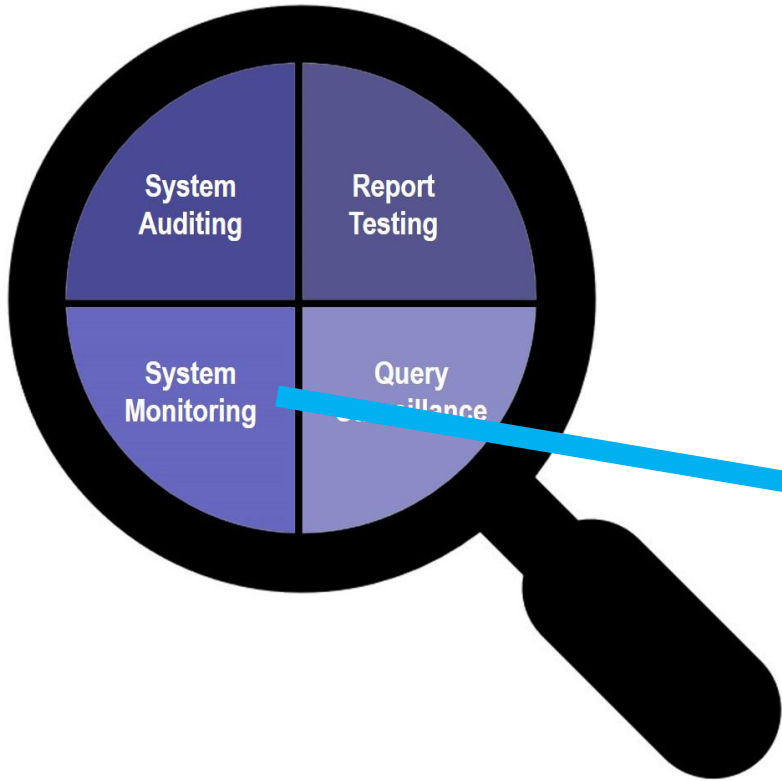
# APOS Insight



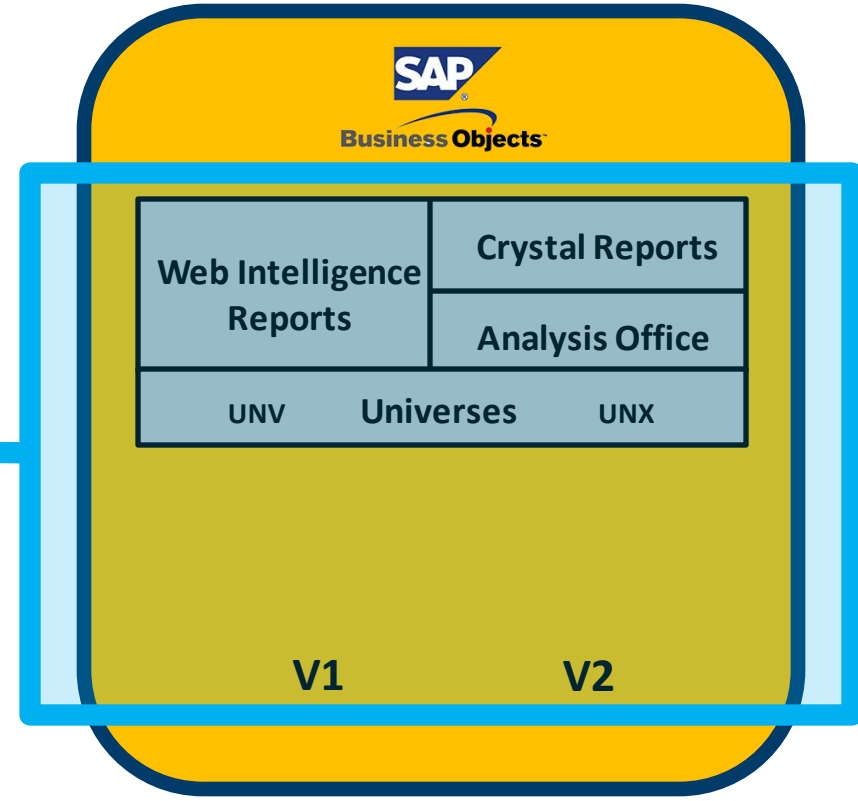
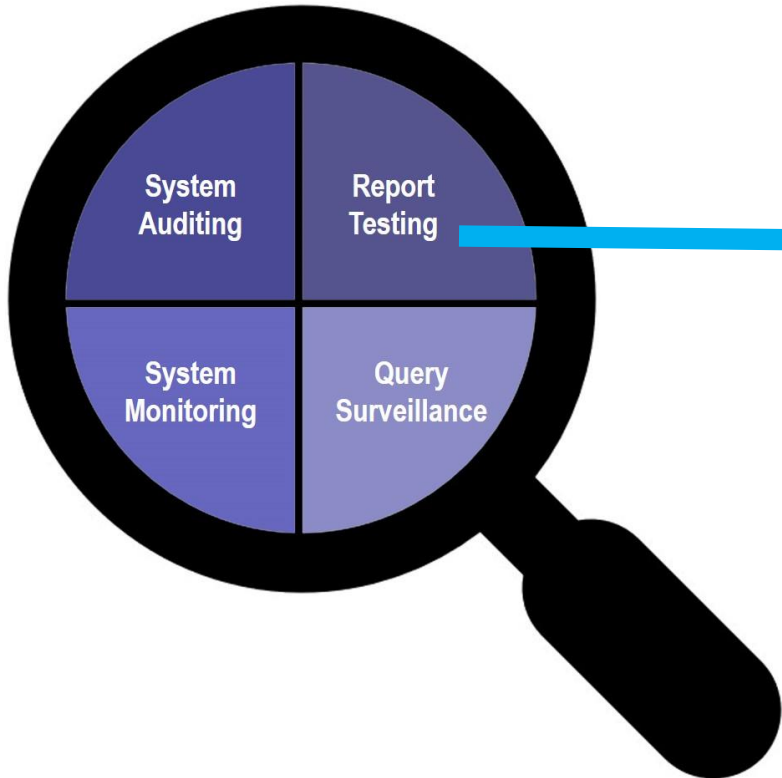
Server Infrastructure



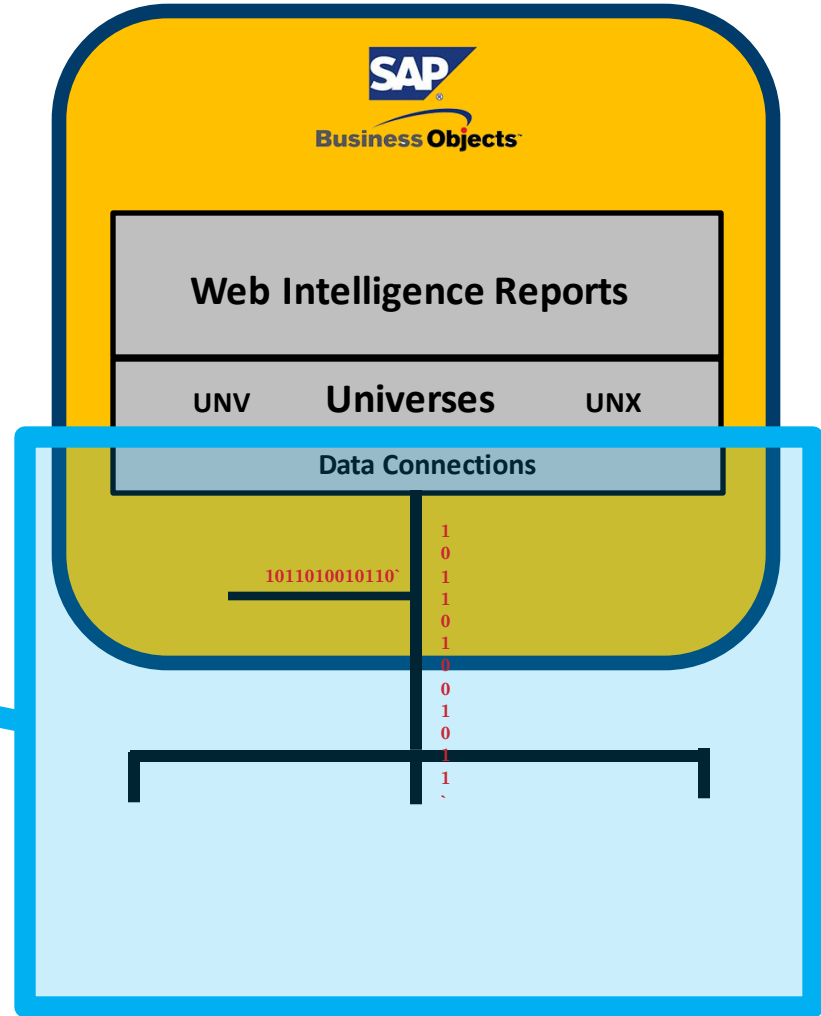
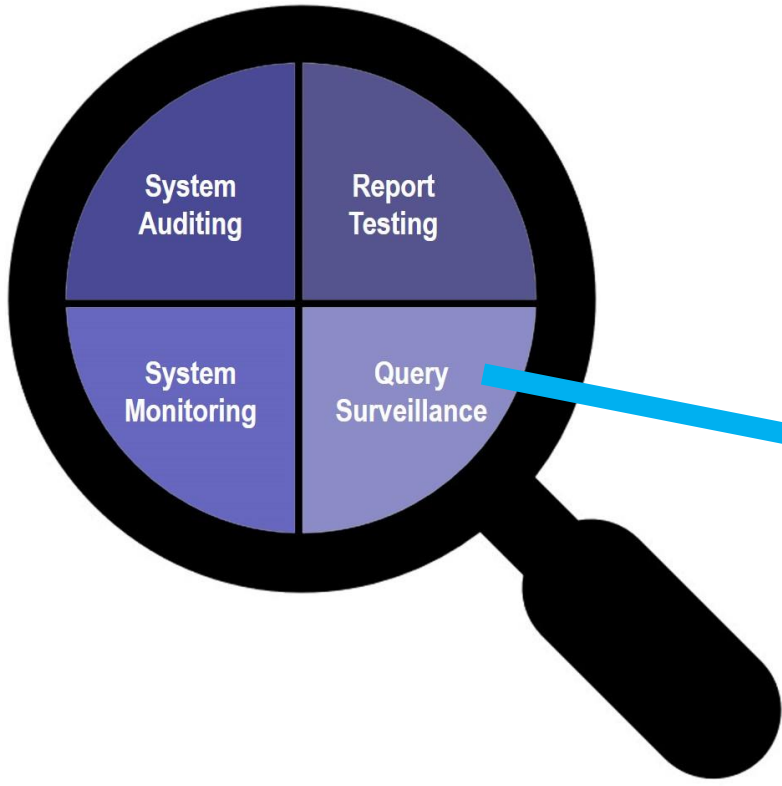
# APOS Insight



# APOS Insight







# Flashes of Insight – Automated Report Testing



# Flashes of Insight - Series



Session 1 – Managing Change  
Session 2 – Performance Analysis  
Session 3 – Usage Analysis  
Session 4 – Automated Report Testing (Today)

Session 5 – Query Management & Governance  
Session 6 – Report Impact Analysis





**Fred Walther**  
Senior Solution Consultant  
APOS

# Flashes of Insight



Regression Testing

Upgrade/Migration Testing

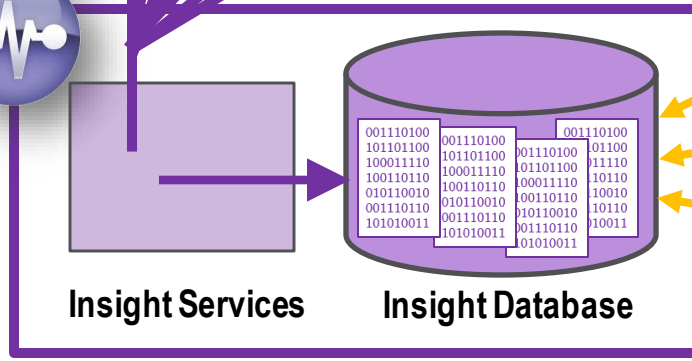
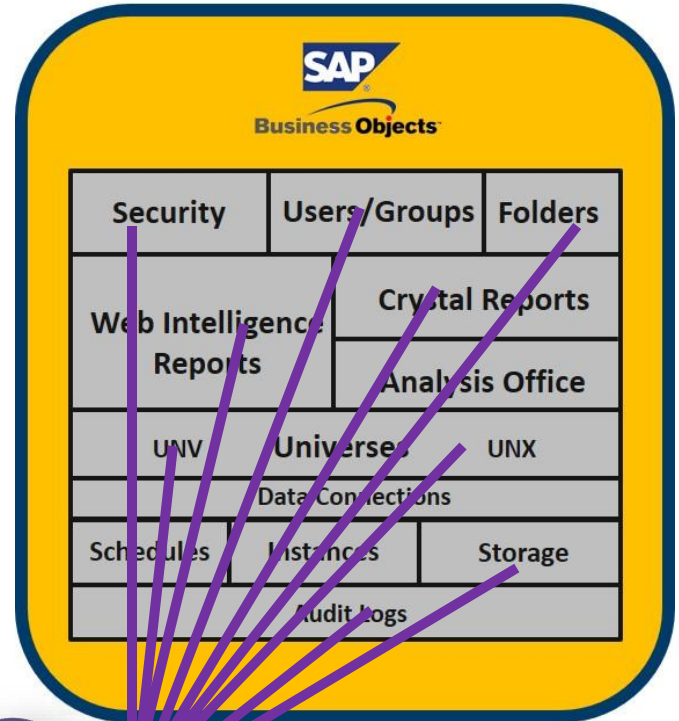
Performance Testing



# APOS Insight – Deep System Knowledge



- Insight Services run deep scans of the SAP BusinessObjects environment
- Insight transforms system data and writes thorough and effective metadata to Insight Database
- Metadata within Insight Database available for granular analysis



Section and Object Formatting

Area	Source	Target	Area	Source	Target
Programs	Insight	Insight	Programs	Insight	Insight
Programs	Insight	Insight	Programs	Insight	Insight
Programs	Insight	Insight	Programs	Insight	Insight

APOS Insight Universe Class Objects

Universes Selected: Universe:APOS Insight/Ingr4 - SQL Server

PRODUCTION

Info Date: 1/1/2009

Universe Path & Name: Universe:APOS Insight/Ingr4 - SQL Server

Universe ID: 000007

Universe Sys Size: 1,278 KB

Universe Type: UNV

Admin: Administrator

Class Name	Class Type	Class Path	Class Description
AP_SECURITY	Dimension	AP_SECURITY	AP_SECURITY
AP_SECURITY_OBJECTS	Dimension	AP_SECURITY_OBJECTS	AP_SECURITY_OBJECTS
AP_SECURITY_OBJECTS	Dimension	AP_SECURITY_OBJECTS	AP_SECURITY_OBJECTS
AP_SECURITY_OBJECTS	Dimension	AP_SECURITY_OBJECTS	AP_SECURITY_OBJECTS
AP_SECURITY_OBJECTS	Dimension	AP_SECURITY_OBJECTS	AP_SECURITY_OBJECTS

APOS Insight Report Differences for Selected Report - Compare 2 Versions

Page 1 of 1

Source System Name	Target System Name
INSIGHT	INSIGHT
Source Report Name	Target Report Name
Source Report ID	Target Report ID
Source Version Date	Target Version Date
Source Update Date	Target Update Date

SQL Statement Changes

Source SQL Statement

```
SELECT "Customer"."CustomerID", "Customer"."LastName", "Customer"."Region", "Customer"."Country", "Customer"."City", "Customer"."PostalCode", "Customer"."ContactName", "Customer"."ContactAddress", "Customer"."ContactPhone", "Customer"."ContactFax", "Customer"."ContactEmail" FROM "Customer"."Customer" WHERE "Customer"."CustomerID" = 1
```

Target SQL Statement

```
SELECT "Customer"."CustomerID", "Customer"."LastName", "Customer"."Region", "Customer"."Country", "Customer"."City", "Customer"."PostalCode", "Customer"."ContactName", "Customer"."ContactAddress", "Customer"."ContactPhone", "Customer"."ContactFax", "Customer"."ContactEmail" FROM "Customer"."Customer" WHERE "Customer"."CustomerID" = 1
```

# Flashes of Insight



## Regression Testing

- . Database Upgrade/Migration
- . Universe Update/Modification
- . Report Update/Modification





# Regression Testing



Why Important?

- **Replace Manual Testing**
- **Accuracy**
- **User Satisfaction**
- **Governance**
- **Strengthen Controls**
- **Reduce Costs**



# Regression Testing - Database Upgrade/Migration



## Database Change Scenarios:

- A new version of the existing database is required for certain features
- A new database server with more system resources is required for better performance
- A business decision has been made to migrate from one database to a different one



# Regression Testing - Database Upgrade/Migration



## Database Change Scenarios:

- A new version of the existing database is required for certain features
- A new database server with more system resources is required for better performance
- A business decision has been made to migrate from one database to a different one



# Regression Testing - Database Upgrade/Migration



The screenshot displays the Information Design Tool (IDT) interface. The main window shows a database schema diagram with the following tables and their attributes:

- Customer**: CustomerID, CustomerCreditID, CustomerName, ContactFirstName, ContactLastName, ContactTitle, ContactPosition, LastYearSales, Address1, Address2, City, Region, Country, PostalCode, "E-mail", WebSite, Phone, Fax, "TestÜÄüä"
- Orders**: OrderID, OrderAmount, CustomerID, EmployeeID, OrderDate, RequiredDate, ShipDate, CourierWebsite, ShipVia, Shipped, PaymentReceived
- OrdersDetail**: OrderID, ProductID, UnitPrice, Quantity
- EmployeeAddresses**: EmployeeID, Address1, Address2, City, Region, Country, PostalCode, EmergencyContactAddress, EmergencyContactCity, EmergencyContactRegion, EmergencyContactCountry, EmergencyContactPostalCode

The diagram shows relationships between these tables: Customer is linked to Orders, Orders is linked to OrdersDetail, and EmployeeAddresses is linked to Orders. The interface includes a menu bar (File, Edit, Actions, Window, Help), a toolbar, and several panes: Local Projects, Connection, Repository Resources, and a bottom toolbar with a zoom level of 90%.



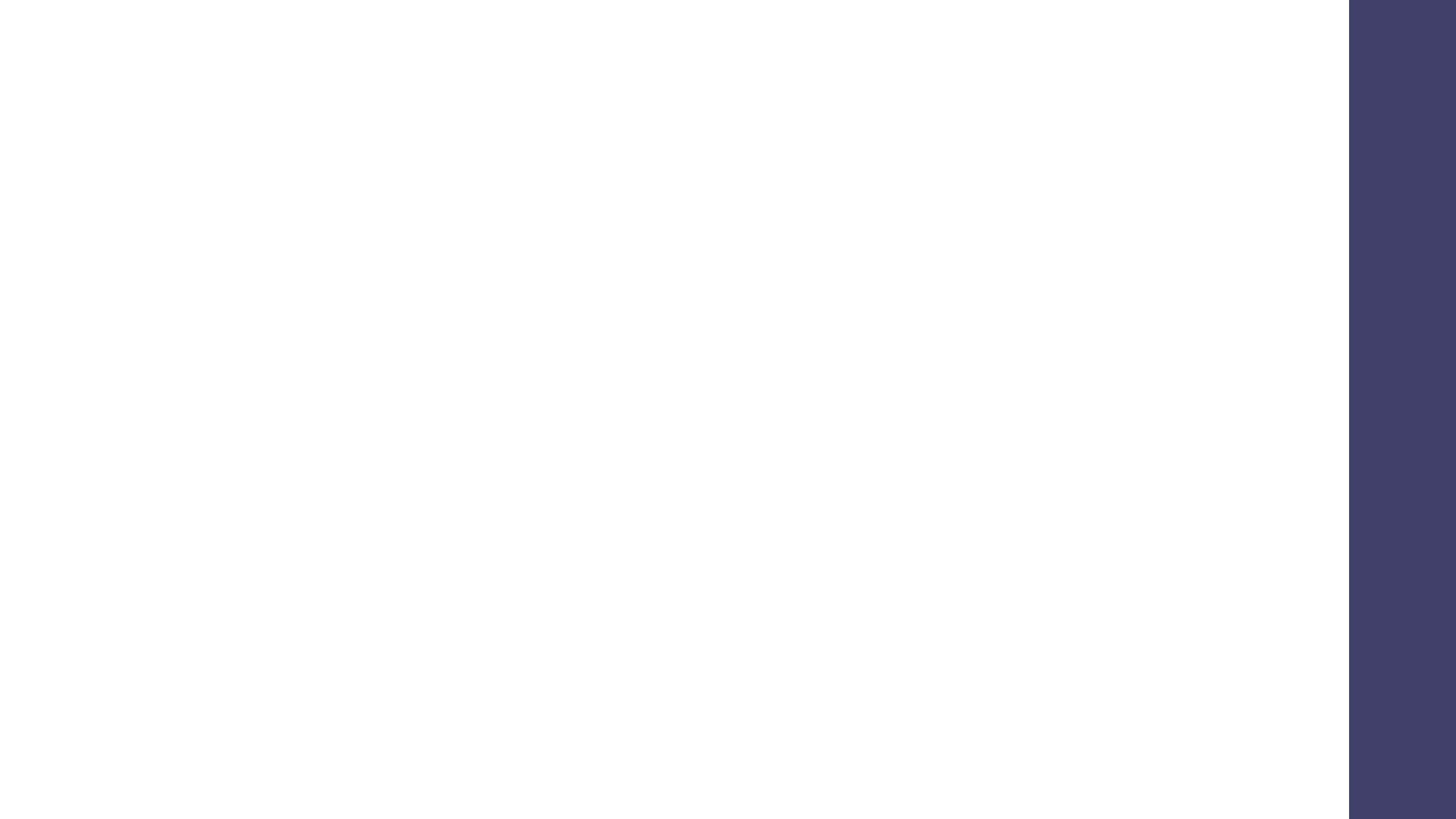
# Customer Use Case – Regression Testing



## Large US Healthcare Organization

- Critical healthcare delivery reports require accuracy
- Regular, ongoing database field changes
- Regular, ongoing Universe changes
- Automated testing provides speed, efficiency, confidence





# Flashes of Insight



## Upgrade/Migration Testing

- Upgrade current BOE system to new servers
- Migrate between versions of SAP BI





# Upgrade/Migration Testing



Why Important?

- **Replace Manual Testing**
- **Broader Testing**
- **Accuracy**
- **Governance**
- **User Satisfaction**
- **Faster Migrations**
- **Strengthen Controls**
- **Reduce Costs**

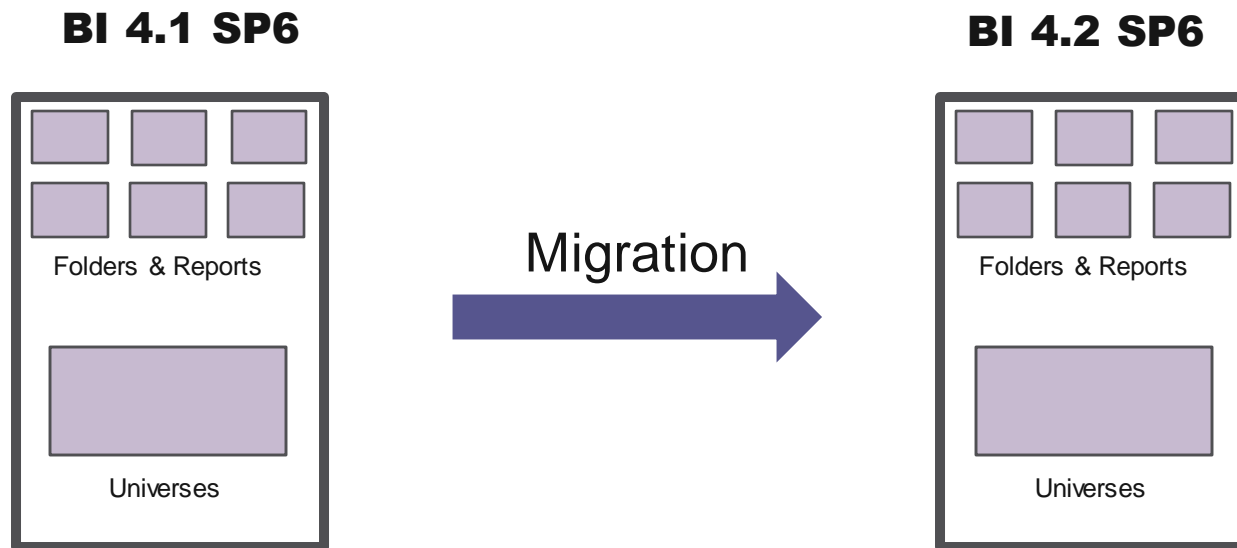


# Upgrade/Migration Testing



## Testing Scenarios

- Upgrade BI System
- Migrate BI Version



# Upgrade/Migration Testing



APOS Validation Manager for BI 4.x Version: 14.0.0.81

**APOS Validation Manager** APOS

File Edit Action View Help

Search

Search By: Name \*  
Object Type: All Supported Types  
Date Criteria: Created All

Add To List  
Clear List

Object Type	Name	Location	Owner	Created	Modified	Description	Parent ID	ID	Program	Depth	CUID
-------------	------	----------	-------	---------	----------	-------------	-----------	----	---------	-------	------

Logged in as: Administrator@BI42SP6FW | Records: 0 | Scan Time: 0:00:00 | 11/22/2021 | 4:09:00 PM

# Upgrade/Migration Testing



# Customer Use Case – Upgrade/Migration Testing



## Large Global Insurance Company

- Long-term deployment with large consumer community
- Very large volume of report content in system
- Serves critical internal and external/customer facing needs
- Upgrades to new SAP BusinessObjects versions a huge project
- Report accuracy and report testing is vital
- Time and resources required for report testing is cut in half at a minimum





# Flashes of Insight



## Performance Testing

- Instance run-time comparison
- Long term instance run-times
- Query run-times



A black silhouette of a person running on a globe, representing performance testing.

# Performance Testing



Why Important?

- **Replace Manual Testing**
- **Broader Testing**
- **Strengthen Controls**
- **User Satisfaction**
- **Reduce Costs**

# Performance Testing



## Initial validation

Do my report instances run in the same time frame as before?

## Ongoing performance

Do my report instances consistently return in an acceptable time?

## Query performance

Are my queries performing in an optimal manner?





# Performance Testing



## Tolerance Warning Thresholds

Warn when total runtime differential exceeds  seconds

- Always Warn       Only warn when target is slower  
 Never Warn       Only warn when source is slower

## Scheduling Options

	Last Validated	Result	Object Type	Source Name
1	2021/11/22 16:14:36	⚠️	Crystal Report	Units Sold By Store
2	2021/11/22 16:14:36	✅	Crystal Report	Units Sold By State.rpt
3	2021/11/22 16:14:36	⚠️	Webi	Sales by State
4	2021/11/22 16:15:05	⚠️	Webi	Sales by Product Line
5	2021/11/22 16:14:36	⚠️	Webi	Sales by Category
6	2021/11/22 16:14:36	⚠️	Crystal Report	Gross Margin By Store.rpt

**View Instance Details**

Selected Instances  
/Sales by Category

**Scheduling Details**

Source  
ID: 4609712    CUID: AW1YGY\_PeW1LqXB\_NyfF0w    Status:  
Instance Created: Monday, November 22, 2021 at 16:12:49  
Path: /Corporate Reports/Sales by Category/Sales by Category  
Error Message:

Target  
ID: 6033327    CUID: AYiAK9Q5719Fvzz5USqOW1U    Status:  
Instance Created: Monday, November 22, 2021 at 16:12:49  
Path: /Corporate Reports/Sales by Category/Sales by Category  
Error Message: No Error

**Validation Details**

Last Validated: Monday, November 22, 2021 at 16:14:36    Status:  
Validation Log: Validation Succeeded with warnings:  
Warning: Runtime tolerance exceeded (Target system is faster):  
Tolerance: 3 seconds  
Actual: 17 seconds

Compare run-times using thresholds

# Performance Testing



SI_ID	System_Name	SI_NAME	Start_Time	End_Time	SI_ERROR_MESSAGE	SI_PARENTID	SI_MACHINE_USED	SI_SUBMITTER	AP_Parameters
24940	BI43FW	EfashionReport	2020-11-26 07:49:00	2020-11-26 07:49:00	**DELETED**	6314	BI43FW.AdaptiveJobServer	Administrator	pmYear= 2017 ; 2018 ; 2019
24946	BI43FW	EfashionReport	2020-11-26 08:49:00	2020-11-26 08:49:00	**DELETED**	6314	BI43FW.AdaptiveJobServer	Administrator	pmYear= 2017 ; 2018 ; 2019
26337	BI43FW	Comparative Income Statement	2020-12-19 09:51:00	2020-12-19 09:51:00	**DELETED**	5672	BI43FW.AdaptiveJobServer	Administrator	Column1 - type= Actuals , Column1 - mm/yyyy= 012...
27161	BI43FW	Comparative Income Statement	2021-01-26 08:20:00	2021-01-26 08:20:00					
27577	BI43FW	Comparative Income Statement	2021-02-19 09:52:00	2021-02-19 09:52:00					
29063	BI43FW	Comparative Income Statement	2021-03-22 09:28:00	2021-03-22 09:28:00					
32160	BI43FW	Comparative Income Statement	2021-03-25 10:39:00	2021-03-25 10:39:00					
32185	BI43FW	EfashionReport	2021-03-25 10:46:00	2021-03-25 10:46:00					
33101	BI43FW	Comparative Income Statement	2021-05-05 15:42:00	2021-05-05 15:42:00					
39382	BI43FW	Activity_TopLevel_ExcludeGr...	2021-05-17 13:31:00	2021-05-17 13:31:00					
39577	BI43FW	Activity_TopLevel_ExcludeGr...	2021-05-18 09:28:00	2021-05-18 09:28:00					
39874	BI43FW	Activity_TopLevel_ExcludeGr...	2021-05-18 14:39:00	2021-05-18 14:39:00					
40286	BI43FW	Comparative Income Statement	2021-05-19 09:51:00	2021-05-19 09:51:00					
42012	BI43FW	Activity_TopLevel_ExcludeGr...	2021-05-25 16:18:00	2021-05-25 16:18:00					
43198	BI43FW	Activity_TopLevel_ExcludeGr...	2021-05-27 08:42:00	2021-05-27 08:42:00					
44624	BI43FW	Activity_TopLevel_ExcludeGr...	2021-05-27 15:13:00	2021-05-27 15:13:00					
75871	BI43FW	Comparative Income Statement	2021-06-19 09:52:00	2021-06-19 09:52:00					
81094	BI43FW	Sales By Country_Parameters	2021-06-28 17:03:00	2021-06-28 17:03:00					
81093	BI43FW	Sales By Country_Parameters	2021-06-28 17:03:00	2021-06-28 17:03:00					

## APOS Insight

# Historical Instances by Format & Destination

**Reports Scheduled in Last Year (ie 365 days)**

Crystal Enterprise Format Destination	# of Instances
<b>Report</b>	
<b>Repository</b>	
Crystal Enterprise	Latest
Report ID & Location	Instance Date
Administrator 6530	5/8/2019 8:37:34AM
	Average
	Run-Time(Sec)
	Instan
Administrator 208093	5/24/2019 11:08:11AM
	Repository
	3
	16

Analyze instance run-time historically

# Performance Testing



<b>Queries by User</b>		Report Run on 11/23/2021 at 3:39:45PM			
BOE Document	Query Duration(ms)	Rows Read	Universe Name	Data Provider Name	SQL Query Text
<b>APOS_Insight 19 queries</b>					
<b>Sales By Country for Xtreme on 2020-06-22 13 39 by APOS_Insight</b>					
Sales By Country for Xtreme 06/22/2020 13:39	2,738	71	Xtreme_IDAC_FW		SELECT DISTINCT dbo.Customer.Country FROM dbo.Customer
Sales By Country for Xtreme 06/22/2020 13:39	2,212	1	Xtreme_IDAC_FW		

Query Duration (sec)	Query Date/Time	Document Name	Universe Name
4.38	12/16/2019 11:53	Orders for Country from UNX	Xtreme_IDAC_FW
3.37	12/16/2019 11:31	Sales By Country for Xtreme	Xtreme_IDAC_FW
2.95	12/16/2019 11:30	Sales By Country for Xtreme	Xtreme_IDAC_FW
2.91	01/06/2021 10:57	Sales By Country for Xtreme	Xtreme_IDAC_FW
2.87	05/06/2020 10:17	Sales By Country for Xtreme	Xtreme_IDAC_FW
2.87	02/06/2021 10:58	Sales By Country for Xtreme	Xtreme_IDAC_FW
2.74	06/22/2020 13:39	Sales By Country for Xtreme	Xtreme_IDAC_FW
2.27	12/16/2019 12:08	Sales By Country for Xtreme	Xtreme_IDAC_FW
2.21	06/22/2020 13:39	Sales By Country for Xtreme	Xtreme_IDAC_FW
2.13	12/16/2019 11:29	Sales By Country for Xtreme	Xtreme_IDAC_FW
2.11	12/16/2019 12:08	Sales By Country for Xtreme	Xtreme_IDAC_FW

Analyze query performance historically



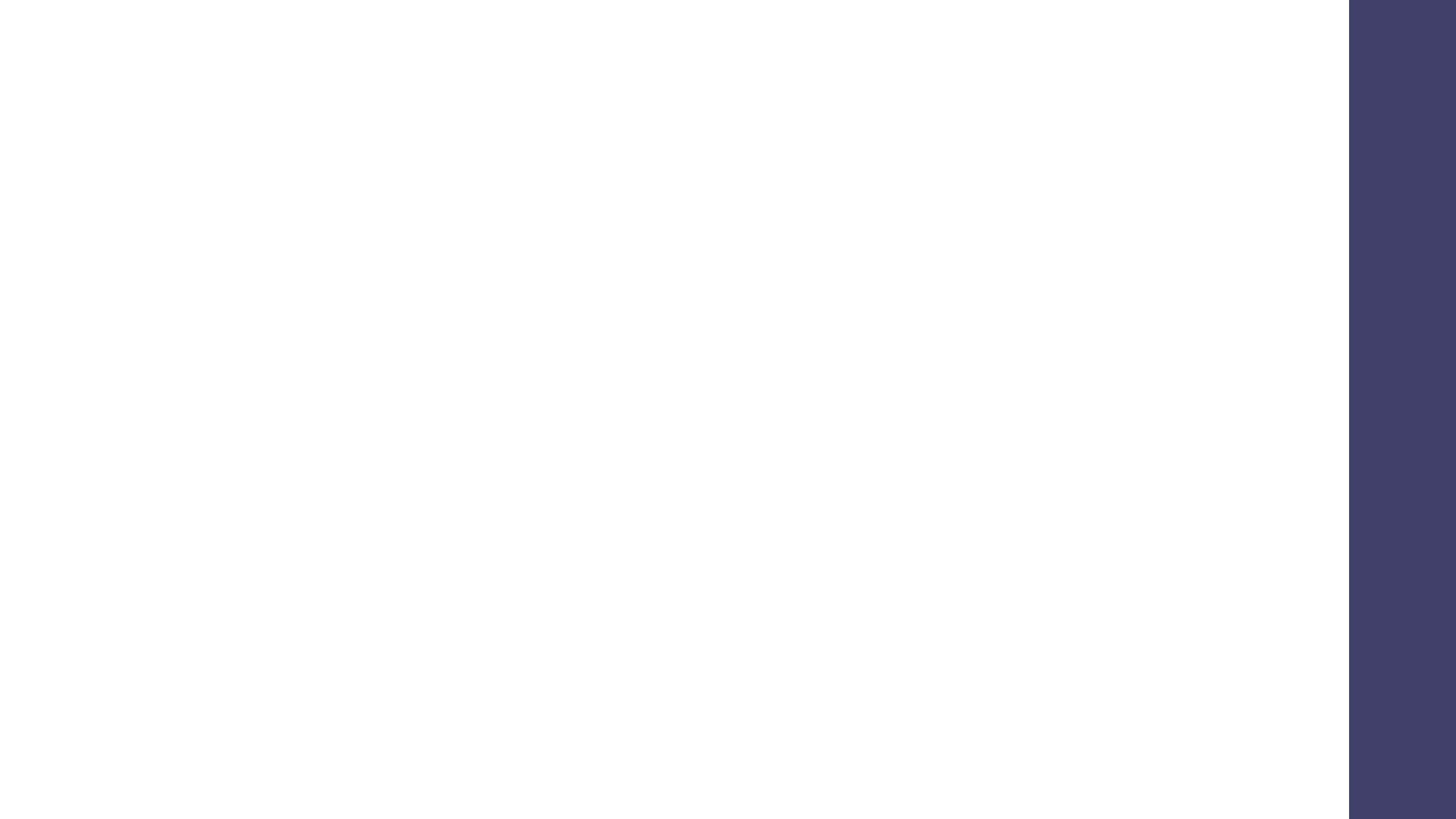
# Customer Use Case – Performance Testing



## National Media Organization

- Analysis for Office documents
- Regression and Upgrade testing
- Migrating BusinessObjects to cloud deployment
- Ensure Analysis for Office documents perform effectively





# Insight – Automated Report Testing



# APOS Solutions for SAP BusinessObjects



## APOS Insight

### BI System Auditing

- System Inventory
- Security Analysis
- System Usage Analysis
- Report Impact Analysis

### BI Report Testing

- Automated Report Testing
- Regression Testing
- Validation of Report Data
- Report Performance Testing

### BI System Monitoring

- Advanced System Monitoring
- Operating Environment Monitoring
- Database Monitoring
- Process Monitoring

### BI Query Surveillance

- Real-time BI Query Monitoring
- Query Performance Alerting & Auditing
- Query Intervention; Remote Cancelling
- Sensitive Data Audit



## APOS Administrator

### Object Management

- Bulk Security Management
- Bulk Settings Management
- System Objects Promotion
- Connections Maintenance

### Schedule Management

- High-volume schedule management
- Multiple schedule properties editing
- Grid scheduling interface
- Repeatable scheduling templates

### Instance Management

- Manage entire instance inventory
- Granular instance search
- Stop, pause, release, reschedule
- Rapid recovery to failed schedules

### Web Intelligence Migration

- Bulk conversion of Universes from UNV to UNX
- High-Volume Report Web Intelligence reports
- Success validation
- Controlled, project-based workflow

## APOS Storage Center



- System Backup
- Content Archiving
- Content Versioning
- Selective Restoration
- Automated System Clean Up

## APOS Publisher

- Systematic Content Delivery
- Advanced Document Bursting
- Enhanced Content Distribution
- Security and Encryption
- Statement Generation





# APOS Solutions for SAP Analytics Cloud



## APOS Live Data Gateway

- High-performance live data connectivity
- Virtualized, governed, self-service connectivity
- Connect to Relational databases
- Connect to OLAP data sources
- Connect to Cloud data environments
- Connect to SAP Application data

## APOS Publisher for Cloud

- Automate secure information delivery
- Deliver timely information
- Create a flexible messaging environment
- Simplify administration
- Use multiple formats & destinations
- Burst stories with multiple filters
- Burst conditionally
- Collate stories
- Personalize PowerPoint bursting



## APOS Insight for Cloud

Monitor – tracking & alerting for:

- SAC story performance
- System response measures

Validation automated comparisons across SAC versions of:

- SAC story data
- SAC story performance
- SAC story structure

Impact analysis – granular auditing of SAC story structure metadata

## APOS Semantic Layer Migration

- Capture SAP BI Universe data connection and data modelling logic
- Project-based, wizard-driven interface
- Scan your SAP BI content for relevant data connections
- Harmonize SAP BI and HANA data modelling throughout Hybrid BI
- Translate SAP BusinessObjects modelling to SAP HANA Calculation Views
- Translate SAP BusinessObjects modelling to a unified semantic layer



# Upcoming Events

## *Webinars*

### **SAP BusinessObjects Update: SAP BI 4.3 & SAP BusinessObjects Private Cloud Edition**

**January 20, 2022 – 11 am EST**

Join us for this live webinar as guest speakers from SAP will provide an overview and update on the latest features and news about:

- SAP BusinessObjects version 4.3
- SAP BusinessObjects Private Cloud Edition

This session will help you plan your strategy and steps for your SAP BusinessObjects deployment.



Register at [www.apos.com](http://www.apos.com)



# STAY CONNECTED



**LINKEDIN**

APOS Systems Inc.



**TWITTER**

@APOS\_Systems

Interested in learning more about SAP Analytics Cloud and Sharing your experience?

**JOIN THE SAP ANALYTICS CLOUD GROUP TODAY!**



Join easily by searching "SAP Analytics Cloud (SAC)" & Request to Join on LinkedIn!

# QUESTIONS?

Please enter your questions in the Q&A panel.



# Thank You!

## Get in Touch

**WEBSITE**

[www.apos.com](http://www.apos.com)

**EMAIL ADDRESS**

[info@apos.com](mailto:info@apos.com)

**PHONE NUMBER**

(+1) 519 894 2767

