



*A Customer Accelerates their SAP S/4HANA
Implementation with SAP UEM by KNOA*

Guillermo Elizeche, IT Global Delivery Portfolio Manager, The AES Corporation
Jesse Bernal, Sr Business Development Specialist, SAP

Session ID # 82972

About the Speakers

Guillermo Elizeche

- IT Global Portfolio Delivery Manager, AES
- +20 years of SAP ERP experience
- Projects Delivery for FIN, SCM and PLM areas in AES
- I like running, retro-computing

Jesse Bernal

- Sr Business Development Specialist, SAP
- Customer for 15 years started in WM
- Expert in SAP Education products
- Own a Theater Company

Key Outcomes/Objectives

- Measure user experience before, during, and after software migration projects
- Learn how AES streamlines deployment time, reduce costs and increase user adoption through the analytics provided by SAP UEM by Knoa
- Learn Best Practices and Lessons Learned when migrating to S/4HANA

Agenda

- What is SAP Education and SAP UEM by Knoa
- About AES
 - ✓ Some Key facts about AES Corporation and its ERP Landscape
- Knoa Background
 - ✓ Where we started with Knoa back in 2016
- Knoa for the Lean Program
 - ✓ Main program aspects, what it was used for
- Benefits from KNOA usage
- Next Steps
 - ✓ What we plan to do in the near future

The SAP Education Cycle of Continuous Learning

A continuous cycle of adoption, innovation, and learning



1. Prepare your functional teams, super users, and other key users.

Before formal project planning starts, provide essential training to the teams who will configure, manage, and support your SAP software. Engage and train super users and other key users who will have a voice in system configuration and business practice decisions.



5. Sustain, adapt, innovate.

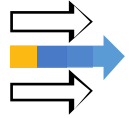
Unleash the Cycle of Continuous Learning to drive ongoing adoption, performance optimization, content updates, and super user support. This will help you to sustain high levels of user adoption and employee performance, and enable you to adapt quickly to changes in technology and business requirements.



4. Measure and optimize performance.

Collect data to measure how well people are using SAP. Provide additional, targeted training to optimize user performance.

2. Mobilize your business for change.

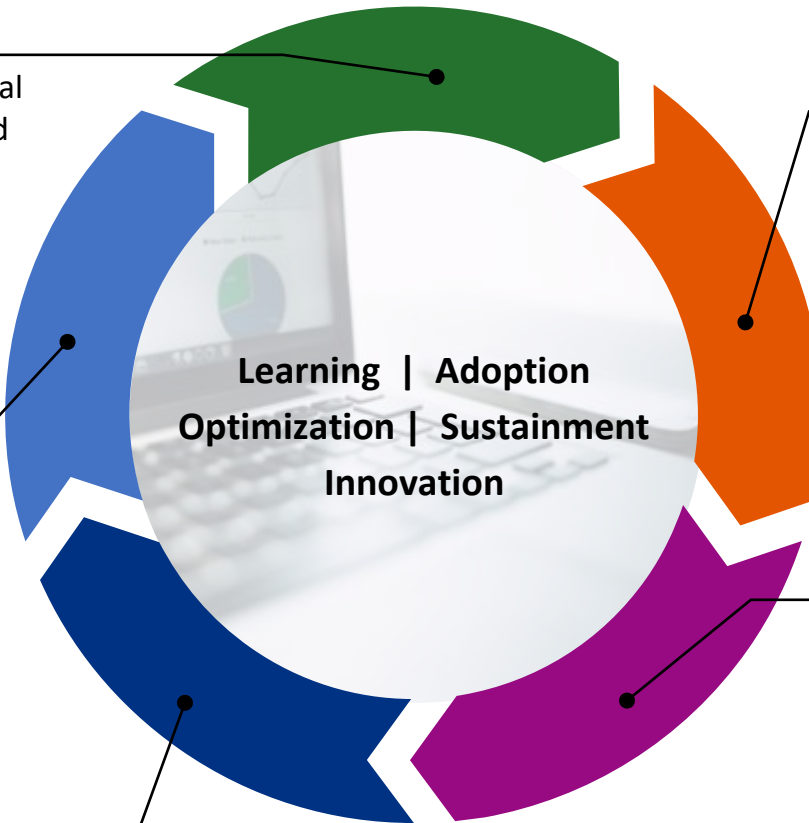


Apply change management principles to communicate the coming changes, and gain buy-in across the organization. Use analytics to set a baseline measure for employee performance and provide data that will inform your system design. Lay the groundwork for your Cycle of Continuous Learning.

3. Train end users to perform at the highest levels.



Prepare end users to drive transformation with role-based training that blends different modes of learning. Provide training that helps individuals use SAP strategically, not just tactically.





4 Measure and optimize performance.

- Use SAP UEM to gather analytics to measure how well people are using SAP. Provide additional, targeted training to optimize user performance.

1

Measure user performance and identify knowledge gaps.

SAP User Experience Management by Knoa
OCM Services to help analyze data

2

Develop and deploy targeted training to close knowledge gaps.

SAP Enable Now
SuccessFactors Learning



Results

- You understand where user performance is lagging, and you have the information necessary to develop remedial training.
- With additional training and assistance, end users are using the system according to best practices, making them more efficient and productive.

SAP Education Solutions

A complete portfolio of Training, Software, and Services to support your Cycle of Continuous Learning

Prepare functional teams,
super users, other key users.



**SAP Instructor
Led Training**



**SAP Learning Hub
with SAP Live Access**

Project Enablement Services

- Learning Needs Analysis for Project Team Training
- SAP Expert-on-Demand
- Customer-specific training

Mobilize your business
for change.



**SAP Organizational
Change Management**

Organizational Change Management Services

- Communications
- Risk Management
- Stakeholder Management
- Super User Preparation and Strategy Development

Train end users to perform
at the highest levels.



SAP Enable Now



**SuccessFactors
Learning**

End User Training Services

- Learning Needs Analysis and Strategy Design
- Instructional Design and Content Development
- Train-the-Trainer Workshop
- Training Delivery

Measure and optimize
performance.



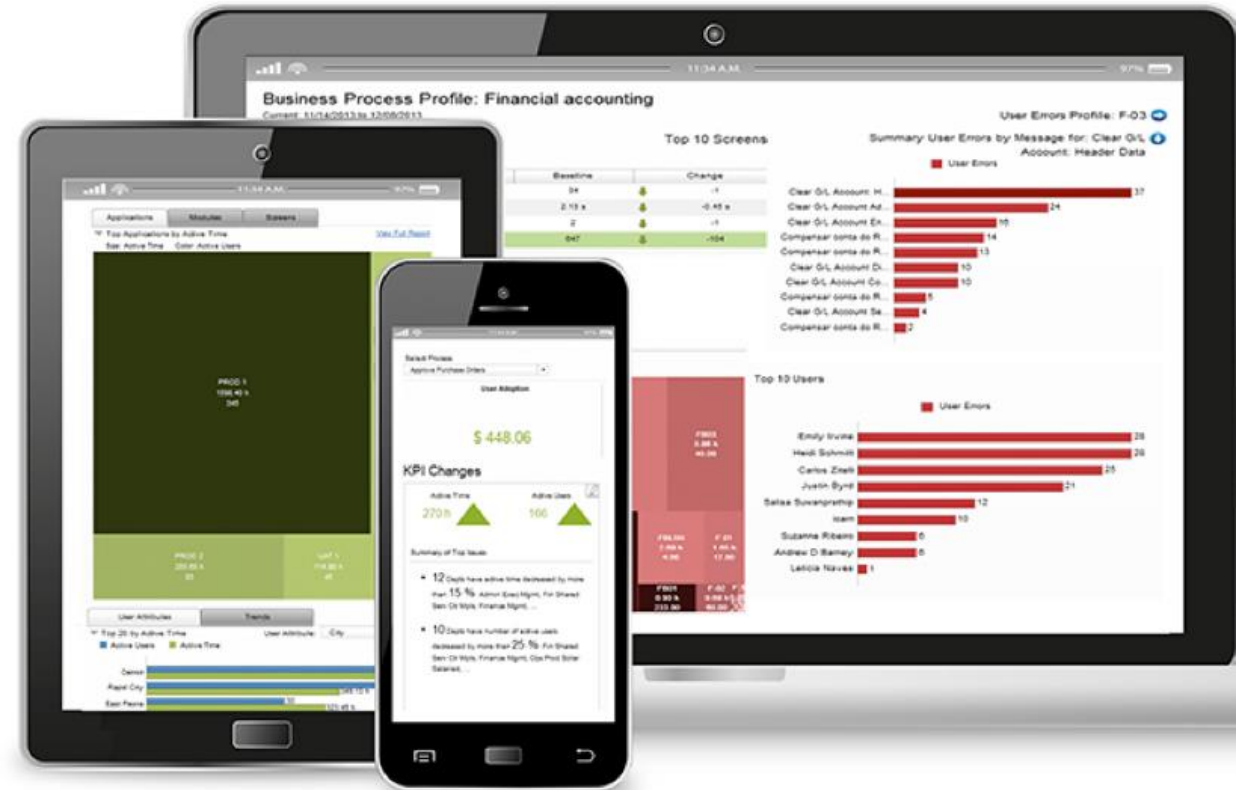
**SAP User Experience
Management by Knoa
(SAP UEM)**

SAP UEM Services

- Implementation
- Data Analytics Assistance

SAP User Experience Management by Knoa

- SAP User Experience Management by Knoa provides real-time analytics on how users interact with SAP solutions
 - See what's working – and what's not working – in applications you have deployed
 - Monitor application usage to deliver help where needed, and rebuild apps or interfaces that are causing problems or not being used as planned
 - Enables you to prepare for migration and ensure successful adoption of solutions like SuccessFactors, Fiori, NWBC, SAP GUI, etc.



SAP UEM by Knoa

SOLUTIONS



S/4HANA Migrations

Reduce cost and maximize ROI of migration projects. Quantify the improvements in user adoption and experience.



Migrations to Cloud/Mobile

Ensure successful transition to cloud and mobile applications by measuring adoption and user experience KPIs



Hypercare and ongoing support

Proactively monitor user performance to identify process and application improvement opportunities, deliver targeted training, and optimize business process execution

VALUE

Increase workforce productivity

by gaining visibility into where users struggle with the application or process

Improve application and process design

by focusing on issues with true impact on user productivity

Maximize adoption of new business applications

by measuring user engagement and identifying adoption gaps

Improve training success and efficiency

by delivering targeted training and measuring its impact

Accelerate return-on-investment

of your enterprise software investments

Reduce costs

for IT help desk and IT support by providing just-in-time support

ANALYTICS



User Adoption

Active and idle time measured on every SAP screen, for every SAP user, across any SAP application

User Experience

System performance and application quality reflecting the true user impact

User Performance

Measure every user's ability to execute business transactions without errors or deviations

User Workflows

Step by step, complete user journey through a business process

ACQUIRE



On-Premises

Implementation by Knoa Certified Partners



Cloud Edition

Hosted and Managed by Knoa



Objective User Reports for the SAP Landscape

Application Issues: Applications

Days: 15 (04/16/2017 - 04/30/2017)

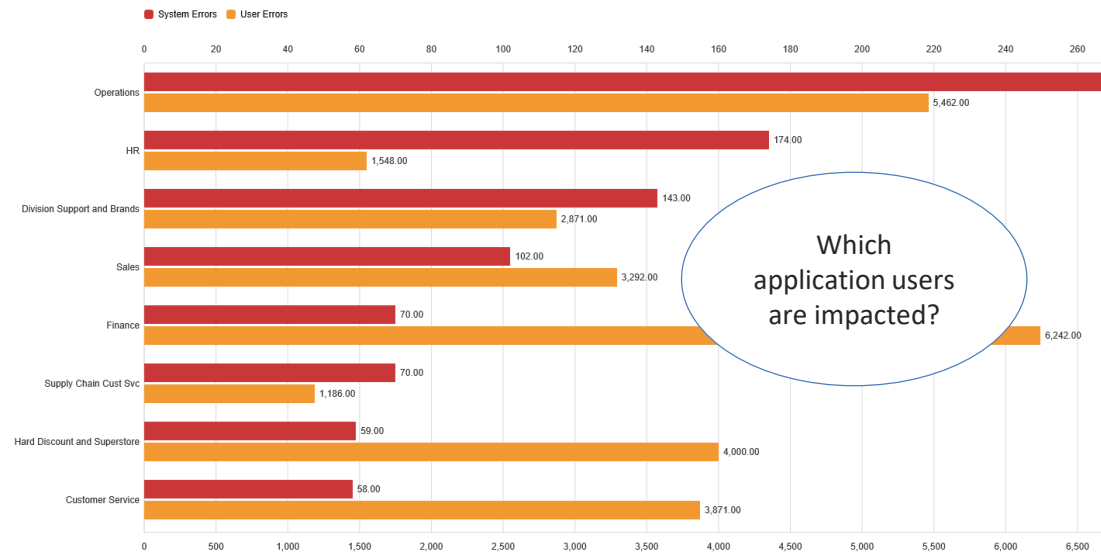


Application Name	Active Time (h)	Active Users	Avg. Response (s)	Operations	System Errors	User Errors
PROD 2 (Retail)	3,546.46	1,104.00	2.85	799,244.00	124.00	23,200.00
PROD 1 (ERP)	1,598.40	345.00	2.10	387,370.00	43.00	7,956.00
NetWeaver Portal	764.75	1,148.00	145.92	27,740.00	889.00	4,356.00
SAPCRM7 (Utilities)	360.03	31.00	4.90	69,384.00	42.00	3,403.00
PROD 2 (ERP)	255.68	83.00	1.68	75,457.00	128.00	2,232.00
UAT 2 (Retail)	135.62	77.00	4.20	29,241.00	3.00	1,138.00
UAT 1	114.88	45.00	3.03	16,636.00	2.00	367.00
DEV 1	63.38	30.00	1.38	20,123.00	2.00	545.00
BW (Retail)	35.59	20.00	10.80	5,665.00	5.00	99.00
WebGUI	18.95	28.00	1.36	4,871.00	0.00	200.00
UAT 2	0.69	15.00	2.36	55.00	0.00	19.00

What?

Who?

User Attribute: Dept



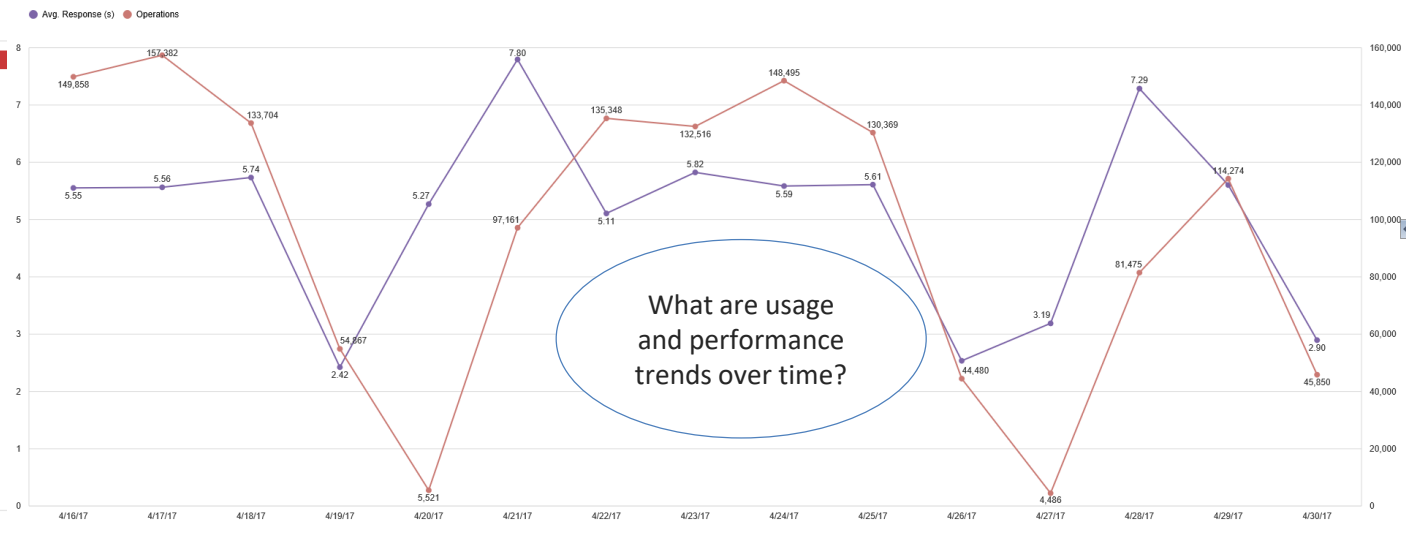
Which application users are impacted?

Application Issues: Daily Trend

Days: 15 (04/16/2017 - 04/30/2017)



Select Metric: Response Time

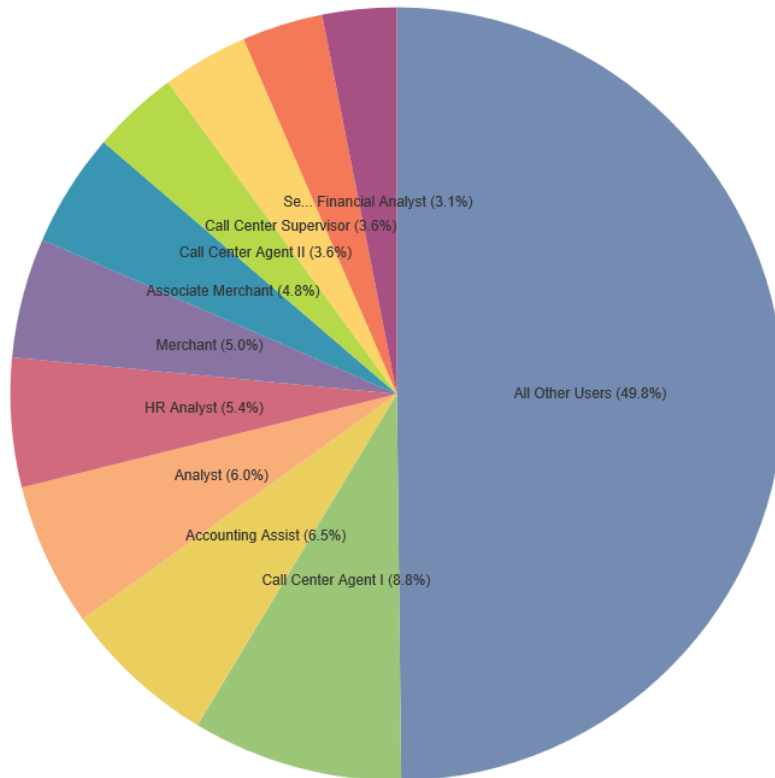
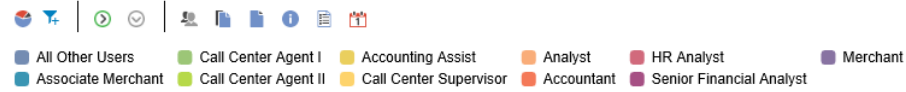


What are usage and performance trends over time?

Training Use Case: Enhance Training and Education

- Accurately assess individual user training needs
- Develop targeted/focused training programs
- Prioritize development of training content
- Measure effectiveness of training methods

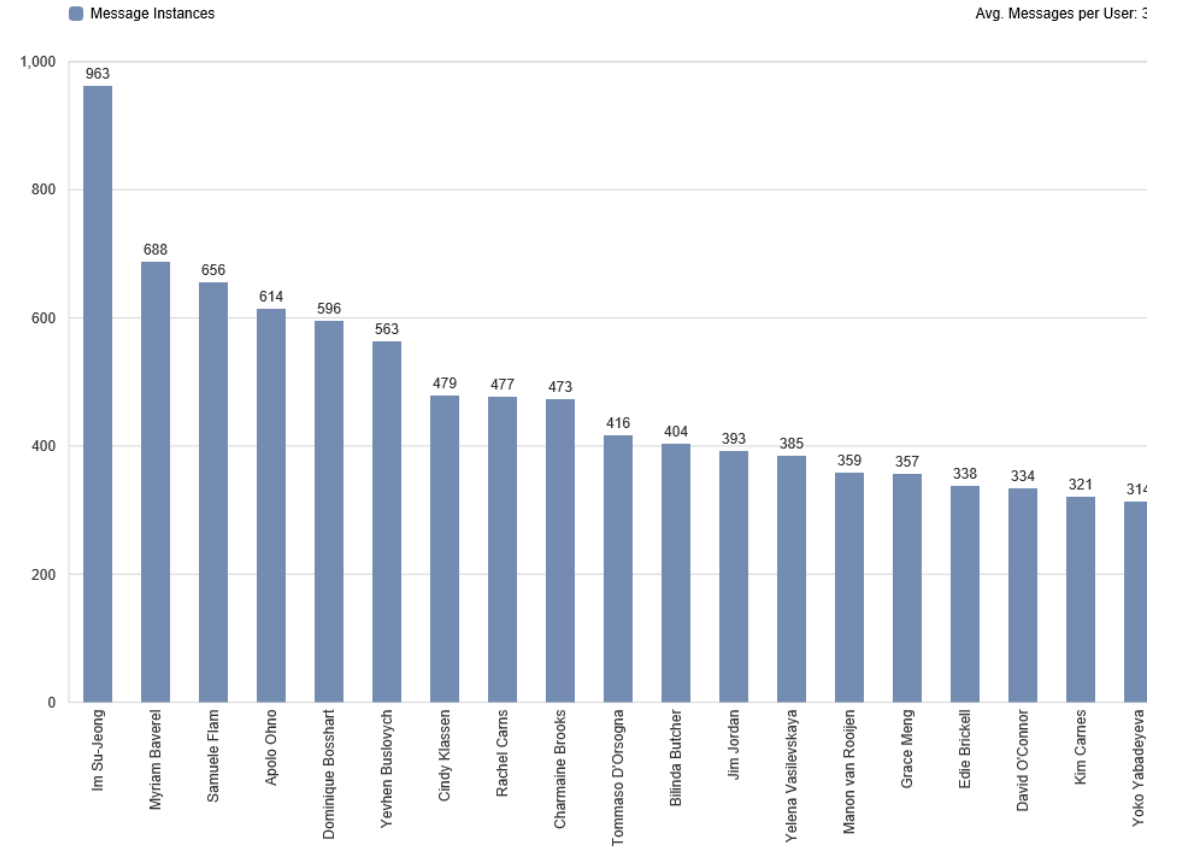
Errors Profile for User Errors: User Attributes



Days: 15 (04/16/2017 - 04/30/2017)

User Attribute: Job Title

Avg. Messages per User: 3





AES

we are the energy

About us

AES Corporation



The Company

- ▶ The AES Corporation (NYSE: AES) is a Fortune 200 global power company.
- ▶ Provides affordable, sustainable energy to 15 countries through a diverse portfolio of distribution businesses as well as thermal and renewable generation facilities.
- ▶ 2018 revenues were \$11 billion and manage \$33 billion in total assets.

The Global ERP Solution:

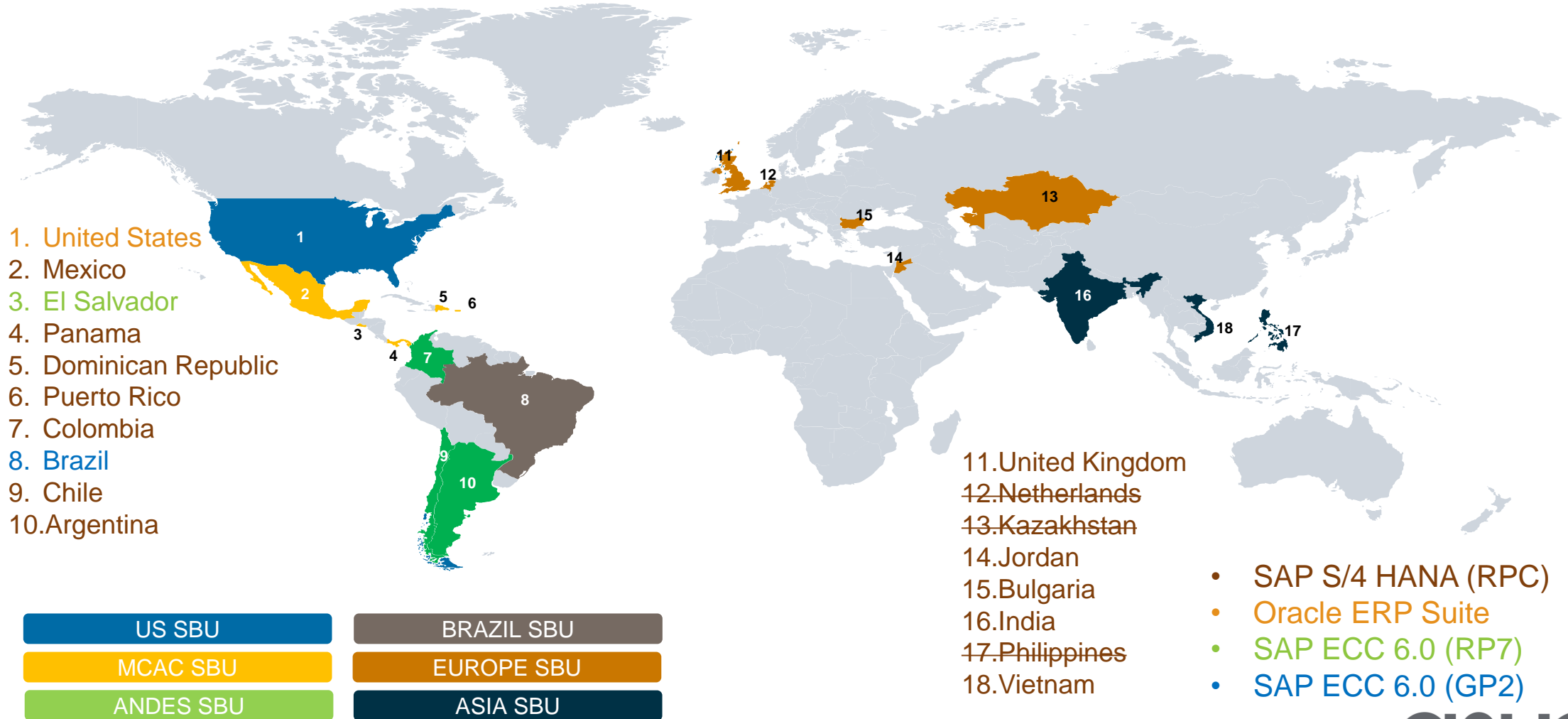
- ▶ Currently running SAP S/4 HANA 1610 on HEC (most of the affiliates) -> ~4000 users
- ▶ US IPL and DPL running Oracle (RPC Consolidation Project undergoing) -> ~1500 users (Go-live April 2019)
- ▶ El Salvador and Brazil running ECC 6.0 on premise (to be consolidated into RPC) -> Planned for 2019/2010
- ▶ In the process of consolidating all ERP instances into one single system.



About us (cont.)



AES Countries on each SBU (Strategic Business Units)



1. United States
2. Mexico
3. El Salvador
4. Panama
5. Dominican Republic
6. Puerto Rico
7. Colombia
8. Brazil
9. Chile
10. Argentina

11. United Kingdom
12. Netherlands
13. Kazakhstan
14. Jordan
15. Bulgaria
16. India
17. Philippines
18. Vietnam

- SAP S/4 HANA (RPC)
- Oracle ERP Suite
- SAP ECC 6.0 (RP7)
- SAP ECC 6.0 (GP2)

US SBU	BRAZIL SBU
MCAC SBU	EUROPE SBU
ANDES SBU	ASIA SBU



KNOA Background



POC

Project PROASSISVIEW



ANDES

ANDES

2016: AUG-NOV

2017: JAN-MAY



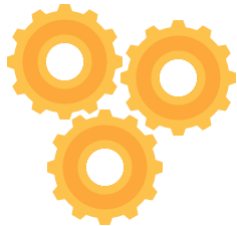
Get a first diagnosis
Focus on the main findings



Measure the adherence of
ANDES to the Global
Template



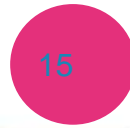
PO Creation



Invoice Registration

Plant Maintenance

Improvement
Opportunities



SAP Business Processes
Optimization

Treaned Team

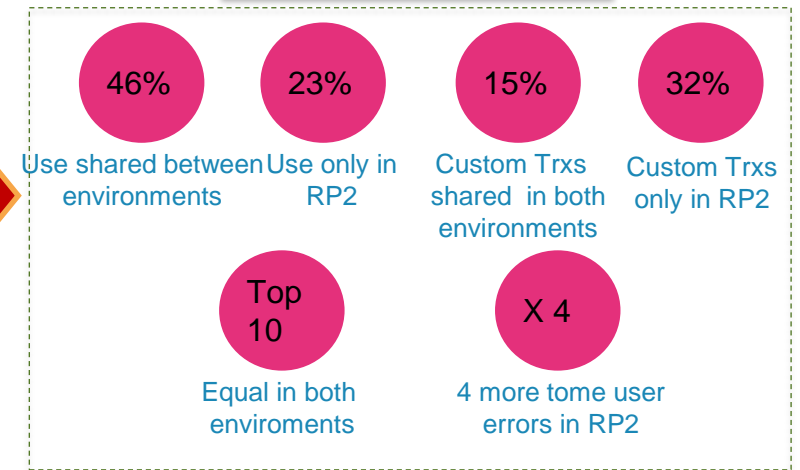


*Knoa as a basis for the
support and support model*

Help Desk Optimization



Global Template
Adherence



Base for Lean
Program
ASUG

How AES in moving towards one single ERP

Lean Program and beyond...

- Migrated current RPC instance to S/4 HANA (Lean Program already completed), while:
 - ▶ Changing hosting manage service provider from IBM to SAP HEC
 - ▶ Migration of the database from Oracle to HANA
 - ▶ Consolidating the Gener and Termoandes instance (RP2)
 - ▶ Upgrading RPC from ECC 6 to S/4 HANA 1610.
 - ▶ Preparing a system for the IPL / DP&L project implementations
- HANA is the core digital platform that SAP is offering for its customers
- Build the base for the AES digital transformation program, focused on:
 - ▶ Real time business
 - ▶ Analytics driving the business
 - ▶ Trending to zero IT marginal cost

Quantitative Benefits

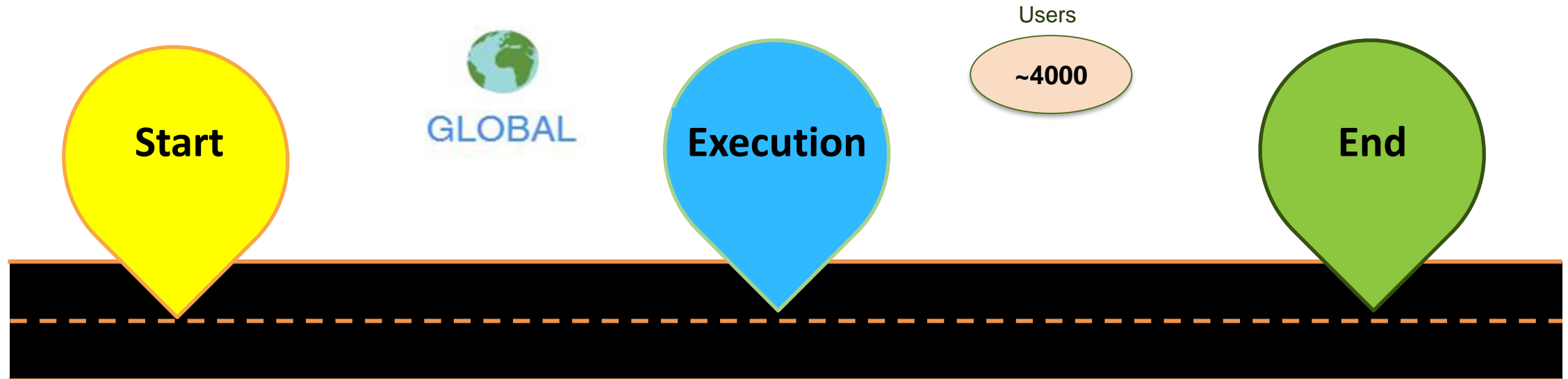
Lean Program

- Andes SBU – Annual Savings in USD 1 M
 - ▶ Reduction in infrastructure support costs
 - ▶ Improve administrative efficiencies in managing administrative expenses
- US SBU – Annual Savings in USD 2.3 M
 - ▶ Reduction in maintenance costs of multiple ERP solutions and support
- Global – Annual Savings in USD 1.2 M
 - ▶ Reduction SAP and Oracle maintenance

KNOA for Lean Program

LEAN PROGRAM

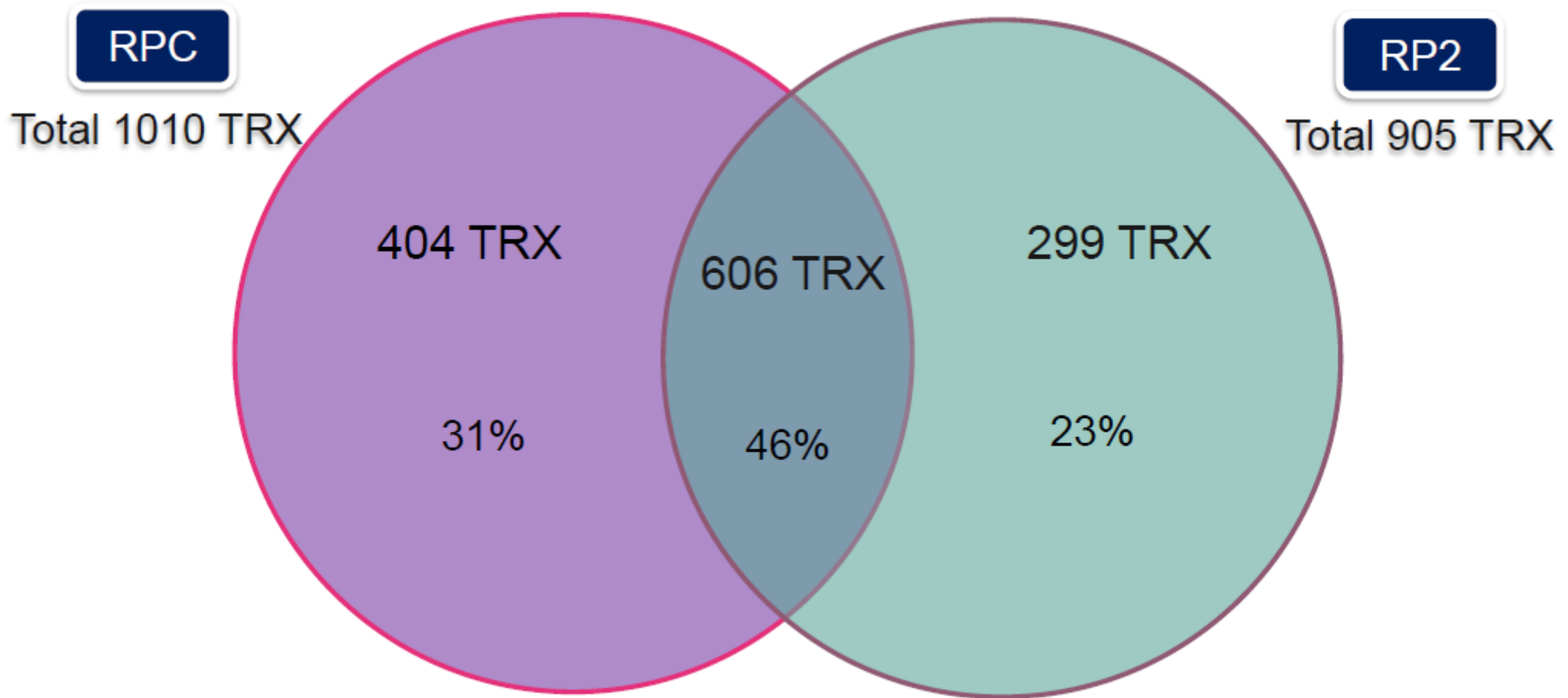
JUL 2017 – FEB 2018



- Diagnosis of the situation of productive environments at the level of use and users impacted by SBU.
- Measurement of the use of trxs to verify critical functionalities.
- Sizing transactions (Standard and Custom) to be remedied in migration to SOH and Consolidation.
- Identification of custom transactions to determine continuity convenience
- Identification of critical transactions used only in RP2 for the project Consolidation
- Key users Determination by SBU measured according to the time of use and number of trxs -> Impact on Training Processes and Change Management.
- SOH UAT Monitoring and QA : Performance Comparison of TRxs with respect to ECC.
- Detection of application behavior post SOH Go Live.
- S4 Monitoring and QA: Detection of more concurrent errors, Focus on BP-> New Functionality.
- Performance measurement compared with SOH and ECC.
- Support to the Training Plan Design based on the use of TRXs by Users by SBU.
- Post Production: Detection of first errors.

Example 1: Transaction Distribution different environments

Study prior to consolidation and global template adherence



1309 transaction used among RPC and RP2

Example 2: Custom Code Remediation Prioritization

How to prioritize ABAP remediation efforts

With TCODE

KNOA	Panaya	Priority
not blank	highly or frequently or normally used	HIGH
+1hr	Rarely used / Unknown	HIGH
between 1m and 1hr	Rarely used / Unknown	MEDIUM
less than 1m	Rarely used / Unknown	LOW
+1hr	N/A	HIGH
between 1m and 1hr	N/A	MEDIUM
less than 1m	N/A	LOW
blank	frequently	HIGH
blank	normally	MEDIUM
blank	Rarely used / Unknown	LOW
blank	Unused	VERY LOW
blank	N/A	LOW

Without tcode

(KNOA doesn't apply)

KNOA	Panaya	Priority
N/A	highly or frequently or normally used	HIGH
N/A	Unknown	MEDIUM
N/A	Rarely used or N/A	LOW
N/A	Unused	VERY LOW

Example 2: Custom Code Remediation Prioritization (cont.)

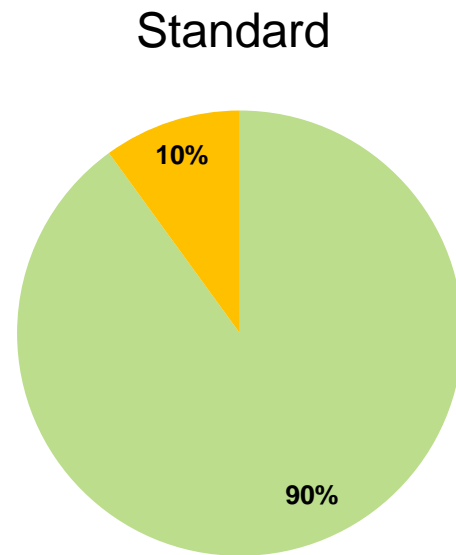
How to prioritize ABAP remediation efforts

TYPE	OBJECT NAME	Module / Package	Description	Tcodes	KNOA usage	Panaya Usage	Priority	Out of scope	No of changes
CLAS	ZCL_IM_ME_CHANGE_OUTTAB	MM				#N/A	Low	Material Length	1
CLAS	ZMOB_WORKORDER_GOODSMVT	ZOO_SKYTECH				#N/A	Low	Material Length	1
CLAS	ZCL_PS_TREE_DISPLAY	PM				#N/A	Low	Material Length	1
FUGR	ZOO_ARIBA_MON	MM				#N/A	High	Material Length	2
FUGR	ZAR_MM_CADENADTOS	MM		ZAR_MM_CADENADTOS		Normally Used	Medium	Material Length	2
FUGR	ZAR_MM_COMPRAS	MM		ZAR_MM_COMPRAS	43 m 27 s	Frequently Used	High	Material Length	1
FUGR	ZAR_MM_MATERIAL	MM		ZAR_MM_MATERIAL	20 h 40 m 57 s	Frequently Used	High	Material Length	1
FUGR	ZCL_MM_EPROCUREMENT	MM				#N/A	Low	Material Length	1
FUGR	ZCO_EPROC	MM				#N/A	Low	Material Length	4

Example 3: Testing Control Tower for S/4 HANA testers

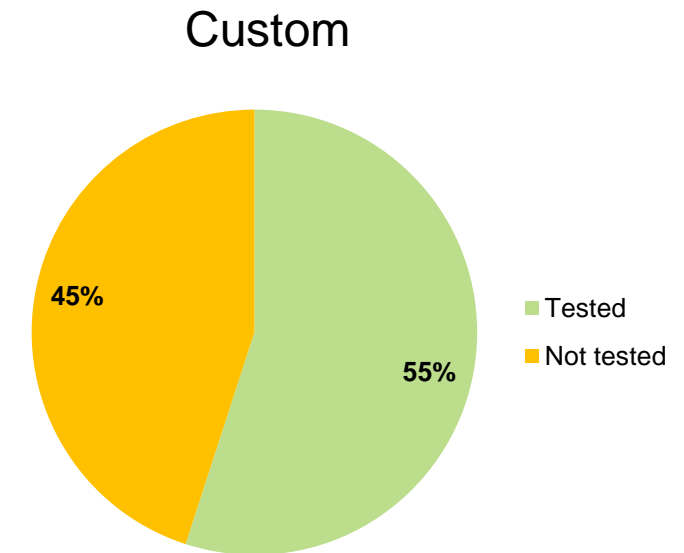
Top 20 Comparison of transaction with more use time in KNOA (RPC) and tested transactions

Standard
IW32
FBL1N
ME23N
IW22
IW28
FBL3N
MIGO
FAGLB03
ME21N
ME51N
IW38
ME53N
ML81N
FAGLL03
ME5A
MMBE
FB03
IW21
IW37N
IH01



■ Tested
■ Not tested

Custom
/COCKPIT/1
/COCKPIT/WC
/PROGROUP/NAV
/PGP/SCHEDULER
ZAR_MM_MB52
ZAR_FI_ORDEN_PAGO
Z00_MM_MB52
ZIH01
/PROGROUP/ZGWOS
ZAR_MAT_BARCODE
ZAR_BEDNR_UPD
ZFBL1N
Y00_FI_PARK_DOC
Y00_ICBILLER
ZDIPA_15
ZFAGLL03
Y00_FI_EMEA_PARK_DOC
ZAR_MM_MATERIAL
ZCO_FI_GL_BALANCES
ZFI_MONITOR

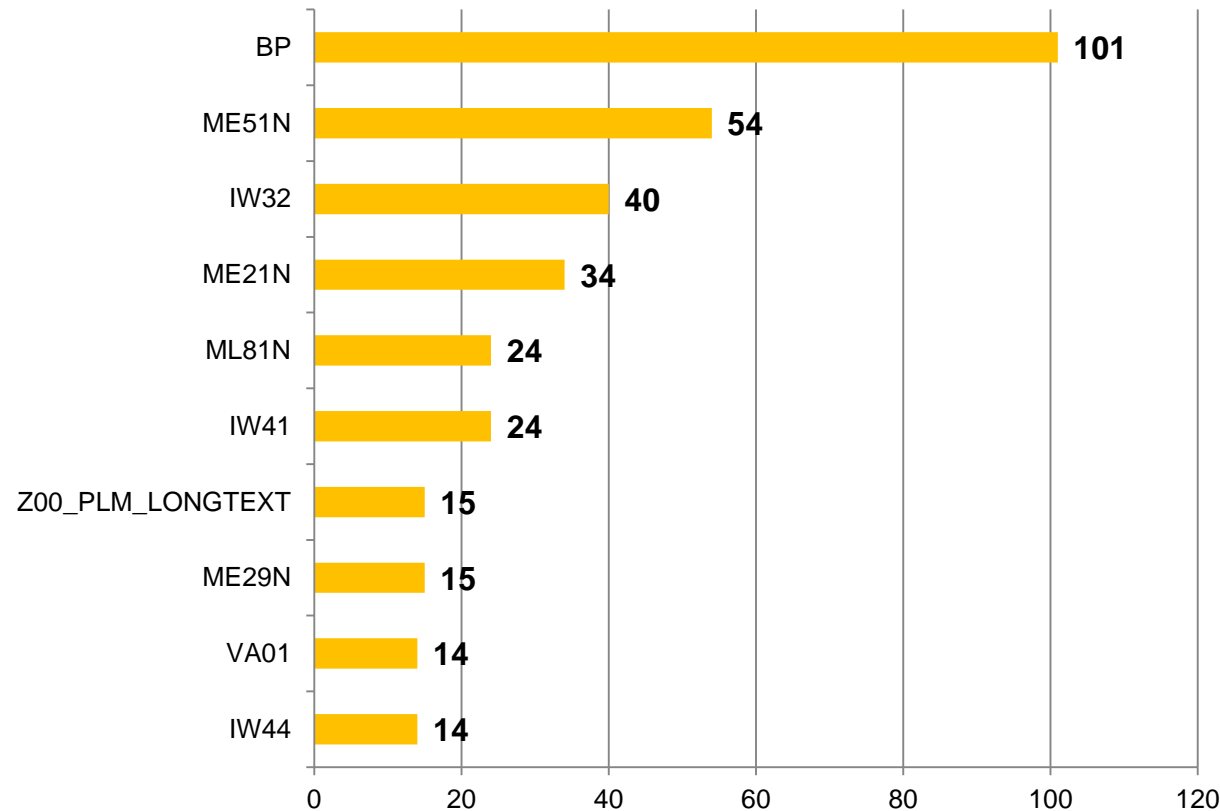


■ Tested
■ Not tested

NOTE: The analysis contemplates the transactions impacted by the conversion to SAP S/4.

Example 3: Testing Control Tower for S/4 HANA testers (cont.)

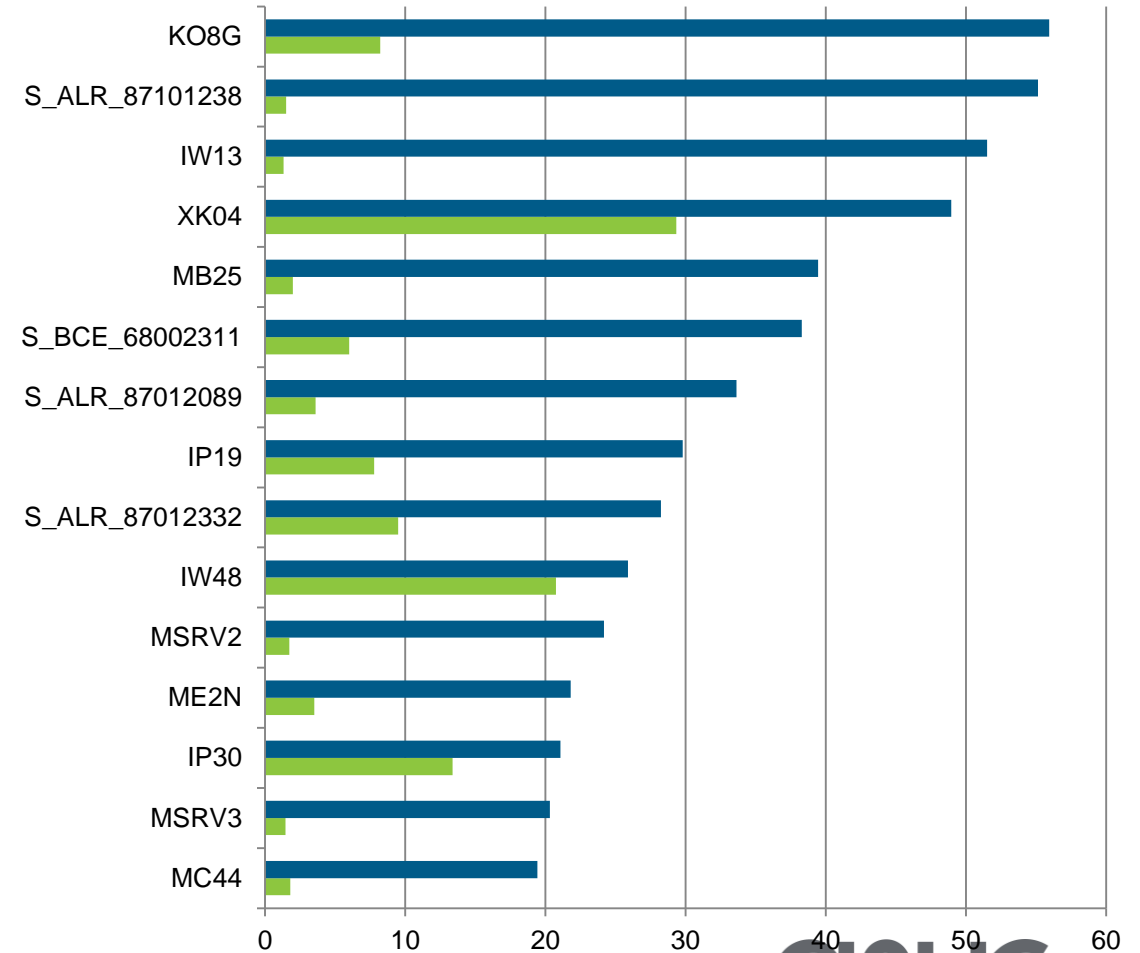
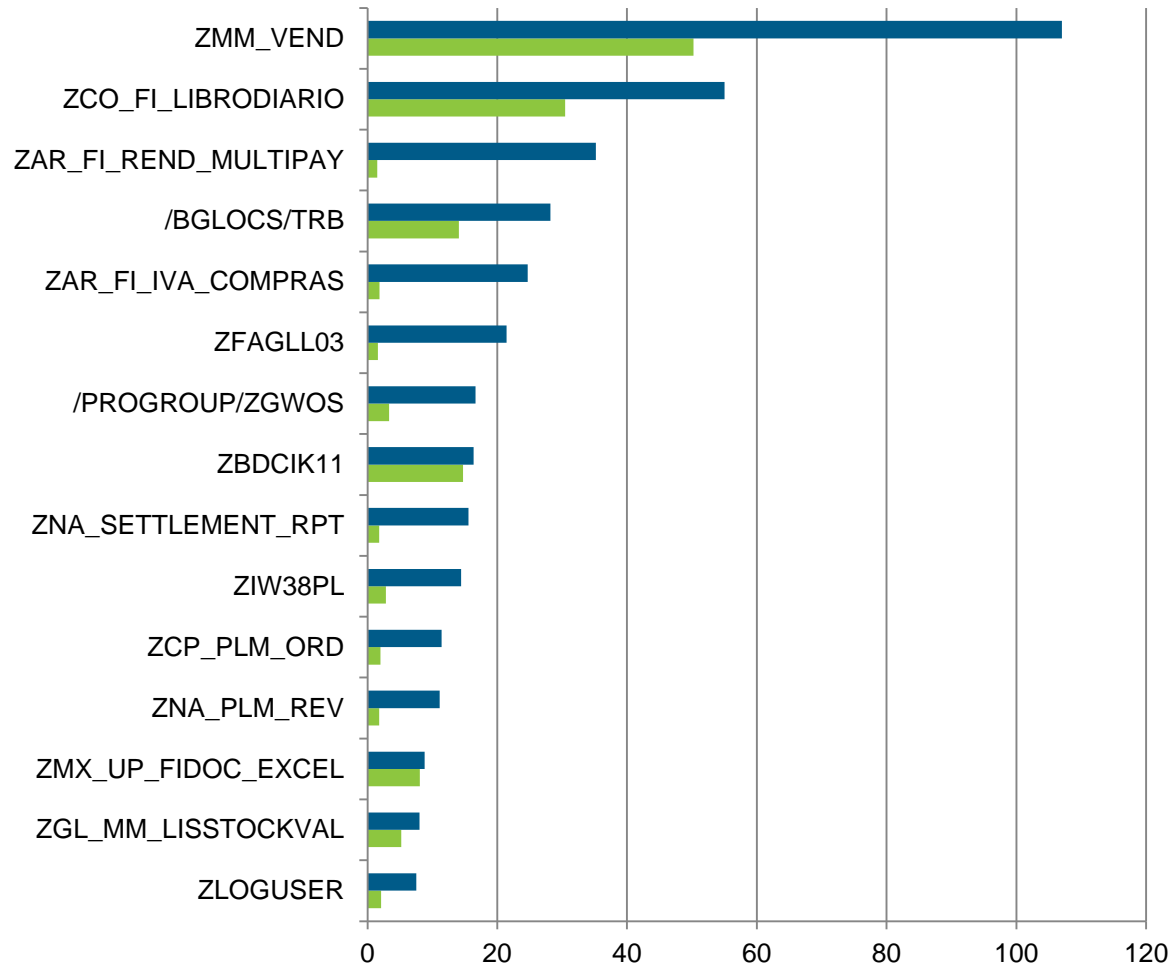
Top 10 transactions with more user error messages for quality system (RQC)



The top 10 represents the 8% of total tested transactions and the 61% respect to the total user errors messages.

Example 4: Performance Measurement

Top 15 Custom and Standard Transactions before and after SoH migration



Blue: ECC 6
Green: After SoH

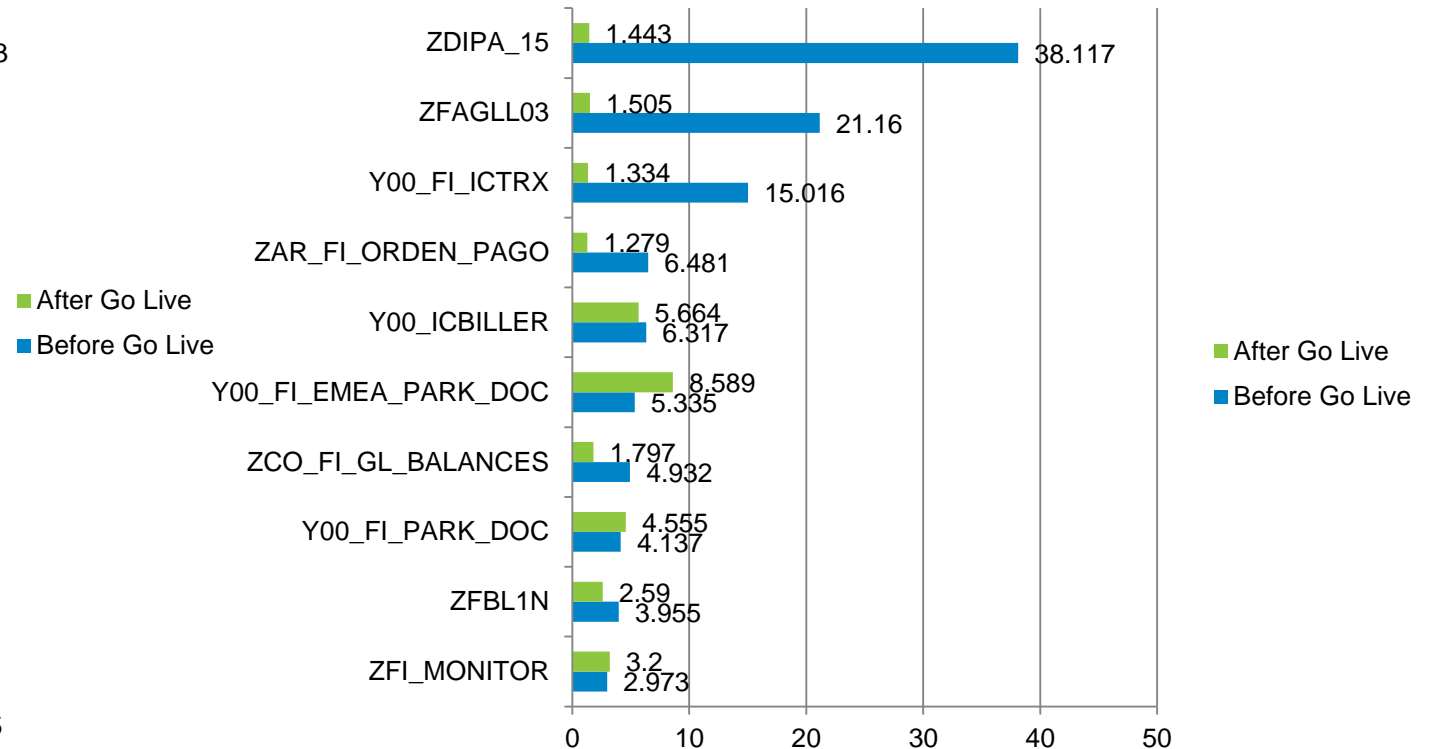
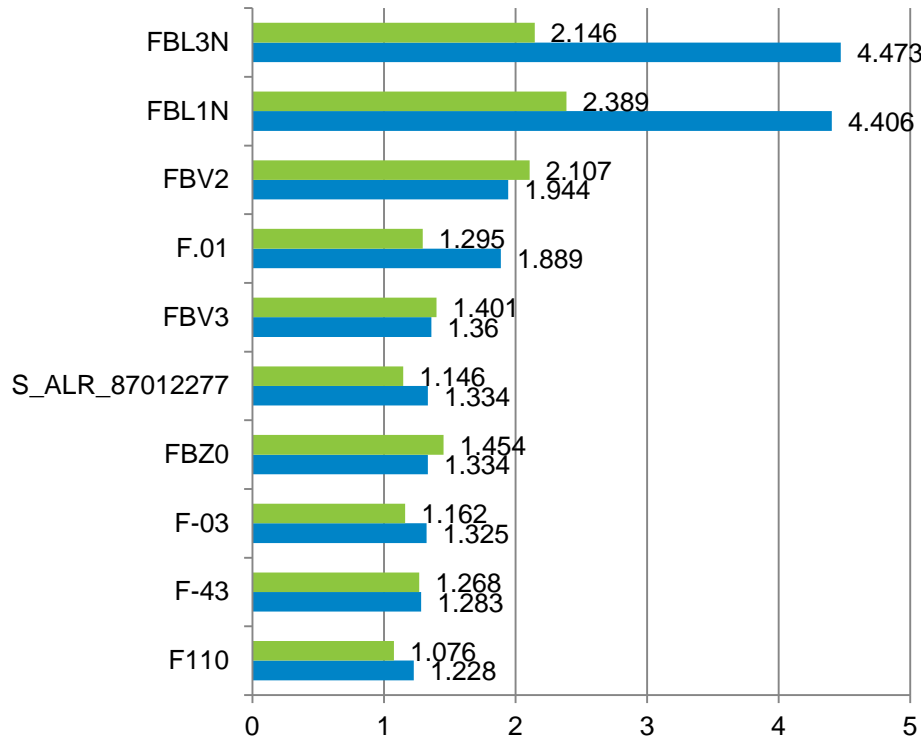
(Time in seconds)

Example 4: Performance Measurement (cont.)

Finance Top 10 Average Response Time Before vs. After Go live SoH

Standard

Custom

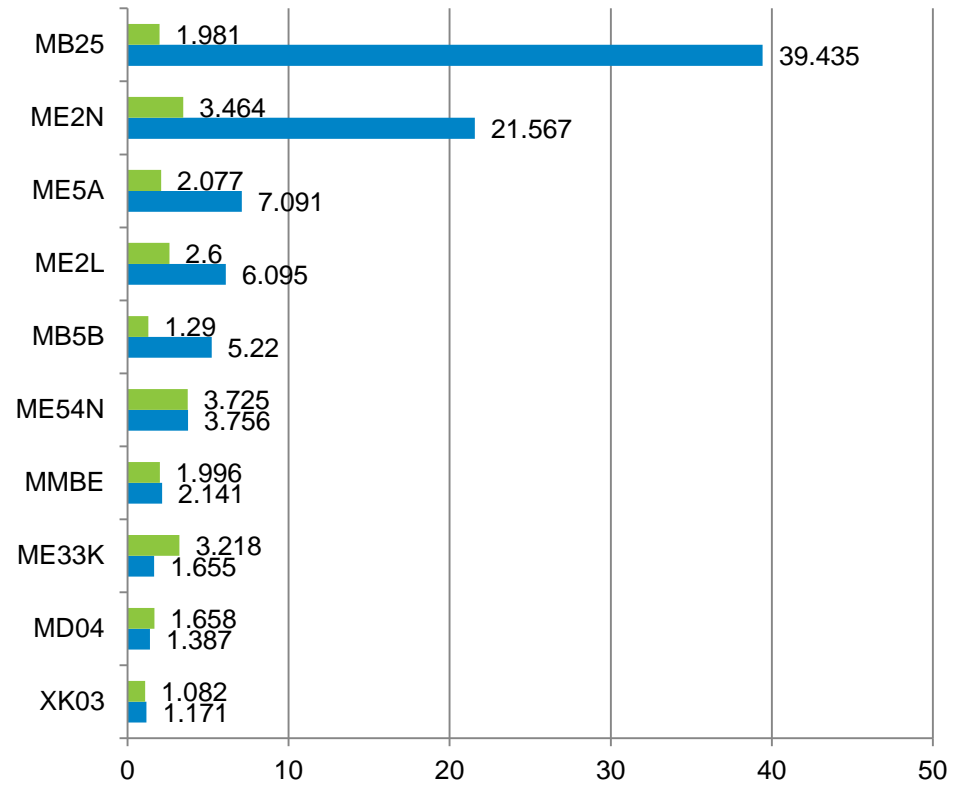


(Time in seconds)

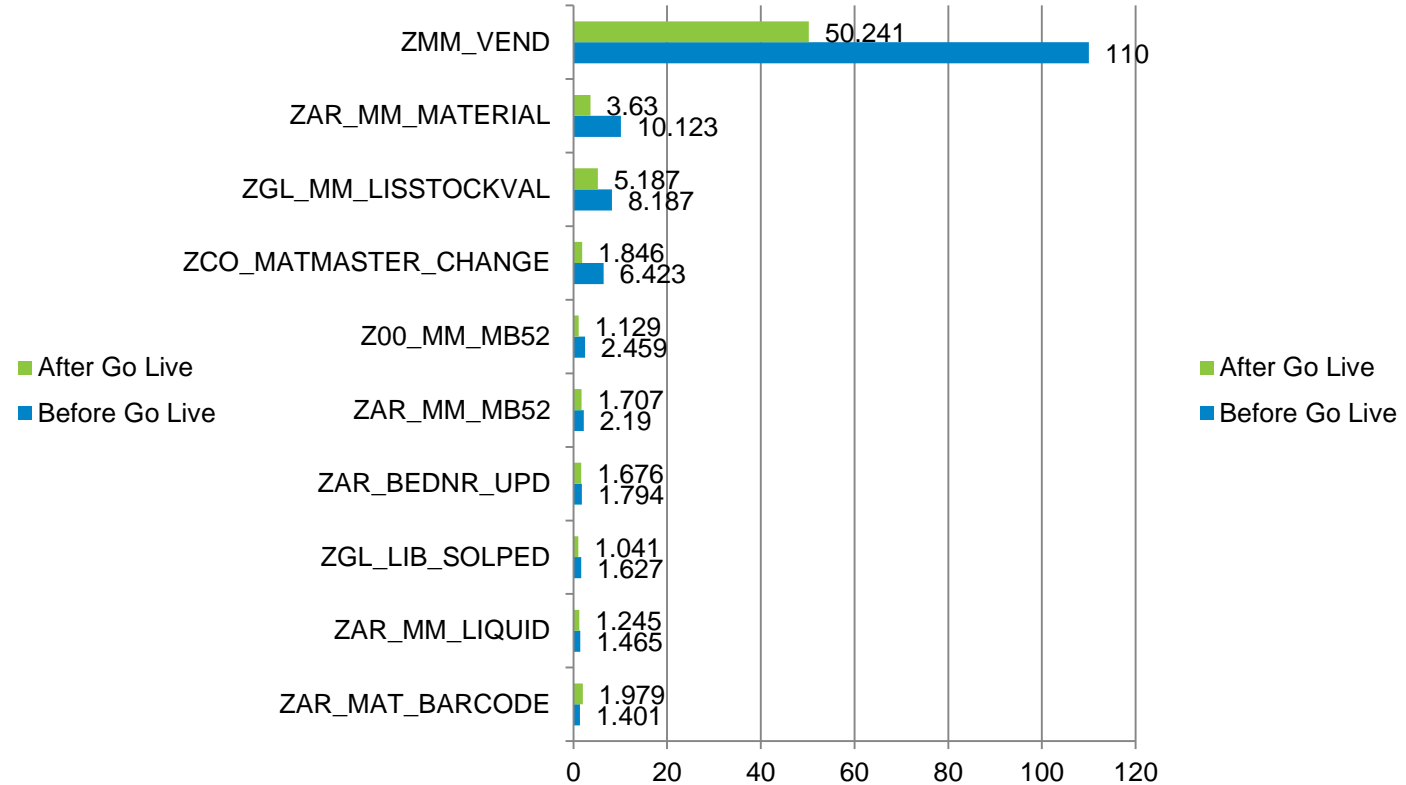
Example 4: Performance Measurement (cont.)

SCM Top 10 Average Response Time Before vs. After Go live

Standard



Custom

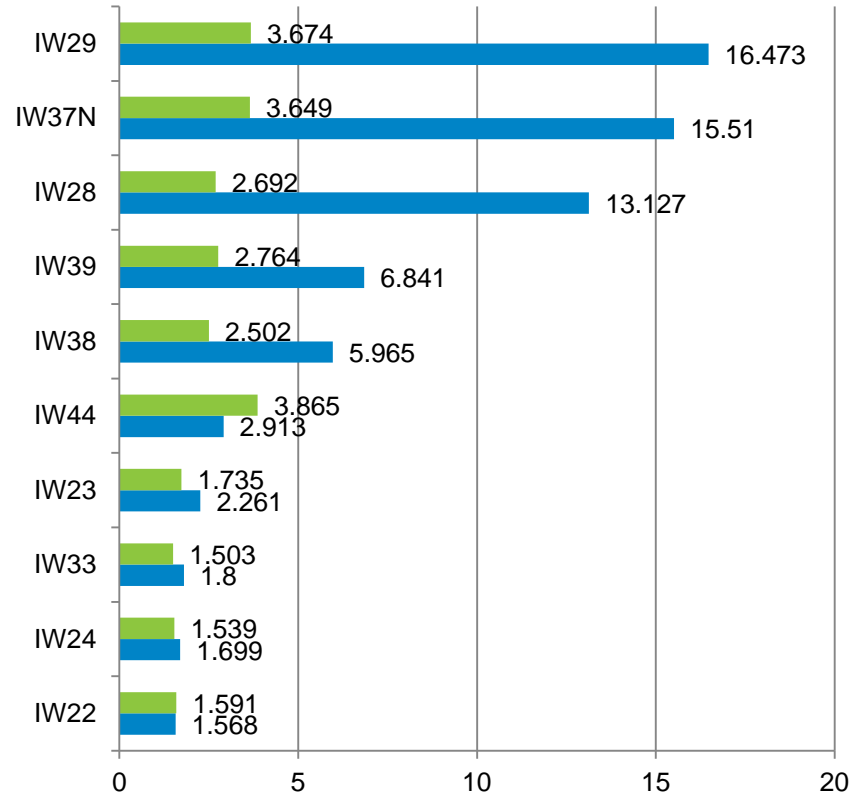


(Time in seconds)

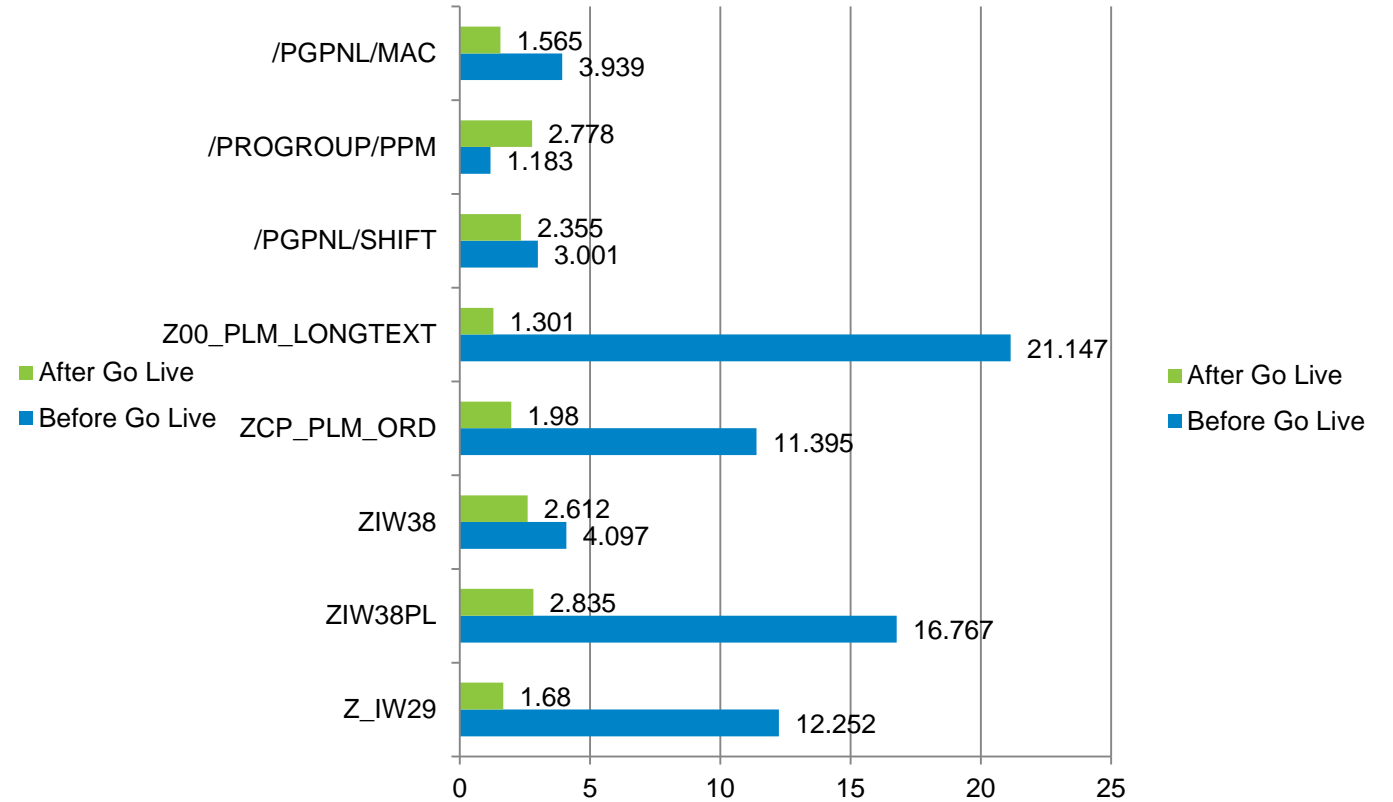
Example 4: Performance Measurement (cont.)

PLM Top 10 Average Response Time Before vs. After Go live

Standard



Custom

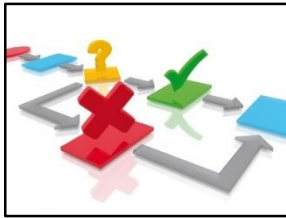


(Time in seconds)

KNOA Benefits for AES

HOW TO IMPROVE OUR USERS EXPERIENCE

Focus on the Internal Customer's Operations



- **Business Processes Improvement:** Through recurrent problems can be detected possible needs for business processes changes, or system functional updates to align it to the process.
- **Security and Control:** Identification of activities carried out by users that do not correspond to their profile.
- **User Experience Improvements:** Training, support and reduction of errors, facilitate usability in day to day.

HELP DESK

- **Reduction of Attention Times:** Improving through the Workflow and other reports the information to analyze the root causes of errors or situations reported by users.
- **Reduction of Ticket Generation:** Detecting proactively by analyzing periodic problems, using alerts, etc., error situations that happen both massively and privately, before the creation of the ticket.

Focus on the Internal Customer's Problems



ASUG

KNOA Benefits for AES (cont.)

HOW CAN WE MEASURE THE REAL USE OF THE APPLICATION

Focus on It Cost Optimizing

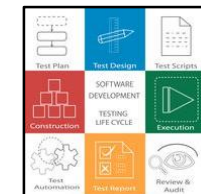


- Optimization of licensing / maintenance costs:
- TRXs / Functionalities in which their use should be promoted (transactions that the user does not know and that are useful for their task).
- Activities executed by users outside the system (such as .xls) that have existing functionality in SAP.
- TRXs / Functions used poorly or those where their maximum potential is not used.
- TRXs / Functionality not necessary (Focus on Customers)
- Users with SAP license with very low or no use of the application

IT TRANSFORMATION PROCESSES

- **Scope Determination:** Diagnosis of the situation of applications at the level of Use, performance and user / system errors.
- **Project Sizing:** Identification of Customs trx. to determine convenience of continuity.
- **Testing Plan Design:** Measurement of the use of trxs to verify the criticality in the processes.
- **Key users identification.**
- **QA in Testing Execution:** Monitoring compliance with the Plan.
- **Identification of performance problems and anticipation of errors.**
- **Go Live and Post Production:** Verification of the adherence of the new model. Verification of the adoption of applications. Verification of the performance of new technologies. Verification of the result of the training.

Focus on Optimization in Project Development



SAP UEM by Knoa Use Cases

More information here: [Knoa Use Cases](#)

S/4HANA Migration	<ul style="list-style-type: none">• Identify migration targets based on performance baselines in the current landscape• Measure user adoption and application performance before/after, to quantify the ROI of migration projects	Development and UAT	<ul style="list-style-type: none">• Sunset customizations that have fallen below the economic level of support, based on their actual utilization• Monitor usage of UAT and Testing environments before a Production rollout, identify new issues in real-time
UX Design	<ul style="list-style-type: none">• Identify ongoing UX improvement opportunities to reduce complexity, improve usability, streamline user workflows• Monitor user adoption of new UI's to validate the new designs and measure improvement in user experience	Application Support	<ul style="list-style-type: none">• Prioritize IT initiatives based on the true business impact of application quality and performance issues• Isolate performance issues to specific screens, users, workflows, for faster root cause analysis & resolution
Change Management	<ul style="list-style-type: none">• Measure the impact of changes in the application environment on user experience and productivity• Identify users who will be impacted by upcoming changes, to improve communication and training	Hyper-Care Support	<ul style="list-style-type: none">• Improve support effectiveness by proactively detecting emerging issues in the live Production environment• Quickly validate successful resolution of identified issues
Training / User Enablement	<ul style="list-style-type: none">• Assess the business impact of user errors and prioritize training initiatives to high impact issues• Target training delivery to specific issues and individual users, and measure the effectiveness of training delivery	Help Desk/ User Support	<ul style="list-style-type: none">• Validate and prioritize issues reported to Help Desk based on actual user impact• Get detailed logs of user workflows for identified issues, for faster troubleshooting and resolution

Next Steps

KNOA

- KNOA components version upgrade (undergoing)
 - ▶ KNOA Server migration (last version)
 - ▶ Business Objects Server Migration (last version)
 - ▶ User Agent upgrade last version (SAPGUI 7.50 full compatible)
- License Upgrade
 - ▶ Upgrade to Enterprise -> Allow to track Fiori Apps
 - ▶ Reviewing KNOA Cloud versus On-prem (analyzing options)
 - ▶ Evaluating Click as BI Tool for KNOA reports

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Be sure to complete the
session evaluation on the
SAPPHIRE NOW and ASUG
Annual Conference mobile
app.



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 guillermo.elizeche@aes.com and jesse.bernal@sap.com

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