

How to build a successful DevOps Practice in SAP





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Why SAP Chose Tricentis as Its Official Testing Solution

Tricentis-SAP Partnership Value

Partnership OEM | Product Reselling | Co-Development | Premium Support

The Global Leader in Enterprise Testing Solutions

- Leader in Gartner Magic Quadrant
- Proven Results in the World's Biggest Brands
- Versatile Platform for Customers at Any Stage of SAP Modernization

Enterprise-Grade Platform for SAP Testing and Beyond

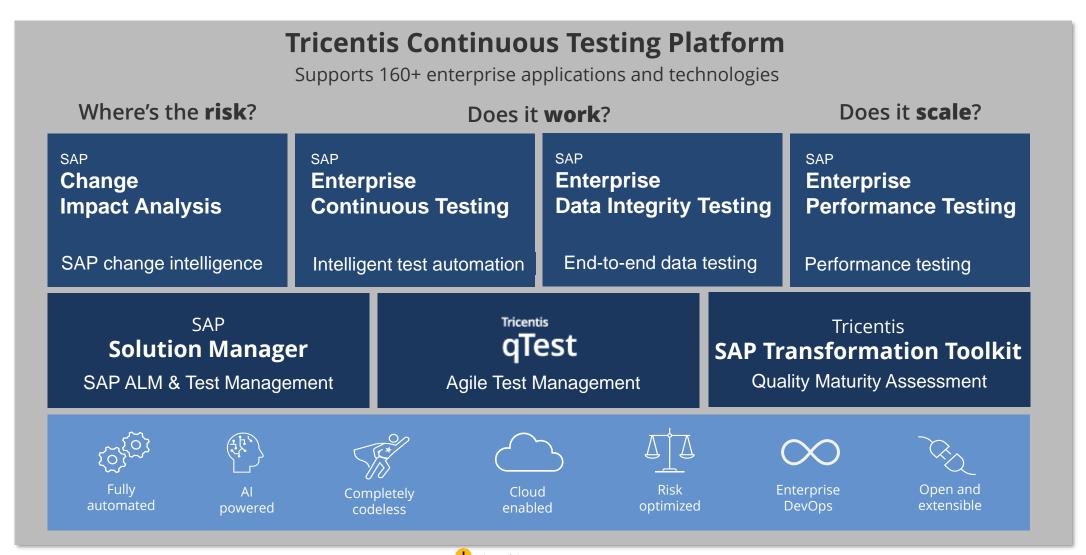
- Model-Based Automation for Resiliency and Scalability
- Risk-Based Approach That
 Minimizes Business Downtime
- Seamless Integrations for SAP and Non-SAP Testing

Modern, Al-Driven Technology for Easy Adoption

- Al-driven Impact Analysis for Fast, Safe Changes
- Cloud-Based Architecture
- No-Code, Business Friendly Platform for Easy Adoption

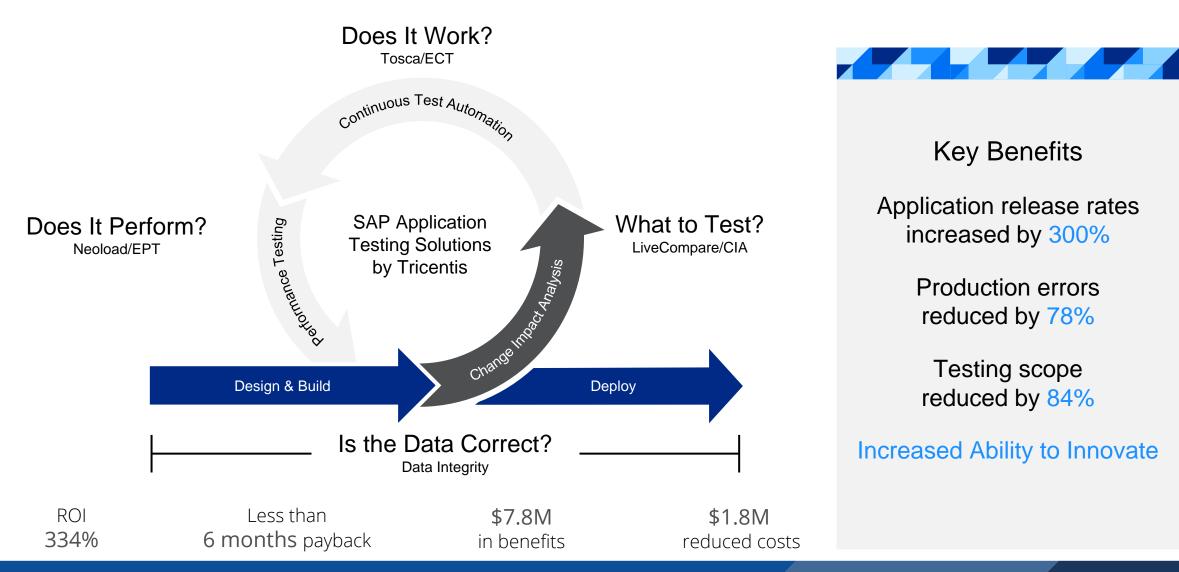
Deliver quality at speed with Tricentis

It's all here.





SAP Application Testing Solutions by Tricentis



What is DevOps?

DevOps in 30 seconds...

- Modern way of developing and delivering software at high speed
- Maximizes automation, integrations and collaboration between IT & business
- Automated chain of continuous software delivery from development, testing, deployment and continuous improvement
- End goal is to be able to rapidly deploy business value as soon as its ready instead of waiting weeks or months for next release

The Problem

- A
- SAP tech stack is unique, traditional DevOps tool chain sets don't work in SAP
- SAP centric DevOps tool sets are siloed/fragmented that don't integrate
- Outdated test automation & management solutions, no longer fit for purpose
- Companies stuck in old traditional waterfall or semi waterfall methodologies
- Testing has remained the primary bottleneck in slowing the SAP change and release process down.
- IT struggles to keep pace with the high-volume frequency of changes demanded by the business, and the frequent upgrades required by SAP.

Wherever you are on your SAP journey...

Innovation is a **continuous process**









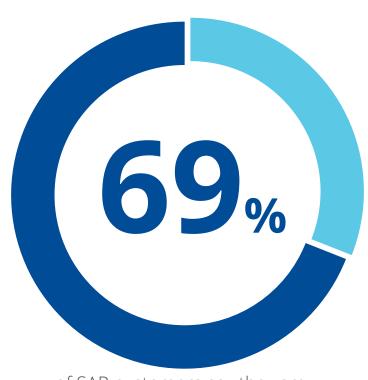






What makes SAP innovation so risky?

Every change has a ripple effect



of SAP customers say they are not completely prepared for frequent updates "A key factor could be less than optimal understanding of their SAP systems and lack of necessary tools."

#missing_intelligence







State of Worldwide Business Assurance for SAP Solutions

3 keys to de-risking SAP innovation



Automate analysis

of your SAP landscapes and application usage



Leverage AI to identify risks

and optimize testing for all your SAP changes



Get actionable insights

to keep your production systems running smoothly



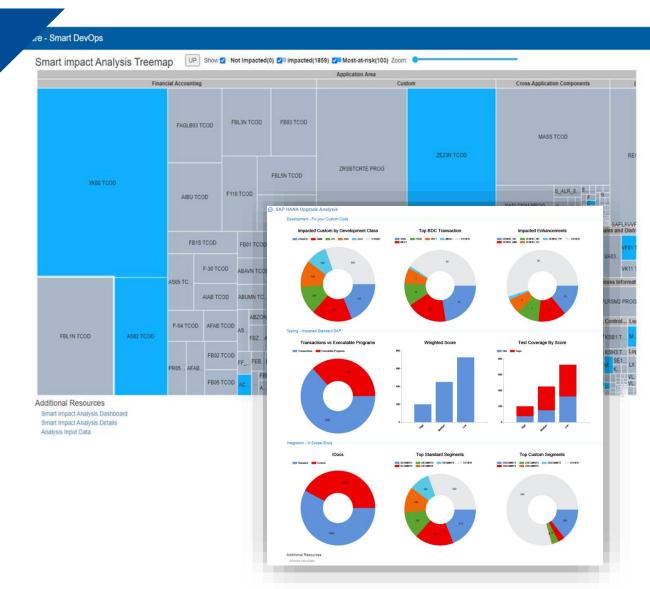


Tricentis LiveCompare

SAP Change Intelligence that lets your teams deploy with confidence:

- Automated analysis of your SAP landscapes
- **Al-powered** risk identification and test optimization
- Actionable insights that prevent production defects





Key Questions



AI-Powered Insights by LiveCompare

ABAP Code Quality Analysis



- Shift left on quality
- Pinpoint coding issues early on SDLC
- Instant feedback for developers
- Data driven insights for commit approvals
- Governance over partner led development work
- Improved SAP application health
- Less production defects

Smart Impact Analysis



- Intelligent targeted testing
- 80% reduced testing efforts
- Faster test cycles
- Speeds up release cadences 2-3X
- Superior quality

SAP Test Coverage Insights



- Clear insights into test coverage in every release
- Prioritize time, resources and money in appropriate areas
- Track test coverage trends and monitor progress
- Eliminate duplicate test work
- Maximize ROI in test automation solutions

Test Audit



- Quality gate for deployment approvals
- Instant feedback for release managers
- improved business continuity
- Zero defect leakage

N+1 Transport Merge Comparison



- Perform Transport merges 80% faster
- Auto discover code and config conflicts for retrofitting
- Eliminate manual analysis & investigative work
- Deliver projects & releases faster
- De-risk transport merges

SAP Custom Code Management Insights



- Continuous visibility into custom code Manage, govern, optimize customizations
- Track trends and KPI's around custom code
- Eliminate Technical debt

SAP Root-Cause Analysis



- Debug Prod issues 80% faster
- Less resource involvement
- Minimize production downtime
- Improved business continuity

SAP System Synchronization



- Ensure code, config & data stays in sync
- Avoid defects cased by system discrepancies
- Reduced need for system refreshes
- Test data validation

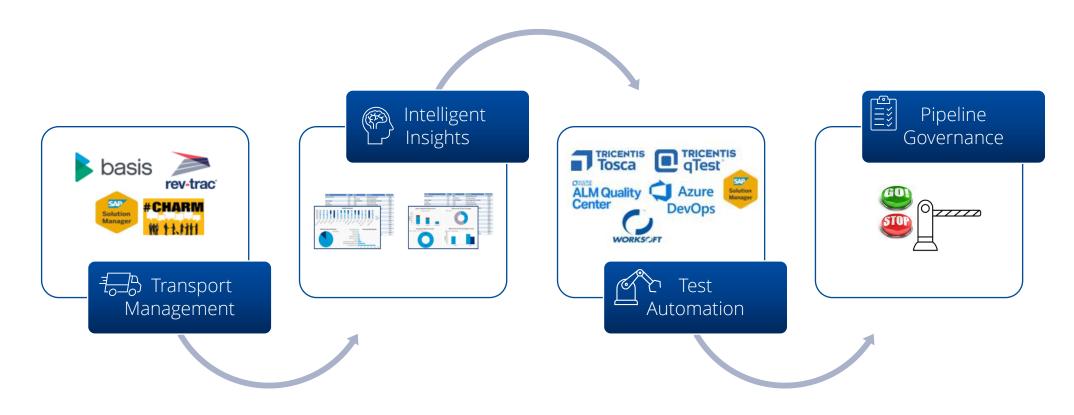
S/4 Readiness Assessment



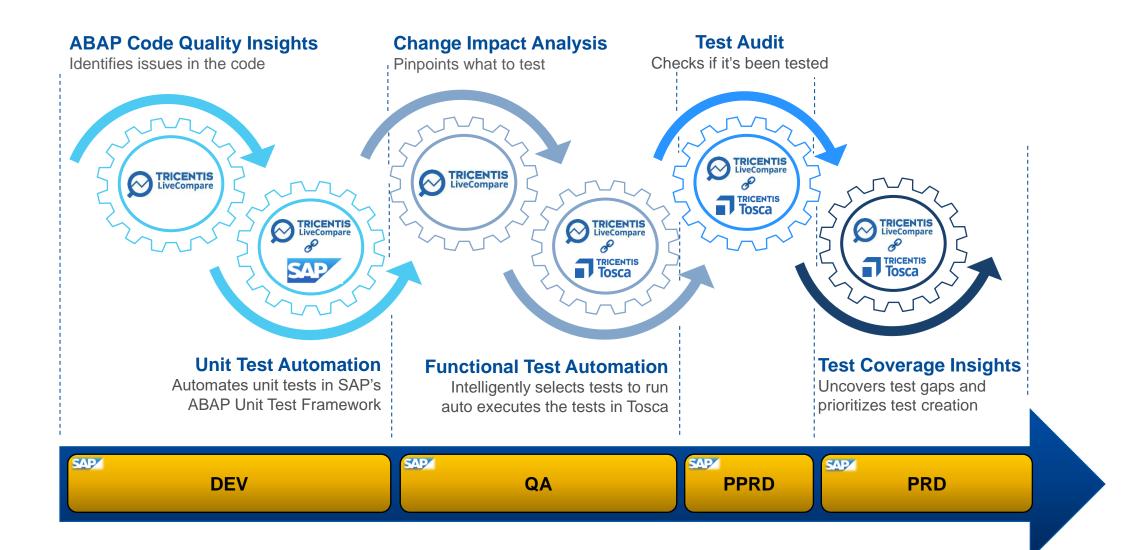
- Compare existing ECC to target S/4
- Key insights to plan, scope and strategize
- Identify impact & test scope
- Retire dormant custom code
- Improve quality & performance of existing code
- Remediate existing code to be S/4 ready

Orchestrating DevOps for SAP

Al-Powered Change Intelligence Platform that combines **Intelligence**, **Integrations**, **Automation** & **Governance** for facilitating a streamlined, more efficient, higher quality SAP change & release process.



Automated Change & Release Process



Business Value Summary

Current State

Outdated Testing Strategy

- Limited visibility into system impact & what should be tested
- Test everything approach
- Hard to keep pace with high volume & frequency of changes
- Slow testing cycles
- Resource intensive, costly & risky
- Lacks quality
- Extended & costly hyper care periods

Negative Business Impact

- Long wait times for new functionality & enhancements
- Missed SAP Project go-lives
- SAP Upgrades & Patches are avoided



Future State

Modernized Agile Testing Strategy

- Fact-based data driven insights on what needs to be tested
- Precision targeted testing
- Reduced testing scope eliminate unnecessary testing
- Faster test cycles
- Release more frequently
- Superior quality
- Reduced & less costly hyper care periods

Positive Business Impact

- Quicker Time-to-Production for new functionality & enhancements
- Go-to-Market faster with SAP transformational projects
- Perform Upgrades more often in less time with lower costs

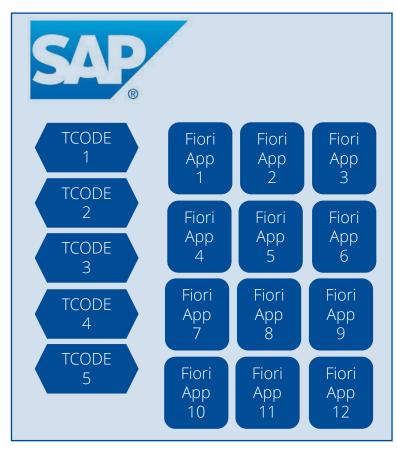


Change Impact Analysis Integrated with Test Repository

Major & Minor Releases

S/4 Version Upgrades Daily & Weekly Transports

Support Packs & EHP's Legal & Regulatory Updates



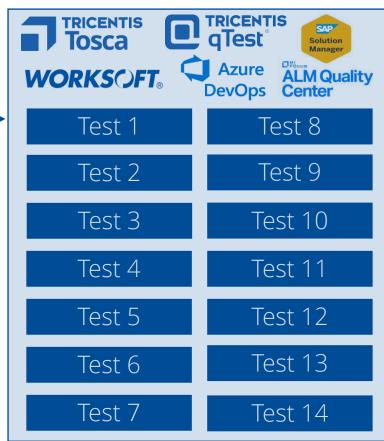


1ntelligent Precision Testing 80% Reduced Testing Effort Faster Testing Cycles

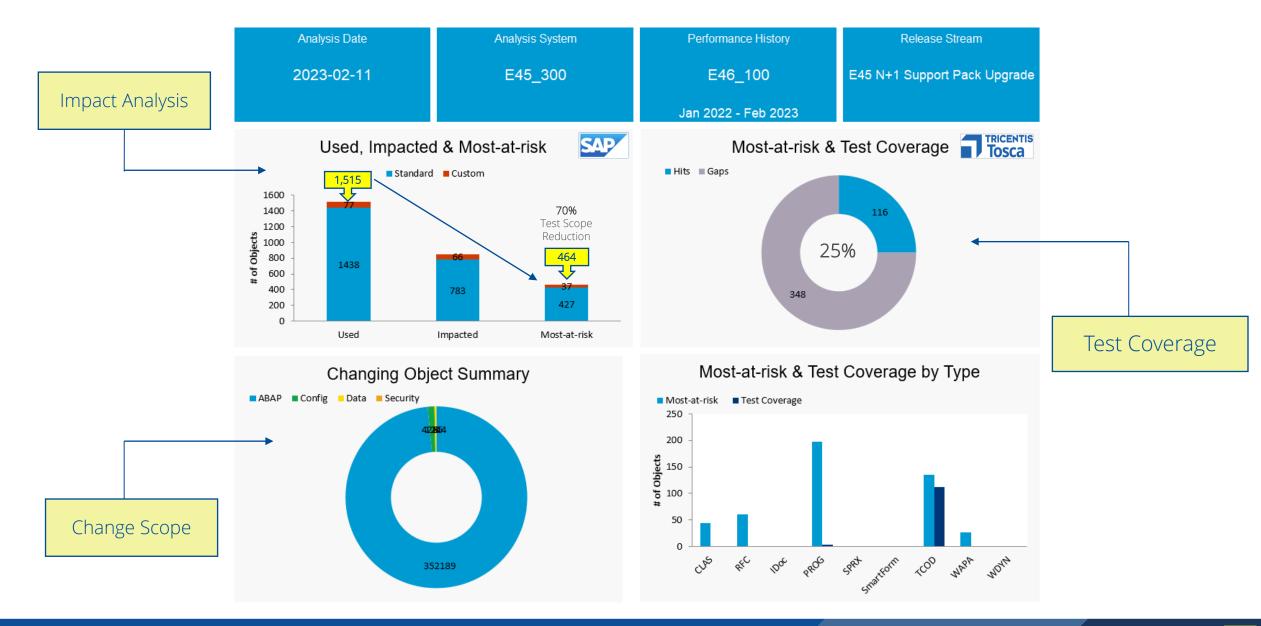
Faster Testing Cycles

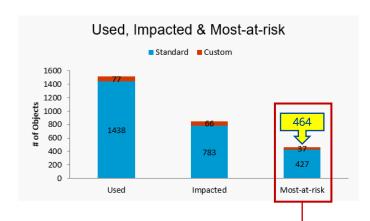
More Frequent Releases

Superior Quality



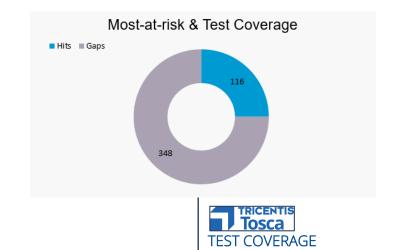
Impact Analysis & Test Coverage Summary





TEST SCOPE

Test Scope & Test Coverage Summary



<u> </u>									_
APP_AREA	▼ TYPE	NAME	▼ STATUS ▼	IMPACTFUL_OBJECTS	DESCRIPTION	▼ USAGE	▼ USERS ▼	TESTS -	CUSTOM ▼ BUSINESS_CRITICAL ▼
	CLAS	/ORS/NON_PO_INVOICE_NEW	Most-at-risk	<u>97</u>	Invocie Approval - Non PO Class	1	1		
Defense Forces and Public Security	PROG	/ISDFPS/EPA_PRINT_ADOBE_FORM	Most-at-risk	<u>91</u>		1			
Business Mobile	WAPA	MM_REQ_MAINTS1	Most-at-risk	<u>90</u>	Maintain Requistions	7	1		
	PROG	ZPTPI_OB_PAID_INVOICE_TO_S2K	Most-at-risk	<u>9</u>	Paid Invoices to S2K	3	1		Υ
	WAPA	ZPTP_PICK_LIST	Most-at-risk	<u>9</u>	Pick List App	94	<u>8</u>		Υ
Basis Components	PROG	ESH_IX_CRT_INDEX_OBJECT_TYPE	Most-at-risk	<u>9</u>	Indexing an object type (BO, TO)	130	<u>1</u>		
Basis Components	PROG	SAPRSEUT	Most-at-risk	<u>9</u>	Update Object Lists After Transport (Job EU_PUT)	163	<u>1</u>		
Cross-Application Components	FUNC	APOC_OR_ISSUE_OUTPUT	Most-at-risk	<u>9</u>	Perform output of Output Request Items (FOR SAP INTERNAL USE ONLY)	336	<u>28</u>		
Cross-Application Components	PROG	BEH_R_DELETE_QUEUE	Most-at-risk	<u>9</u>	Report for deleting the outbound queue	259	<u>1</u>		
Financial Accounting	PROG	RFF110S	Most-at-risk	<u>9</u>	Report for the Automatic Scheduling of the Payment Program	34	<u>2</u>		
Financial Accounting	TCOD	FAGLB03	Most-at-risk	<u>9</u>	Display Balances	5	1	<u>21</u>	
Logistics - General	TCOD	CS01	Most-at-risk	<u>9</u>	Create Material BOM	2	1	<u>6</u>	
Logistics Execution	PROG	RVADKE01	Most-at-risk	<u>9</u>	Print Program for Picking Labels	1			
Materials Management	PROG	MMPUR_HUB_SYNC_EOP_DEL	Most-at-risk	<u>9</u>	HUB - EOP SYNC	520	1		
Materials Management	TCOD	MB5L	Most-at-risk	<u>9</u>	List of Stock Values: Balances	2	1	<u>1</u>	
Plant Maintenance	TCOD	IH08	Most-at-risk	<u>9</u>	Display Equipment	116	<u>2</u>	<u>61</u>	
Service	PROG	/BDL/SAPLBDL11	Most-at-risk	<u>9</u>	task manager functions	134	<u>1</u>		
Logistics - General	FUNC	WB2_SYNC_TC_FROM_PO	Most-at-risk	<u>87</u>	Sync a Trading Order from a Purchase Order	2195	<u>12</u>		
Plant Maintenance	TCOD	IW32	Most-at-risk	<u>84</u>	Change Maintenance Order	1220	<u>15</u>	<u>162</u>	
Project System	TCOD	CJ20N	Most-at-risk	<u>81</u>	Project Builder	236	<u>9</u>	<u>96</u>	
Materials Management	TCOD	MIGO	Most-at-risk	<u>80</u>	Goods Movement	6540	<u>31</u>	<u>185</u>	
	FUNC	/PGW/JAN_NOTIF_SEND_EVENT	Most-at-risk	<u>8</u>	Wrapper rfc for notif send_event method	5	<u>2</u>		
	FUNC	ARBCIG_PROA_MSG_TRIGGER	Most-at-risk	<u>8</u>	MB Document Update	20	<u>5</u>		
	FUNC	ZEAM_RFC_UPD_WO_USRFLD_IN_PREQ	Most-at-risk	<u>8</u>	EAM.PM.E.0354:Update EBAN using BAPI from work order	6396	<u>3</u>		Υ
	WAPA	ZPTP_GDS_RCPT	Most-at-risk	<u>8</u>	Post Goods Receipt	25	<u>7</u>		Υ
Basis Components	CLAS	CL_ABAP_DOCU_SERVICE_METHODS	Most-at-risk	<u>8</u>	Service Methods for ABAP Keyword Documentation	8	<u>1</u>		
Business Network Solutions	PROG	ARBERP_NAST_CXML_MESSAGE	Most-at-risk	<u>8</u>	Programm ARBERP_NAST_CXML_MESSAGE	1			
Cross-Application Components	CLAS	/UI2/CL_AD_RFC_ACCESS	Most-at-risk	<u>8</u>	RFC access to backend catalogs	41	<u>1</u>		
Enterprise Controlling	TCOD	KEMDM	Most-at-risk	<u>8</u>	Profit Center Master Data Maint.	5	<u>1</u>		
Financial Accounting	TCOD	FCH6	Most-at-risk	<u>8</u>	Change Check Information/Cash Check	5	1	<u>3</u>	
Logistics - General	PROG	RWLFNAST	Most-at-risk	<u>8</u>	Message Control, Form Routines	1			An
Logistics Execution	PROG	RVTPSC00	Most-at-risk	8	Delivery Change Notice for Transportation Planning System	1			
Production Planning and Control	TCOD	MB26	Most-at-risk	<u>8</u>	Picking list	2	1		

Impact Analysis Drill Down

APP_AREA	▼ TYPE	NAME	▼ STATUS	▼ IMPACTFUL_OBJECTS	DESCRIPTION	▼ USAGE ▼ T	ESTS 🔻 USERS 🔻
	CLAS	/ORS/NON_PO_INVOICE_NEW	Most-at-risk	<u>97</u>	Invocie Approval - Non PO Class	1	<u>1</u>
Defense Forces and Public Security	PROG	/ISDFPS/EPA_PRINT_ADOBE_FORM	Most-at-risk	<u>91</u>		1	
Business Mobile	WAPA	MM_REQ_MAINTS1	Most-at-risk	<u>90</u>	Maintain Requistions	7	<u>1</u>
	PROG	ZPTPI_OB_PAID_INVOICE_TO_S2K	Most-at-risk	<u>9</u>	Paid Invoices to S2K	3	1
	WAPA	ZPTP_PICK_LIST	Most-at-risk	<u>9</u>	Pick List App	94	3
Basis Components	PROG	ESH_IX_CRT_INDEX_OBJECT_TYPE	Most-at-risk	<u>9</u>	Indexing an object type (BO, TO)	130	<u>1</u>
Basis Components	PROG	SAPRSEUT	Most-at-risk	<u>9</u>	Update Object Lists After Transport (Job EU_PUT)	163	<u>1</u>
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Financial Accounting	PROG	RFF110S	Most-at-risk	<u>9</u>	Report for the Automatic Scheduling of the Payment Program	34	<u>2</u>
Financial Accounting	TCOD	FAGLB03	Most-at-risk	9	Display Balances	5	21 1
Logistics - General	TCOD	CS01	Most-at-risk	9	Create Material BOM	2	6 1

IMPACTED USERS

	NAME	Ţ,	COUNT	•	ACCOUNT	۳	USER_TYPE	¥
	ZPTP_PICK_LIS	Т	12		XU03		A Dialog	
	ZPTP_PICK_LIS	Т	8		YT31		A Dialog	
	ZPTP_PICK_LIS	Т	3		XD07		A Dialog	
	ZPTP_PICK_LIS	Т	2		XH38		A Dialog	
	ZPTP_PICK_LIS	Т	2		XJ37		A Dialog	
	ZPTP_PICK_LIS	Т	39		0ERPTP015			
V	ZPTP_PICK_LIS	Т	26		0ERPTP013			
	ZPTP_PICK_LIS	Т	2		0ERPTP058			

CHANGING OBJECTS

RVADKE01

PROG

CHANGE_ID	CHILD_TY	YPE CHILD_NAME ▼
SAPK-10401INS4CORE	CLAS	CL_FINS_ACDOC_FIELDCAT_SERVICE
SAPK-10401INS4CORE	CLAS	CL_FINS_ACDOC_GUSL_ADAPTER
SAPK-10402INS4CORE	CLAS	CL_FINS_VALUTYP
SAPK-75401INSAPBASIS	FUNC	ARCHIVE_GET_NEXT_OBJECT
SAPK-10401INS4CORE	METH	CL_FINS_ACDOC_GUSL_ADAPTER SELECT_WITH_CURSOR
SAPK-10401INS4CORE	TABL	FINSTS_ACDOC_FCT
SAPK-10401INS4CORE	TABL	FINSTS_CUSTF_FCT
SAPK-10401INS4CORE	TABL	T011
SAPK-10401INS4CORE	TABL	T800A \

CONFIG DRILL DOWN

Most-at-risk

н	IV.	٩K	(Table	Set) (8 (of 8)							
#	T	~	System	MANDT	AUART	KOPGR	LFARV	FKARV	FKARA	NUMKI	NUMKE	INCPO
1			S4X_100	100	LKJ	LL	LF	F1		07	08	000010
2			S4X_100	100	SCR	GA			G2	13	14	000010
3	,	K	S4D_100	100	YCOM	AU	YCOM	ZF2	ZF2	12	11	000010
4			S4X_100	100	TOOM		TOOM	212	212	"-	"	000010
5	,	Ķ.	S4D_100	100	ZKE	AU	ZKLF	ZF2	ZF2	01		000010
6	4	2	S4X_100	100	ZNE	AU	ZLF	252	252	UI .		000010
7		Ķ	S4D_100	100	ZOR	AU	ZLF	ZF2	ZF2	01		000010
8	ľ		S4X_100	100	20K	20	ZLI	212	212	0		000010

TOSCA TESTS TO EXECUTE

Print Program for Picking Labels

NAME	TEST_ID	TEST NAME
FAGLB03	1520	BR 3994 - Interface the Clearing Allocation P&L from RightAngle over to SAPusing a separate sub job in RightAngle
FAGLB03	15491	DELETE - RL3346 - RTR.PS.C.1003-Project Budgets and Balances - IPS Balances
FAGLB03	1257	Final 3 way month-end close tie out
FAGLB03	1890	Interface the Clearing Allocation P&L from RightAngle over to SAPusing a separate sub job in RightAngle Auto populat
FAGLB03	15123	
FAGLB03	15119	Perf_RTR_FIONI_FAGLB03 Perf_RTR_GUI_FAGLB03 TEST EXECUTIO
FAGLB03	20167	Perf_RTS_FIORI_GUI_MixedLoadTest_FullLoadTest Folder
FAGLB03	1132	RL 3996 - Interface the Clearing Allocation P&L from RightAngle over to SAPusing a separate sub job in RightAngle
FAGLB03	6215	RL2079 - 1610 - SAP Open AR Item Conversion
FAGLB03	6214	RL2079 - ECC - SAP Open AR Item Conversion
FAGLB03	6216	RL2079 - Oracle - SAP Open AR Item Conversic
FAGLB03	21391	RL3401-3729 - RTR.FA.C.1001 ECC Asset Conv
FAGLB03	17753	RL3402 RTR.FA.C.1003 Oracle Asset Conversio
FAGLB03	14261	RL3807-4094 - RTR.PS.C.1003-Project Budgets
FAGLB03	18494	RTR.FA.C.1001 SAP ECC Asset Conversion Load
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CODE DRILL DOWN

Logistics Execution

Test Coverage Integration

TEST GAPS

TYPE 💌	NAME	▼ STATUS	■ DESCRIPTION	▼ USAGE ▼	USERS	▼ 1	ESTS	ĮΥ
TCOD	FBR2	Most-at-risk	Post Document	141750	<u>16</u>			
TCOD	/DSD/SL_MS_SETTLE	Most-at-risk	Perform Final Settlement	65696	1			
TCOD	VKM4	Most-at-risk	SD Documents	44300	<u>18</u>			
TCOD	ZG_BLIND_SETTLEMENT	Most-at-risk	Tcode For Blind Settlement	24646	2			
TCOD	BD21	Most-at-risk	Select change pointer	11592	1			
TCOD	VV32	Most-at-risk	Change output: Billing	11169	<u>15</u>			•
TCOD	VOE4	Most-at-risk	Sales EDI Conversion	3357	<u>3</u>			
TCOD	ZGMATRL_LABEL_PRINT	Most-at-risk	Print Material Label for Spare Parts	852	<u>8</u>			
TCOD	ZGSALES_ROUTE	Most-at-risk	Sales orders Dynamic Transportation	690	<u>2</u>			
TCOD	ZGOTC_CCM_UPDTRATE	Most-at-risk	Update CoCo with Take Rate from TPM	373	1			
TCOD	WCOLI	Most-at-risk	Condition Overview	177	<u>7</u>			
TCOD	/BEV1/EMA	Most-at-risk	Empties Balance	106	<u>6</u>			
TCOD	ZGGL_MTD_TRN_STRDATA	Most-at-risk	Tcode to send STR/PR data to JDA	103	<u>3</u>			
TCOD	WCOCO_ACTION	Most-at-risk	Perform Business Transaction for CCs	86	<u>3</u>			
TCOD	ZG_TRN_AVG_PRICE	Most-at-risk	Send avg price of spare parts	83	1			
TCOD	V/LD	Most-at-risk	Execute pricing report	51	3			
TCOD	MEIS	Most-at-risk	Select Receipts, Returns to Supplier	34	1			
TCOD	ZGGL_OTC_TRN_PRI_REP	Most-at-risk	Customer Hierarchy Pricing Report	34	<u>3</u>			
TCOD	M/05	Most-at-risk	Displ. Conditions Table (Purchasing)	10	<u>2</u>			
TCOD	FSE2	Most-at-risk	Change Financial Statement Version	8	1			
TCOD	OVR1	Most-at-risk	SD Table ZONE Transportation Zones	7	1			
TCOD	VKOA	Most-at-risk	Accnt Determination	7	1			
TCOD	/DSD/SL_FSR	Most-at-risk	DSD Final Settlement Run	5	1			
TCOD	LTRC	Most-at-risk	LT Replication Server - Cockpit	5	1			
TCOD	ZG_ROUNDING_CTL	Most-	Tcode to maintain rounding control	0				

Auto populate Test Requirements

Most-at-risk & Test Coverage

Hits Gaps

122 52%

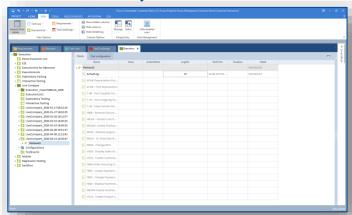
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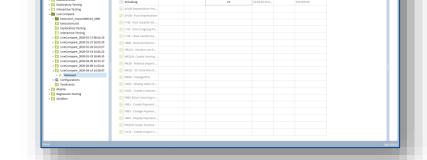
- ✓ Clear insights into test coverage in every release
- ✓ Data-driven insights for test creation planning & strategy
- ✓ Prioritize time, resources and money in appropriate areas
- ✓ Track test coverage trends and monitor progress
- ✓ Eliminate duplicate test work
- ✓ Maximize ROI in test automation solutions

TEST COVERAGE

TYPE Y	NAME		~	STATUS	ŲT [ESCRIPTION	▼ USAGE ▼	USERS	▼ TESTS IT	
TCOD	VF01			Most-at-risk	C	reate Billing Documents	127764	32	201	
TCOD	VA01			Most-at-risk	C	reate Sales Orders	1555295	96	125	
TCOD	MIGO			Most-at-risk	0	ioods Movement	10820	63	120	
TCOD	wcoco			Most-at-risk			201842	57	87	
TCOD	ZGGLOTC T	RN SLCOPTO	1	Most-at-risk	S	ettlement Cockpit Change	249891	74	47	
TCOD	VL01N	_		Most-at-risk	C	reate Outbound Dlv. with Order Ref.	2573995	93	43	
TCOD	FB01			Most-at-risk	P	ost Document	140954	48	37	
TCOD	F110			Most-at-risk	Р	arameters for Automatic Payment	4717	13	31	
TCOD	ZG TRN LIS	S EXC HHC		Most-at-risk		isting/ Exclusion Cond Rec to HHC	5365	3	30	
TCOD	VF03	J_EXC_IIIIC		Most-at-risk		isplay Billing Documents	263858	212	29	
TCOD	VK11			Most-at-risk		reate Condition	28576	14	29	
TCOD	ZGGLOTC T	TRNI VIDI ANI		Most-at-risk		reate condition	11619	7	21	
TCOD	ME51N	NIN_VFLAIN		Most-at-risk		reate Purchase Requisition	661819	95	20	
		CONTROL								
TCOD	ZG_CREDIT	CONTROL		Most-at-risk		code for ZGIOB_CREDIT_CONTROL	18013	3	17	
TCOD	ME21N			Most-at-risk		reate Purchase Order	285205	<u>72</u>	<u>16</u>	
TCOD	ME23N	TEST REPOSITORY		REPOSITORY_TYPE - TCODE		U TEST_MAINE		* TEST PATH	- Marie Salar	
TCOD	ZGGLOTC_T	ESSA EW1 - PGT_EUROPE ESSA EW1 - PGT_EUROPE	AUM	VAIII VAII	10154 10156	TC M_EURWI_OTC_PR_Added_Criteria_PL_E001101 TC PT_EURWI_OTC_OM_Sale From Stock with Individual Invoice without POD_P	III Comertic		pe Wave 1\OYC pe Wave 1 - Performance Testing\Si	omolel Corone Ways 1 Derform
TCOD	ZGGLOTC T		AIM	VACI	10157	TC_PT_EURW3_GTC_OM_Sale From Stock with Individual Invoice without PGD_9			pe Wave 1 - Performance Testing\O	
		ESSA EW1 - PET EUROPE	AUM	VAD	10158	TC PT EURWI OTC OM Sale From Stock with Individual Invoice with POB GBIO			pe Wave 1 - Performance Testing\O	
TCOD	FBL3N	ESSA EW1 - PGT_EUROPE	ALM	VADI	10159	TC_PT_EURW1_OTC_LO_Sales from Stock_1 Sales Order many Deliveries with PO		Subject\Europ	pe Wave 1 - Performance Testing\O	TC
TCOD	/OPT/VIM	ESSA EW1 - PGT_EUROPE	AUM	VAIS	10160	TC PT EURWL OTC OM Sale From Stock with Collective Invoice with POD GBO			pe Wave 1 - Performance Testing\O	
		ESSA EW1 - PGT_EUROPE	ADM	VASS	10161	TC_PT_EURW1_GTC_OM_Sale From Stock with Individual Invoice without PGD_G			pe Wave 1 - Performance Testing\O	
TCOD	ZGGL_OTC_		AUM	VAD	10162	TC_PT_EURW1_GTC_OM_Sale From Stock with Collective Invoice without PGD_P			pe Wave 1 - Performance Testing\O	
TCOD	FBL5N	ESSA EW1 - PGT_EUROPE	-A(M	VAIL	10163	TC_PT_EURWI_GTC_OM_Sale From Stock with Individual Invoice without POD_P			pe Wave 1 - Performance Testing\O	
		ESSA EW1 - PGT_EUROPE	A(M A(M	VAEG VAEG	10164 10166	TC_PT_EURWI_OTC_OM_Sale From Stock with individual invoice without POD_8	E02_EU Salles		pe Wave 1 - Performance Testing\O	
TCOD	VK12	ESSA EW1 - PGT_EUROPE ESSA EW1 - PGT_EUROPE	AUM	VASI	10167	TC_PT_EURW1_OTC_DSD_Pre-Sales Delivery from Preparation to Settlement TC_PT_EURW1_OTC_DSD_Van-Sales from Preparation to Settlement			pe Wave 1 - Performance Testing\O pe Wave 1 - Performance Testing\O	
TCOD	ZGGLMTD '	ESSA EW1 - PGT EUROPE	ALM	VAIL	10168	TC PT EURW1 OTC Sales from Stock Sales BOM			pe Wave 1 - Performance Testing\O pe Wave 1 - Performance Testing\O	
			AUM	YAD	10172	TC PT_EURWI_OTC_06_Sale From Stock with Collective Invoice_PL02-Comarch o	refer		pe Wave 1 - Performance Testing\O	
TCOD	/DSD/RP_D	ESSA EWQ - PGT EUROPE	AUM	VACI	30363	TC_M_BURWI_CTC_PRI_Promotions Fixed Final Price new calculation routine_El			pe Wave 1\OTC\WRICEF Test Cases	
TCOD	ZGMOV V/	ESSA EW1 - PGT_EUROPE	AUM	VAII	10536	TC M SURWL OTC+CS4 PR VA01 Intra-Community-Goods scenario GB Customs			pe Wave I\OTC\WRICEF Test Cases	
		ESSA EW1 - PGT_EUROPE	MM	VASS	10537	TC M. BURWL OTC+CS4 PR. VA01. Intra Community Goods scenario. GB Customs			pe Wave I\OTC\WRICEF Test Cases	
TCOD	VCH1	ESSA EW1 - PGT_EUROPE	AM	VASS	10538	TC M EURW1 OTC+C54 PR VA01 Intra-Community Goods scenario GB Customs				
		ESSA EW1 - PIGT_EUROPE	406	VADI	10539	TC M EURWI OTC+CS4 PR VA01 Intra Community Goods scenario GB Custom				
		ESSA EW1 - PGT EUROPE	ALM	VASS	10540	TC M BURWI OTC+CSA PR VAGO Intra-Community-Goods scenario GB-Customy				
		ESSA EW1 - PGT EUROPE	AM	VASS	10541	TC M SURWI OTC+CS4 PR VADI Export Goods scenario BR Customer with no			pe Wave 1\OTC\WRICEF Test Cases	

Auto populate Test Execution

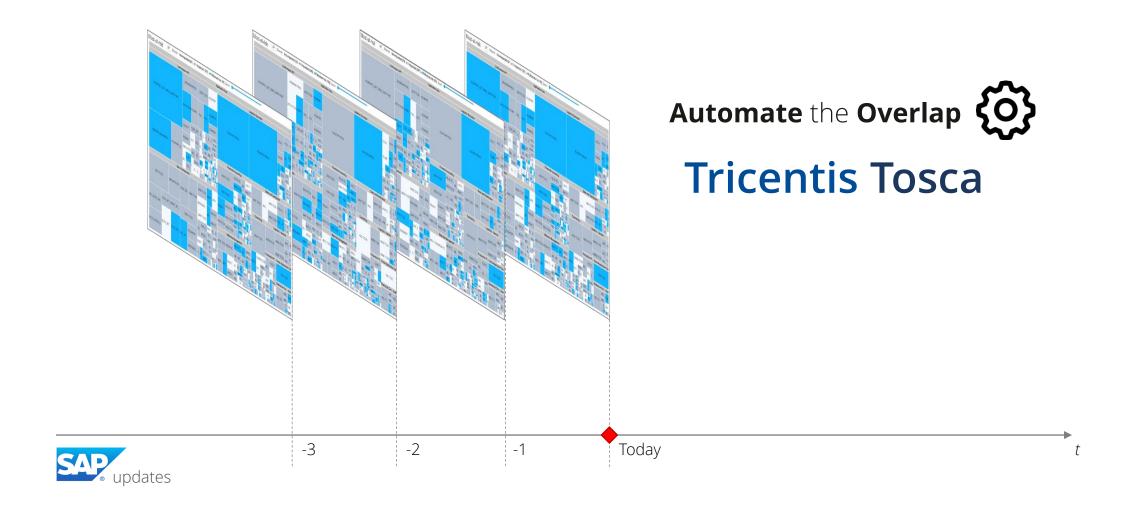








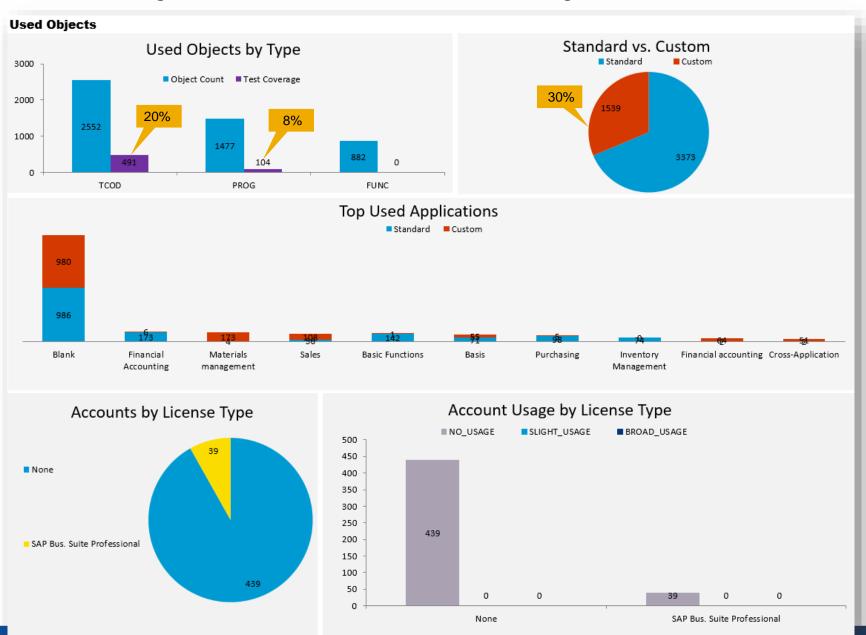
Analyze Your Previous Releases to Identify Hotspots



Usage Audit & Associated Test Coverage



- 17,636 tests in Certify
- 595 of 4,911
 Used Executables
 from PR1 have
 Test coverage





Duke Energy

Duke delivers on transforming customer experience with the move to SAP S/4HANA

PROJECT BACKGROUND

- Transform the customer experience starting with streamlining internal billing systems for a universally optimized customer experience
- Duke's leadership knew testing would be a critical component to the project's success

COMPLICATIONS | CHALLENGES

- Consolidating 4 different billing applications into a single system
- Ensure the S/4HANA project did not negatively impact critical business processes
- Automating testing for multiple SAP applications –SAP for Utilities, SAP Marketing, SAP commerce cloud, ICU, C4C, Fiori and Customer recommendation engine

SUCCESSFUL BUSINESS OUTCOMES

- Test automation is viewed as high quality, high business value
- Advanced from waterfall to weekly SAP releases
- Defects discovered earlier, enabling faster and more efficient defect resolution

250

End-to-End Tests
Run Weekly

O

Defect Releases **150**

Unattended Tests
Run Nightly
(under 12 Mins)

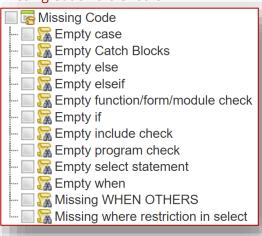


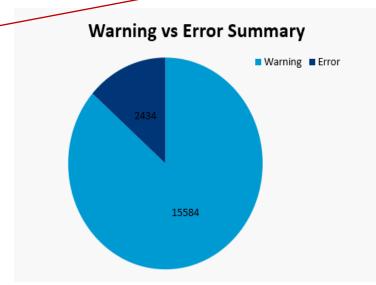
ABAP Code Quality Inspection

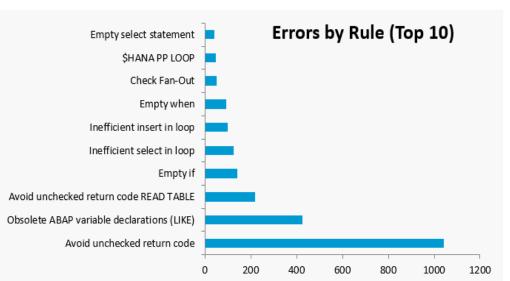
- Passed less than 80% of rules checked
- Passed 80-99% of rules checked
 - Passed 100% of rules checked



Missing Code Rule Checks





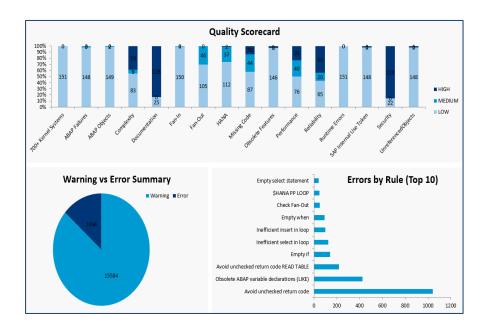






ABAP Code Quality - Missing Code

TYPE	▼ NAME	✓ CATEGORY	∡ CLASS	∡ RULE	▼ DETECTIONS →
PROG	/ZDMR/DM_CUSTOM_BUS_OBJECT	Missing Code	Error	Empty when	34
INCL	ZMM_I_PR_WF_TABLE_OPERATION	Missing Code	Error	Empty if	17
SFPI	ZPTP_PO_FORM_INTEFRACE	Missing Code	Error	Empty if	11
SFPI	ZUS00_MM_I_PO_FORM	Missing Code	Error	Empty if	11
SFPI	ZUSA_MM_I_PO_FORM	Missing Code	Error	Empty if	11
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty when	10
PROG	ZPTP_R_AGS_MES_DISP	Missing Code	Error	Empty when	10
PROG	ZOTC_R_MEND_REPORT	Missing Code	Error	Empty if	7
SFPI	ZPTP_I_PO_FORM_CPT	Missing Code	Error	Empty if	6
PROG	ZLES_F_PACKLIST	Missing Code	Error	Empty if	5
INCL	ZEWMI_HU_MASS_PACK_UNPACK_CLS	Missing Code	Error	Empty if	4
INCL	ZEWMI_HU_MASS_PACK_UNPACK_CLS	Missing Code	Error	Empty when	4
INCL	ZOTC_R_SHIPNG_PLAN_CLS	Missing Code	Error	Empty if	4
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty if	4
PROG	ZPTP_R_AGS_MES_DISP	Missing Code	Error	Empty if	4
PROG	ZRTR_I_BLACKLINE_UPLOAD	Missing Code	Error	Empty if	4
SFPI	ZPTP_PO_FORM_INTEFRACE	Missing Code	Error	Empty select statement	4
SFPI	ZUS00_MM_I_PO_FORM	Missing Code	Error	Empty select statement	4
SFPI	ZUSA_MM_I_PO_FORM	Missing Code	Error	Empty select statement	4
SFPI	ZUS_SD_IF_INVOICE	Missing Code	Error	Empty if	4
CLAS	ZCL_SCM_AGS_MES_DATA_HANDLER	Missing Code	Error	Empty select statement	3

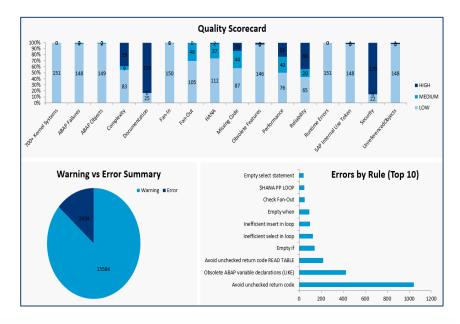


TYPE	▼ NAME	✓ CATEGORY	▼ CLASS	▼ RULE	 TOKEN	▼ LINE_NUMBER	▼ SOURCE
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty when	[WHEN]	1670	WHEN ICON_LED_GREEN
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty when	[WHEN]	2392	WHEN 0
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty when	[WHEN]	2417	WHEN 0
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty when	[WHEN]	2442	WHEN 0
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty when	[WHEN]	2467	WHEN 0
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty when	[WHEN]	2627	WHEN OTHERS
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty when	[WHEN]	2685	WHEN OTHERS
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty when	[WHEN]	2738	WHEN OTHERS
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty when	[WHEN]	2789	WHEN OTHERS
PROG	ZPTP_R_AGS_MES	Missing Code	Error	Empty when	[WHEN]	4742	WHEN OTHERS



ABAP Code Quality - **Performance**

PROG ZOTC_R_MEND_REPORT Performance Error Inefficient select in loop PROG ZMB_SIT_NON_VAL_N_2014887 Performance Error Inefficient select in loop PROG ZRTR_I_BLACKLINE_UPLOAD Performance Error Inefficient select in loop CLAS ZCL_SCM_AGS_MES_DATA_HANDLER Performance Error Inefficient select in loop PROG ZMB_SIT_NON_VAL_N_2014887 Performance Error Inefficient insert in loop PROG /ZDMR/CUSTOM_TABLE_LOAD Performance Error Inefficient insert in loop PROG ZUS00SDR_ORDER_CONFIRMATION Performance Error Inefficient select in loop INCL ZEWM_MASS_HU_MOVEMENT_C01 Performance Error Inefficient select in loop	ETECTIONS 🚽
PROG ZRTR_I_BLACKLINE_UPLOAD Performance Error Inefficient select in loop CLAS ZCL_SCM_AGS_MES_DATA_HANDLER Performance Error Inefficient select in loop PROG ZMB_SIT_NON_VAL_N_2014887 Performance Error Inefficient insert in loop PROG /ZDMR/CUSTOM_TABLE_LOAD Performance Error Inefficient insert in loop PROG ZUS00SDR_ORDER_CONFIRMATION Performance Error Inefficient select in loop INCL ZEWM_MASS_HU_MOVEMENT_C01 Performance Error Inefficient select in loop	30
CLAS ZCL_SCM_AGS_MES_DATA_HANDLER Performance Error Inefficient select in loop PROG ZMB_SIT_NON_VAL_N_2014887 Performance Error Inefficient insert in loop PROG /ZDMR/CUSTOM_TABLE_LOAD Performance Error Inefficient insert in loop PROG ZUS00SDR_ORDER_CONFIRMATION Performance Error Inefficient select in loop INCL ZEWM_MASS_HU_MOVEMENT_C01 Performance Error Inefficient select in loop	21
PROG ZMB_SIT_NON_VAL_N_2014887 Performance Error Inefficient insert in loop PROG /ZDMR/CUSTOM_TABLE_LOAD Performance Error Inefficient insert in loop PROG ZUS00SDR_ORDER_CONFIRMATION Performance Error Inefficient select in loop INCL ZEWM_MASS_HU_MOVEMENT_C01 Performance Error Inefficient select in loop	20
PROG /ZDMR/CUSTOM_TABLE_LOAD Performance Error Inefficient insert in loop PROG ZUS00SDR_ORDER_CONFIRMATION Performance Error Inefficient select in loop INCL ZEWM_MASS_HU_MOVEMENT_C01 Performance Error Inefficient select in loop	8
PROG ZUS00SDR_ORDER_CONFIRMATION Performance Error Inefficient select in loop INCL ZEWM_MASS_HU_MOVEMENT_C01 Performance Error Inefficient select in loop	6
INCL ZEWM_MASS_HU_MOVEMENT_C01 Performance Error Inefficient select in loop	2
	2
TOTO D CHIPNIC DIANI CIO	1
INCL ZOTC_R_SHIPNG_PLAN_CLS Performance Error Inefficient select in loop	1
PROG /ZDMR/UNZIP_FILES Performance Error Inefficient insert in loop	1
PROG ZOTC_R_CPT_INV Performance Error Inefficient select in loop	1
PROG ZOTC_R_PACKINGSLIGT Performance Error Inefficient select in loop	1
PROG ZRTR_I_BLACKLINE_UPLOAD Performance Error Inefficient insert in loop	1
PROG ZRTR_I_REUTERS Performance Error Inefficient select in loop	1
PROG ZSD_F_INVOICE_PRINT Performance Error Inefficient select in loop	1
PROG Z_T156Q_MISSING Performance Error Inefficient append in select	1
SFPI ZPTP_I_PO_FORM_CPT Performance Error Inefficient select in loop	1
SFPI ZUS_SD_IF_INVOICE Performance Error Inefficient select in loop	1
SFPI ZUS_SD_IF_PROFORMA Performance Error Inefficient select in loop	1



TYPE	▼ NAME	, ✓ CATEGORY	J CLASS	∡ RULE	▼ TOKEN	▼ LINE_NUMBER	▼ SOURCE
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient insert in loop	INSERT	1154	INSERT TB_E1BPACTX09 INDEX V_COUNTER
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	722	SELECT PRCTR FROM CSKS UP TO 1 ROWS INTO V_PRCTR WHERE KOSTL = TB_E1BPACGL09-COSTCENTER ORDER BY PRIN
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	748	SELECT SINGLE VBUND INTO V_TRADE FROM KNA1 WHERE KUNNR = TB_E1BPACAR09-CUSTOMER
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	761	SELECT SINGLE VBUND INTO V_TRADE FROM LFA1 WHERE LIFNR = TB_E1BPACAP09-VENDOR_NO
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	820	SELECT SINGLE KTOPL INTO V_KTOPL FROM T001 WHERE BUKRS = TB_E1BPACHE09-COMP_CODE
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	823	SELECT SINGLE KTOGR INTO V_KTOGR FROM ANLA WHERE BUKRS = TB_E1BPACHE09-COMP_CODE AND ANLN1 = TB_E1
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	828	SELECT KTANSW INTO V_KTANSW FROM T095 UP TO 1 ROWS WHERE KTOPL = V_KTOPL AND KTOGR = V_KTOGR ORDER
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	881	SELECT * FROM TVARVC INTO CORRESPONDING FIELDS OF TABLE TB_VARV1 WHERE NAME = 'Z_EXI950_COMP'
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	895	SELECT SINGLE VBUND INTO V_TRADE FROM KNA1 WHERE KUNNR = TB_E1BPACAR09-CUSTOMER
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	908	SELECT SINGLE VBUND INTO V_TRADE FROM LFA1 WHERE LIFNR = TB_E1BPACAP09-VENDOR_NO
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	936	SELECT SINGLE ZTERM INTO V_ZTERM FROM KNB1 WHERE KUNNR = TB_E1BPACAR09-CUSTOMER AND BUKRS = TB_E1B
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	985	SELECT SINGLE ZTERM INTO V_ZTERM FROM LFB1 WHERE LIFNR = TB_E1BPACAP09-VENDOR_NO AND BUKRS = TB_E1BF
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	1070	SELECT SINGLE LAND1 INTO V_LAND FROM T001 WHERE BUKRS = TB_E1BPACHE09-COMP_CODE
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	1085	SELECT SINGLE KALSM INTO V_KALSM FROM T005 WHERE LAND1 = V_LAND
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	1089	SELECT KVSL1 INTO V_KVSL1 FROM T683S UP TO 1 ROWS WHERE KALSM = V_KALSM AND KSCHL = TB_FTAXP-KSCHL OR
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	1098	SELECT KONTS INTO V_KONTS FROM T030K UP TO 1 ROWS WHERE KTOPL = 'GLOB' AND KTOSL = V_KVSL1 AND MWSKZ
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	1108	SELECT * FROM T007B INTO CORRESPONDING FIELDS OF TABLE TB_T007B WHERE KTOSL = V_KVSL1
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	1687	SELECT SINGLE * FROM PARAMVALUE WHERE FILEPARAM EQ K_WORK
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	1705	SELECT SINGLE FUNCNAME FROM TFDIR INTO TFDIR WHERE FUNCNAME EQ EXITFUNCTION
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	1723	SELECT SINGLE FUNCNAME FROM TFDIR INTO TFDIR WHERE FUNCNAME EQ Y_EXITFUNCTION
PROG	ZRTR_I_BLACKLINE_UPLOAD	Performance	Error	Inefficient select in loop	SELECT	1741	SELECT SINGLE FUNCNAME FROM TFDIR INTO TFDIR WHERE FUNCNAME EQ Z_EXITFUNCTION



Increased Release Cycles 8X

THE SITUATION

• Top-down initiative to transform software delivery process to Agile DevOps

THE NEED

 Needed a more efficient process for applying changes to meet the demands of business requirements

WHY TRICENTIS

- ☐ Complete solution that was easily embedded into existing change process and tools
 - Smart impact analysis
 - Integrated with Solution Manager's ChaRM
 - Integrated with Test Automation suite
- ☐ Provided additional Capabilities
 - Code quality analysis
 - Master Data Governance Exception Reporting
 - Ongoing transactional usage analysis

RESULTS

- Within 12 months Increased from 11 releases a year to 44
- Within 18 months Increased from 44 releases a year to 88



Snapshot

Number of releases using LiveCompare	+350%
Custom testing (reduction)	99%
Defects eliminated	200+



Forrester Total Economic Impact

SAP Application Testing Solutions

Through customer interviews and data aggregation, Forrester concluded that SAP application testing solutions by Tricentis have the following three-year financial impact.

Tricentis Business Assurance Quantified Benefits

Total Benefits:

\$7.8 million

66

When you put it all together, the benefits are clear: less test condition, less effort, less errors.

ERP principal test manager, telecommunications

BENEFITS

Accelerate innovation and software release cycles.

Reduce risks to critical business processes.
Lower costs by reducing manual test efforts and complexity.

Increase transparency and support real-time manual insights.

Empower business users and better decision-making.

ROI and six months payback Improvement in application release rate Reduction in testing scope, and **78%** reduction in production errors Reduction in performance test maintenance costs