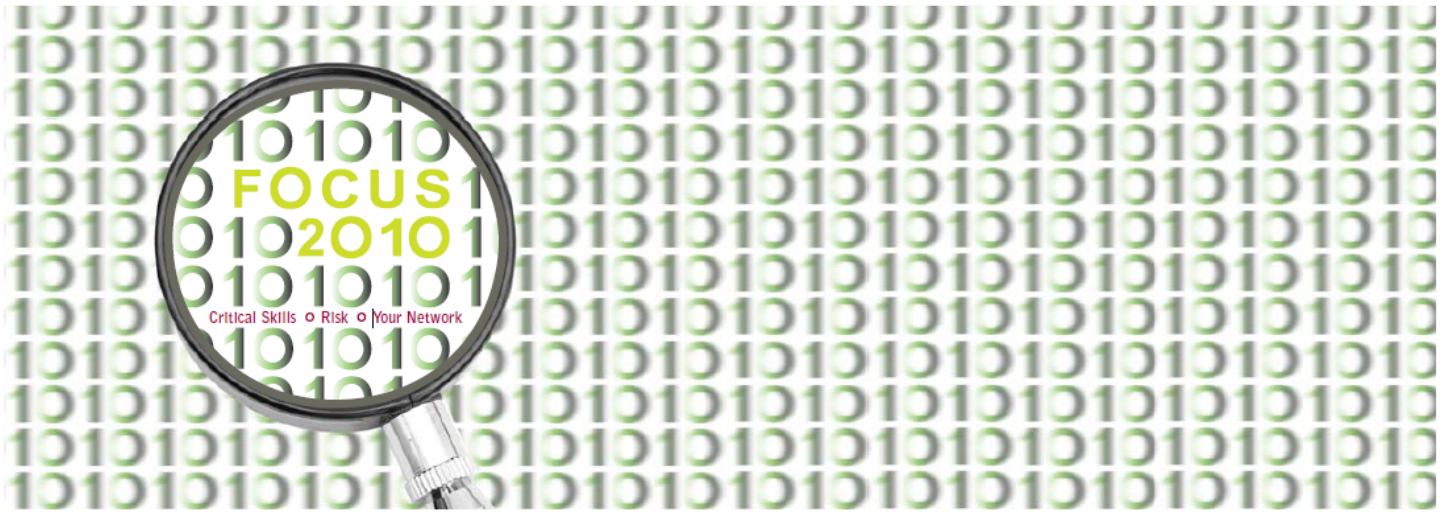


10th Annual SF ISACA Fall Conference

October 4 – 6, 2010



C31: Introduction to Application Controls: SAP and JD Edwards

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Introduction to Application Controls

SAP and JD Edwards



Presentation Overview

- Introductions
- Application controls overview
- Application control testing techniques
- SAP application controls
- JD Edwards application controls
- Questions



Introductions

- Sarah Thompson – Manager, Risk Assurance Services (RAS), PwC SF, CA
- K. C. Fike – Manager, Forensic Technology Solutions Group, PwC SF, CA



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What is an application control?

- Simply put: automated control procedures or manual controls that are dependent on IT.
- More specifically, when IT is used to initiate, authorize, record, process, or report transactions or other financial data for inclusion in the financial statements, the systems/programs may include controls related to the corresponding assertions for significant accounts or disclosures or may be critical to the effective functioning of manual controls that depend on IT. These are **application controls**.



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Benefits of application controls

- Increase efficiency of audit and testing process
- Decrease of business risk due to human error
- Increased efficiency within business due to automation



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Identification and implementation of application controls

- Identify key risks to your audit/review
- Perform walkthroughs over relevant/significant business processes
 - Understand how information flows through the application
 - Ensure retention of relevant evidence
- Avoid redundant/non-key controls



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Application control testing techniques

- “Test of one” to see all aspects of the control operate
- Techniques to perform this:
 - Evidence from walkthrough procedures
 - Executing sample transactions and comparing to expected results
 - Evaluating the logic of the program through the inspection of system configuration or vendor documentation



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Impact of IT General controls

- Overall, what accounts have the ability to make changes to application controls?
- How are changes (i.e. change management) made to application controls?
- Have ITGCs been tested and found to be operating effectively?
 - If not, where were exceptions/deficiencies noted and can those be tied to application controls



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SAP application controls - Scoping

- Version and modules utilized
 - Version 4.6c, ERP 6.0, etc
 - PP, MM, FICO, etc
- General security environment
- Level of customization and custom developed programs



SAP application Controls – Scoping (cont. additional SAP modules)

Revenue and Receivables

- SD Sales Distribution
- FI Accounts Receivable

Purchasing and Payables

- MM Materials Management
- FI Accounts Payable
- QM Quality Mgmt

Production Costs

- PP Production Planning
- MM Materials Management
- FI Production Costs
- CO Controlling
- PM Plant Maintenance

Inventory

- IM Inventory Management
- MM Materials Management
- WM Warehouse Management
- FI Financial Accounting
- QM Quality Mgmt

Fixed Assets

- AM Asset Management
- FI Financial Accounting

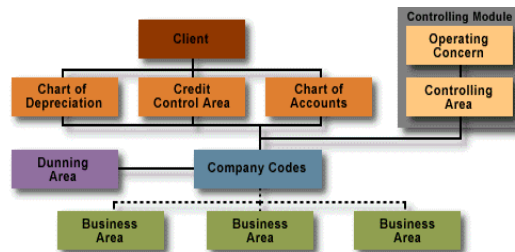
Financial Reporting

- FI Financial Accounting
- CO Controlling



SAP application controls - Scoping (cont)

- The SAP organizational structure is an integral part to understanding where to audit:



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SAP application controls – Scoping (cont.)

- It is necessary to clarify which company codes are significant to the audit
 - SAP configuration is company code specific
 - The company code is key in SAP data extraction procedures
 - The company code is a key attribute in consolidation mapping

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SAP application controls - Evaluation

- SAP is a very complex ERP as such, there are multiple ways to view automated controls
 - Through the use of transaction codes (referred to as “t-codes”)
 - Digging down into the Implementation Guide (referred to as “the IMG”)
 - Viewing data through tables via SE16 – Data browser or SE16N – Table display



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SAP application controls - Example

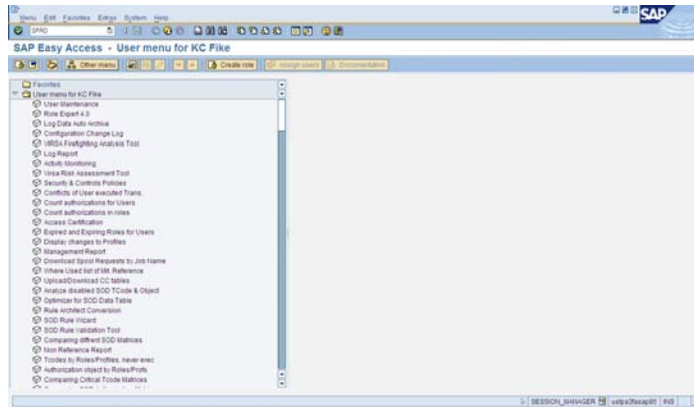
- Invoice tolerance limits
 - Ensure that SAP is configured to check each item for price variances between the purchase order and the invoice
- Focusing on company code 0005 and tolerance key PP – Price variance
- Will utilize the IMG, t-code, and SE16



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SAP application controls – IMG Example

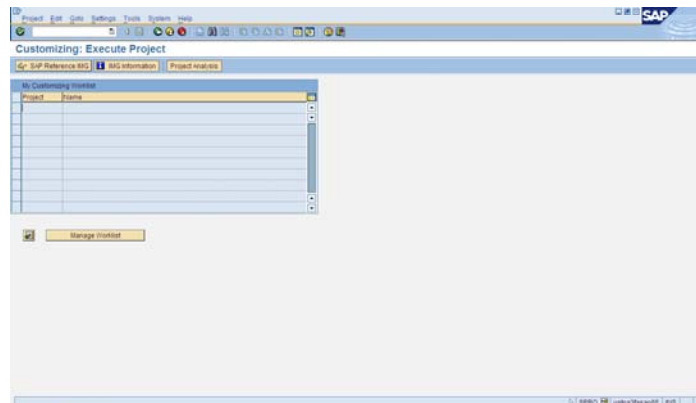
- SAP start screen – Notice “SPRO”



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SAP application controls – IMG Example

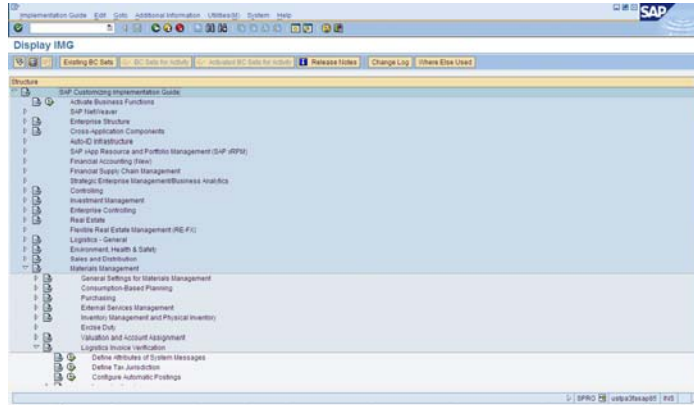
- Screen is prior to IMG, click “SAP Reference IMG”



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SAP application controls – IMG Example

- Now we're in the IMG

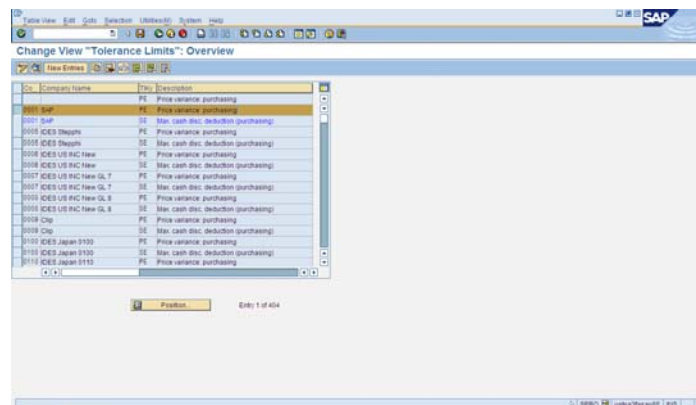


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SAP application controls – IMG Example

- Drill down into the invoice tolerance limit



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SAP application controls – IMG Example

- Tolerance limits defined

The screenshot shows the SAP IMG 'Change View - Tolerance Limits' screen. At the top, it displays 'Change View - Tolerance Limits - Details'. Below this, there are fields for 'Tolerance key' (PP), 'Price variance' (Price variance), 'Company Code' (1000), 'ICBS Message' (ICBS Message), and 'Accounts in' (EUR (USD currency as of 2/01/1988)).

There are two sections for defining tolerance limits:

- Lower limit:** Includes radio buttons for 'Do not check' and 'Check limit', a text input for 'Val', and radio buttons for 'Do not check' and 'Check limit' with a 'Tolerance limit %' field set to 15.00.
- Upper limit:** Includes radio buttons for 'Do not check' and 'Check limit', a text input for 'Val', and radio buttons for 'Do not check' and 'Check limit' with a 'Tolerance limit %' field set to 12.00.

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SAP application controls – T-code Example

- SAP start screen – Notice “OMR6”

The screenshot shows the SAP Easy Access user menu for user 'KC Fike'. The menu is titled 'SAP Easy Access - User menu for KC Fike' and contains a list of transaction codes (T-codes) under the 'Favorites' section. The T-code 'OMR6' is visible in the list.

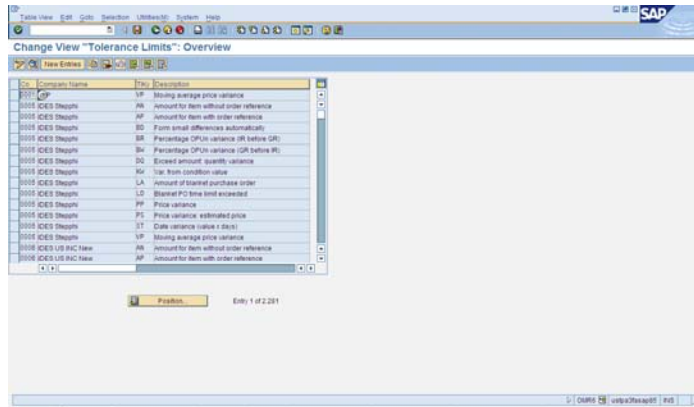
Other T-codes visible in the list include: User Maintenance, Role Export & Import, Log Data Auto Archive, Configuration Change Log, WBS-Finalizing Analysis Tool, Log Report, Access Monitoring, User Risk Assessment Tool, Security & Controls Policies, Conflicts of User-Enabled Tools, Count Authorizations for Users, Count Authorizations in Roles, Access Certification, Export and Export Roles for Users, Display changes to Profiles, Management Report, Connected Open Requests by Job Name, Where Used list of Role Reference, Upload/Download CC Tables, Archive Disabled SOD Code & Object, Optimizer for SOD Data Table, Role Architect Comparison, SOD Role Wizard, SOD Role Validation Tool, Comparing different SOD Matrices, Non Reference Report, Tools by Roles/Profiles, never-arc, Authorization object to Role/Profile, and Comparing Critical Table Matrices.

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SAP application controls – T-code Example

- After execution, we're right back to where we were at in the IMG

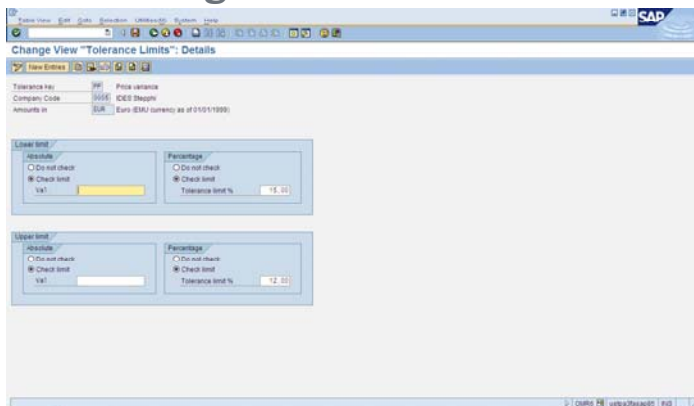


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SAP application controls – T-code Example

- Same configurations within the IMG

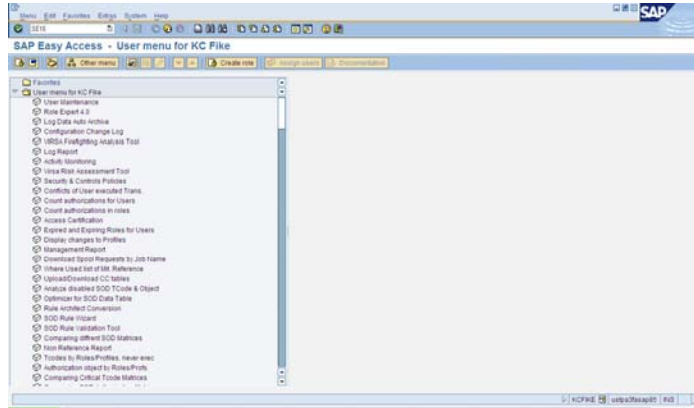


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SAP application controls – SE16 Example

- SAP start screen – Notice “SE16”

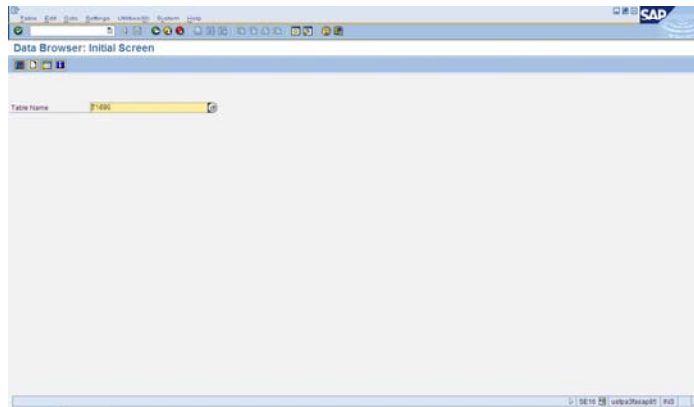


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SAP application controls – SE16 Example

- Enter T196G – Price variance table

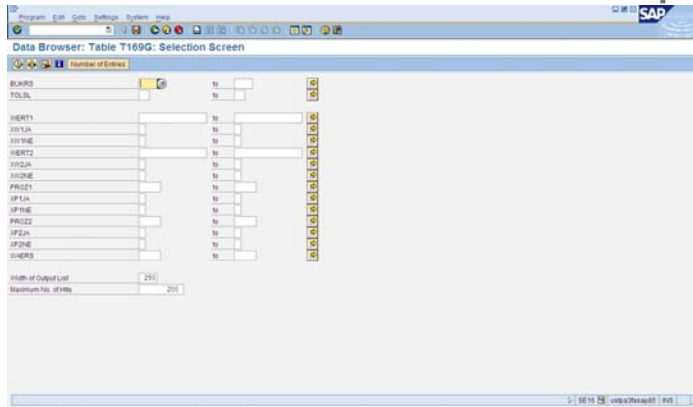


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SAP application controls – SE16 Example

- From this screen we can define our query



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SAP application controls – SE16 Example

- This table defines all variances (price, quantity, etc)

The screenshot shows the 'Data Browser: Table T169G Select Entries' in SAP, displaying a table of variance data. The table has 13 columns: BUKRS, BUKRS, TOLSL, HERT1, HERT2, PRDZ1, PRDZ2, SPZ1a, SPZ1b, SPZ2a, SPZ2b, UNERS, and UNERS. The data is organized into rows for various materials and quantities.

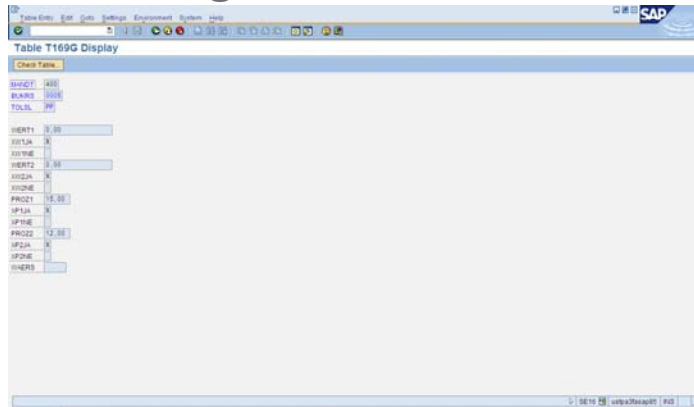
BUKRS	BUKRS	TOLSL	HERT1	HERT2	PRDZ1	PRDZ2	SPZ1a	SPZ1b	SPZ2a	SPZ2b	UNERS	UNERS
4400	1111	PE	10.00	X	10.00	X	5.00	X	7.00	X		
4400	1000	PE	0.00	X	0.00	X	27.00	X	16.00	X		
4400	1000	SE	0.00	X	0.00	X	0.00	X	10.00	X		
4400	1000	AF	6.000.00	X	6.000.10	X	3.00	X	0.00	X		
4400	1000	AN	0.00	X	11.111.111.00	X	0.00	X	0.00	X		
4400	1000	AP	0.00	X	17.000.00	X	0.00	X	0.00	X		
4400	1000	BT	0.00	X	0.00	X	50.00	X	50.00	X		
4400	1000	BZ	0.00	X	0.00	X	20.00	X	20.00	X		
4400	1000	CC	2.58	X	1.80	X	0.00	X	0.00	X		
4400	1000	CM	0.00	X	0.00	X	20.00	X	20.00	X		
4400	1000	CM	0.00	X	0.00	X	0.00	X	2.00	X		
4400	1000	DN	0.00	X	10.00	X	0.00	X	10.00	X		
4400	1000	DN	10.00	X	0.00	X	20.00	X	0.00	X		
4400	1000	LA	0.00	X	1.000.00	X	0.00	X	0.00	X		
4400	1000	LC	0.00	X	0.00	X	0.00	X	0.00	X		
4400	1000	PE	0.00	X	0.00	X	20.00	X	10.00	X		
4400	1000	PP	0.00	X	0.00	X	15.00	X	12.00	X		
4400	1000	PE	40.00	X	10.00	X	0.00	X	10.00	X		
4400	1000	SE	0.00	X	0.00	X	0.00	X	0.00	X		
4400	1000	TC	0.00	X	0.00	X	0.00	X	0.00	X		
4400	1000	VP	0.00	X	0.00	X	0.00	X	20.00	X		
4400	1000	NA	0.00	X	0.00	X	0.00	X	0.00	X		
4400	1000	AK	0.00	X	100.00	X	0.00	X	0.00	X		
4400	1000	AK	0.00	X	10.00	X	0.00	X	0.00	X		
4400	1000	BT	0.00	X	10.00	X	0.00	X	50.00	X		
4400	1000	CC	0.00	X	0.00	X	0.00	X	20.00	X		
4400	1000	CC	0.00	X	10.00	X	0.00	X	0.00	X		
4400	1000	CM	0.00	X	0.00	X	0.00	X	20.00	X		
4400	1000	DN	0.00	X	0.00	X	0.00	X	0.00	X		
4400	1000	DN	0.00	X	0.00	X	0.00	X	2.00	X		
4400	1000	LA	0.00	X	0.00	X	0.00	X	0.00	X		
4400	1000	NA	20.00	X	10.00	X	0.00	X	0.00	X		
4400	1000	PE	0.00	X	0.00	X	20.00	X	10.00	X		

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SAP application controls – SE16 Example

- Same settings from a table view



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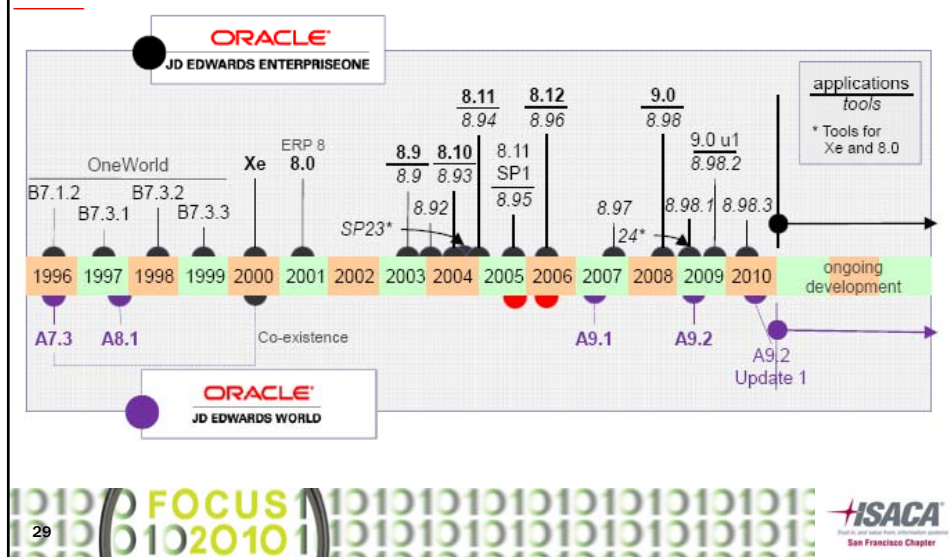
JD Edwards Application Controls

- JD Edwards Versions – Impact to App Ctls
- Planning for a JDE Audit
- Considering of ITGCs in a JDE Audit
- AAls
- Integrity Reports
- JD Edwards Example

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JD Edwards Versions - Timeline



JD Edwards Versions – Basic Differences

JD Edwards World

- Runs on AS/400
- Leverages DB2 (only one native dB)
- GUI Emulator or Green Screen
- WorldWriter, DreamWriter, FASTR (reporting tools)

JD Edwards OneWorld / EnterpriseOne

- Platform Independent (AS/400, Windows, UNIX, etc)
- Open to multiple DBs (Oracle, SQL, etc)
- GUI-Only
- Online Report Design Tool



JD Edwards Versions – App. Control Differences

JD Edwards World

- Does not support all of the same modules (e.g. Advanced Cost Accounting, Project/Government Contract Accounting, Primavera Integration, or Expense Management)
- Does not support all of the same countries (e.g. CR, Denmark, Finland, Ecuador)

JD Edwards OneWorld / EnterpriseOne

- Application access (SOD) is not integrated into the OS
- Does not support purchase card management module



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Planning for a JD Edwards Audit

When planning for a JDE audit, the following should be considered:

- WHO (roles/responsibilities, ownership)
- WHAT (application version, infrastructure, security model, level of customization)
- WHEN (what cycles leverage the ERP and when?)
- WHERE (where are the controls executed / evaluated)
- WHY (risk assessment, impact, alignment to strategic goals)



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Planning for a JD Edwards Audit

To answer these questions, consider involving:

- IT Senior Management (roles/responsibilities explanation, risk assessment)
- Security Administrator (security design, version information, restricted access)
- Configurable Network Computing (CNC) Administrator (level of customization, understanding of AAI/configuration changes responsibility)
- Internal Audit / Compliance (risk assessment, integration)



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Considering ITGCs in an Audit of JDE Application Controls

- Configuration Change Management
 - Does Management have a formal process?
 - Are you able to test the change management process and validate operating effectiveness for configuration changes?
 - How are you getting comfortable that these controls can't be bypassed?
- Security Model
 - How has management designed security?



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AAIs and Integrity Reports

A key difference between JDE and other ERPs is the notion of AAIs and integrity reports. So what are they?



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AAIs

Automated Accounting Instructions (AAIs) – used to control all postings to the general ledger.

There are 3 main types of AAIs in JD Edwards:

- Formatting AAIs for your Chart of Accounts
- Automatic Entries
- Speed Entries



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AAIs

- Audit Risks Associated with AAIs
- Example Control
- How to Test AAIs



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Integrity Reports

Integrity Reports – Integrity reports are a tool in JD Edwards that is used to ensure master data, transactional, and relational integrity within the system.

Three types of integrity reports:

- Reports over master data integrity
- Reports over transactional integrity
- Reports over relational integrity



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Integrity Reports

- Audit Risks Associated with Integrity Reports
- Example Control



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JD Edwards Automated Application Controls – An Example

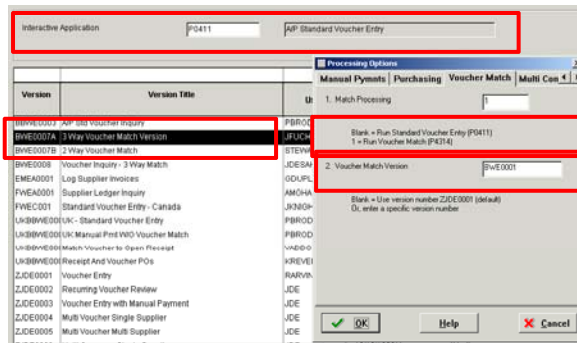
CONTROL EXAMPLE: Where a PO has been raised and approved, JDE requires a goods receipt to be recorded prior to invoice payment. If there is no PO, the invoice requires approval.



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JD Edwards Automated Application Controls – An Example

Validate voucher matching is activated



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JD Edwards Automated Application Controls – An Example

Confirm tolerances are configured.

Item Type	Item Number	Company Class	Co	Quantity Tolerance %	Quantity Tolerance Units	Unit Cost Tolerance %	Unit Price Tolerance %	Extended Amount Tolerance %	Extended Amount Tolerance \$
1			00100						1,000.00
1			00805					5.00	100.00
1			00914					5.00	1,000.00
1			00815					5.00	1,000.00
1			19901						1,000.00
1			19902						1,000.00
1			19904						1,000.00
1			19905						1,000.00
1			19909						1,000.00
1			19914						1,000.00
1			19915						1,000.00
1			19918						1,000.00
2			00100	50.00					
2			00805						
2			00817						
2			00914						
2			00815						
2			19915						
2		CL		5.00					
2		COR		10.00					
2		CRK		10.00					
2		OL		10.00					
2		LB		5.00					



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JD Edwards Automated Application Controls – An Example

Review Order Activity Rules

Interactive Application: P4314 Voucher Match

Version	Version Title	Code
VME001	3 Way Voucher Match Version	[DCH]
EMEA001	Inbound EDI Invoice Match	
EMEA002	Match for Voucher Log Redistribution	
UK3BVE000	Match Voucher to Open Receipt	
UK3BVE000	Voucher Match - Intercompany (OK)	
UK3BVE000	Match Voucher to Open Receipt	
UK3BVE002	3 Way Voucher Match	
ZJDE0001	Voucher Match - Inventory	
ZJDE0002	Progress - Payments	
ZJDE0003	Voucher Match - Voucher Logging	
ZJDE0007	VOUCHER MATCH	
ZJDE0008	Voucher Match - Transportation	
ZJDE7001	Voucher Match - Inventory - Brazil	
ZJDE7002	Application/Certificate Management	

Processing Options

1. From Status Code: 400

2. To Status Code: 000

3. Outgoing Receipt Next Status Code: 400

4. Cancel Status Code: 000

5. Quantity/Amount: []
Blank = Automatically loaded
1 = Manually entered

6. Tolerance: 1
Blank = Do not check
1 = Display a warning
2 = Display an error message

OK Help Cancel

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JD Edwards Automated Application Controls – An Example

- Is Change Control Working?
- Are Configurations Subject to Change Control?
- Is Access to Make Changes Restricted?

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Questions?

