

MIS 5121:Enterprise Resource Planning Systems  
Week 8: *Review, Authorizations -2, Inventory Controls*

# Control Failure: Dongxue's Presentation

- Background:



- Control Failures: 2006 – 2009



- Results:



- Reference:



# Control Failure: Brandon's Presentation

- Background:



- Control Failures: 2006 – 2009



- Results:



- Reference:



# Control Failure: David R's Presentation

- Background:



- Control Failures: 2006 – 2009



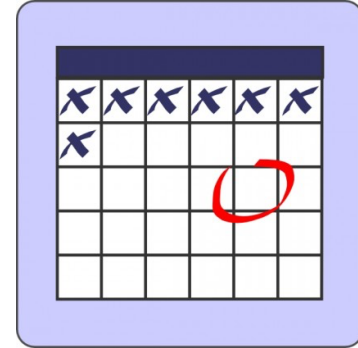
- Results:



- Reference:



# MIS 5121: Upcoming Events



- Reading Assignment 5 - *Due: March 15*
- Exercise 3 (Journal Entries) - *Due: March 19*
- Reading Assignment 6 - *Due: March 29*
- Class Visitors: auditors - *March 30*
  - Ernst & Young – auditing manager and SAP subject matter expert
  - Discussion / Q&A format (~30 minutes)
  - Gather discussion topics and your ?'s next week

# MIS 5121: Auditor's Visit Topics

- Have you personally detected a fraud scenario in your audit? If so, please explain.
- What are the general methodologies used for auditing?
- *Does SAP provide good control environment vs. other systems (ERP, other)?*
- *How to you maintain your independence? Is that easy?*
- *What is your opinion on cyber-security laws being considered by the US government (CIA, CISA legislation)?*
- *How easy is it for the auditors to commit fraud?*
- *How do you classify risks?*
- *Since SAP can be customized in so many ways, how does an auditor know what to audit when everything is different with each client?*
- *How do they review Segregation of Duties (modules vs. employees)?*

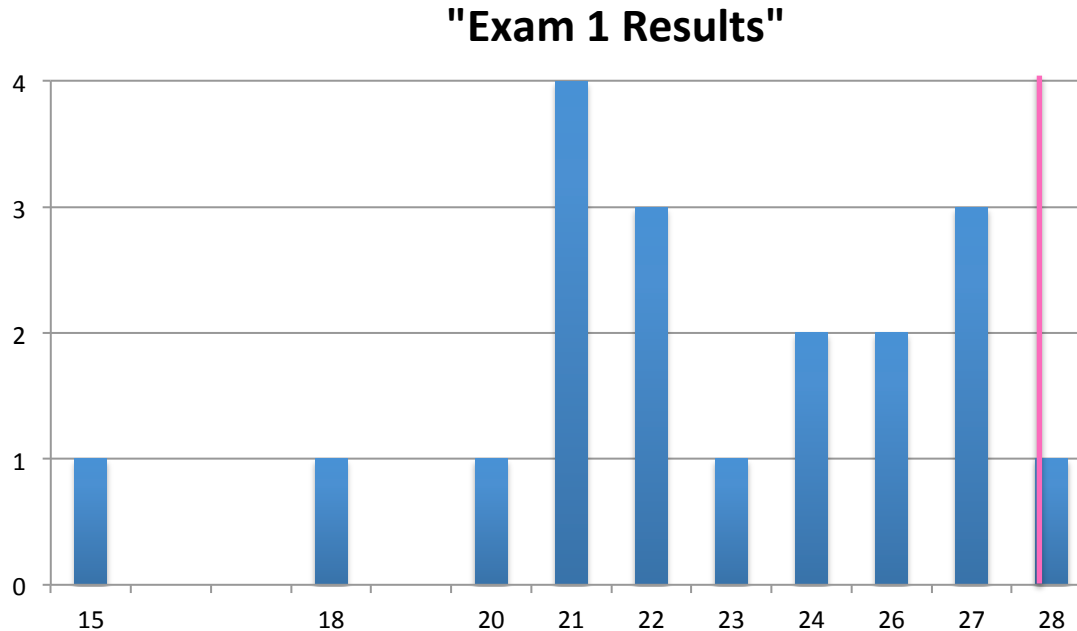
# MIS 5121: Auditor's Visit Topics

- What does the auditor do to identify risks associated with SAP ERP?
- Is automation of reporting and business transactions better or worse for compliance?
- Do you think the SAP P2P auditing process is too labor intensive to set up and maintain for small to mid size companies? Maybe a small scale ERP system would be a better fit.
- The security mechanisms of SAP look complex and safer than other systems (e.g. with roles, profiles, authorizations, etc.) However, has the implementation of SAP really reduced the chance or number of frauds (e.g. are there any statistics to support this hypothesis?)
- Within the financial accounting system of SAP, what area or field presents the most risk or the greatest opportunity for fraud?

**Review:** Key topics to  
remember  
(i.e. may be on a future test)



# Exam 1: Results



- Some questions really 'bad' (unfair, worded poorly)
- Results will be 'curved' to red high score vs. perfect score of 36
- My Challenge: distill 30+ years experience into curriculum and then how to test understanding

# Exam 1: Actions

- **Quick Review of ‘key’ concepts, Lessons (Next week)**
  - Not reteach, just review
  - Will be included in Exam 2 and Final
- Formulate exam questions along with curriculum content
  - Will emphasize during class
    - ‘This will be on the exam’
    - Review / Key lessons slides after each lecture section

External Financial Reporting regulations

Other Reg's

Organization's  
Objectives & Policies

Balance  
Sheet

P & L

Notes

FDA etc.

Performance & Policies

Arise through

Must be observed / achieved in

### Business Processes

Procurement

Production

Order to \$\$

Finance

IT

Quality

Logistics

HR

...

Contain

Assertions

- Completeness
- Existence, rights
- Accuracy
- Valuation
- Presentation

Risks

- Product quality
- Delivery (OTD)
- Unused capacity
- Excess Costs
- Lower Sales

Errors & Fraud

Minimized by

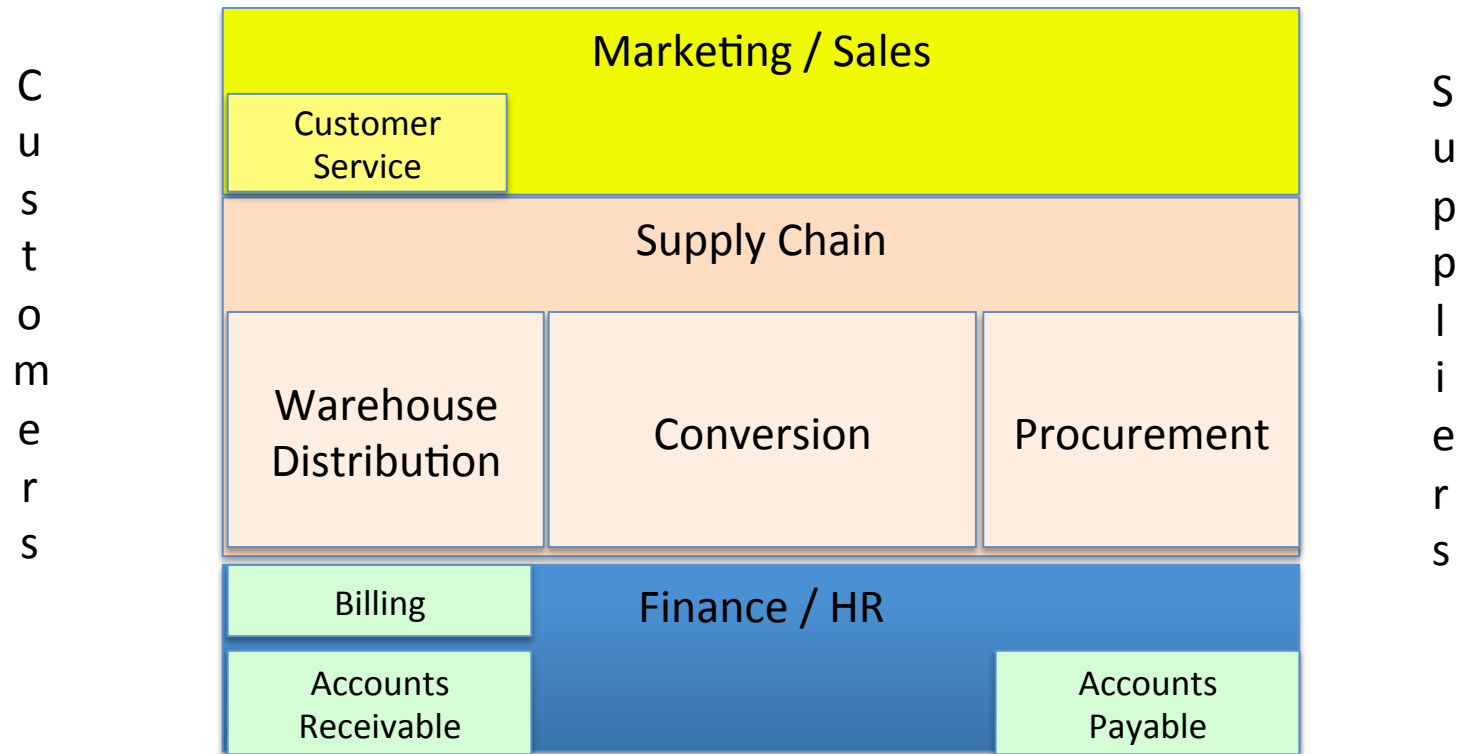
### ISC framework in the ERP environment

- Entity level controls
  - Automated application controls
- Manual and semi-automated business process controls
- Authorizations and access protection (confidentiality, integrity)
- IT General controls (change management, operation, security)
- Automated testing and monitoring of business processes, KPIs, etc.

# Risks / Controls

- **All** slides, discussions, content related to Risks and related controls
  - Don't need to memorize every example
  - Understand what is a risk vs. what is a control
  - Do remember a few examples of risks **and** controls in each area discussed
    - Procure to Pay Process
    - Order to Cash Process
    - Master Data
    - Financial Processes
    - Inventory

# Business Functions / Organization



# Business Process Vs. Function

## Function

‘An operation / group of relate tasks) that is performed routinely to carry out a part of the mission of an organization..’

Business Dictionary

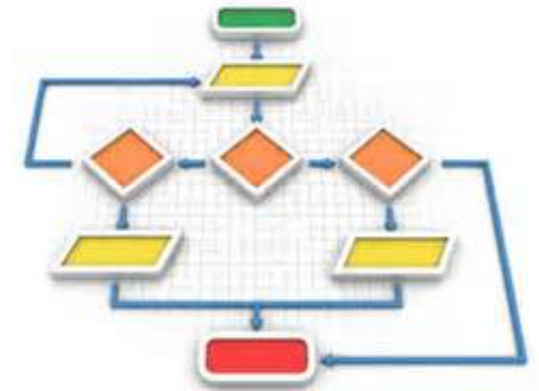
## Process

‘A series of logically related activities / tasks performed together (although usually not by same person / organization / function) to produce a defined set of results.’

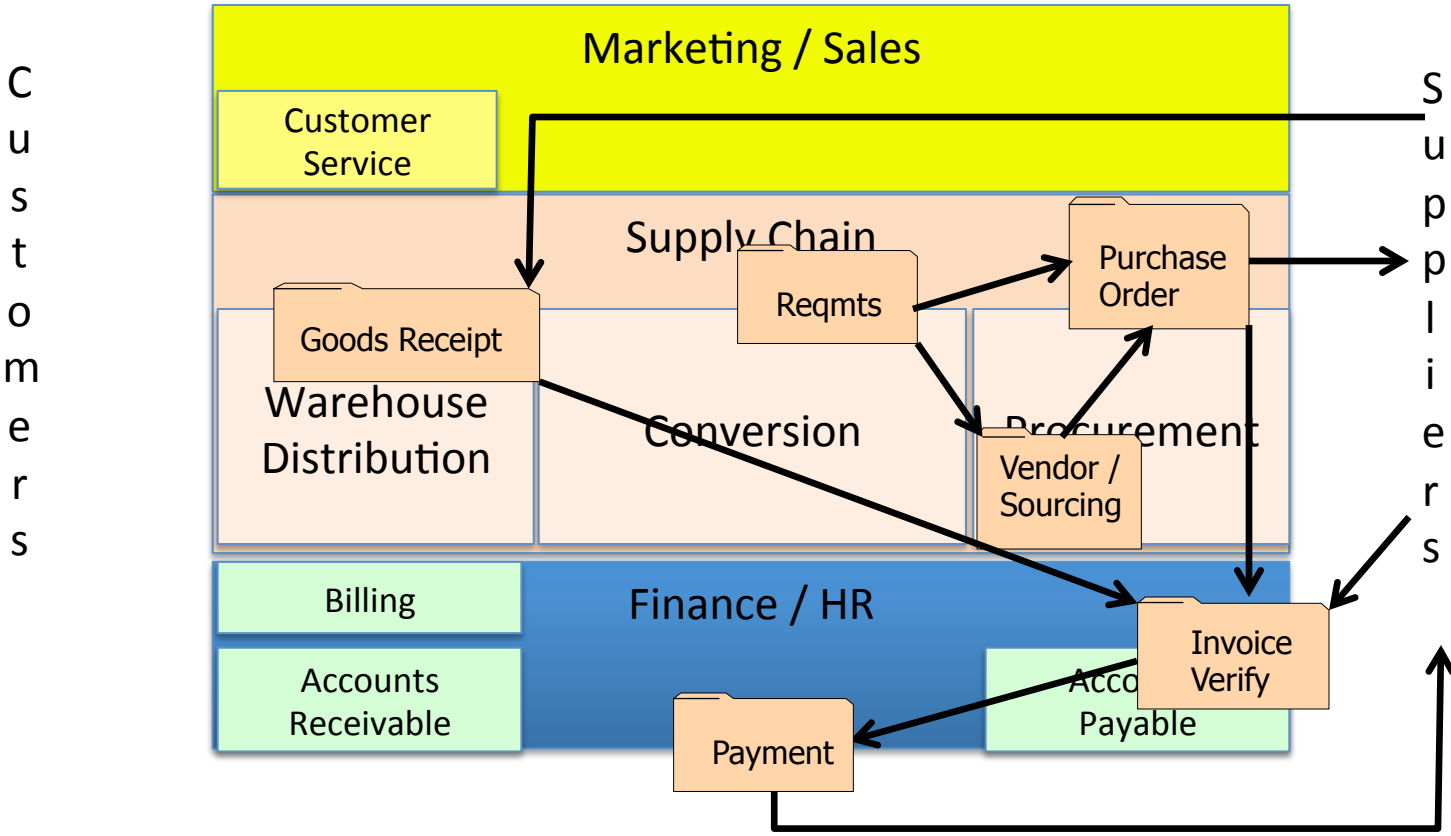
Business Dictionary

# Business Processes

- Sales
- Order to Cash
- Procurement to Pay
- Supply Chain Planning
- Manufacturing / Production
- Innovate / Commercialize
- People / Human Resources
- Finance / Record and Report

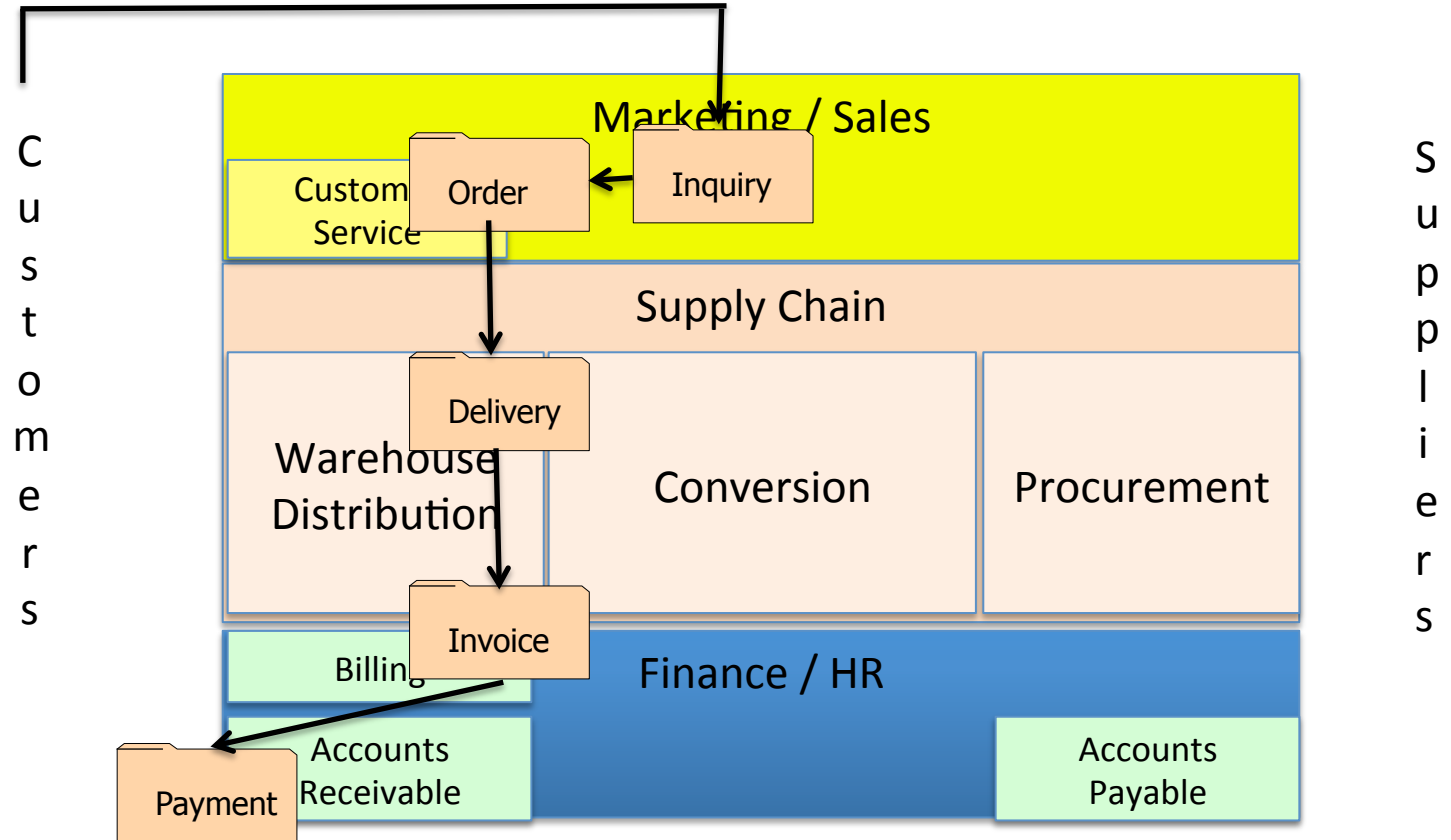


# Procurement Process





# Order to Cash Process



# Assertion

## Definition

‘a confident and forceful statement of fact or belief’

Oxford Dictionaries

In Auditing: ‘what management claims’



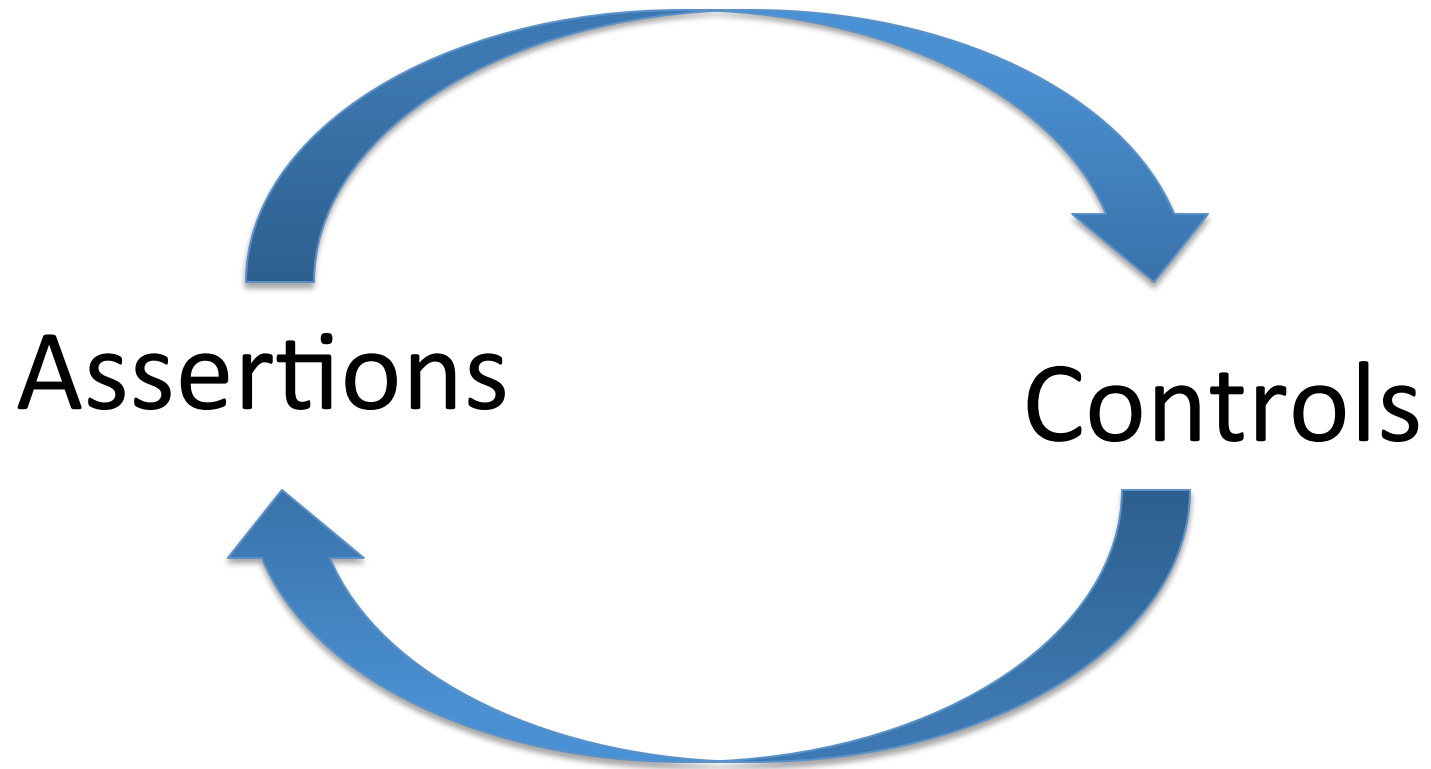
# Management Assertions

Taxonomy for class (along with definitions)

- Occurrence / Existence (timing)
- Completeness
- Accuracy / Valuation
- Rights (Ownership)
- Summarization / Presentation

	Andhra Pradesh	Andhra Pradesh	Research Operation Service Center
<b>OPERATING REVENUES AND SUPPORT</b>		\$6,477,036	
Operating Revenues	\$1,028,883	3,595,389	
Operating Support	5,016,272	148,654	
Operating Expenses	96,452	41,969	
Administrative Expenses	1,663,887	30,281	
Professional & Educational Activities	609,694	2,267,778	
		(660,347)	
		3,580,030	280,369
<b>NON-OPERATING ITEMS*</b>		471,281	208,289
Gain on Sale of Property	435,408		
Loss on Sale of Property	70,617		
Interest Income	1,871,891	(4,215,217)	1,376,054
Investment Income	706,447		80,960
Operating Expenses			
Operating Expenses	\$16,458,509	\$14,419,274	\$1,864,712
<b>TOTAL REVENUES</b>		1,642,843	1,881,421
<b>OPERATING EXPENSES*</b>		3,490,330	372,506
General & Research Activities	2,714,329	2,211,992	
General & Administrative Expenses	3,840,521	283,908	
Operating Expenses	1,783,888	293,815	
Operating Expenses	1,829,257	895,323	
Operating Expenses	855,225	18,581	
Operating Expenses	823,794	4,400,447	17,667

	2004	2005
<b>Balance Sheet</b>		
As at 31 December		
Notes		
16		
17		
18		

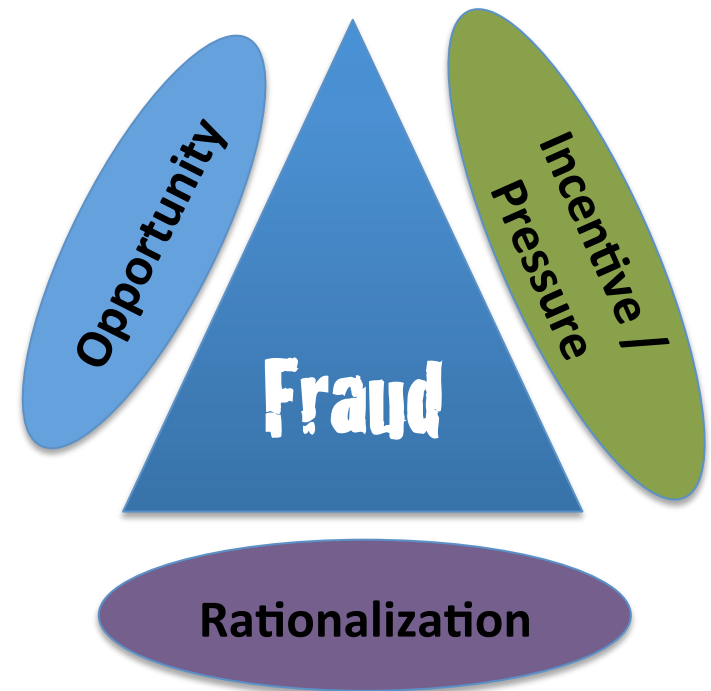


The existence of controls imply the existence of assertions.

# Environment Favorable to Fraud

Framework for spotting high-risk situations

- Perceived **opportunity** (*I can do it / conceal it and not get caught*)
  - Poor internal controls
  - Lack of oversight
- **Incentive or Pressure** (*Financial or emotional force pushing to commit fraud*)
  - Meet expectations
  - Avoid criticism
  - Cover a mistake
  - Personal failures, needs
- **Rationalization** (*Personal justification for dishonest actions*)
  - Low compensation
  - Company is profitable



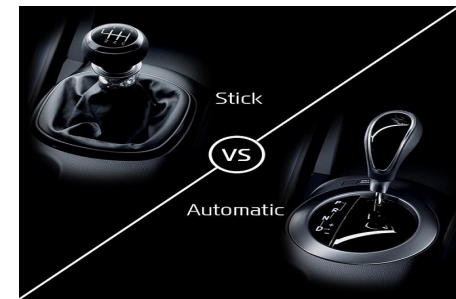
Fraud Triangle

# Control Definition Outline

- **Reference #** Unique, assigned reference #
- **Control Activity** Summary of control activity
- **Process** Owning Process (Can only be 1)
- **Sub-Process**
- **Location** Where activity occurs
- **Frequency**
  - X: Multiple times a day
  - D: Daily
  - W: Weekly
  - M: Monthly
  - Q: Quarterly
  - A: Annual
- **Control Activity (Typically for Manual Controls)**
  - R: Reconciliation
  - A: Authorization
  - S: SOD/Safeguarding
  - M: Monitoring/ Review
  - P: Processing
- **Control Owner Title** Title of person responsible for completing the control

# Control Type Dimensions

- Automated: System automatically implements the control
  - Example: Gross weight > Net weight; Time zone based on State, Pre-defined values for fields
  - Use When: System basic logic; Configurable; Application 'Rules' match Business Rules; Easy development to implement
  - Do not use: Complex business rules (hard to implement)
- vs. Manual: Defined procedure followed to implement control
  - Example: Use system report to assure reconciliations, verifications are complete; validate system matches manual input form
  - Use When: No System capability, Requires human decision making
  - Do not Use: If system can handle automatically



# Control Type Dimensions

## A. Directive: Policies / Procedures / Training

- Example: Formal Credit policy, Period closing ‘rules’
- Use When: Almost all areas to define expectations, ‘rules’
- Do not use: As only control, in highly complex decision making scenarios (provide outline / guidelines only).

## B. Compensating: employ in lieu of the recommended controls in the low, moderate risk situations to provide equivalent or comparable protection

- Example: Review Sample of transactions (e.g. High value, high risk), secondary approval for certain Scenarios
- Use When: Segregation of Duties is difficult / impossible to implement fully.
- Do not Use: Large organizations, high risk SOD issues,

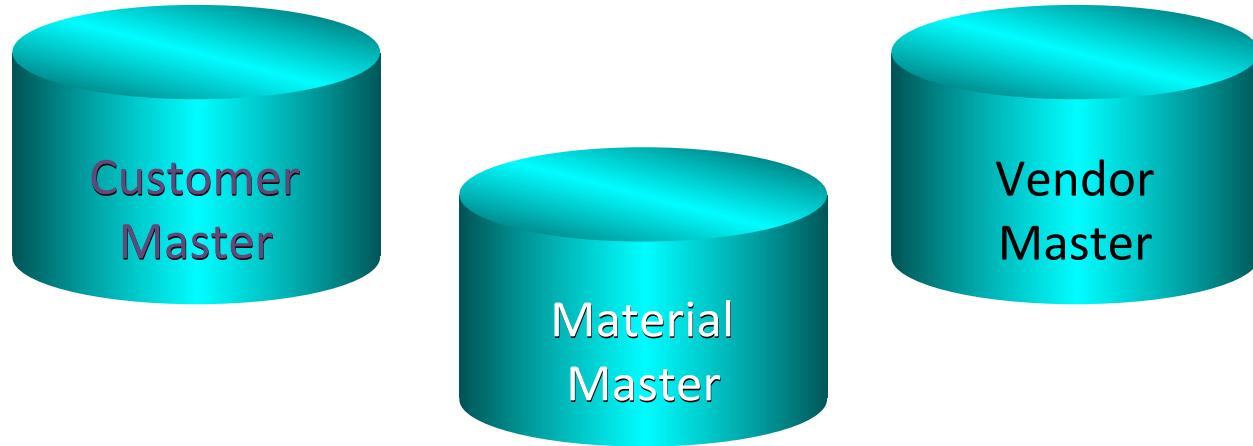


# Control Type Dimensions

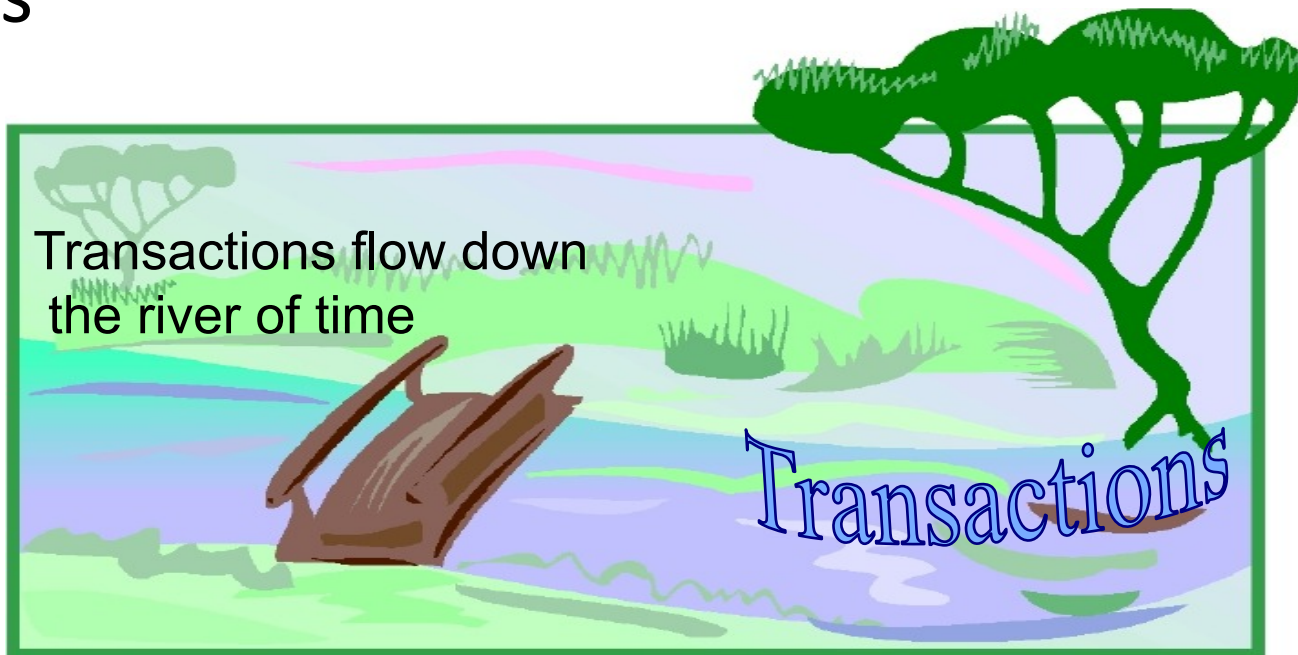
- C. Detective: After the fact detection of control failure or not
- Example: Exception reports; reconciliation procedures, Physical checks
  - Use When: No preventative control possible or is cost prohibitive, Current process
  - Do not use: If preventable, or system control (e.g. config, easy development) possible
- D. Preventative: Prevent from occurring
- Example: Security / Segregation of Duties protection
  - Use When: Easily implemented with system capability
  - Do not Use: If increases complexity of performing tasks with minimal prevention



# Master Data

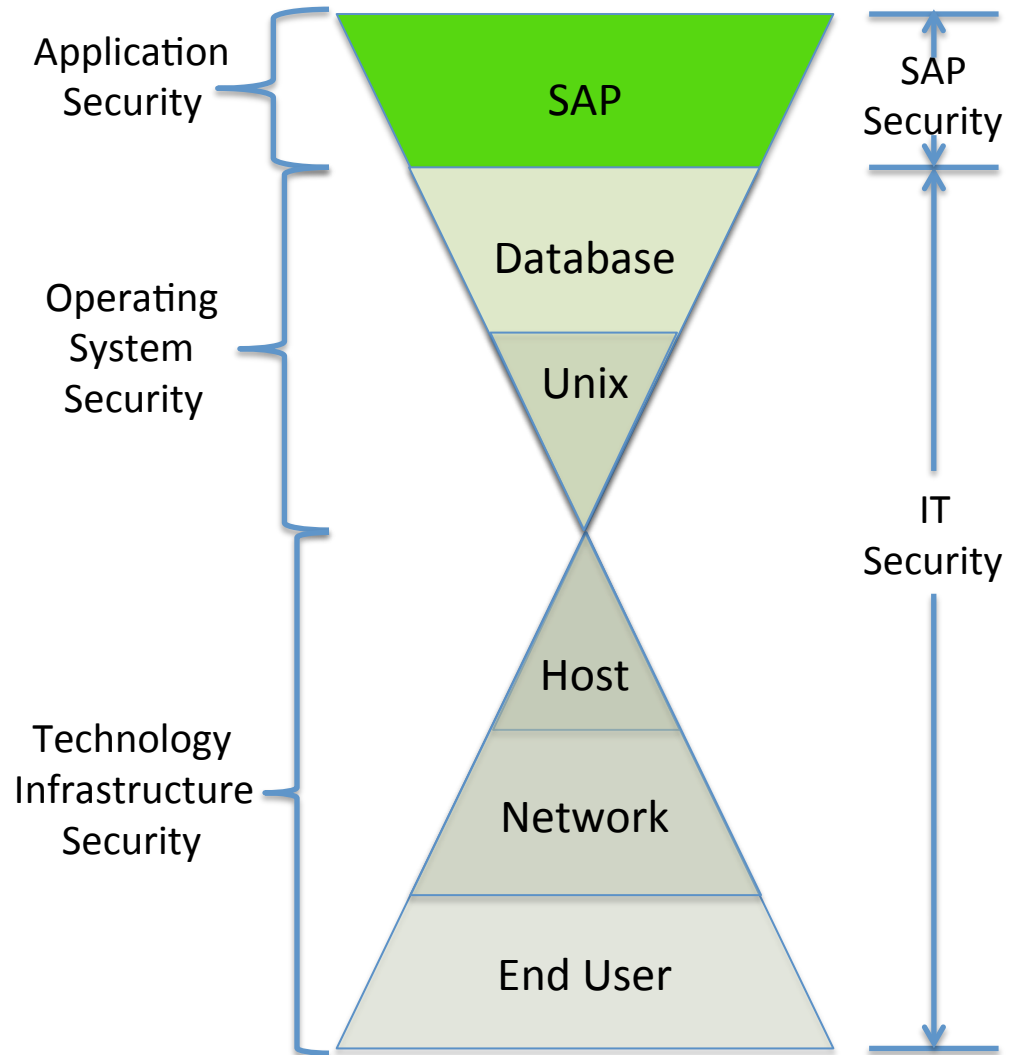


Versus



# Enterprise Security Architecture

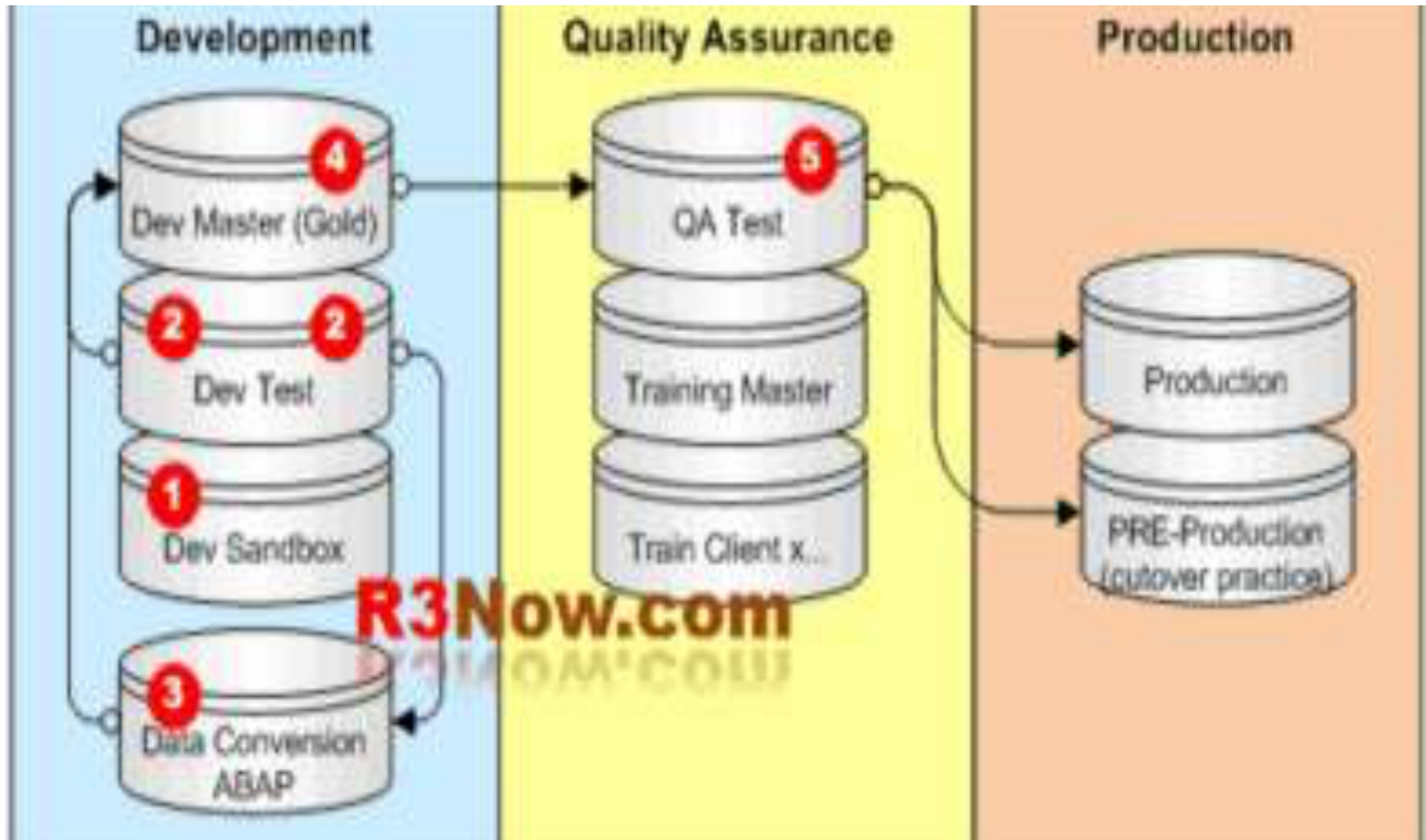
- Behind the scenes, end users navigate through layers of security to reach the SAP Application
- A Security Team generally handles all activities related to SAP Application Security
- SAP Security Team works with IT Team to ensure appropriate security is implemented at levels: Database, System (e.g. Unix), Host and Network



# SAP Instances vs. Clients

## *Instances . . .*

*C*  
*l*  
*i*  
*e*  
*n*  
*t*  
*s*  
  
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# Typical SAP Landscape

## Development System

**Type of users:**  
Developers,  
Consultants,  
Key Users

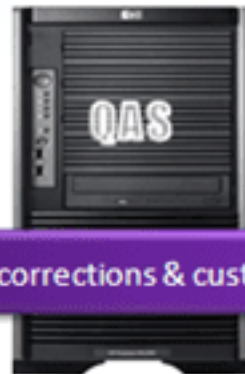
**Type of work:**  
Customizing,  
Development,  
Unit Testing



## Quality-Assurance System

**Type of users:**  
Developers,  
Consultants,  
Key Users

**Type of work:**  
Integration and  
Quality testing



## Production System

**Type of users:**  
End users

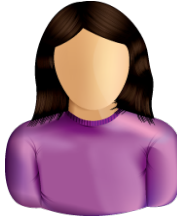
**Type of work:**  
Productive  
execution of  
transactions  
with real  
business data



Developments, corrections & customizing settings

# SAP Security: Review

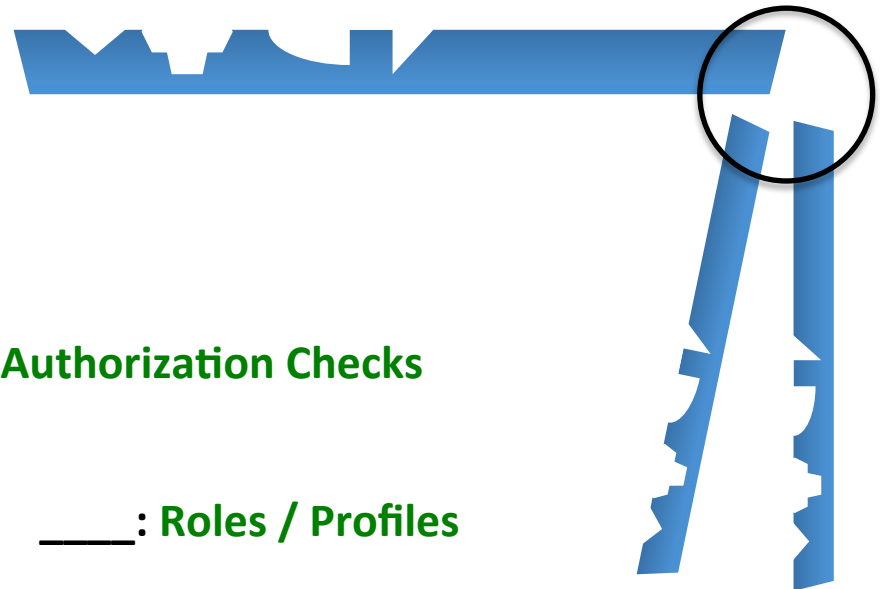
Program



User ID

\_\_\_\_\_: Authorization Object

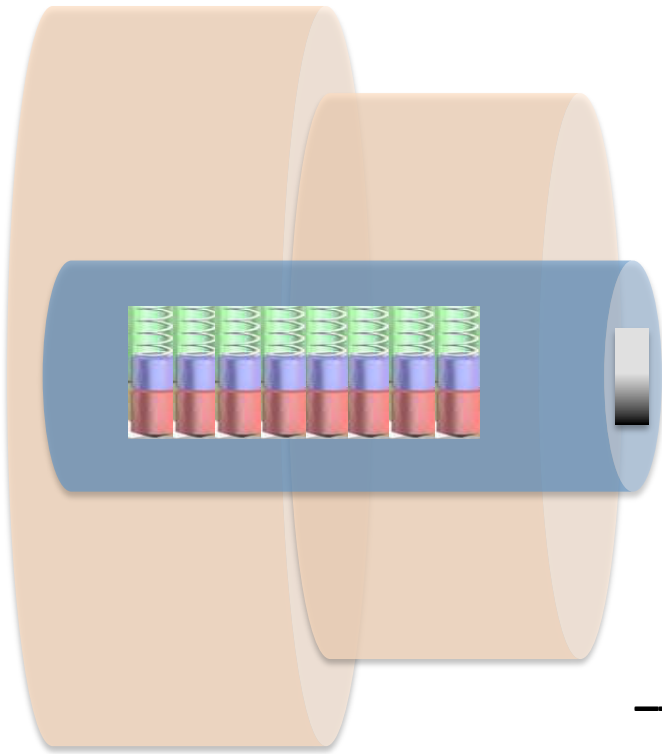
Authorization Values



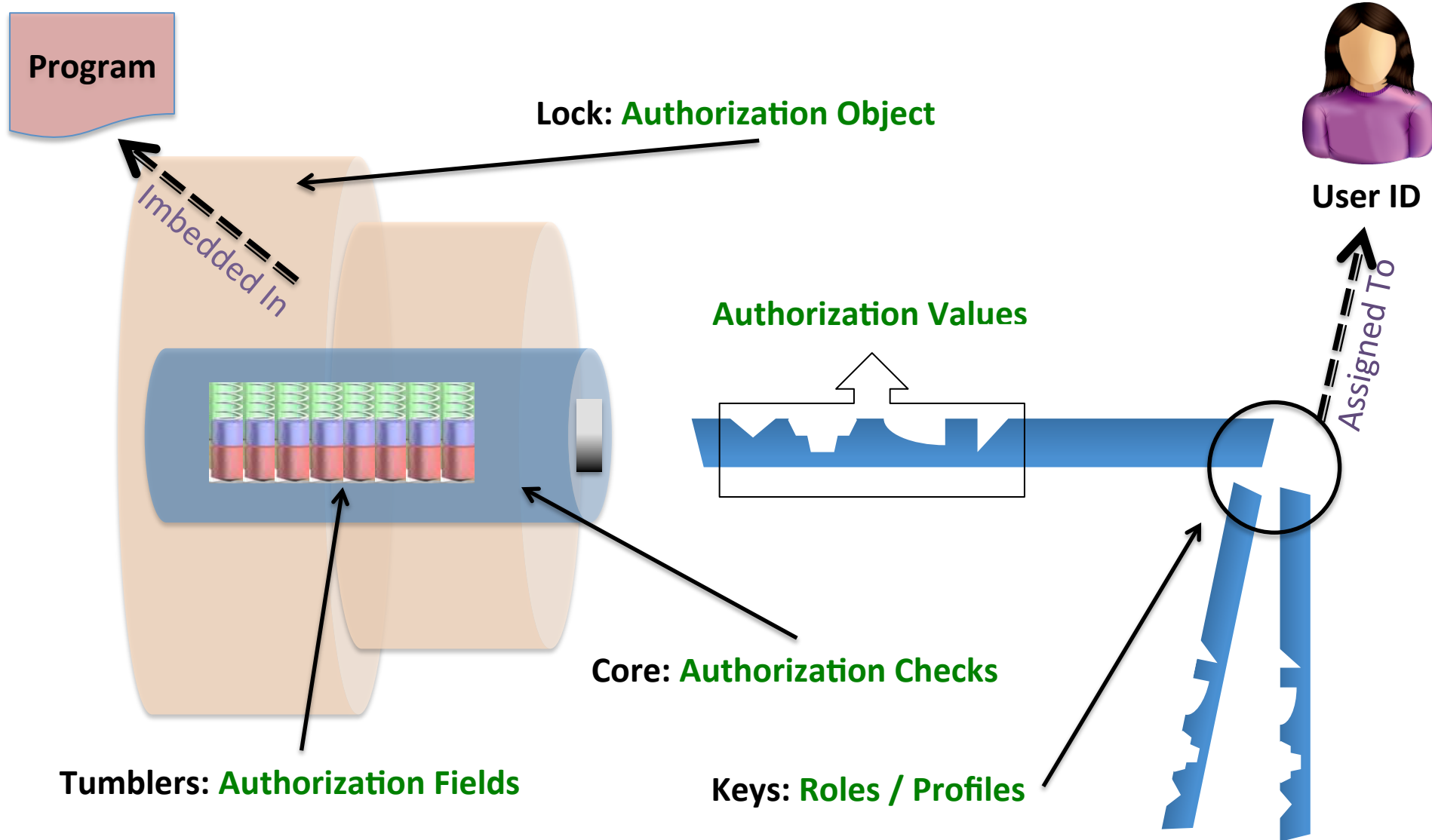
\_\_\_\_\_: Authorization Checks

\_\_\_\_\_: Authorization Fields

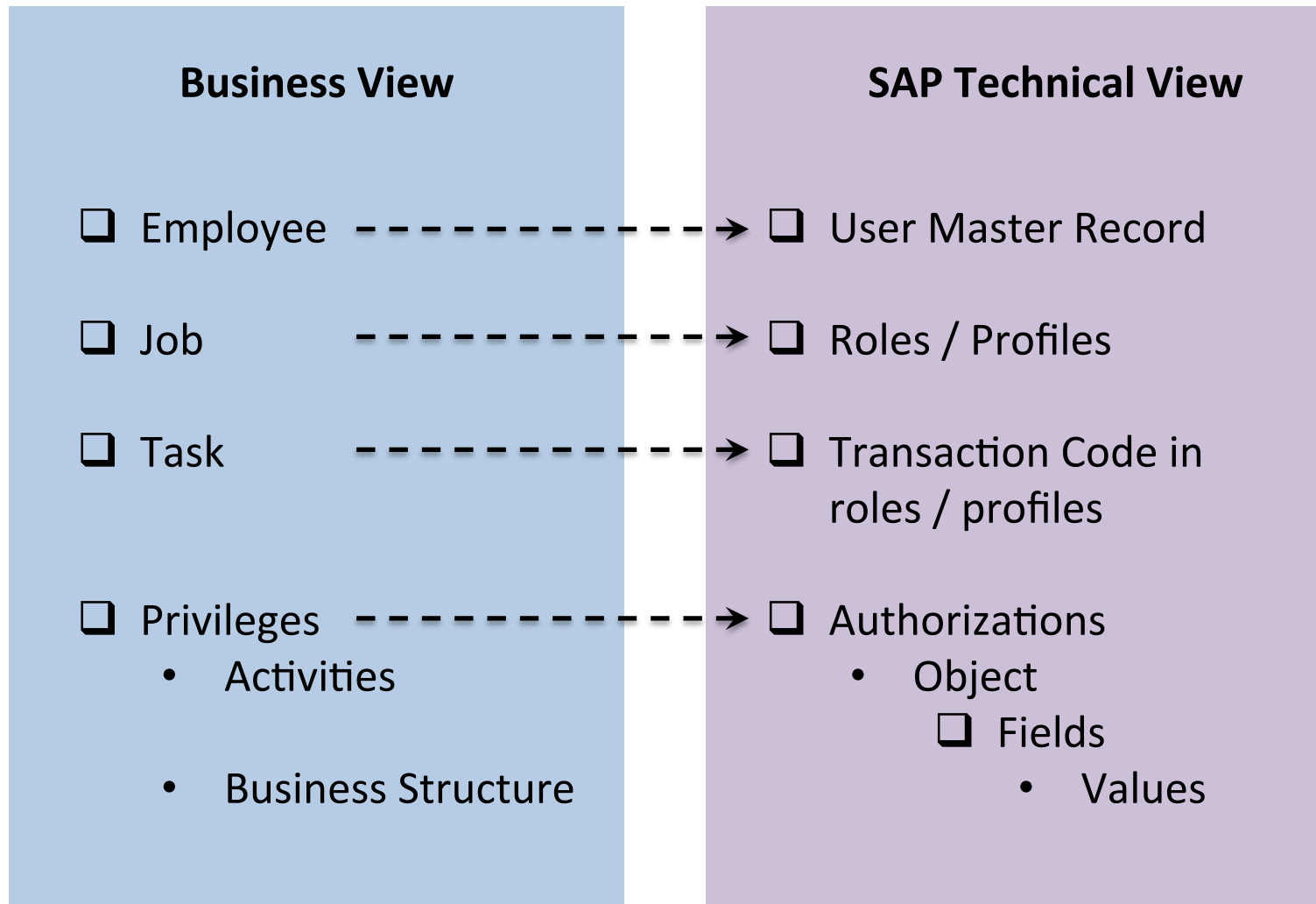
\_\_\_\_\_: Roles / Profiles



# SAP Security: Review

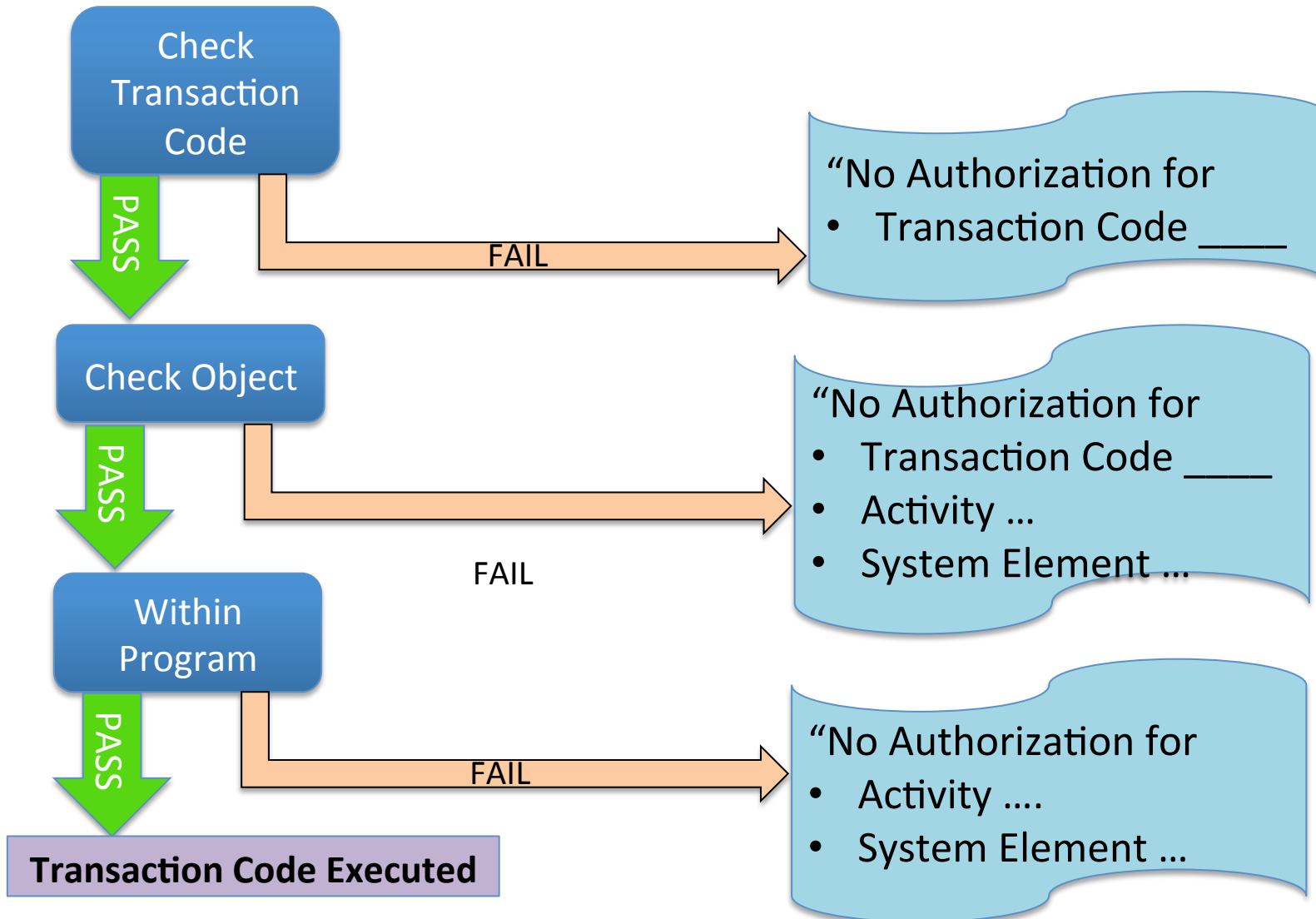


# SAP Security: Business vs. Technical View





# SAP Security: Logic to Access



# Security: SAP Authorization Concept (Continued)

# Profile Generator

- PFCG tool used for security design and configuration
  - Simplifies and speeds creation of authorizations by automating various processes
  - Replaces manual creation and maintenance of simple profiles
  - Authorization profiles are created and updated when Roles are generated
  - Roles are set-up at Job Function and Task Level.
  - Each role may contain several activities
  - Driven by transaction codes (select these first – aligned authorization objects, etc. get pulled along)
  - Each Role assigned a unique SAP internal number

# Using Profile Generator

- Transaction: Tools → Administration → User Maintenance → Role → Roles (PFCG)

The screenshot displays the SAP Role Maintenance interface. At the top, the title bar reads "Role Maintenance". Below it, a menu bar contains buttons for "Menu", "Back", "Exit", "Cancel", "System", "Copy role", "Delete role", and "Trans". The main area shows the role name "Z\_TEST\_GBI" in a text field, with icons for copy, edit, and lock. Below the role name, there are buttons for "Single Role" and "Comp. Role". A red arrow points from the "Menu" button in the top bar to the "Menu" label in the role details pane. Another red arrow points from the "Views" icon in the toolbar to the "Role" label in the details pane. The role details pane shows the following information:

Role	
Role	Z_TEST_GBI
Description	SAMPLE AUTHORIZATION - GBI CASE
Target System	<input type="text"/> <input type="checkbox"/>

At the bottom of the details pane, there are several tabs: "Description" (selected), "Menu", "Authorizations", "User", and "Personalization". Below the details pane, there are two sections: "Administration Information" and "Transaction Inheritance".

# Profile Generator: Menu Tab

- Click the **Menu** Tab to enter transaction Codes

The screenshot illustrates the Profile Generator interface. The top navigation bar includes tabs for Description, Menu (highlighted with a pink box), Authorizations, User, and Personalization. Below the navigation bar is a toolbar with icons for navigation and a 'Transaction' button. The main area is divided into a Hierarchy pane on the left and a Node Details pane on the right. The Hierarchy pane shows a folder named 'Role Menu' with two sub-items: 'Stock Overview' and 'Goods Movement - Goods Receipt'. The Node Details pane shows the following information:

Node Details	
Type	Transaction
Object	MIGO_GR
Text	Goods Movement - Goods Receipt

An 'Assign Transactions' dialog box is open, showing a table with the following data:

Transaction code
MMBE
MIGO_GR

Red lines indicate the flow from the 'Menu' tab to the 'Assign Transactions' dialog and from the 'Goods Movement - Goods Receipt' item in the Hierarchy pane to the 'Node Details' pane.

# Profile Generator: Transaction Folder

The screenshot shows the Profile Generator interface. The 'Menu' button in the top toolbar is highlighted with a pink box. A 'Create a Folder' dialog box is open, with the 'Folder Name' field containing the text 'Stock Receipts'. The 'Hierarchy' panel on the left shows a tree structure with 'Role Menu' expanded, containing 'Stock Overview' and 'Goods Movement - Goods Receipt'.

This screenshot shows the 'Stock Receipts' folder created under 'Role Menu' in the Hierarchy panel. The folder and its contents, 'Stock Overview' and 'Goods Movement - Goods Receipt', are highlighted with a pink box. A red arrow points from the 'Menu' button in the top toolbar to this folder.

Move transactions  
into folder

This screenshot shows the 'Goods Movement - Goods Receipt' transaction moved into the 'Stock Receipts' folder. The folder and its contents, 'Goods Movement - Goods Receipt' and 'Stock Overview', are highlighted with a pink box. A red arrow points from the 'Goods Movement - Goods Receipt' item in the previous screenshot to this folder.

# Profile Generator: Authorizations Tab

**Change Role: Authorizations**

Menu |  | Save | Back | Exit | Cancel | System | Expand | Collapse | Position | Generate | Delete inactive | Selection criteria | Manually

Maint.: 3 Unmaint. org. levels 1 open fields, Status: Changed

**Z\_TEST\_GBI** SAMPLE AUTHORIZATION - GBI CASE

- Standard Cross-application Authorization Objects AAAB
  - Standard Transaction Code Check at Transaction Start S\_TCODE
    - Standard Transaction Code Check at Transaction Start T-B30100110C
      - Transaction Code MIGO\_GR, MMBE TCD
  - Standard Materials Management: Inventory Management/Phys.Inventory MM\_B
    - Standard Material Documents: Movement Type M\_MSEG\_BME
      - Standard Material Documents: Movement Type T-B30100110C
    - Standard Material Documents: Plant M\_MSEG\_WME
      - Standard Material Documents: Plant T-B30100110C
        - Activity Plant 03, 04 \$WERKS ACTVT  
WERKS
    - Standard Goods Receipt for Purchase Order: Plant M\_MSEG\_WWE
  - Standard Materials Management: Master Data MM\_G
    - Standard Material Master: Plants M\_MATE\_WRK
      - Standard Material Master: Plants T-B30100110C
        - Activity Plant 03 \$WERKS ACTVT  
WERKS

# Master and Derived Roles

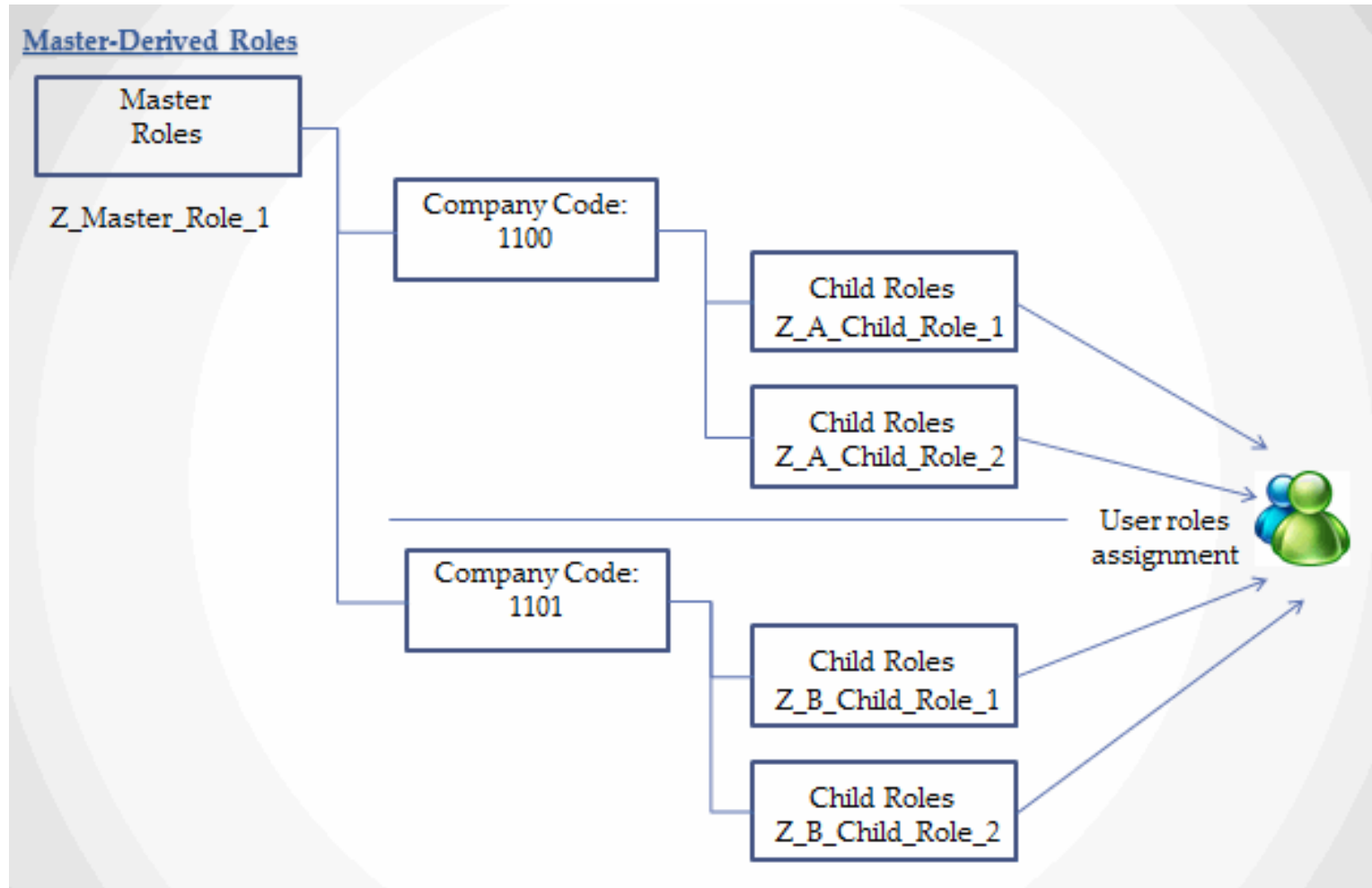
## Definition and 'Rules'

Master Roles	Derived Roles	Authorization
Serve as templates.	User to enforce organizational level restrictions (company, sales org, plant, etc.)	Structural / Information changes (e.g. new transaction) maintained at master level and 'pushed' down to derived roles
Usually not assigned to Users	Inherit characteristics from their linked master roles. Very similar to each other with only slight differences (in org elements assigned)	Structural / Information changes (e.g. new transaction) maintained at derived level will break the master ↔ derived role link
	Organizational elements maintained at the derived role level	Changes to either master or derived roles need to be mass transported (across instances)



# Master and Derived Roles

- Multiple levels in role hierarchy possible



# Profile Generator: Derived Roles

**Create Roles**

Menu  ◀ Save Back Exit Cancel System  Display <-> Chan

**Role**

Role

Description

Target System

Description  Menu  Authorizations  User  Personalization

**Administration Information**

**Transaction Inheritance**

Derive from Role

SAMPLE AUTHORIZATION - GBI CASE (Master)

User

Created

# Profile Generator: Derived Roles

**Role**

Role: Z\_TEST\_GBI\_DERIVED

Description: Test GBI Authorization: Derived

Target System:  No de

Menu Authorizations User

Hierarchy

- Role Menu
  - Stock Receipts
    - Goods Movement - Goods Receipt
    - Stock Overview

Note Transaction details (in Menu Tab) and Authorizations flow to Derived Role

**Change Role: Authorizations**

Menu  Save Back Exit Cancel System Expand Collapse

Maint.: 3 Unmaint. org. levels 1 open fields, Status: Changed

Z\_TEST\_GBI\_DERIVED Test GBI Authorization: Derived

- Standard Cross-application Authorization Objects
- Standard Materials Management: Inventory Management/Phys.Inventory
- Standard Materials Management: Master Data

'Missing' Fields (multiple Auth's) can be defined once

**Define Organizational Levels**

Maintain the values for the organizational levels of the role.

**Field Vals of OrgLevels**

Org. Level	'From'	'To'	M...	C
Plant	DL00	<input type="text"/>	<input type="text"/>	<input type="text"/>

# Profile Generator: Derived Roles

**Change Role: Authorizations**

Menu  Save Back Exit Cancel System Expand Collapse

Maint.: 0 Unmaint. org. levels 1 open fields, Status: Change

- Standard Material Documents: Plant
- Standard Material Documents: Plant
- Activity Plant Display, Print, edit mes DL00
- Standard Goods Receipt for Purchase Order: Plant
- Standard Goods Receipt for Purchase Order: Plant
- Activity Plant Create or generate DL00
- Standard Materials Management: Master Data
- Standard Material Master: Plants
- Standard Material Master: Plants
- Activity Plant Display DL00

Result:

# Profile Generator: Derived Roles


**Information About Authorization Profile**


Profile Name

Profile Text

Status Current version not generated

**Maintain Authorization Data and Generate Profiles**

 Change Authorization Data

 Expert Mode for Profile Generation

**Define Maintenance Type**

What action do you want to execute?

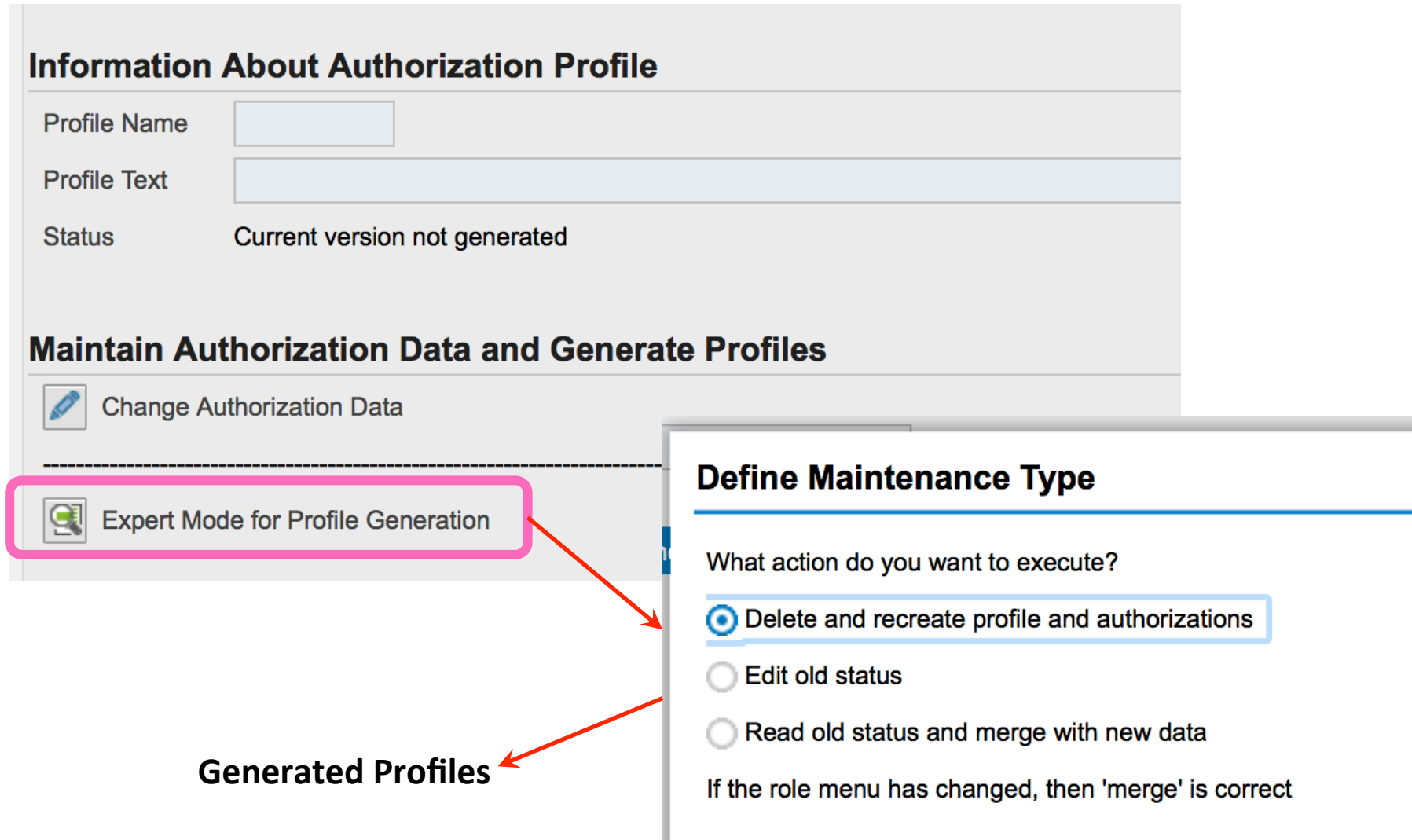
Delete and recreate profile and authorizations

Edit old status

Read old status and merge with new data

If the role menu has changed, then 'merge' is correct

**Generated Profiles**



# SAP Authorization Concept Overview (2)

- Profile Generator (via roles)
  - Can Speed / semi-automate Security process
  - Transaction Driven
- Master – Derived Roles
  - Definitions and 'Rules' slide
- Need to proceed with design in mind

# Business Controls: Inventory

# Control Failure: 'One Piece at a Time'

- Background:

- ❖ [Johnny Cash](#) Song about an auto worker on the Cadillac Assembly Line



- Control Failure: 1949 – 1977?

- ❖ Continual theft of auto parts from assembly line (multiple years)
- ❖ Threat of punishment existed but obviously controls didn't find the missing engine, transmission, ....

- Results:

- ❖ 'Free' Cadillac car build from parts
- ❖ Fictitious story? Could this really happen?

- Reference: Fictitious Story?

- ❖ [Johnny Cash 'One Piece at a Time'](#)





# 'One Piece at a Time'

Well, I left Kentucky back in forty nine  
An' went to Detroit workin' on a 'sembly line  
The first year they had me puttin' wheels on Cadillacs  
Every day I'd watch them beauties roll by  
And sometimes I'd hang my head and cry  
'Cause I always wanted me one that was long and black.

One day I devised myself a plan  
That should be the envy of most any man  
I'd sneak it out of there in a lunchbox in my hand  
Now gettin' caught meant gettin' fired  
But I figured I'd have it all by the time I retired  
I'd have me a car worth at least a hundred grand.

I'd get it one piece at a time  
And it wouldn't cost me a dime  
You'll know it's me when I come through your town  
I'm gonna ride around in style  
I'm gonna drive everybody wild  
'Cause I'll have the only one there is around.



# 'One Piece at a Time'

So the very next day when I punched in  
With my big lunchbox and with help from my friends  
I left that day with a lunch box full of gears  
I've never considered myself a thief  
But GM wouldn't miss just one little piece  
Especially if I strung it out over several years.

The first day I got me a fuel pump  
And the next day I got me an engine and a trunk  
Then I got me a transmission and all the chrome  
The little things I could get in my big lunchbox  
Like nuts, an' bolts, and all four shocks  
But the big stuff we snuck out in my buddy's mobile home.

Now, up to now my plan went all right  
'Til we tried to put it all together one night  
And that's when we noticed that something was definitely wrong.

The transmission was a fifty three  
And the motor turned out to be a seventy three  
And when we tried to put in the bolts all the holes were gone.



# 'One Piece at a Time'

So we drilled it out so that it would fit  
And with a little bit of help with an adapter kit  
We had that engine runnin' just like a song  
Now the headlight' was another sight  
We had two on the left and one on the right  
But when we pulled out the switch all three of 'em come on.

The back end looked kinda funny too  
But we put it together and when we got through  
Well, that's when we noticed that we only had one tail-fin  
About that time my wife walked out  
And I could see in her eyes that she had her doubts  
But she opened the door and said "Honey, take me for a spin."

So we drove up town just to get the tags  
And I headed her right on down main drag  
I could hear everybody laughin' for blocks around  
But up there at the court house they didn't laugh  
'Cause to type it up it took the whole staff  
And when they got through the title weighed sixty pounds.



# 'One Piece at a Time'

I got it one piece at a time  
And it wouldn't cost me a dime  
You'll know it's me when I come through your town  
I'm gonna ride around in style  
I'm gonna drive everybody wild  
'Cause I'll have the only one there is around.

Ugh! Yeah, RED RYDER

This is the COTTON MOUTH  
In the PSYCHO-BILLY CADILLAC Come on

Huh, This is the COTTON MOUTH

And negatory on the cost of this mow-chine there RED RYDER  
You might say I went right up to the factory  
And picked it up, it's cheaper that way  
Ugh!, what model is it?

Well, It's a '49, '50, '51, '52, '53, '54, '55, '56  
'57, '58' 59' automobile  
It's a '60, '61, '62, '63, '64, '65, '66, '67 '68, '69, '70 automobile.

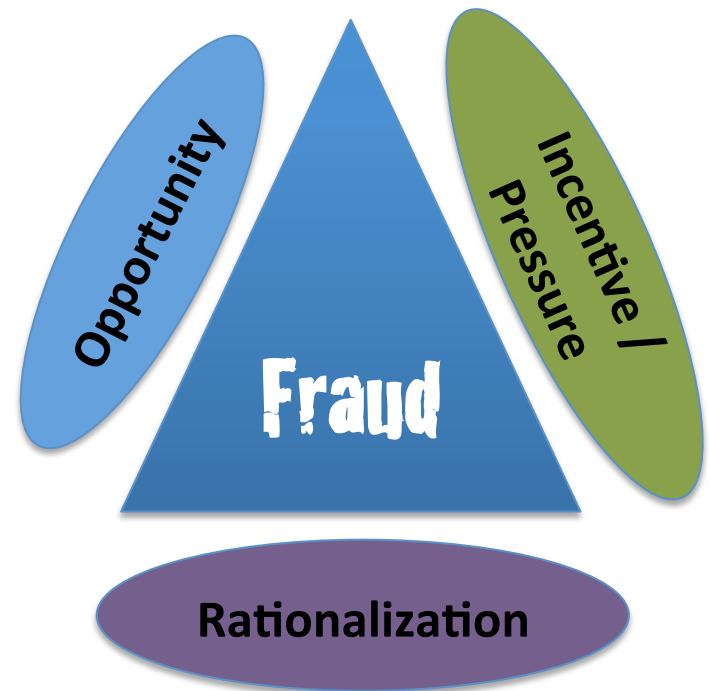
- Songwriters: KEMP, WAYNE
- © Sony/ATV Music Publishing LLC
- For non-commercial use only.
- Data From: [LyricFind](#)



# Environment Favorable to Fraud

Framework for spotting high-risk situations

- Perceived **opportunity** (*I can do it / conceal it and not get caught*)
  - Poor internal controls
  - Lack of oversight
- **Incentive or Pressure** (*Financial or emotional force pushing to commit fraud*)
  - Meet expectations
  - Avoid criticism
  - Cover a mistake
  - Personal failures, needs
- **Rationalization** (*Personal justification for dishonest actions*)
  - Low compensation
  - Company is profitable



Fraud Triangle

# Inventory: Not all the Same

- Bulk vs. Packaged
- Produced vs. Purchased
- Finished vs. Intermediates vs. Supplies
- Trading Goods (Purchased to be resold)
- Valued vs. non-valued
- Owned vs. not (e.g. leased, responsible for)



## Impacts

- Valuation
- Handling (e.g. related configuration)
- How Counted

# Inventory: Quantities

**Inventory Record Accuracy:** Does Physical inventory match system records

- Material / Batch
- Quantity
- Location



**Method: Physical Counting**

- Periodic (e.g. yearly, quarterly, ...) Frequency can depend on risk (e.g. value)
- Complete Count?
- If 'miss' someone else Adjusts Records based on Count

# Inventory: Quantities



**Inventory Record Accuracy:** Does Physical inventory match system records

## Methods: Cycle Counting

- **Continuous** counting of sections of inventory
- Hit or Miss based on tolerances (e.g. zero for package, +/- for bulk)
- If 'miss' someone else Adjusts Records based on Count
- Root cause analysis of reason and correction for 'miss'
- Track IRA % (# Hits / # checks)
- Acceptable alternative for full physical counts

Common Issue: timing of physical moves vs. system recording



# Inventory: Values

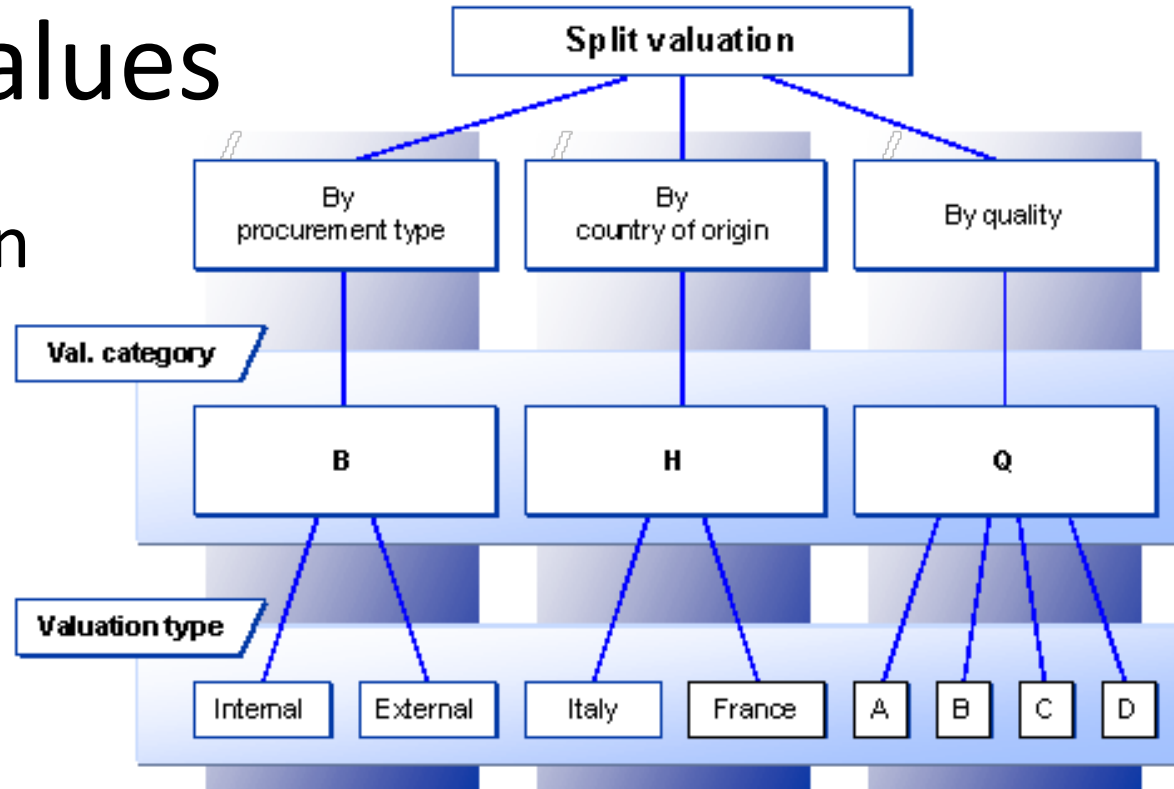
## SAP: Valuation Control

- Controlled by Material Master
- Non-Split Valuation
  - One (1) value by:
    - Material
    - Company or plant (depending config)
  - Valuation Methods
    - Not- valued (e.g. not owned, value is expenses vs. asset)
    - Standard Price (constant based on how procured / produced)
    - Moving Average (changes based on delivered price)



# Inventory: Values

## SAP: Split Valuation



- Material master for each Material / Valuation Type
  - Header record for each Material / Valuation Category created
  - Moving Average Price only calc method allowed
  - Stock records managed separately for each valuation type

# Inventory: Material Movements

Configuration (movement type) in **SAP** that controls:

- Account determination of transactions (Key control)
- How value changes are calculated
- How quantity changes are calculated
- How transacted (inside other transaction or stand-alone)
- Transaction: OMJJ, Table: T156

## **SAP** transactions

- Often imbedded in other transactions / activities
  - Goods receipt (e.g. Production reporting)
  - Goods Issue (e.g. PGI in delivery processing)
  - Transfers





An Auditor With An Attitude of Professional Skepticism or This Guy Has CPA Written All Over Him!



# Inventory Control: Common Risks

- Theft
- Lost Inventory / Damage
- Transaction Errors
  - Human Errors
  - System caused (e.g. BOM accuracy)
- Material Life Cycle (e.g. obsolete / scrapping) and Shelf Life
- Segregation of Duties (physical custodians vs. accounting record custodians)



# Inventory Control: Common Controls

- Segregation of Duties (physical vs. record custodian)
- Inventory policies (Written, taught, monitored)
- Test inventory transactions (shipping, production, procurement, transfers, etc.)
- Inventory Record Accuracy: physical or cycle count
- Timing
- Match control / methods to size of risk (high value)

# Reading Assignment Questions / Comments:

- ***FI/CO is the core of the SAP system. Blindly engaging in other modules, like MM, SD, PP, without having a full grasp of FI/CO will directly impact the understanding of SAP system together.***
- Valuation process: I would like to see how it works, what an average moving price is, and how to control it within SAP. (MM03, MR51)
- *What's the difference between cost accounting and financial accounting?*
- FI controls external appearance, CO controls internal needs. Which one should be satisfied first?
- Could you please explain the concept of non-value stock more in class?

# Reading Assignment Questions / Comments:

- What is the impact of the inventory valuation on the general ledger inventory accounts?
- How often would you do a physical check on your warehouse stock before completely relying on the material masters list?
- Can there be too many controls in place that makes it unproductive?
- Does SAP keep a backup within the software of the Master data?



# Inventory Control: Overview

- Inventory Types
- Inventory Counting Methods
  - Physical
  - Cycle Counting
- Inventory Value
  - How Controlled
- Material Movements
  - How Controlled
- Risks / Controls

# Break Time





# Journal Entries Exercise



- Primary learning objectives are:
  - Experience concepts of beginning financial accounting
  - Review the accounting cycle
  - Work with a manual accounting information system
  - Experience how an ERP system handles the steps of the accounting cycle



# Exercise 3: Journal Entries



- Agenda
  - Last Class (*March 9*): Steps 1 – 3 (Manual steps)
  - This Class (*March 16*): Step 4 (SAP steps)
  - *Due March 19 11:59 PM*: Assignment Submission

# Exercise 3: Journal Entries

**Step 4:** Use SAP ERP system to make all above entries using the general ledger system in SAP.

*(Instructions for using the SAP ERP system start on page 13 of this document)*

- a) Accounting → Financial Accounting → General Ledger → Information System → General Ledger reports → Master Data → Chart of Accounts → Chart of Accounts (S\_ALR\_87012326) Examine the **GLXX** chart of accounts (**XX** is your assigned SAP student login ID#.)
- b) Accounting → Financial Accounting → General Ledger → Posting → Enter G/L Account Document (FB50) Record beginning account balances in the SAP general ledger. Enter as one composite journal entry (first journal entry). Use journal entry date of January 1. Be sure to compare to Excel spreadsheet to make sure the entries are correct.



# Exercise 3: Journal Entries



## Step 4: Using SAP general ledger system

c) Accounting → Financial Accounting → General Ledger → Posting → Enter G/L Account Document (FB50) Record the daily transactions for January in the SAP general ledger

- Do each journal entry as a separate entry, not as one giant composite entry,
- Use appropriate dates – this allows for a good audit trail.



# Exercise 3: Journal Entries



## Step 4: Using SAP general ledger system

- d) Display the trial balance. Compare this to your manual entries. If the trial balance does not match your manual entries, research the errors and make necessary corrections.

Options for viewing the journal entries:

- **Document Journal:** Information System → General Report Selection → Financial Accounting → General Ledger Reports → Document → General → Compact Document Journal → Compact Document Journal (S\_ALR\_87012289)
- **Source Document Drill Down:** Accounting → Financial Accounting → General Ledger → Account → Display/Change Line Items (FBL3N)
- **Line Item Journal:** Information System → General Report Selection → Financial Accounting → General Ledger Reports → Document → General → Line Item Journal → Line Item Journal (S\_ALR\_87012291)

# Exercise 3: Journal Entries



## Step 4: Using SAP general ledger system

- e) Accounting → Financial Accounting → General Ledger → Posting → Enter G/L Account Document (FB50) Record the adjusting entries.
- f) Accounting → Financial Accounting → General Ledger → Periodic Processing → Closing → Carry Forward → Balance Carryforward (New) (FAGLGVTR) Simulate closing the books as of January 31 using the SAP utility.
- **Do not** enter closing entries into the general ledger. These entries would be done automatically through the SAP month-end closing function.



# Extra Slides

# Exercise 3: Journal Entries



- **Step 1:** Record the daily transactions
  - Record if appropriate, (some events may not involve journal entries)
  - Record into Excel
  - Review the post these journal entries into t-accounts (Excel automation) and the calculated account balances using cell formulas in Excel.
  - Review t-account balance flow into your Excel worksheet as a trial balance. Assure validity of links within spreadsheet that expedites the process and minimize risk of an error in data entry

# Exercise 3: Journal Entries



- **Step 2:** Record the adjusting entry transactions
  - Record if appropriate, (some events may not involve journal entries) into Excel
  - Review the post these journal entries into t-accounts (Excel automation) and the calculated account balances using cell formulas in Excel.
  - Review t-account balance flow into your Excel worksheet as a trial balance. Assure validity of links within spreadsheet that expedites the process and minimize risk of an error in data entry



# Exercise 3: Journal Entries



- **Step 3:** Review closing entries
  - Review closing entries in your trial balance as if this were a year-end close. (Do not enter the closing entries in your t-accounts.)