

OUTLIERS: GOING BEYOND TRANSACTIONAL ANALYSIS

Twenty-First World Continuous Auditing & Reporting Symposium
Rutgers Business School
November 6, 2010

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Patricia Geugelin-Dannegger

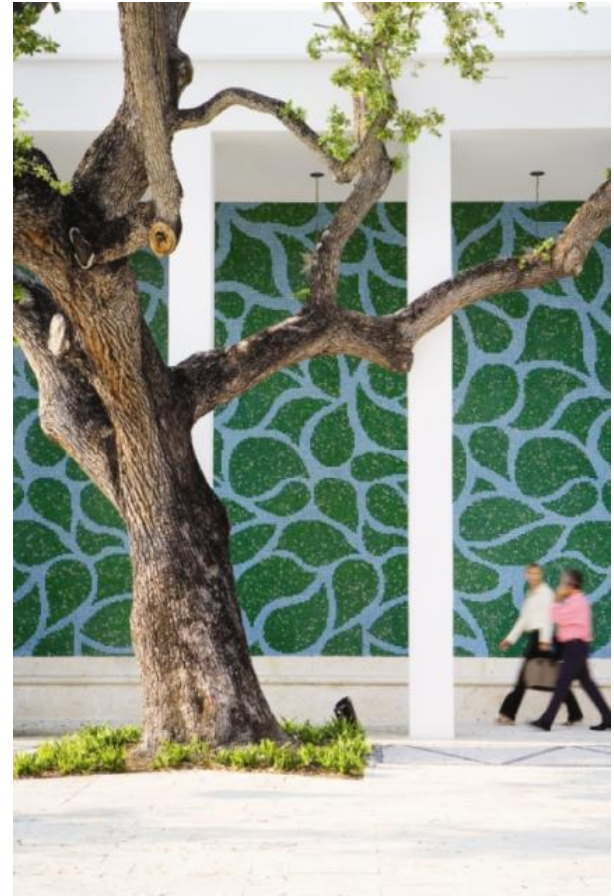
Brad Ames

Hewlett-Packard P Internal Audit



AGENDA

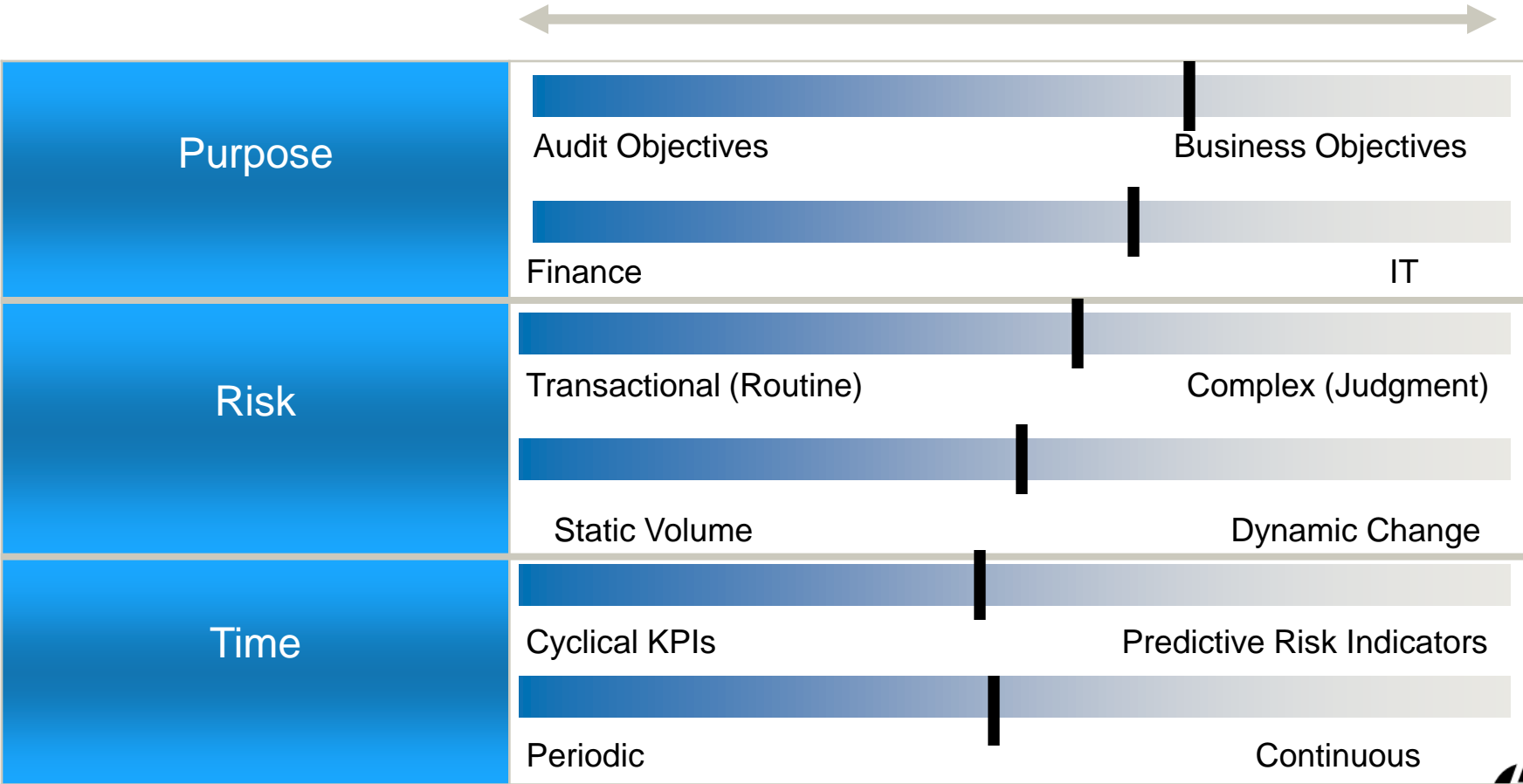
- HP's Approach to Continuous Auditing/Continuous Monitoring
- Application Risks
- Financial Processing
- Getting to the Outliers



FROM NOISE TO KNOWLEDGE:

Considerations for Persuasive Monitoring

Gain a sense of **purpose, risk and time** to tune outliers that are persuasive AND economically useful.



OUR APPROACH FOR MEASURING RISK

— Indicators exist at various levels in the organization:

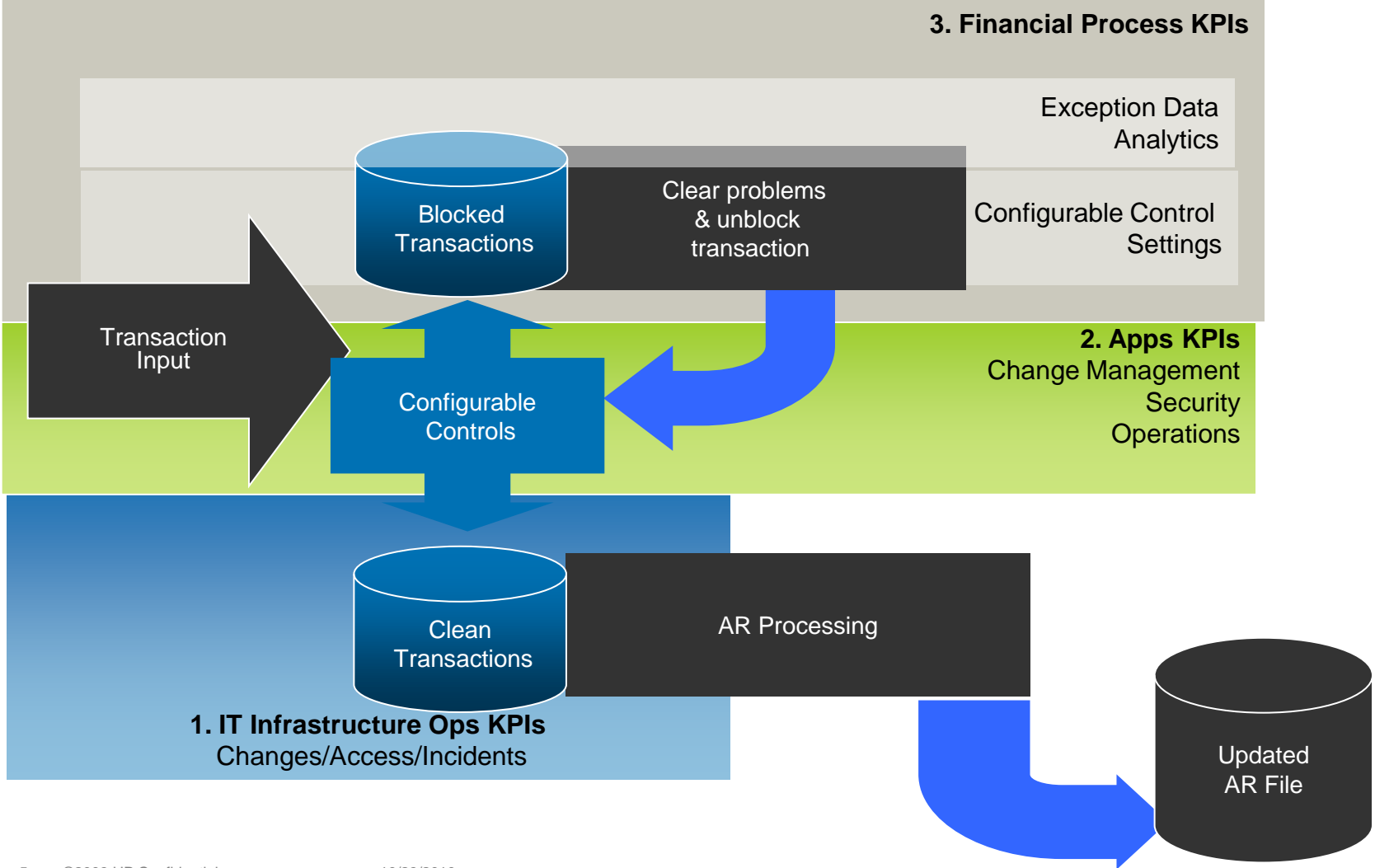
- ✓ IT Infrastructure Operations
- ✓ Applications
- ✓ Financial Processes

— How does HP Internal Audit assess these controls by area?



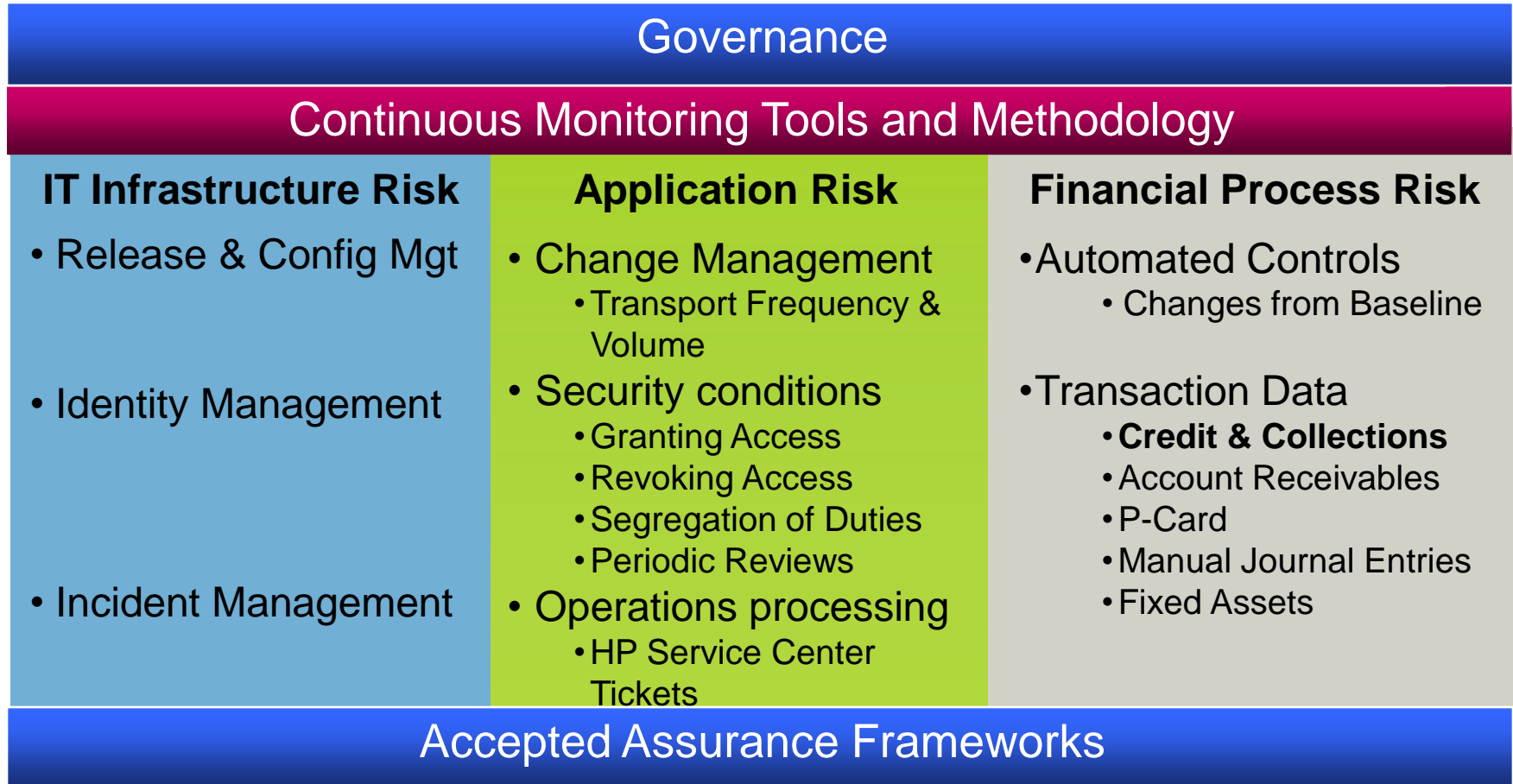
ACCOUNTS RECEIVABLE (AR) CYCLE

3 Areas of Indicators



CONTINUOUS AUDITING & MONITORING MODEL

Aligning IT and Business Objectives Provides a View to Emerging Risk



Application Risk CHANGE MANAGEMENT IN SAP

Governance

Continuous Monitoring Tools and Methodology

IT Infrastructure Risk

- Release & Config Mgt
- Identity Management
- Incident Management

Application Risk

- **Change Management**
 - Transport Frequency & Volume
- Security conditions
 - Granting Access
 - Revoking Access
 - Segregation of Duties
 - Periodic Reviews
- Operations processing
 - HP Service Center Tickets

Financial Process Risks

- Automated Controls
 - Changes from Baseline
- Transaction Data
 - **Credit & Collections**
 - Account Receivables
 - P-Card
 - Manual Journal Entries
 - Fixed Assets

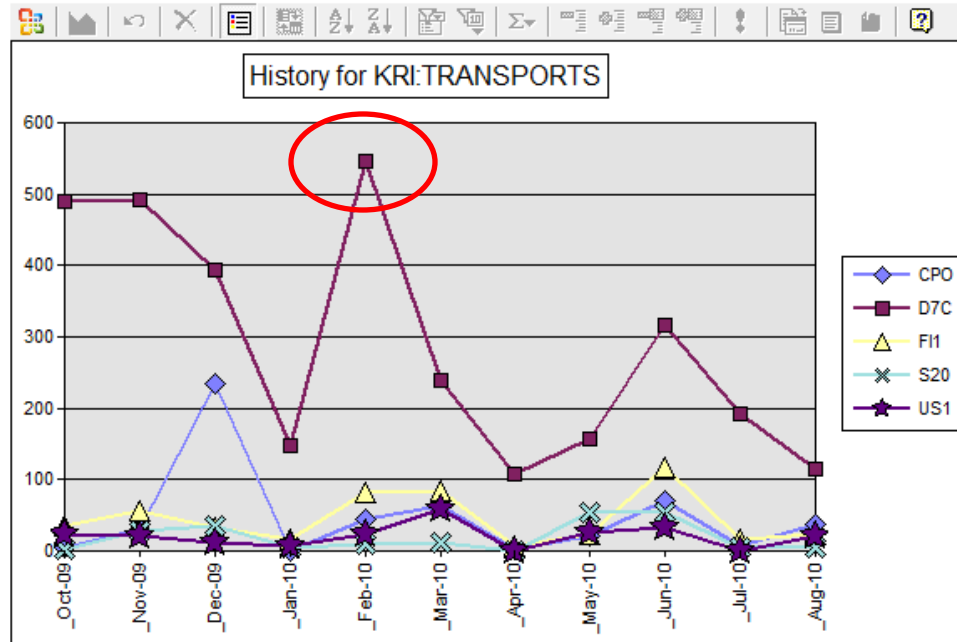
Accepted Assurance Frameworks

SAP TRANSPORT REPORT

Changes: Trending Frequency and Volume

History Report for TRANSPORTS (Area:MAINTENANCE)

→ back to selection → new window



	A	B	C	D	E	F	G	H	I	J	K
1	History for KRI:TRANSPORTS										
2	System	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10
3	CPO	4	30	235	0	45	64	3	22	71	6
4	D7C	489	493	393	148	545	240	108	156	316	193
5	FI1	35	57	33	17	83	84	8	23	117	16
6	S20	3	27	35	5	9	12	1	54	53	4
7	US1	23	22	11	7	23	58	1	25	32	1
8											
9											
10											



SAP TRANSPORT DETAILS

Changes: Detail for Testing Move to Production Process

Standard XML Excel Spreadsheet for Reports (Office 2003) - Windows Internet Explorer

File Edit View Favorites Tools Help Links >>

List of transports of month 02 / 2010

Count:	Req.number:	Type	Creator:	Date	Time:
1	D7AK9A0E8R	T	08133424	02/21/2010	10:14:10
2	D7AK9A0E8S	T	08133424	02/21/2010	10:14:11
3	D7AK9A0E91	K	21441010	02/21/2010	11:41:28
4	D7AK9A0E9D	K	21441010	02/21/2010	11:41:27
5	D7AK9A0E9H	K	21441010	02/21/2010	11:41:29
6	D7AK9A0EA7	W	HOJ	02/21/2010	10:26:42
7	D7AK9A0EAF	W	HOJ	02/21/2010	10:26:44
8	D7AK9A0EAH	W	HOJ	02/21/2010	10:26:45
9	D7AK9A0EAJ	W	HOJ	02/21/2010	10:26:56
10	D7AK9A0EAL	W	HOJ	02/21/2010	10:26:56
11	D7AK9A0EAZ	T	20271520	02/21/2010	10:10:25
12	D7AK9A0EB0	T	20271520	02/21/2010	10:10:27
13	D7AK9A0EB5	T	20407503	02/21/2010	10:10:08
14	D7AK9A0EB8	T	20407503	02/21/2010	10:10:10
15	D7AK9A0EB9	T	20407503	02/21/2010	10:10:11
16	D7AK9A0EBD	T	20407503	02/21/2010	10:10:13
17	D7AK9A0EBE	T	20407503	02/21/2010	10:10:10



Application Risk SECURITY CONDITIONS

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Accepted Assurance Frameworks

GRANTING ACCESS: SELECT YOUR SAMPLES

Changes in Security: Testing for Authorization

- From the KPI home page: Reports -> User Changes

Microsoft Excel - OWCSheet33104.XML [Read-Only]

File Edit View Insert Format Tools Data Window Help

Arial 10 B I U

	A	B	C	D	E	F	G	H
1	No:	Logon name:	Client:	Email:	Logon type:	User group:	rprise Dir. - Emp	Logon status
2								182 New users in 04/2008 con
3	1	00012359	100	regina.hunter@hp.com	DIALOG	7H-TIS	00012359	USED
4	2	00015617	100	steve.rianda@hp.com	DIALOG	3C-PURCHASIN	00015617	USED
5	3	00036143	100	barbara.edwards@hp.com	DIALOG	3C-PURCHASIN	00036143	USED
6	4	00088546	100	miguel.rosado@hp.com	DIALOG	4-SPARES	00088546	EXPIRED1
7	5	00092828	100	tami.sutton@hp.com	DIALOG	6-MFG	00092828	USED
8							
9								1 Deleted users in 04/2008 c
10	183	DAVIDWH	100	david.white2@hp.com	DIALOG	1-MFG	00471669	
11								23 Users with new roles/profiles in
12	184	00232650	100	francisco.montes@hp.com	DIALOG	Z-BASIS	00232650	USED
13	185	00489938	100	eladia.velez@hp.com	DIALOG	4-MATLENG	00489938	LOCKED
14	186	20372398	100	richard.green@hp.com	DIALOG	6A-MFG	20372398	USED

Sheet1 / Sheet2 / Sheet3 /

Ready



REVOKING ACCESS: TERMINATED USERS

Conditions in Employment: Changes in Security

Microsoft Excel - R01_10_Terminated.xls

	A	B	C	D	E	F	G
1	Logon name:	Client:	Email:	prise Dir. - Emp	Logon status:	Last logon:	Term.Date
2	CAOJ	010	jun.cao@hp.com	20262408	USED	09/14/2007	2007-08-31
3	KUMARS2	010	shankar.kumar@hp.com	20222558	USED	-	2007-08-31
4	MORLANDP	010	paul.morland@hp.com	10289639	USED	08/29/2007	2007-09-21
5	N0043120	010	pascal_veuillen@nonhp-gre.exch.hp.co	N0043120	USED	10/08/2007	2007-10-06
6	00648052	010	martina.michalski@hp.com	00648052	LOCKED	08/31/2007	2007-08-31
7	00658130	010	duncan.henry@hp.com	00658130	LOCKED	08/23/2007	2007-08-28
8	07884664	010	jason.stephens@hp.com	07884664	LOCKED	10/03/2007	2007-10-03

Red: Last Logon after termination date

Yellow: Active, but no logon after termination

Green: Inactive and no logon after termination

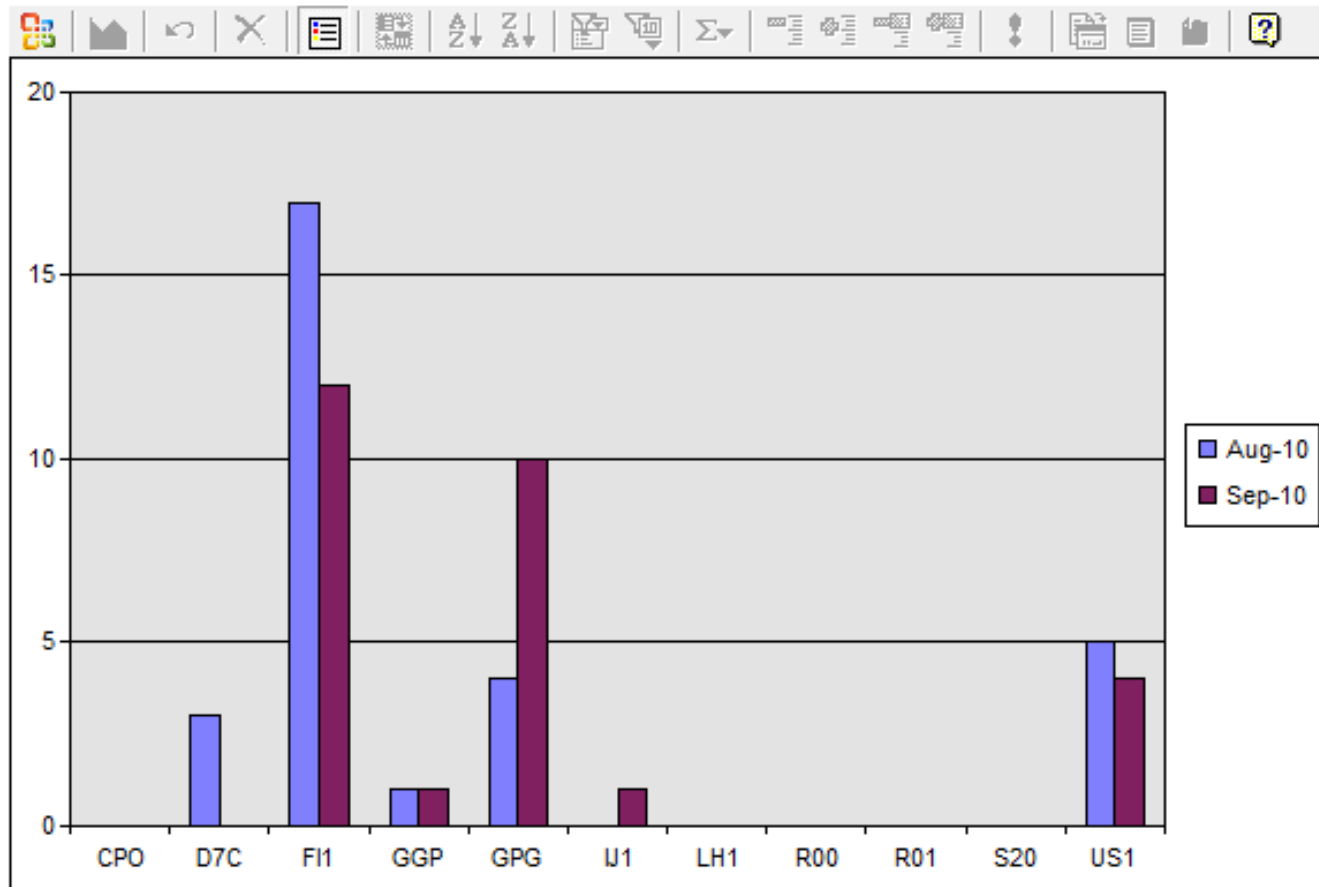
SAP TERMINATED USER COMPARISON

Conditions: Termination Trend

History Report for TERMINATED (Area:USER)

→ back to selection

→ new window



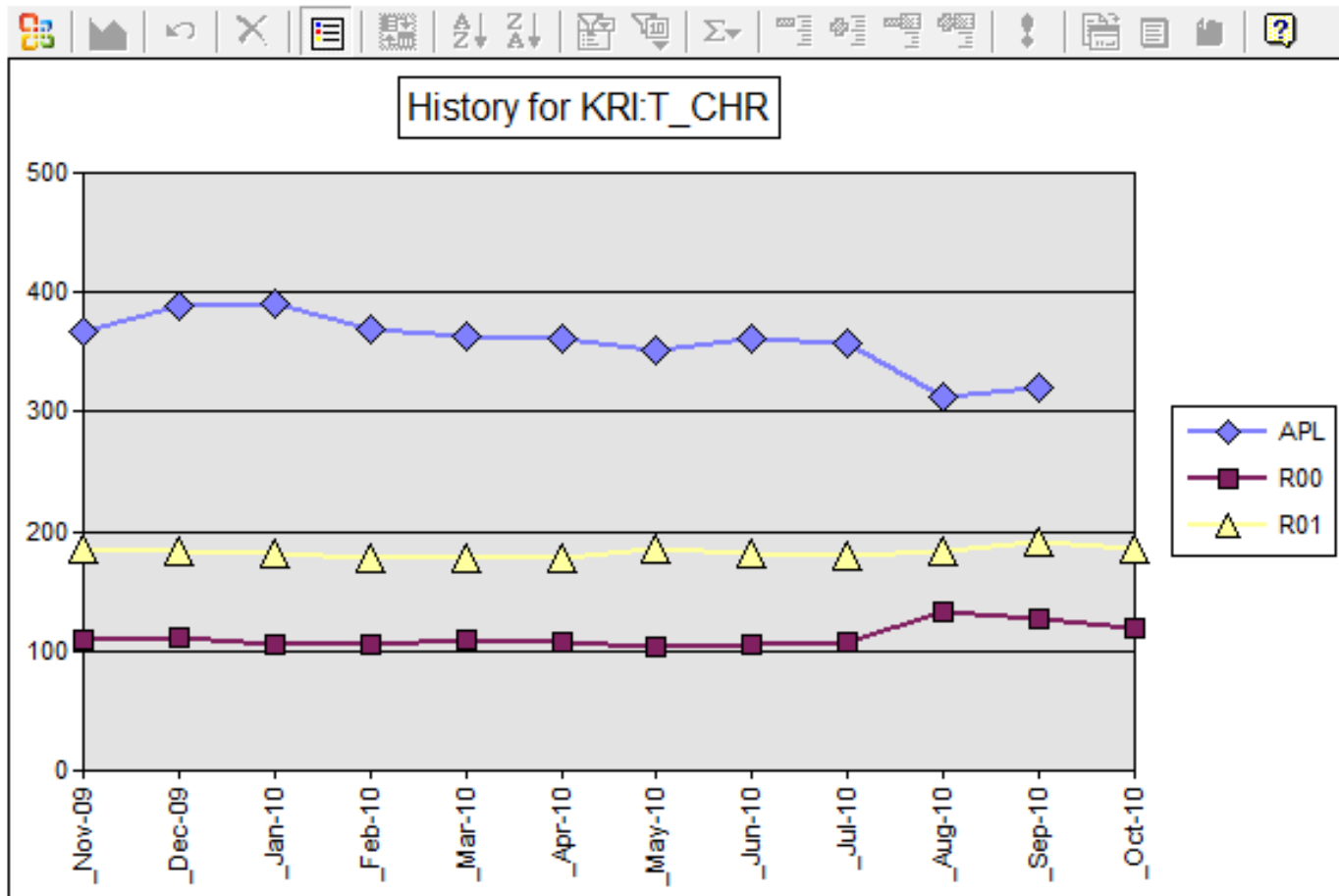
SAP Users with Unblock Transaction Capability Trend

APL: Asia Pacific R00: Americas R01: EMEA

History Report for Credit Hold Release (VKM1,VKM2) (Area: TRANSACTION)

→ back to selection

→ new window



Application Risk OPERATIONS PROCESSING

Governance

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Accepted Assurance Frameworks

OPERATIONS PROCESSING

Incident/Error Management Flux from Prior Period

HP KRI Information System - Data Entry

Business Group	GO+IT-AI	Sysid	LH1	Installation	0020109862
Year	2010 ▾	Month	September ▾	Client	100 (LH Production)
Detail Level	<input checked="" type="radio"/> Low - 1 <input type="radio"/> Medium - 2 <input type="radio"/> High - 3			Last Data Pull:	2010-10-08

→ edit data → reset system → close window → help

AREA	GROUP	ITEM	SITEM	UNIT	LAST	CUR.	COMMENT
System Availability	IT Operations	Openview Tickets		#	83	132	
	Downtime	Availability		%	100	100	
		Actual Downtime		hours	0	0	
		Elapsed Planned Downtime		hours	0	0	
		Elapsed Unplanned Downtime		hours	0	0	
	Calls	Pri 1 calls raised in month		#	2	8	
		Pri 2 calls raised in month		#	6	20	
		Pri 1 calls outside agreed turnaround		#	0	0	
		Pri 2 calls outside agreed turnaround		#	0	0	
	Outages	Unplanned Outages		#	0	0	
Maintenance	Change Management	Open Tickets		#	1	3	
		Number of Change Requests		#	8	10	
	Transports	Delayed moves to production		#	0	0	
		No of Transports in e070		#	115	88	



DETAIL LIST OF OPENVIEW TICKETS

Incident/Error Management Detail Testing

Standard XML Excel Spreadsheet for Reports (Office 2003) - Windows Internet Explorer

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List of HPSC tickets of month 09 / 2010

List of 132 ticket(s):

Count:	Incident #:	CI	Incident Title:	Creation Date/Time	Alert:	Status:	Criticality:	Priority:	Re
1	IM6752692	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/01/2010 01:02	2nd warning	Closed	1	2	09.
2	IM6752710	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/01/2010 01:06	2nd warning	Closed	1	2	09.
3	IM6752782	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/01/2010 01:24	2nd warning	Closed	1	2	09.
4	IM6752914	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/01/2010 01:57	initial	Closed	1	2	09.
5	IM6761350	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/02/2010 01:38	initial	Closed	1	2	09.
6	IM6761410	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/02/2010 01:55	initial	Closed	1	2	09.
7	IM6761493	lh:gvu0656.austin	Error occurred while launching job - CFI	09/02/2010 02:08	initial	Closed	1	2	09.
8	IM6761494	lh:gvu0656.austin	Error occurred while launching job - CFI	09/02/2010 02:08	initial	Closed	1	2	09.
9	IM6761993	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/02/2010 03:38	breached	Closed	1	2	09.
10	IM6767630	lh:gvu0656.austin	AUSTIN PRO - CFIT-LH - Please rerun	09/02/2010 16:56	initial	Closed	1	1	09.
11	IM6767989	lh:gvu0656.austin	AUSTIN PRO - CFIT-LH - Please mark	09/02/2010 17:41	breached	Closed	1	1	09.
12	IM6768017	lh:gvu0656.austin	Error occurred while launching job - CFI	09/02/2010 17:48	2nd warning	Closed	1	2	09.
13	IM6768055	lh:gvu0656.austin	CFIT-LH::gvu0656.austin.hp.com::ABE	09/02/2010 17:58	initial	Closed	1	2	09.
14	IM6769063	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/02/2010 22:02	breached	Closed	1	2	09.
15	IM6769888	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/03/2010 01:41	initial	Closed	1	2	09.
16	IM6769952	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/03/2010 01:57	initial	Closed	1	2	09.
17	IM6770280	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/03/2010 02:55	initial	Closed	1	2	09.
18	IM6772563	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/03/2010 08:05	breached	Closed	1	2	09.
19	IM6772857	lh:gvu0656.austin	AUSTIN PRO - CFIT-LH - Please rerun	09/03/2010 08:46	2nd warning	Closed	1	1	09.
20	IM6773572	lh:gvu0656.austin	Job completed abnormally - CFIT-LH::g	09/03/2010 10:32	breached	Closed	1	2	09.



AUTOMATED (APPLICATION) CONTROLS

Governance

Continuous Monitoring Tools and Methodology

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Financial Process Risk

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Accepted Assurance Frameworks

KEY OBJECTIVES

1. Extract application control data directly from SAP systems
2. Create a benchmark report comparing current application controls data with the previous audit
3. Evaluate the impact of all changes to determine if retesting is required
4. Get buy-in from external audit for benchmarking approach



BENCHMARKING AUTOMATED CONTROLS

Conditions: Comparing a Configurable Value to a Baseline Period

Procure-to-Pay Controls

- All controls
- Standard Configuration (00)
- Vendor Master Data (01)
- Material Master (02)
- Purchase Information Record (03)
- PIR fields (04)
- 2-way match (05)
- Goods Issue (06)
- 3-way match (07)
- Disbursement Cycle (08)
- Purchase Price Variance (09)
- Cycle Count (11)
- Standard Revision (12)

unchanged		
unchanged		
unchanged		
unchanged		
unchanged		
new entries		deleted entries
new entries	changed entries	deleted entries
new entries	changed entries	deleted entries
unchanged		
unchanged		
new entries	changed entries	deleted entries
unchanged		

BENCHMARKING AUTOMATED CONTROLS

Conditions: Comparing Configurable value to a Baseline Period, ctd.

Customer-to-Cash Controls

- All controls
- Customer Master (01)
- Material Master (02)
- Pricing (03)
- Backlog Re-pricing (04)
- Incompletion Procedure (05)
- Credit Filter (06)
- Account Determination (07)
- Transit Time Delay (08)
- Invoice only after PGI (09)
- Invoice requires PGI (10)
- AR aging (11)
- EDI Payments (12)
- Lockbox Payments (13)

unchanged	
unchanged	
new entries	changed entries
unchanged	
changed entries	
unchanged	
new entries	
unchanged	
unchanged	
deleted entries	
new entries	
new entries	
new entries	changed entries

BENCHMARK REPORT

Conditions: Details for Pricing

	A	B	C	D	E	F	G	H	I	J
1	Benchmark report for SOX - C2C App Controls - Fusion AMS - 2008 run by 00110824 (Patricia Geugeli)									
2	Comparison between 04 / 2010 and 07 / 2010									
3	Benchmark report for Pricing C2C 03									
4	Comparison of Custom Programs - ACPROGS									
5	Mode	Cycle	Control	Program	Job	FM Name	TCode	Variant	Transport #	Transport creat
6	No Changes	C2C	3	3SD EZPRSU		RS_GET PRICIN				
7	No Changes	C2C	3	3SD EZPRSU		RS_GET_ITEM P				
8	No Changes	C2C	3	ZHV10S						
9	Changed	C2C	3	CHANGE_OR					C30K9A2AUW	ravi-kk@hp.com
10	Comparison of Pricing Category - T682									
11	Mode	Usage	Applicat	Access seq	Transport #	Transport creato	Old Cat.	New Cat.	Old Active	New Active
12	New	B	ME	Z002	C30K9A28AS	safholm@hp.com	-	-	-	-
13	Changed	B	NF	1	C30K9A28AS	safholm@hp.com	-	-	-	-
14	Comparison of Pricing Category - T683									
15	Mode	Usage	Applicati	Procedure	Transport #	Transport creato	Old Description	New Description	Exclusion Proce	Exclusion Proce
16	No Changes in Pricing Category									
17	Comparison of Pricing Procedures - T683S									
18	Mode	Usage	Applicati	Procedure	Step number	Condition count	Transport #	Transport creator	Old Condition type	ew Condition typ
19	No Changes in Pricing Procedures									
20	Comparison of Pricing Procedures - T683V									
21	Mode	Sales O	Distributi	Division	Document proce	Pricing procedu	Transport #	Transport creator	Old Procedure	New Procedure
22	New	DO00	IC	ZD	T	1	C30K9A27SC	- cindy.fulton@hp.com	-	ZHPIC1
23	New	DO00	IC	ZZ	T	1	C30K9A27SC	- cindy.fulton@hp.com	-	ZHPIC1
24	New	DO00	Z0	ZD	T	1	C30K9A29N2	chris.anganes@hp.com	-	ZHPIC1
25	New	MX	ZZ	ZD	A	1	C30K9A28O7	- lorin.atkins@hp.com	-	ZIC000
26	New	MX	ZZ	ZZ	A	1	C30K9A28O7	- lorin.atkins@hp.com	-	ZIC000



FINANCIAL PROCESSING

Governance

Continuous Monitoring Tools and Methodology

IT Infrastructure Risks

- Release & Config Mgt
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- Incident Management

Application Risks

- Change Management
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Financial Process Risks

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Accepted Assurance Frameworks

FINANCIAL PROCESS MONITORING

- Today's illustration: Global Credit & Collections Process
- Diverse Team: HP's "Top Talent in Finance." Contributors came from across HP finance
- Objective: Understand organizational objectives and risks in order to gain an ongoing view to how those risks are managed. Develop an elegant set of metrics with easily identified outliers for self-assessment and IA follow-up.



CREDIT & COLLECTIONS MONITORING:

Transaction Data: Business Fundamental Tables

- BFT metrics cover Cost, Financial, Performance, Efficiency, Compliance, Personnel, Program Development, Global Initiatives, etc.

HP Global Credit and Collections: FY10 Business Fundamentals

Performance Category	Q1 Goal	Q2 Goal	Q3 Goal	Q4 Goal	Nov'09	Dec'09	Jan'10	Feb'10	Mar'10	Apr'10	May'10	Jun'10	Jul'10
<i>All Dollar Amounts (except the cost metrics) are in millions</i>													
Cost Metrics: Global C&C Only, (Excludes Regional Data)													
ASPIRE- GLOBAL C&C, (thousands)	\$1,118	\$712	\$694	\$702	\$373	\$373	\$373	\$237	\$237	\$237	\$231	\$231	\$231
FLASH- GLOBAL C&C, (thousands)	\$1,059	\$654	\$660	\$681	\$353	\$353	\$353	\$218	\$218	\$218	\$220	\$220	\$220
ACTUALS- GLOBAL C&C, (thousands)	\$987	\$622	\$647		\$154.5	\$204.2	\$628.7	\$219.4	\$209.3	\$192.9	\$199.3	\$224.7	\$223.5
Global Team Cost / Headcount, (thousands)	\$31.3	\$20.0	\$21.1		\$4.68	\$6.4	\$20.3	\$7.1	\$6.8	\$6.2	\$6.4	\$7.2	\$7.5
Global Cost / Aspire %	<= 100%	<= 100%	<= 100%	<= 100%	41.5%	54.8%	168.7%	92.4%	88.2%	81.3%	86.1%	97.1%	96.6%
VW Cost (thousands)	\$9,756	\$9,252	\$8,816		\$3,391	\$3,123	\$3,242	\$3,331	2,933	2,988	2,657	3,275	2,885
HPCO Revenue (thousands)	\$31,176,749	\$30,849,536	\$29,964,623		n/a	n/a	\$31,176,749	n/a	n/a	\$30,849,536	n/a	n/a	\$29,964,623
ACTUALS Cost of Credit as a % of Revenue	0.0313%	0.0300%	0.0294%		n/a	n/a	0.0313%	n/a	n/a	0.0300%	n/a	n/a	0.0294%
Global Revenue / Headcount, (millions)	\$1,005.7	\$995.1	\$998.8		n/a	n/a	\$1,005.7	n/a	n/a	\$995.1	n/a	n/a	\$998.8
Global Team Total Headcount, (ETW Included)	33	33	33	33	33	32	31	31	31	31	31	31	30
VW C&C Headcount (ETW included)	883	865	854		888	882	880	863	876	857	843	855	863
HP Revenue / VW Headcount, (millions)	\$35.4	\$36.0	\$34.7		n/a	n/a	\$35.4	n/a	n/a	\$36.0	n/a	n/a	\$34.7
Financial Metrics : Global C&C Only, (Excludes Regional Data)													
OPEX (Net Bad Debt), \$M	14.8	11.3	-14.7		n/a	n/a	14.8	n/a	n/a	11.3	n/a	n/a	-14.7



Days Sales Outstanding

Delays of payment is a symptom of inaccuracy

“Hackett analysis finds that a typical \$10 billion company can generate more than \$35.8 million/year in bottom-line savings if they achieve world-class performance in this area by reducing Days Sales Outstanding (DSO) - a standard measure of how quickly companies get paid by their customers. One key strategy of world-class companies in this area has been to dramatically **lower billing error rates in order to eliminate any reason for delayed payment.** In addition, these world-class finance organizations have made significant improvements in their Invoice-to-Cash procedures, driving higher levels of efficiency and effectiveness.”

The Hackett Group



TREND IN COLLECTION – JULY 2010

Transaction Data Outlier Trended

Region	Total A/R (in USD Billions)		% of Current A/R		DPD % above 90 days		Days Sales Outstanding (DSO)		Collection Effective Index	
	July 10	Jun 10	July 10	Jun 10	July 10	Jun 10	July 10	Jun 10	July 10	Jun 10
World Wide	14.85	↑ 13.46	88.4%	↑ 84.5%	1.4%	↓ 1.6%	40.9	↑ 38.2	86.9%	↑ 83.1%
AMS	6.65	↑ 6.37	87.1%	↑ 82.8%	1.4%	↓ 1.6%	41.8	↑ 41.8	85.4%	↑ 80.2%
APAC	2.44	↑ 2.07	87.8%	↑ 87.0%	2.1%	↓ 2.6%	36.6	↑ 32.0	87.9%	↑ 87.7%
EMEA	5.75	↑ 5.01	90.1%	↑ 85.6%	1.1%	↓ 1.1%	42.1	↑ 37.2	88.3%	↑ 84.3%

In EMEA, DSO changed significantly on account of (1) EMEA Retail, (2) Austria, (3) Turkey, (4) Greece, (5) EMEA OEM, (6) HPITBV Africa and (7) Egypt

In APJ, DSO changed significantly on account of (1) Japan, (2) Philippines, (3) Taiwan, (4) Vietnam and (5) AEC



Trend in Blocked Orders (BO) – July 2010

Transaction Data Outlier Trended

Region	Manual Sales Orders %		TAT for Manual Sales Orders (Hrs)		Manual Shipment Orders %		TAT for Manual Shipment Orders (Hrs)	
	July 10	Jun 10	July 10	Jun 10	July 10	Jun 10	July 10	Jun 10
World Wide	3.5% ↓	4.6%	22.4 ↓	61.5	9.0% ↓	9.8%	55.4 ↓	62.1
AMS	2.6% ↑	2.3%	24.1 ↓	25.3	8.6% ↑	4.3%	21.0 ↓	29.1
APAC	3.5% ↓	4.4%	10.8 ↑	8.1	7.2% ↓	9.8%	63.6 ↑	60.6
EMEA	5.0% ↓	8.4%	23.5 ↓	86.1	21.9% ↑	14.5%	49.1 ↓	80.5

The countries responsible for increase in percentage of Manual Shipment Orders are (1) Russian Federation, (2) Luxemburg, (3) France and (4) Netherlands



Credit – Countries with High and Very High instances of Customer Credit Review Non Compliance and Blocked Orders for July 2010

Very High % of CCR Non Compliance (More than 10%)	<ol style="list-style-type: none"> Chile (17.11%, 7.95%) Puerto Rico (11.29%, 5.77%) 	<ol style="list-style-type: none"> Argentina (23.02%, 17.33%) Venezuela (21.34%, 22.35%) Vietnam (18.26%, 50.0%) Ecuador (12.50%, 34.31%) Colombia (12.28%, 12.92%) Costa Rica (12.00%, 50.00%) New Zealand (10.08%, 16.62%)
High % of CCR Non Compliance (5% to 10%)	<ol style="list-style-type: none"> China (8.09%, 7.68%) Kazakhstan (6.42%, 6.78%) 	<ol style="list-style-type: none"> Mexico (9.22%, 10.54%) Singapore (6.07%, 17.20%) Hungary (5.94%, 15.89%) Philippines (5.58%, 11.84%)
	High percentage of Blocked Orders (5% to 10%)	Very High Percentage of Blocked Orders (More than 10%)

(1) Argentina, (2) Chile, (3) Colombia, (4) Ecuador, (5) Hungary, (6) Mexico, (7) Puerto Rico, (8) Venezuela and (9) Vietnam has been in High Risk 25 Countries for the Accounts Exceeding the Credit Limit since last one Quarter



RELATING TRANSACTIONAL AND SECURITY METRICS

HP Internal Audit



TOP MANUAL JOURNAL ENTRY USER-IDS

Compare Transaction data with Conditions to Cross-instance

User No	User Name	No. of Months the User came in top 20 by MJV Amount posted within the last 12 months	Existing SOD conflicts within GL accounting system (LH1)	Cross-App SOD conflicts of GIL accounting on LH1 with functions on other SAP applications
#/20370180	Santosh Hegde	12	GL-Accounting and Bank Statement	-
#/HPBTCH	HPBTCH	12	<i>no dialog user</i>	<i>no dialog user</i>
#/20150696	Sharon Ogink	12	GL-Accounting and Bank Statement	-
#/20410557	Preethesh NR	12	-	-
#/20224564	Lavita Pinto	12	GL-Accounting and Bank Statement	-
#/20382854	Ganesh Shripad Hegde	12	GL-Accounting and Bank Statement and Change Quotes and Flag Invoice	-
#/20284010	Balasubramaniyum S	12	GL-Accounting and Bank Statement	-
#/20322958	Gappanna B K	10	GL-Accounting and Bank Statement and Change Quotes and Flag Invoice	-
#/20382668	Matthijs Vloten	10	GL-Accounting and Bank Statement	-
#/20434021	Deepak GV	10	GL-Accounting and Bank Statement	-
#/00132614	Jeroen Brinkhof	9	GL-Accounting and Bank Statement	-
#/20366031	Jayantie Birdja	9	GL-Accounting and Bank Statement	-
#/00565561	Kelly Chang	8	-	GL-accounting on LH1 and Invoicing on D7C and Invoicing on PJ1
#/20411259	Rajiv Kumar D	7	-	-
#/20285789	Bhuvaneswary K	7	GL-Accounting and Bank Statement	-
#/20431081	Jayashree CN	6	-	-
#/21340428	Rahul Vishwakarma	5	-	-



OUTLIERS DRIVE OUTCOMES THAT MATTER

- ✓ Fail Better: Start with **business objectives** rather than audit objectives
- ✓ Align **diverse sources**:
 - Incident logging
 - Configurable conditions
 - Transactional data
- ✓ Isolate predictive outliers **across multiple indicators**
- ✓ IT Indicators tend to **lead financial indicators**
- ✓ The most persuasive indicators address root cause and are **accompanied by action**



**Outliers clarify which questions to ask first ...
...about where to go next.**

QUESTIONS?

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Appendix

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PatriciaG@hp.com











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CONTINUOUS MONITORING TOOLS*

– Alignment is the Key:

- Incidents, change, and configurables give pervasive results across audit objectives
- Transaction data gives precise results specific to the business objective

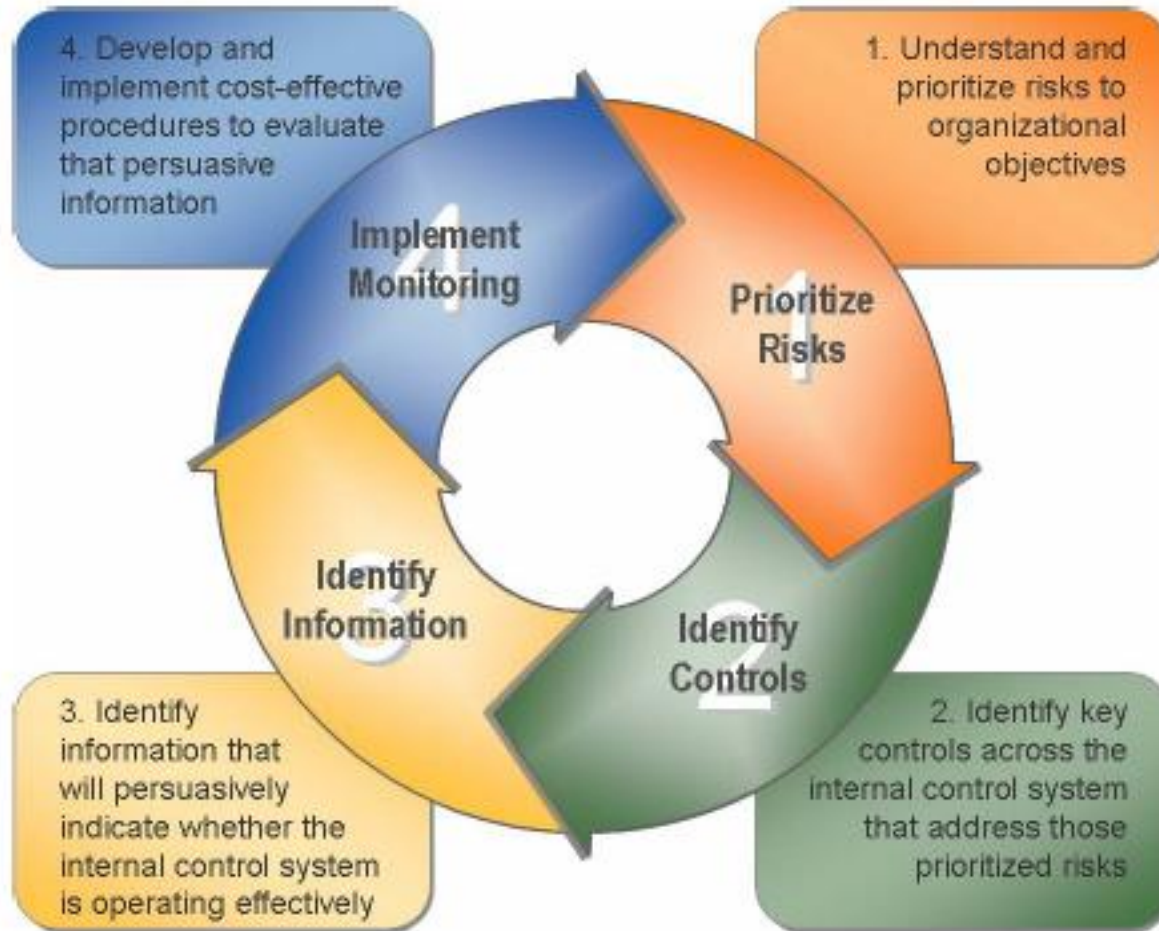
– Balance a suitable mix of logging, configuration and transaction data to give the most persuasive conclusions, that are economically useful

IT OPERATIONS	APPLICATIONS	FINANCIAL PROCESSES	TOOL	DEFINITION
			Transaction data	Comparing processed transaction (or master file) data against a set of control rules established to highlight exceptions and/or identify instances in which the controls over a process or system are not working as intended.
			Conditions	Examining application or infrastructure configuration settings/parameters and comparing them with a baseline or with previously established expectations. An example could include tools that monitor system access controls.
			Changes	Identifying and reporting changes to critical resources, data or information, making it possible to verify that changes are appropriate and authorized.
			Processing integrity	Verifying and monitoring the completeness and accuracy of data as it progresses through various IT processes and systems.
			Error management	Monitoring the volume and resolution of activity in suspense areas, error logs or exception reports, typically as part of an application system.

*SOURCE: The Committee of Sponsoring Organizations of the Treadway Commission (COSO): Guidance on Monitoring Internal Control Systems. Vol II: Application. Durham, NC. 2009: 53-54.



COSO Monitoring Design & Implementation Progression



Source: COSO, Guidance on Monitoring Internal Control Systems, Volume I, p. 7.

Interconnected EXECUTION

Audit Engagement

Planning

- Predetermine ABU Coverage
- Send Audit Notification Letter

Audit Prep

- Conduct overview meeting with auditee
- Scope and risk adjust audit
- Send Engagement Letter to auditee
- Send information and data requests
- Conduct process mapping

Fieldwork

- Opening meeting
- Process testing
- Data Testing
- Draft Audit Issue & Recommendation (AIR)
- Closing meeting

Reporting

- Obtain management responses
- Issue draft report
- Issue final report and executive summary

Follow-Up

- Customer Survey
- Issue follow-up

Results Based Considerations

Enhanced Control Design Walkthroughs



Continuous Auditing/Continuous Monitoring



Other Assurance Providers

Next Audit Practice

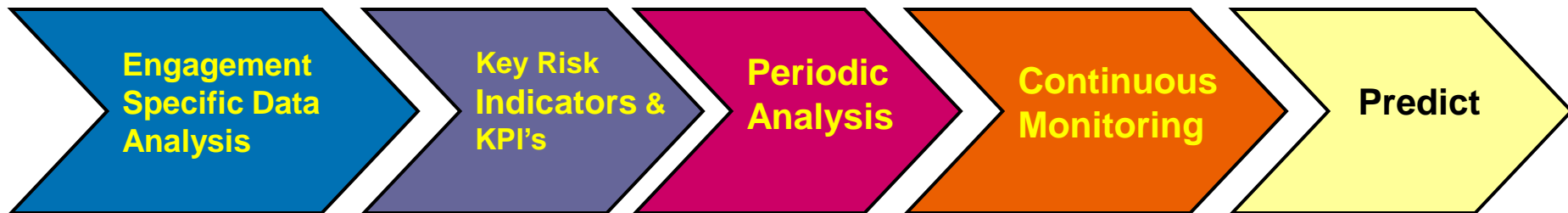
Collaborate with Audit Leads to move from Ad-hoc to Continuous Monitoring

1. Acquire data and conduct analysis in connection with audit engagements
2. Learn KPIs from the audit results
3. Determine periodic analysis with sufficient detail to inspect when warranted
4. Advance Continuous Monitoring to compliance community



Collaborate with Audit Leads to move from Ad-hoc to Continuous Monitoring

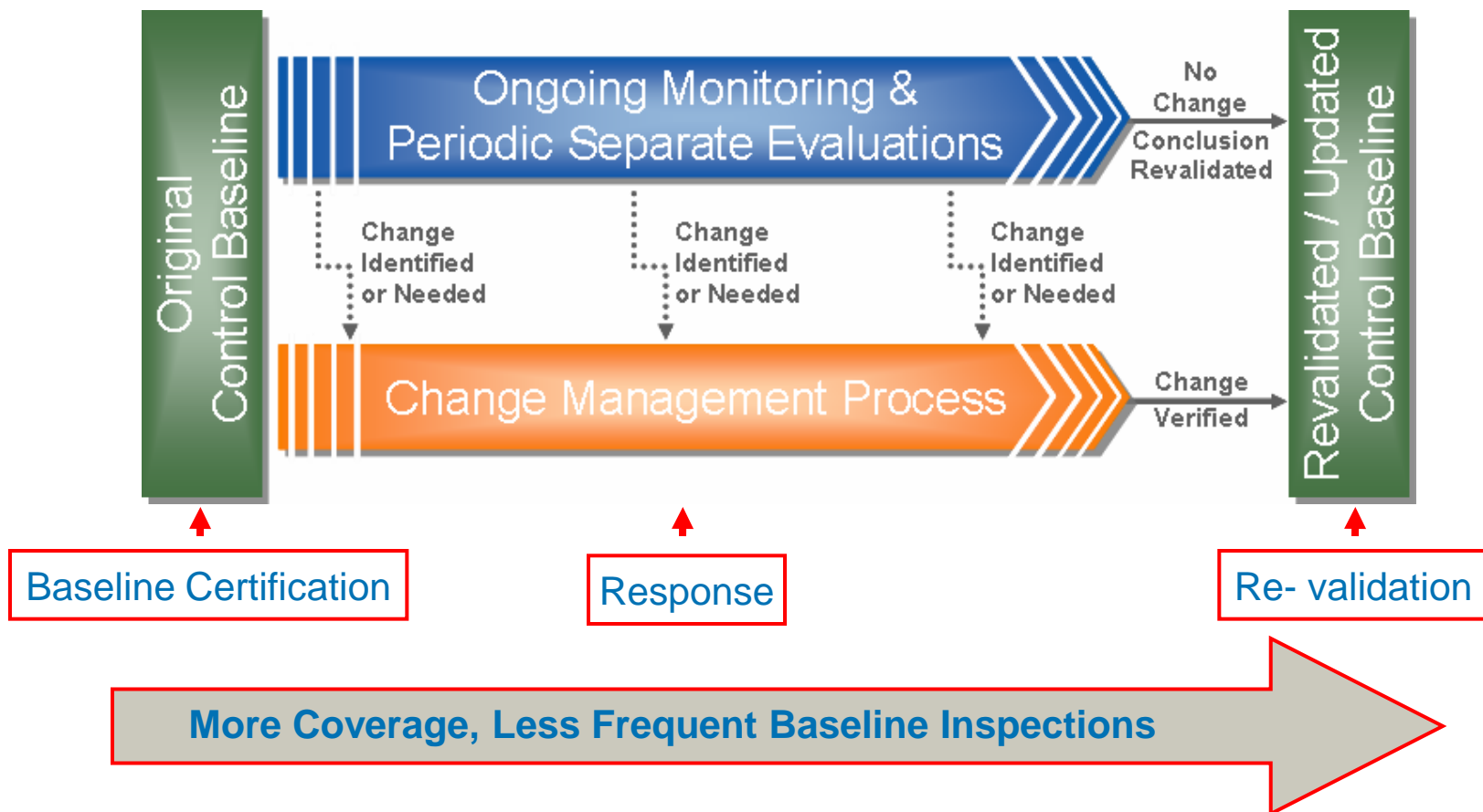
1. Acquire data and conduct analysis in connection with audit engagements
2. Learn KPIs from the audit results
3. Determine periodic analysis with sufficient detail to inspect when warranted
4. Advance Continuous Monitoring to compliance community
5. Predict and pre-empt emerging risk



HOW CONTROL BENCHMARKING WORKS

COSO Guidance on Monitoring Internal Control Systems

Trending and comparing changes to a predefined threshold will sustain and carry forward the Baseline conclusion with minimal examination.



Linking IT Controls to Management Assertions

Assertion: Completeness

Assertion: Existence / Occurrence

Assertion: Valuation / Measurement

Operating Systems

ITIL Processes

- Release & Config

- Identity

- Incident Handling

Applications & Databases

GAIT Principles

- Change Management

- Security

- Operations

Financial Process

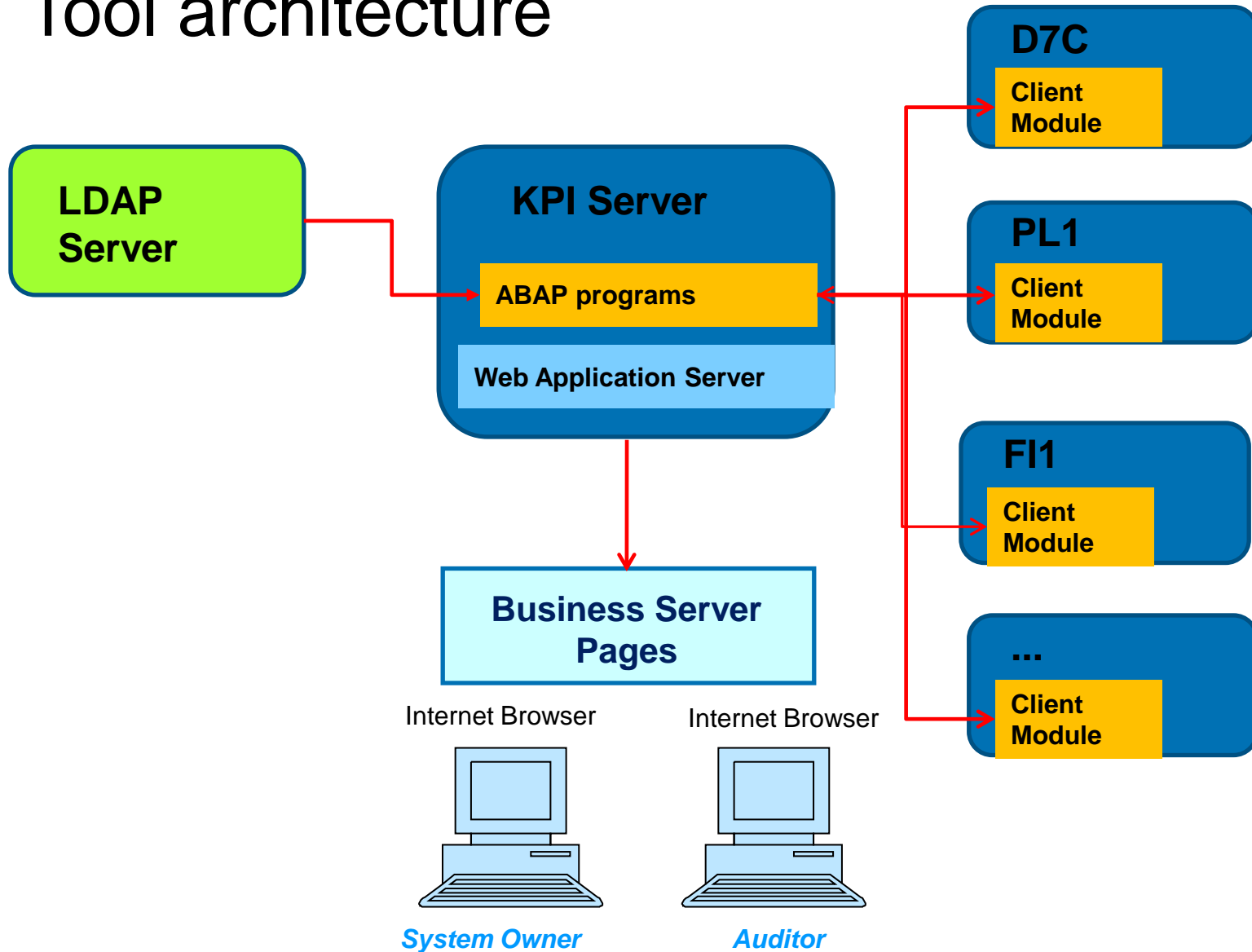
Control Objectives

- Accuracy

- Authorization

- Completeness

Tool architecture



Z Test Score for Exceeded Credit Limits for July 2010

Transaction data themes corroborated with statistical analysis

Z Score for Customers with Exceeded Credit Limits (Countries with more than 50 Customer Portfolios)

