Quest Forum Digital Event

Insights. Information. Education.

Practical hands-on learning for the Oracle user community.

Innovation Week
April 20 - 24, 2020

Community Education

Cloud Week	May 27 - 29
PeopleSoft Week	June 1 - 4
JD Edwards Week	June 8 - 11
Database & Tech Week	June 15 - 18

Focus Days

Professional Development	June 5
Emerging Technology	June 5
Training & Workshops	June 12

Trek – How a Mid-Market Private Manufacturer handled JDE Security (the easy way)

Remember to provide your session feedback in the app!

Session ID:

104200

Prepared by:

Tom Spoke

Global IT-ERP Director
Trek Bicycle Corp

Mike Ward

CEO Q Software

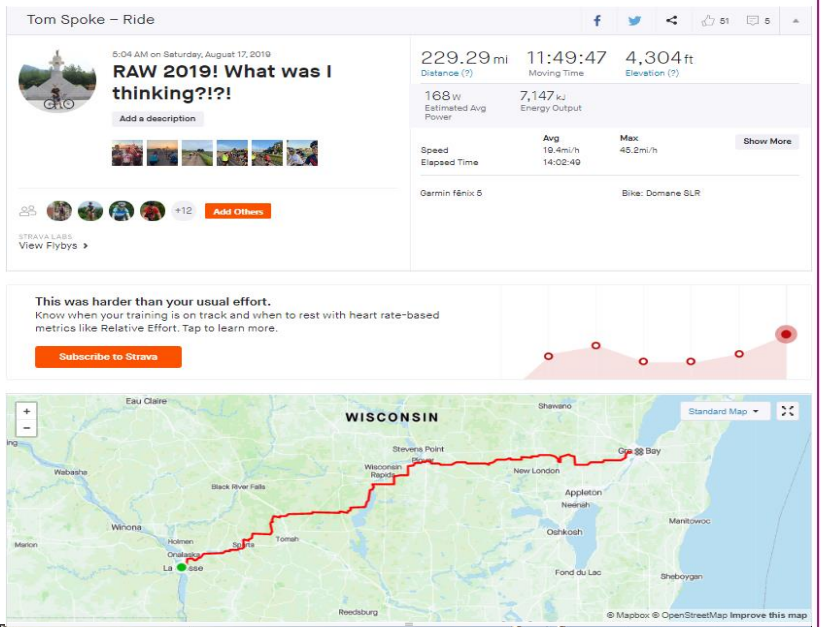
June 10th 2020

Objectives – Learn…..

- How a well-known company protected its brand with increased focus on security and fraud protection
- How a fellow JDE customer established risk controls efficiently and effectively, particularly in light of rapid growth.
- How a private company opted to achieve greater control of unknown risks

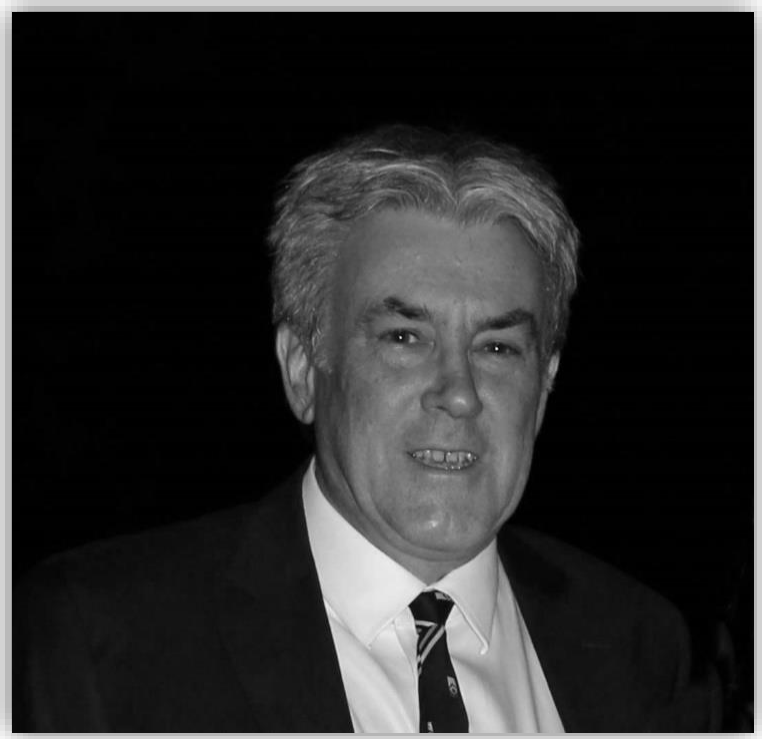
Tom Spoke

- Global IT Director
- 19 Years at Trek
- Global IT-ERP Director
- Business Process Improvement
- Wisconsin
- Cyclist



Mike Ward

- 40 Years IT Experience
- ERP from the Beginning
- Born in UK, Living in Colorado
- @mikeaward
- Aged by Isolation
- Not a Cyclist



Agenda

- Introduction & Objectives
- Trek – Company & ERP Setup
- Why Audit is Important
- The Challenges at Trek
- Solutions
- Auditing Security
- Summary - Lessons

Founded in 1976

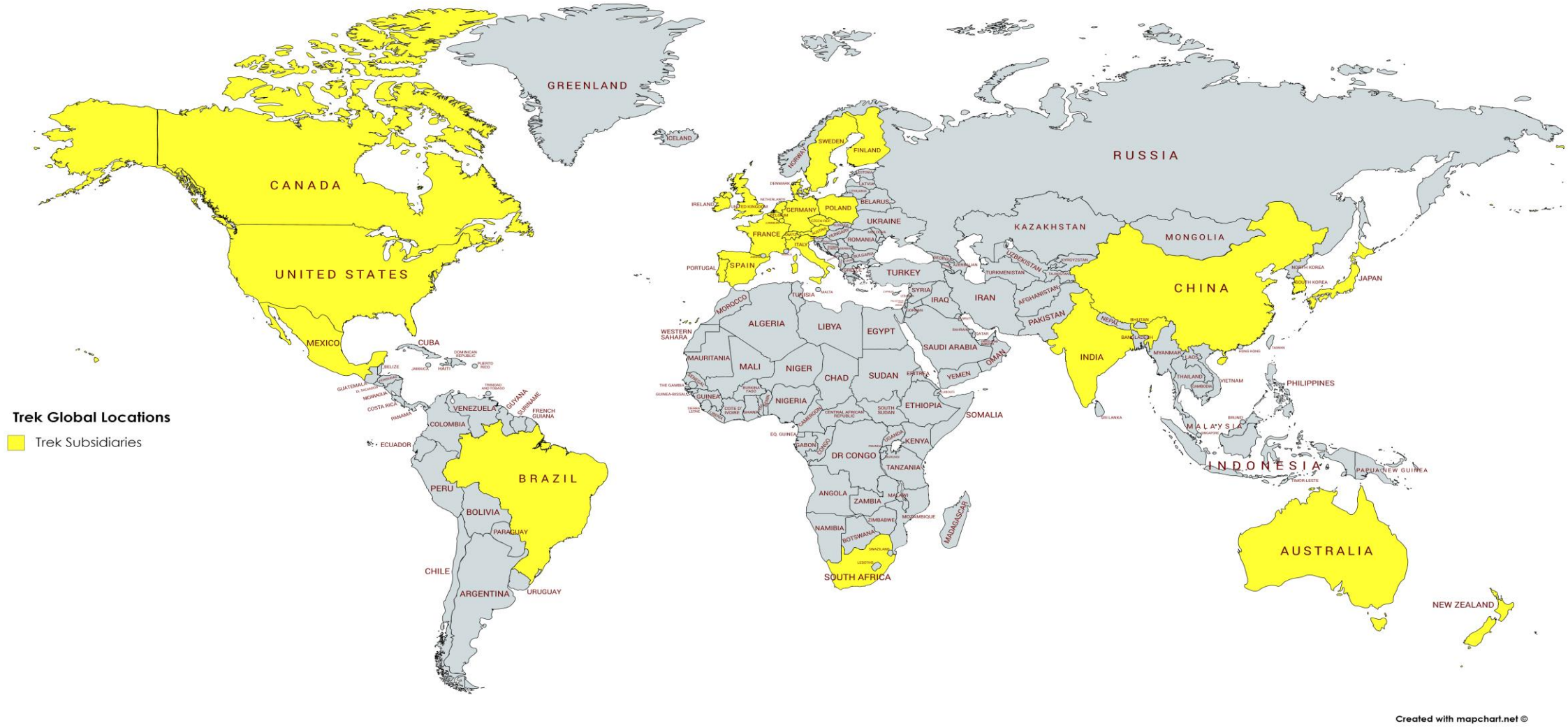
Headquarters in Waterloo Wisconsin, USA

Corporate culture of employee health & wellness

Trek is certified as a GPTW!

About Trek Bicycle Corporation

- World leader in manufacturing & distribution of bicycles & cycling products
- Global Organization
  - Distribution in 90+ countries worldwide
  - 30 countries with legal entities
  - Annual revenue of USD $1 billion


Trek Global Locations
Trek Subsidiaries
GREENLAND
ICELAND
CANADA
UNITED STATES
MEXICO
CUBA
GUATEMALA
BELIZE
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
VENEZUELA
GUYANA
SURINAME
FRENCH GUIANA
COLOMBIA
ECUADOR
PERU
BRAZIL
BOLIVIA
PARAGUAY
CHILE
ARGENTINA
URUGUAY
NORWAY
SWEDEN
FINLAND
RUSSIA
IRELAND
DENMARK
NETHERLANDS
BELGIUM
GERMANY
POLAND
BELARUS
UKRAINE
FRANCE
ROMANIA
ITALY
PORTUGAL
SPAIN
TURKEY
KAZAKHSTAN
MONGOLIA
UZBEKISTAN
TURKMENISTAN
KYRGYZSTAN
TAJIKISTAN
CHINA
NORTH KOREA
SOUTH KOREA
JAPAN
TUNISIA
MALTA
SYRIA
IRAQ
IRAN
AFGHANISTAN
PAKISTAN
MOROCCO
WESTERN SAHARA
ALGERIA
LIBYA
EGYPT
MAURITANIA
MALI
NIGER
CHAD
SUDAN
ERITREA
YEMEN
OMAN
SAUDI ARABIA
NEPAL
BHUTAN
BANGLADESH
MYANMAR
INDIA
SRI LANKA
GUINEA
NIGERIA
ETHIOPIA
SOMALIA
EQ. GUINEA
GABON
KENYA
DR CONGO
TANZANIA
ANGOLA
ZAMBIA
MALAWI
NAMIBIA
ZIMBABWE
MOZAMBIQUE
BOTSWANA
MADAGASCAR
SOUTH AFRICA
LESOTHO
SWAZILAND
LAOS
THAILAND
VIETNAM
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PAPUA NEW GUINEA
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NEW ZEALAND
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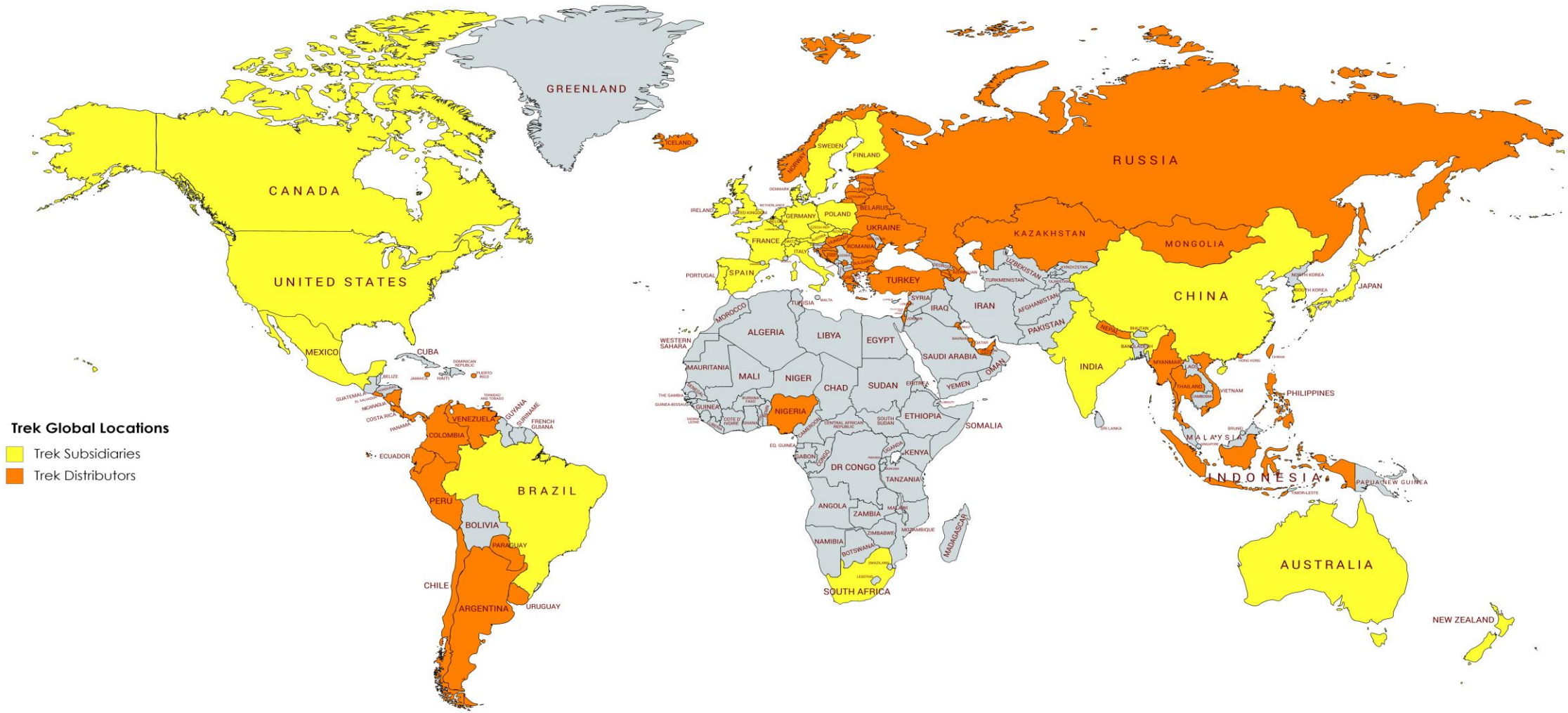
Trek Global Locations
Trek Subsidiaries
Trek Distributors
GREENLAND
CANADA
UNITED STATES
MEXICO
CUBA
BRAZIL
PERU
BOLIVIA
PARAGUAY
CHILE
ARGENTINA
URUGUAY
COLOMBIA
VENEZUELA
ECUADOR
RUSSIA
KAZAKHSTAN
MONGOLIA
CHINA
JAPAN
INDIA
AUSTRALIA
NEW ZEALAND
INDONESIA
PHILIPPINES
MALAYSIA
SOUTH AFRICA
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About Trek Bicycle Corporation

Trek Global Network

- Partnership with 10,000+ Independent Bicycle Dealers (IBD)
- 150+ Direct Retail Locations
- B2C E-Commerce Platforms US & UK (and growing)

About Trek Bicycle Corporation

- Brands
  - Trek
  - Bontrager
  - Diamant
  - Electra

BCycle

S


ONTARIO
QUEBEC
WASHINGTON
MONTANA
NORTH DAKOTA
MINNESOTA
NB
PE
Ottawa
Montreal
SOUTH DAKOTA
MAINE
NOVA SCOTIA
OREGON
IDAHO
WYOMING
Toronto
VT
NH
NEW YORK
Chicago
NEBRASKA
MA
CT RI
PENN
Philadelphia
NEVADA
UTAH
COLORADO
United States
KANSAS
MISSOURI
MD
DE
NJ
WEST VIRGINIA
San Francisco
CALIFORNIA
Las Vegas
OKLAHOMA
TENNESSEE
ARKANSAS
Los Angeles
ARIZONA
San Diego
MISSISSIPPI
ALABAMA
GEORGIA
LOUISIANA
Houston
Gulf of California
Gulf of Mexico
Mexico
Cuba
Mexico City
Dominican Republic
Puerto Rico


Introducing
BCycle Electric
BCycle

Ascend®

Retail Management Solution Software & Services for the Bicycle Industry

- Point of Sale Software
- Business Analytics
- Bookkeeping Service
- Inventory Consulting
- Strategic Planning

Trek IT Systems Overview

ERP

- JD Edwards 9.2
  - Single global instance
- Tools Release 9.2.4.2

Modules

- Sales (Advanced Pricing & Configurator)
- Procurement
- Warranty (Case Management)
- Advanced Warehousing
- Finance (Advanced Cost Accounting)
- Manufacturing

Users and Scale

- Approximately 1000 users
- 500 concurrent users

Infrastructure

- IBM i DB2 Database (Power 9)

Other Systems

- Qsoftware Security
- Loftware Labeling
- Proship Shipping Solution
- Hybris B2B & B2C
- Microsoft CRM
- dcLink Data Collection
- EDI
- Oracle SOA 12c
- AIS
- IoT Orchestrator
- E1 ADF
- Automic Job Scheduler
- Archivist Data Archive Solutions

Trek's JD Edwards ERP History

2005 – Global XE implementation

2011 – Asia Pacific E1 9.0 implementation

2012 – Asia Pacific 9.0 to 9.1 upgrade

2014 – Global XE to 9.1 upgrade (all modules except Advanced Warehousing)

2015 – Global XE to 9.1 Advanced Warehousing upgrade

2018 – Global 9.1 to 9.2 upgrade

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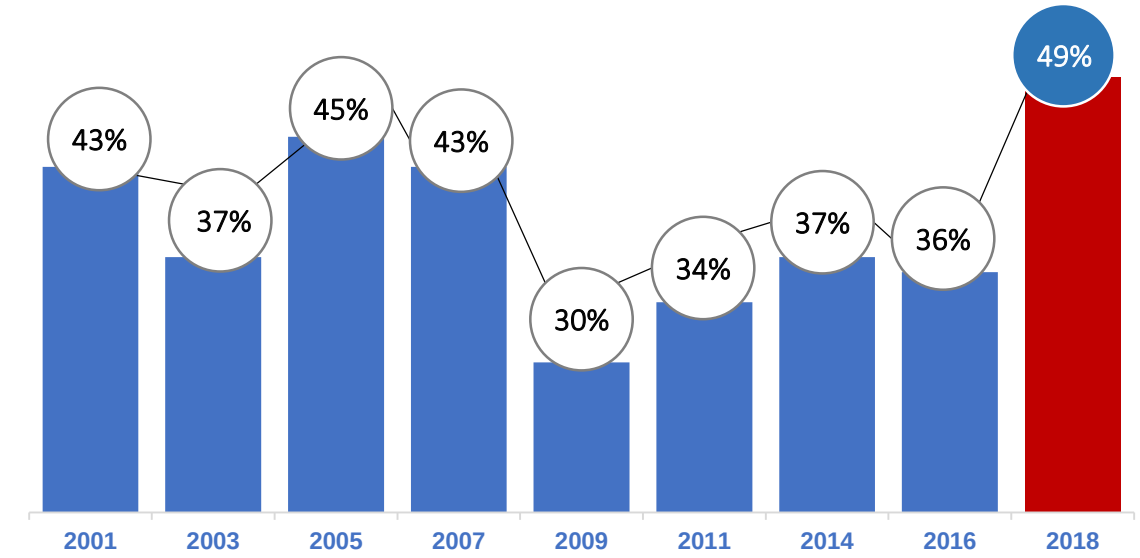
Why is Security Necessary?

Your ERP system contains all your Key Company Data

Theft	**Compliance**	**Internal Controls**	**Fraud**
	Risk Management	**Governance**	

Fraud Exposure and Insufficient Controls

50% OF COMPANIES EXPERIENCE FRAUD



MOST COMMON TYPES OF FRAUD

- Theft of Intellectual Property
- Accidental Data Error
- Financial Statement Manipulation
- Theft of Cash, Cash Receipts, or Inventory
- Corruption

Source: PwC 2018 Crime & Fraud Survey

ROOT CAUSES

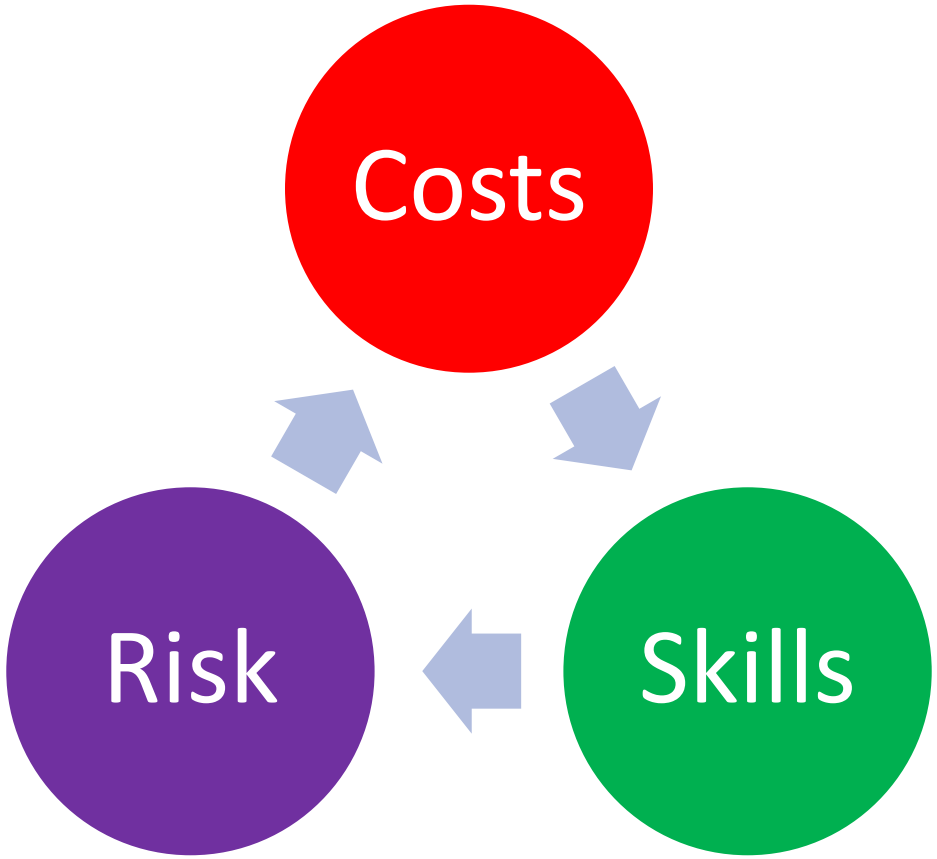
- **Poor Internal Controls**
- **Non-Segregation of Duties**
- Wide System Authorizations
- Lack of Supervision
- Business Pressure

INTERNAL CONTROL WEAKNESSES

WERE RESPONSIBLE FOR NEARLY

HALF OF FRAUDS

The Efficiency Conundrum



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Top Challenges at Trek

1. Creating tighter controls and visibility
   - Preventing phishing attempts/internal theft
2. Maintaining SoD
   - Smaller Subsidiary offices
     - Many folks wear multiple hats
   - Multiple regions/localizations
   - Analyst Roles
   - Pre-production roles
3. Supporting Audit requests
   - Internal, External, financial, etc.

Creating Tighter Controls and Visibility

- Recent occurrences that required security review/lockdown
  1) CFO spoof emails
  2) Gaps in shipping processes
  3) Inventory management

Q Software Tools helped manage/mitigate risks

Creating Tighter Controls and Visibility

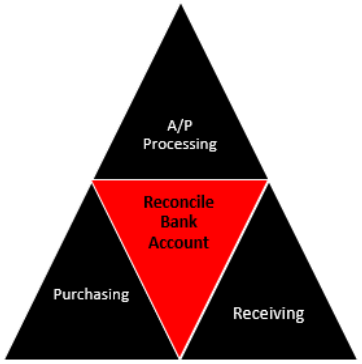
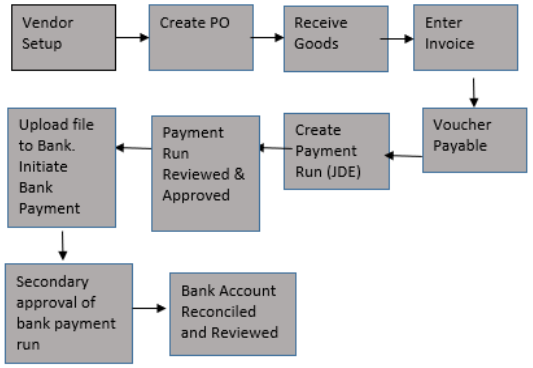
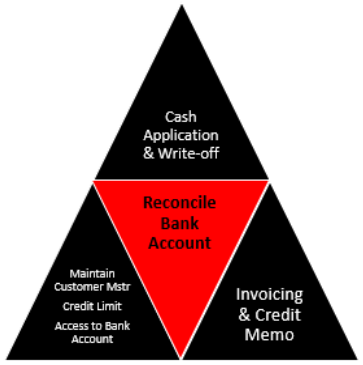
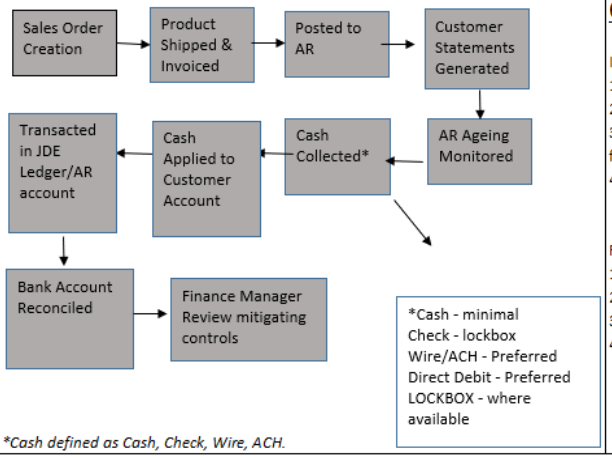
- Hierarchy (Default Deny)
  1. User
  2. Supervisor
  3. Manager

  Ex: SLSUSR, SLSSUP, SLSMGR
- Standard protocol for security requests

	A	B	C	D	E	F	G	H
1	Componer	Application Name	Form Name	Description	Versio	R	I	Assoc Apps
2	SLSMGR-IN	R42500		Ship Confirm Batch Application		Y	Y	
3	SLSMGR-IN	R42950		Sales Order Batch Price/Cost Update		Y	Y	
4	SLSMGR-IN	R5742FRT		Add Freight Lines for Combined Ship/Pick		Y	Y	
5	SLSMGR-IN	R57421114		Non-Stock Status Update		Y	Y	
6	SLSMGR-IN	R42750		Order and Basket Level Pricing		Y	Y	
7	SLSMGR-IN	R5742PROV		Sales Order Super Rug		Y	Y	
8	SLSMGR-IN	R574211B		Update Subledger and Subledegr type on the SO		Y	Y	
9	SLSMGR-IN	R574201C		Fix Payment Terms, Tax Area Code or StatusCode Next in F4211		Y	Y	
10	SLSMGR-IN	R5742565		Driver UBE for R42565 by Shipment		Y	Y	
11	SLSMGR-IN	R42800		Sales Update		Y	Y	
12	SLSMGR-IN	R42565		Print Invoices		Y	Y	
13	SLSMGR-IN	R09801		General Ledger Post		Y	Y	
14								

Maintaining SoD

High Level SoD Plan

DIAGRAM	Process Flow	Cycle	Mitigating Controls
 *Vendor Setup can be performed by A/P - but not A/P processor (enter/voucher payments)		**Expenditures** In general, users processesing (input/voucher) AP should not have access to: 1. Create Purchase Orders 2. Receive Inventory/Sevices 3. Create Vendors*. 4. Reconcile Bank Account For exampe: In JDE, Single User Cannot: 1. Create Vendor & Create PO & Voucher payable & Initiate Bank Payment Run. 2. Create Vendor & Voucher payable & Initiate Bank Payment Run. 2. Voucher payable & Initiate Bank Payment Run. 3. Create Vendor & Create PO. 2. Create PO and Receive Goods or Services (Create/Receive needs to be Separate)	**PO and Receive:** 1. A report is reviewed which details users who have both created a PO and Received against the same PO. **Vendor Creation and A/P Processing:** 2. A Vendor Change Report is reviewed to identify new vendors and who set up the vendors. 3.. A reported is reviewed to identify users creating vendors and vouchering invoices against that vendor.
 ** Sales should never have access to customer credit limits, Cash Application.* ** *Cash application should not have access to disburse funds.*	 **Cash defined as Cash, Check, Wire, ACH.*	**Order to Cash** In general the 4 portions of the triangles should be kept seperate. 1. Cash Application 2. Invoicing/Credit Memo 3. Maintain Customer Data (AR/Credit Limit/Credit Release/access funds.) 4. Reconcile Bank Account For exampe: In JDE, Single User Cannot: 1. Apply Cash and Invoice Customer 2. Release Credit Hold and Invoice Customer 3. Reconcile bank account and have access to funds 4. Monitor AR/Review Credit Memos and perform transactions	**Order to Cash:** 1. AR Ageing is reviewed to ensure proper and timely cash application. 2. Bank reconciliation is reviewed by Finance Manager. 3. Credit memos are reviewed to ensure valid invoicing/returns. 4. Changes to Customer Accounts are reviewed Quarterly (Terms, Credit Limit, Discounts, Rebates) 5. Rebates are monitored against contract. 6. Daily/Weekly Margin is reviewed to ensure appropriate pricing 7. A lockbox is utilized for all checks. Checks mailed in error to HQ are forwarded to lockbox. Minimal cash is taken 8. Restrict Ability of Cash application team to disburse funds and dual approval for disbursements.

Maintaining SoD

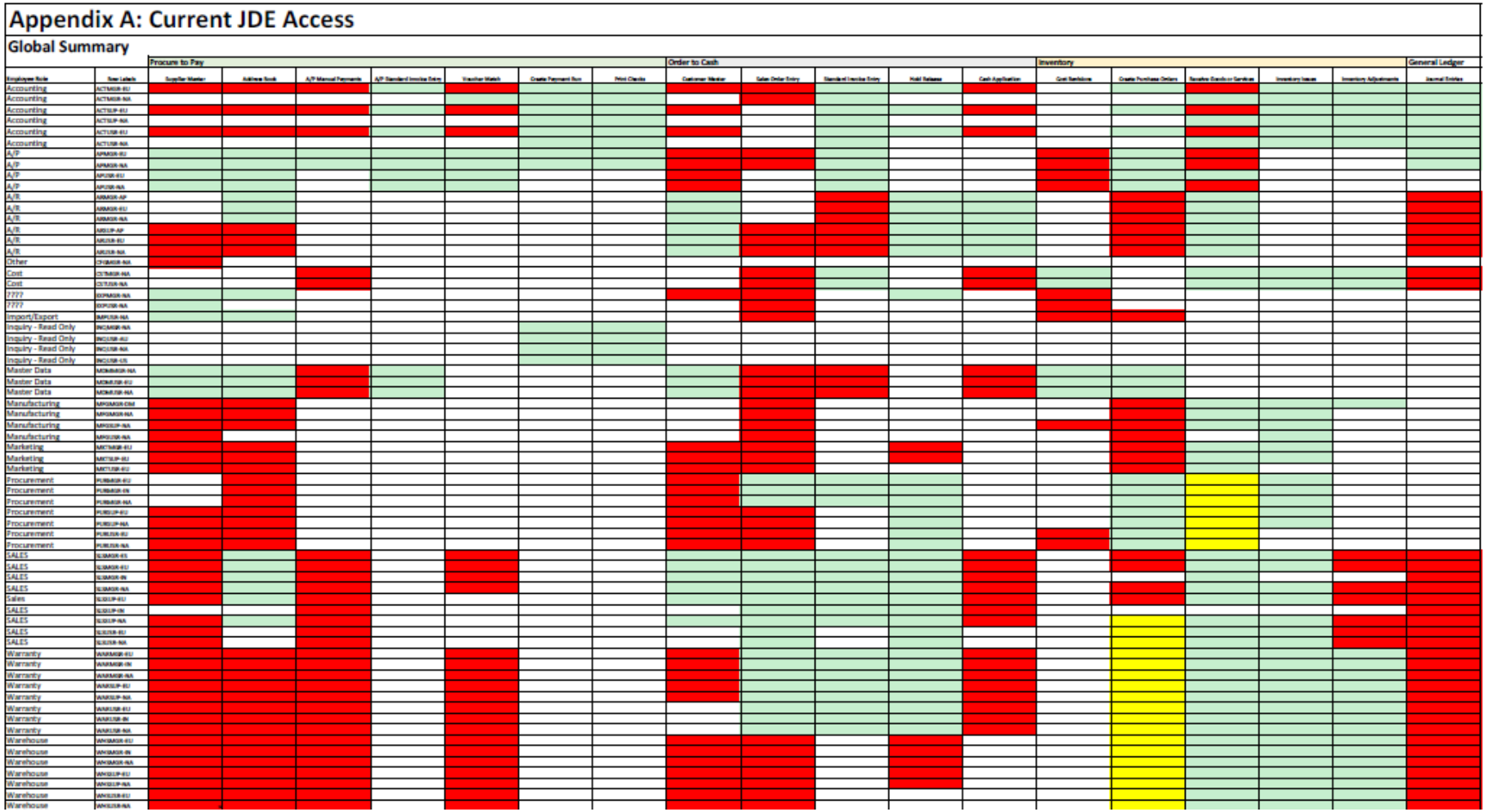
Leveraged Q Software reporting to manage SoD initiatives

	View Output	Print	Report Name	Version Title	Job	Job #	Status	Status Details	User	Date Job Submitted	Time Job Submitted
					RY5AH*						
☐			Rules Currently in Violation	Rules Report by User - SOD Violations	RY5AH531_TRK001	68450050	D	Done	USBATCH	06/07/2020	11:28:04
☐			Users Currently in Violation	Users in Violation - DV910 - Select Rule	RY5AH521_TRK001	68450049	D	Done	USBATCH	06/07/2020	11:28:04
☐			Users Currently in Violation	Users in Violation - DV910 - Select Rule	RY5AH521_TRK001	67757918	D	Done	USBATCH	05/31/2020	14:54:11
☐			Rules Currently in Violation	Rules Report by User - SOD Violations	RY5AH531_TRK001	67757917	D	Done	USBATCH	05/31/2020	14:54:11
☐			Rules Currently in Violation	Rules Report by User - SOD Violations	RY5AH531_TRK001	67030683	D	Done	USBATCH	05/24/2020	12:45:55
☐			Users Currently in Violation	Users in Violation - DV910 - Select Rule	RY5AH521_TRK001	67030682	D	Done	USBATCH	05/24/2020	12:45:54

User ID	Login As	Rule ID	Duty	x	Object	Description	y	I/E	Version	Profile causing Violation(-Type)	2	3	Security Type and Violation
TVANDEBERG	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
THIBL	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
TGREEN	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
TCOOK	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
RABRAM	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
NANGER	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
MEBBENS	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
LGAREY	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
KEGGEBRECH	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
JSCHUMACHE	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
JMOUNTFORD	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
JKOWSKI	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
JJOHNSON	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
JENGEL	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
JAGUIRRE	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
HTOBER	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
GWHITEBIRD	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
EWELCH	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
CPRESTEGAR	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
BHEINZE	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,
ARAMSEY	SLSMGR-NA	P04012			P04012	Supplier Master			E	SLSMGR-NA Sales Manager - No-G			1Single: Change = Y,

Maintaining SoD

Risk Identification



Maintaining SoD

Actionable Plan to mitigate SoD violations

Phase 1: Master Data Acccess

Access Removal Q1 2018 North America - Supplier Master

		Application		
		P04012		
General Role	JDE Role	Supplier Master	Users	Tab Reference
A/R	ARUSR-NA	Remove	5	1
Import/Export	EXPMGR-NA	Remove	6	2
Import/Export	EXPUSR-NA	Remove	5	2
Import/Export	IMPUSR-NA	Remove	13	2
Manufacturing	MFGMGR-NA	Remove	51	3
Manufacturing	MFGSUP-NA	Remove	38	3
Manufacturing	MFGUSR-NA	Remove	27	3
Procurement - Taichung	PURSUP-NA	Remove	9	4
Procurement - Taichung	PURUSR-NA	Remove	5	4
SALES	SLSMGR-NA	Remove	21	5
SALES	SLSSUP-NA	Remove	24	7
SALES	SLSUSR-NA	Remove	54	6
Warranty	WARMGR-NA	Remove	9	8
Warranty	WARSUP-NA	Remove	10	8
Warranty	WARUSR-NA	Remove	55	9
Inventory	WHSMGR-NA	Remove	8	10
Inventory	WHSSUP-NA	Remove	40	11
Inventory	WHSUSR-NA	Remove	14	10
			394	

Current Users W/Access Globally 468

Supporting Audit Requests

Leveraged Q Software reports to support recent external financial audit

IT Audit PBC (Prepared By Client) Request List: Trek Bicycles

REQUEST NUMBER	Item Description	Evidence type required	Received	
	Entity Level Information			PLEASE APPEN W
1	**Organization Charts or Employee Listings**: IT and Finance/Accounting/Payroll (if applicable). **Include:** Full name, official title/position, and department	Document		
2	Names of **external IT vendors/consultants** involved in managing/supporting the internal IT environment (if applicable) and their roles, services and responsibilities.	Document		
	Employee: New Hire, Changes and Terminations	**Evidence type required**		PLEASE APPEN W
3	List from the Payroll and/or Help Desk application of **employees who transferred departments, roles, responsibilities, etc.** in the audit period and required a corresponding change in user access. Include: Full name, official current title, and title/position and department before and after if	System Report		For the fiscal ye
4	List from the Payroll application of **employee new hires in the audit period.** Include: Full name, official title/position, department and start date.	System Report		For the fiscal ye
5	List from the Payroll application of **employee terminations in the audit period. Include:** Full name, title/position, department and termination date.	System Report		For the fiscal ye
6	**For the above three areas (new hires, access modifications and terminations),** BDO will select one account from each listing and will walk through the process the company uses to ensure controls are in place for them. Additional requests for evidence will be made for this once on	N/A		
	Business Application Information	**Evidence type required**		JD Edwards
7	**Application name, vendor and version information**	Screen Print		
8	**Name of server(s) housing application**	Document		
9	**Full user Listing (all Users of application). Include:** User ID, full user name, account status (e.g., active, disabled), user rights, and last logon (if available)	System Report / Screen Print		
10	**For each in-scope application, a screenshot of the log-in screen showing a user's password is not shown in clear text.**	Screen Print		
11	**If the in-scope application uses SSO (Single Sign-On),** please provide evidence to support the application using this feature (aka configuration screen showing setting for SSO)	System Report / Screen Print		
12	**List of Application Administrators, including members of any administrator groups.** **For each human-named administrator account, include:** user's full name, user's official title, account purpose, account status (e.g., active, disabled), and last logon (if available). **For each generic or non-specific-named administrator account (system & service accounts), include:** account full name/official title, explanation of account purpose, full names and titles of those with password knowledge, account status (e.g., active, disabled, no human logon), and last logon (if available).	System Report / Screen Print		
13	**List of "other" non-specific generic and/or guest user accounts. (ONLY IF DIFFERENT THAN #12 ABOVE) Include:** user(s)'s full names, user(s)'s official titles, explanation of account purpose, full names and titles of those with password knowledge, account status (e.g., active, disabled, no human logon), and last logon (if available).	System Report / Screen Print		
14	**Application Password Parameters** (include minimum character length, complexity, expiration period, password re-use history, failed login attempts - lockout threshold and duration, etc.)	System Report / Screen Print		

PBC List - IT | SQL Scripts | iSeries Reports | Configuration Examples

Supporting Audit Requests

Results…

Minimal changes requested by Trek's external auditing firm due to acceptable security measures already in place across ERP landscape

Area/ Control Objective	Observation
JDE Application / Program Changes / Network Security	BDO noted that there are two individuals [redacted] Technical Manger and [redacted] Technical Architect) with the following access • Administrator access to JDE • Administrator to AS400 • Ability to both develop and promote changes in the JDE environment. • Administrator access to EDI and Batch processing in JDE. This leads to a SOD (Segregation of Duties) issue for these individuals. In addition, BDO noted that developers have the following access: • Access to development and production environments. • All object authority to the AS400 environment. • Administrator access to EDI • Administrator access to JDE Batch Processing. This raises the risk that developers can make changes to production directly. BDO understands, after discussing with management, that developers often act in the capacity of support to end users in the production environment. None the less, BDO will raise a risk associated with this. **Recommendations** BDO recommends that the Company should reduce the roles for these two individuals to remove the risk and maintain SOD. Also, BDO recommends developers should be removed from having administrative rights to the operating system, EDI configuration, or Batch Jobs. If feasible, keep it to IT personnel with no developer roles to serve as defined administrators for AS400, EDI, and Batch Jobs.

Agenda

- Introduction & Objectives
- Trek – Company & ERP Setup
- Why Audit is Important
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Audit Implementation Plan

- Run against Seeded Rules
- Identified Key Risks
- Planned Remediation
- Work with Business
  - Mitigations
  - Gained Ownership

Satisfying your Auditor

- Plan
  - Review last Years Results
- IT General Controls
  - Risk Matrix
- Compensating Controls
- Segregation of Duties Reporting

SoD Reporting – the 5 Essentials

1. Detailed SoD Report

RY5AH411 Worldwide Company 06/08/2018 19:05:38

Version QSG0001 Base Version Duty to Duty Rule Report Page - 1

Model ID QSAMPLE Sample Rule Set

Rule ID	Description	Justification Code	Justification Text	Severity Level	Rule From Date	Rule To Date
011	Prepare / Make Bank Deposit & Cash Receipt Processing	CM	Cash Management	05	13/09/2017	

Duty	Item Of Concern Flag	Logical Operator
023	Y	
022	N	A

Duty ID	Object	Version Name	Object Type	Logical Operator	Security Types	Match Flags	Item	Run App	Add Y/N	Chg Y/N	Dlt Y/N	OK/ Sel	Cpy Act	Scroll to End	View Y/N	PO Change	Prompt for Values	Prompt for Version	Prompt for Data Sel	Full DS Change	Add DS Rows	Modify DS Rows
022	P03B102	#ANY	APPL		1,3	S,S,		Y	Y	Y	Y		Y									
022	P03B121	#ANY	APPL	O	1,3	S,S,		Y	Y	Y	Y		Y									
022	R03B0041A	#ANY	UBE	O	3	S,		Y														
022	R03B551	#ANY	UBE	O	3	S,		Y														

Duty ID	Object	Version Name	Object Type	Logical Operator	Security Types	Match Flags	Item	Run App	Add Y/N	Chg Y/N	Dlt Y/N	OK/ Sel	Cpy Act	Scroll to End	View Y/N	PO Change	Prompt for Values	Prompt for Version	Prompt for Data Sel	Full DS Change	Add DS Rows	Modify DS Rows
023	P0030A	#ANY	APPL		1,3	S,S,		Y	Y	Y	Y		Y									
023	P0030B	#ANY	APPL	O	1,3	S,S,		Y	Y	Y	Y		Y									
023	P0030G	#ANY	APPL	O	1,3	S,S,		Y	Y	Y	Y		Y									

SoD Reporting – the 5 Essentials

2. SoD Model Integrity Report

RY5AH425 Q Software Global 06/06/2014 18:08:28

Version QSG0001 Base Version Model Integrity Report *** DETAIL REPORT *** Page - 1

Model ID	Description	Model Error Count	Rule Error Count	Duty Error Count	Object Error Count	Security Error Count	
E1SOD	Test Entity Manager SoD	22	6	9	5	2	*** Integrity Issues ***

Rules In Error

Rule ID	Description	Object Error Count	Security Error Count	
AGG1	Test Aggregates Issues for Single	0	0	
BLANK	Test Empty Object to Object Rule	0	0	*** Rule is Empty ***
DETAIL	Test Object to Object Rule - Detail (All)	1	0	
EMPTY	Test Adding Empty Duties to a Rule	0	0	*** Rule is Empty ***
SINGLE	Test Single Risk Object	0	0	
TAR	Test Add Rule	0	0	*** Rule is Empty ***

Duties In Error

Duty ID	Description	Object Error Count	Security Error Count	
APPAYMENT	Accounts Payable Payments	1	0	
APVOUCHENT	Accounts Payable Voucher Entry	1	0	
CHANGED	Test Changing Duty	0	1	
COPY	Test Copy	1	0	
EMPTY	Test Empty Duty	0	0	*** Duty is Empty ***
EMPTYA	Test Empty Duty	0	1	
EMPTYB	Test Empty Duty	0	0	*** Duty is Empty ***
M1	Test Mitigation Duty	1	0	
OTHER	Test new OR Functionality	0	0	*** Duty is Empty ***

End Of Report

SoD Reporting – the 5 Essentials

3. Validation of SoD Rules Report

Model ID QSAMPLE **Sample Rule Set** **Validation ID** 539

Environment Name JDV920

Rule ID	Description	Segregation of Duties Issue	Mitigation YN	Implicit Violations Count	Explicit Violations Count	Validation Result
001	Vendor Master Maintenance & AP Payments	Y	N		2,404	Validation Completed Successfully
002	Bank Reconciliation & AP Payments	Y	N		2,496	Validation Completed Successfully
003	Process Purchase Order & AP Payments	Y	N		2,945	Validation Completed Successfully
004	Maintain Security & AP Payments	Y	N		3,460	Validation Completed Successfully
005	Maintain Journal Entries & AP Payments	Y	N		2,791	Validation Completed Successfully
006	Process Purchase Order & AP Release Blocked Invoice	Y	N		1,217	Validation Completed Successfully
007	Process Goods Receipt & AP Release Blocked Invoice	Y	N		372	Validation Completed Successfully
008	Maintain Security & AP Release Blocked Invoice	Y	N		866	Validation Completed Successfully
009	Process Purchase Order & AP Clear Vendor Account	Y	N		665	Validation Completed Successfully
010	Maintain Security & AP Clear Vendor Account	Y	N		874	Validation Completed Successfully
011	Prepare / Make Bank Deposit & Cash Receipt Processing	Y	N		604	Validation Completed Successfully
012	Create and Maintain Bank Accounts & Cash Receipt Processing	Y	N		559	Validation Completed Successfully
013	Prepare Bank Account Reconciliations & Cash Receipt Processing	Y	N		484	Validation Completed Successfully
014	Create and Maintain Bank Accounts & Prepare / Make Bank Deposit	Y	N		570	Validation Completed Successfully
015	Create and Maintain Bank Accounts & Prepare Bank Account Reconciliations	Y	N		478	Validation Completed Successfully
016	Process Delivery & Process Billing	Y	N		1,152	Validation Completed Successfully
017	Price Maintenance & Process Billing	Y	N		724	Validation Completed Successfully
018	Authorizes Account Receivable Write-Offs & Maintain Subsidiary A/R Sub-Ledger	Y	N		648	Validation Completed Successfully
019	Maintain Sales Orders & Customer Master Maintenance	Y	N		576	Validation Completed Successfully
020	Maintain Subsidiary A/R Sub-Ledger & Maintain Sales Orders	Y	N		857	Validation Completed Successfully

SoD Reporting – the 5 Essentials

4. SoD Violations Report

RY5AH531 Worldwide Company 01/05/2018 19:14:34

Version QSG0002 Base Version - including Mitigation Rules Currently in Violation Page - 4

("+" In the Object/Duty Name indicates that more unchecked ORs exist in the rule or duty)

Model ID VEGAS **Vegas Company** **Environment Name JDV920**

Object	Object Description	Imp/Exp	Version	Profile causing Violation	Security Type and Violation
User ID	JDE Q_SOFTWARE				validated on 01/05/2018 Id: 584
JDE	Logging in with Role *ALL		SYSADMIN |		
R03B551	Update Receipts Header	E		U JDE Q_SOFTWARE	3 Single: Run = Y,
P0030A	Bank Accounts by Address	E		G SYSADMIN JDE Install / Upgrade Gro	1 Single: Add = Y, Delete = Y, Change = Y, Copy = Y,
P0030A	Bank Accounts by Address	E		U JDE Q_SOFTWARE	3 Single: Run = Y,
JDE	Logging in with Role SYSADMIN		JDE Install / Upgrade Group		
R03B551	Update Receipts Header	E		U JDE Q_SOFTWARE	3 Single: Run = Y,
P0030A	Bank Accounts by Address	E		G SYSADMIN JDE Install / Upgrade Gro	1 Single: Add = Y, Delete = Y, Change = Y, Copy = Y,
P0030A	Bank Accounts by Address	E		U JDE Q_SOFTWARE	3 Single: Run = Y,
User ID	KAMRANM Q_SOFTWARE				has been Mitigated
User ID	KARENW AB Common1				validated on 01/05/2018 Id: 584
KARENW	Logging in with Role *ALL		SYSADMIN |		
R03B551	Update Receipts Header	E		G SYSADMIN JDE Install / Upgrade Gro	3 Single: Run = Y,
P0030A	Bank Accounts by Address	E		G SYSADMIN JDE Install / Upgrade Gro	1 Single: Add = Y, Delete = Y, Change = Y, Copy = Y,
P0030A	Bank Accounts by Address	E		G SYSADMIN JDE Install / Upgrade Gro	3 Single: Run = Y,
KARENW	Logging in with Role SYSADMIN		JDE Install / Upgrade Group		
R03B551	Update Receipts Header	E		G SYSADMIN JDE Install / Upgrade Gro	3 Single: Run = Y,
P0030A	Bank Accounts by Address	E		G SYSADMIN JDE Install / Upgrade Gro	1 Single: Add = Y, Delete = Y, Change = Y, Copy = Y,
P0030A	Bank Accounts by Address	E		G SYSADMIN JDE Install / Upgrade Gro	3 Single: Run = Y,

SoD Reporting – the 5 Essentials

5. Mitigation Report

RY5AH534 Worldwide Company 02/02/2017 17:40:01

Version QSG0001 Base Version List of defined Mitigations - by Rule Page - 2

Model ID CARRIEDEMO Carrie Demo

Environment Name JDV920 E920 Development Environment

Rule ID ONE Address Book Entry and User Defined Codes

User ID APUSER2 From: 02/02/2017 To: 08/02/2017MR IS DOING TWO JOBS INSTEAD OF ONE

End Of Report

Agenda

- Introduction & Objectives
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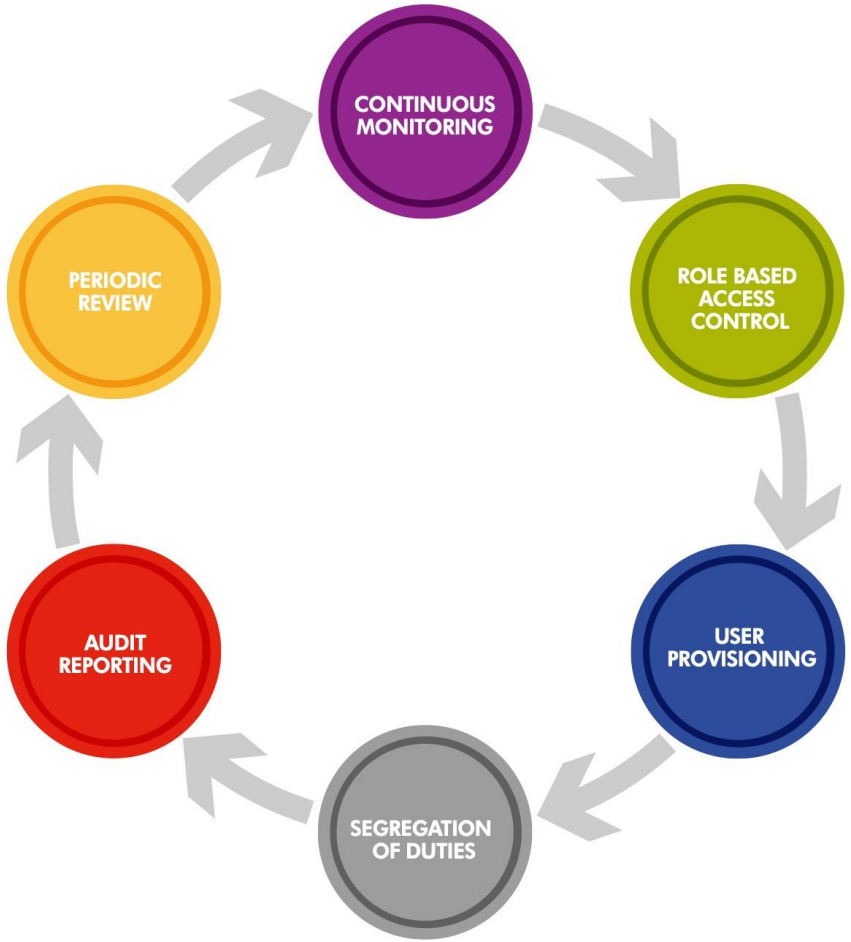
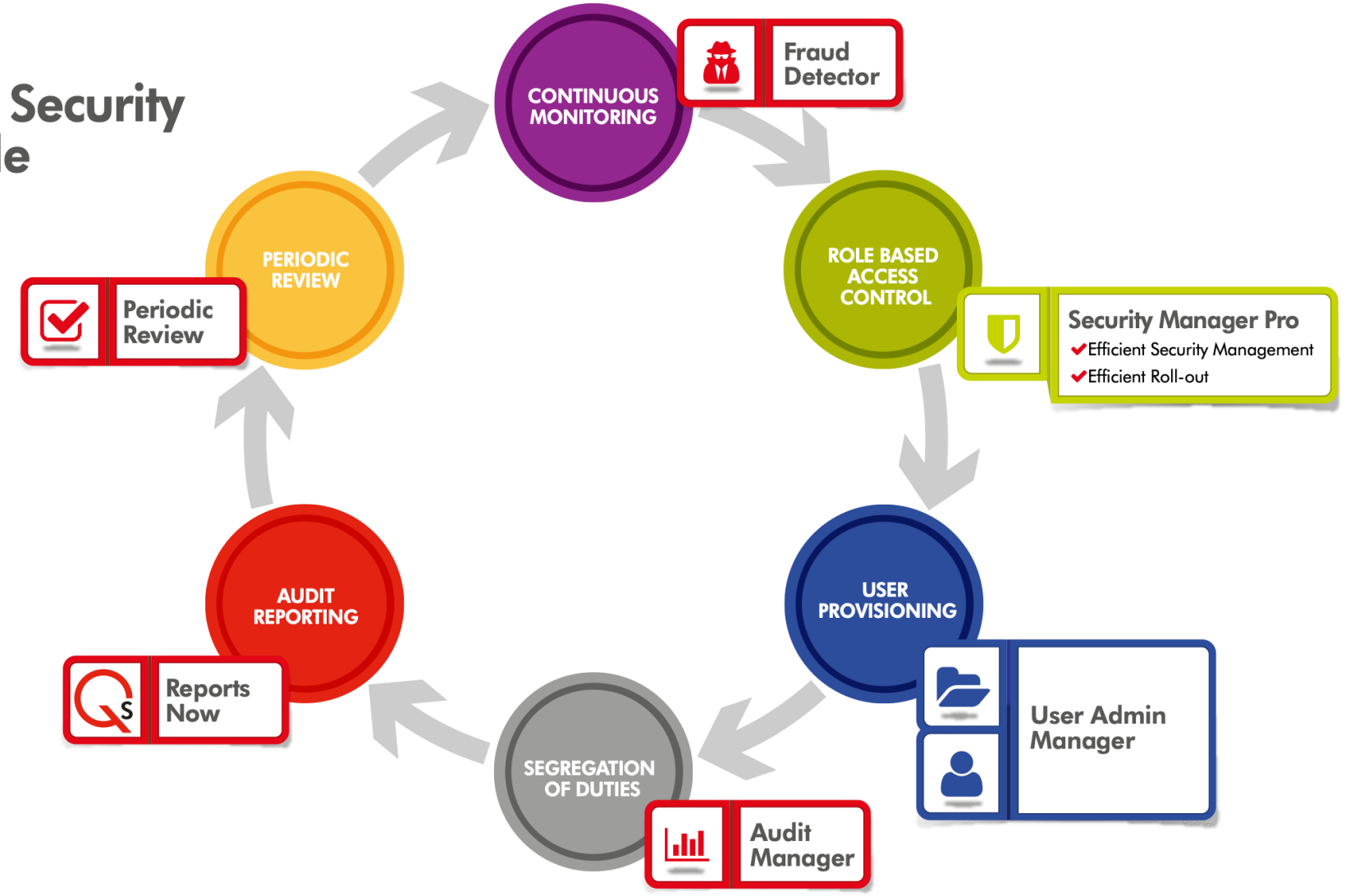
The ERP Security Life Cycle

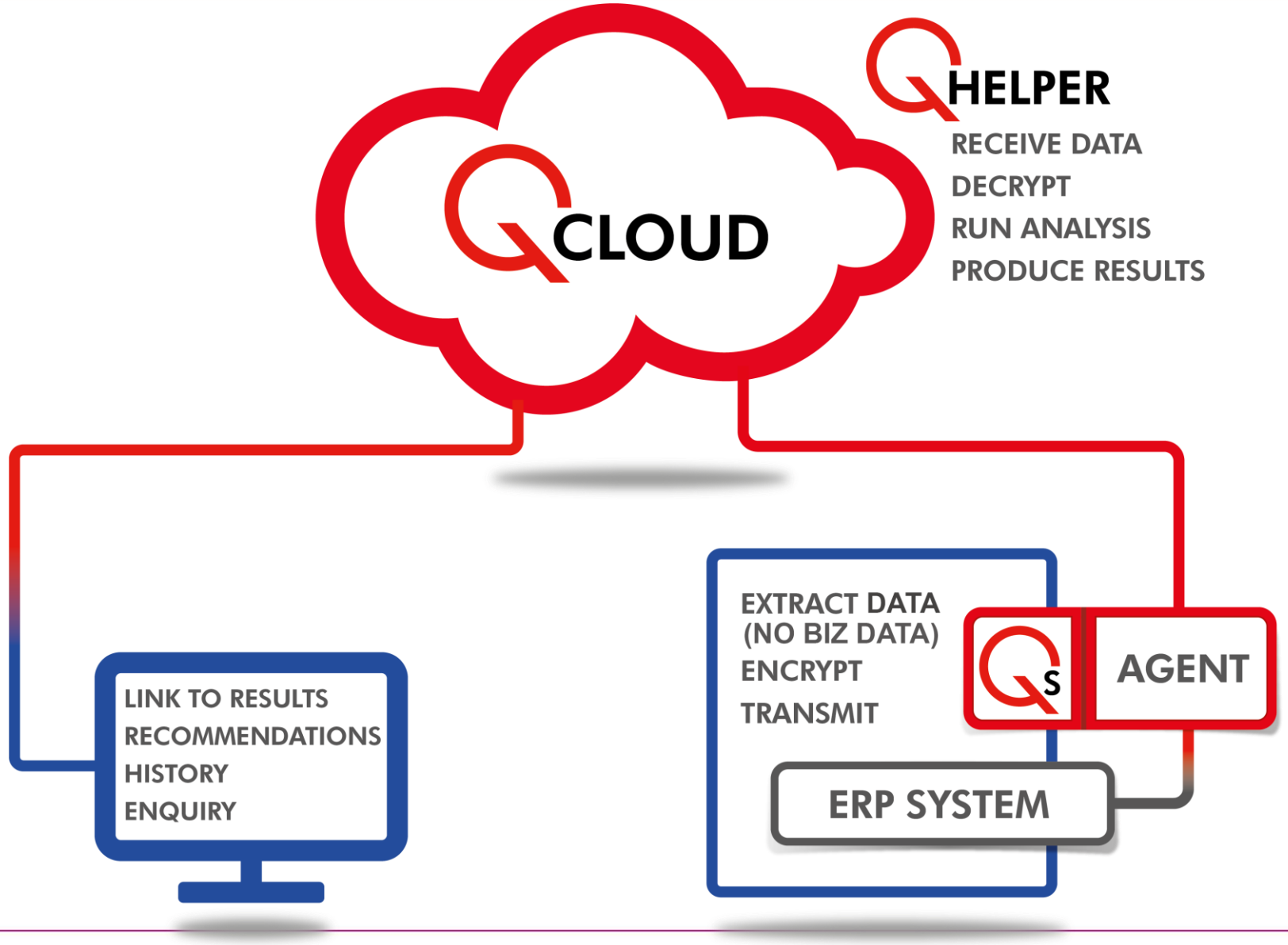


The ERP Security Life Cycle



Issues to Worry an ERP Director

- What are my Risks
- Are Major Frauds Possible on my ERP
- Satisfying Internal/External Audit
- Internal Controls
- How do I Plan Remediation
    - Path to Best Practice


CLOUD
HELPER
RECEIVE DATA
DECRYPT
RUN ANALYSIS
PRODUCE RESULTS
LINK TO RESULTS
RECOMMENDATIONS
HISTORY
ENQUIRY
EXTRACT DATA
(NO BIZ DATA)
ENCRYPT
TRANSMIT
AGENT
ERP SYSTEM

Agenda

- Introduction & Objectives
- Trek – Company & ERP Setup
- Why Audit is Important – MW
- The Challenges at Trek
- Solutions
- Futures – MW
- Summary - Lessons

Key Wins - Tom

- The effort needed to set up security has reduced by 80-90%
- On-going security maintenance workload has reduced by 65-70%
- Task View Manager (TVM) tools saved an enormous amount of time and made it much easier to build new Roles.
- Day-to-day security changes are delegated to regional staff
- Now have a scalable, efficient security model
- Proactively managing phishing/theft attempts
- Easy SoD Reporting gives the Trek team the information to:
  - Monitor progress
  - Identify areas of risk
  - Prioritize remediation efforts

Lessons to Learn - Mike

- Reputation – you cannot repair a failure
- Risk (& SoD) Control does NOT have to be Difficult
- Use the tools
- Build on Content
- Build on the Experience of Others
- Involve the Business (it's a business issue)
- Efficiencies in Security Management can provide an ROI

104200

Quest Forum Digital Event

Q&A

Tom_spoke@trekbikes.com

Session ID:

104200

Remember to provide your session feedback in the app!

Quest Forum Digital Event Continues!

Cloud Week
Wednesday, May 27 - Friday, May 29

PeopleSoft Week
Monday, June 1 - Thursday, June 4

Professional Development & Emerging Technology Day
Friday, June 5

JD Edwards Week
Monday, June 8 - Thursday, June 11

Training & Workshops Day
Friday, June 12

Database & Technology Week
Monday, June 15 - Thursday, June 18

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