



IBM Software Group

Managing Information Technology for Compliance

Teleconference – March 28, 2006

Vanguard Integrity Professionals

Vanguard Security Solutions™

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Tivoli Software Asset Management

IBM Tivoli License Compliance Manager for z/OS

IBM Tivoli Contract Compliance Manager

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Agenda

- Tivoli IT Service Management Overview
- Security Management:
How Vanguard Solutions help Manage Regulatory Compliance
- Software Asset Management:
How Tivoli Software Asset Management (SAM) Solutions help Compliance
- Questions and Answers



IT Organizations Are Under Tremendous Pressure



- **Change:** Market demands, workloads, service levels
- **Compliance:** Regulations, security, audit capabilities
- **Complexity:** Heterogeneous resources, silos, composite applications
- **Cost:** Management and administration



“What matters is how satisfied customers are, how costs are being saved on the supplier side, and how to allow for more creativity and added value at all levels of the organization. “

--Erik Brynjolfsson, Director of the Center for eBusiness at MIT



IT Operational Management Products

IBM IT Service Management



Business Application Management	Server, Network & Device Management	Storage Management	Security Management
<p>Products include:</p> <ul style="list-style-type: none"> • Tivoli Composite Application Management • Tivoli Business Systems Manager • Tivoli Intelligent Orchestrator • Tivoli Service Level Advisor • Tivoli License Manager • Tivoli License Compliance Manager of z/OS • Tivoli Contract Compliance Manager 	<p>Products include:</p> <ul style="list-style-type: none"> • Tivoli Enterprise Console • Tivoli Monitoring • Tivoli OMEGAMON • Tivoli NetView • Tivoli Remote Control • Tivoli Systems Automation • Tivoli Workload Scheduler • Tivoli Provisioning Manager • Tivoli Configuration Manager • Tivoli Decision Support for z/OS 	<p>Products include:</p> <ul style="list-style-type: none"> • Tivoli Storage Manager • Tivoli Continuous Data Protection for Files • TotalStorage Productivity Center 	<p>Products include:</p> <ul style="list-style-type: none"> • Tivoli Access Manager • Tivoli Identity Manager • Tivoli Federated Identity Manager • Tivoli Directory Server • Tivoli Directory Integrator • Security Compliance Manager • Vanguard - Security Center - Administrator - Advisor - Analyzer - Enforcer

Tivoli Product Portfolio Available TODAY!

Agenda



- ❖ **Business Issues**
- Vanguard's Solution

*Presented by Tim Nicolaou
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Business Issues

- For regulatory compliance, demonstrating that security policies are implemented and enforced properly can mean the difference between passing or failing an internal or external audit.
- Failing an audit **will** result in unplanned and costly remediation expenses.
- Further sanctions, fines, or legal action can be taken against corporations and officers for failure to meet regulatory requirements.



Regulatory Compliance

*The Regulations
That Stole
Christmas*



HIPAA
SOX
GLBA
PCI
FFIEC
FDICIA
Basel II
FISMA
EU Data Directive
California Senate Bill
PIPEDA
FDA 21 CFR Part 11
ISO17799 Standard
VISA CISP

HIPAA IT Compliance Requirements

Conduct an assessment of electronic protected health information

Implement security measures to reduce risks and vulnerabilities

Implement procedures to regularly review I.S. activity (reporting)

Implement procedures to determine that access is appropriate

Implement procedures for granting appropriate access

Implement procedures to deter malicious software



HIPAA IT Compliance Requirements

Implement procedures to monitor system entry attempts

Identify and respond to suspected or known security incidents

Implement software to record and examine access to information

Implement electronic mechanisms to verify unaltered information



SOX IT Compliance Requirements

Management Assessment of Internal Controls

Internal Controls over Financial Reporting

Management is responsible for establishment of Internal Controls

Management is responsible for maintenance of Internal Controls

Report annually on the effectiveness of the Internal Controls

Auditor must attest to the validity of the Report



Common IT Compliance Requirements

Implement a Security Management Framework

Conduct an annual assessment of IT internal controls

Provide effective Security Administration methods and procedures

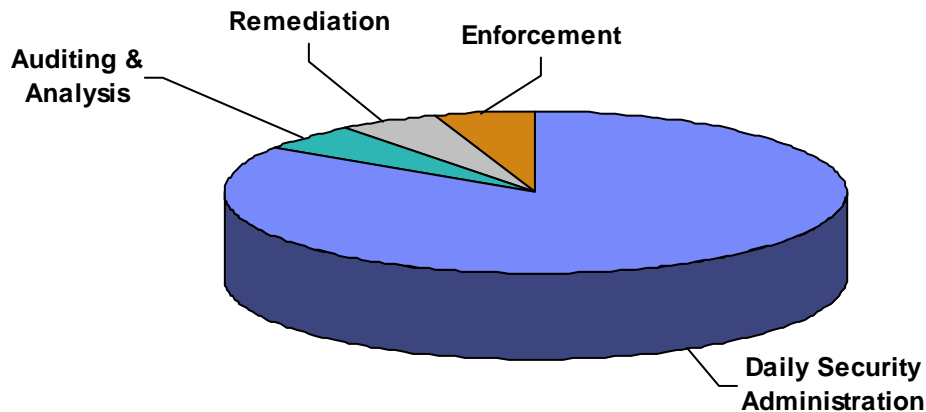
Provide Security Event monitoring to identify security breaches

Provide effective Intrusion Management to avoid security breaches



Information Security Compliance Issues

- **More Compliance requirements – the same number of people**
- **SOX introduced IT Controls that are audit points**
- **Upper Management now has fiduciary responsibility for accurate financial reporting**
- **Upper Management is still looking at the bottom line**
- **Auditor's requests generate time consuming discovery efforts**
- **Extra Workload – no extra people**
- **New compliance regulations call for continuous IT internal controls monitoring**



Agenda



- Business Issues
- ❖ ■ Vanguard's Solution

Vanguard Security Solutions Available from IBM

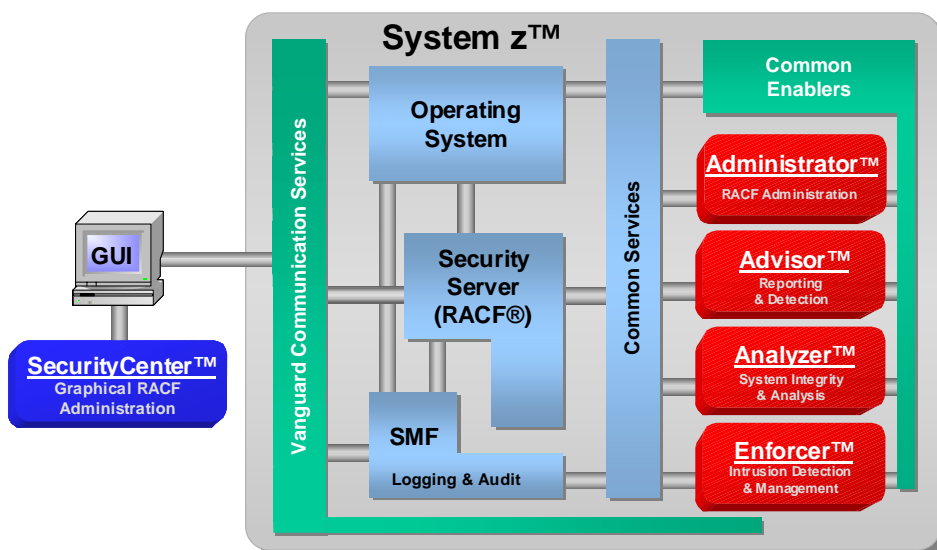
IBM strengthens IT Service Management strategy with efficient security administration and compliance management solutions from Vanguard Integrity Professionals

Complete Security Management Solution

- Security administration, **integrity auditing**, and **intrusion detection and management**
- **Helps address the most stringent security rules and regulations**
- Reduces complexities of RACF security administration and **enforces best practices**

Vanguard Security Solutions

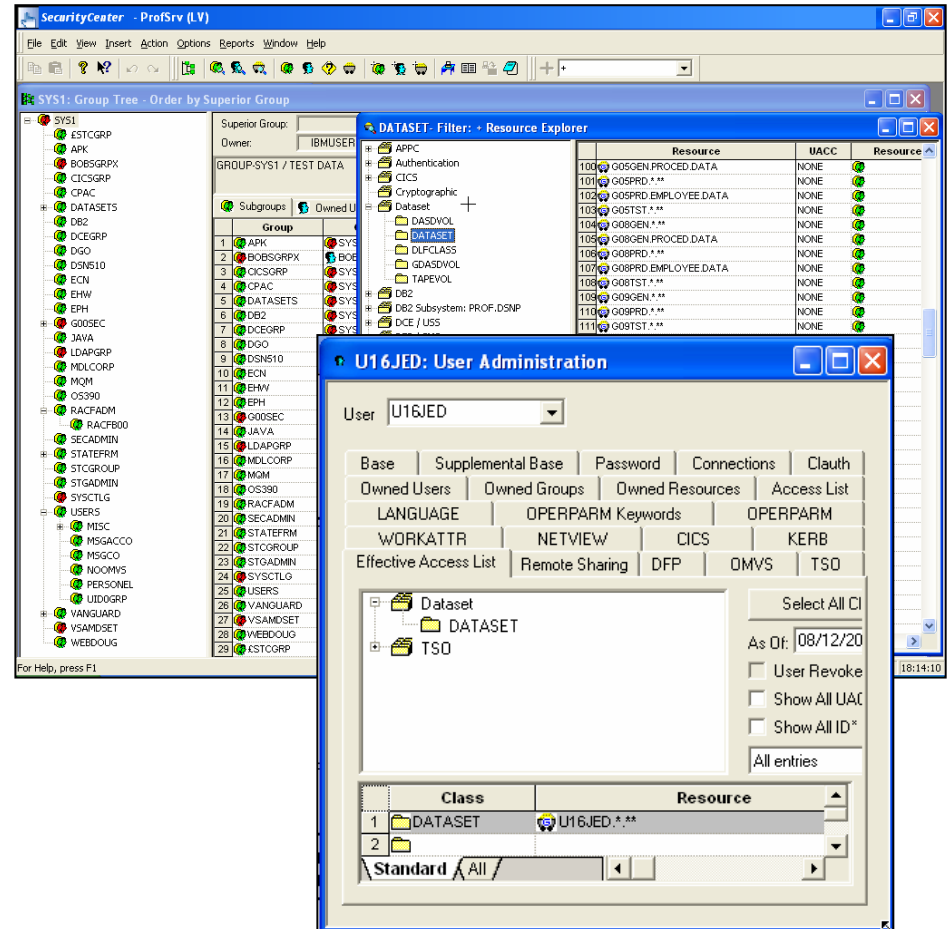
- **Vanguard Security Center** offers an easy-to-use graphical user interface for RACF and DB2 security administration on z/OS
- **Vanguard Administrator** provides advanced security server management and analysis with automation and power utilities
- **Vanguard Analyzer** assists with security system snapshots or full-scale System z security audits
- **Vanguard Advisor** provides event detection, analysis and reporting capabilities for z/OS and RACF
- **Vanguard Enforcer** manages and enforces security policy on z/OS and RACF

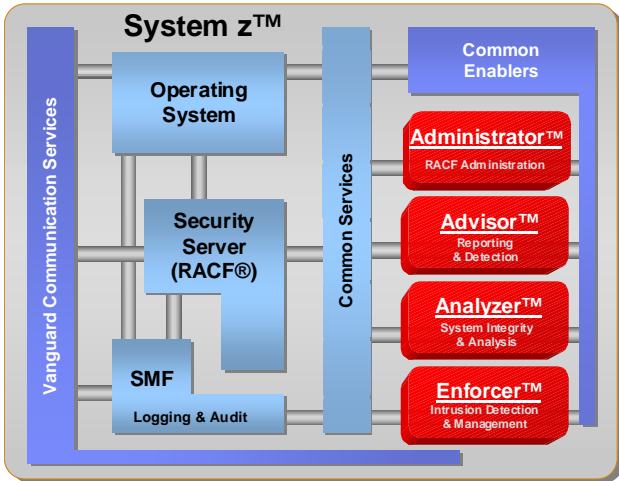


Vanguard SecurityCenter

A windows-based interface to IBM's System z Security Server.

- Security personnel can administer RACF with no knowledge of native RACF commands.
- Decentralized administrators can administer only those users, groups and resources within their responsibility.
- SecurityCenter allows security administrators to perform routine tasks quickly, giving them time to concentrate on more important tasks, such as overall security strategy.
- Great for Help Desks personnel
- Reduces errors especially when doing repetitive tasks.





Vanguard Administrator

Automated administration, data mining, reporting and analysis tool that enhances IBM's Security Server to become a mainframe policy and role-based user-provisioning tool.

```

Screen A. [24 x 80]
File Edit New Communication Actions Window Help
Data: Extract          VANGUARD ADMINISTRATOR          Date: 05/06/10
COMMAND ==>          Time: 08:04

CLONE USER COMMAND

Generate OWNER Keyword      => Y (Y/N)
Generate User DataSet Profile -> Y (Y/N) Clone HLQ/DSN Access Lists -> N (Y/N)
Model generic DSN profile using ID.** format? ==> N (Y/N)
'N' will generate profile as: ID.**

Process User Segments, RACLINK and OMVS options:
DFP Y TSO Y CICS Y LANGUAGE Y OPERPARM Y DCE N
WORKATTR Y NETVIEW Y RACLINK N OMVS N AutoUid N Shared N
KERB N PROXY N

Generate AT/ONLYAT Keyword

From User ID 1 To User ID 2
USER ID TO BE CLONED NEW USER ID ==>

Installation Data: ==>
Installation Data: ==>
Installation Data: ==>
Installation Data: ==>

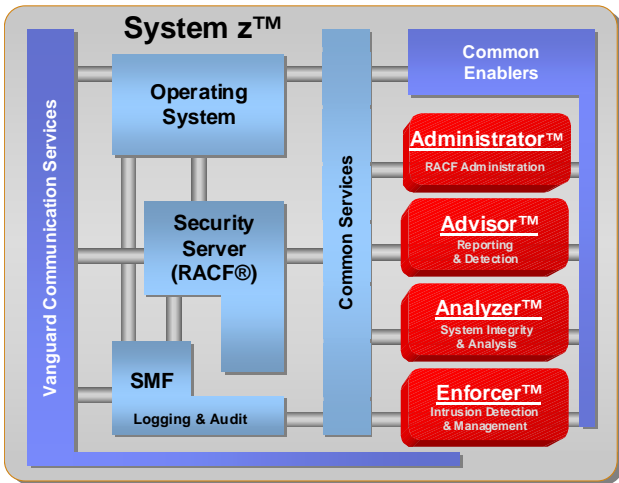
EDIT BOBA.VRA.COMMAND Columns 00001 00372
Command ==> Scroll ==> PAGE
***** Top of Data *****
==MSG> TO EXECUTE COMMANDS ENTER ONE OF THE FOLLOWING:
==MSG> VRAEXEC - EXECUTE COMMANDS REALTIME
==MSG> VRABATCH - GENERATE JCL FOR YOU TO SUBMIT
==MSG> VRASCHED - SCHEDULE COMMANDS FOR FUTURE DATE AND TIME
000001 AU BOBA1 DFLTGRP (USERS) OWNER (USERS)
000002 PW USER (BOBA1) INTERVAL (180)
000003 ALU BOBA1 PASSWORD (VANGUARD)
000004 ALU BOBA1 SPECIAL OPERATIONS
000005 ALU BOBA1 TSO (ACCTNUM('ACCT#') MAXSIZE(2096128) SIZE(2048000)
000006 PROC (ISPFCS53) UNIT (3390)
000007 CMDMND ('ispf')
000008 CO BOBA1 GROUP (R10HDA01) OWNER (R10HDA01)
000009 CO BOBA1 GROUP (USERS) OWNER (USERS)
000010 AD 'BOBA1.**' GEN OWNER (BOBA1)
000011 PE ACCT# CLASS (ACCTNUM) ID (BOBA1) ACCESS (READ)
000012 PE DITTO.* CLASS (FACILITY) ID (BOBA1) ACCESS (ALTER)
000013 PE VIP$.NOEDIT.COMMANDS CLASS (FACILITY) ID (BOBA1) ACCESS (ALTER)
000014 PE VRA$.** CLASS (FACILITY) ID (BOBA1) ACCESS (READ)
000015 PE VRA$.ACSTASK CLASS (FACILITY) ID (BOBA1) ACCESS (READ)
    
```

Daily Security Administration Tasks

- Administrate individual profile data
- Perform password administration
- Create new Users, Groups, and Resource Profiles
- Transfer Users between departments
- Produce reports such as access list reports
- Analyze and resolve access violations

RACF Database Management Tasks

- Correct profile ownership definitions
- Replace users with groups in profile definitions
- Remove obsolete user and group references
- Remove redundant access definitions
- Identify unprotected datasets
- Produce complex reports to support the above tasks



Vanguard Advisor

IBM z/OS Security Event detection, analysis, real-time alerts, reporting and electronic report distribution.

- Detect and alert on intrusion attempts from unauthorized users
- Perform data analysis and compliance reporting from historical or live SMF data
- Create custom report formats for ad-hoc reporting
- Generate JCL and submit jobs for extracts, reports, command generation, and remove OPERATIONS utility
- Supports advanced features such as report filtering, immediate command execution support, and much more

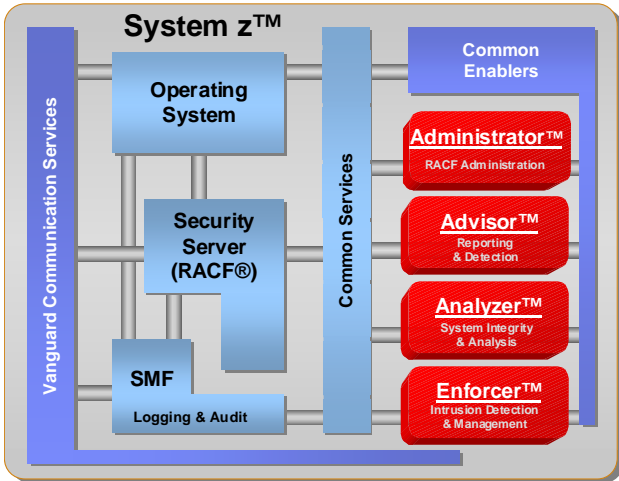
Data: Extract Violation Summary Sort complete
Scroll ==> PAGE
 Command ==>

Next to one or more entries:
 S - all detail report M - multiple detail report

Summary Totals: 421 806 268 57 1552

CMD	Userid	User name	Resource Access	System Entry	RACF Commands	Open Edition	Total
___	KEEGANO	KEEGAN	100	55	1	2	158
___	BOBS	BOB SPITZ	10	45	1	29	85
___	ARTM	ART HATFIELD-MIHELIC	44	26	5	0	75
___	DOUGB	DOUG BEHREND	60	10	0	5	75
___	U@01JED	J.E. DOE	1	19	39	0	59
___	U@12JED	J.E. DOE	31	7	16	0	54
___	WINUSER		0	51	0	0	51
___	EZRACF1	#####	0	50	0	0	50
___	JIMM	JAMES MCNEILL	19	29	0	0	48
___	U@03JED	J. E. DOE	6	22	20	0	48
___	U@05JED	J. E. DOE	6	12	27	1	46
___	EZRIGTS	EZRIGTS DEMO ID	40	0	0	0	40
___	EZTEST1	#####	0	37	0	0	37





Vanguard Analyzer

A system integrity, assessment, risk identification, threat analysis and problem remediation solution for IBM's z/OS environment.

The screenshot shows the SmartAssist dialog for Program Properties Table Analysis. The command entered is 'M'. The results show a table of entries with columns for Opt, M, Entry, Byp, Sys, Spec, Prot, CPU, and Description. The entry 'BPXVCLNY' is highlighted. Below the table, the program properties are listed: Entry: BPXVCLNY, Byp Pwd: Yes, System Task: Yes, Spec Key: Yes, No DSI: No, Found in: SYS1.LINKLIB on Z5RES1. The dialog also shows a 'Messages' section with details about the entry's history and password bypassing.

Opt	M	Entry	Byp	Sys	Spec	Prot	CPU	Orig	Description
M		BPXVCLNY	No	Yes	Yes	01	FFFF	IBM	ISP
		RANFFIEP	No	Yes	Yes	01	FFFF	USER	z/OS Infoprint
		RPSPIEP	No	Yes	Yes	01	FFFF	IBM	PSF

Program Properties Table Analysis Row 1 to 2 of 2
 Command ==> _
 Scroll ==> PAGE

Entry: BPXVCLNY
 Byp Pwd: Yes
 System Task: Yes
 Spec Key: Yes
 No DSI: No
 Found in: SYS1.LINKLIB

Next to one or more entries:
 S Display extended message information

Opt

_ VSA391I This entry was originally
 S VSA392R This entry is allowed to
 ***** Bottom of data *****

Message: VSA392R
 More: +
 Risk
 RACF checking for datasets is bypassed.
 Explanation
 This entry in the PPT grants the bypass password attribute to the program.
 User Action
 The user should verify that the module in question is an IBM module for which this attribute is necessary. Otherwise, check

An example of a powerful feature in the Vanguard Analyzer is the SmartAssist dialog

Intrusion Detection using Vanguard Enforcer

A proven intrusion detection and management solution for monitoring security policy implementation.

- Creates a baseline of current security policy implementation
- Continuously monitors current state of security implementation against the baseline
- Automatically corrects deviations between the baseline and security policy implementation

1. Authorized user makes out-of-policy changes to the permissions of a critical file.



2. Vanguard Enforcer detects the event, automatically puts the permissions back and sends an alert to the data guardian's cell phone with details of the event.



Benefits

- ▶ Know immediately if a key asset has been altered.
- ▶ Creates a Baseline Security Policy using expert recommendation.
- ▶ Enforce Policies in real-time.
- ▶ Alert on Intrusion attempts.

INTRUSION DETECTED
Date/Time: 05/01/05 5:00p
Resource: Payroll Database
User ID: TELLER1

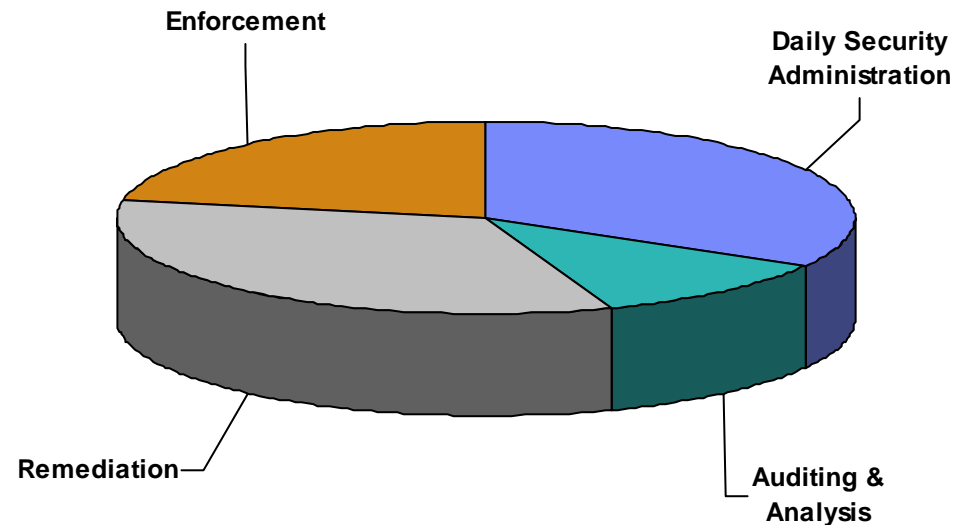
3. Data guardian receives the call and takes appropriate action.



Vanguard Security Solutions™

■ Complete Security Management Solution

- Security administration
- Integrity auditing
- Intrusion detection and management
- Compliance reporting



Helps address the most stringent security requirements and enforces best practices

Reduces the costs and complexities of RACF security administration

Reduces human errors that might go unnoticed and facilitate a security intrusion

Provides a technology foundation to implement a more balanced security program



Software Asset Management Compliance Issues

- World wide impact of Sarbanes-Oxley Section 404
 - ▶ Transparent and accurate accounting process

- Vendor Contract Compliance
 - ▶ Unbudgeted software use fees
 - ▶ Non-compliance publicity (distributed)



What is Software Asset Management (SAM)?

IT Service Management

IT Asset Management

Physical

Operational

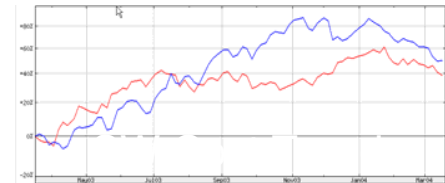
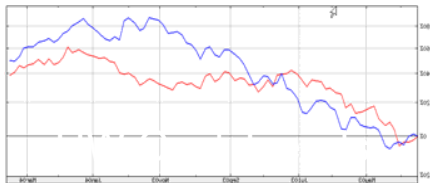
Financial

Hardware

Software

Contracts

Software Asset Management

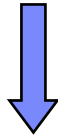


“Enterprises that begin an asset management program experience up to a 30% reduction in costs the first year.. and continue savings of 5-10% for the next 5 years” – Gartner

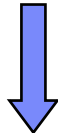
IBM Tivoli's Unique End-to-End Approach

Align IT Software Spending with Business Priorities

What software do I have?



What software assets are in use?
Is this different then what was purchased?



How much does each software asset cost now and in the near future?

Tivoli's Unique Capability

Auto-discovery of software assets

Tivoli License Compliance Manager for z/OS
Tivoli License Manager

Use monitoring: measurement of software use activity trends

Tivoli License Compliance Manager for z/OS
Tivoli License Manager
Tivoli Contract Compliance Manager

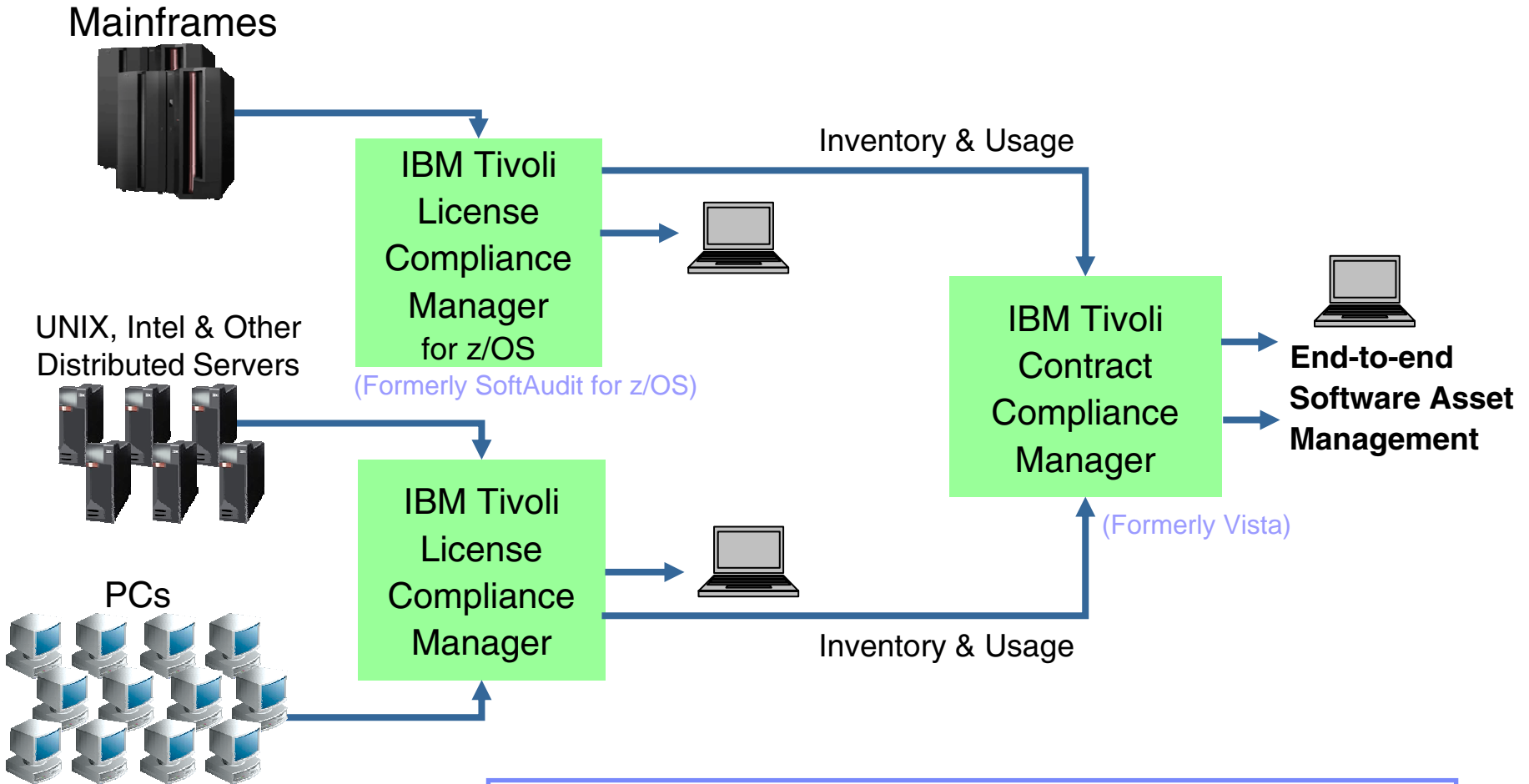
Contract management: compare use activity to corresponding contracts

Tivoli Contract Compliance Manager

All three questions must be answered to align IT spending with Business Goals



Tivoli End to End Software Asset Management



Only IBM Tivoli delivers the three essential sets of integrated information required for effective Software Asset Management across all significant environments.

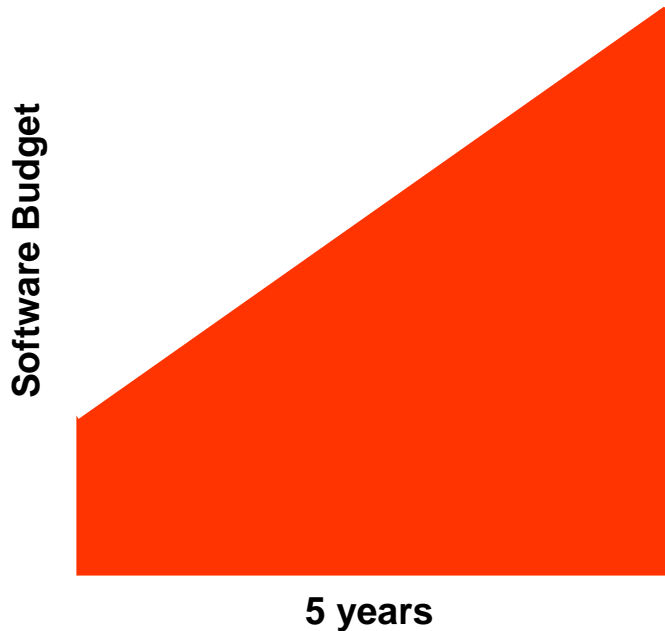
Software Asset Management Value

Large International Insurance Company

Before

Uncontrolled Budgets

- “Over a period of 5 years, our Software budget had tripled.”



After

Cost Management

- “With the help of License Compliance Manager for z/OS reports we're now better able to control software costs.”
- “Over the past 3 years we have been able to drive down mainframe fully loaded costs/MIP by more than 60%.”

Cost Management has lead to growth

- “We've been able to keep software cost increases to a minimum while overall workload and capacity has more than doubled over the past several years.”

Flexibility aligned with business demand

- “We're able to negotiate more flexible agreements with features that (as an example) can allow us to possibly pick up new products and discard obsolete or low usage products.”



Value Realized By Effective SAM

Compliance Risk Reduction

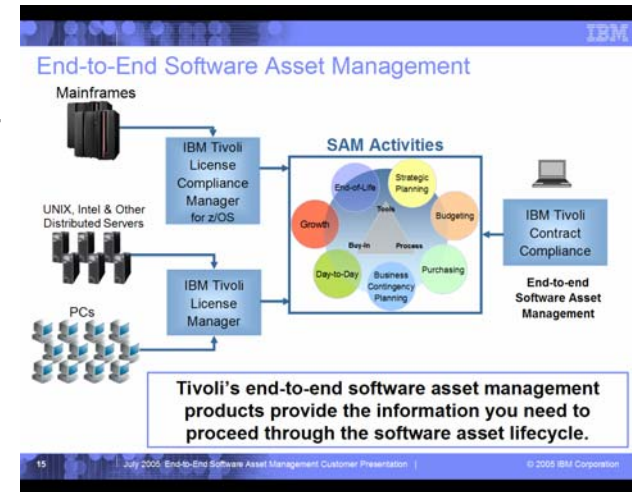
- ▶ Software vendor license compliance audits
- ▶ World Wide impact of Sarbanes-Oxley Act Section 404

Software Cost Management

- ▶ Identification and reduction of no and low use software
- ▶ Efficient server consolidations
- ▶ Optimize software and hardware capacity upgrades
- ▶ Strong vendor contract negotiation leverage
- ▶ Reduced software fees through competitive replacement
- ▶ Improve operational performance and reduce maintenance costs
- ▶ Invoice validation
- ▶ Effective charge-back
- ▶ Disaster recovery and business continuation

Opportunity Creation

- ▶ Software dollars can be redeployed to fund new software acquisitions and projects that return business value



Benefits from SAM Activities

I have it

I use it

I'm contracted for it

✓ Invoice validation, leverage contract negotiations

I have it

I use it

I'm contracted for it

✓ Verify license compliance

I have it

I use it

I'm contracted for it

✓ Eliminate unnecessary licenses

I have it

I use it

I'm contracted for it

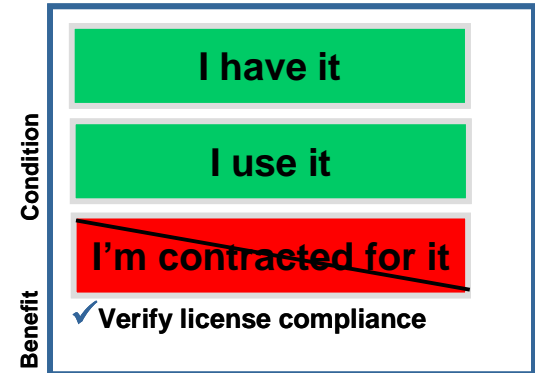
✓ Cancel maintenance or Verify install process



Success Stories

A Large Financial Organization

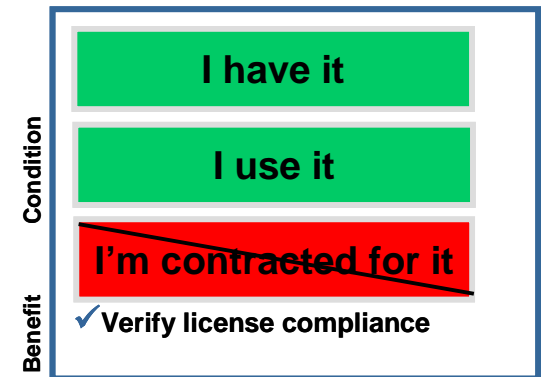
- “Over nine years ago, the organization set up a data repository containing information on contractual obligations, purchase dates, renewal dates and maintenance agreements related to mainframe software. We use a repository to monitor compliance with vendor contracts.”



SAM Success Stories



Tata Consultancy Services



- The leading computing systems integrator company in India.
- TCS faced challenges related to employees' compliance with corporate software licensing policies, software distribution and asset management, and server monitoring and maintenance. To satisfy requirements for becoming listed on India's stock exchange, TCS had to ensure compliance with national standards related to controls for enterprise software licenses.
- To manage employee behavior and gain better control over software and similar assets, the company established an enterprise system management program. Company goals were to collect complete asset inventory across the entire organization and comply with regulations related to licensing.



Tivoli End-to-End Software Asset Management

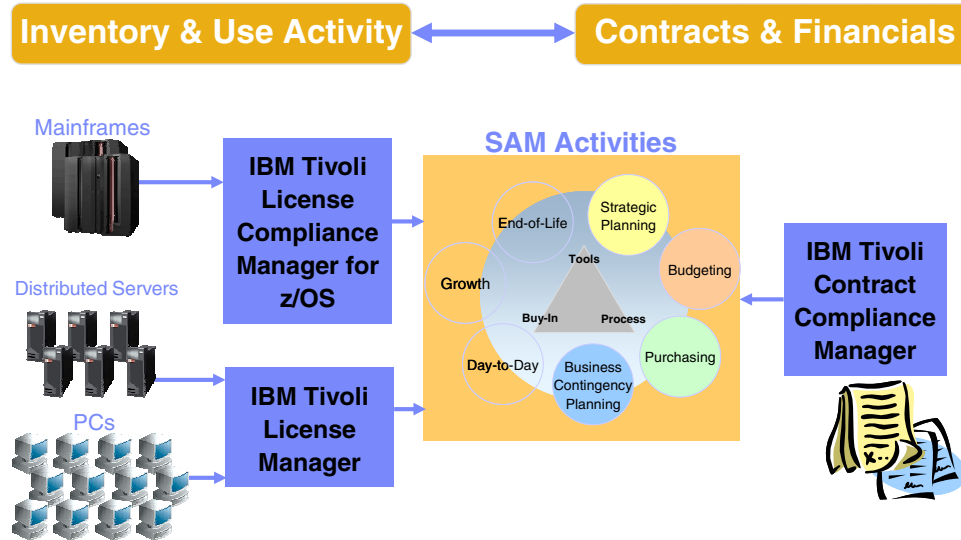
Business Issues

- Software costs are difficult to “control”
- Potential for unexpected expensive software contract compliance audit penalties
- Hard to find key “software product use activity” information needed for effective software asset management
- Difficult to shift software spending to align with business needs

Business Value

- Tivoli end-to-end software asset management solutions help you control software costs and contract compliance exposure to free up funds for priority projects
- Helps organizations demonstrate adherence to stringent accounting standards (Sarbanes-Oxley)

IBM Tivoli License Compliance Manager for z/OS
 IBM Tivoli License Manager
 IBM Tivoli Contract Compliance Manager



धन्यवाद

Hindi

多謝

Traditional Chinese

ขอบพระคุณ

Thai

Спасибо

Russian

Gracias

Spanish

Thank

English

Obrigado

Brazilian Portuguese

شكراً

Arabic

You

Danke

German

Grazie

Italian

多谢

Simplified Chinese

Merci

French

நன்றி

Tamil

ありがとうございました

Japanese

감사합니다

Korean

