

# Introducing The IBM Tivoli zSecure Suite



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International Technical Support Organization

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z Security Update

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## Agenda

- zSecure Admin
- zSecure Visual
- zSecure CICS Toolkit
- zSecure Audit
- zSecure Alert
- zSecure Comand Verifier
- Tivoli Compliance Insight Manager (TCIM)

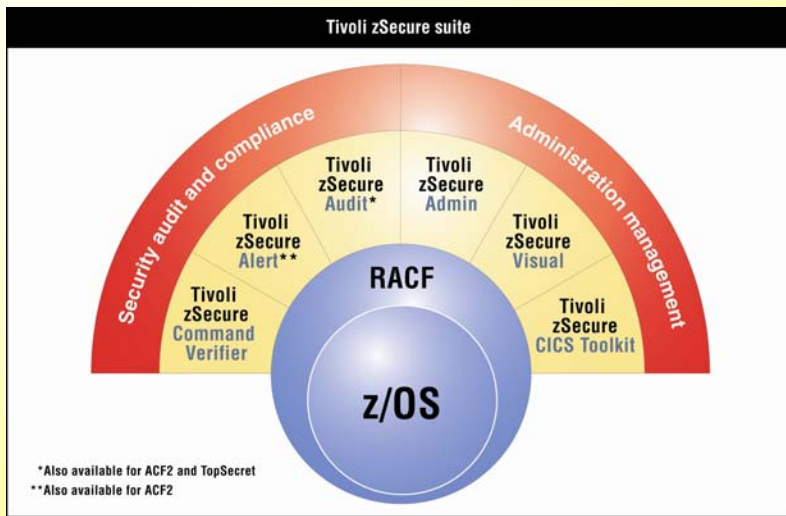
## Consul – A Part Of IBM Tivoli

**consul** 

- Founded in 1986
- Privately held software company
- 89 employees in US and Europe
- Over 350 customers worldwide
- Patent pending W7 compliance methodology
- Parent company in Delft, Netherlands; US subsidiary in Herndon, VA

- *Acquisition has closed effective January 22, 2007*
- *Consul executive team integrated into IBM Tivoli leadership*
- *Consul development and service team retained and expanded*
- *Consul solutions (Consul InSight and zSecure) are shipping as Tivoli products*

On July 3, 2007, IBM announced:



Additions we needed:

- Add-on security tools for automating admin and audit
- Enterprise-wide identity and access management
- Monitor, audit and compliance tools with enterprise view

New: ITSO redp4355

Enterprise Security Monitoring and Audit Reporting

A cornerstone for Tivoli's z/OS Security strategy

Enterprise Identity and Access Management

Tivoli Compliance Insight Manager (TCIM)

Tivoli Security Operations Manager (TSOM)

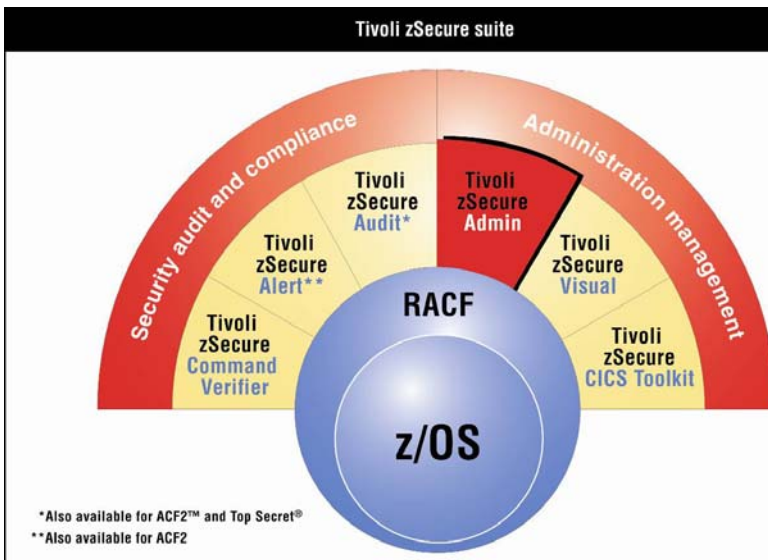
Tivoli Identity Manager (TIM) for z/OS

Tivoli Federated Identity Manager for z/OS

Tivoli Directory Server for z/OS

Tivoli Directory Integrator (TDI) for z/OS

Enables more efficient and effective RACF administration, using significantly less resources



**Highlights:**

- Automate routine tasks to simplify administration
- Identify and analyze problems to minimize threats
- Merge databases quickly and efficiently
- Display data from the active (live) RACF database
- Integrates smoothly with IBM Tivoli zSecure Audit
- Store non-RACF data to reduce organizational costs

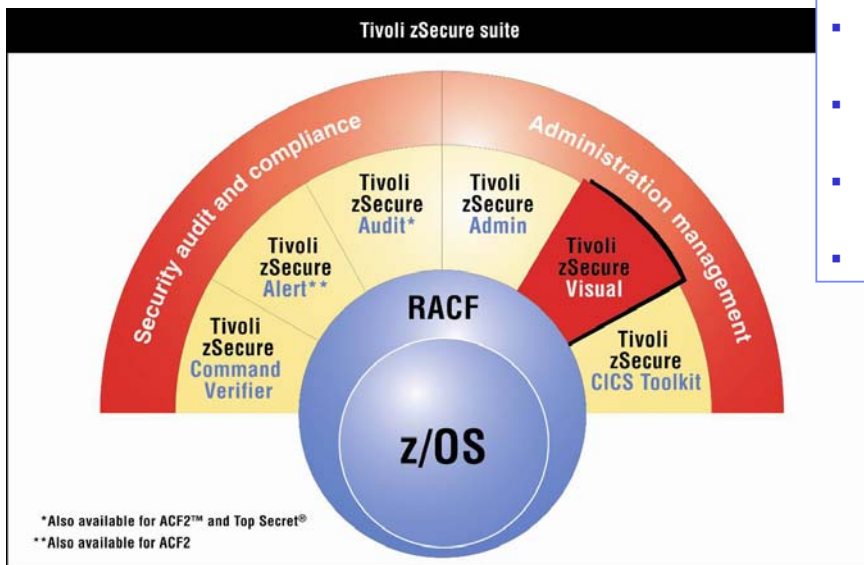
```

Session A - [32 x 80]
zSecure Admin+Audit for RACF USER overview                               Line 1333 of 1377
All users                                                                4 Sep 2007 09:44
  User      Complex  Name                               DfltGrp  Owner  RIRP  SOA  gC  LCX  Grp
  ___      _
  WSADMIN   ZT01     WAS ADMINISTRATOR                 WSCFG1   PLS    I    ___
  WSADMNSH ZT01     WAS ASYNCH ADMIN TAS             WSCFG1   PLS    P    ___
  WSDMNCR1 ZT01     WAS DAEMON CR                    WSCFG1   PLS    I    ___
  WSGUEST   ZT01     WAS DEFAULT USER                 WSCLGP   PLS    I    ___
  WSIMSRV   ZT01     WSIM TASK                         SYSPROC  PLS    I    S
  WSIMTM    ZT01     WSIM TEST MANAGER                SYSPROC  JERRY   ___
  XWTR      ZT01     XWTR                              SYSPROC  PLS    ___
  XWTR2     ZT01     XWTR                              SYSPROC  PLS    ___
  ZAADMIN   ZT01     WAS ADMINISTRATOR                 ZACFG    SENIOR  ___
  ZAADMNSH ZT01     WAS ASYNCH ADMIN TAS             ZACFG    SENIOR  P
  ZACRU     ZT01     WAS DAEMON CR                    ZACFG    SENIOR  P
  ZACTWTR   ZT01     WAS TRACE WRITER                 ZACFG    SENIOR  P
  ZAGUEST   ZT01     WAS DEFAULT USER                 ZAGUESTG SENIOR  R
  ZASRU     ZT01     WAS APPSVR SR                    ZASRG    SENIOR  P
  ZBADMIN   ZT01     WAS ADMINISTRATOR                 ZBCFG    SENIOR  ___
  ZBADMSH  ZT01     WAS ASYNCH ADMIN TAS             ZBCFG    SENIOR  P
  ZBCRU     ZT01     WAS DMGR CR                      ZBCFG    SENIOR  P
  ZBCTWTR   ZT01     WAS TRACE WRITER                 ZBCFG    SENIOR  P
  ZBGUEST   ZT01     WAS DEFAULT USER                 ZBGUESTG SENIOR  RP
  ZBOWNER   ZT01     WAS HFS OWNER                    ZBCFG    SENIOR  I P
  ZBSRU     ZT01     WAS DMGR SR                      ZBSRG    SENIOR  P
  ZCADMIN   ZT01     WAS ADMINISTRATOR                 ZCCFG    PIERRE  ___
  ZCADMSH  ZT01     WAS ASYNCH ADMIN TAS             ZCCFG    PIERRE  P
  ZCCRU     ZT01     WAS DAEMON CR                    ZCCFG    PIERRE  P
  ZCGUEST   ZT01     WAS DEFAULT USER                 ZCGUESTG PIERRE  R
  ZCOWNER   ZT01     WAS HFS OWNER                    ZCCFG    PIERRE  P
  ZCSRU     ZT01     WAS APPSVR SR                    ZCSRGR   PIERRE  P
  ZEACRU    ZT01     WAS DAEMON CR                    ZECFG    STSGJJ  P
  Command ==>
  
```

Reduces the need for scarce, RACF-trained expertise through a Microsoft Windows-based GUI for RACF administration

**Highlights:**

- Decentralize RACF administration to optimize resources
- “Scope Down” Administrative Capabilities
- Avoid need for TSO/ISPF rollouts
- Administer from a live RACF database
- Easy Cloning of user templates

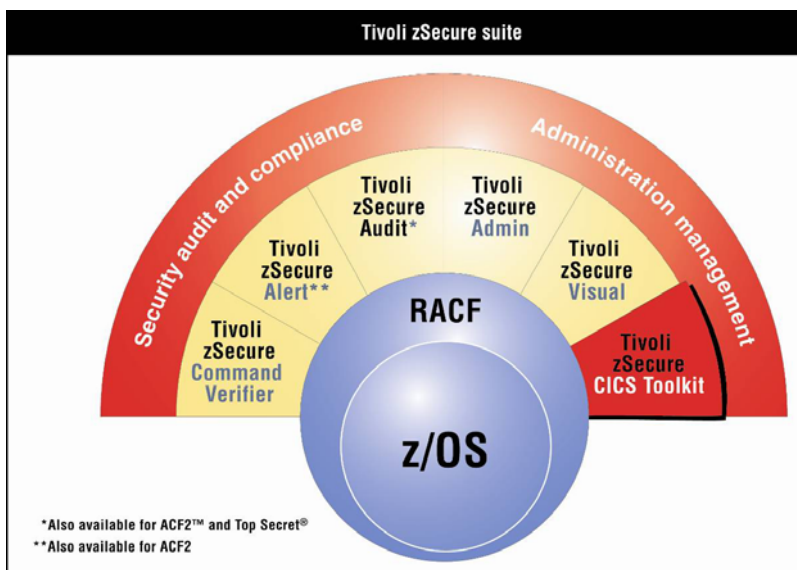


\*Also available for ACF2™ and Top Secret®  
 \*\*Also available for ACF2



The screenshot displays the IBM Tivoli zSecure Visual interface. On the left is a 'Group tree' showing a hierarchy of system groups like SYS1, CMNDRP, DATASET, etc. The main window shows a table of users with columns: UserID, Name, InstData, Owner, DefaultGip, Revoked, Inactive, Expired, Interval, Attempts, LastConnect, LastPwdChange, and Created. Below this is a table of permits for profile SMC0096, with columns: Class, Profile, ProfType, Access, When, UAcc, Warning, Erase, Audit, AuditF, ACL count, and Owner. A 'Find' dialog box is open, showing search criteria for 'User' with 'Name: contest' and 'Installation data' fields.

Allows you to perform mainframe administrative tasks from a CICS environment, freeing up native-RACF resources



**Highlights:**

- RACF administration from a CICS interface
- Web-enablement CICS-RACF API
- Customize screens
- Perform resource access checks
- Support security of legacy applications



## z/OS Status Audit – Trusted userID report

```

Session A - [32 x 80]
Trusted userids (may bypass security) Line 1 of 37
4 Sep 2007 12:17

Pri Complex Trusted userids
45 ZT01 1197
Pri Reasons Userid Name RIP DfltGrp InstData
10 629 ROBVH2 ROB VAN HOBOKEN WASUSR VAN HOBOKEN
Pri Cnt Audit concern
--- 10 4 Can submit jobs for trusted user
--- 9 1 Can make HFS file APF-authorized, APF program can bypass security
--- 9 1 User privileges and rules may be changed directly on disk
--- 9 3 Security-relevant parameters may be changed
--- 9 6 JCL that runs with high authority may be changed
--- 9 274 May change APF program
--- 8 1 Can alter the RMM control
--- 8 1 Can change the security
--- 8 1 Can change userid with
--- 8 1 Can change APF and BPX.
--- 8 1 Can change APF program
--- 8 1 Superuser authority, can
--- 8 24 May change program in L
--- 8 62 May change program in L
--- 7 2 May mark jobs as propag
--- 7 2 Trojan horse attack poss
--- 6 1 Can control which data s
--- 6 1 Can dump all data sets,
--- 6 1 Can dump and delete all
--- 6 1 Can print all data sets
--- 6 1 Can rename all data sets
--- 6 1 Can restore and rename
--- 5 1 Can add non-RACF define
Command ==>
    
```

z/OS Status Audit – Drill down with details

```

Session A - [32 x 80]
Trusted userids (may bypass security) Line 1 of 25
4 Sep 2007 12:17

Trusted subject
Complex used for the attack ZT01
Trusted userid ROBVH2 ROB VAN HOBOKEN VAN HOBOKEN
Revoked (may be by date)
Inactive, revoked or pending
Password disabled PROTECTED

Subject capability
Privilege on user's complex PermitGrp
Id associated with privilege SYSPR06
Access level granted to user ALTER
RACF profile class DATASET
RACF profile SYS1.**
Relative audit priority 9
Audit concern Security-relevant parameters may be changed

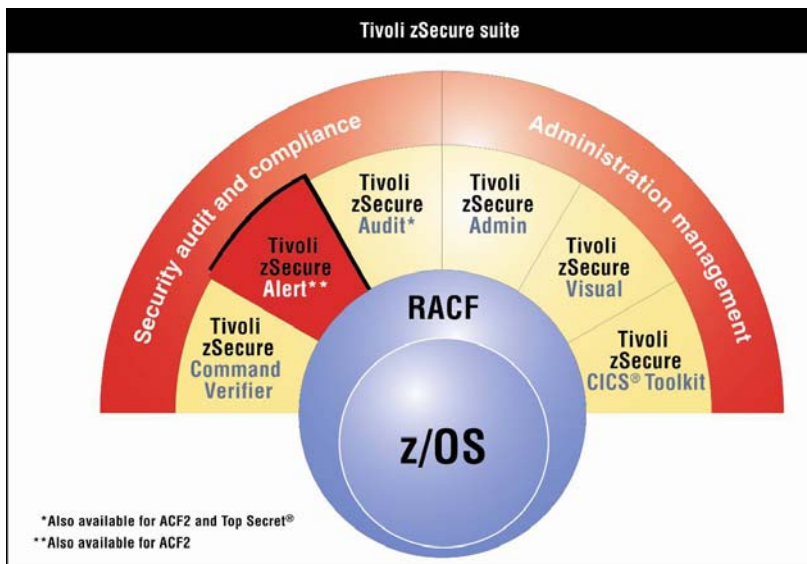
Sensitive object user may compromise
Access level that is exposure UPDATE
Type of sensitive resource MSTR prmlib
Resource class DATASET
Resource name SYS1.PARMLIB
Volume serial for resource ZOORES
System that may be attacked ZT02
Complex that may be attacked ZT01
***** Bottom of Data *****
Command ==> Scroll==> CSR
    
```



Real-time mainframe threat monitoring allowing you to monitor intruders and identify mis-configurations that could hamper your compliance efforts

### Highlights:

- Threat knowledge base with parameters from your active configurations
- Broad range of monitoring capabilities, including monitoring sensitive data for misuse on:
  - z/OS
  - IBM RACF
  - CA ACF2 and
  - z/OS UNIX subsystems.
- Easily send critical alerts to enterprise audit, compliance and monitoring solutions
- Integrated remediation with Tivoli zSecure Admin



\*Also available for ACF2 and Top Secret®  
 \*\*Also available for ACF2





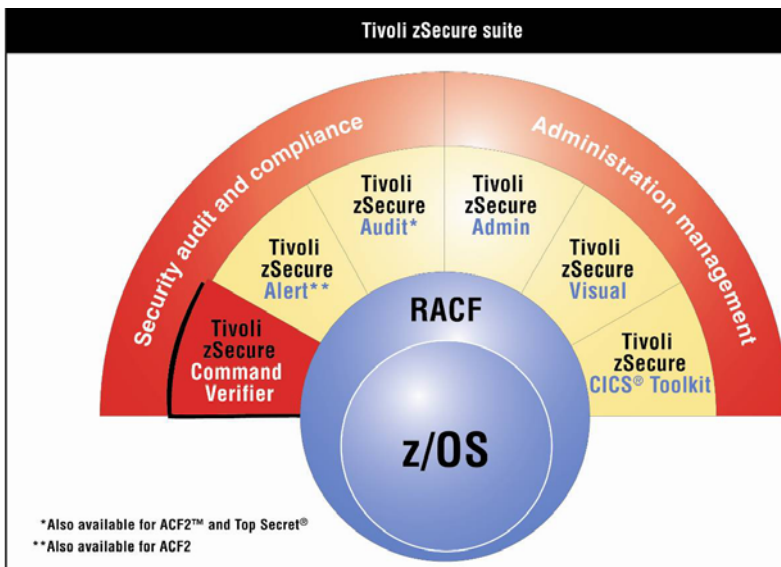
## Integration with Tivoli Security Operations Manager

The screenshot shows the Tivoli Security Operations Manager interface. At the top, there are tabs for Dashboard, Reports, Tools, Options, and Admin. Below the tabs is a navigation bar with 'Visuals', 'Window', and 'Help'. The main content area is divided into two parts. On the left, there is a table titled 'PowerGrid' with columns: Src Threat, Dst Threat, Protocol, Src IP, Dst IP, Src Port, Dst Port, Domain, Src Watchlist, Dst Watchlist, EAM Time, Sensor Time, and ID. The table contains several rows of event data. On the right, there is a detailed view of an event titled 'Event #5043729343401951233'. This view shows fields such as EAM Time (2007-03-19 20:05:49), Sensor Time (2007-03-19 20:05:49), Sensor Name (CONSUL), Sensor Type (zAlert), Protocol (17), Source IP (0.0.0.0), Destination IP (0.0.0.0), Source Port (0), and Destination Port (0). The event type is 'NON\_OPERATIONS\_USED\_OPERATIONS'. A blue callout bubble is overlaid on the screenshot, containing the text: 'Real time RACF and ACF2 monitoring leveraging Tivoli zSecure Alert'.

Policy enforcement solution that enforces compliance to company and regulatory policies by preventing erroneous commands

### Highlights:

- Prevent noncompliant administrative command execution
- Supports policy definitions to provide mandatory and default values for which RACF does not provide appropriate defaults
- Command Audit Trail feature stores changes to profiles in the RACF database
- Easy independent installation for use on all systems for which policies must be enforced
- Grant users granular access to specific commands they would normally be unable to access





...Against the creation of default passwords

```

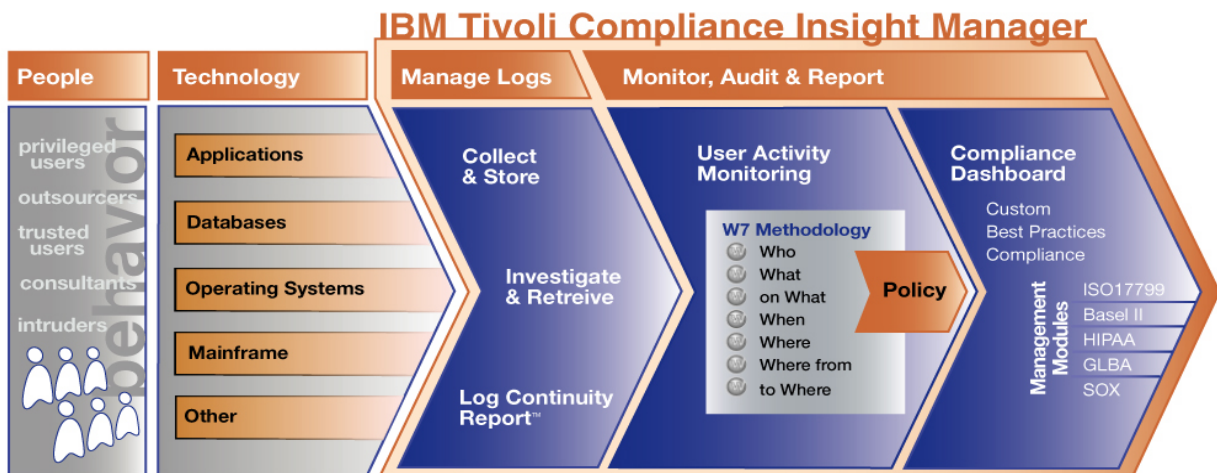
Consul InSight zLock
File Edit View Communication Actions Window Help
au crmbtst0
C4R431E Use of default value for DFLTGRP not allowed, command terminated
READY
au crmbtst0 dflt(crmb)
C4R497E Password must be different from DFLTGRP, command terminated
READY
au crmbtst0 dflt(crmb) pass(mypwd)
READY
    
```

...Against the creation of wrong usernames

```

Consul InSight zLock
File Edit View Communication Actions Window Help
ICH70001I CRMBGUS LAST ACCESS AT 19:58:10 ON MONDAY, FEBRUARY 25, 2002
IKJ56455I CRMBGUS LOGON IN PROGRESS AT 19:59:29 ON FEBRUARY 25, 2002
IKJ56951I NO BROADCAST MESSAGES
READY
au testuser
ICH408I USER(CRMBGUS ) GROUP(CRMA ) NAME(GUUS BONNES #1 )
$C4R.USER.ID.TESTUSER CL($C4R )
INSUFFICIENT ACCESS AUTHORITY
FROM $C4R.USER.ID.* (G)
ACCESS INTENT(UPDATE ) ACCESS ALLOWED(NONE )
C4R412E Userid TESTUSER not allowed in naming conventions, command terminated
READY
    
```

- Integrate the Mainframe with TCIM Enterprise Compliance Dashboard
- W7 Patent Pending Analysis Engine
- PUMA (Privileged User Monitoring and Audit)



**Compliance Dashboard**  
Database AGGRDB on Server EPRORADB

**Enterprise Overview**  
Events by top event count by "Who" and "on What" from May 16, 2007 till May 22, 2007.

**Trend graphic**  
Percentage of Policy Exceptions from May 16, 2007 till May 22, 2007.

**My reports**

| Type                     | Title  | Description | Action |
|--------------------------|--|-------------|--------|
| z/OS reports             | Privileged user access                             |             |        |
| z/OS reports             | Warning mode                                       |             |        |
| All Exposures            | List of Exposures by Priority                      |             |        |
| DBA Activity             | List of changes to databases                       |             |        |
| Events by type           | Summary of audited event types                     |             |        |
| Failed System Operations | List of failed operator and configuration comments |             |        |

- **Broad analysis of activity and audit records gathered from multiple platforms**
  - Includes z/OS events in the enterprise dashboard!
  - z/OS, RACF, CA-ACF2, CA-Top Secret, DB2, TCPIP, z/OS UNIX
- **SMF Record types (mainframe logs) gathered**
  - 0, 2, 3, 4, 5, 6, 8, 10, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28, 30, 31, 32, 33, 34, 35, 36, 27, 39, 40, 41, 42, 43, 45, 47, 48, 49, 50, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79
  - 80, 81 (RACF)
  - 82 (ICSF – Integrated Cryptographic Services Facility)
  - 83 (Security Events)
  - 84, 85, 88, 91, 92, 94, 96, 99, 100, 101, 103, 108, 109, 115, 116, 118, 119, 120

# Thank You

# Any Questions ?