CA Mainframe Security Update

Carla A Flores
carla.flores@ca.com

August 3, 2010
Session # 7996

agenda

- CA Mainframe 2.0
- CA Mainframe Security Release Status
- CA ACF2 & CA Top Secret r14 Review
- CA ACF2 & CA Top Secret r15 Overview
- CA Mainframe Security Future Direction
- Open Discussion/Questions

Note: Specific examples of some features are in an Appendix section at the end of this presentation

CA ACF2 release status

- CA ACF2 r12 SP3 – 6/2009 End of Service 3/1/2011
- CA ACF2 r14 SP1 – 2/2010
- CA Top Secret r12 SP3 – 7/2010 End of Service: 3/1/2011
- CA Top Secret r14 SP1 – 1/2010
- CA ACF2 & CA Top Secret r15 – eta 10/2010
- CA ACF2 & CA Top Secret r1.3 for DB2 – 6/2010
- CA Cleanup r12.1 – 6/2010
- CA LDAP r14 SP1 – 3/2010
- CA Web Administrator r14 – 2/2010
- CA Auditor r12.1 – 6/2010
- CA Compliance Manager r1 – 5/2009
- EAL4+ Certification (CA ACF2, CA Top Secret, CA Compliance Manager) – 3/2011

Mainframe 2.0

Changing the way the mainframe is managed forever!

1. THE MARKET

Mainframe Platform Drivers

- Business Growth
- Hardware Evolution
- Mainframe Virtues

2. THE CHALLENGES

Control Costs	Sustain Critical Skills	Increase Agility
• Do More... • "...with less" • "...with nothing"	• Build next generation team dynamically • On ramp for next gen is long and complex	• Provision services faster • Multiplatform data center • Solve critical issues

3. THE STRATEGY

Maximize Value	Simplify Management	Practical Innovation

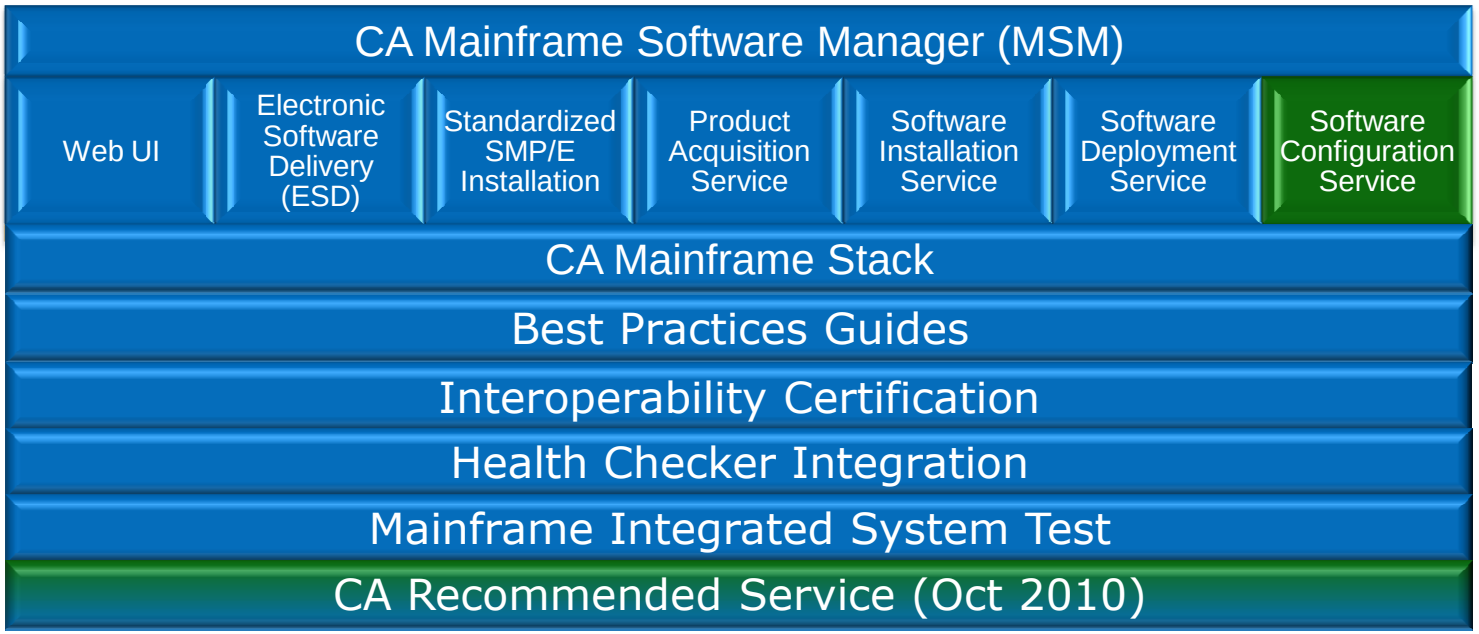
Best in Class Quality, Support, and Customer Experience

4. THE PROGRAMS

Promises Made		Promises Kept
Maximize Value	1	Customer Engagement Technology Exploitation
Simplify Management	2	Mainframe Software Mgmt Mainframe Stack
Practical Innovation	3	Integration, Productivity, and Insight

CA mainframe security management
May 2010 technology deliverables

Promises Made	Promises Kept
Simplify Management	Mainframe Software Manager Mainframe Stack



CA mainframe security products and CA MSM

Product	New ESD	Standard SMP/E	Product Acquisition Srvc. & Software Installation Srvc.	Health Check & Best Practice Guides	Software Deployment Service	Software Configuration Service
CA ACF2	Yes	Yes	Yes	Yes	Yes	2011
CA ACF2™ Option for DB2	Yes	Yes	Yes	Yes	Yes	2011
CA Top Secret®	Yes	Yes	Yes	Yes	Yes	2011
CA Top Secret® Option for DB2	Yes	Yes	Yes	Yes	Yes	2011
CA Compliance Manager	Yes	Yes	Yes	Yes	Yes	2011
CA Auditor	Yes	Yes	Yes	Yes	Yes	2011
CA Cleanup	Yes	Yes	Yes	Yes	Yes	2011

CA ACF2 – health checker integration

Health check routine

- ✓ Determine Expiring Digital Certificates
- ✓ Determine use of SAFDEFs with NOAPFCHK
- ✓ Determine if the CA ACF2 AUTO Start feature is in use (CAISEC00)

Leveraging the power of the z/OS Health Checker for your Security implementation

Benefit

- ✓ Reduce likelihood of failed production jobs due to expired certificate
- ✓ Reduce risk of user bypassing APF checking on RACROUTE calls
- ✓ Enables CA ACF2 to start early and ensures other Address Spaces that start during IPL will have correct level of security

CA Top Secret – health checker integration

Health check routine

- ✓ Determine if CA Top Secret Audit Tracking file is allocated on same volume as the TSS Security File
- ✓ Determine if CA Top Secret CACHE and SECCACHE features are enabled

New: Determine Expiring Digital Certificates

- ✓ Could lead to failure of production jobs

Benefit

- ✓ Reduces the number of support issues resulting from performance degradation when these two files share a DASD volume
- ✓ Prevents performance degradation and support issues as a result of clients not using all of the product-supplied cache features

New Features/Functionality:

- Compliancy and Regulations
- New Administration Capabilities
- Current Features Enhanced
- New Auditing and Reporting Features
- Incorporation of DAR requests
- Integration

CA ACF2 & CA TOP SECRET R14 RECAP

CA ACF2 release 14 recap

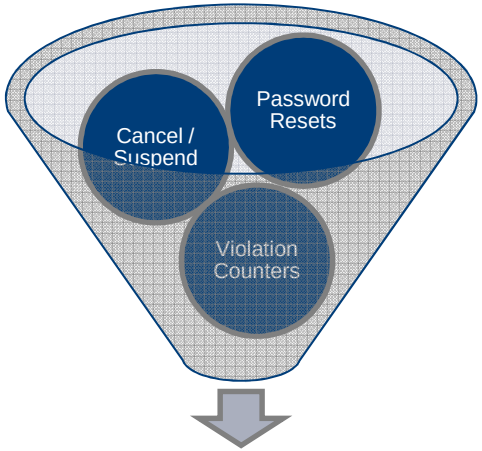
- Role-based Security
  - New X(ROL) records to define ‘roles’ and attach users to the role
  - Dataset and Resource rules:
- Data Classification / Ownership
  - New DCO records to define a classification (SOX, HIPPA) and associate a resource and ownership
  - Reporting modified to use Data Classification
- New Password Encryption Option
  - Support for AES128 using ICSF
- Certificate Processing Improvements
  - In-core storage usage moved to 64-bit memory objects
  - New search algorithm to speed look-up calls
- Sysplex Enhanced
  - Provides the ability to share one CA ACF2 database in the Sysplex Coupling Facility

CA Top Secret release 14 recap

- Data Classification / Ownership
- New Password Encryption Option: AES128 using ICSF
- Certificate processing improvements
  - In-core storage usage moved to 64-bit memory objects
  - New search algorithm to speed look-up calls
- Catalog SMS dataset delete option (CATADELPROT)
- Extract replace changes
  - Data fields now sent through CPF and LDS
- Inactive control option change
- Suspending global table refresh

CA ACF2 & CA TOP SECRET R15

restricted administration controls



You can now control administration capabilities without high-level privileges being given (ie. Security, Account, Audit, MSCA, SCA, etc.)

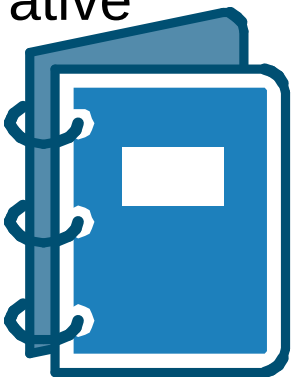
- Initial target:
  - Passwords and password related logonid fields
  - Administration of certificate commands
- New pre-defined resource class: CASECAUT
  - Internal CLASSMAP record with TYPE=AUT (CA ACF2)
  - NORESCHK not honored for CASECAUT class (CA Top Secret)
- Provide administration access through resource authorization
  - Cannot perform Administration on a higher-level user

restricted administration controls (CA ACF2)

- Controls for Help-desk type administrators
  - Only Changes are allowed, no Inserts or Deletions of Users
  - Password and User Status related field changes only
  - Resource ‘Entity’ based on field being changed
- Requirements
  - “Requestor” end user and “target” end users must not be:
    - SECURITY, ACCOUNT, AUDIT LEADER, or CONSULT lids
  - No SERVICE on rule line; Only access permission required
  - CASECAUT class SAF calls internally enforced
  - SECTRACE output displays: SAFDEF=+ENFORCE
  - Logging for Failures, LOG, and PREVENT rules
  - Scope controls to restrict which users can be changed

restricted administration controls (CA ACF2)

- Controls for Certificate Administrators
  - CASECAUT class resource rules control administrative privilege
  - Allowed through commands in TSO/E and Batch
- Requirements
  - CASECAUT class SAF calls internally enforced
  - Service levels control type of access:
    - SERVICE(READ) – User can access own certificate, keyring, or token
    - SERVICE(UPDATE) – User can access another user's certificate, keyring, or token
    - SERVICE(DELETE) - User can access a SITE or CERTAUTH certificate and/or certificate mapping
  - Scope controls to restrict which user certificates can be administered

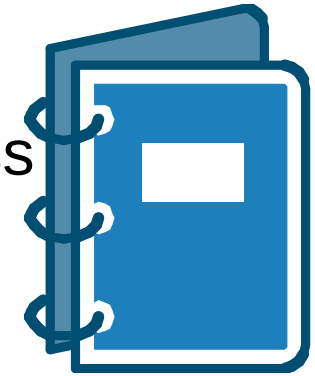


restricted administration controls (CA Top Secret)

- Allows a user other than MSCA to run TSSXTEND and TSSFAR
- Allows a user with no admin authorities to run utilities

restricted administrative controls (CA Top Secret)

- To change password related field requires UPDATE access to ‘TSSCMD.USER.cmd.fieldname’ in CASECAUT class.
- To issue certificate related command requires UPDATE access to ‘TSSCMD.CERTUSER.function’ in CASECAUT class.
- To run a utility requires USE access to ‘TSSUTILITY.utilityname’ in CASECAUT class.
- To run TSSXTEND(ZAP) requires UPDATE access ‘TSSUTILITY.TSSXTEND’ in CASECAUT class.
- New CASECAUT PIE resource class



new administration commands

- User Comparison
- User Modeling
- User Archival

automated user comparison (CA ACF2)

- New ACF COMPARE command
  - Single command compares two users and displays differences
    - Compares logonids
    - Compares associated roles
    - Compares user profile segments
      - *CICS, EIM, LANGUAGE, NETVIEW, OPERPARM, SECLABEL, WORKATTR*
    - Syntax: COMPARE userid1 USING(userid2)
- Requirements
  - User must have SECURITY or AUDIT privileges
  - Logonids being compared must be within administrator's scope

automated user modeling (CA ACF2)

- New ACF MODEL command
  - Copies subset of logonid fields, profiles, and roles from existing user
  - Builds commands to insert new user modeling existing user
  - Syntax: MODEL logonid(newuser) USING(modelid) INTO(‘pds(member)’)
    - If INTO not specified, command output displayed to terminal
    - Administrators can MODEL any logonids within their scope

automated user archiving (CA ACF2)

- NEW ACF2 ARCHIVE subcommand for LIST and DELETE commands
  - Builds ACF commands that recreate a user (Logonid and User Profiles)
  - Re-adds user to roles they were previously assigned to
  - Syntax: {LIST | DELETE} logonid ARCHIVE INTO('output.work.user(member)')
    - *If INTO not specified, command output displayed to terminal*
    - *Administrators can ARCHIVE any logonid within their scope*

compare command enhancements (CA Top Secret)

- Description
  - New TSS COMPARE(ACID) USING(ACID) command will compare the two ACIDS and then display the differences to the screen.
- This command is treated like a list command
  - Administrators must have explicit authority via the ADMIN - DATA command
  - The compare command will only display output for the ACIDS within their scope

administration user modeling (CA Top Secret)

- Description
  - MODEL command
    - Models permissions for datasets/resources from existing user acid to another user acid
    - Generates list of TSS commands
    - First record in output is comment, which contains:
      - *Command*
      - *User acid being modeled*
      - *Date and time of model*
      - *TSS administrator who issued command*
      - *System on which command was executed*
      - *User acid used as a model*

administration archival (CA Top Secret)

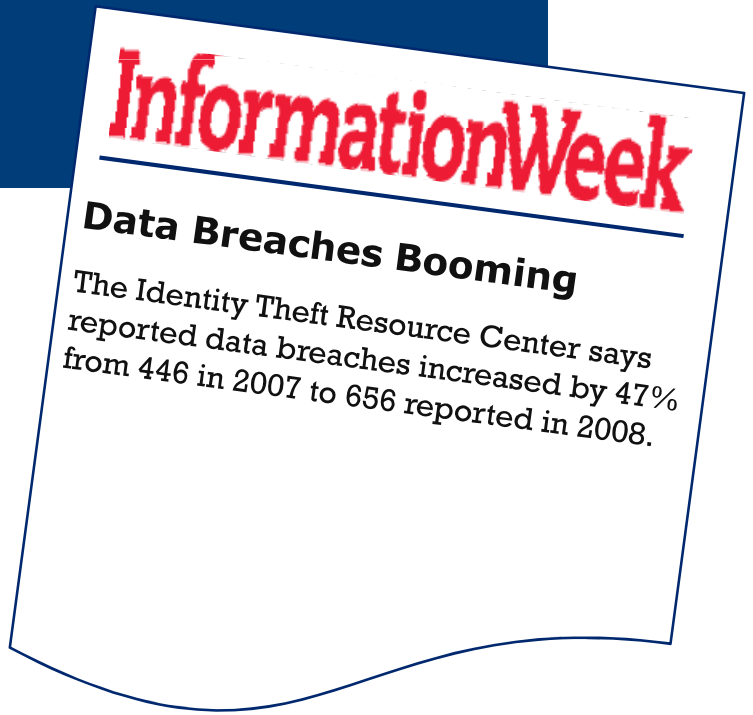
- Description
  - Archival allows user's permissions and resources to be archived into form of TSS commands
  - Generated TSS commands can be stored in PDS dataset and used to restore a user
  - First record in output is a comment, which contains:
    - Command
    - User acid being modeled
    - Date and time of the archive
    - TSS administrator who issued command
    - System on which command was executed

administration archival (CA Top Secret)

- Requirements
  - Specify ARCHIVE keyword on LIST or DELETE command
  - Administrator must have DATA(ALL) authority and scope over ACID being archived
  - Specify keyword INTO to have TSS commands written out to PDS
  - During archive processing, most of user's security record information is archived, but some fields are not copied during archive process (e.g., digital certificates)
  - Use EXPORT command
    - If user being archived has digital certificates

certificate enhancements

- Renew Command
- IDN/SDN Extensions
- Certificate Utility Enhanced



certificate RENEW command (CA ACF2)

- Renews digital certificate with one command
  - Provide certificate and new ‘expire’ date
  - Eases the administration from up to a six step process to one
  - Syntax: RENEW user.cert EXPIRE(12/31/11) SIGNWITH(my.ca)
- Requirements
  - Certificate & Signer of cert being renewed must have private key in CA ACF2 Info-Storage database or in ICSF (PKDS)

certificate DN support (CA ACF2)

- Distinguished Name (DN) max sizes increased to accommodate larger CA certificate SDNs/IDNs
- GSO CERTMAP fields SDNFILTR and IDNFILTR increased to allow larger values up to 1024 bytes
- Notes:
  - Do not share INFOSTG database between systems without support
  - Specify SDNSIZE(1024) to activate large DN support only after ALL systems sharing INFOSTG have been upgraded

certificate enhancements (CA ACF2)

- Expanded Key Ring Support
  - Limitation due to size of INFO-STORAGE Database
  - New User parameter on CONNECT or REMOVE “logically” connects or removes ALL certificates from a user keyring
- Password Prompt
  - Prompt for password if missing from CHKCERT, INSERT, or EXPORT command
- Expiring Certificate Warning
  - New GSO OPTS CERTEXP(days)
  - ACF79468 Certificate xxx.yyy is expiring in xx days

certificate RENEW command (CA Top Secret)

- Renews digital certificate with one command
  - Provide certificate and new ‘expire’ date
  - Eases the administration from up to a six step process to one
  - Syntax: TSS RENEW(JOE1) DIGICERT(cert1) NADATE(12/31/10)
- Requirements
  - Certificate being renewed must have private key in CA Top Secret database or in ICSF
  - Signer of certificate being renewed must have private key in CA Top Secret database or in ICSF

large DN support (CA Top Secret)

Requirements

- New maximum DN size is 1024 for Subject DN, 1007 for Issuer DN
- SDNFILTR and IDNFILTR have also been increased
- Large DN feature is incompatible with operating systems that do not have the support
- Sharing a security file between incompatible systems is not supported
- New SDNSIZE(255|1024) parameter will allow migration of all systems to the new support before allowing certificates with large DNs to be inserted or gencerted

certificate utility enhanced (CA ACF2 & CA Top Secret)

- New fields displayed in Utility output

Field	Field Value Description
Algorithm	Signing algorithm
Trusted	Trust status (Yes or No)
Cert Length	Certificate length
Extensions	Contents of certificate extensions (Hex dump, if not common)

- New Totals displayed in Utility output

Totals Field	Totals Field Value Description
Trusted Certificates	Total number of trusted certificates
High Trust Certificates	Total number of high trusted certificates

CA ACF2® ONLY

role based security

- ACFXREF Utility changed to include XROL records
  - Manipulates Cross-reference XROL records and identifies invalid values on INCLUDE and EXCLUDE statements
  - Facilitates removal or restoration of roles and users that no longer exist from role definitions
- New output CMDS and BACKOUT files
  - Valid for all ACFXREF processing types (XROL, XSGP, XRGP)
  - CMDS output file
  - BACKOUT output file

auto erase enhancements

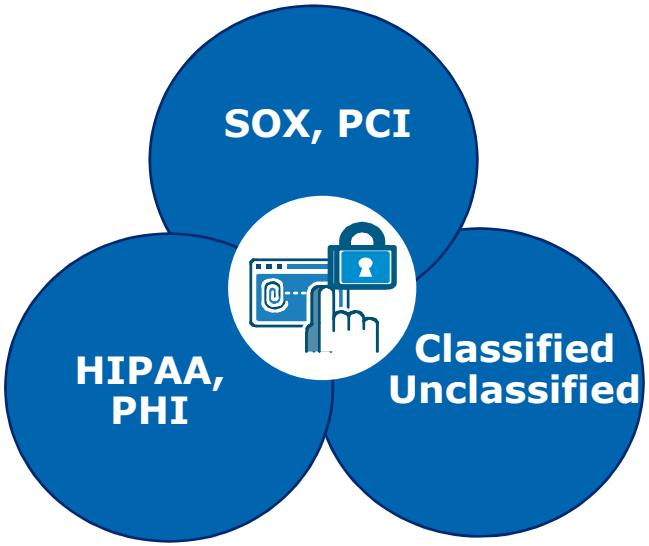
- Erase-on-Scratch (EOS) support
- “Existing” method (ACF2 intercepts-based)
  - Erase processing done out of ACF2 ERASE intercepts
  - If using existing EOS method, ACF2 does the manual scratching
- “New” method (SAF-based)
  - Controlled by GSO AUTOERAS record – new PROCESS(SAF|ACF2)
  - Better control for user
    - Can control EOS centrally against all data sets via AUTOERAS record - at individual HLQ level & SECLEVEL for data classification records

TSO options

- New BYPPAUSE field
  - Bypasses CA ACF2 message prompt and pause during TSO SIGNON
  - Limits display of CA ACF2 informational messages during TSO logon
  - Incorporation of User Mod UM75289
  - Requirement: Must use CA ACF2 TSO Logon Routine
- New LOGHERE field
  - Allows TSO/E user who has a session on one terminal to log on to another terminal with the RECONNECT option and "steal" the session from the original terminal
  - Requirement: Must be at z/OS 1.11 or above

misc enhancements

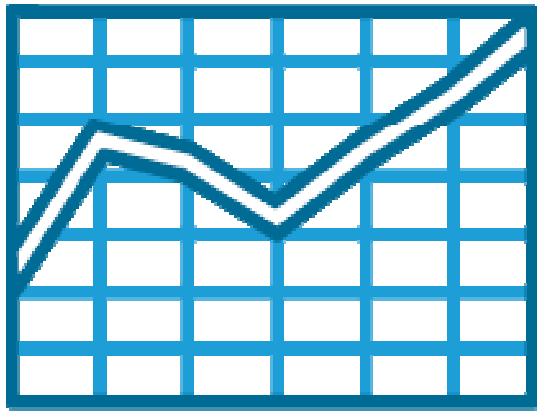
- DSERV Exit Support
  - PDSE support for PDS Member Level Protection and Program Pathing
- Data Classification
  - Data Classification and Ownerships to added to Compliance Manager Event Records
- SHOW RSRCTYPE
  - Incorporated in Show All output



CA TOP SECRET® ONLY

virtual storage constraint relief (VSCR)

- Use of 64-bit storage above the bar
- Kerberos - restructuring of in-core tables
  - Hash Table Based
  - Support update in place
  - Support multiple record key fields for fast lookups
  - Support Variable length fields
  - No length limit



VSCR

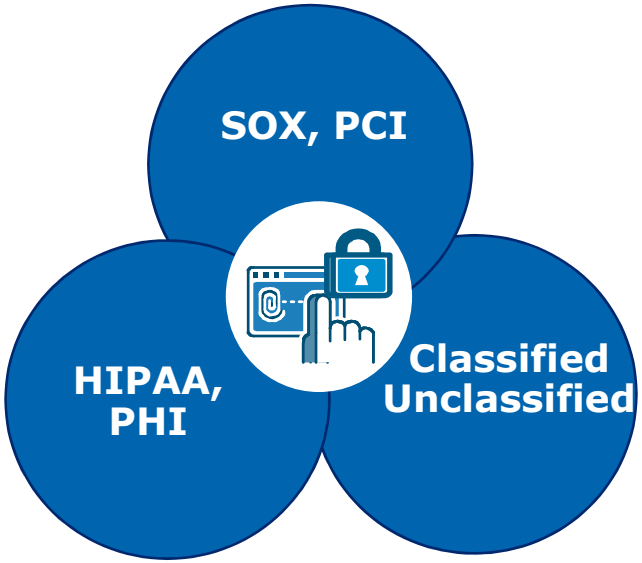
- Kerberos Table Restructure -Requirements
  - Eliminate Kerberos SDT in-core tables
  - Command processor will use SAF tables for lookups.
  - ECSA storage used if 64bit storage not available or if record count < 50 (z/OS 1.6 or higher)
  - No file conversion required
  - No administrative impact

auto start

- Description
  - Support auto starting TSS as Subsystem
- Requirements
  - Support START/NOSTART in CAISECxx parmlib member
  - Allow control options overrides via CAITSSxx
  - Set subsystem name via SUBSYS= keyword
  - VERIFY issued by AXR is suspended by TSSSFR00

data classification enhancement

- Data Classification Enhancement
  - Add Data Classification and Ownerships to CA Compliance Manager Event Records

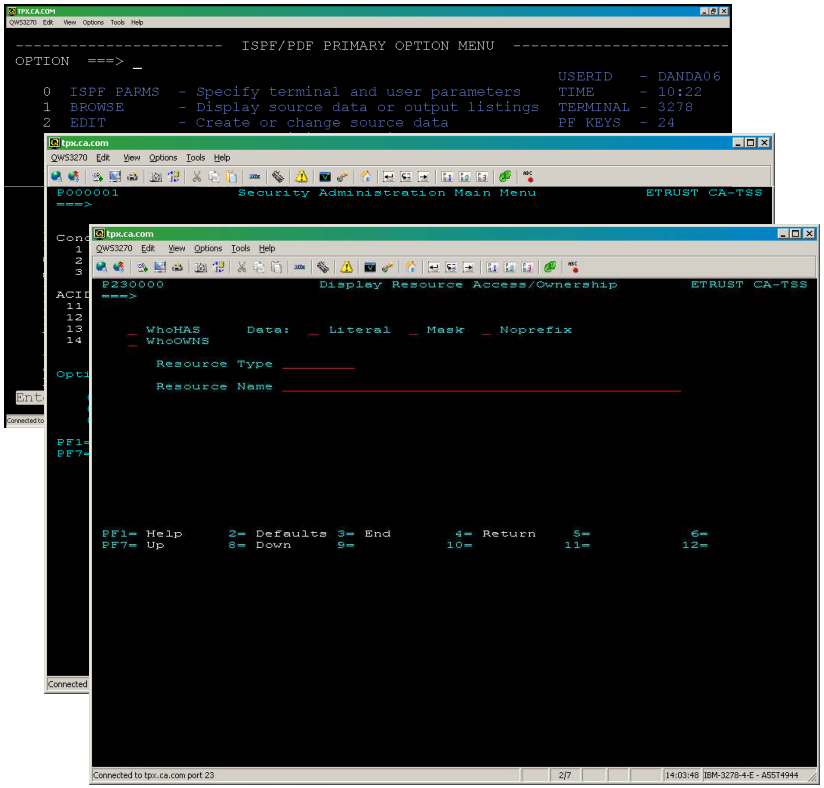


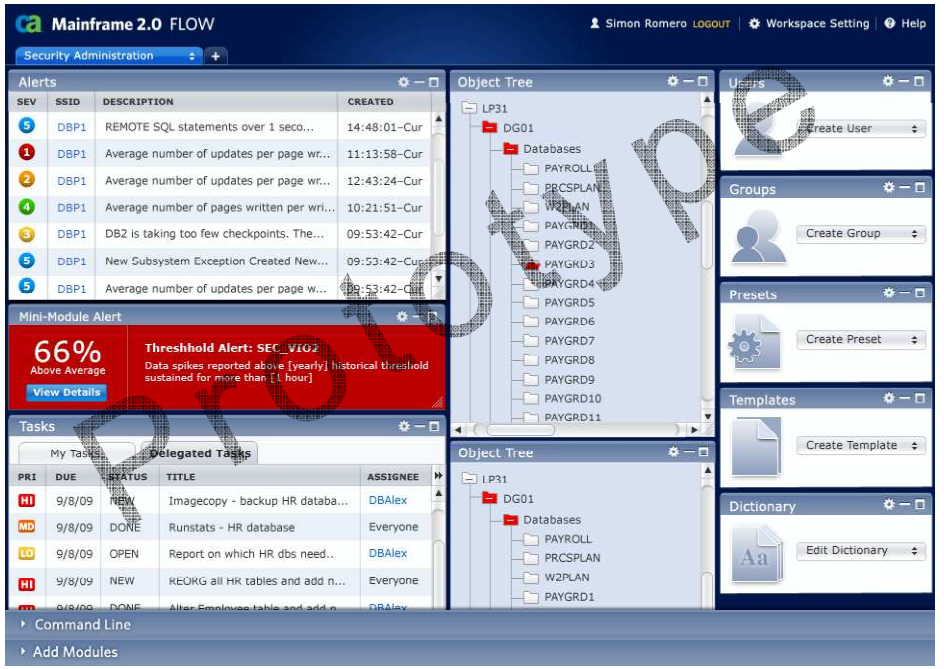
review

- Mainframe Security Directives
  - Electronic Delivery of Software – ESD
  - Health Checker Initiatives
  - SMP/E Standardization across all CA Products
  - Deployment / Serviceability
- CA ACF2 & CA Top Secret Enhancements
  - Compliancy Considerations
  - Administration Capabilities
  - Performance Enhancements
  - Incorporated DARs

CA Mainframe Chorus Security Management Role in development now

- It is a new and fundamentally different interaction model
  - Based on **how people do their jobs**, *not how they use specific products*
  - Provides rich features and data visualization in a web-based workspace





next steps

- Iterative development
- Continuing validation
- Beta
- GA

For more information, or to become involved, contact:

Tom Repede
Principal Product Manager
CA
Thomas.Repede@ca.com
Tel: +1-630-505-6079

OPEN DISCUSSION – Q&A

APPENDIX

EXAMPLES

CA ACF2 sample health check – expiring certificates

```
CHECK(CA_ACF2,ACF2_CHECK_EXPIRING_CERTS)
START TIME: 03/15/2010 12:19:07.557056
CHECK DATE: 20100101  CHECK SEVERITY: MEDIUM

CA ACF2 CHECK FOR EXPIRING DIGITAL CERTIFICATES

LIST OF DIGITAL CERTIFICATES EXPIRING WITHIN 30 DAYS

 CERTNAME=CERTAUTH.P11BND
 CERTNAME=CERTAUTH.P11DEL

  * Medium Severity Exception *

ACFHC051E At least one ACF2 Digital Certificate will expire in the next  30 days.

 Explanation:  There is one or more ACF2 Digital Certificate which will  expire in the next 30 days.

 System Action:  ACF2 continues processing.

 Operator Response:  Report this problem to the Security Administrator.

 System Programmer Response:  Have the security administrator review the ACF2 Digital Certificates.

 Problem Determination:  N/A

 Source:  ACF2

 Reference Documentation:  Please refer to chapter Digital Certificate  Support in the ACF2 Administrator Guide
 on the use of Certificates.
```

CA ACF2 sample – restricted administration controls

- Example: help desk admin

```
ACF75052 RESOURCE RULE ACFCMD STORED BY SECADM01 ON 03/22/10-09:00
 $KEY(ACFCMD) TYPE(AUT) ROLESET
  - USER.PASSWORD ROL(HLPDSK1) ALLOW
  - USER.PASSPHRASE ROL(HLPDSK1) ALLOW
  - USER.- ROL(HLPDSK2) ALLOW
 ACF75051 TOTAL RECORD LENGTH= 236 BYTES, 5 PERCENT UTILIZED


change user01 password(user01) passphrase(new passphrase)
ACF6C004 LOGONID  USER01  CHANGED
ACF6D070 PWPHRASE / USER01 RECORD CHANGED

change secadm password(secadm)
ACF00103 NOT AUTHORIZED TO CHANGE FIELD PASSWORD
```

CA ACF2 sample - restricted administration controls

- Example: certificate administration
  - Note: User DCADM1 is “unscoped” and can administer all certificate-related objects for any user

```
set r(aut)
 RESOURCE
comp * store
 ACF70010 ACF COMPILER ENTERED

 .  $KEY(ACFCMD) TYPE(AUT)
 .   DIGTCERT.- UID(DCADM1) SERVICE(READ,UPDATE,DELETE) LOG
 .
 ACF70051 TOTAL RECORD LENGTH= 158 BYTES, 3 PERCENT UTILIZED
 ACF60029 RESOURCE  ACFCMD STORED
 RESOURCE

f acf2,rebuild(aut),c(r)
 ACF8A037 DIRECTORY RAUT ADDED TO RESIDENT CHAIN
```

CA ACF2 sample – compare

```
ACF
Compare  JPETERS USING(JSMITH)

                LID SECTION
 ------------------------------------------------------------------
  LID          JPETERS              JSMITH
  NAME         JAMES PETERS         JOHN SMITH
               TSO SECTION
 ------------------------------------------------------------------
  TSOPROC    CATSO             XXTSO
  DFT-PFX    PETERS              SMITH
             RESTRICTIONS SECTION
 ------------------------------------------------------------------
  PREFIX     PETERS              SMITH
  GROUP      DEFGRPA             DEFAULTG
            ROLES SECTION
 ------------------------------------------------------------------
          GROUPE              GROUPA
          GROUPH              GROUPC
               CICS PROFILES
------------------------------------------------------------------
 OPCLASS                      Y
 OPPRTY              0        255
 TIMEOUT VALUE       0         15
```

CA ACF2 sample – archive

```
ACF
model logonid(newuser) using(ACFUSER) into('MYPDS.FILE(OUTPUT)')

SET LID
INSERT NEWUSER  -
 PASSWORD(NEWUSER) -
 ACCOUNT  -
 ACCTPRIV -
 ALLCMDS  -
 TSOFSCRN -
 GROUP(DEFAULTG)-

SET PROFILE(USER) DIV(CICS)
INSERT NEWUSER -
 OPIDENT(CHI)-
 OPPRTY(255)-
 TIMEOUT(60)-

F ACF2,REBUILD(USR),CLASS(PROFILE)

SET X(ROL)
CHANGE GROUPA  -
INCLUDE(NEWUSER)

F ACF2,NEWXREF,TYPE(ROL)
END
```

CA ACF2 sample - archive

```
ACF
delete newuser archive into('mypds.out(listarch)')

ACF
SET LID
INSERT NEWUSER  -
 PASSWORD(NEWUSER) -
 ACCOUNT  -
 ACCTPRIV -
 ALLCMDS  -
 AUDIT    -
 CICS     -
 GROUP(DEFAULTG)-

SET PROFILE(USER) DIV(CICS)
INSERT NEWUSER -
 OPIDENT(CHI)-
 OPPRTY(255)-
 TIMEOUT(60)-

F ACF2,REBUILD(USR),CLASS(PROFILE)

SET X(ROL)
CHANGE GROUPA  -
INCLUDE(NEWUSER)
CHANGE GROUPC  -
INCLUDE(NEWUSER)
F ACF2,NEWXREF,TYPE(ROL)
END
```

CA ACF2 sample - role based security

```
CA ACF2              - XREF CLEANUP REPORT
DATE 02/24/10 (  10.055 ) TIME   18.32                    PAGE     1


RESOURCE(XROL)     GROUP       SYSID(LONG)       RECID - USERGRP
DESCRIPT(USER GROUP ROLE)
LIST OF INCLUDE VALUES:
USER-
LIST OF EXCLUDE VALUES:
PGMR04
PGMR03
PGMRJ02              -- VALUE NOT FOUND
LIST OF VALUES THAT MATCHED MASK:   USER-
USER4              USER1
USER3              USERSC
USER2              USERGRP
```

CA Top Secret sample - restricted administrative authorities

- User DCA01 is allowed to change passwords

```
tss add(sysdept) casecaut(tsscmd.user)
 TSS0300I  ADD      FUNCTION SUCCESSFUL
tss per(DCA01) casecaut(tsscmd.user.replace.password) access(update)
 TSS0300I  PERMIT   FUNCTION SUCCESSFUL
tss list(DCA01) data(admin)
 ACCESSORID = DCA01     NAME       = DCA
 ----------  ADMINISTRATION AUTHORITIES
LIST DATA  = BASIC,NAMES
----------  RESTRICTED ADMINISTRATION AUTHORITIES
 XA CASECAUT= TSSCMD.USER.REPLACE.PASSWORD              OWNER(SYSDEPT )
   ACCESS  = UPDATE
```

CA Top Secret sample - restricted administrative authorities

- User DCA01 is allowed to run TSSUTIL

```
tss add(sysdept) casecaut(tssutility)
 TSS0300I  ADD      FUNCTION SUCCESSFUL
tss per(DCA01) casecaut(tssutility.tssutil) access(use)
 TSS0300I  PERMIT   FUNCTION SUCCESSFUL
tss list(DCA01) data(xauth)
 ACCESSORID = DCA01     NAME       = DCA
 XA CASECAUT= TSSUTILITY.TSSUTIL                    OWNER(SYSDEPT )
  ACCESS  = USE
  ADMIN BY= BY(MASTER  )   SMFID(XE05)   ON(02/18/2010)  AT(11:03:38)
```

CA Top Secret sample – compare

```
TSS COMPARE(CMPACD2) USING(CMPACDB)
 ACID      CMPACD2                    | CMPACDB
 DEPTMENT  COMPDEP2                   | COMPDEPT
 DIVISION                             | COMPDIVI
 ZONE                                 | COMPZONE
 ---------- Profiles are different or in a different order starting with.
          KRACPROF                    |
 LANGUAGE                             | F
 ---------- SOURCE
          ANOTHER8                    |
          CHAR5                       |
          C2                          |
          FOUR                        |
 ---------- OPERCLAS                  |
          02                          |
          05                          |
          06                          |
 PHYSKEY                              | ADDINGTOACHARACTER
 ---------- DEFNODES
          LA                          |
          PHI                         |
 -----------   SEGMENT OMVS   -----------
 ASIZE                                | 2147483647
```

CA Top Secret sample – compare

- Example (TSS COMPARE COMMAND)

```
---------- Facility differences for Acid CMPACDB
FACILITY  = MQM
DAYS =      TUE   THU   SATSUN TIME =ANY
 ACTIONS = FAIL

---------- Permit Differences for ACID  CMPACD2
 XA DATASET   CMPACD1.WORK
EXPIRE(04/12/10  )
 ACCESS=UPDATE
XA DATASET = KAUGE01.BOZO
ACCESS=READ
```

CA Top Secret sample – archive

- Example (implementation)

```
TSS LIST(Rachael) ARCHIVE

TSS LIST(Cassie) ARCHIVE INTO(KOTPA01.ARCHIVE.CASSIE)

TSS LIST(Jonathan) ARCHIVE INTO(KOTPA01.ARCHIVE.DATASET(JONATHAN))
```

CA Top Secret example - archive

- Example (results/output)

```
/*ARCHIVE RACHAEL  STORED 03/08/10-15.25.37 BY MASTER1  ON XE15
/*Please edit any CREATE commands by adding a PASSWORD keyword to the command
TSS CREATE(RACHAEL) NAME('RACHAEL E. KOT') TYPE(USER) DEPT(DEPTLORD)
TSS ADD(RACHAEL) GROUP(OMVSGRP)
TSS ADMIN(RACHAEL) MISC4(CERTAUTH CERTUSER CERTGEN  CERTEXPO CERTCHEK)
TSS ADD(RACHAEL) FAC(BATCH)
TSS ADD(RACHAEL) FAC(CICSPROD)
TSS ADD(RACHAEL) FAC(TSO)
TSS ADD(RACHAEL) UID(0000000004)
TSS ADD(RACHAEL) HOME(/U)
TSS ADD(RACHAEL) DFLTGRP(OMVSGRP)
TSS PER(RACHAEL) DSN(SYS1.) ACCESS(READ)
TSS1594I ARCHIVE   FUNCTION SUCCESSFUL
TSS0300I  LIST     FUNCTION SUCCESSFUL
```

CA Top Secret example - model

- Example (implementation)

```
TSS MODEL USING(Rachael) ACID(Cassie)

TSS MODEL USING(Jonathan) ACID(Ronald) INTO(KOTPA01.MODEL.RONALD)

TSS MODEL(Jonathan) ACID(Jason) INTO(KOTPA01.MODEL.DATASET(JASON))
```

CA Top Secret - model

- Example (results/output)

```
/*MODEL   CASSIE   STORED 03/08/10-16.29.03 BY MASTER1  ON XE15 USING RACHAEL
/*Please edit any CREATE commands by adding a PASSWORD keyword to the command
TSS CREATE(CASSIE) NAME('RACHAEL E. KOT') TYPE(USER) DEPT(DEPTLORD)
TSS ADD(CASSIE) GROUP(OMVSGRP)
TSS ADMIN(CASSIE) MISC4(CERTAUTH CERTUSER CERTGEN  CERTEXPO CERTCHEK)
TSS ADD(CASSIE) FAC(BATCH)
TSS ADD(CASSIE) FAC(CICSPROD)
TSS ADD(CASSIE) FAC(TSO)
TSS ADD(CASSIE) HOME(/U)
TSS ADD(CASSIE) DFLTGRP(OMVSGRP)
TSS PER(CASSIE) DSN(SYS1.) ACCESS(READ)
TSS0300I  MODEL    FUNCTION SUCCESSFUL
```