CA IDMS™ Version 19.0 New Features and Enhancement

May 5, 2020

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Introductions

- Sheila Miller – Product Manager
- Nakesha Newbury – Product Owner
- Mike Picchioni – Software Engineer
- Rick Rhodes – Software Engineer

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Agenda

- CA IDMS Current State
- CA IDMS 19.0 Upgrade Solution
- MQ Adaptor
- Dynamic Storage Pool Expansion
- Sysgen Enhancements
- General Updates
- Q&A

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CA IDMS Current State

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CA IDMS™ Current State Snapshot

	Delivered	Planned	Under Consideration
Marquee Features	▪ **SQL Virtual Keys** network sets as referential constraints, simplified access ▪ **SQL Resource Limits** control runaway queries and updates to make modernization more cost effective ▪ **Caching Improvements** SQL INSERT Statements, Caching a percentage of a file ▪ **Zowe CLI (Command Line Interface)** enable automated scripting of CA IDMS/DC commands ▪ **Performance and monitoring statistics** captures UOW ID / enables end-to-end monitoring ▪ **CA ADS zIIP Eligibility** enables ADS runtime to run on zIIP specialty engines ▪ **CICS Dynamic Tracing for DML & SQL** improved debugging for quicker problem solving and analysis ▪ **Eliminate REORG block size limitations** internal improvements to reduce errors and prevent ABENDS ▪ **Service update PAX** CA IDMS 19.0 service update ▪ **MQ Adapter** connect to Z/OS QM, on-line applications, trigger monitor, RRS ▪ **Sysgen Avoid the Surprises** automated alert and new command to view pending changes; enhanced summary reporting ▪ **Dynamic storage pool expansion** automatically expand storage pools based on pre-defined limits	▪ **REST API** real-time monitor, systems management, analytics, and modern dashboard enablement ▪ **DML Pre-Compiler** including synonym and version of an IDD record for debugging ▪ **SQL data exception messages** provide more details when receiving Data Exception messages with ability to debug problems with SQL query ▪ **Mapping support for output edits** protecting sensitive data to meet security compliance regulations ▪ **IBM z/OSMF** standard software install, deployment, and configuration ▪ **CA IDMS Server 19.0** new software build, installation, windows fixes ▪ **Security Technology Implementation Guide** (STIG) security best practices ▪ **TechDocs** continued improvement ▪ **Education** enhancements and expanded offering	▪ **REST APIs** ongoing ▪ **Zowe** ongoing functionality, plug-in ▪ **ETL** Anonymization & masking of PII sensitive data to meet GDPR security requirements (analysis) ▪ **SQL Enhancements** SQL Describe Command, Locking SELECT FOR UPDATE, SQL storage pools ▪ **Quick Bridge** certified on current Windows OS ▪ **Output of CA IDMS & Data** Ability to extract CA IDMS data in CSV and XML formats ▪ **Automated REORG / High Availability** REORG an area without risk of human error and (near) zero downtime or interruption to their business. ▪ **MF Operational Intelligence (MOI) & Machine Learning (ML)** CA IDMS integration ▪ **IBM Z pervasive encryption**

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End of Service (EOS) Announcement – December 30, 2019

- **EOS – December 31, 2020**
  - CA IDMS for z/OS Plus 18.5
  - CA IDMS Visual DBA for z/OS 18.0, 17.0, and 16.0
- **Upgrade to Latest Version**
  - CA IDMS for z/OS Plus 19.0
  - CA IDMS Visual DBA for z/OS 18.1

End of Service Announcement for CA IDMS 18.5 for z/OS and CA IDMS™ Visual DBA 18.0, 17.0, and 16.0 for z/OS

December 2019
To: CA IDMS Customers
From: The CA Technologies CA IDMS Product Team
Subject: End of Service Announcement for CA IDMS 18.5 for z/OS and CA IDMS™ Visual DBA 18.0, 17.0, and 16.0 for z/OS

CA Technologies, a Broadcom Company, is continually working to improve our software and services to best meet the needs of our customers. In accordance with the terms, guidelines, details and parameters of

Broadcom's standard support program which is documented in the "Working with CA Support" guide located at: https://casupport.broadcom.com/product-information.html, please consider this email your written notification that we are discontinuing technical support for CA IDMS 18.5 for z/OS and CA IDMS™ for z/OS Visual DBA 18.0, 17.0, and 16.0 for z/OS effective December 31, 2020. This will allow our Development organization to more effectively focus its resources and add value to the current release of CA IDMS. After December 31, 2020, CA Technologies will continue to make self-service support available until the end of your current maintenance term.

At this time, we encourage you to plan for the migration to CA IDMS 19.0 for z/OS and CA IDMS Visual DBA 18.1 for z/OS as soon as possible, so you can take full advantage of the features and enhancements this release has to offer. For information on CA IDMS, please visit the CA IDMS pages at CA Support.

As CA Technologies would like to make your upgrade to CA IDMS 19.0 and CA IDMS for z/OS Visual DBA 18.1 for z/OS as straightforward as possible, we are offering the following:

- The latest supported Version/Release of CA IDMS, at no charge, as long as you have an active maintenance contract for CA IDMS. Documentation to help you prepare for your upgrade to the new Version/Release can be viewed on the CA IDMS pages at CA Support.
- Upgrade assistance from qualified local CA partners. For more information and a list of partners in your area, please contact your local CA Channel Partner Group office.
- Should you need any assistance with developing a migration strategy or performing the actual migration, CA Services can help. For more information on CA Services and how you can leverage our experience, please visit CA Services.

If available, CA Extended Support, a CA Technologies support offering, that extends support for CA Technologies software product versions or releases that have reached End of Service. CA Extended Support may be available for a limited time after the End of Service date. Please visit our CA Support website for more information.

Your success is very important to us, and we look forward to continuing our successful partnership with you.

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New CA IDMS 19.0 Upgrade Solution

Mike Picchioni

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CA IDMS 19.0 Upgrade Solution

Delivered

Use Case:

As an IDMS Admin I need a **service update** for CA IDMS 19.0 which will simplify and accelerate the upgrade process to the latest release enabling me to focus on other priorities.

Simplify

- ✓ Lands easier on the customer
- ✓ Streamlines experience by eliminating a complicated and lengthy upgrade process
- ✓ Quicker time to value in realizing product currency and ability to leverage the latest product capabilities

CA IDMS 19.0 Upgrade Solution

- Provides currency out of the box
  - Eliminates the need to apply over 400 PTFs & HoldData
  - Based on CA RS 1912
  - Includes all maintenance published up until 12/2019

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New IDMS 19.0 PAX file

- New PAX file - DVD0000000001941.pax.Z
- On support.Broadcom.com Release 19.0 Service Pack S1912
- All PTFs up to and including CARS1912
- For upgrades and new installs prevents needing to install hundreds of PTFs and perform holddata actions

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CA IDMS MQ Adapter

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CA IDMS MQ Adaptor

Delivered

Use Case:

As a CA IDMS application developer, I need the ability to make calls to IBM MQ Series directly from CA IDMS/DC (COBOL, ADS…) programs to further enable integration capabilities.

Open

- ✓ Extend your business to support mainframe to mobile initiatives and beyond
- ✓ Included within the base product eliminating the need for additional tooling
- ✓ Further enabling integration with reduced costs

CA IDMS MQ Adaptor

- Supports message queuing and trigger monitoring
- Streamlined and improved end-to-end integration
- Faster, more reliable

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CA IDMS MQ Adapter

- CA IDMS MQ Adapter support now integrated into CV processing
- CA IDMS MQ Adapter intercepts only commands that need intervention; other commands and parameters are passed through to IBM MQ
- Optional trigger monitor integrated in CA IDMS

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IDMS MQ Adapter

- Same as IBM Batch MQ API
  - E.g. MQCONN (QMgrName, Hconn, CompCode, Reason)
- Link IDMSMQI stub with calling program
- Dynamically call CSQB or MQ name
  - ReLink IDMSMQI with alias names
  - Define each alias as program to IDMS-DC
  - Programs Link or transfer control to alias name
  - CSQB names documented by IBM
    - E.g. CSQBCONN instead of MQCONN

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Supported Languages

- COBOL
- ASSEMBLER
- PL/I
- ADS

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ADS BIFs

- A new BIF for each supported MQ API
  - Each BIF is the same name as the API

- Example:

```
MQOPEN(ConnectionHandle, ObjectDescriptor, Options, ObjectHandle,
CompCode, RsnCode)
```


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SYSGEN MQ

- Requires new MQ statement
  - Specify the queue manager name
  - Specify enabled/disabled

- For example,

```
ADD MQ STATUS ENABLE QUEUE MANAGER IDM2 .
```


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CA IDMS MQ Sessions

- An CA IDMS MQ session is an internal structure used by DC to track open objects, units of work, and to reserve a subtask
- A session is explicitly created on MQCONN and freed on MQDISC.
- A session is implicitly created on the first MQOPEN and freed when there are no open objects and no uncommitted work.
- Active sessions are freed at task termination.
- A session reserves a subtask

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Trigger Monitor

- RHDCD0MQ – Line Driver/Trigger Monitor
- Issues an MQOPEN on the Initiation queue for each MQTRIGGR PTE
- Waits for a Trigger Message to arrive
- Once a Trigger Message arrives
  - Gets taskcode to invoke from the trigger message
    - Comes from the APPLICID field defined in the IBM MQ Process
    - MQTM fields of trigger message put in PTE and parm address set to PTE version of MQTM to be passed to started program
  - Starts a BULK PTE to run the task
- Issues an MQCLOSE for each queue during shutdown

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Trigger Monitor

- Requires new MQ line
  - Type is MQ
- Requires new PTE type MQTRIGGR
  - Must specify the initiation queue
- The line must have BULK pterms defined
- Can have multiple MQTRIGGR PTEs for different initiation queues

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Trigger Monitor: Sysgen

- DCMT V LINE mq-line OFF
  - Disables Trigger Monitor for all MQTRIGGR pterms
- DCMT V LINE mq-line ON
  - Enables Trigger Monitor for all MQTRIGGR pterms that were not individually varied offline
- DCMT V PTERM mq-pterm ON/OFF
  - Enables/Disables Trigger Monitor for the individual MQTRIGGR pterm

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Trigger Monitor: Polling

- When Trigger Monitoring is enabled, but cannot connect to the defined initiation queue, the trigger monitor will periodically retry to connect
- The time between polling attempts, in seconds, is defined on the MQ LINE statement in SYSGEN with the clause
  - POLLING INTERVAL IS n
- Polling Interval is 0 disables polling. This is the default
- DCMT D LINE/PTERM - New PTERM status for MQTRIGGR PTERMS
  - New status: POLL - Indicates PTERM is polling
- If a PTERM is POLLing, it can be disabled by varying the PTERM offline

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DCMT Commands

- DCMT D MQ
  - Displays the SYSGEN MQ definitions and the Runtime MQ definitions
- DCMT D STAtistics SYStem
  - Display system-wide statistics, including statistics for the MQ component
- DCMT D STAT MQ
- DCMT D STAT MQ QUEUES
- DCMT D STAT MQ QUEUE <queue-name>

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DCMT Commands

- DCMT V MQ ENAbled
  - Turns on MQ processing
  - System must be started with MQ defined in Sysgen

- DCMT V MQ DISabled (QUIesce/FORce)
  - Turns off MQ processing
  - FORce disables MQ immediately. QUIesce lets current running MQ sessions finish. New MQ sessions are not allowed.
  - QUIesce is the default

- DCMT V MQ Queue MANager
  - Changes the run time queue manager the system is connected to
  - MQ must be disabled before varying the queue manager

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Quiesce Processing

- DCMT V MQ DISABLE
  - No new sessions are allowed
  - Existing sessions are allowed to finish
  - MQ commands with Fail-if-quesce option get an error
  - Subtasks disconnected when freed
  - MQI disabled when last session ends

- IBM MQ quiesces
  - Same as above except occurs when we detect MQ is quiescing
  - We don’t disable MQI when the last session ends
  - New sessions are attempted
  - Quiesce state ends when new session connects

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MQ Statistics

- MQ Statistics displayed on DCMT D STATISTICS SYSTEM screen
- Example:

```
MQ:              133 Total MQI calls              138 Total MQ calls
                  45 MQOPENs                       42 MQCLOSEs
                  22 MQPUTs                        23 MQGETs
           Subtasks
                   1 HWM
                   4 Threshold
                   0 Times Exceeded
```


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MQ Statistics

- Total number of MQOPENs, MQCLOSEs, MQPUTs, and MQGETs
- Total MQI calls – Number of calls of all types made through the IDMS MQ API
- Total MQ calls – Total number of calls of all types made including those through the IBM MQ API
- Subtasks
  - HWM: High Water Mark. The highest number of utility subtasks allocated to MQ.
  - Threshold: the total number of utility subtasks that can be allocated to MQ.
  - Times exceeded: the number of times a utility subtask was needed but could not be allocated because none were available. If this occurs the number of subtasks should be increased.

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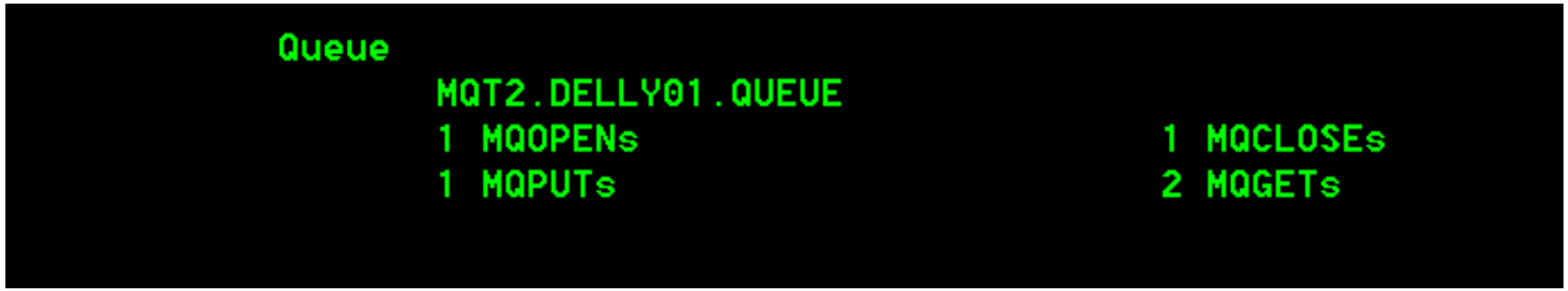
MQ Statistics

- DCMT D STA MQ
  - Displays same MQ stats as DCMT D STA SYS
  - Only MQ system stats
- DCMT D STA MQ QUEUES
  - Display same stats as DCMT D STA MQ
  - Plus Queue Name Stats for each accessed queue
- DCMT D STA MQ QUE queue-name
  - Display queue name stats for specified queue



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Summary

- IBM MQ support now integrated into IDMS
- Supports all MQ commands
- Has a built-in trigger monitor

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CA IDMS MQ Adaptor

- Questions?

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Dynamic Storage Pool Expansion

Rick Rhodes

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CA IDMS Dynamic Storage Pool Expansion

Delivered

Use Case:

As a CA IDMS systems DBA, I need CA IDMS to automatically increase storage for a specific storage pool so that I can allow for occasional extra storage usage to be satisfied without DBA interaction.

Automation

- ✓ Provides automation and ease-of-use
- ✓ Simplifies systems management and tuning
- ✓ Frees up DBA to focus on other priorities

CA IDMS Dynamic Storage Pool Expansion

- Helps tolerate spikes in storage pool usage without the system becoming short on storage
- Storage pool size adjustments are made without updating and refreshing the SYSGEN
- Performance degradations are reduced which results in the improvement of throughput and ease of use.

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Dynamic Storage Pool Expansion

- CA IDMS can dynamically expand the storage allocation for a storage pool
- Storage pools can be expanded by 50% of the original size of the pool
- The 50% storage pool expansion can occur up to 4 times
- Dynamic Storage Pool Expansion can be enabled for any **XA** storage pool

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Dynamic Storage Pool Expansion Benefits

- Helps tolerate spikes in pool usage without the system becoming short on storage
- Pool size adjustments are made without updating and refreshing the SYSGEN
- Performance degradations are reduced resulting in improved ease of use

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Dynamic Expansion Sysgen Syntax

- XA STORAGE POOL statement clause

```
                SYSGEN 19.0    NO ERRORS      DICT=SYSTEM
DISPLAY XA STORAGE POOL 128.
*+   ADD XA STORAGE POOL 128
*+      SIZE IS 6000
*+      CUSHION IS 128
*+      NOPGFIX
*+      RELOCATABLE THRESHOLD IS NO
*+      CONTAINS TYPES ( USER USER-KEPT )
*+      DYNAMIC EXPANSION IS ON
*+      .
```

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Dynamic Expansion Sysgen Syntax

- SYSTEM statement XA STORAGE POOL clause

```
*+      TRANSACTION SHARING IS OFF
*+      TRACE SAVE OFF TABLE SIZE IS 4 MB
*+      UNDEFINED PROGRAM COUNT IS ( 300 10 ) FOR (ALL)
*+      UPDATE NOLOCK
*+      USERTRACE ON ENTRIES = 250
*+      XA PROGRAM POOL IS 500
*+      XA REENTRANT POOL IS 5000
*+      XA STORAGE POOL IS 21000
*+      DYNAMIC EXPANSION IS OFF
*+      .
```

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Dynamic Storage Pool Expansion

- DC015008 message is issued when an XA storage pool is expanded:

```
IDMS DC329013 V218 T29 Startup resynchronization complete
IDMS DC074100 V218 T0 ?
IDMS DC015008 V218 ***  Dynamic Pool Expansion *** 1 of 4 Storage pool 128: 0003000 K added
IDMS DC015008 V218 ***  Dynamic Pool Expansion *** 2 of 4 Storage pool 128: 0003000 K added
IDMS DC015008 V218 ***  Dynamic Pool Expansion *** 3 of 4 Storage pool 128: 0003000 K added
IDMS DC015008 V218 ***  Dynamic Pool Expansion *** 4 of 4 Storage pool 128: 0003000 K added
```

- DC015008 message includes a count of how many expansions have occurred

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Dynamic Storage Pool Expansion

- DC015009 message is issued if a GETMAIN for the SCT or pool storage fails:

```
IDMS DC015009 V218 ***  Dynamic Pool Expansion *** Could not get 0003000 K to expand storage pool 128
```

- Task requesting storage for a failed expansion attempt will incur SOS treatment

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Dynamic Storage Pool Expansion

- SYSGEN can be updated, generated, and refreshed to turn expansion on or off:

```
        VARY SYSGEN REFRESH ALL STORAGE POOLS .
***     Vary Sysgen request ***
No Lines nor Pterms were added
No storage pool was added/expanded
   Storage pool 128 Dynamic Expansion is off
   Storage pool 129 Dynamic Expansion is on
No program pool was added/expanded
V218  ENTER NEXT TASK CODE:      CA IDMS release 19.0
```

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Dynamic Storage Pool Expansion

- Storage pool expansions are retained for the life of the Central Version
- Expansion will not occur if a requested storage amount exceeds 50% of the pool
- SOS conditions and behavior will not occur until a pool has expanded four times
- Storage cushions may be utilized if additional expansions are still possible

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Dynamic Storage Pool Expansion

- With dynamic expansion, available expansions are a different kind of cushion
- Will allow a storage cushion to be utilized to avoid causing a pool expansion
- Storage cushion utilization can minimize production of DC015008 messages
- After 4 expansions, cushion infringement produces expected SOS conditions

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Dynamic Storage Pool Expansion Example

```
POOL    ADDRESS    SIZE CUSHION   INUSE     HWM         TIMES SOS   PFIX   CONTAINS
 128   37353000   6000K     128K      4K    124K             0    NO    US,UK
```

- 5900K storage acquired

```
POOL    ADDRESS    SIZE CUSHION   INUSE     HWM         TIMES SOS   PFIX   CONTAINS
 128   37353000   6000K     128K   5912K   5912K             0    NO    US,UK
```

- Cushion is utilized without going SOS condition 0

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Dynamic Storage Pool Expansion Example

- 50K storage acquired

```
POOL    ADDRESS    SIZE CUSHION   INUSE     HWM         TIMES SOS   PFIX   CONTAINS
 128   37353000   6000K     128K   5964K   5964K                0    NO    US,UK
```

- With expansions available, cushion is utilized

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Dynamic Storage Pool Expansion Example

- 2900K storage acquired

```
POOL    ADDRESS    SIZE CUSHION   INUSE     HWM         TIMES SOS   PFIX   CONTAINS
 128   37353000   6000K     128K   5964K   5964K                0    NO    US,UK
 128   3AEF9000   3000K     128K   2904K   2904K                0    NO    US,UK
```

- First expansion occurs

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Dynamic Storage Pool Expansion Example

- 2900K storage acquired again

```
POOL    ADDRESS    SIZE CUSHION   INUSE     HWM         TIMES SOS   PFIX  CONTAINS
 128   37353000   6000K     128K   5964K   5964K             0    NO   US,UK
 128   3AEFB000   3000K     128K   2904K   2904K             0    NO   US,UK
 128   3B1EA000   3000K     128K   2904K   2904K             0    NO   US,UK
```

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Dynamic Storage Pool Expansion Example

- 2900K storage acquired again, and again

POOL	ADDRESS	SIZE	CUSHION	INUSE	HWM	TIMES	SOS	PFIX	CONTAINS
128	37353000	6000K	128K	5964K	5964K		0	NO	US,UK
128	3AEFB000	3000K	128K	2904K	2904K		0	NO	US,UK
128	3B1EA000	3000K	128K	2904K	2904K		0	NO	US,UK
128	3B4D9000	3000K	128K	2904K	2904K		0	NO	US,UK

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Dynamic Storage Pool Expansion Example

- 2900K storage acquired again, and again, and again

POOL	ADDRESS	SIZE	CUSHION	INUSE	HWM	TIMES SOS	PFIX	CONTAINS
128	37353000	6000K	128K	5964K	5964K	0	NO	US,UK
128	3AEFB000	3000K	128K	2904K	2904K	0	NO	US,UK
128	3B1EA000	3000K	128K	2904K	2904K	0	NO	US,UK
128	3B4D9000	3000K	128K	2904K	2904K	0	NO	US,UK
128	3B7C8000	3000K	128K	2904K	2904K	1	NO	US,UK

Fourth expansion has occurred. Cushion is involved, producing an SOS condition:

```
IDMS DC015007 V218 POOL 128: SOS CONDITION 0, SZ=2969728, T=STG, P=STORAGE
```

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Dynamic Storage Pool Expansion

- Questions?

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SYSGEN Enhancements to Avoid Surprises

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CA IDMS Sysgen Enhancements

Delivered

Use Case:

As a CA IDMS DBA, I need to know before I begin to update my systems configuration via SYSGEN that there are pending changes

Automation

- ✓ Avoid surprises – eliminating accidental updates
- ✓ Provides more intelligent information to the DBA
- ✓ Improves productivity

CA IDMS Sysgen Enhancements

- Automatic alert message
- Ability to see updates that have not been generated
- Enhanced generation summary

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SYSGEN Enhancement to Avoid Surprises

- As system currency is established in the SYSGEN compiler, a new message will appear if there are any ungenerated entity changes:

DC601273 UNGENERATED CHANGES - ISSUE "DISPLAY CHANGES" TO VIEW

- The "DISPLAY CHANGES" command will display all changed entities

- If there are no changed entities, the following message appears:

DC601272 NO CHANGES SINCE LAST GENERATE

- The SYSGEN Generation Summary now includes all SYSGEN entities

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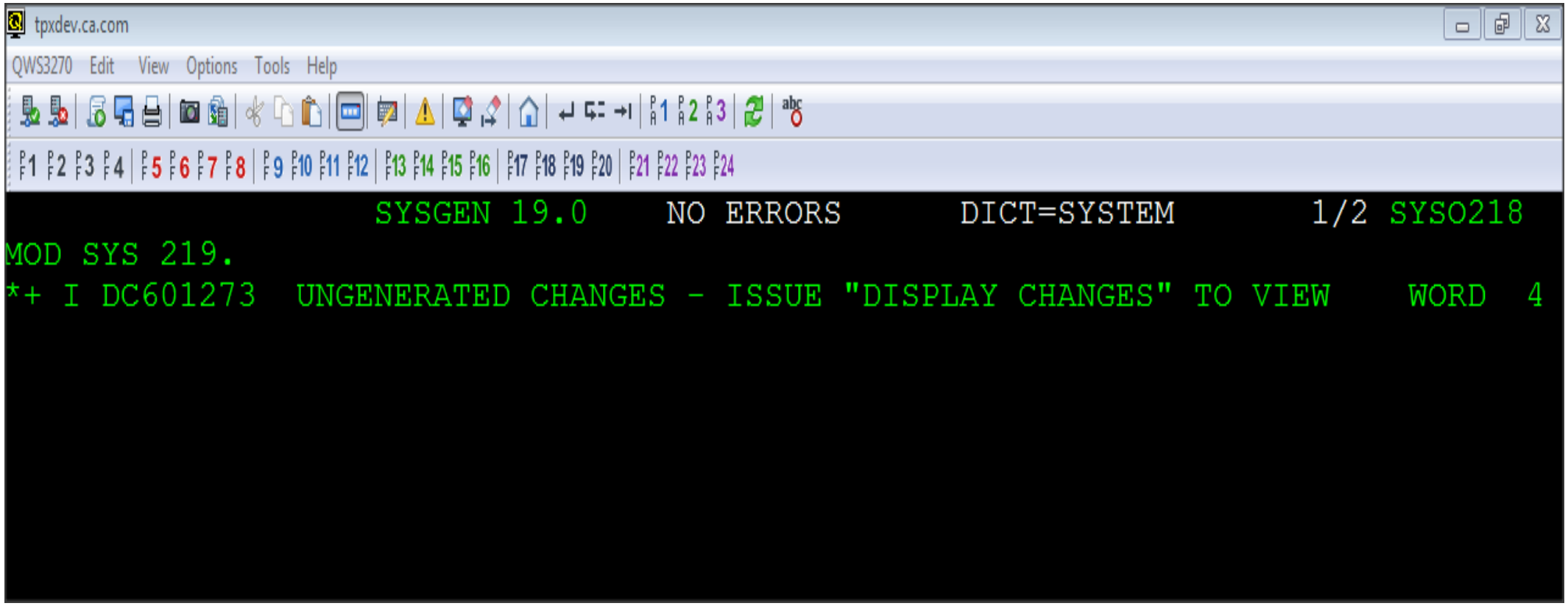
SYSGEN Enhancement to Avoid Surprises

- DC601273 message displays when getting current on a system:



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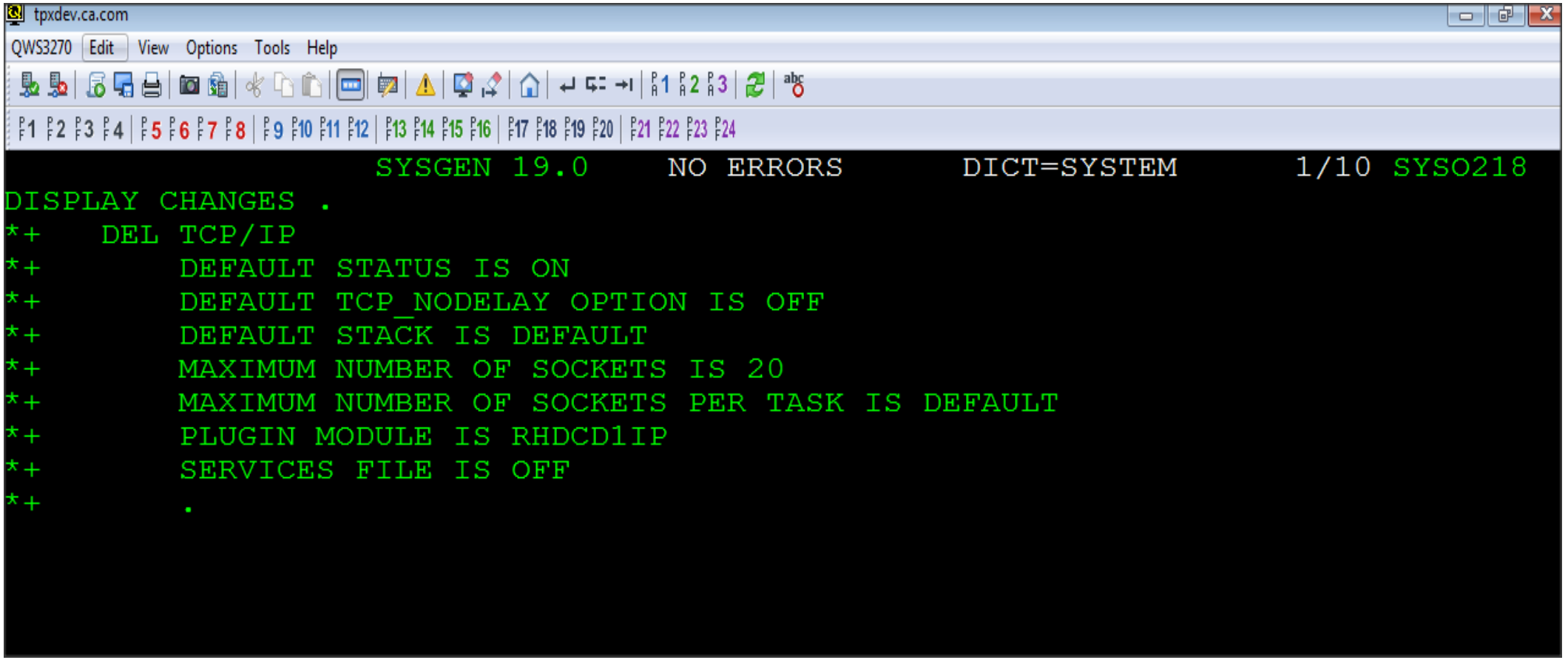
SYSGEN Enhancement to Avoid Surprises

- DISplay CHAnges command displays any ungenerated changes:



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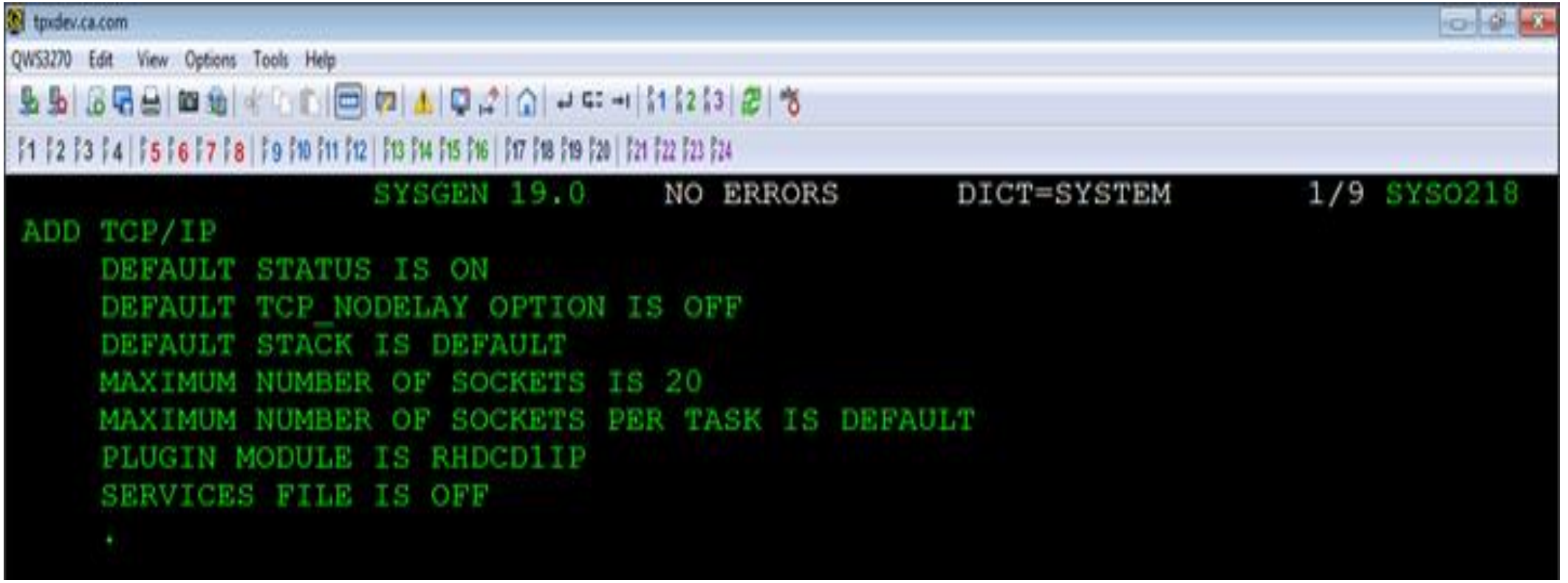
SYSGEN Enhancement to Avoid Surprises

- Undesirable changes can be corrected:



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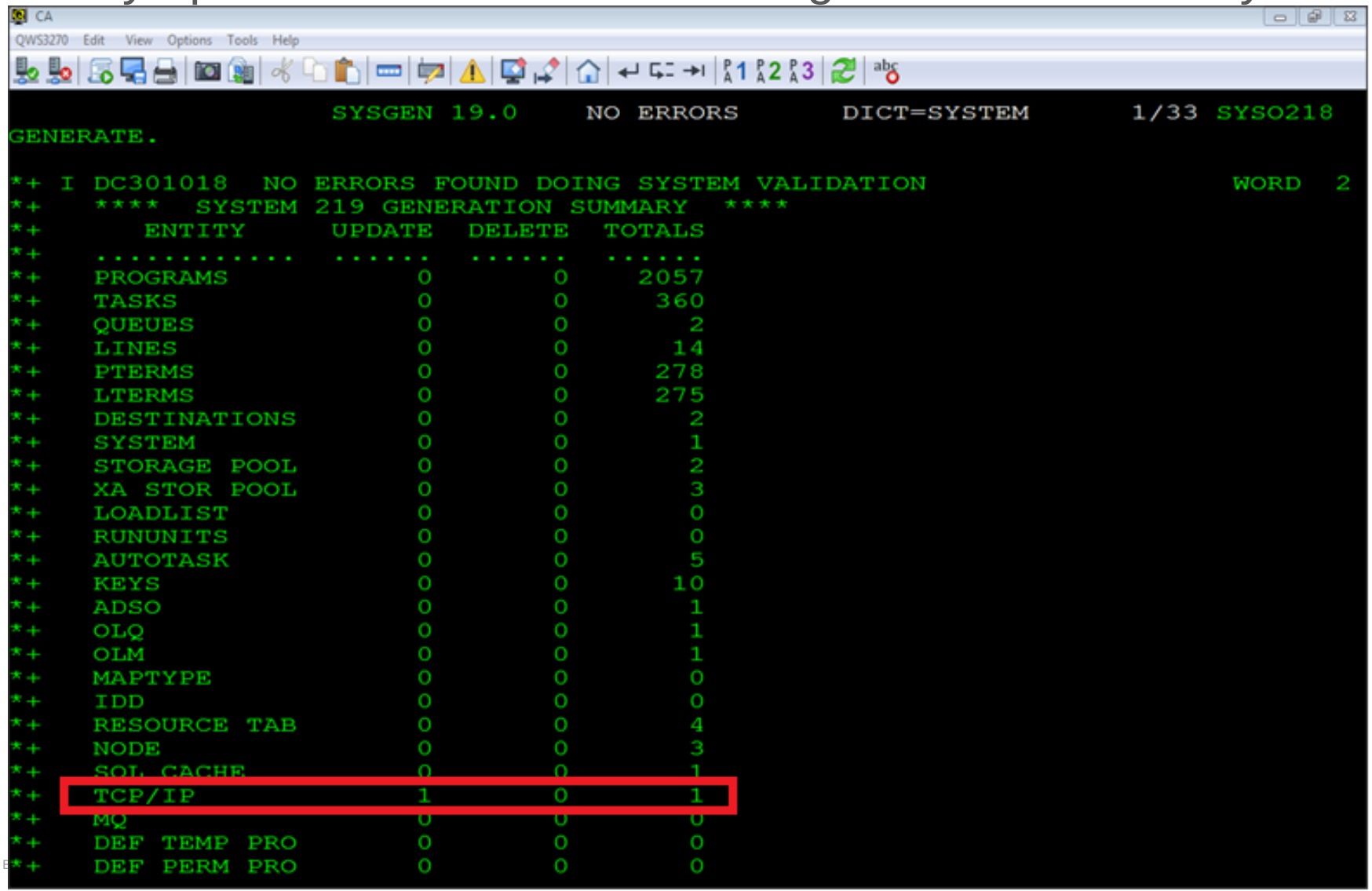
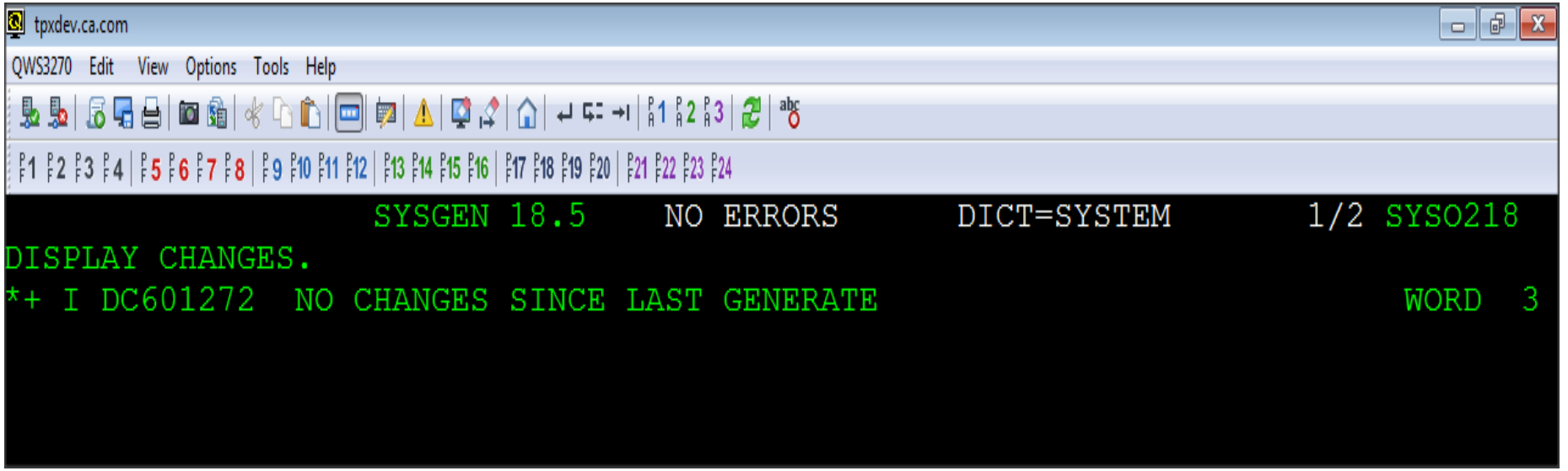
SYSGEN Enhancement to Avoid Surprises

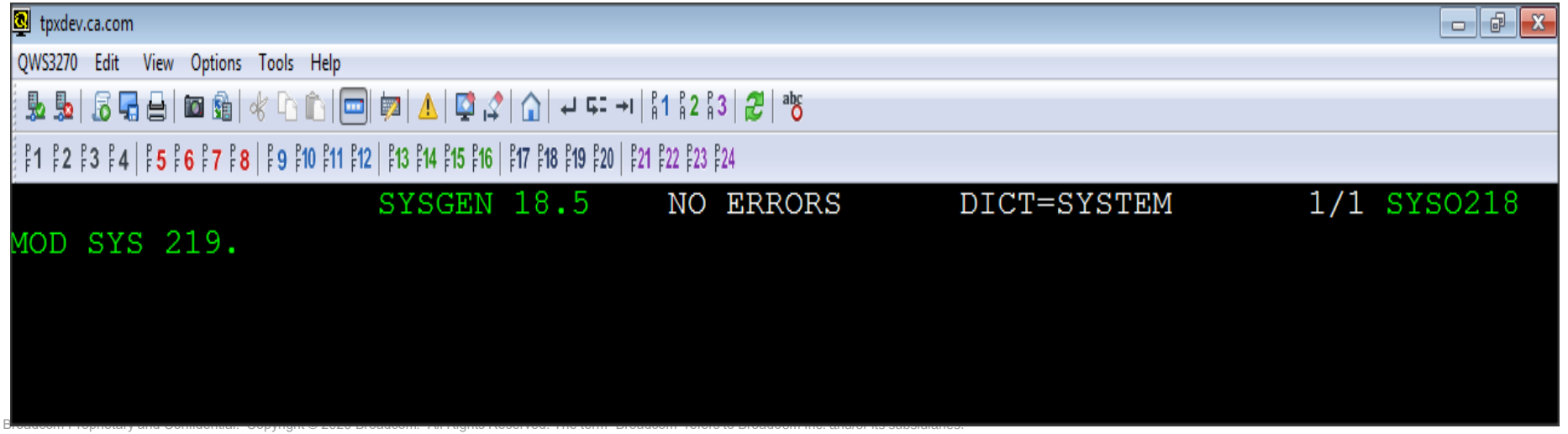
- Entity update is documented in the generation summary:



- DC601272 message displays if there have been no changes:



- DC601272 or DC601273 do not display if there are no changes:



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SYSGEN Enhancement to Avoid Surprises

- Batch SYSGEN compiler will now set a return code of 4 if Display Changes command is issued, and changes exist. For no changes, return code is 0.
- This allows a job step to be inserted prior to steps that make changes, so the SYSGEN update job may be conditionally ended. Changes can be examined.
- If there are no changes:

```
RHDCSGEN 19.0                          CA, INC.                          DATE        TIME        PAGE
CAGJJ0                   CA IDMS/DC SYSGEN COMPILER ACTIVITY LIST        11/11/19    13392627    0001

000001     MOD SYS 220.
000002     DIS CHA.
000002*+ I DC601272  NO CHANGES SINCE LAST GENERATE
RHDCSGEN 19.0                          CA, INC.                          DATE        TIME        PAGE
CAGJJ0                   CA IDMS/DC SYSGEN COMPILER ACTIVITY LIST        11/11/19    13392627    0002

            ** TRANSACTION SUMMARY **
ENTITY              ADD MODIFY REPLACE DELETE DISPLAY
..................... ... ...... ....... ...... .......

SYSTEM                0     1      0      0      0

NO ERRORS OR WARNINGS ISSUED FOR THIS COMPILE
```

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SYSGEN Enhancement to Avoid Surprises

- The return code for the job step is 0:

```
              J E S 2  J O B  L O G  --  S Y S T E M  C A 1 1  --  N O D E  U S I L C A 1 1

13.39.25 JOB31227 ---- MONDAY,    11 NOV 2019 ----
13.39.25 JOB31227  TSS7000I RHORI01 Last-Used 11 Nov 19 07:23 System=CA31 Facility=ROSCOE
13.39.25 JOB31227  TSS7001I Count=24448 Mode=Fail Locktime=None Name=RHODES, RICHARD
13.39.25 JOB31227  $HASP373 RHO$8989 STARTED - WLM INIT  - SRVCLASS BATSTWLM - SYS CA11
13.39.25 JOB31227  IEF403I RHO$8989 - STARTED - TIME=13.39.25
13.39.26 JOB31227  +SYSIDMS parms --> ECHO=ON
13.39.26 JOB31227  +SYSIDMS parms --> DMCL=CVDMCL  DICTNAME=SYSTEM
13.39.26 JOB31227  CAJR250I STEPNAME STEP   PGM=   CCODE  EST-COST   EXCPS     ELAPSED     TOT-CPU PAGE-IN PAGE-OT SWAP-IN
13.39.26 JOB31227  IEF196I CAJR250I STEPNAME STEP   PGM=   CCODE  EST-COST   EXCPS
13.39.26 JOB31227  IEF196I ELAPSED     TOT-CPU PAGE-IN PAGE-OT SWAP-IN SWAP-OT
13.39.26 JOB31227  CAJR251I IDMSSGEN    1 RHDCSGEN 0000      $2.14     425 00:00:00.44 00:00:00.04       0       0       0
13.39.26 JOB31227  IEF196I CAJR251I IDMSSGEN    1 RHDCSGEN 0000      $2.14     425
13.39.26 JOB31227  IEF196I 00:00:00.44 00:00:00.04       0       0       0       0
13.39.26 JOB31227  IEF404I RHO$8989 - ENDED - TIME=13.39.26
13.39.26 JOB31227  CAJR252I JOB ENDED. TOTAL EST-COST       $2.14      TOTAL CPU TIME 00:00:00.04
13.39.26 JOB31227  IEF196I CAJR252I JOB ENDED. TOTAL EST-COST       $2.14      TOTAL CPU
13.39.26 JOB31227  IEF196I TIME 00:00:00.04
13.39.26 JOB31227  $HASP395 RHO$8989 ENDED - RC=0000
```

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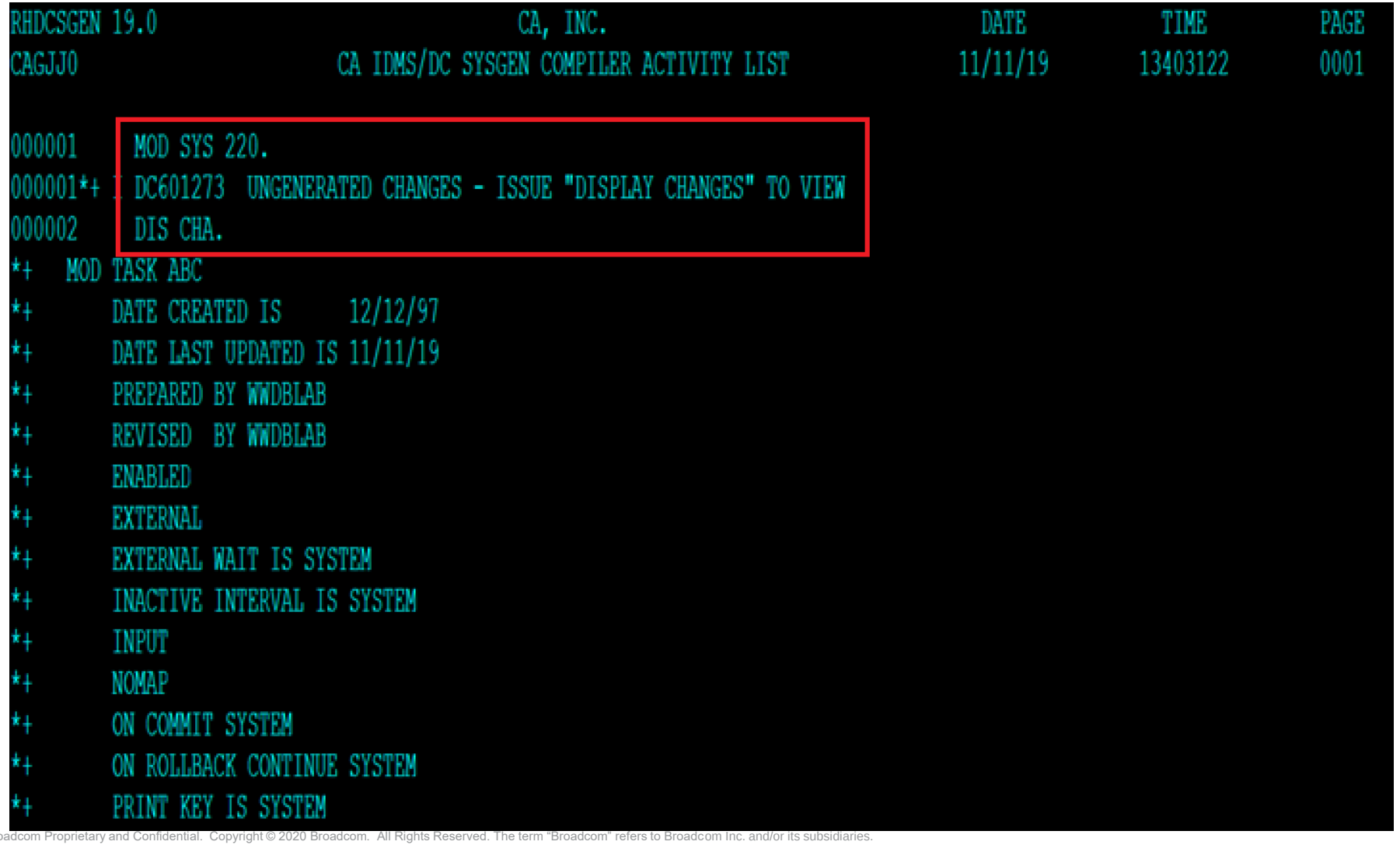
SYSGEN Enhancement to Avoid Surprises

- If ungenerated changes exist:



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SYSGEN Enhancement to Avoid Surprises

- The return code is 4:

```
000001                J E S 2  J O B  L O G  --  S Y S T E M  C A 1 1  --  N O D E  U S I L C A 1 1
000002
000003 13.40.30 JOB31333 ---- MONDAY,    11 NOV 2019 ----
000004 13.40.30 JOB31333  TSS7000I RHORI01 Last-Used 11 Nov 19 07:23 System=CA31 Facility=ROSCOE
000005 13.40.30 JOB31333  TSS7001I Count=24448 Mode=Fail Locktime=None Name=RHODES, RICHARD
000006 13.40.30 JOB31333  $HASP373 RHO$8990 STARTED - WLM INIT  - SRVCLASS BATSTWLM - SYS CA11
000007 13.40.30 JOB31333  IEF403I RHO$8990 - STARTED - TIME=13.40.30
000008 13.40.31 JOB31333  +SYSIDMS parms --> ECHO=ON
000009 13.40.31 JOB31333  +SYSIDMS parms --> DMCL=CVDMCL  DICTNAME=SYSTEM
000010 13.40.31 JOB31333  CAJR250I STEPNAME STEP   PGM=   CCODE  EST-COST   EXCPS     ELAPSED     TOT-CPU PAGE-IN PAGE-OT SWAP-IN
000011 13.40.31 JOB31333  IEF196I CAJR250I STEPNAME STEP   PGM=   CCODE  EST-COST   EXCPS
000012 13.40.31 JOB31333  IEF196I ELAPSED     TOT-CPU PAGE-IN PAGE-OT SWAP-IN SWAP-OT
000013 13.40.31 JOB31333  CAJR251I IDMSSGEN    1 RHDCSGEN 0004     $2.63     523 00:00:00.80 00:00:00.06      0       0       0
000014 13.40.31 JOB31333  IEF196I CAJR251I IDMSSGEN    1 RHDCSGEN 0004     $2.63     523
000015 13.40.31 JOB31333  IEF196I 00:00:00.80 00:00:00.06      0       0       0       0
000016 13.40.31 JOB31333  IEF404I RHO$8990 - ENDED - TIME=13.40.31
000017 13.40.31 JOB31333  CAJR252I JOB ENDED. TOTAL EST-COST       $2.63      TOTAL CPU TIME 00:00:00.06
000018 13.40.31 JOB31333  IEF196I CAJR252I JOB ENDED. TOTAL EST-COST       $2.63      TOTAL CPU
000019 13.40.31 JOB31333  IEF196I TIME 00:00:00.06
000020 13.40.31 JOB31333  $HASP395 RHO$8990 ENDED - RC=0004
*+       PRINT KEY IS SYSTEM
```

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SYSGEN Enhancements

- Questions?

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General Updates

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Are You Participating?

CA Communities Ideation

- Submit your ideas on communities.broadcom.com
- Vote and comment on ideas that are important to you
- CA Product Management reviews ideas and updates status as they move through the lifecycle
- “Currently Planned” idea status indicates inclusion in Agile Backlog or Product Roadmap

Customer Validation

- Register to participate in:
  - Live Demos / End-of-Sprint Review meetings
  - Private - Members Only - Online Community
  - Pre-Complete Release Feature Testing and Support
  - Upgrade Support From SWAT Team
- How to register: validate.broadcom.com

***Please Note**: Broadcom systems migration effort requires that all members register on the new platform CA IDMS IUA EIUA

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Upcoming Events

- **WEBCAST:** CA IDMS REST Performance API Overview & Demo
  - June 3, 2020 from 11:00 AM to 12:00 PM (ET)

- **WEBCAST:** CA IDMS Product Roadmap Webcast
  - Jun 10, 2020 from 11:00 AM to 12:00 PM (ET)

- **Conference:** Broadcom Mainframe Technical Exchange
  - Prague, Czech Republic: September 22 - 24, 2020 (NEW DATE)

- **Conference: CA IDMS/IUA Technical Conference**
  - Addison Texas: October 26-30, 2020 (NEW DATE)

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Introducing Broadcom Digital Badges

- Credly Digital Badging Platform
  - Broadcom Page

- CA IDMS
  - Database Navigation and Fundamentals

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Polling Question

- Would you like us to host a webcast to expand on any of the topics covered in today's discussion?

- What other topics would you like to hear more about in future webcasts?

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Closing

- Questions?

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