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Datacom
SQL Performance Analyzer

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Datacom
SQL Performance Analyzer

Agenda

- **Feature Overview**

- **Download installation media**

- **Pre-Installation steps**

- **Installation**

- **Post-Installation steps**

- **Start and Stop the Service**

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- **Active Transactions**

- **Demo**

- **Resources**

- **Keeping You Informed** – Announcements, Education, and Events

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Datacom SQL Performance Analyzer

Delivered

Use Case:
As a Datacom user, I want a tool within the Datacom base product that will enable viewing of SQL queries dynamically in order to quickly and easily identify and address bottlenecks in an automated way with limited manual intervention.

Simplify & Automate

✓ Manage SQL performance simply and easily through a graphical user interface (UI)

✓ Increase productivity eliminating manual efforts tracking down SQL bottlenecks

✓ Speed time-to-resolution through automated reporting capabilities

Bottom Line:
Simplifying and automating SQL performance management leveraging modern graphical user interface.

Datacom SQL Performance Analyzer

- Ability to view currently running queries

- Cancel problem queries on-the-fly via user friendly UI

- Run SQL Optimization report to pinpoint problem areas for quicker resolution

Watch MTE session: DM17-S

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Overview

SQL Performance Analyzer **GA**

**Simplify & Monitor**

- ✓ Analyze query activity to identify poorly performing queries
- ✓ View currently running queries and cached queries
- ✓ Increase productivity by minimizing manual efforts tracking down SQL bottlenecks
- ✓ Cancel problem queries
- ✓ Run optimization report to identify problem areas and tune them.

Monitor

Cancel

Analyze

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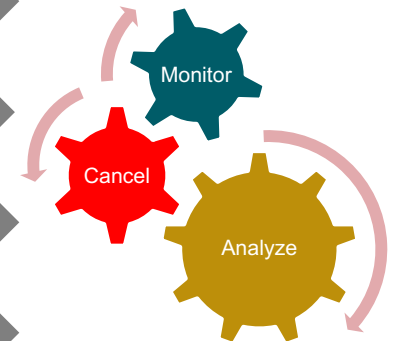
Download Installation Media

- To locate the installation media, start at the support.broadcom.com page. From there, navigate as follows:
  - **Mainframe Software > My Downloads > Datacom**

- Once you are on the page with the products related to Datacom, click on the link for:
  - **Datacom/DB MVS**

- You should see the list of release(s). Select release **'15.1'**

- Select **'Datacom/DB'** from the list.

- Locate the SQL Performance Analyzer. You should see file with description like:
  - **SQL Performance Analyzer vv.r.mm**

- Download the tar file by clicking on ⊕ or ☁

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Pre-Installation Steps

- Prepare the directory within the USS environment where you want to install the SQL Performance Analyzer

- Copy the downloaded TAR file to the directory in USS

- 64-bit Java Runtime Environment installation Path

- Datacom Server is installed and JDBC URL string.

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Installation

- Extract the files to the USS directory. For example:
  tar xvf DVD0000000000xxxx.tar.

  This command extracts the contents into a new folder 'sqlpa-n.n.n-n'

```
bash-4.3$ ls -al sqlpa-1.0.00-233/
total 169648
drwxr-xr-x   5 DTCMSQL   ADMNDGRP       8192 Jul 14 14:17 .
drwxr-xr-x   3 DTCMSQL   ADMNDGRP       8192 Aug  9 09:51 ..
drwxr-xr-x   3 DTCMSQL   ADMNDGRP       8192 Jul 14 14:17 config
-rw-r--r--   1 DTCMSQL   ADMNDGRP   86759042 Jul 14 14:17 datacom-sql-perf-analyzer.jar
drwxr-xr-x   2 DTCMSQL   ADMNDGRP       8192 Jul 14 14:17 lib
drwxr-xr-x   2 DTCMSQL   ADMNDGRP       8192 Jul 14 14:17 templates
bash-4.3$
```

- Set the extended attributes for the shared object files within the 'lib' subdirectory. From within the 'sqlpa-n.n.n-n' subdirectory, issue the following command:

  extattr +p lib/*.so && chmod +x lib/*.so && chmod a+x lib/*.so && ls -E lib/

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Post-Installation Steps

Data Source Configuration – Connection setup to the database(s)

- *DataSource* configuration is provided by the entries in 'datasources.yml'.

- Multiple data sources can be configured.

- The file is UTF-8 encoded. Sample datasources.yml exists in 'config' subdirectory.

  - *Use an ISPF facility to edit UTF-8 within USS ('UTILITIES - Perform utility functions'/Udlist).*

```
   File  Edit  Edit_Settings  Menu  Utilities  Compilers  Test  Help

VIEW       /CA31/tmp/sqlpa/sqlpa/config/datasources.yml                              Columns
****** ************************************************ Top of Data ***********************************************
000001 # Datasource Configuration
000002
000003 dataSources:
000004   - name: default
000005     url: "jdbc:datacom://ca32.lvn.broadcom.net:9449/ServerName=MUFSRV15,SystemID=CCICA31,ApplicationID=MUFSRV15,ConnectType=TCP"
000006     mufname: DCMUFP
000007
000008   - name: MUF2
000009     url: "jdbc:datacom://ca32.lvn.broadcom.net:9238/ServerName=PSRV15,SystemID=CCICA31,ApplicationID=PSRV15,ConnectType=TCP,UserID=MUF2"
000010     user: dtcmsql
000011     password: ********
****** ************************************************ Bottom of Data *********************************************
```

  - *Bring the file down to your PC via FTP in binary mode (so that the encoding is not changed during the transfer), editing it there using an editor like notepad, then FTP it back (again in binary).*

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Post-Installation Steps

Secure the SQL Performance Analyzer

- Secure the SQL Performance Analyzer with the external security manager of your choice
  - Broadcom Top Secret (TSS)
  - Broadcom ACF2
  - IBM Resource Access Control Facility (RACF)
- The service is protected by the following System Authorization Facility (SAF) resource:
  - CLASS: DTCMAPI
  - RESOURCE: SQLPA

Refer to [documentation](#) for more details on Securing the SQL Performance Analyzer.

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Post-Installation Steps

- Update JCL Template - Tailor the 'template.jcl' file to meet the site requirements.

    - {jobcard} - A valid jobcard for your site
    - DTCM_SQLPA_PATH - The USS directory where the TAR file was extracted.
    - DTCM_SQLPA_PORT - Use any available Listener Port number of your choice. Default value is 10888.
    - JAVA_HOME - The USS directory of your 64-bit Java Runtime Environment installation,
        For example: *JAVA_HOME=/sys/java64bt/v8r0m0/usr/lpp/java/J8.0_64*

```
000038 //JAVA     EXEC PROC=JVMPRC86,PARM='+D'
000039 //STDOUT    DD SYSOUT=*
000040 //STDERR    DD SYSOUT=*
000041 //STDENV    DD *
000042 #  DTCM_SQLPA_PATH, DTCM_SQLPA_PORT, JAVA_HOME
000043 DTCM_SQLPA_PORT=10679
000044 JAVA_HOME=/sys/java64bt/v8r0m0/usr/lpp/java/J8.0_64
000045 DTCM_SQLPA_PATH=/CA12/u/users/datacom/installs/sqlpa
000046 DTCM_CLASS=DTCMAPI
000047
000048 export JAVA_HOME
000049 export DTCM_SQLPA_PATH
000050 export PWD=${DTCM_SQLPA_PATH}
000051 cd $PWD
000052
```

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Start and Stop Service

➤ Start the Service
  - Submit the modified JCL deck to start the SQL Performance Analyzer service
  - Point the browser to http://<hostname>:<port> to log in

➤ Stop the Service
  - Use STOP command to stop/terminate the SQL Performance Analyzer service

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Using SQL Performance Analyzer

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Cached Queries and Details

- List of Cached Queries

- Query Statistics

- Processing Steps

- Query Source

- Query Execution Limit

- Optimization report

Source Cache Query Index

Datasource: default-DCMUFP

DCMUFP1 | Last request: 2022-08-08 17:50:11

Search: Query Number | LIKE clause syntax (Use '%' and '_' for wildcard(s), e.g 210%) | Search | Clear Filter

Showing 1 - 10 of 10 Queries

Query		Executed	Elapsed Time (ms)			CBSIO			Filter Factor			64-bit Memory (MB)			
Number		Total	Total		Average	Total		Average	Index		Data	Temporary Table		Joins and SubQueries	Hash
33434343		2	12		6	1		0	0		0	0		0	0
8888890		2	12021		6010	3367		1683	1		1	210		0	0

Query Statistics

Statistics	Elapsed Time (ms)		CBSIO	
Type	Total	Time Stamp	Total	Time Stamp
Last:	15135	2022-08-08	18:05:50	3316	2022-08-08	18:05:50
Max:	15135	2022-08-08	18:05:50	3367	2022-08-08	17:50:38
Min:	12021	2022-08-08	17:50:38	3316	2022-08-08	18:04:13
Total:	41277	-	9999	-

ELAPSED TIME LIMIT : 0

CBSIO LIMIT : 0

Exceeded: 0 Times

Exceeded: 0 Times

Explain/Report

Get SQL Optimization Report

Processing Steps

Query Processing Step				Sets	Accepted	Scanned	Rejected		
Table	Key	Step	Process	Executed	Rows	Rows	Index	Data	SQL
ORDER BY TEXP (- 0)		101	ORDER BY	1	20030	0	0	0	0
-- SYSUSR.JOIN RESULT TEMP TBL 201 (- 0)		102	NESTED-LOOP JOIN	1	165649	0	0	0	0
---- SYSADM.AGGREGATE T1 (AGR - 2)	AGRKY	103	READ TABLE	1	407	407	0	407	0
---- SYSADM.AGGREGATE T2 (AGR - 2)	AGRKY	104	READ TABLE	407	165649	165649	0	165649	0

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Active Transactions

- List of transactions

- Search and Filter

- LUW details

- Optimization report

- Cancel transaction(s)

DEMO

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Resources

- [Datacom Core 15.1 documentation](#)

- [SQL Performance Analyzer Installation](#)

- [Using SQL Performance Analyzer](#)

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Questions

Poll

How do you feel about the Datacom SQL Performance Analyzer?

(Select all that apply)

1. This enhancement addresses my pain points
2. This enhancement does not address a problem at my site
3. I have planned or will plan to implement this enhancement
4. I will not be able to implement this enhancement at my site
5. I need to know more. Please reach out to me for follow up

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Poll

Do you have SQL-related pain points you'd be willing to share?

1. Yes, please reach out
2. No, not at this time

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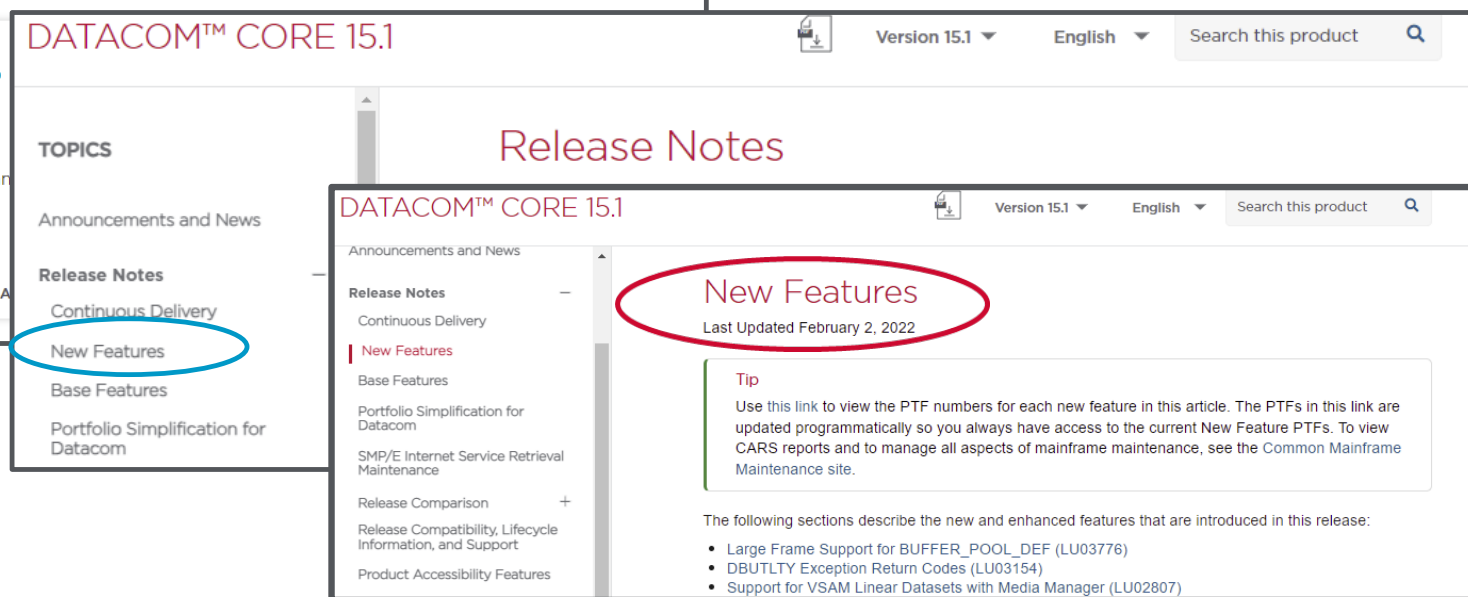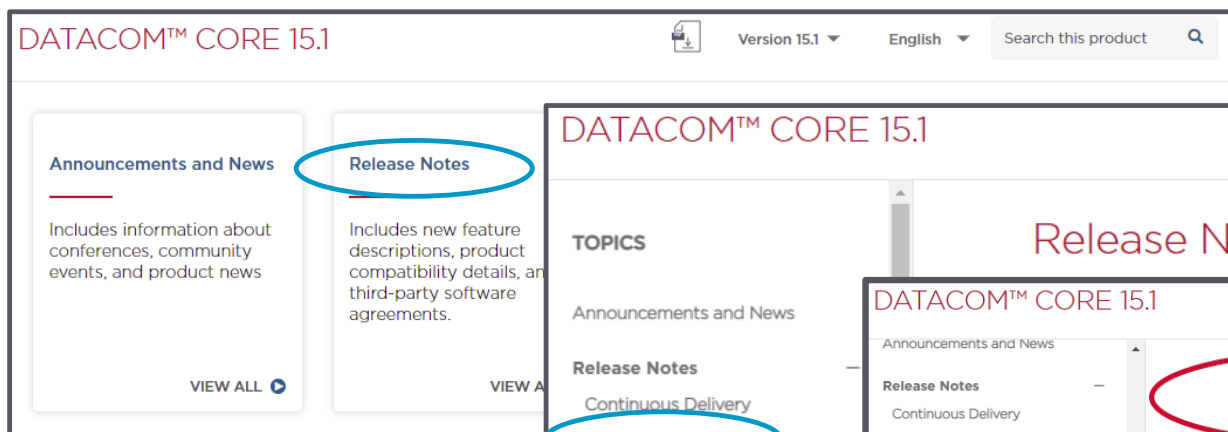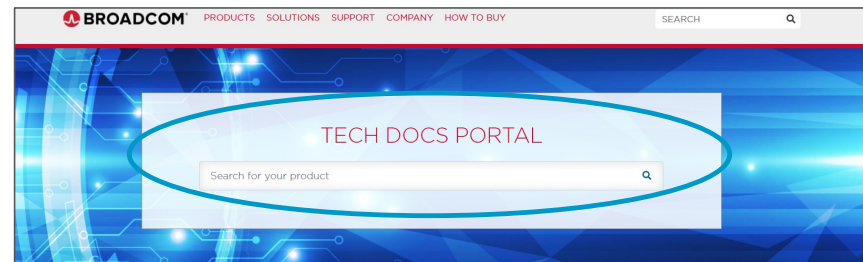MAINFRAME SOFTWARE

Keeping You Informed

TechDocs

techdocs.Broadcom.com

Datacom LINK

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PRODUCTS SOLUTIONS SUPPORT COMPANY HOW TO BUY

TECH DOCS PORTAL

Search for your product

DATACOM™ CORE 15.1

Version 15.1 ▾   English ▾   Search this product

Announcements and News

Includes information about conferences, community events, and product news

VIEW ALL ▶

Release Notes

Includes new feature descriptions, product compatibility details, and third-party software agreements.

VIEW A

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Release Notes

TOPICS

Announcements and News

Release Notes   —

Continuous Delivery

New Features

Base Features

Portfolio Simplification for Datacom

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Continuous Delivery

New Features

Base Features

Portfolio Simplification for Datacom

SMP/E Internet Service Retrieval Maintenance

Release Comparison   +

Release Compatibility, Lifecycle Information, and Support

Product Accessibility Features

New Features

Last Updated February 2, 2022

Tip
Use this link to view the PTF numbers for each new feature in this article. The PTFs in this link are updated programmatically so you always have access to the current New Feature PTFs. To view CARS reports and to manage all aspects of mainframe maintenance, see the Common Mainframe Maintenance site.

The following sections describe the new and enhanced features that are introduced in this release:

- Large Frame Support for BUFFER_POOL_DEF (LU03776)
- DBUTLTY Exception Return Codes (LU03154)
- Support for VSAM Linear Datasets with Media Manager (LU02807)

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Education

Datacom™

Learning Path

All Roles

Course Name	Code	Type	Length
CA Datacom® YouTube Playlist	Playlist	Videos	
CA Datacom®: Database Key Concepts 200	06DCM20130	Web-Based	1.5 Hours
CA Datacom®/DB: Defining the Multi-User Facility 200	06DCM20190	Web-Based	1.5 Hours
CA Datacom®/DB: Managing the Multi-User Facility 200	06DCM20200	Web-Based	1.0 Hours
CA Datacom®/DB: Defining DBUTLTY 200	06DCM20010	Web-Based	1.0 Hours
CA Datacom®/DB: DBUTLTY System Area Management 200	06DCM20040	Web-Based	1.0 Hours
CA Datacom®/DB: DBUTLTY Report Area=CXX 200	06DCM20050	Web-Based	1.0 Hours

Digital Badges

Digital Badge Name
CA Datacom® - Database Key Concepts
CA Datacom® Multi-User Facility - Administrator
Datacom™/DB DBUTLTY - Fundamentals

New Web-Based Training Courses Now Available!

Code	Title	Duration
06DCM20100	Datacom™/DB: Datadictionary Key Concepts 200	45 Minutes

Code	Title	Duration
06DCM20060	Datacom™/DB: DBUTLTY User Database Management - Routine Functions 200	1.5 Hours

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Partnering with You – How You Can Get Involved

We're Interested In Your Thoughts
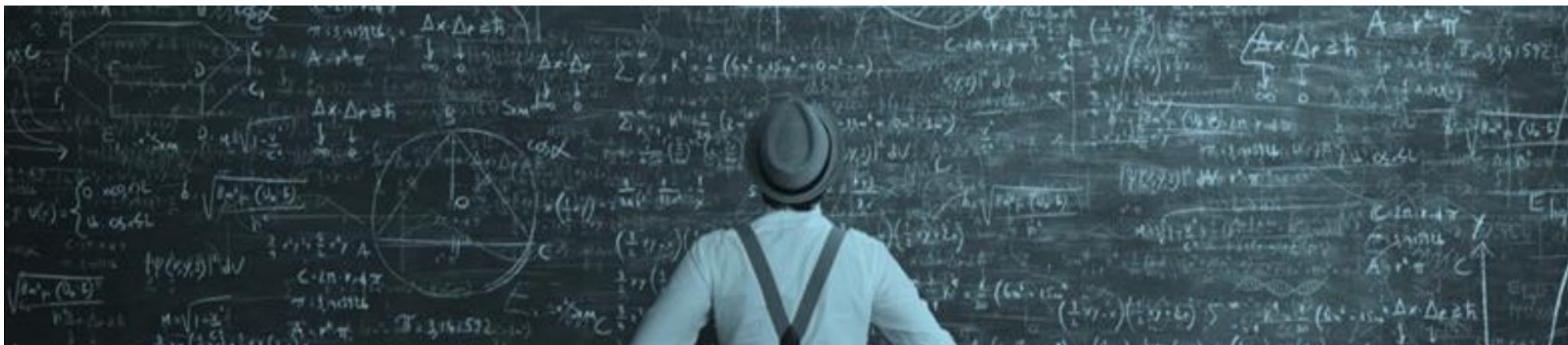
Join us on our **journey** to achieve our ongoing **vision**, we are **actively seeking feedback and suggestions from our customers**. We want to hear your voice!

• Submit your ideas on Datacom/CADRE community.broadcom.com
 	
• Vote and comment on ideas that are important to you
	• Join our validation program to influence our product direction
	  – End-of-Sprint review meetings
	  – Early access to new features and enhancements
		• Attend our monthly webcasts –
		  – 2nd Thursday each month
		• Quarterly Office Hours
		• Interactive Ideas Sessions

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Embrace Open Workshops

We assist you (at no cost) with onboarding and learning challenges!

- Hands-on workshops to assist with onboarding of modernization technologies

- Help with adoption and learning

- Facilitated by Broadcom (Technical Services + Datacom Product Team)

- Can use Broadcom systems or your own environment

Learn to deploy & use VS Code, SQL Performance Analyzer, REST APIs, Dashboards, and more!

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October 4 – 6, 2022

- Connect virtually with peers and Mainframe technical experts

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- REGISTER TODAY
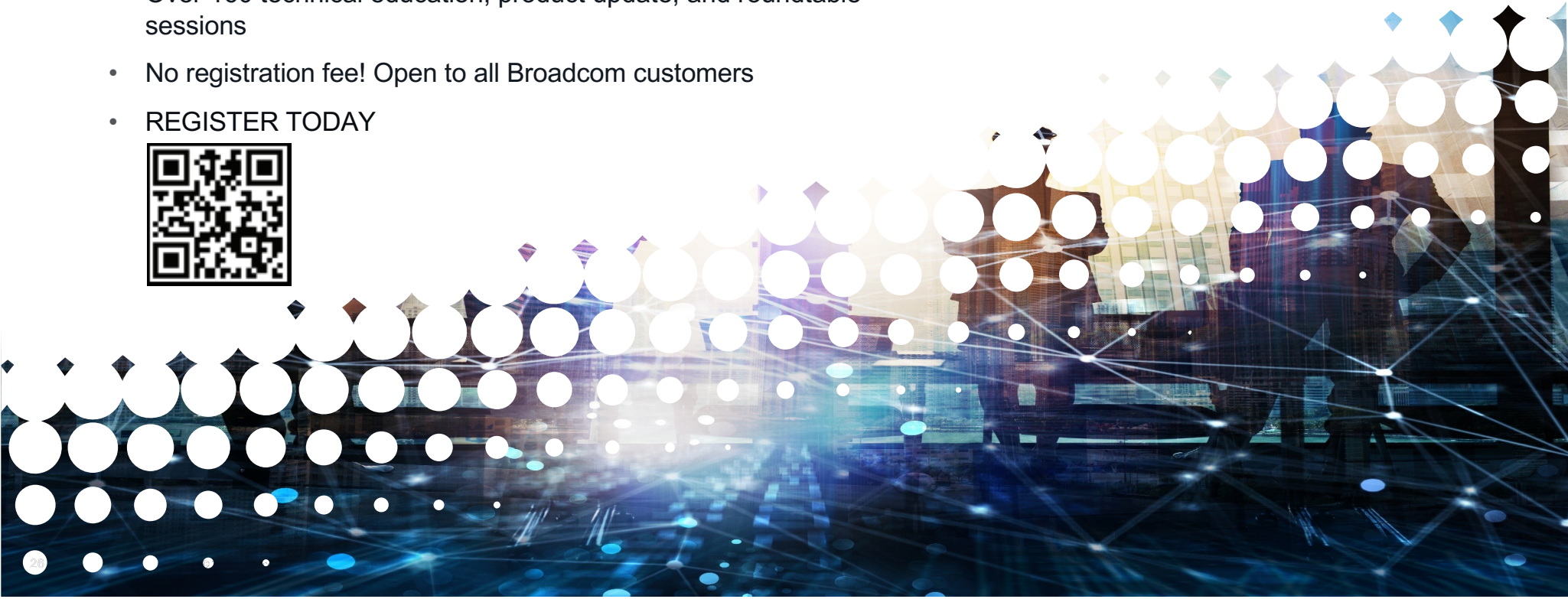
EOS Announcement: August 31, 2022

End of Service Announcement for Datacom/AD for z/OS 14.0 and 15.0

Notification Id	Last Updated	Initial Publication Date
18792	31 August 2021	31 August 2021

August 2021

To: Datacom/AD for z/OS Customers

From: The Datacom/AD for z/OS Product Team

Subject: End of Service Announcement for Datacom/AD for z/OS 14.0 and 15.0

Broadcom is continually working to improve our software and services to best meet the needs of our cust...
email your written notification that we are discontinuing technical support for Datacom/AD for z/OS 14.0 a...
more effectively focus its resources and add value to the next release of Datacom/AD for z/OS. After Aug...
of your current maintenance term.

At this time, we encourage you to plan for the migration to Datacom/AD for z/OS 15.1 S2101 as soon as p...
information on Datacom/AD for z/OS, please visit the Datacom pages at Support.

How to Upgrade Webcast:
Datacom/AD Version 15.1 Upgrade Process Overview

Datacom™/AD Version 15.1
Upgrade Process Overview

Al Johnson
August 12, 2021   BROADCOM

Upgrade YouTube series:
Datacom/AD 15.1 Upgrade Overview (Stage 1 – Stage 6)

CA Datacom/AD Version 15.1
Upgrade Video Series Overview

CA DATACOM/AD

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Thank you