



ORACLE

# From SR to Patch

## Virtual Classroom Series – Episode 17

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Photo by [Ángel Méndez](#) on [Unsplash](#)



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# Webinar | Get The Slides

<https://MikeDietrichDE.com/slides>



## Episode 1

### Release and Patching Strategy

105 minutes – Feb 4, 2021



## Episode 2

### AutoUpgrade to Oracle Database 19c

115 minutes – Feb 20, 2021



## Episode 3

### Performance Stability, Tips and Tricks and Underscores

120 minutes – Mar 4, 2021



## Episode 4

### Migration to Oracle Multitenant

120 minutes – Mar 16, 2021



## Episode 5

### Migration Strategies – Insights, Tips and Secrets

120 minutes – Mar 25, 2021



## Episode 6

### Move to the Cloud – Not only for techies

115 minutes – Apr 8, 2021



# Recorded Web Seminars

<https://MikeDietrichDE.com/videos>

More than 30 hours of technical content,  
on-demand, anytime, anywhere



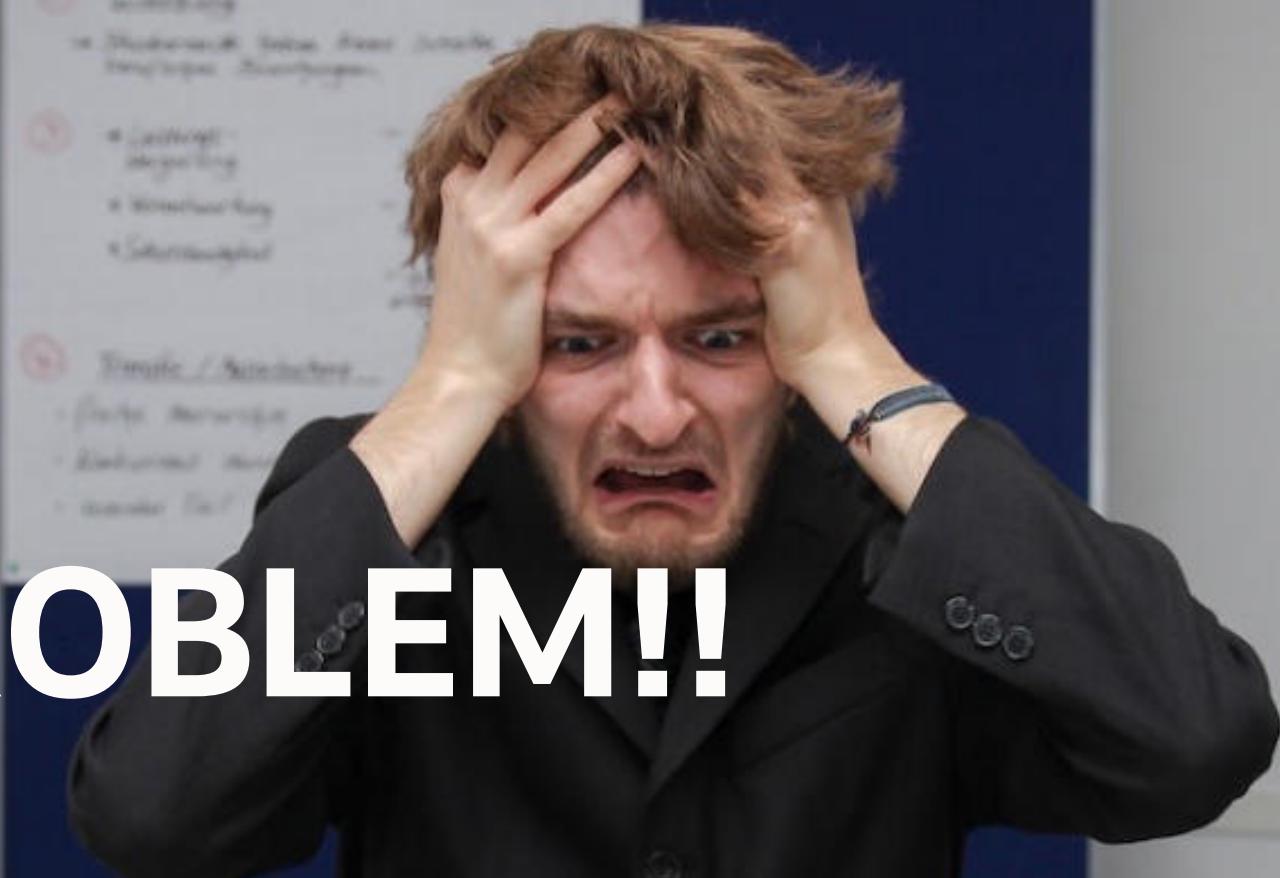


REALITY CHECK

A true customer story

# **BIG PROBLEM!!**

You open an SR  
You work with Oracle Support  
And at worst case ...



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# My Oracle Support

## Welcome

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Search our Knowledge base and engage Communities to learn about products, services, and to find help resolving issues

 [Login to My Oracle Support](#)



... you hit a bug!!

A photograph of a man in a superhero costume, including a yellow suit and a red cape, carrying another man on his shoulders. The man on top is laughing and smiling. They are outdoors in an urban setting with brick buildings and a canal in the background.

But ... don't worry!  
It is fixed! In Oracle 23c!



Hmm??

You mean in  
**2023?**

# THREE PARTIES

A wide-angle photograph of a snowy mountain landscape at sunset. Three hikers are standing on a snow-covered ridge, silhouetted against the bright sky. The sun is low on the horizon, casting long shadows and illuminating the clouds. The terrain is rugged and covered in snow.

- You
- Oracle Support
- Oracle Development



# Insights into the Patching Process



**ERROR**



**FIX**



**BACKPORT**



**INCLUSION**

- Report via My Oracle Support
- Service Request inspected by automation



How many Service Requests are solved  
by automation within one day?



Automation solves 60 % of  
all Service Requests within a day

# Insights into the Patching Process



## ERROR

- Support Engineer creates a bug
- **Help us help you:**
  - Clear description
  - Reproducible test case
  - Logs, traces, dumps
  - Various release tests



## FIX



## BACKPORT



## INCLUSION

## Bug 41886745 : ORA-600 [happens\_on\_mondays\_only] before java is brewed

### **Bug Attributes**

Type	B - Defect	<b>Fixed in Product Version</b>	
Severity	2 - Severe Loss of Service	<b>Product Version</b>	19.17.0.0.0
Status	10 - New	<b>Platform</b>	226 - Linux x86-64
Created	Oct 17, 2022	<b>Platform Version</b>	ORACLE LINUX 7
Updated	Oct 17, 2022	<b>Base Bug</b>	N/A
Database Version	19.17.0.0.0	<b>Affects Platforms</b>	Generic
Product Source	Oracle	<a href="#">Knowledge, Patches, Service Requests and Bugs related to this bug</a>	

### **Related Products**

Line	Oracle Database Products	Family	Oracle Database Suite
Area	Oracle Database	Product	5 - Oracle Database - Enterprise Edition

Hdr: 41886745 : ORA-600 [happens\_on\_mondays\_only] before java is brewed

Abstract: Happens on most important sales table. Sales are yelling ... loudly



# When your case needs further attention



1.  
Update the SR  
and raise severity



2.  
Call Oracle Support

[Blog Post: Request Management Attention for your SR](#)



# Insights into the Patching Process



**ERROR**



**FIX**



**BACKPORT**



**INCLUSION**

- Developer creates a fix
- Always in MAIN branch first

# Insights into the Patching Process



**ERROR**



**FIX**



**BACKPORT**



**INCLUSION**

- Developer verifies the fix
- Regression tests on *Farm* in OCI
  - Subset of tests before merge
  - All tests run daily, ~1 million functional tests (runtime ~25.000 hours)

# Insights into the Patching Process



**ERROR**



**FIX**



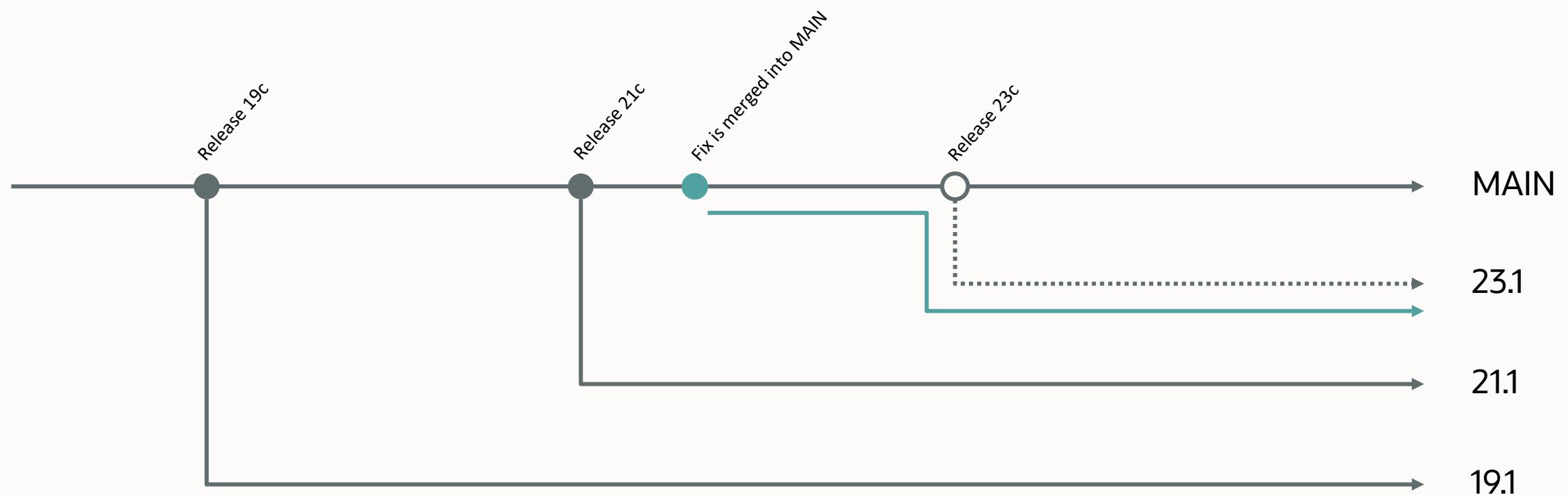
**BACKPORT**



**INCLUSION**

- In case, fix isn't working as expected?
  - Fix the fix
  - Regression tests again
- Fix is ok?
  - Merge into MAIN
  - Merge can only happen with no failing tests

# Branches





## Bug Attributes

Type	B - Defect	Fixed in Product Version	23.1
Severity	2 - Severe Loss of Service	Product Version	19.17.0.0.0
Status	80 - Development to QA/Fix Delivered Internal	Platform	226 - Linux x86-64
Created	Oct 17, 2022	Platform Version	ORACLE LINUX 7
Updated	Oct 17, 2022	Base Bug	N/A
Database Version	19.17.0.0.0	Affects Platforms	Generic
Product Source	Oracle	Knowledge, Patches, Service Requests and Bugs related to this bug	

## Related Products

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Hdr: 41886745 : ORA-600 [happens\_on\_mondays\_only] before java is brewed

Abstract: Happens on most important sales table. Sales are yelling ... loudly



Should I  
upgrade to  
Oracle 23c now?

But there is only the 23c Free Edition??

A photograph of two women sitting on a light-colored leather couch, laughing and looking at a blue laptop. The woman on the left is wearing a white cable-knit sweater and blue jeans, and is holding a small gift wrapped in green and white paper. The woman on the right is wearing a green cable-knit sweater, a blue beanie, and glasses, and is wearing a watch. They are surrounded by several pillows, including a patterned one and a red one with white snowflake designs. The background shows a wooden wall and a white door.

No worry ...

... you will request and get a backport!!

# Insights into the Patching Process



**ERROR**



**FIX**



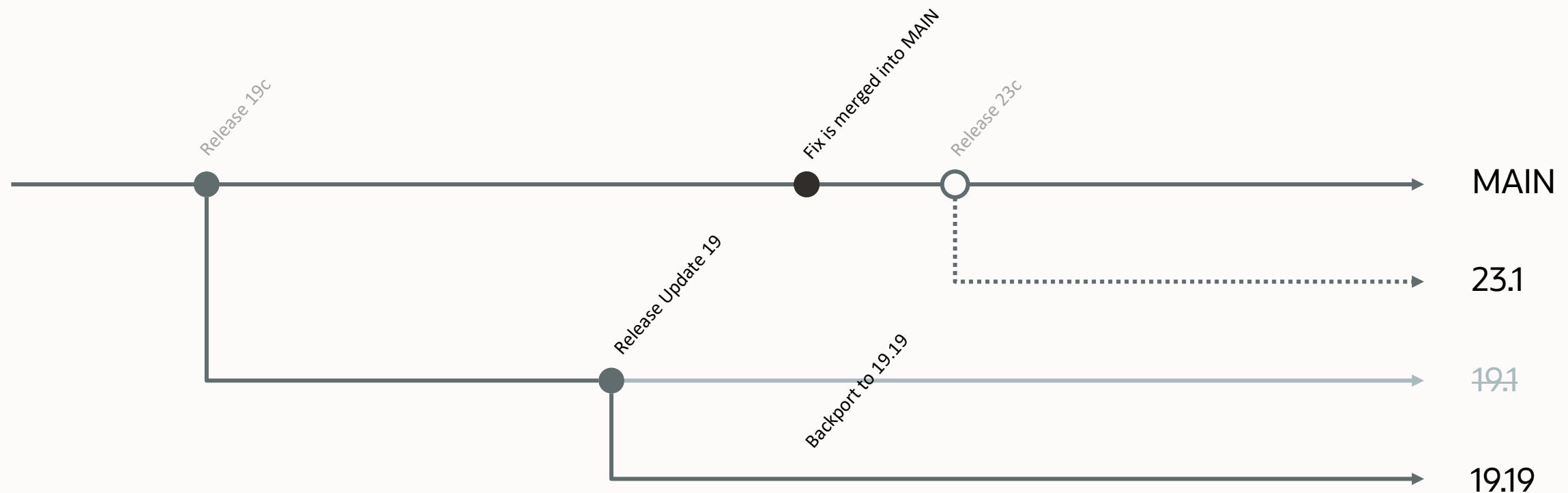
**BACKPORT**



**INCLUSION**

- Backport created on request
- Backports are specific for a release and usually also for a patch level, e.g., on top of 19.19.0
- `opatch lsinventory`

# Backport



# Insights into the Patching Process



**ERROR**



**FIX**



**BACKPORT**



**INCLUSION**

- Automated flow, manual handling might be required
  - Some conflicts
  - Dependencies
- Manual handling may postpone patch delivery

## Patch Simple Search Results

Filters: Patch Name or Number is 31517417; Platform is Linux x86-64;

[Edit Search](#)

Table ▾ View ▾ [Detach](#) [Share Link](#)

Patch Name	Description	Release	Platform (Language)
31517417	ORA-22308: OPERATION NOT ALLOWED ON EVOLVED TYP (Patch)	19.16.0.0.0DBRU	Generic Platform (American English)
31517417	ORA-22308: OPERATION NOT ALLOWED ON EVOLVED TYP (Patch)	19.15.0.0.0DBRU	Generic Platform (American English)
31517417	ORA-22308: OPERATION NOT ALLOWED ON EVOLVED TYP (Patch)	19.14.0.0.0DBRU	Generic Platform (American English)
31517417	ORA-22308: OPERATION NOT ALLOWED ON EVOLVED TYP (Patch)	19.13.0.0.0DBRU	Generic Platform (American English)
31517417	ORA-22308: OPERATION NOT ALLOWED ON EVOLVED TYP (Patch)	19.12.0.0.0DBRU	Generic Platform (American English)
31517417	ORA-22308: OPERATION NOT ALLOWED ON EVOLVED TYP (Patch)	19.11.0.0.0DBRU	Generic Platform (American English)
31517417	ORA-22308: OPERATION NOT ALLOWED ON EVOLVED TYP (Patch)	19.10.0.0.0DBRU	Generic Platform (American English)
31517417	ORA-22308: OPERATION NOT ALLOWED ON EVOLVED TYP (Patch)	19.9.0.0.0DBRU	Generic Platform (American English)
31517417	ORA-22308: OPERATION NOT ALLOWED ON EVOLVED TYP (Patch)	19.8.0.0.0DBRU	Generic Platform (American English)
31517417	ORA-22308: OPERATION NOT ALLOWED ON EVOLVED TYP (Patch)	19.6.0.0.0DBRU	Generic Platform (American English)
31517417	ORA-22308: OPERATION NOT ALLOWED ON EVOLVED TYP (Patch)	19.4.0.0.0DBRU	Generic Platform (American English)

19.7.0 missing





Why is the patch not in  
the next Release Update?

# Insights into the Patching Process



**ERROR**



**FIX**



**BACKPORT**



**INCLUSION**

- What goes into a Release Update?
- Screening and monitoring for candidates
- Support can request inclusion via base bug

# Request for Inclusion

## Recommended Patches for 19.18 DB Home

Below is the list of important patches to consider applying on top of 19.18. In addition to the relevant patches listed below, you should also review patches in [Database PSU/BP/Update/Revision - Known Issues Primary Note\(Doc ID 1227443.1\)](#) and [Oracle Database Patches to Consider for 19c \(Doc ID 2781612.2\)](#) which contains patches to consider for specific areas such as Data Pump, Golden gate etc.

Bug	Fixed in RU	Fixed in MRP	Description	Patches	NON ROLLING	Added
<a href="#">35037877</a> (replaces <a href="#">20289608</a> )			[SECURITY] EM patching may fail with ORA-4067	<a href="#">[list-patches]</a>		20-APR-2023
<a href="#">32727143</a>	19.19		[SQL EXECUTION] Transaction-level content isolation for transaction-duration global temporary tables	<a href="#">[list-patches]</a>		20-APR-2023
<a href="#">34557500</a> (replaces <a href="#">31544097</a> )	19.19	<a href="#">DBMRP 19.17.0.0.230321</a> <a href="#">DBMRP 19.18.0.0.230321</a>	[BLOCK TRACK] CTWR caused multiple instances to hung state on the RAC Standby DB	<a href="#">[list-patches]</a>		20-APR-2023
<a href="#">34340632</a>			[AQ] Smart Monitoring & Resiliency in AQ KGL Memory Usage To Help Message Cleanup And Prevent ORA-600 [KGL-HEAP-SIZE-EXCEEDED].	<a href="#">[list-patches]</a>		14-APR-2023
<a href="#">35246710</a> (replaces <a href="#">33803836</a> )	19.19	<a href="#">DBMRP 19.18.0.0.230418</a>	[BUFFER CACHE] High "Direct Path Read" Waits After 19.18 DBRU Patching	<a href="#">[list-patches]</a>		08-APR-2023
<a href="#">34832725</a> (replaces			[SHRD CRSRS] ORA-4031 and / or High Shared Pool Latch Contention During Session Creation in	<a href="#">[list-patches]</a>		25-MAR-2023

# Request for Inclusion

## **BUG 32765738 - AIM:ORA-7445 [KEWSSYSVF\_1] - KEWSSYSVF\_1**

[Edit this bug Bug Tree ARU Report](#)

Bug No: 32765738 (Bug)

Filed By: [REDACTED]

Updated By: [REDACTED]

Sup Rep: [REDACTED]

Customer: [REDACTED]

Status: 80 - Development to QA/Fix Delivered Internal



# BUG 32765738 - AIM:ORA-7445 [KEWSSYSVF\_1] - KEWSSYSVF\_1

[Edit this bug](#) [Bug Tree](#) [ARU Requests](#)

Bug No: 32765738

Filed By: [REDACTED]

Updated By: [REDACTED]

Sup Rep: [REDACTED]

Customer: [REDACTED]

Status: 80 - Development to QA/Fix Delivered Internal

SRs in Bug Hierarchy: Open: 12 Others: 274 ([Show Details](#))

# Automatic Incident Management

# Automatic Incident Management

- Scans for incidents
- Monitors also shared autonomous databases
- Automatically creates bugs
- Report and fix bugs before customers



Ensure your Service Request is associated with the corresponding bug

# Insights into the Patching Process



**ERROR**



**FIX**



**BACKPORT**



**INCLUSION**

- Evaluated for Release Update inclusion
- Strict requirements apply
  - RAC Rolling
  - Standby-First

# Inclusion Evaluation and Criteria

[Close](#)

 **Patch 30978304: ORA-20000 DURING IMPDP WITH STATS AND THE UNIQUE INDEX FOR THE PK IS NOT CREATED**

Last Updated Jun 2, 2021 2:04 PM (2+ months ago)

Product: Oracle Database - Enterprise Edition  
[\(More...\)](#)

Release: Oracle Database 19.12.0.0.0 DBRU

Platform: Generic Platform

Size: 1.3 MB

Download Access: Software

Classification: General

Patch Tag

**Prerequisite Patches**

32904851 [DATABASE RELEASE UPDATE 19.12.0.0.0](#)

**Bugs Resolved by This Patch**

30978304 [ORA-20000 DURING IMPDP WITH STATS AND THE UNIQUE INDEX FOR THE PK IS NOT CREATED](#)

**View Related Knowledge to this Patch**

Release: Oracle Database 19.12.0.0.0 DBRU

Platform: Generic Platform

Language: American English

[Read Me](#) [Download](#)  [Add to Plan](#)

[Analyze with OPatch...](#)

 [Discuss this patch in the community](#)



# Inclusion Evaluation and Criteria

Oracle Database 19 Release 19.12.0.0.210720DBRU

ORACLE DATABASE Patch for Bug# 30978304 for Generic Platforms

This patch is non-RAC Rolling Installable.

This patch is non-Data Guard Standby-First Installable - Please read My Oracle Support Note

1265700.1 <https://support.us.oracle.com/oip/faces/secure/km/DocumentDisplay.jspx?id=1265700.1>

Oracle Patch Assurance - Data Guard Standby-First Patch Apply for details on how to remove risk and reduce downtime when applying this patch.

## NEVER INCLUDED

### (1) Prerequisites

-----

Before you install or deinstall the patch, ensure that you meet the following requirements:

# Insights into the Patching Process



**ERROR**



**FIX**



**BACKPORT**



**INCLUSION**

- Limited number of fixes per Release Update
- Release Updates and Revisions regression tests

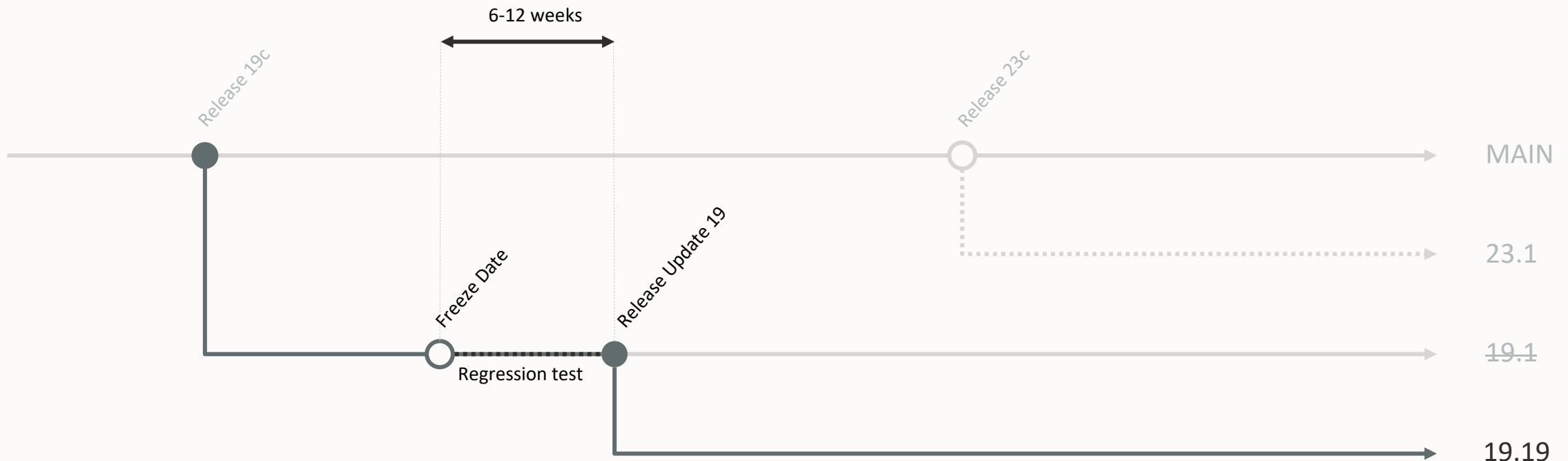
# Limitation



[Database 19 Release Updates and Revisions Bugs Fixed Lists \(Doc ID 2523220.1\)](#)



# Limitation



WHY DO YOU ALWAYS ASK FOR

# OPATCH Isinventory



# TO AVOID CONFLICTS



```
$ORACLE_HOME/OPatch/opatch prereq CheckConflictAgainstOHWithDetail -ph ./
```

Invoking prereq “checkconflictagainstohwithdetail”

ZOP-40: The patch(es) has conflicts with other patches installed in the Oracle Home (or) among themselves.

Prereq “checkConflictAgainstOHWithDetail” failed.

Summary of Conflict Analysis:

There are no patches that can be applied now.

Following patches have conflicts. Please contact Oracle Support and get the merged patch of the patches :

35012562, 35095748

Conflicts/Supersets for each patch are:

Patch : 35095748

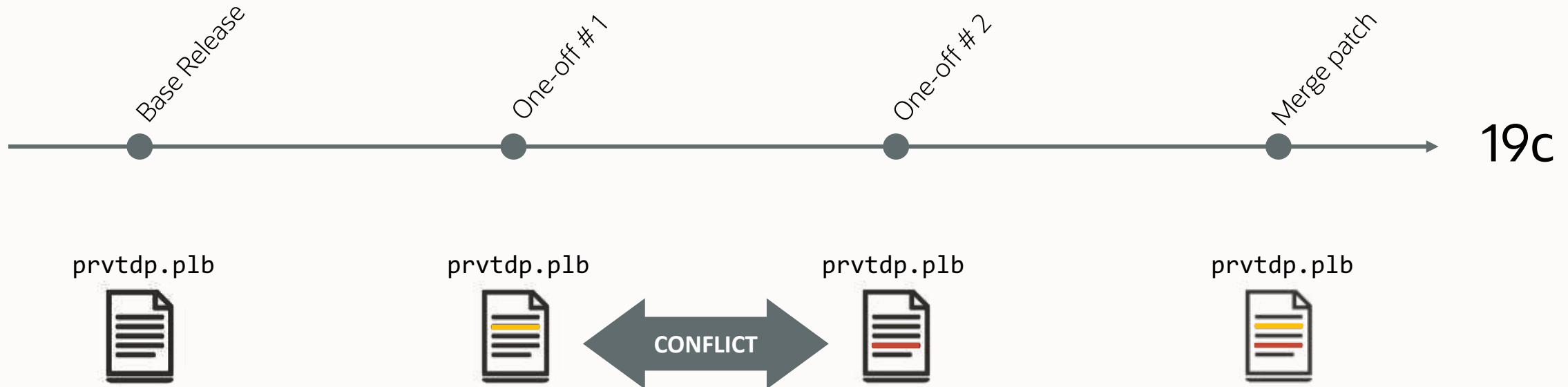
Conflict with 35012562

Conflict details:

/u01/app/oracle/product/19.19.0/db\_1/lib/libserver19.a:kko.o

OPatch succeeded.

## Basic Facts | Conflicts





Always attach the output of  
**opatch lsinventory** to your Service Request



Don't name it

- `optch_lsinvt.txt`
- `tekst_fra_opatch.txt`
- `alle_meine_patches.txt`
- `textodeopatch.txt`



Just name it `opatch_lsinventory.txt`

# But ... I am on MS Windows ...



O

# Windows is different ...





Windows Bundle Patches is the term used for Release Updates on Windows



A Windows Bundle Patch and a Release Update from the same quarter, e.g., April 2023, do **not** contain the same patches

# Comparing Release Updates and Bundle Patches



## 19.19.0 Linux Release Update

- 533 bug fixes
- 5 were not in the Windows bundle patch

## 19.19.0 Windows Bundle Patch

- 153 additional bug fixes
- 528 bug fixes in common



Where do I find the Windows Bundle Patches?

Knowledge

RCA

DWB

Customer Exceptions

CMS

More... ▾



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## ★ Assistant: Download Reference for Oracle Database/GI Update, Revision, PSU, SPU(CPU), Bundle Patches, Patchsets and Base Releases (Doc ID 2118136.2)

Visibility: EXTERNAL

(94)



### Selection(s)

#### What would you like to download?

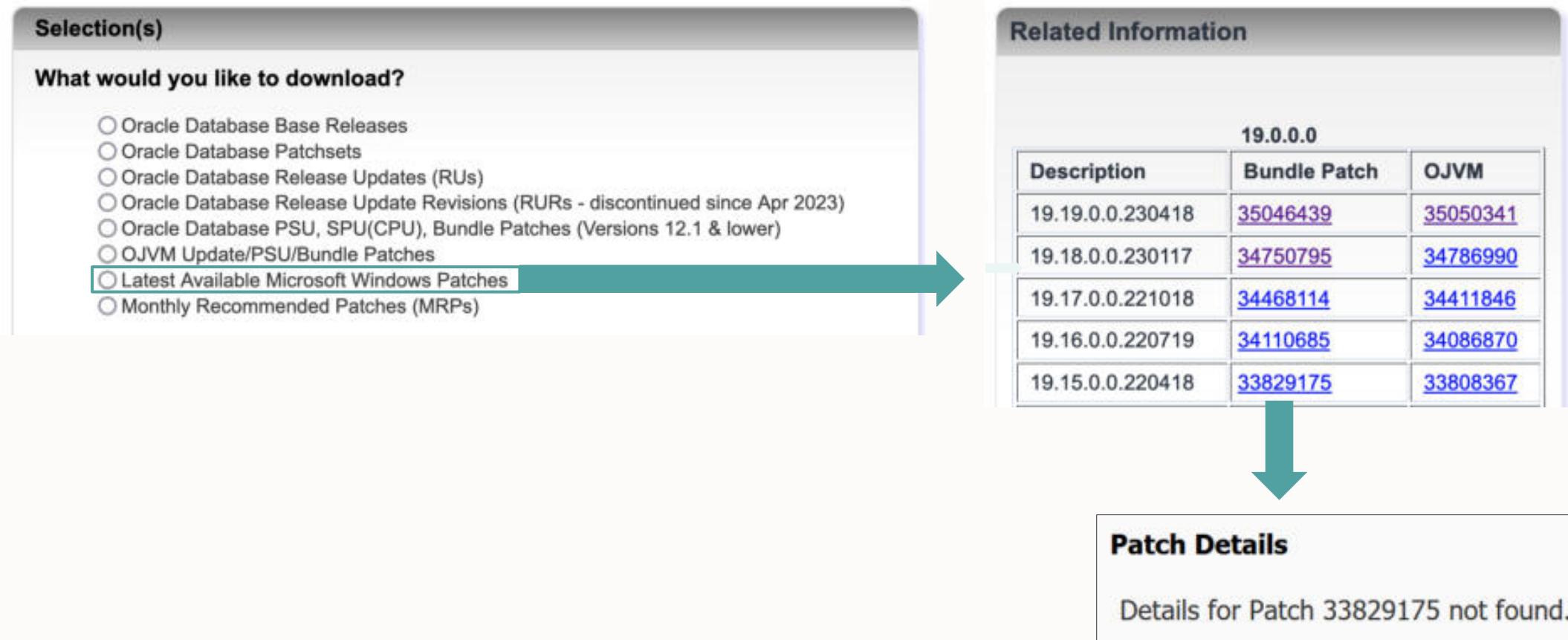
- Oracle Database Base Releases
- Oracle Database Patchsets
- Oracle Database Release Updates (RUs)
- Oracle Database Release Update Revisions (RURs - discontinued since Apr 2023)
- Oracle Database PSU, SPU(CPU), Bundle Patches (Versions 12.1 & lower)
- OJVM Update/PSU/Bundle Patches
- Latest Available Microsoft Windows Patches
- Monthly Recommended Patches (MRPs)

### Solution(s)

Possible Solutions will be displayed here once you make your selection.

# Basic Facts | Patch Availability

## MOS Note: 2118136.2 - Assistant: Download Reference for DB and GI Patch Bundles



# Basic Facts | Patch Availability

## MOS Note: 2844795.1 - Apr 2022 Patch Availability Document (DB-only) (Doc ID 2844795.1)

Released April 19, 2022

This document contains the following sections:

- [Critical Patch Update April 2022 Patch Availability Document \(PAD\)](#)
  - [1 Overview](#)
    - [1.1 How To Use This Document](#)
    - [1.2 Terminology in the Tables](#)
    - [1.3 On-Request Patches](#)
    - [1.4 CPU Program and My Oracle Support Patch Recommendations](#)
    - [1.5 My Oracle Support \(MOS\) Conflict Checker Tool](#)
  - [2 What's New in April 2022](#)
    - [2.1 "Final CPU Information \(Error Correction Policies\)"](#)
    - [2.2 "Post Release Patches"](#)
    - [2.3 "Separate PADs for Separate Products"](#)

### **Patch Details**

Details for Patch 33829175 not found.



Microsoft Windows BP 21.10.0.0.220419	<a href="#">Patch 33829143</a>	MS-Windows	14-Jun-2022
Microsoft Windows BP 19.15.0.0.220419	<a href="#">Patch 33829175</a>	MS-Windows	17-May-2022



Find the PAD by searching for  
*Patch Availability Document Apr 2023*



... Oracle on Windows is different



But this MOS note is missing ...

# MOS Note is not accessible

MOS Notes into UNDER REVIEW state without telling you more details

- See blog post "[This MOS note is not available anymore?](#)"

Document cannot be displayed. Possible reasons are:

- The document id was entered incorrectly. Please check and try again.
- The document id does not exist (was referenced incorrectly).
- The document is not classified as publicly accessible ("non-public").
- The content is being updated and it is temporarily unavailable but will be made available again soon.



Just try it again a few days or open an SR and check with Oracle Support if you need the content urgently



# Oracle Linux Development Platform



## Oracle Linux x86-64

### Porting

- Microsoft Windows
- SPARC Solaris
- Intel Solaris x86-64
- IBM AIX
- IBM zLinux
- HP UX Itanium
- BS2000

# **Some** of the platforms from our bug tracking system

Blast from the past

# Blast from the Past | Platforms

Microsoft Windows Phone	Tekelec	Netra X3-2 for Acme Packet	Novell NetWare
Oracle JRockit Virtual Edition x86	Qualcomm Brew MP	Oracle Solaris on SPARC (64-bit)	Linux on IBM Z
SunOS	Netra Server X5-2 for Communications	IBM S/390 Based Linux (31-bit)	Data General
Monta Vista x86	HP NonStop S-series (Guardian)	Acme Packet 3900	Pyramid
Acme Packet 1100	HP OpenVMS Itanium	SPARC	Talari
iTron	Monta Vista x86-64	Fujitsu MSP-EX	Palm Computing
Embedded Linux on cnMIPS	OpenSolaris	Trusted Solaris	HP NonStop (OSS) on x86
Embedded Linux SH4	SCO Unix	Net-Net 4250	Unisys OS 2200
HP NonStop Itanium (OSS)	Net-Net 9200	HP OpenVMS VAX	HP OpenVMS Alpha
QNX Unix	Symbian EPOC	HP-UX PA-RISC (32-bit)	Acme Packet 3820
Acme Packet 6100	Linux ARM 32-bit VFP HardFP ABI	Acme Packet 6300	FreeBSDx86
Linux MIPS 64-bit	SGI Irix	Microsoft Windows CE	Oracle Solaris Express
Fujitsu BS2000/OSD (SQ series)	ia64	IBM z/OS on System z	VxWorks
Mediatek MTZ	Linux SPARC	StorageTek Hardware	Microsoft Windows (32-bit)
HP NonStop (Guardian) on x86	Oracle Solaris on SPARC (32-bit)	Oracle Solaris on x86 (32-bit)	Sequent
Fujitsu BS2000	HP NonStop Itanium (Guardian)	Fujitsu BS2000/OSD (SX series)	Windows NT
HP Tru64 UNIX	RIM BlackBerry	Linux ARM 64-bit	nCube



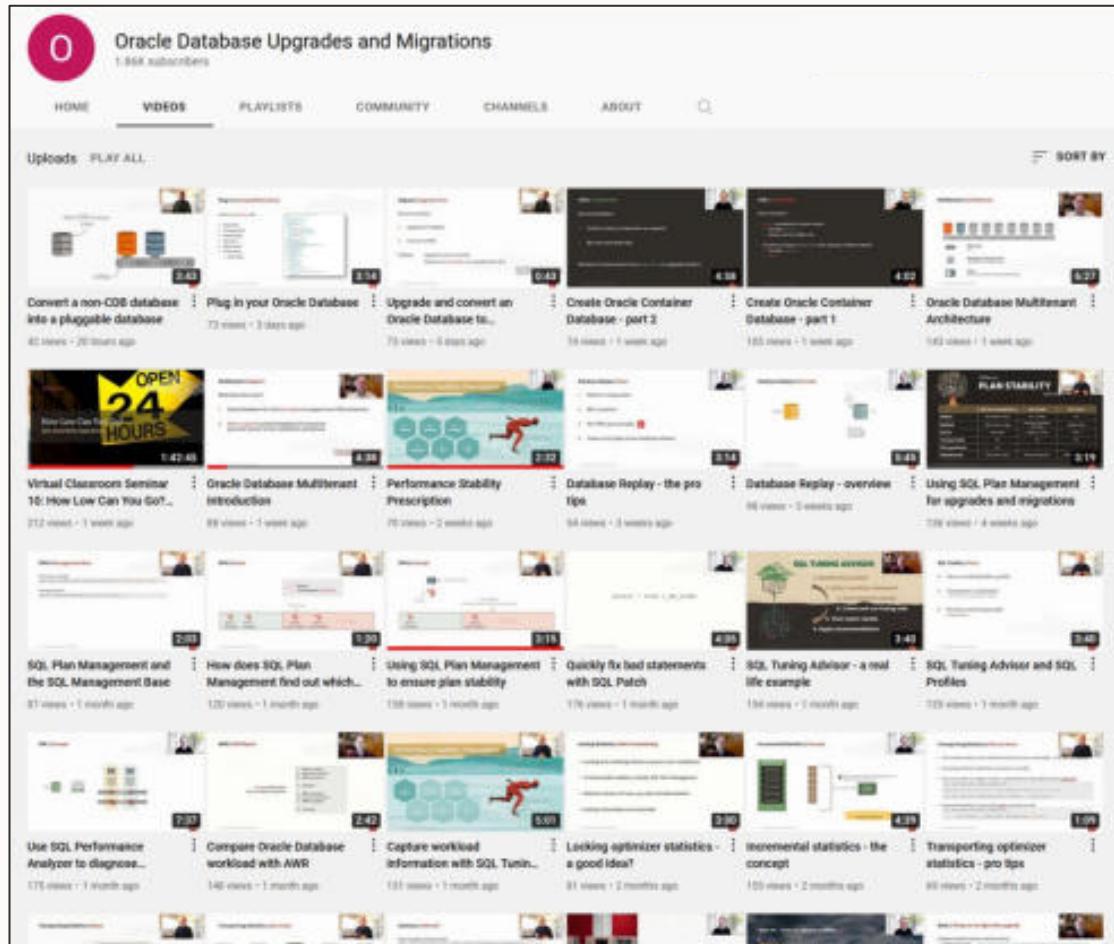
Want to know more about

# **PATCHING**

Virtual Classroom 16:

[Release and Patching Strategies  
for Oracle Database 23c](#)

# YouTube | Oracle Database Upgrades and Migrations



[Link](#)

- 300+ videos
- New videos every week
- No marketing
- No buzzword
- All tech



# THANK YOU



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<https://MikeDietrichDE.com/videos>

YouTube channel:

[OracleDatabaseUpgradesandMigrations](https://www.youtube.com/OracleDatabaseUpgradesandMigrations)

# THANK YOU



Oracle CloudWorld 2023

Las Vegas, September 18-21

[Our sessions](#)

THANK  
YOU

