

Database Patching for DBAs - Patch smarter, not harder

Virtual Classroom 27

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Presentation

Will slides from this webinar be available

Yes

<https://dohdatabase.com/wp-content/uploads/2026/03/vc27.pdf>

Will there be a recording available for future review?

Yes, it will be posted on YouTube:

https://www.youtube.com/@upgradenow?sub_confirmation=1

General

Is AutoUpgrade automation-friendly? For example, return codes, log inspection, especially in case of errors like patch conflicts?

Yes, it is designed to work well with automation tools such as Ansible.

You can use the `-noconsole` option, and important information is available in JSON files for integration with other tools.

There is also a configuration parameter to handle conflicts:

<https://docs.oracle.com/en/database/oracle/oracle-database/26/upgrd/patch-parameters-autoupgrade-config-file.html#GUID-772D9374-C1EA-4ADE-92BF-F4A310B1DD51>

Additionally, you can look for `home_settings.ignore_opatch_conflict`.

Is AutoUpgrade available for IBM AIX 64-bit platform?

Yes. AutoUpgrade is Java-based and works on all Oracle Database supported platforms.

Can AutoUpgrade be used on Windows platforms?

Yes. It supports all platforms where Oracle Database runs.

A dedicated webinar for Windows is planned:

<https://go.oracle.com/LP=151086?elqCampaignId=653082>

Does it work for Windows bundle patches?

Yes. A dedicated session focusing on Windows is planned.

Does AutoUpgrade work for 21c?

Yes.

Does AutoUpgrade run Datapatch sanity checks as part of patch prechecks?

Yes.

Does AutoUpgrade check RPM prerequisites?

No. Some checks require root privileges and are not currently performed.

Is running utlrb.sql manually still required?

No. AutoUpgrade handles recompilation automatically.

Does AutoUpgrade Composer support RAC configurations?

Yes. It supports AutoUpgrade parameters and is updated alongside new features.

Downloads

How can we configure AutoUpgrade to automatically download patches when our MOS login uses MFA?

Downloading patches with AutoUpgrade is exempt from MFA. For those endpoints, you can authenticate with username and password only.

What credentials are required? Support login? What about 2FA?

No 2FA is required. Username and password are sufficient.

OAUTH tokens are used, allowing unattended execution.

Are downloads incremental? Does the JSON file track downloads across different days?

Yes. Already downloaded content is detected and not downloaded again.

Is CSI required to validate patch download permissions?

No. CSI is no longer required for Update Advisor and has been removed in the next AutoUpgrade version.

What should I do if AutoUpgrade cannot find a patch?

Check MOS

If not found, open a Service Request

Optionally contact support

Meanwhile, manually download and place it in the patch directory

If a one-off patch is regressed but still available for download, does AutoUpgrade provide a message about the regression or proceed with the download?

If you use the gold image service and specify ALL, it can detect and replace it with a newer one-off. This does not apply to the conventional MOS download method.

We have a specific recommended patch which conflicts with the RU and is always generated for each RU. Does AutoUpgrade automatically grab the latest version of the patch?

AutoUpgrade will fetch the matching version if it is available.

For example, if you download 19.30 using RECOMMENDED and add a patch (for example, 12345678), AutoUpgrade will fetch the matching one-off if it exists. If not, it will not fetch it.

Will AutoUpgrade download patches for other Oracle products such as GoldenGate or OEM?

Only if the product is part of the Oracle Database home, such as JDK or certain components.

Patching

MRPs are not downloaded or added when we use the "recommended" option. Is that something for the future, or has this been excluded to keep systems across DEV, TEST, and PROD aligned with the same RU?

This is intentional. We could technically do it, but it is not what everyone wants. Therefore, you need to add the MRP yourself. AutoUpgrade will fetch the most recent MRP for your RU, or tell you if none is available, for example on AIX.

Regarding MRPs, they are listed with opatch lspatches as individual patches. It is difficult to distinguish whether a patch comes from an MRP or is a one-off installed by the customer. Is there a way to identify which patches belong to an MRP?

No, unfortunately not from the inventory.xml or patch metadata. The MRP is technically a system patch which does not expose that information. This is different from, for example, the Data Pump bundle patch, which appears as one bundle patch in the inventory.

Which is better: having 19.28 LTRU with MRP6 or the new 19.30 RU? Is it better to choose an LTRU with regular MRP apply or the newest RU with regular updates?

This depends a lot on your strategy.

I'd say: LTRUs are for customers who can only patch once a year. We all would prefer quarterly patching, but not everyone can. In such cases, it is good to use LTRUs and then add MRPs containing security content on a regular basis.

This may be a good strategy, but generally we strongly recommend patching quarterly.

TEXT is only applicable for 19c, not for 23.26.x.

The text bundle patch is applicable to 26ai as well. However, currently, all TEXT related patches in 26ai is part of the Release Update. When needed in the future, the TEXT bundle patch is made for 26ai as well.

If I use RECOMMENDED, will it include MRP patches? If not, can I apply only MRP?
No, MRPs are not included.

You need to specify:

```
patch=RECOMMENDED,MRP
```

Or a subset if you do not want DPBP and OJVM.

Can we add MRP so that AutoUpgrade pulls the MRP for Linux and individual patches for other platforms?

Yes, in separate sections of the config file.

You need one entry such as:

```
patch1=...
```

Then another:

```
patch2=...
```

And so on.

Is there a way, apart from RECOMMENDED or MRP, to list all one-off patches for a specific DBRU without manually checking MOS?

No.

MRP only includes critical or recommended patches.

There are hundreds of one-off patches per RU, and they must be reviewed in MOS.

Why are some one-off patches not included in RU 19.30 even if fixes are old?

To be included in an RU, patches must meet strict requirements:

Must be RAC rolling

Must not require root.sh execution

Some patches do not meet these criteria.

Are those one-off patches intended only for specific environments?

Implicitly yes, since they are not eligible for RU inclusion due to restrictions.

Will these one-offs be included in future RUs?

Not guaranteed. Only patches meeting RU requirements are included.

Will it be possible in the future to perform in-place patching with AutoUpgrade?

This was originally designed, but since out-of-place patching has many advantages, we do not see this as a priority. So, no plans unless there is a good reason.

If we use out-of-place patching and applications are tightly integrated with the Oracle Home path, how should this be handled? Would it be possible to keep the same Oracle Home path as the source?

This is complex.

If applications hardcode paths, you need to automate updates when using out-of-place patching.

Alternatively, you can use a read-only Oracle Home and store application files under Oracle Base.

If this is not feasible, you may need to use in-place patching without AutoUpgrade.

When patching JDK in GI and DB homes, is it enough to back up only the JDK directory, or should the entire Oracle Home be backed up?

With out-of-place patching, a new Oracle Home is created with an updated JDK, so backing up JDK may be sufficient.

For in-place patching, a full Oracle Home backup is recommended.

Are there plans for AutoUpgrade to download the Oracle Base Image for out-of-place patching?

A new approach using Oracle Update Advisor avoids the need for a base image.

In 26ai, a base image is no longer required.

Is it possible for AutoUpgrade to create an Oracle Home and then package it as a Gold Image to be used on other servers?

This is on the roadmap.

Support for Oracle-created gold images has been added, and support for custom ones is planned.

For Linux, the gold image parameter was added. Is it also coming for Windows (19c)?

Not at this point. Gold image uses Oracle Update Advisor, which currently supports only Linux. Other platforms will be added later.

Internal policies require that the Oracle Home name always remains the same. Is there a way to create a temporary home (for example db_2), apply patches, and then revert to db_1?

Not supported natively.

You can create a new Oracle home using `-mode create_home`, rename it, and then run AutoUpgrade in `-mode deploy`.

Do you have guidance on how to rename the Oracle Home directory before running AutoUpgrade in deploy mode?

No, this is not confirmed as supported.

What does `gold_image=ALL` do when patch numbers are specified?

`gold_image=ALL` ensures all patches, including one-offs, are included in the gold image.

`gold_image=YES` keeps one-offs outside the gold image and applies them separately.

YES is faster because it reuses a common image, while ALL generates a new one.

Is Gold Image available for 19c?

Yes, for 19c and later.

With `gold_image=ALL`, can I generate a gold image including all patches?

Yes.

Can `gold_image=ALL/YES` generate a gold image for AIX?

Currently, this is supported only on Linux.

Can AutoUpgrade deinstall old Oracle homes after patching?

Not currently, but it is planned as an enhancement.

Does AutoUpgrade handle rollback of previously applied one-off patches?

There is no rollback at the Oracle Home level due to out-of-place patching.

For the database level, Datapatch handles rollback transparently.

Is there an equivalent to deleteinactivepatches in AutoUpgrade?

Not needed with AutoUpgrade, since it creates new Oracle homes.

deleteinactivepatches applies only to in-place patching or cloned homes.

Grid

We would like to see how to apply patches for the Grid Home using the AutoUpgrade tool.

We have many requests for AutoUpgrade. This one is also on our plans, but not for the short term.

Is it possible to use AutoUpgrade to apply only MRP patches in an ODA?

AutoUpgrade uses out-of-place patching only, which builds a brand-new Oracle Home. This might conflict with ODA tooling, so it might not be convenient to use. However, you should be able to get the patches and apply them with the tooling.

I understand that AutoUpgrade cannot yet update the Grid Infrastructure. In this case, what technique should be used to minimize service disruption when applying a patch?

Refer to the documented approaches:

<https://dohdatabase.com/patch-gi>

If OCW is mandatory, why is it not included in RECOMMENDED?

It is included automatically in RECOMMENDED, but only if:

- You provide a source_home
- The source_home has RAC enabled in the binaries
- If the target home is not meant for RAC, it is skipped.

Can we use AutoUpgrade for Grid Clusterware on Oracle Restart? And what is the status of using AutoUpgrade with RAC Clusterware and database?

You can use it to download Clusterware, but patching or installation is not included yet. You need to handle GI yourself for now. There is an enhancement planned, but it will not be available soon.

What OCW release should be installed if GI has a different release than RDBMS?

Always use the matching version for your home, ideally the newest one.

If GI and DB versions differ, for example GI 19.27 and DB 19.29, you should install 19.29 OCW into the DB home rather than mixing versions.

Does AutoUpgrade support patching JDK in the Grid Infrastructure home?

No. AutoUpgrade operations are limited to the database home, not the Grid home.

If relocate does not work because services are already running on other nodes, can we stop services instead?

Yes. If relocate does not work, use stop service with transactional handling and drain timeout.

Is the drain_timeout parameter only for RAC rolling operations, or can it be used for single instance databases?

It is only for RAC patching.

Can AutoUpgrade update CRS and restart custom listeners per ORACLE_SID in out-of-place patching?

In RAC, listeners should run from the Grid Home.

Since AutoUpgrade does not modify Grid Infrastructure, you must handle this with custom scripts using the after_action parameter.

If a RAC database has non-RAC rolling one-off patches, does applying the next RU require NO ROLLING?

No, not necessarily.

Binaries are already aligned

Datapatch already applied DB changes

However, AutoUpgrade does not currently account for this.

If you get an error requiring rolling, you can use:

rac_rolling=force

Only do this if:

- The only non-rolling patch is known
- Datapatch has already been executed
- An enhancement is planned.

Data Guard

In a Data Guard environment, from on-premise to OCI, when does the Critical Update become available in OCI? January binaries for 19.30 are not there.

Usually, the new Release Update is available in OCI within a week or two. With 19.30, we had some issues that caused the patch to be retracted until a new Release Update could be produced. Although the new 19.30 RU is already out, it is still being processed by the OCI team. Last I heard, it should be ready any day now.

Does AutoUpgrade work for physical standby without Active Data Guard (standby in mount mode)?

Yes. If standby is open with redo apply, it will return to that mode. If mounted, it will remain mounted when started in the new home.

Is it mandatory to perform a switchover when patching in an Oracle Data Guard architecture?

No.

Reference:

<https://dohdatabase.com/patch-dg>

Integration

We use FPP to patch DBs and GIs. FPP vs AutoUpgrade?

FPP and AutoUpgrade complement each other.

With FPP, you get broader functionality for the full tech stack, but you can still use AutoUpgrade to download patches and import them into FPP.

Could you have a webinar on how to combine AutoUpgrade with automation tools such as Ansible?

It is suggested to review existing implementations, for example:

https://codeberg.org/martinberger_ch/oracle-ansible/src/branch/main/oracle-ansible-playbooks/roles/autoupgrade

We are using Fleet Maintenance for patching Grid and Database. How does AutoUpgrade fit in?

Use FPP for full fleet operations, including GI patching.

AutoUpgrade complements it and can be used where FPP is not available.

What is recommended to update ORACLE_HOME paths in OEM when using out-of-place patching?

AutoUpgrade can interact with Enterprise Manager and update target configurations.

Yes. AutoUpgrade can update OEM configuration.

Reference:

<https://dothdatabase.com/2024/11/27/autoupgrade-new-features-update-enterprise-manager-configuration/>

Is there a way to enable or disable Enterprise Manager target blackout using AutoUpgrade?

Yes. You can configure AutoUpgrade to create blackouts and update home configuration.

Reference:

<https://dothdatabase.com/2024/11/27/autoupgrade-new-features-update-enterprise-manager-configuration/>

What is the future of Fleet Patching & Provisioning (FPP) now that AutoUpgrade supports RAC and Data Guard?

The tools will coexist and complement each other.

FPP is superior for complex environments, especially Exadata, since it can patch the entire stack.

Some customers use AutoUpgrade to download patches and then import them into FPP.

Configuration

If AutoUpgrade detects the patch download or staging location as NFS, can it alert end users that patch apply might be slow due to the NFS location?

Not automatically. However, you can pass a shell script to do this:

```
upg1.before_action=<myscript>
```

to alert users.

If we have multiple 19c and 26ai CDBs on the same host, can we leave patch1.SID empty and let AutoUpgrade read from oratab, or must all SIDs be listed?

SID is not required for -mode create_home or -mode download.

For -mode analyze, fixups, and deploy, you must specify it in the config file to avoid impacting the wrong database.

Where can I find all configuration parameters?

In the Upgrade Guide documentation:

<https://docs.oracle.com/en/database/oracle/oracle-database/26/upgrd/index.html#Oracle%C2%AE-Database>

Files

Is there a way to automate updates to externaljob.ora?

Not specifically supported.

The file is copied to the new Oracle Home, but changes are not guaranteed.

We use an ESRI/GIS library with extproc. Is the extproc.ora file copied to the new home?

Yes, all such configuration files are copied to the new Oracle home.

Is AutoUpgrade certified for SAP installations using Oracle Database?

For specific applications, follow the vendor's upgrade and patching instructions. They are strict and typically require adherence to their procedures.

Can I upgrade from 19c non-CDB to 26ai CDB using AutoUpgrade, or is manual conversion required?

AutoUpgrade handles non-CDB to PDB conversion automatically.

Reference:

<https://dohdatabase.com/upgrade26>

Can AutoUpgrade upgrade the RMAN catalog automatically (like upgrade catalog NOPROMPT)?

Yes.

Reference:

<https://dohdatabase.com/2024/12/04/autoupgrade-new-features-upgrade-rman-catalog-schema/>

Security

Does AutoUpgrade handle enabling and disabling Vault?

No.

You must do it manually, but AutoUpgrade will detect requirements during the ANALYZE phase.

Regarding regression Fix 34352668 in RU 19.29 and 19.30, how can we validate fixes?

Use <https://oradiff.oracle.com> to compare releases and verify fixes

Broken versions (19.29 and 19.30) are no longer available in MOS. Only fixed versions are downloadable

Does the re-released 19.30 RU fully fix the regression and is it safe for RAC environments?

Implicitly yes, since only the fixed version is available for download.

Cleanup

If I run `purge_old_metadata`, do I lose rollback capability?

No.

Datapatch will keep only the necessary metadata for possible rollbacks.

Does `datapatch -purge_meta_data` clean filesystem artifacts?

No.

It only cleans the data dictionary.

For filesystem cleanup, use:

```
opatch util deleteinactivepatches
```

Is `-purge_old_metadata` available as a parameter in AutoUpgrade?

Not yet. It is planned for a future version.

Does `opatch util deleteinactivepatches` reduce `.patch_storage` usage?

Yes.

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