Oracle Upgrades in LS2

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Agenda
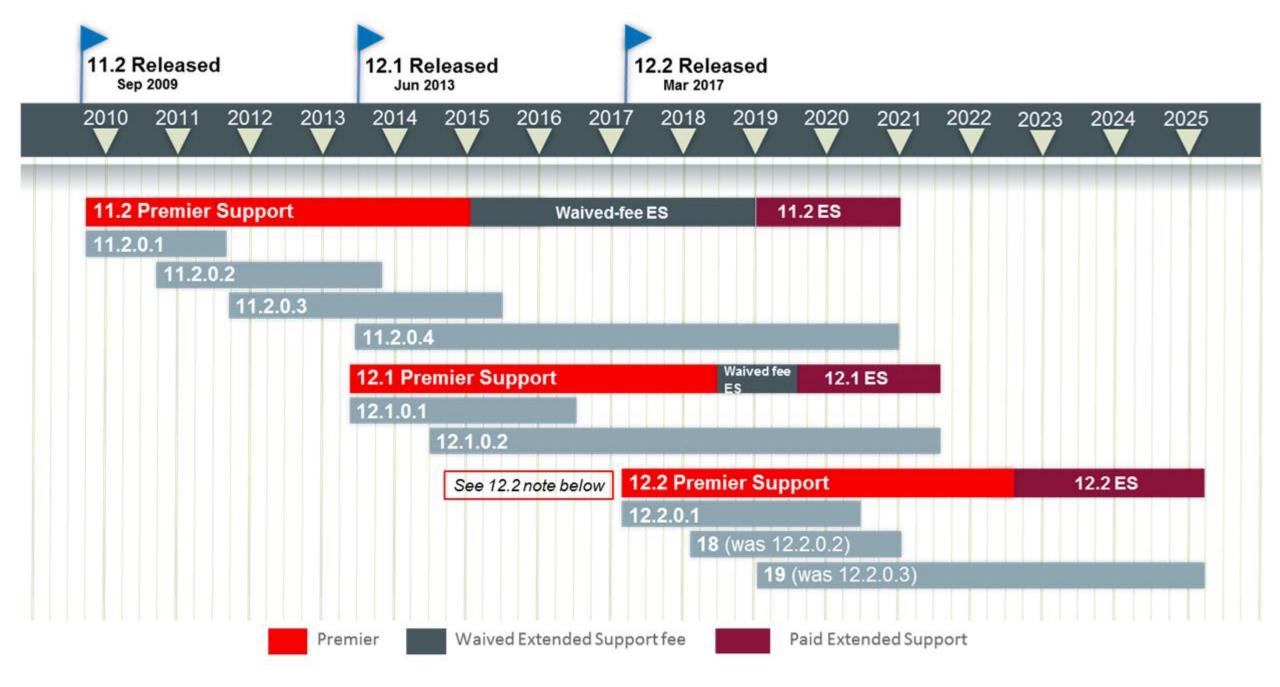
- Current Status

- What's coming

- When

Current Status

- Running for a long time on 11.2.0.4
  - A few services were moved to 12c (12.1.0.2)
  - Individual one-off patches + Security Upgrades once or twice per year depending on criticality
- We run mostly on Clusters for HA
  - This is the XXI century, and there are still applications (home made or 3rd party tool) that are not able to profit from this HA environment ☹
- Some critical DB services also have replicas kept in synch (off CERN)
  - Some for disaster recovery, some for READ ONLY activity and/or backups

What is coming ?

- Cannot remain at 11g any more

  - Upgrade is mandatory

- Move to 18c or 19c depending on availability/stability

  - 18c (12.2.0.2) expected GA in July 2018

  - 19c (12.2.0.3) available in 2019

- Need to choose the correct RDBMS version based on long term support before RUN3 begins

  - Minimizing the need to run major upgrades

- Some DB services will not upgrade because they will disappear

When ?

- LS2 is the natural period for migrating the DB services
  - LHC complex is down, less Physics/Accelerator activity
  - Other sectors activity remains or increases (ex EDMS)

- DEV/TEST/INT Sep/Dec-2018 => 18c

- 1HY2019 PROD => 18c
  - Current PROD 12.1 will move first

- 2HY2019 – 2020 Plan upgrades to 19c (20c?)
  - 20c may arrive too late for our needs

- Upgrade slots to be agreed with user community

Deprecated features

- Database Upgrade Guide
  - 12.1.x
    - http://oracle-documentation.web.cern.ch/oracle-documentation/12102/E50529_01/UPGRD/deprecated.htm#UPGRD60000
  - 12.2
    - https://docs.oracle.com/en/database/oracle/oracle-database/12.2/upgrd/behavior-change-deprecate-desupport-oracle-12c-rel-2.html#GUID-3BAFD95E-4D00-4F0F-BC80-6064F497F878
  - 18c
    - http://oracle-documentation.web.cern.ch/oracle-documentation/18c/oracle-database_18_20180216/content/upgrd/behavior-change-deprecate-desupport-oracle-12c-rel-2.html#GUID-3BAFD95E-4D00-4F0F-BC80-6064F497F878

A few words about Oracle Patch upgrades

- Starting with 12c, new patch policy
  - Release Updates (RU)
    - Quarterly based
    - Includes now Optimizer fixes (though disabled by default)
  - Release Update Revisions (RUR)
    - Applied on a specific RU
    - Security and Regression problems
    - Two RUR created during a 6 month period after the RU is released

- And, we need to add patches for issues discovered at CERN
  - This may lead to conflicts that need to be resolved => delays in the deployment

Questions ?