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# Harmony Enterprise 2019.1 Release Notes

This release has the following features:

## Identify forecasts deviating from production

Compare actual production with forecasted production for a batch of wells to quickly identify wells requiring attention.  This feature calculates the deviation of cumulative volume over a user-specified period (that is, between 1 - 365 days).  Reported results include:

* the difference between produced and forecasted cumulative volumes
* the percentage of actual production from forecasted volumes

All forecast and fluid types are supported.  Results can be sorted, and custom groups created from the results table.

## Restrict well access by group / user

Maintain the benefits of having all your company’s wells in one database, while restricting which wells are accessible by active-directory group or user.  Permissions are granted by a Security Administrator based on well attributes, ensuring new wells are properly assigned. Role-based security has also been enhanced to incorporate new security roles.

## Enhancements to the Unconventional Multi-well Model

* **Variable Landing Depths:** simulate staggered wells by landing them at different depths. In addition, fractures and stimulated reservoir volume (SRV) for each well do not have to extend through the entire net pay, allowing a portion of the net pay to be drained.
* **Overlapping SRVs and Fractures:** simulate communication between wells through overlapping SRVs and fractures, including scenarios where the child well is drilled within the SRV of the parent well. Various types of parent-child interactions can now be simulated.
* **Gridding options:** are now displayed.
* **Shaded plots:** are now available in side views (in addition to the existing top view). Permeability can now be displayed in the shaded plots.
* **Forecast**: the number of Time Steps for each forecast period can now be specified.

## Interoperability with WellTest 2012v3 and later

Analyze buildups or drawdowns from your production database without re-entering this data by doing the following:

* Create an export file for use in WellTest 2012v3 or later
* Initialize or append wells in Harmony Enterprise by importing WellTest files

The following data can be transferred:

* Well production
* Reservoir and fluid properties (excluding advanced properties such as relative permeability and custom property tables)
* The initial wellbore configuration profile
* Analytical models
* Hybrid models

## Oil Material Balance

Analyze static pressure data for oil wells or groups to interpret the original oil in-place. With this analysis, you can account for pressure changes due to water encroachment, changes in formation compressibility, and volatile oil.

## Import static pressures

Static pressures from a single well or multiple wells can be imported from text file sources (that is, \*.csv, \*.txt, \*.xlsx, etc.).

**Reduce data resolution during import**An arithmetic or logarithmic filter can be applied to each flow or build up period to reduce the data resolution when importing WellTest files, undefined text files (for example, \*.csv), \*.hldb’s, or when using the database connection.

## Globally specify defaults units

Build a custom unit set to be used when setting default display units. A mixture of metric and field units can be specified.

## Specify classification consolidation aggregation behavior

An option has been added to configure the behavior of classified consolidations, to either include the fluid produced from all constituent wells / groups, or from only those matching the specified classification.

## Consolidate custom input attributes

After merging several Harmony files into a Harmony Enterprise database, it is common for multiple duplicate custom attributes to exist. A utility has been added to consolidate multiple fields and their data into a single field (only available for input custom attributes). To prevent further duplicates, options are available to specify whether new custom fields should be added or discarded when importing.

## Resolved Issues from Harmony Enterprise 2018.3

* Fixed an issue where customizing a second dataset in the Diagnostic tab applied this change to all datasets.
* Wellbore data is always imported for new wells, regardless of the selected import setting.
* Improved performance when selecting a filter in a database with many wells.
* Resolved a crash when running hybrid probabilistics caused by the weighted points.
* Rsoi can now be mapped and imported from a database connection import. However, if pbp is also mapped, it takes precedent.
* Fixed an issue to ensure that when forecast rates are exported, they are output as calendar rates.
* The database connection supports source tables / views regardless of case.
* Fixed a crash caused by using the defaults manager in the unconventional multi-well model when analyzing a single well.
* Restored persistence of typewell dataset customizations (for example, line thickness).
* Restored the ability to normalize rates in a typewell worksheet by a unitless attribute.