

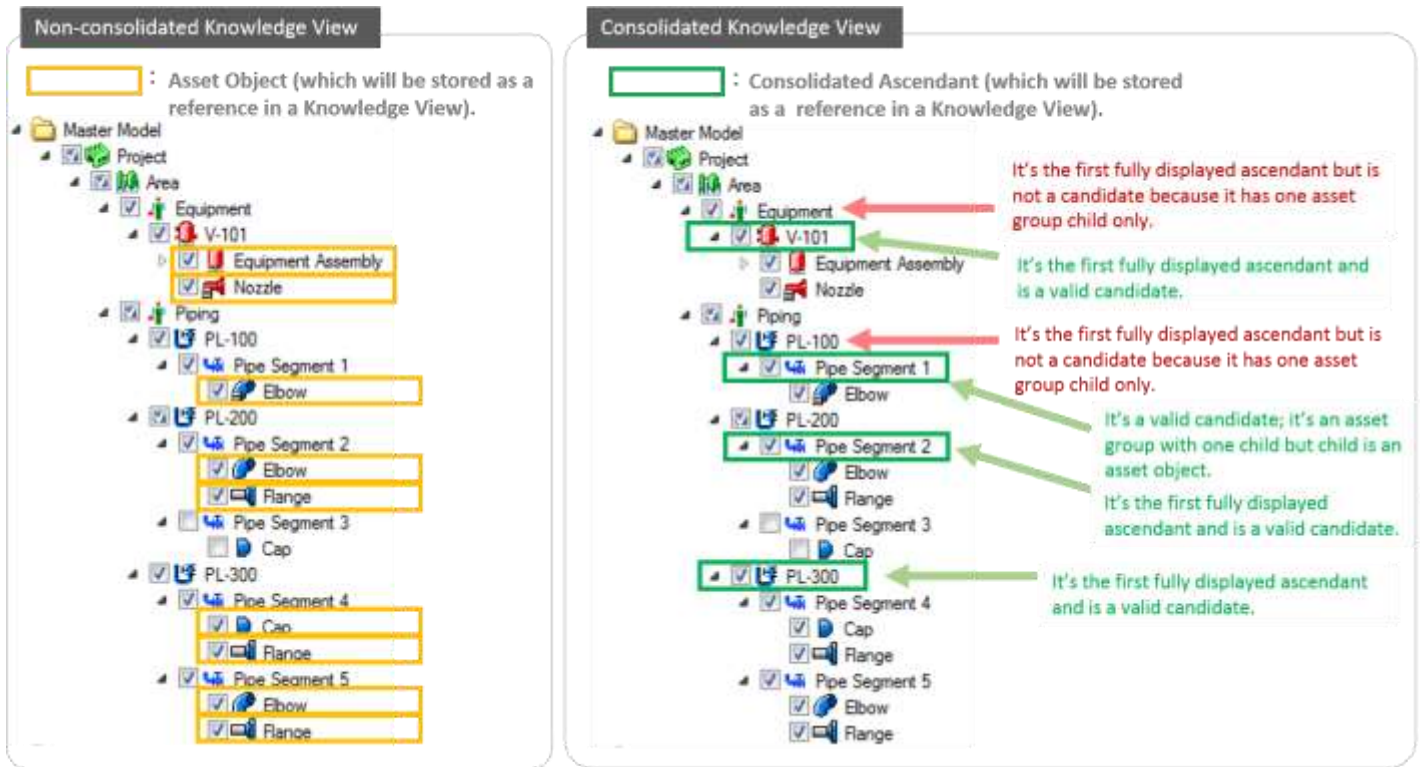
New Storage Mechanism for Knowledge Views in V-Suite CORE 2019

We continue to enhance V-Suite CORE in response to our customer needs. In V-Suite CORE 2019, we have changed the default storage mechanism for Knowledge Views to improve the performance of publishing a large number of Knowledge Views to the production view and reduce the project size required to store them.

The difference between the current (2018 and earlier) and new Knowledge View storage mechanisms can be summarized as follows:

	Current storage mechanism	New storage mechanism in 2019
Name	Non-consolidated Knowledge View	Consolidated Knowledge View
Storage Mechanism	<p>A Knowledge View stores the references of the visible asset objects (such as Elbow, Flange, Nozzle) which is the lowest-asset-level in Asset Explorer.</p> <p>See image-1 for the example of storage mechanism.</p>	<p>The function to save a Knowledge View is enhanced so that the stored Knowledge View content is no longer a list of lowest-level asset objects but instead is a list of consolidated ascendant assets.</p> <p>The following Asset Consolidation Rules apply when users create or update Knowledge Views:</p> <p><i>A list of asset objects is consolidated into a list of their first fully displayed ascendants (ascendant which is fully checked in the Asset Explorer). If an ascendant has one asset group child only, the ascendant is not a valid candidate for consolidation even if fully displayed.</i></p> <p>See image-1 for the example of consolidation rules.</p>
What happens when assets change	<p>Any changes asset object physical changes which are stored as references in the Knowledge View will be reflected in the Knowledge View. However, adding a new asset object doesn't have any effect on the displayable content of the Knowledge Views stored in the project. In other words, when a new child asset object is added to an asset group in a V-Suite project, this new child object will not be automatically made part of any Knowledge Views.</p>	<p>Any changes asset object physical changes which are stored as references in the Knowledge View will be reflected in the Knowledge View. Moreover, when a new child asset object is added to an asset group (or one of its children), this new child object will be automatically made part of the Knowledge View which references the asset group.</p>
Availability	<p>The default Knowledge View storage mechanism in versions prior to the 2019 Release. Since V-Suite CORE 2019, the non-consolidated Knowledge Views can only be created and updated via the Macro API.</p>	<p>The default Knowledge View storage mechanism which is introduced in V-Suite CORE 2019.</p>

The following examples illustrate the different Knowledge View storage mechanisms:



(Image- 1)

Benefits of the Consolidated Knowledge Views

- The performance of publishing a large number of Knowledge Views to the production version is greatly enhanced. For example, thousands of Knowledge Views are created and updated in a WIP, the publishing process takes in a matter of minutes if these are consolidated Knowledge Views. However, it would take hours to complete if these Knowledge Views are non-consolidated.
- Requires less storage space to store Knowledge Views.
- As a user one also benefits from the fact that there is no need to update a Knowledge View

Side-effects on the Consolidated Knowledge Views

- It is acknowledged that the extra asset consolidation steps may affect the performance of the Knowledge View creation and update scenarios. For a typical Knowledge View (e.g. thousands or tens of thousands of displayed asset objects), the creation time should stay at user-acceptable level (seconds). For a very large Knowledge View (e.g. entire units or all piping) may consume longer time (minutes) when saving it.

Upgrading to V-Suite CORE 2019

- **Actions Required before upgrading to V-Suite CORE 2019**



- *Before upgrading projects to V-Suite CORE 2019, the administrator must ensure all active WIPs (open work orders, active standing task sessions) are published or deleted prior to starting the upgrade process.*
- *The administrator should make a backup of a V-Suite project prior to starting the upgrade in case an error occurs during the upgrade process. There's no rollback in place, which would revert the database into the original state*

- **Upgrade V-Suite Projects via INOVX Enterprise Administration.**

The upgrade process will automatically consolidate the contents of all existing Knowledge Views in a V-Suite Project.

- The upgrade will abort if there are active WIPs with change units in the project.
- It is acknowledged that for large projects, the upgrade process may take a considerable amount of time (hours).

- **We recommend executing a database purge SQL script after upgrading to V-Suite CORE 2019**

As a result of Asset Consolidation after upgrading to V-Suite 2019, there may be millions of inactive or deleted rows present in the project database. INOVX provides a database purge SQL script that removes all the inactive/deleted asset references from the database as an option to clean up the database.

- The purge process includes database re-indexing and data files shrink. This will ensure that the project size and performance of the database is kept at optimal levels.
- The purge process doesn't affect the content of the existing Knowledge Views.
- Data purge SQL script will remove old production versions of Knowledge Views from V-Suite Projects.
- The data purge process is currently not executed as a part of the upgrade process. Therefore, the purge SQL script needs to be manually executed by a database administrator.
- It is acknowledged that for large projects, the purge process may take a considerable amount of time (hours).

You can download the purge script from the support web site:
https://support.inovx.com/Storage/Scripts/KV_data_purge.zip

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- The following table should provide you some insight on :

Large V-Suite Project			
	Database Size	Database Log Size	Execution Time
Before 2019 Upgrade	10.7 GB (58M rows)	2.7 GB	
After 2019 Upgrade	23.2 GB (108M rows)	77 GB	
After Purge	7.8 GB (7.5M rows)	0.4 GB	
Medium V-Suite Project			
	Database Size	Database Log Size	Execution Time
Before 2019 Upgrade	3.8 GB (21M rows)	2.4 GB	
After 2019 Upgrade	8 GB (38.5M rows)	30 GB	1h:40 to upgrade
After Purge	2.4 GB (2.2M rows)	0.3 GB	25 mins. to purge
Small V-Suite Project			
	Database Size	Database Log Size	Execution Time
Before 2019 Upgrade	1.5 GB (4.7M rows)	1 GB	
After 2019 Upgrade	2.5 GB (9.4M rows)	8 GB	10 mins to upgrade
After Purge	1.4 GB (2K rows)	1 GB	1.5 mins to purge

Questions or Feedback for this Change

If you have any questions or suggestions based on the changes we described here, please contact us via support@inovx.com to have further discussion.