ANSYS ACT 2020 R2 Migration Notes

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ANSYS ACT 2020 R2 Migration Notes

As improvements are made to ACT APIs and the way that they display and transmit data, great efforts are taken to ensure that changes are backwards-compatible. For your convenience, this document lists 2020 R2 API changes that might impact your existing extensions so that you can determine if any action is necessary before migrating them.

Note:

- This document might contain entries that do not appear in "Migration Notes" in the *ACT Developer's Guide.*
- For migration notes specific to Mechanical APIs, see "Mechanical API Migration Notes" in the *Scripting in Mechanical Guide*.

Behavior change for method ValueToString

Available on a property, the method `ValueToString()` now attempts to localize the string using either the callback `<getlocalstring>` if defined or the Mechanical application if the attribute `localize` is set to true. For more information, see "Localizing Extensions and Wizards" in the *Scripting in Mechanical Guide*.

Attributes isLoad, isSupport, and affectsSolution of <load>

In Mechanical, the attributes `isLoad`, `isSupport`, and `affectsSolution` of `<load>` now are resumed based on the extension definition.

Note: If no values are assigned to these attributes in the extension definition, they default to `Load=false`, `isSupport=false`, and `affectsSolution=true`.

In previous Mechanical releases, attributes `isLoad`, `isSupport`, and `affectsSolution` of `<load>` were saved and resumed incorrectly. Resuming in this context means any time that Mechanical is closed and reopened, whether or not the project is saved.

Prior to 2019 R2, no matter what values of these attributes were defined in the extension, they were set to be true when Mechanical reopened. For example, when you saved a project with <load `isLoad="false">` in 18.0, when it is reopened in 18.0 through 2019 R1, this `<load>` is treated as though `isLoad` is true. Starting in 2019 R2, these values were preserved correctly when saved. For example, if you saved or archived a project in 2019 R2 or later, the values for those attributes were resumed correctly when the project was reopened.

Starting in 2020 R2, the value of these attributes will always come from the extension definition, rather than depending on what is saved and resumed. It is important to note that the default attributes might lead to a situation where Mechanical's solution thinks that there are no supports and adds weak springs. Prior to 2019 R2, the solution would give a different result when closing and reopening Mechanical. Between 2019 R2 and 2020 R1, the solution would give the same result as long as the database was not saved prior to 2019 R2. Starting with 2020 R2, the solution will always give the same result.

Supplied Template Usage

Properties defined using supplied Mechanical templates now have their captions localized. To make this possible, changes had to be made to the scoping control, which means that you must make changes to your extension definitions that use the template code from the scoping control.

For any extension that uses the call `DefByObj` from the scoping control, update the `<propertygroup>` definition to use the newly exposed attribute `localize`, setting it to true and using string ids for caption names.

Also, because a new property, `MaterialID`, has been added to the scoping control, you must use this new property when calling `DefByObj`.

The following example uses bold type to show what to update.

Previous Code:

```
<propertygroup name="DefineBy" display="property" caption="Scoping
Method" control="select" default="Geometry Selection"
class="templates.scoping.DefByObj">
    <property name="NamedSelection" control="component_selection"
visibleon="Named Selection"></property>
    <property name="Geo" control="geometry_selection"
visibleon="Geometry Selection"></property>
 </propertygroup>
```

Updated Code:

```
<propertygroup name="DefineBy" display="property"
caption="ID_GeometryDefineBy" localize="true" control="select"
default="ID_GeometrySelection" class="templates.scoping.DefByObj">
    <property name="NamedSelection" control="component_selection"
visibleon="ID_NamedSelection"></property>
    <property name="Geo" control="geometry_selection"
visibleon="ID_GeometrySelection"></property>
    <property name="MaterialID" control="material_id_selection"
visibleon="ID_SolverComponentMatSelection"></property>
</propertygroup>
```

For more information, see “Localizing Extensions and Wizards” in the *ACT Customization Guide for Mechanical*.

API Change for C# Extensions

Certain APIs in Mechanical used to return `DataModelObject`. However, now these APIs will return `IDataModelObject`. For example, `Tree.FirstActiveObject` used to return `DataModelObject`, but now it will return `IDataModelObject`. Extensions written in C# that depend on APIs to return `DataModelObject` will need to be updated accordingly.

Note: ACT has superseded the ANSYS Workbench Software Development Kit (SDK) and External Connection Add-In as the best-in-class tool set for customizing ANSYS products. Support for the SDK and External Connection Add-in has ended as of 19.0. If you have used these deprecated tools for Workbench customizations, on the App Developer Resources page, the **Help & Support** tab displays a link to the *SDK and External Connection Migration Guide*.