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Support

Solution Details - TPI

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Title	Description of and Instructions for the Use of the GRANITE®-Based Cross-Release Interoperability (GCRI) Functionality Implemented in Pro/ENGINEER Wildfire 3.0.
	<p>Description</p> <p>GRANITE-based Cross-Release Interoperability (referred to hereafter as GCRI) was developed based on PTC's GRANITE Interoperability Kernel. The GRANITE Kernel, the fundamental cornerstone of Pro/ENGINEER's geometry model, is a software library that has the ability to read (or write) geometry, geometry attributes, layer information, user-defined parameters, and assembly structure from (or to) a Pro/ENGINEER part (.prt) or assembly (.asm) file without Pro/ENGINEER being present.</p> <p>PTC has created a GRANITE plug-in module to replace the neutral file approach to cross-release interoperability in Pro/ENGINEER Wildfire 3.0. This plug-in module can be provided to a Wildfire 2.0 user and, when installed in the Wildfire 2.0 loadpoint, will allow that Wildfire 2.0 user to read the Wildfire 3.0 model directly via GRANITE. This is without the need for the Wildfire 3.0 user to create an intermediate neutral file. All of the information that can be read from the Pro/ENGINEER model by the GRANITE kernel can now be leveraged by the Wildfire 2.0 user.</p> <p>A unique feature of GCRI is the ability of Wildfire 3.0 users to take new features that have been added to the image model by the Wildfire 2.0 user and graft those features onto the original, fully-featured master model. This is very similar to how a UDF works, except references need not be selected for the UDF to be placed; GCRI functions handle this placement automatically.</p> <p>Additional Information</p> <p>GCRI Setup -----</p> <p>Before setting up GCRI, the application component "readnewermodels.dll", which is not yet shipped to customers, will need to be obtained.</p> <p>It is available on the Free Downloads page on PTC.com. General information can be found on the following webpage: http://www.ptc.com/products/granite/gcri/index.htm</p> <p>It is supported on various platforms in various releases of Pro/ENGINEER. See the following webpage for a release and platform matrix: http://www.ptc.com/products/granite/gcri/free-download.htm</p> <p>Unicode character encoding has been introduced in Pro/ENGINEER Wildfire 4.0. Conversion of Unicode to EUC encoding used in earlier Pro/ENGINEER releases is not supported by GCRI. This issue is visible when</p>

converting files with Unicode language characters, used in parameters, model notes, and model names to EUC encoded releases.

1) Obtain the Wildfire 3.0 "readnewermodels.dll" application component and place this application component in the <machine_type>/obj directory below the Wildfire 2.0 loadpoint as shown below.

For example: <loadpoint>/i486_nt/obj/readnewermodels.dll

2) Add the following config options to the Wildfire 2.0 config.pro PRIOR to launching Wildfire 2.0.

```
topobus_enable yes
atb_show_log off
atb_auto_check_on_update off
atb_auto_check_on_retrieve on
```

3) Add the following config option to the Wildfire 3.0 config.pro PRIOR to launching Wildfire 3.0.

```
cri_grafting_enable yes
```

4) Launch Wildfire 2.0 and check to see that the #File > #Associative Topology Bus is available.

5) Validate the installation by checking for the following:

When a Wildfire 3.0 model is retrieved in Wildfire 2.0, the message "You are opening a Pro/ENGINEER Part created in Pro/E Wildfire 3.0. Would you like to proceed opening it as a GRANITE model?".

After retrieving a Wildfire 3.0 model in Wildfire 2.0, select any feature, RMB > #Info > #Feature. Under the "Comments" section, the message "FEATURE IS READ-ONLY" is displayed.

GCRI Operational Use

There are three elements in the workflow for GCRI. They are:

- 1) The reading of a newer release model into an older release;
- 2) The use of ATB functionality to check the status of a model read using GCRI or updating such a GCRI model to match its master model;
- 3) The grafting of features, added to the GCRI model, back onto the master model from which it was created.

Reading a Wildfire 3.0 model into a Wildfire 2.0 Session:

Select #File > #Open. From within the File Open dialog, select any Pro/ENGINEER part or assembly file for opening. If the user selects a part or assembly that is either Wildfire 2.0 or earlier, it will be read into session directly. If a Wildfire 3.0 part or assembly file is selected, the normal error message, "<model_name> cannot be retrieved", will be replaced by the message "You are opening a Pro/ENGINEER Part created in Pro/E Wildfire 3.0. Would you like to proceed opening it as a GRANITE model?", indicating that the model is a GCRI model, and asking for confirmation to open it. This confirmation is simply to inform the user that they are opening a GCRI model, not a native one, and that certain model behavior and content differences exist between these two model types.

Performing an ATB Check Status or Update Operation:

Although the Wildfire 2.0 user does not own the fully featured model, the model can still be used for any other downstream use. Examples of such use include Pro/MECHANICA analyses, cable routing, manufacturing, annotation, rendering, or even the addition of new modeling features. Because of ATB associativity, rapid updating of the model based on changes made to its master model are handled quickly and easily.

The normal flow of operations here are to check the status of the GCRI model relative to its master model. Click #File > #ATB > #Check Status. The ATB functionality in Pro/ENGINEER will check the status of the Wildfire 2.0 image model relative to its Wildfire 3.0 master model. The result will be a change in the color of the ATB icon for that part from blue to red (and the presentation of a warning message in the message bar) if the model is out-of-date relative to its master model. The user can choose to act on that notification right away or simply wait until a more convenient time to perform the second operation, the update.

To update the model, click #File > #ATB > #Update. The ATB functionality will replace the existing Wildfire 2.0 image model with the latest version of the Wildfire 3.0 master model and reattach, automatically, any Wildfire 2.0 features added to the model. Similarly, any downstream uses of the updated image model (manufacturing, analysis, routing) will associatively update.

For more information the ATB and how to customize ATB operations using config settings, refer to the Pro/ENGINEER Help Center.

Grafting Features added in Wildfire 2.0 back onto the Wildfire 3.0 Master Model:

Once features are created in Wildfire 2.0 and the model is saved, those features can be grafted back onto the original Wildfire 3.0 model. Retrieve the original Wildfire 3.0 master model. Click #File > #Graft Features, and within the File Open dialog, select the Wildfire 2.0 image model that corresponds to the master model in session.

Known Issues (as of datecode M210 of Wildfire 2.0 and datecode F000 of Wildfire 3.0)

Search Paths:

1) The option "search_path" does not work for retrieval of sub-models when opening Wildfire 3.0 assemblies in Wildfire 2.0 (unless all components are co-located). For example, if the top-level assembly is in one location, and its part components are in another location (with "search_path" set to this other location), Wildfire 2.0 will fail to identify the location of the components (even though for the same case it opens fine in Wildfire 3.0).

2) The option "atb_search_path" does not work for ATB update in Wildfire 3.0. For ATB update to work, the 'reference' Wildfire 3.0 model must either be left in the same place, or, if it is moved, a 'Change Link' to the new location must be performed. It is not possible to set the "atb_search_path" to identify the new location of the reference Wildfire 3.0 model.

Details

Facet Data:

1) Datums are not visible for models that have facet data.

2) ATB update of a GCRI TIM in Wildfire 2.0 causes a corruption of the TIM. The facet data display disappears, and selecting on the facet feature node in the Model Tree after update causes Pro/ENGINEER to exit prematurely.

Edit Options:

Some options are available in the #Edit menu when they should not be:

1) The #Scale Model option is active for GCRI TIM models in Wildfire 2.0. If this option is clicked, a scale can be entered, but doing so causes a corruption in the part (the GRANITE features fail regeneration).

2) The #Move Datum Tag option for GRANITE coordinate system and datum plane features is available in Wildfire 2.0, and clicking it causes Pro/ENGINEER to exit prematurely.

3) The #Edit option is available for GRANITE "Style" features in Wildfire 2.0, and clicking it causes Pro/ENGINEER to exit prematurely.

4) The #Edit option is available for GRANITE "Point" features in Wildfire 2.0. If this option is clicked when the original datum point feature was created using the "Offset CSys Datum Point" tool to edit the GRANITE point, Pro/ENGINEER will exit prematurely.

5) The #Group option is available for GRANITE features and components in Wildfire 2.0. When attempting to group GRANITE features, Pro/ENGINEER exits prematurely.

6) When attempting to #Paste Special a copied surface feature of a GCRI TIM model in Wildfire 2.0 (the entire feature, not a surface or surfaces from the feature), Pro/ENGINEER exits prematurely. In general, #Copy/#Paste actions should not be performed.

Analysis Features:

1) Mathcad Analysis Features are not transferred from Wildfire 3.0 to Wildfire 2.0.

X-Hatch:

1) Cross-hatch of cosmetic sketches and ECAD areas are not transferred from Wildfire 3.0 to Wildfire 2.0 (just outlines).

Family Tables:

1) Adding a family table to a GCRI TIM in Wildfire 2.0 and attempting to graft the changes to the Wildfire 3.0 model causes Pro/ENGINEER to exit prematurely.

General Grafting:

1) Pro/ENGINEER allows the user to graft to the Wildfire 3.0 model an unlimited number of times, and if the user does so, it will duplicate previously grafted features. The user should only graft once for any given GCRI TIM. Once a graft has been done, if the user wants to do more work in Wildfire 2.0, they should open the grafted Wildfire 3.0 part again in Wildfire 2.0 to create a new Wildfire 2.0 TIM, and discard the old TIM. The other option is to delete the updated Wildfire 3.0 model with grafted features and redo the graft once the additional Wildfire 2.0 work is completed.

2) The user is allowed to graft regardless of whether the GCRI TIM is up-to-date or not. Users should be encouraged to verify that the TIM model is up-to-date with the Wildfire 3.0 model before grafting or problems could occur.

Parameters:

1) For parameters that are transferred from Wildfire 3.0 to Wildfire 2.0, all information other than its type and value are lost. All parameters come into Wildfire 2.0 with "Full" access, even if they were driven by a relation or manually locked in Wildfire 3.0. The description, designation status, etc are also lost in Wildfire 2.0.

If the user changes any of the values of these parameters (which is allowed) then, upon ATB update, all of the changes are lost.

The exception is if the user locks the parameter they modify. If the user locks the parameter before ATB update, the changes are retained after the update. These changes will also graft back to Wildfire 3.0.

2) If the user adds new parameters at the entity or feature level for the GRANITE geometry/features, these parameters are removed by ATB update (new model level parameters are NOT removed by ATB update). This happens even if the user locks these new parameters.

Relations:

1) Relations do not transfer from Wildfire 3.0 to Wildfire 2.0.

2) If the user creates a relation at the entity or feature level for GRANITE geometry/feature, these relations are removed upon ATB update.

3) If the user creates a relation at the model level or at the feature/entity level of new Wildfire 2.0 geometry/features that is driven by GRANITE entity/feature parameters, this relation will not ugraft to Wildfire 3.0. Only relations referring to GRANITE model parameters or entity/feature parameters defined for new Wildfire 2.0 features will graft to Wildfire 3.0.

Undo/Redo:

1) If the user changes the GCRI TIM in Wildfire 2.0 (for example, creates a datum plane feature), performs an ATB update, and then attempts an #Edit > #Undo (for example, to undo the creation of the datum plane feature), Pro/ENGINEER exits prematurely.

Embedded Datums:

1) When GRANITE transfers a feature with embedded datums from Wildfire 3.0 to Wildfire 2.0, the datums are un-embedded. This allows the Wildfire 2.0 user to create new Wildfire 2.0 features that reference these embedded datums. Since it is not allowed to have any feature but the embedding feature reference an embedded datum, when the user grafts these new Wildfire 2.0 features to Wildfire 3.0, the result is an invalid

reference and the model becomes corrupted. The user is cautioned to avoid mistakenly referencing embedded datums from Wildfire 3.0 in the Wildfire 2.0 TIM.

Set Datums:

1) Set Datums transfer as standard datums. Because of this, the user cannot use them in the definitions of new annotations such as GTOLs in the Wildfire 2.0 GCRI TIM.

Affected Products

Product	Pro/ENGINEER
Module	3D_INTERFACE
Reported Release	Wildfire 3.0
Reported Datecode	F000
Resolved Release	Not Available
Resolved Datecode	Not Available
Affected Client	Not Available
Affected Server	Not Available

Related Documents

Type	Number	Status	Description
None Available			