



PTC Product Focus: A) [Translating and Rotating Components in ProductView 9.1](#)

B) [Variant Design and Generation Process – Understanding New “Options” in Windchill 9.1](#)

Tips of the Month: A) [Creating a Pipe in Pro/PIPING With a 180 Degree Bend in Wildfire 5.0](#)

B) [Installing Desktop Integrations and Some Common User Tasks](#)

Announcements: [Most Recent Announcements](#)

Upcoming Events & Training Schedule: [Events & Training Schedule](#)

PTC Product Focus

Translating and Rotating Components in ProductView 9.1

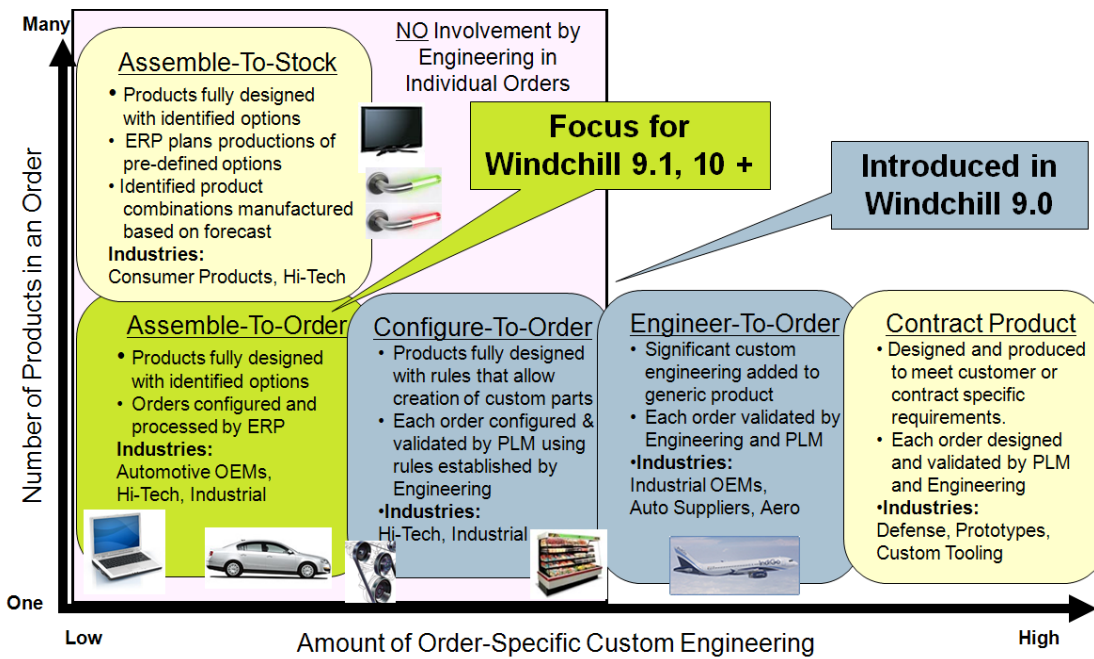
[Click Here To View](#)

[Back To Top](#)

PTC Product Focus

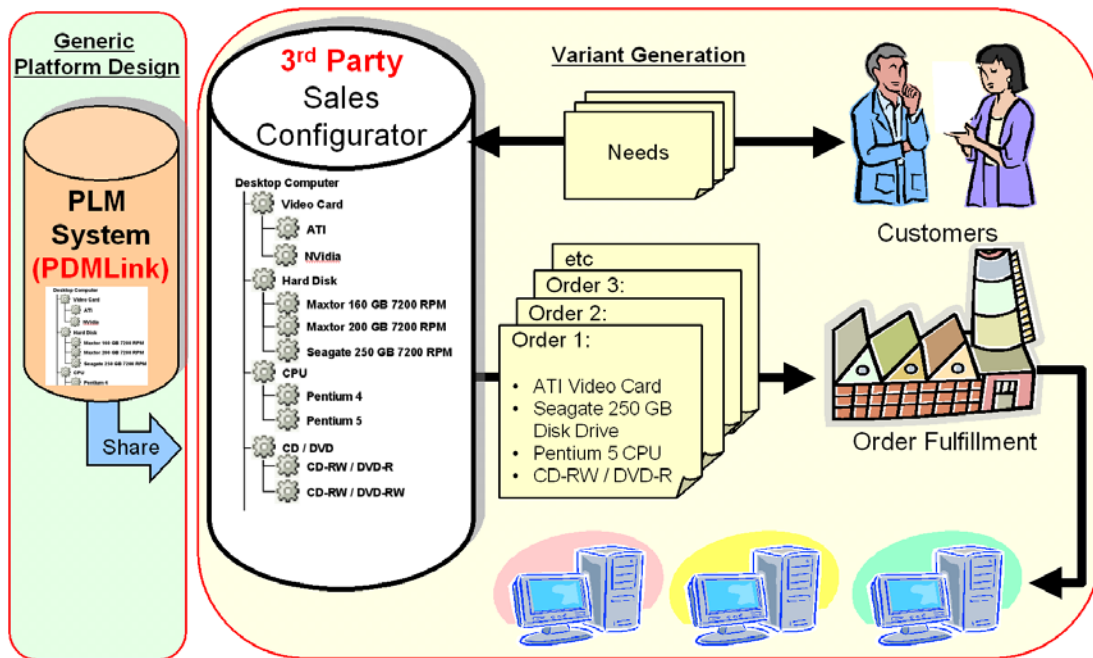
Variant Design and Generation Process – Understanding New “Options” in Windchill 9.1

Variant design and generation is concerned with defining configurable product platforms via a modular approach to product definition and frequent reuse of existing designs. From these definitions, new product variations can be derived in response to specific customer proposals, and entirely new products can be developed for particular markets. New Options Definition and Filtering in WC 9.1 further deepens the Variant Design and Generation Process with added functionality to support an Assemble-to-Order (ATO) product development approach.



The 150% BOM for Assemble-to-Order

Assemble to Order functionality falls into those use cases where the product sets are fully designed with identified options, resulting in a BOM that is overloaded, the 150% BOM. This enables the applying of filtering rules to structure and verify the product that will then be processed by the ERP system.



New for Assemble to Order Products in WC 9.1, you can now manage your overloaded BOM with options sets for each product, manage option codes and applicability, and create and share

common option combinations. Also, with the overloaded BOM you are able to have integrated navigation, design and visualization of option combinations.

So How Does it Work?

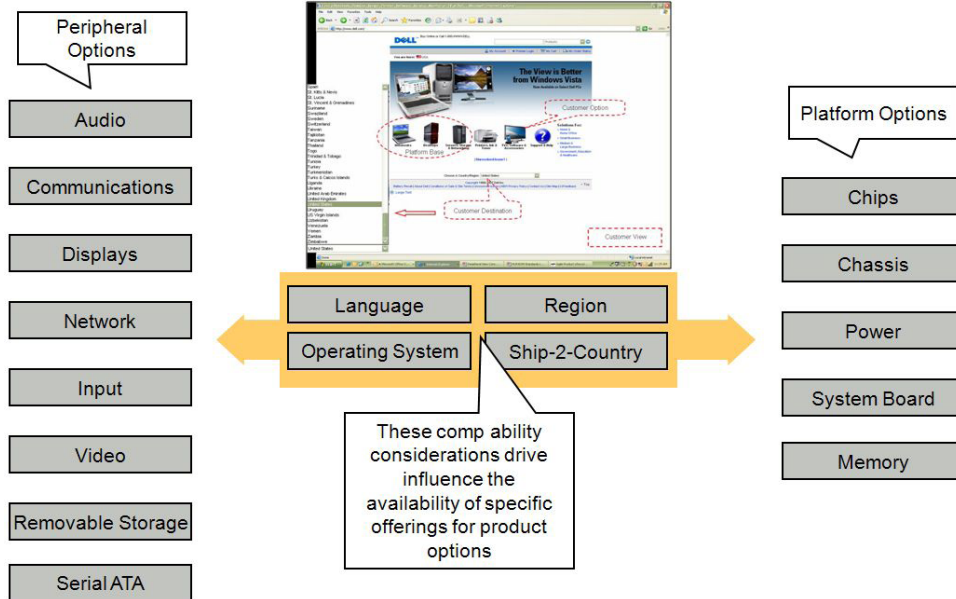
When working with a product structure, you may need to include in or exclude some parts from the BOM based on the design intent for the product. To specify which parts to include or exclude, you can define the expansion criteria and apply them to the product structure. When you apply the expansion criteria, the resulting product structure shows only the parts that meet the filtering criteria, resulting in the BOM that represents the desired product design.

The parts not included in the BOM are removed from the display and the resulting BOM, but are not deleted from the product structure.

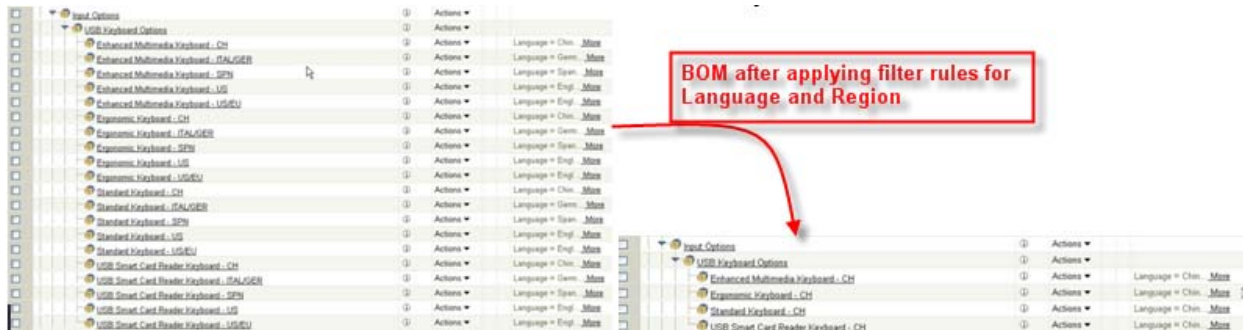
Expansion criteria are nothing new to Windchill. In Windchill 9.1 you can still control the contents of the product structure by utilizing expansion criteria of configuration specifications such as Latest, Effectivity, Baseline and/or Promotion Requests. But new in 9.1 is the ability to also apply Option Filters as expansion criteria. The options filter determine which product options are included in the product structure display and in the product structure reports, all based upon the option rules assigned to the product components in the structure. Thus when developing a product with multiple configurations, you can use the options filter to display a desired product configuration by including in a product structure only the parts that match specific product requirements.

Option filtering is based on a set of rules that can be assigned to interchangeable parts included in the product structure. An option is an attribute that can be assigned to a relationship between a configurable part and its children to specify the condition when that part should be included in the product configuration.

Let us look at the picture below of the computer. There are four compatibility considerations for this product – Language, Region, Operating System and Ship-2-Cournty. These 4 compatibility options have multiple possible choices assigned to them, either by the administrator or by a user with the proper permission. The value of these choices then can be assigned as options to the exchangeable parts within the overloaded BOM.

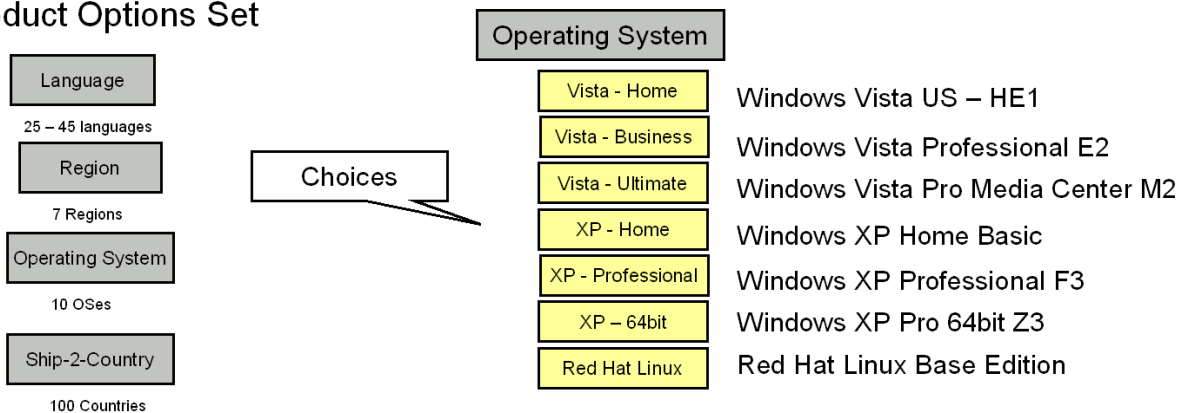


For example, filtering on both Language and Region, say with the choice of Chinese for language and North Asia and South Asia for Region, may make the overloaded computer BOM - which has 30 possible USB keyboards in it - show only the 4 keyboards that fit for the both the region and language chosen – eliminating the other 26 keyboards from the BOM view.



For another example consider the following options set.

Product Options Set



By choosing to filter on the criteria of including only those parts in the BOM that are applicable to the Windows XP Home Basic operating system, all software parts (such as the software part

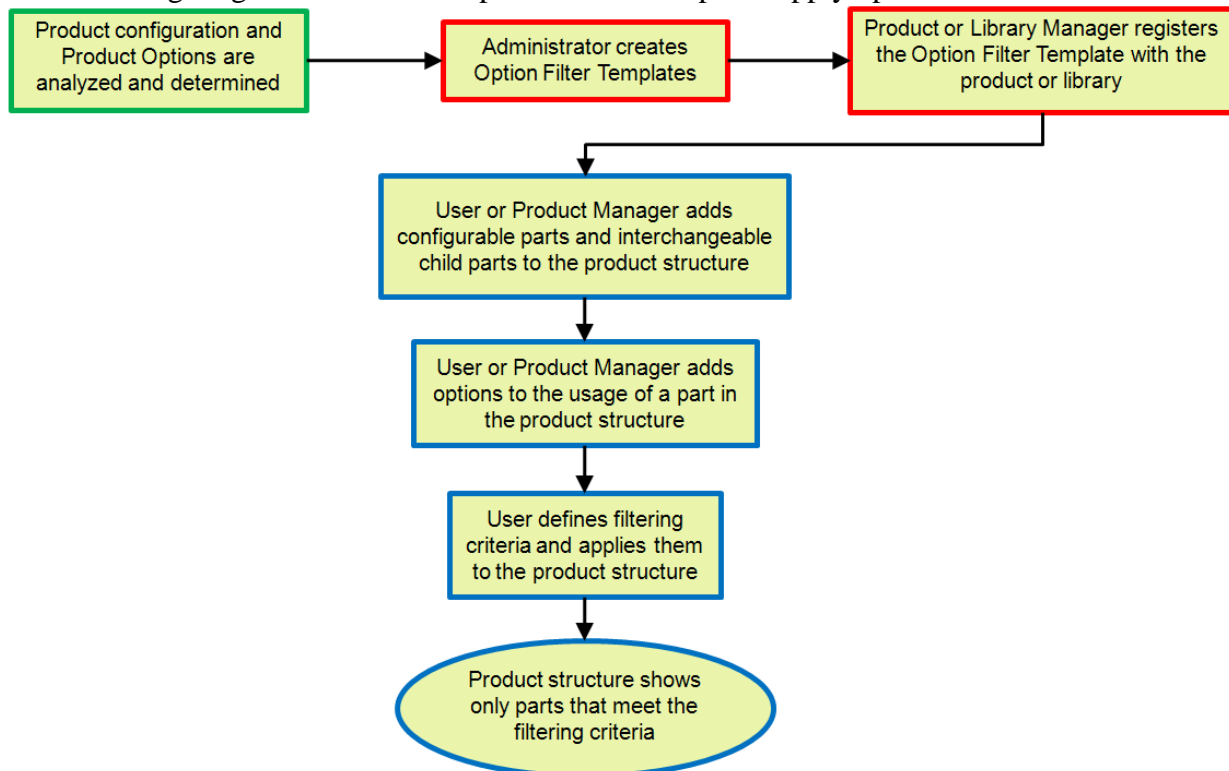
representing the Vista OS) will be eliminated from the resulting filtered BOM. In addition, any networking card or hardware that is not certified for XP will be eliminated.



When you combine the filtering of the above two examples it results in a filtered Computer BOM that has only the parts (software, electrical and mechanical) that are applicable for the Chinese language, in the region of North and South Asia, with the operating system of Windows Home Basic XP. The number of compatibility considerations and the combinations that these can make on the product structure are not limited, and both inclusion and exclusion rules can apply.

Steps for Setting Up and Applying Options Filters

The following diagram details the steps needed to setup and apply options filters.



The Option Rules

Consider the following information about option rules:

- Only attributes with the value type string or boolean (Yes/No) can be used as options.
- Option rules are assigned to limit the use of a part to certain option conditions. If a part is always included, no option rule should be assigned.
- When a part is filtered from the product structure, all children of that part are also excluded.
- An option rule may be assigned to a configurable part used within a configurable part in order to include/exclude many choices that only apply under certain option conditions.
- If the option filter template supports the use of NOT rules, you may also define rules that exclude the use of a part by specific option choices. For example, the rule “country != USA” excludes the part when country=USA, but includes the use of this part if country is other than USA.

Options and their choices are defined in the option filter template (set of options with valid choices). You can see the options in the template from the Details page of the product or library.

ProductView Support for Windchill 9.1 Options and Variants

With the design of the overloaded BOM comes the possibility of viewing the various filter configurations of the BOM in ProductView. For example, in the figure below, the overloaded 150% BOM can be seen with both the right and left-handed drive but once the filter is applied for the steering type of Left-Handed the Product View visualization reflects the filtered BOM.

The diagram illustrates the ProductView support for Windchill 9.1 Options and Variants. It shows a hierarchical tree of Major Systems and Sub-Systems, a table of product structure components, and two 3D CAD models of a car dashboard.

The tree structure shows Major Systems branching into Sub-Systems, which further branch into Transmission choices, Engine choices, and 3 Seat choices. A yellow arrow labeled "Filter" points from the tree to the product structure table.

The product structure table shows the following components:

Number	Actions	Version	Name	State	Quantity	Option Rule
PH461-01072	Actions	A.1 (Design)	DASHBOARD	In Work		
PH461-01080	Actions	A.1 (Design)	DASHBOARD, DEVELOPMENT P-RELEASE	In Work	1 each	Steering Type=L..._Max
PH461-01367	Actions	A.1 (Design)	EBKR KIT FOR DASHBOARD	In Work	1 each	
PH461-01403	Actions	A.1 (Design)	EE KIT FOR DASHBOARD	In Work	1 each	
PH461-01696	Actions	A.1 (Design)	EE KIT FOR DASHBOARD	In Work	1 each	
PH461-01964	Actions	A.1 (Design)	AIR CONDITIONING KIT COCKPIT	In Work	1 each	
PH461-02271	Actions	A.1 (Design)	MODULE CARRIER	In Work	1 each	

The 3D CAD models show the 150% BOM (left) and the filtered BOM for Left-Handed Drive (right). The filtered BOM shows the steering type set to Left-Handed.

For more information go to: <http://www.ptc.com/appserver/mkt/bi/home.jsp?&k=3984>

[Back To Top](#)

Tips of the Month

Creating a Pipe in Pro/PIPING With a 180 Degree Bend in Wildfire 5.0

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[Back To Top](#)

Tips of the Month

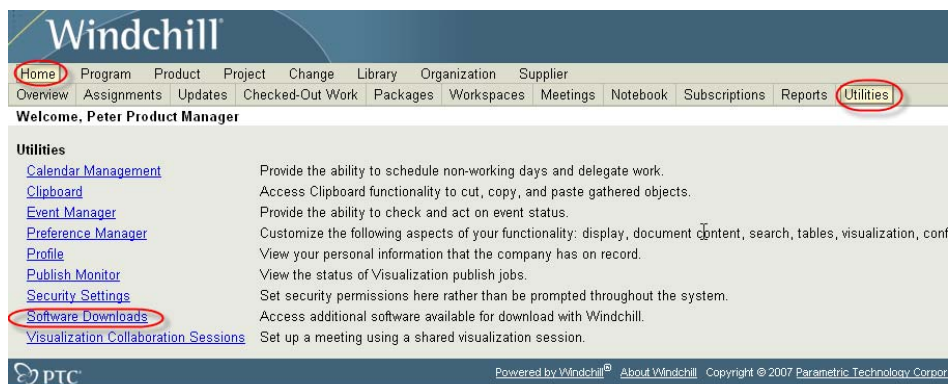
Installing Desktop Integrations and Some Common User Tasks

Windchill Desktop Integration allows you to manage your documents in Windchill without leaving Microsoft Office applications. In addition, Windchill Desktop Integration maps Windchill document attributes, such as name and number, to Microsoft Office file properties. You can use these mappings to display Windchill document attributes in your Microsoft Office file as content so that when you open a document, it is updated with the latest Windchill attribute information.

Many users do not know that these desktop integrations are there for them to download and use from their own Windchill systems. This Tip is to get those users started who would like to be able to save and edit their Microsoft documents (Word, Excel and PowerPoint) without ever leaving the Microsoft Office application.

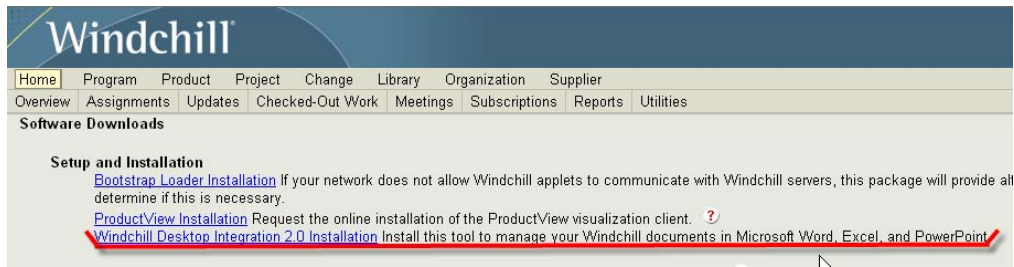
Installing the Microsoft Office Integrations

The first thing to do is locate the Utilities page where you can install the integrations. The utilities page is found under the Utilities tab of your Home page. On this page you will find the Software Downloads link.

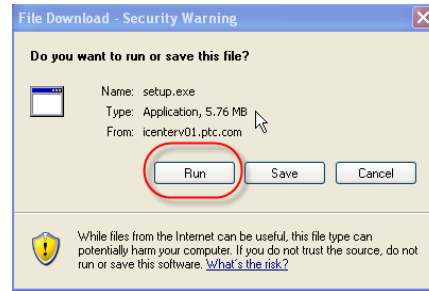


After clicking the link you will need to accept the license agreement.

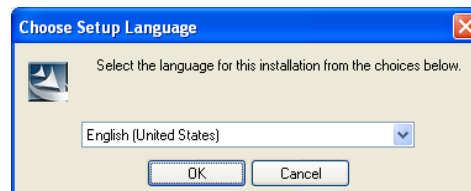
This brings you to a page with many software downloads, including the Windchill Desktop Integration. Click this link.



Click Run to launch the install.

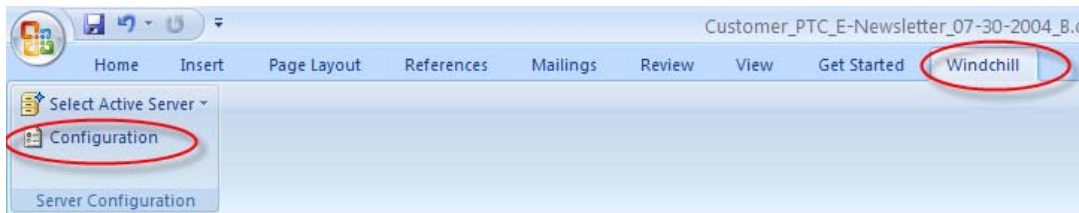


Choose your set up language and Install.



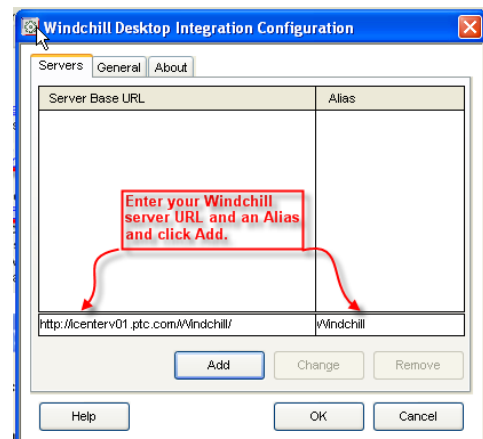
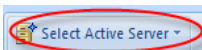
After you finish installing (and possibly restarting your machine depending on what applications were open at time of install) you get a new 'Windchill' tab in Microsoft Word, Excel and PowerPoint!!!

Setting up the Server Connection



Configuration is where you can set up a link to one or more Windchill servers. To add a server simply click the Configuration command and in the resulting pop-up window enter the Windchill server URL and an Alias name. Click Add then OK.

Then click on 'Select Active Server' from the Microsoft Windchill tab to launch a sign in to the Windchill server.





Once you have connected you will instantly notice that the Windchill tab has grown in content, with multiple sections: (for full description of commands see the end of this Tip section)

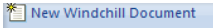


- File Actions - commands to create new Windchill documents, create new Windchill Documents from Templates and Search.
- Document Actions – commands for checking-out, editing, checking-in and revising your documents.
- Attribute Actions - to sync properties between Windchill and the Microsoft Office properties.
- Help - gives you help for this new toolbar.

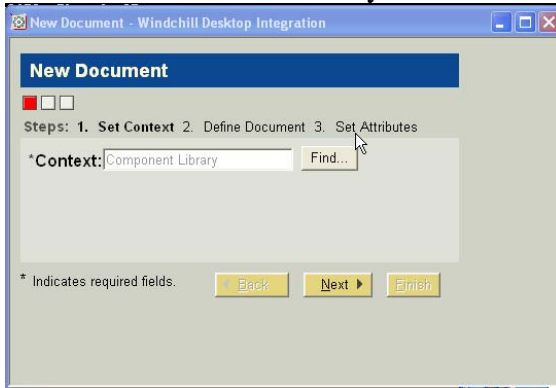
Note: Depending on the status of the document open in session or your connection to the Windchill server some or all of the commands may be grayed out.

Common Task for Office Windchill Integrations

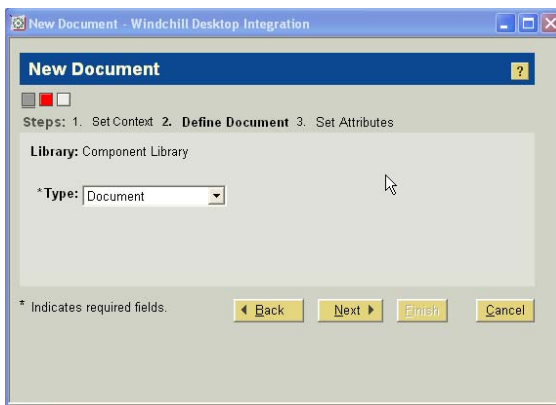
Saving a New Document in Windchill

One of the most common tasks is saving a new document into the Windchill system that is currently open in Microsoft Office. Clicking on the 'New Windchill Document'  command launches the following series of screens for you to define where to store the document in Windchill and also define any additional attributes.

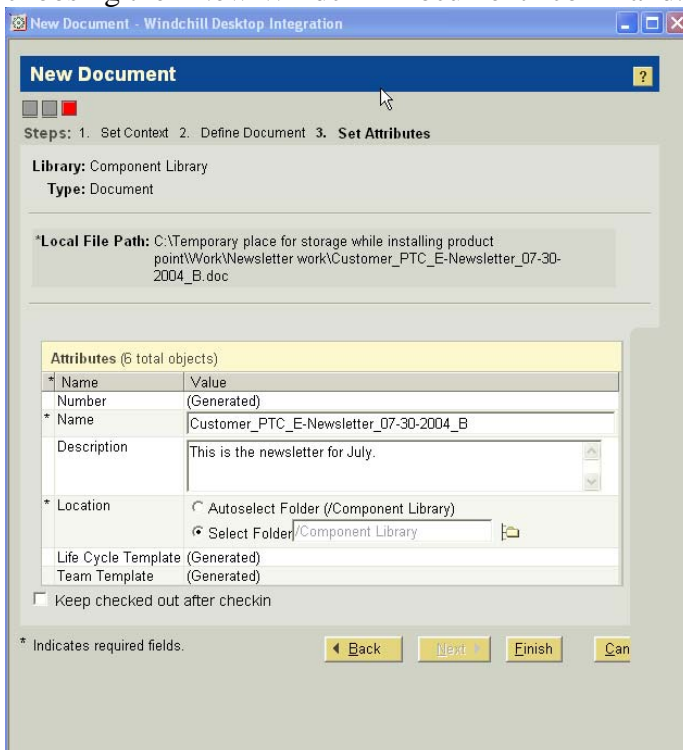
1. Define the Context – where you would like to store the document in Windchill.



2. Define the document Type.




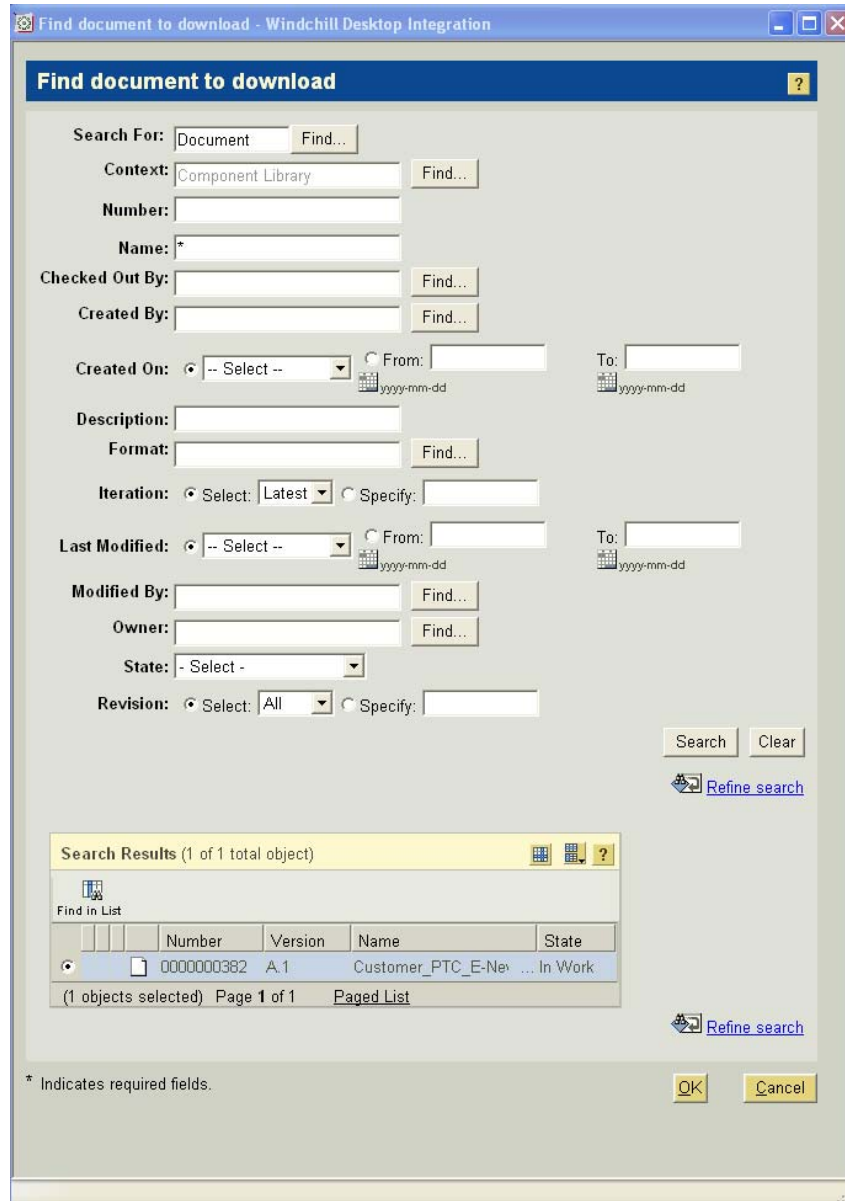
3. Define any additions attributes for the document. Notice that the local file path and name are already generated by the system and refer to the document that was open when choosing the “New Windchill Document” command.



Searching for Documents

The other most common task is searching and opening documents that already have been stored in the Windchill system.

To find a document to download click the 'Search'  command, this launches a search window. Here you can search by full or partial document name, number or description and also within the range of dates the document was created in or last modified.



Find document to download - Windchill Desktop Integration

Find document to download

Search For: Document Find...

Context: Component Library Find...

Number: Find...

Name: *

Checked Out By: Find...

Created By: Find...

Created On: -- Select -- From: To: (yyyy-mm-dd)

Description: Find...

Format: Find...

Iteration: Select: Latest Specify:

Last Modified: -- Select -- From: To: (yyyy-mm-dd)

Modified By: Find...

Owner: Find...

State: - Select -

Revision: Select: All Specify:

Search Clear

[Refine search](#)

Search Results (1 of 1 total object)

Find in List

	Number	Version	Name	State
<input checked="" type="checkbox"/>	0000000382	A.1	Customer_PTC_E-Ne... In Work	

(1 objects selected) Page 1 of 1 Paged List

[Refine search](#)

* Indicates required fields.

OK Cancel

Clicking OK prompts for a location to save the file and then opens the document in the Microsoft Office session that the search command was launched from.

Once a document is opened this way options for Document Actions become active. This gives you control of checking out the document and thus locking it to your use only, and also checking the document in to allow others to edit it.

And you can do this all without ever leaving Microsoft Word, Excel or PowerPoint.

Description of Windchill Menu Options

Select Active Server	Connect to Windchill. If more than one server is available, a secondary menu appears. This option is available only when you are not connected to a Windchill server.
Disconnect	Disconnect the server from Windchill. This option is available only when you are connected to a Windchill server.
Search	Open the Find Document window which allows you to search for documents in the Windchill database in order to download them.
New Windchill Document From Template	Open the New Document from Template window which allows you to create a new document in the Windchill database based on a Windchill document template. If a primary content file is attached to the document template, it provides a standard format for you to use in authoring a file in Microsoft Word, Excel, or PowerPoint.
New Windchill Document	Open the New Document window which allows you to create a new document in the Windchill database and attach a file you are authoring in Microsoft Word, Excel, or PowerPoint as primary content.
New Windchill Document Template	Open the New Document Template window which allows you to create a new document template in the Windchill database and attach a file you are authoring in Microsoft Word, Excel, or PowerPoint as primary content. For administrators only. (If you are not an administrator, an error appears when you select this option.)
Check Out	Check out a document if the document is checked in.
Check Out and Download	Check out the document and download its primary content file for editing. The primary content file will be downloaded after the document is checked out. This action is available only when the document is not already checked out and when the document's primary content source is a file.
Undo Checkout	Undo a checkout without saving any changes or creating a new iteration. This releases your hold on the document and makes it available for others to check out.
New Revision	(Windchill PDMLink only) Create a new version of a document. For example, a new revision of A.4 becomes version B.1.
Edit	Edit attributes for the primary content or document. Upon completion, you have the option to save the document or check it in, depending upon your preference settings. This action is available only for documents you currently have checked out.
Check Out and Edit	Check out the document so that you can edit attributes for the primary content or document. Upon completion, you have the option to save the

	document or check it in. This action is available only when the document is not already checked out. Whether or not this action displays is also controlled by a preference setting.
Check In	Check in a document if the document is checked out. This action is available only to the user to whom the document is currently checked out.
Rename	Enter a new name or number for all versions and iterations of the document. This action is available only when the document is checked in. Note: Renaming a document could make it difficult for others to find the document if they are searching by name.
Revert to Windchill Copy	Open the document as it appeared when it was most recently checked into the Windchill database. Select this option if you made accidental changes and want to return to an original copy of the document.
Refresh Properties	Apply the current attribute information from Windchill to the current iteration of the document.
View Information	Display the Windchill information page for the document.
Configuration	Open the Windchill Desktop Integration Configuration window which allows you to view system information, add and remove servers, and manage your setting preferences.
Help	Open the online help for Windchill Desktop Integration. Note: When not connected to a Windchill server, the help that appears is the latest copy downloaded to the local server.

[Back To Top](#)

Announcements

PTC Tips & Techniques Newsletter Archives

Did you miss an issue? Can't find that awesome technique you read about? Fear not, you can click on the link below and go through our Customer PTC E-Newsletter archives.

[Customer Care Zone](#)

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Click below to see regularly scheduled Tips & Techniques technical Webcasts that are designed to provide you with the most popular time-saving tricks that Pro/ENGINEER users of all skill levels will find useful. Get more out of your maintenance dollars!

[Tips & Techniques: Work Smarter Not Harder!](#)

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- <http://www.hp.com/go/ptc>
- <http://www.hp.com/go/ptcworkstation>

PTC Sponsored Events

- <http://www.ptc.com/company/news/events/index.htm>

Explore what is new with the Pro/ENGINEER Wildfire family!

<http://www.ptc.com/go/showcase>

Connect with PTC using the latest Social Networking resources:



Also visit <http://social-product-development.blogspot.com/>

E-PROFILES IS HERE!!

We have been eagerly anticipating the debut of the new electronic version of Profiles Magazine and now it is here! This new web site will supplement the print edition of the magazine and will provide new useful features not feasible with paper media. e-Profiles will provide you with 24x7, worldwide access to key information previously available exclusively in the print version. "Tips & Tricks," a popular feature pioneered by Pro/USER, has also moved to the web and will be expanded as the site matures.

Please take a few minutes to check out this new web site. We don't think you will be disappointed.

<http://profilesmagazine.com/>



[Back To Top](#)

Upcoming Events & Training Class Schedules

Upcoming, 2009 Your local Pro/Engineer User Groups
<http://www.ptcuser.org/rugs/>

June 7 – 10, 2009 Orlando, FL USA
PTC/USER World Event
<http://www.ptcuser.org/>

Events

Our seminars and conferences seek to provide you with relevant information regarding product development trends in your industry as well as innovative software learning experiences. Think of them as a constructive day off where you can share experiences and swap ideas with your peers.

If you can't manage to get away, we'll bring it to you. Check back often for regularly scheduled live webcast events.

[You're Invited to Attend...](#)

Please visit the [PTC Education Services](#) website for the latest training information including course descriptions, schedules, locations, and pricing.

- Attend a course at any PTC Center and receive a **free** copy of Pro/ENGINEER Wildfire Student Edition!

<http://www.ptc.com/services/edserv/index.htm>

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Virtual Classrooms provide interactive learning with a trained PTC instructor in convenient and manageable sessions that last approximately 4 hours over a series of days. It's easy to join a class right from your desk using a phone or voice-over IP technology.

Sessions are performed just like a traditional ILT (including interactive exercises where you and the instructor can work on lab exercises together) and feature some of our most popular ILT courses. These sessions cover the exact same material as the traditional ILT in-center courses. Also look for some of our most frequently requested mini-topics delivered in the same format that are only an hour - two hours in duration.

If you have any questions about these sessions or would like to see getting other courses, not on this list, on the schedule please feel free to contact me for more details. They are a great way to bring training to you without you having to worry about location or being out from work for long stretches.

You can register for these sessions just as you would for any normal ILT class either by:

1. calling order admin at <http://www.ptc.com/services/edserv/training/registra.htm> or
2. you can go to PTC University directly at <http://www.ptc.com/learning> and submit a registration request directly. All you have to do is search the catalog by typing in “virtual” in the search field and you will see a listing.

PTC

Note: This PTC E-Newsletter will continue to be used for the following:

- 1) Inform you on events related to PTC products (user groups, conferences, training schedules, etc.)
- 2) Educate you on solutions that are available at PTC
- 3) Tips & Techniques using PTC Products

Note: These messages are compiled in the local PTC office and will be distributed via e-mail.

[Back To Top](#)