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PTC Product Focus

What's New in Assembly Mode for Wildfire 4.0

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PTC Product Focus

What's New in Windchill 9.0 Replication

The concept of content replication within Windchill has been available for many releases and has been successfully used by many companies to increase the productivity of Windchill users by reducing their time to access product data.

The basic idea is that the users access content data (like CAD files or MS-OFFICE documents) stored on a more rapidly accessible file storage location known as a replica vault rather than accessing it directly from slower external vaults (for example, because they are on a WAN and physically located half a world away) or from the Windchill database.

The Windchill user's experience in accessing replicated and non-replicated information is identical except for the improved access time. The Windchill user's only explicit interaction with Windchill content replication is in setting a preference via a graphical interface to tell Windchill that the user wants to access content from the replica site rather than the Windchill master site.

Let's take a quick look at several enhancements to Windchill 9.0 that make rolling out and managing replication easier than it has ever been.

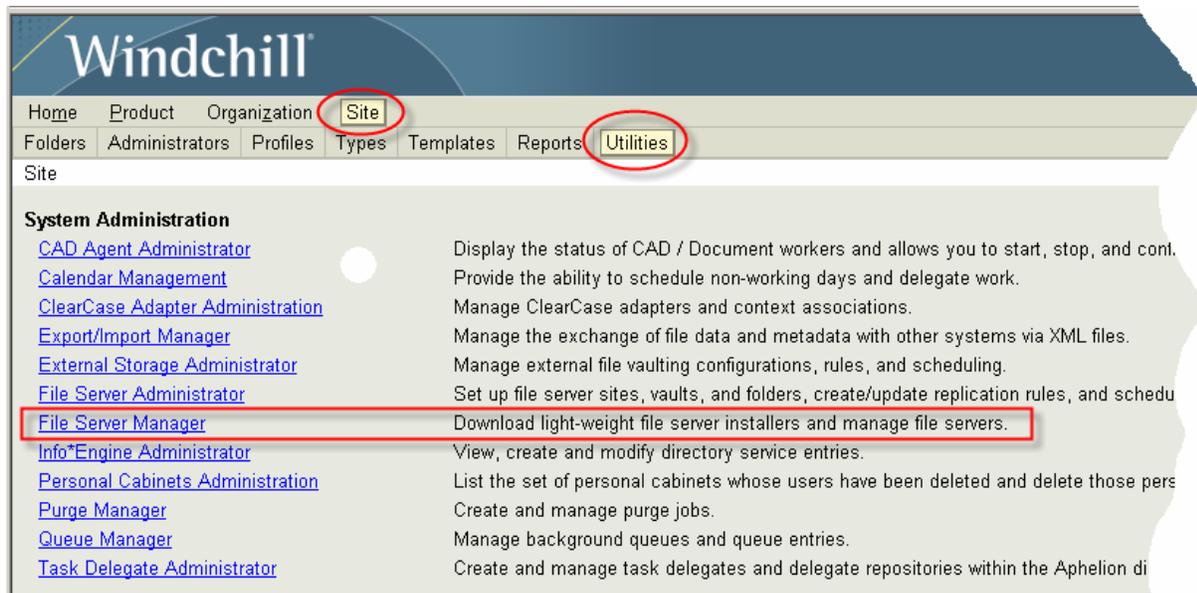
Windchill File Server

A Windchill File Server is a remote or replica server for Windchill. Prior to the 9.0 release it was previously referred to as the Windchill Content Cache Server and informally referred to as the lightweight replica server or the lightweight cache server.

Windchill 9.0 includes a revamped administrative utility called the File Server Manager. This utility enables dramatic decreases in the time required to install, perform setup, configure, and maintain replica sites. Below are a few of the improved functions:

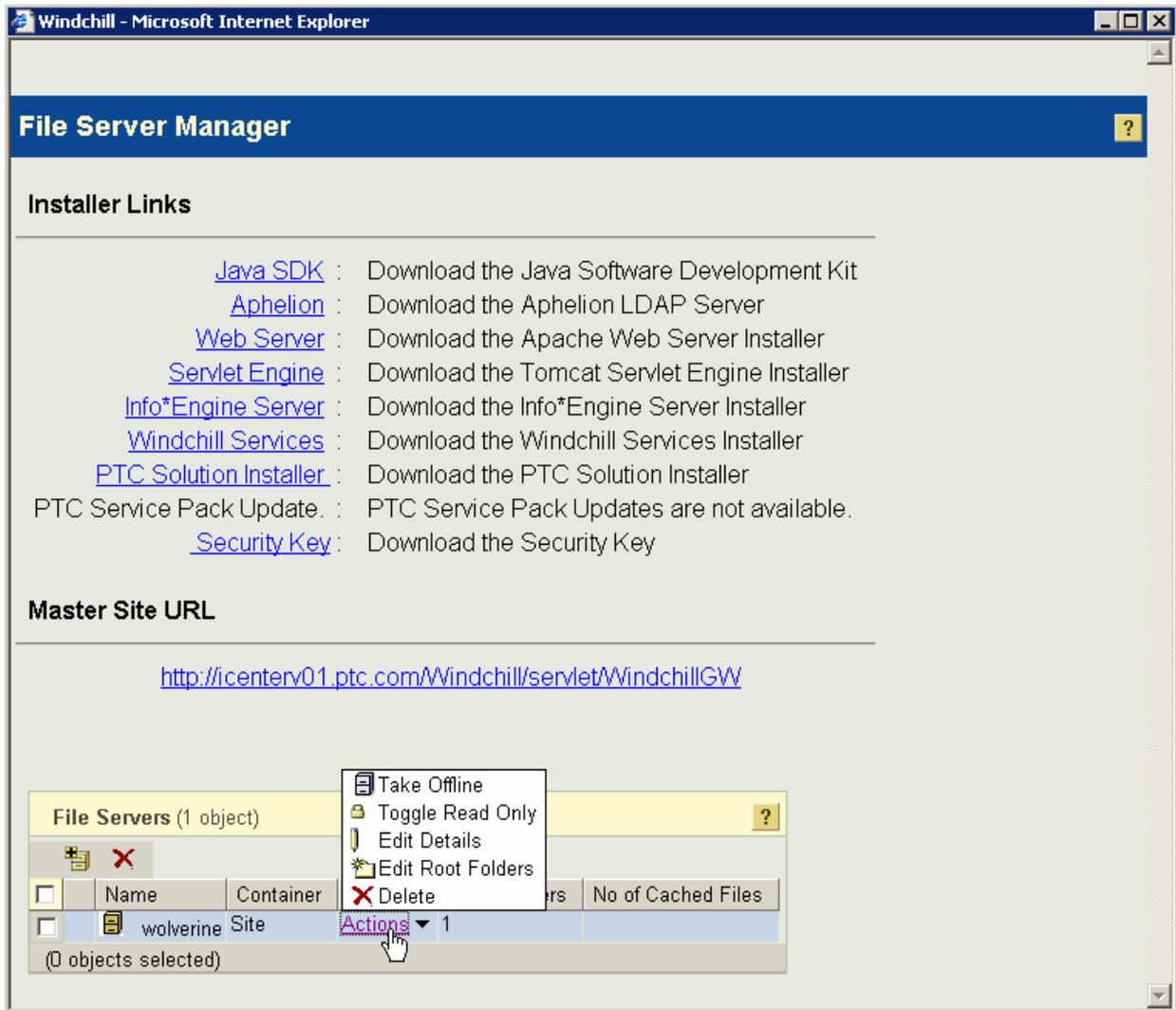
- Access to Windchill via a user interface for downloading and installing a File Server at a remote site.
- Automatic creation of a site, vaults, root folders, and a folder under that root folder where the content resides.
- Automatic creation of additional folders under a root folder if a folder gets full.
- Ability to set a File Server to read-only so that only downloads are allowed.
- Ability to automatically detect an upgrade of the master site and to trigger the upgrade of a File Server.

Here is where it is accessed from:



The screenshot shows the Windchill administrative interface. The top navigation bar includes links for Home, Product, Organization, Site, Folders, Administrators, Profiles, Types, Templates, Reports, and Utilities. The 'Site' and 'Utilities' links are circled in red. Below the navigation bar, the 'Site' section is expanded, showing a list of system administration utilities. The 'File Server Manager' utility is highlighted with a red box. The description for 'File Server Manager' is: 'Download light-weight file server installers and manage file servers.'

Utility	Description
CAD Agent Administrator	Display the status of CAD / Document workers and allows you to start, stop, and cont.
Calendar Management	Provide the ability to schedule non-working days and delegate work.
ClearCase Adapter Administration	Manage ClearCase adapters and context associations.
Export/Import Manager	Manage the exchange of file data and metadata with other systems via XML files.
External Storage Administrator	Manage external file vaulting configurations, rules, and scheduling.
File Server Administrator	Set up file server sites, vaults, and folders, create/update replication rules, and schedu
File Server Manager	Download light-weight file server installers and manage file servers.
Info*Engine Administrator	View, create and modify directory service entries.
Personal Cabinets Administration	List the set of personal cabinets whose users have been deleted and delete those pers
Purge Manager	Create and manage purge jobs.
Queue Manager	Manage background queues and queue entries.
Task Delegate Administrator	Create and manage task delegates and delegate repositories within the Aphelion di



This is a dramatic improvement in the setting up and administration of a Windchill file servers.

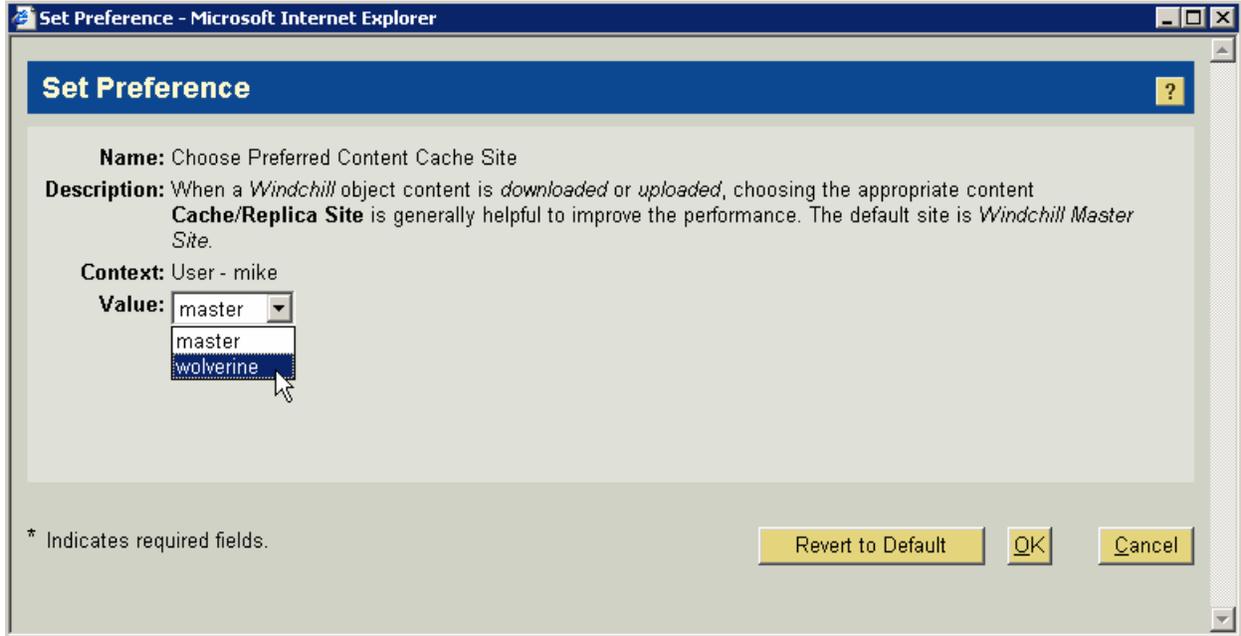
Predictive Replication

Replication works great provided that the data a remote group of users wants to access has already been replicated to their preferred vault. In order to control when and what product data gets replicated the Windchill system provides a comprehensive toolset that can be used by the system administrator to schedule and control the process. The problem can be that due to the dynamic nature of the product development process, it can be fairly difficult for a system administrator to anticipate when data is needed at remote sites. A new feature called “Predictive Replication” address this.

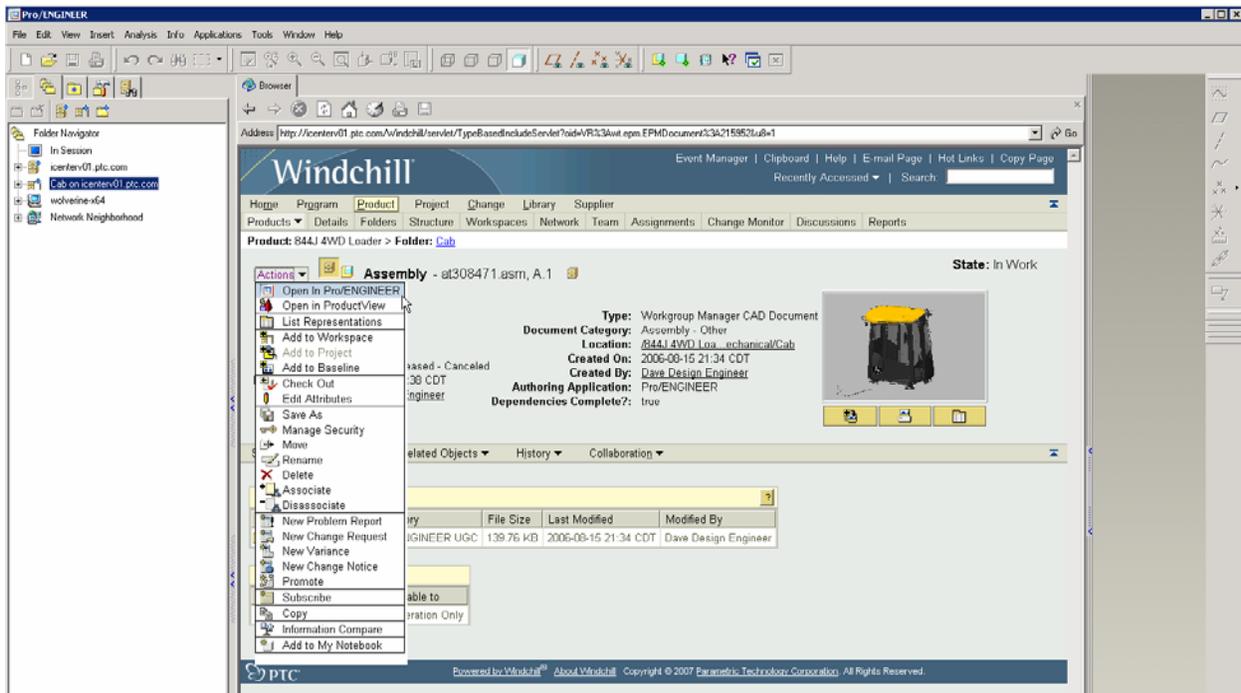
Predictive Replication is a feature that enables Windchill to preemptively determine the content that is required at a said File Server instance based on patterns of user behavior. Predictive replication replicates future iterations of an object without the user/administrator having to set an explicit replication schedule.

Let’s say a user at a remote site has the need to open a large assembly in Pro/ENGINEER to investigate a problem. The remote site is served by a Windchill file server which is on the Local

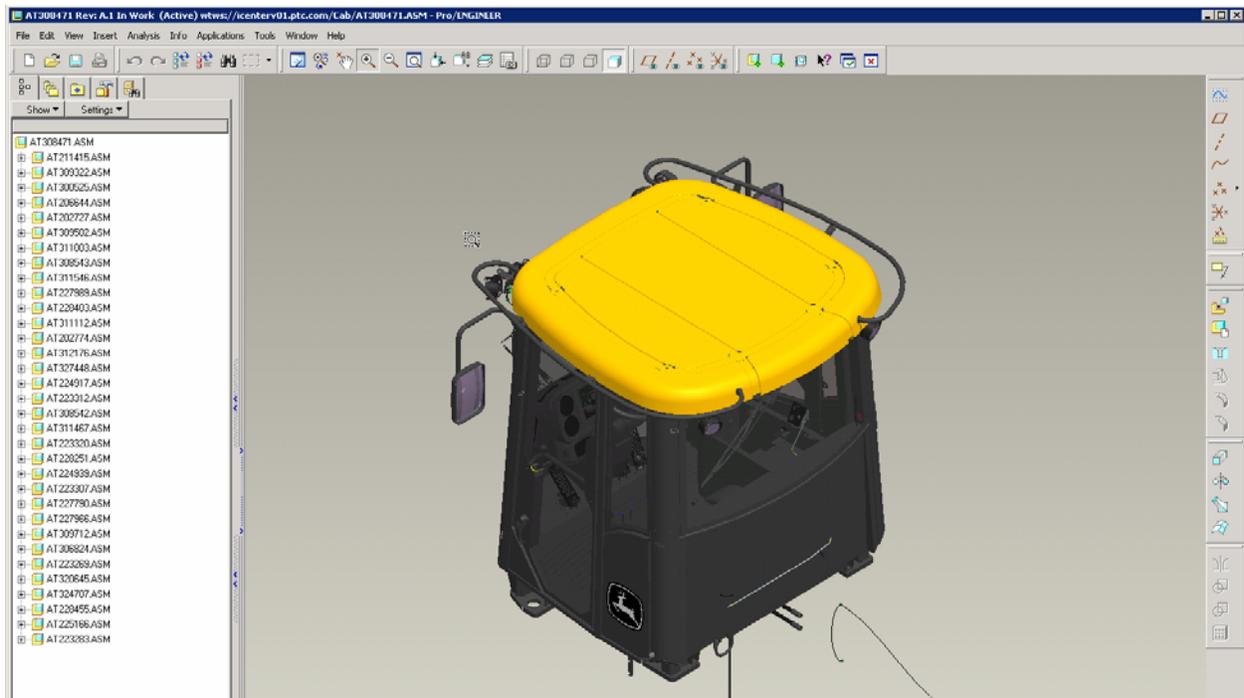
Area Network and the user has changed their preference to use this as the preferred site. The user only has to set this once. The remote file server is called wolverine in this example.



The user is not aware if this data has been replicated to the site but he/she follows the normal procedure for opening the data in Pro/ENGINEER from the embedded Wildfire browser.



Because the content requested by the user is not available at this site as a result of a prior scheduled replication, the files are copied to the local workspace directly from the master site and then streamed to Pro/ENGINEER. The user may notice that it takes a little longer than usual.



However, with predictive replication enabled, the content is now automatically flagged for replication. A special predictive replication rule is automatically created and configuration options control how often the predictive replication executes. It can happen immediately or it can run at some later time, ensuring the chances of getting the proper data replicated when and where it is needed most.

Below is a screen shot of the predictive replication rule that gets dynamically generated. As you can see on this server it is set to run daily at 19:00 CDT.

Replication Schedule Administrator - Microsoft Internet Explorer

Replication Schedule Administrator

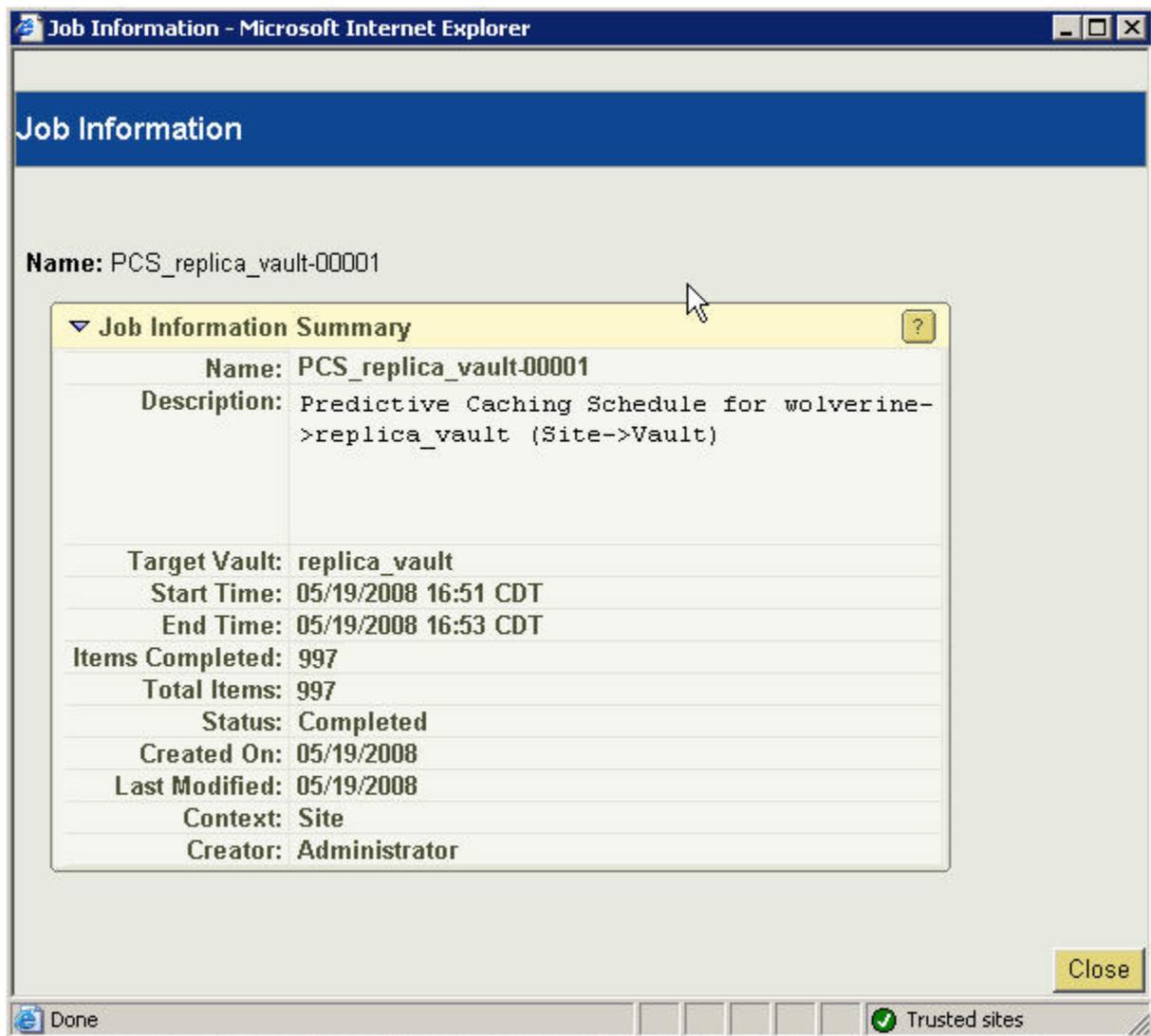
Schedules (2 objects) Current View: Latest Schedules

<input type="checkbox"/>	Name	Target Vault	Status	Last Run	Next Run	Frequency	Enabled	Context	Created By	
<input type="checkbox"/>	run3	replica_vault	All runs completed	05/19/2008 16:21 CDT		One Time	Yes	Site	steve	
<input type="checkbox"/>	PCS_replica_vault	replica_vault	Ready		05/19/2008 19:00 CDT	Daily	Yes	Site	Administrator	

Close

Trusted sites

Below are the results from running the job:

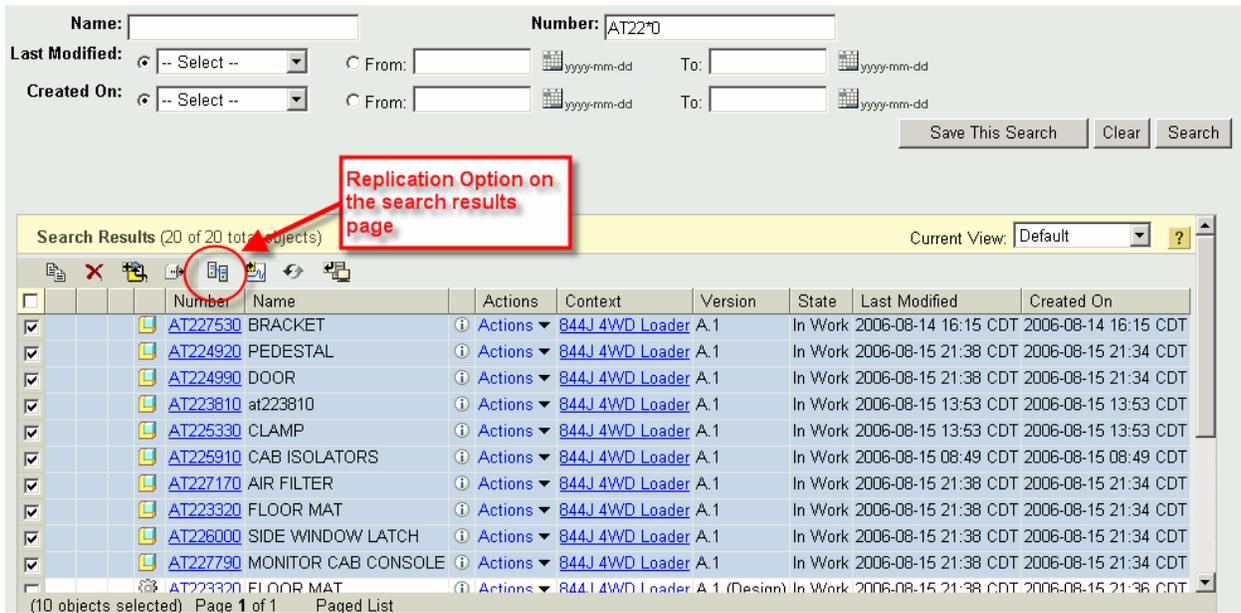


Once the rule has been executed then any user opening the assembly will reap the benefits of improved performance....provided they have properly set their preference to the correct content cache site.

User Initiated Replication

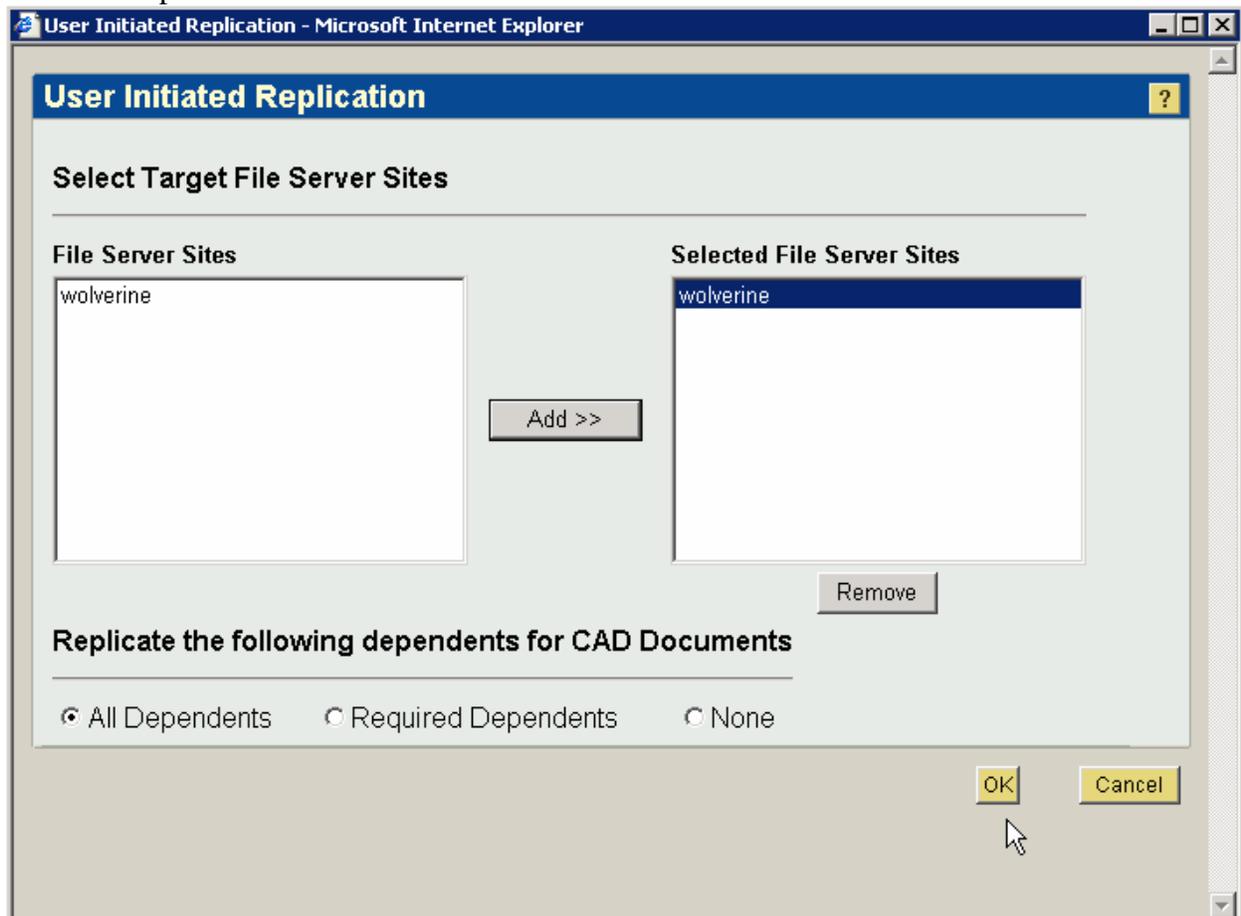
This feature allows users to collect and replicate objects that cannot be easily bound together by replication rules. The replication is executed immediately. This action is available from the **Search Results** table.

Note: For the replicate icon to appear and for the function to be active, the user must be a member of a Replication Managers group. For a procedure to add a member to the Replication Managers Group, see the online help.



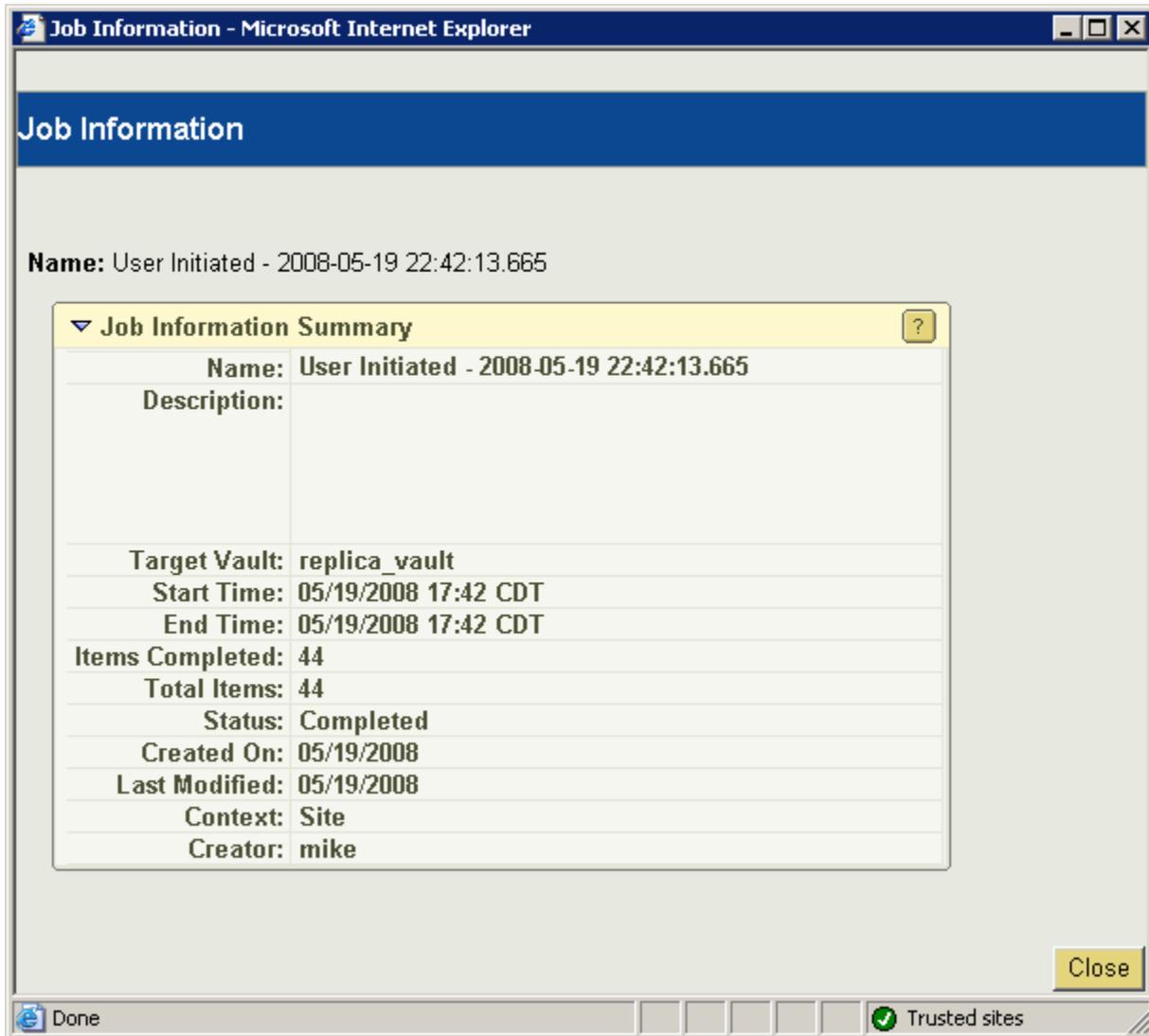
When the users click the replicate icon, the **User Initiated Replication** window appears. They can perform two tasks in this window.

- Select target File Server sites (you can add multiple sites).
- Process dependents for CAD documents.



Once the user completes the information and clicks **OK** in the **User Initiated Replication** window, the replication job is started in the background.

Here are the results of replicating 10 CAD assemblies and all their dependents.



Conclusion

These are but a few of the enhancements available in Windchill 9.0 in the area of replication. Please see the **9.0 Windchill® System Administrator's Guide** for a more complete explanation.

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Tips of the Month

Great New Wildfire 4.0 Sketcher Functionality Grab-bag

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Tips of the Month

Java Monitoring Tip

Starting with Windchill 9.0, the jmx framework has been deployed for monitoring all Windchill Java processes. What that means is that as a System Administrator you now have an easy to use java monitoring tool built right in to your server where you can get a real time view of whats happening with the Java Virtual Machine (it is part of the Java 1.5 SDK).

The tool is called jconsole and can be found in the Java bin directory. Double click on the icon to launch it (from Windows) and from there you can connect to any java process to see how it is running. Here is the summary screen showing some interesting Method Server statistics:

The screenshot shows the J2SE 5.0 Monitoring & Management Console window. The title bar reads "J2SE 5.0 Monitoring & Management Console: 3532@localhost". The "Connection" section is active. The "Summary" tab is selected, displaying the following statistics:

Summary	
Uptime:	3 hours 5 minutes
Process CPU time:	12 minutes
Total compile time:	2 minutes

Threads	
Live Threads:	94
Peak:	98
Daemon threads:	37
Total started:	6,352

Memory	
Current heap size:	417,635 kbytes
Committed memory:	669,120 kbytes
Maximum heap size:	742,784 kbytes
Objects pending for finalization:	0
Garbage collector:	Name = 'PS MarkSweep', Collections = 5, Total time spent = 5.592 seconds
Garbage collector:	Name = 'PS Scavenge', Collections = 547, Total time spent = 16.796 seconds

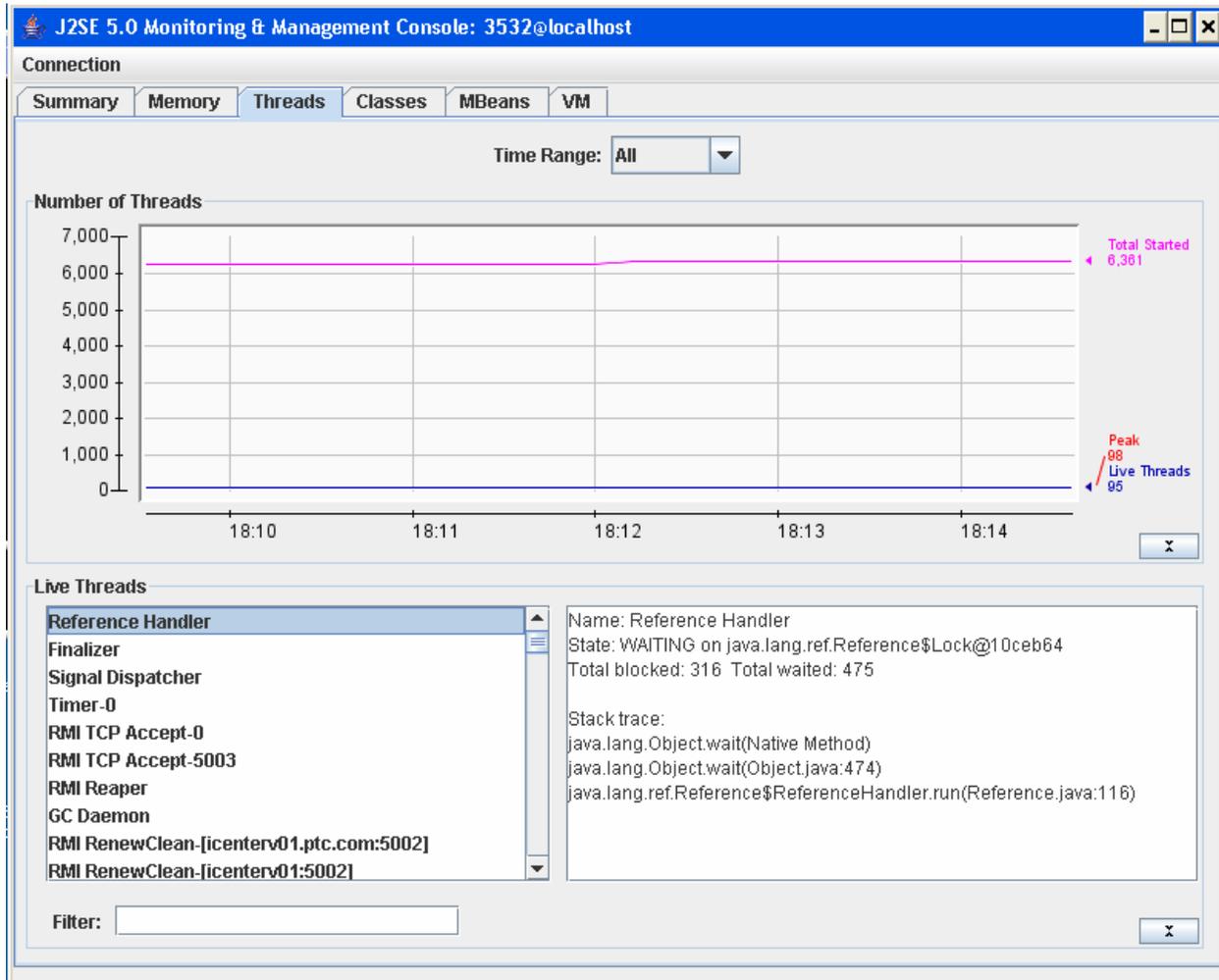
Classes	
Current classes loaded:	16,926
Total classes unloaded:	2,065
Total classes loaded:	18,991

Operating System	
Total physical memory:	2,097,151 kbytes
Free physical memory:	544,272 kbytes
Committed virtual memory:	961,284 kbytes

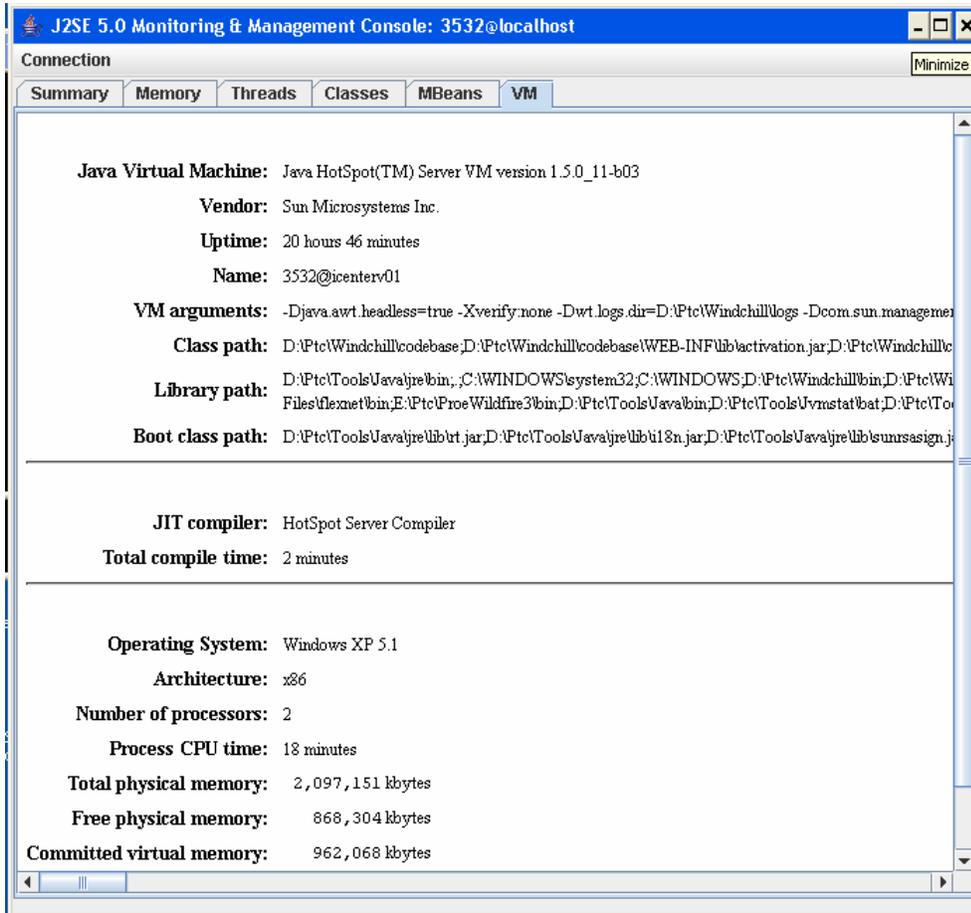
The memory tab provides pretty good graphical feedback of what happening over time:



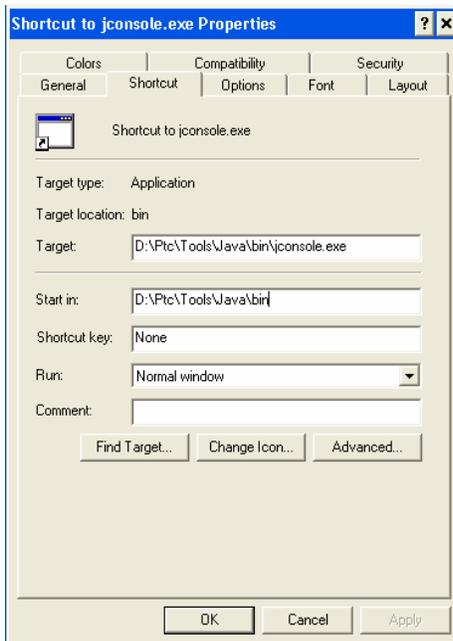
The Threads tab provides a convenient place to see all the threads and also a thread dump to see what's going on.



And lastly, the VM tab is an easy place to find details about the process running within the Virtual Machine itself. For example, when you are looking at the Method Server on an installation you may not be familiar with, you can use jconsole to look at the VM arguments. With this you can see exactly what command line arguments were used to start the Method Server ... which isn't all that easy sometimes by looking at the wt.property file since there are so many variables used in there. You can also get a good overview of the Operating system's memory layout.



You may find it so handy that you want to use it all the time....if so I suggest that Windows users create a desktop shortcut so that it can easily be started when needed.



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Announcements

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 - Detailed Design
 - Simulation/Analysis
 - Production
 - Design Collaboration
- Windchill PDMLink
- Windchill ProjectLink
- Pro/INTRALINK
- PTC Online Tools

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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/>

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Upcoming Events & Training Class Schedules

Upcoming, 2008 Your local Pro/Engineer User Groups
<http://www.ptcuser.org/rugs/>

June 1 – 4, 2008 Long Beach, CA 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.

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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.

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