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PTC Product Focus

Multi-Site Pro/INTRALINK

Issues to Consider before sharing data between Geographically separate sites with Pro/INTRALINK

By now, you are probably familiar with Pro/INTRALINK, PTC's department level data management solution. Many of PTC's customer's have chosen to deploy Intralink at one or more of their sites to manage their Pro/ENGINEER™ and other engineering data and are now looking to expand their implementations to the other sites. While planning these expansions, these companies are considering a number of factors, including performance, reliability, usage patterns, future growth, ease of maintenance, and total cost. This document will help you plan your expansion or initial implementation of Intralink.

There are a number of ways to share information between geographically separate sites using PTC products. Depending on your company's needs and use cases, there are a number of options available to the PTC customer. These options range from using PDMLink and the Intralink Gateway to merge all of the information, to using ProductView to provide view and markup access, to deploying additional Intralink servers. Each option has its advantages and disadvantages. In this document, we will assume that due to cost or use case your company has decided to leverage the Intralink Implementation and expand its usage, the top methods to do this, in order of complexity, are as follows:

1. Single Commonspace, Single File Vault.

Description: Your company sets up a single server for Pro/INTRALINK and everyone in the company accesses it. Those in remote offices, access the server over the Wide Area Network (WAN) or via a Virtual Private Network (VPN) connection.

Advantages: Single Database, easy to back up, no duplication of data possible, easy to add additional users, Inexpensive to deploy.

Disadvantages: Performance varies depending on amount of bandwidth available. If the WAN line or the VPN goes down, the remote offices have no access to the data.

Discussion: This situation is best for companies that have very limited need to access the data at remote offices. Ninety to ninety-five percent of the users are located at the same facility as the Intralink Commonsplace and File Vault and access Intralink over the Local Area Network (LAN). Remote access can suffer if the amount of bandwidth is limited or is lost. However, this ensures that everyone in the company is using the same revision scheme, release procedure, attributes, and naming conventions. Also, all data is available to everyone. This option is very inexpensive and flexible because to add additional users, they just need to be able to access the server. No additional server hardware is necessary. If the WAN or VPN goes down, the local users can still continue to work as normal; only the distant users are affected.

2. Single Commonsplace, Multiple File Vaults

Description: There is a Single meta-data server, but multiple file vaults located throughout the company. The contents of each file vault are unique, and no data is copied between them. This option requires constant communication between the meta-data server and the file vaults, so a WAN must be used. (Not compatible with Office-to-Office VPN)

Advantages: Single Database, no duplication of data, Enhanced Check-in / Check out Performance due to local storage of files,

Disadvantages: Same as option 1, plus multiple file vaults to backup, Loss of VPN usage, WAN outage affects the entire company.

Discussion: This option works better for more distributed companies that want to maintain a common engineering database to ensure company standards are followed and no part names / numbers get duplicated. All of the data is stored on a common server, but the Pro/E files get stored in a local file vault so they are not transferred across a WAN line. However, some groups are still going across the WAN to access the meta-data server and performance will diminish for those groups. Also, since the meta-data server must be in constant communication with each file vault, if the WAN connections go down, the entire Intralink environment will be inaccessible. This option is recommended for organizations that have geographically separated groups that work on different product groups and have reliable, redundant WAN connections.

3. Single Commonsplace, Replicated File Vaults

Description: There is a Single meta-data server with multiple file vaults spread throughout the company. However, the contents of the vaults are not unique. Each vault is a copy of some master vault.

Advantages: Single Database ensures no duplicate file names, Enhanced check out performance due to local availability of files, Single meta-data server and file vault to backup.

Disadvantages: Same as option 1, replication can be a bandwidth intensive process and is not real time, only improves performance for check out, check-in will still take a longer time through the WAN.

Discussion: This option allows the administrator to replicate data across the WAN to enhance the performance of Check out. However, Check In must always store the files in the Master file vault and is subject to the bandwidth limitations of the WAN. Also, the vaults must be refreshed on a regular basis, or the remote file vaults will become out of date and check out performance will become equal to option 1. This option is recommended for companies that have remote Manufacturing Facilities that need access to the Pro/E data, For CNC programming or Tooling Design, but will seldom modify the original data or check in their designs.

4. Multiple Commonspaces, Multiple File Vaults, No Replication

Description: Each facility has its own meta-data server and file vault with no connection between them.

Advantages: Best Performance for Each Facility. No reliance on WAN uptime or Bandwidth.

Disadvantages: No common database, no automated sharing of data, no guarantee of unique file names, duplication of data, multiple servers to backup, no guarantee of common attributes, revisions, or release procedures

Discussion: This option allows companies to have each facility function autonomously. There is no reliance on the WAN and each facility gets maximum performance. Additionally, each facility can configure their server environment to fit the way they operate. Common components (library components, tooling, etc.) will have to be duplicated into each environment. This option works best for companies that are actually different divisions, or very distinct product lines without shared corporate resources, like purchasing. With appropriate procedures in place, this option can work for companies that are not different divisions, as long as frequent file exchange is not a requirement, and there is a clear transition point where a different facility takes ownership of the files.

5. Multiple Commonspaces, Multiple File vaults, Package Replication

Description: Same as option 4, however using the Package Replication Functionality introduced in Revision 3.0

Advantages: Same as option 4, plus the capability of increased data sharing between sites

Disadvantages: Same as option 4, plus additional overhead and management.

Discussion: This option is for companies that need more frequent data updates than option 4 allows. It works best when only subsets of information need to flow in one direction. (I.e. for the distribution of a master library of common components) The package replication process allows for the uni-directional transfer of information and is not compatible with full multi-site concurrent engineering. (The receiving site has read only access to the data. They can use it to create detail drawings, reference it in assemblies, but they cannot modify it and check it back into the database without creating a new branch.) Currently, there is no mechanism within Intralink to automate the package replication process. (There are command line utilities that can be used, but they would have to be automated with an external scheduling program.)

In summary, if your company has decided on a pure Intralink strategy, any single or combination of the above options can work well for you. The biggest challenge is weighing the advantages and disadvantages and making sure that your company's network infrastructure can support your decision.

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Tips of the Week

Pro/LOCATE

Anyone who's been using Pro/INTRALINK™ for a while is familiar with Pro/LOCATE. Users have found Pro/Locate to be the fastest way to find the correct data in the Intralink environment. However, many users diminish the power of Pro/LOCATE by using the same generic, limited searches. So this Tip of the week is about unleashing the Power of Pro/LOCATE and using it to find a variety of information.

The Generic Search

Many Intralink Administrators when implementing Intralink at their company will save the users some time by saving a number of Global searches as shown in Figure 1:

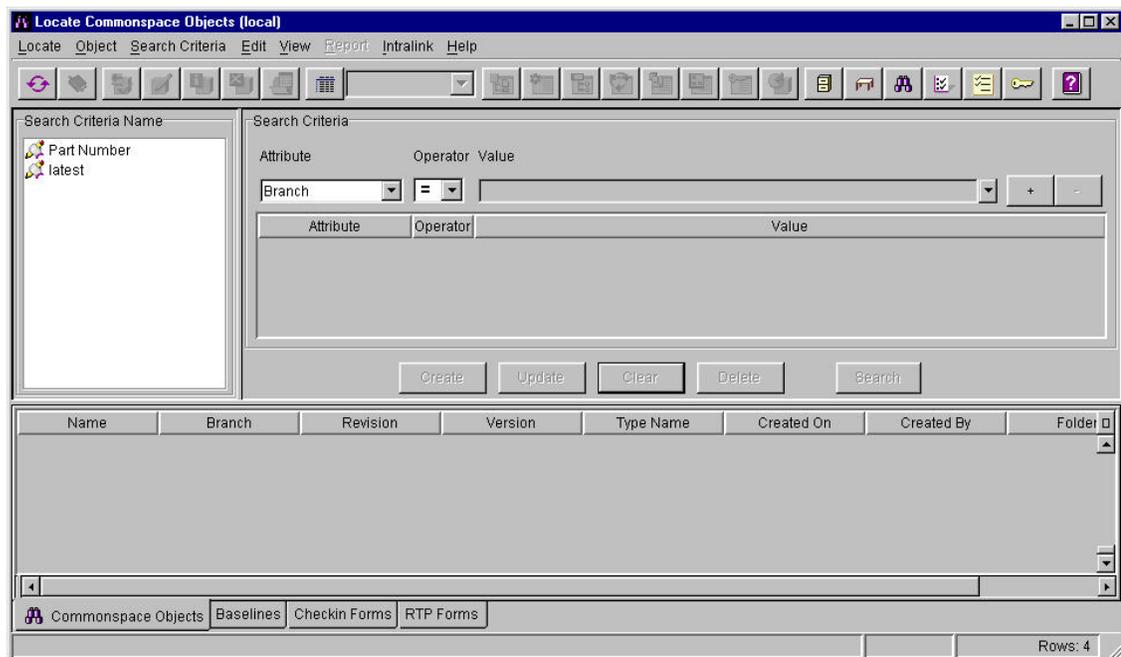


Figure 1: Sample Pro/LOCATE Screen

In this case, the Intralink Administrator has created two Global Saved Searches, one that searches by part number and one that searches for the Latest version of a described object. These are typical examples of what you'll find at any site. However, Pro/LOCATE allows the User to search for any object in the Commonsplace based on any Attribute in the system, and by combining those attributes in unique ways, you can build incredibly powerful searches. See Figure 2 for a sample of attributes you can search on:

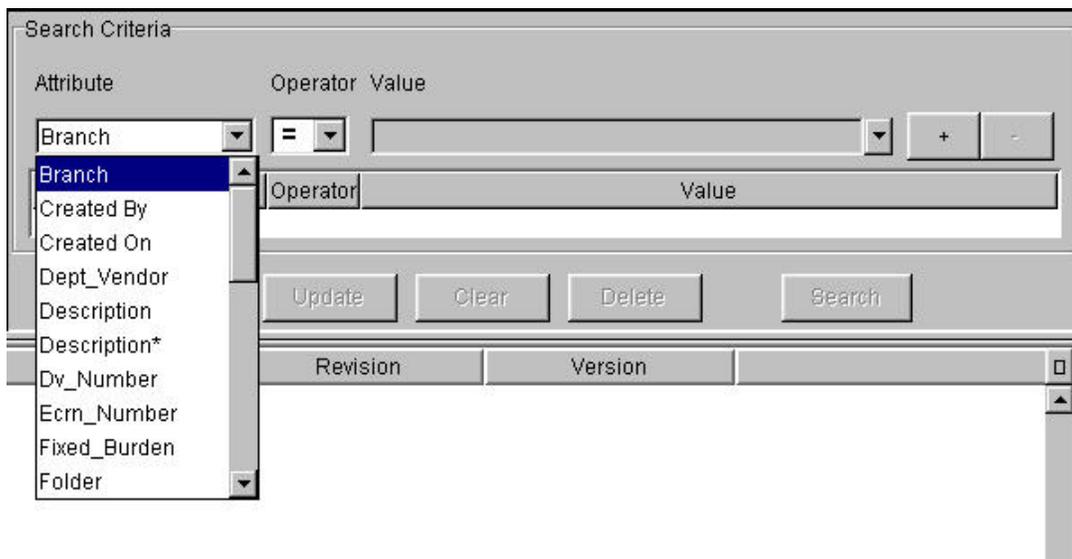


Figure 2: Sample Attributes

Using Created By and Created On

Two of the most powerful and often over looked attributes when using Pro/Locate are Created By and Created On. Every object that gets checked into the Commonsplace is automatically marked with the user name of the person that checked it in and time stamped with the time of the check in. By using these two attributes, you can search for items even if you don't remember the objects names.

For example, a co-worker comes to you about a project that you were working on three months ago. She would like to reuse on of the castings that you created for the project, but cannot remember the part number. Enough time has passed that you cannot remember the part number either. She will just have to start from scratch, but not if you can locate it with Pro/LOCATE. You know that the casting was a part, and you finished working on it about three months ago. By converting that information into the Pro/LOCATE search, as shown in figure 3, you were able to find the part and save your co-worker numerous hours in duplicate effort.

Search Criteria

Attribute Operator Value

Created On >= 9/1/2002 8:00 AM

Attribute	Operator	Value
Type Name	=	Part
Created By	=	rpremeau
Created On	<	9/30/2002 5:00 PM
Created On	>=	9/1/2002 8:00 AM

Create Update Clear Delete Search

Figure 3: Sample Created by / Created On Search

Using Description and other User Defined Attributes

In addition to using System Defined Attributes, you can also use User-defined attributes. (Isn't that why they were added to the system in the first place?) The key to using user Defined Attributes is Wild cards and Case Sensitivity. Whenever you perform a Search in Pro/LOCATE, Intralink will try to match the case of whatever you type in. Unfortunately to Pro/LOCATE a ROSE is not a rose is not a RoSe, so if your company does not have data entry standards for Intralink, you may have to run your search a couple of time using all capital letters, or all lower case letters, or capitalizing every third letter, etc. Wildcard characters can come in very handy here. If you know some of the attribute, but not the entire field, or just want to expand you search you can use a wild card character (*,?) to replace 1 or more characters in your search. Figure 4 Shows some examples of User defined attributes being used in Pro/LOCATE.

Search Criteria

Attribute Operator Value

Material_Cost < 1.0

Attribute	Operator	Value
Description	=	*BOLT*;HHS*
Dept_Vendor	=	ACME;acme
Material_Cost	<	1.0

Create Update Clear Delete Search

Figure 4: Sample User Defined Attribute Search Criteria

Notice also in Figure 4 that some of the criteria have multiple entries separated by a semi-colon (;). Pro/LOCATE treats these multiple entries as OR conditions and will return results that meet either criterion. So if the Dept_Vendor attribute was entered as ACME or acme, Pro/LOCATE will return that object. This is a great way to expand your searches without running multiple searches.

Great Pro/LOCATE Recipes

- Find Your Work in Progress:
 - Created By = <Your Login Name>
 - Release Level = WIP (Or your Company's Work In Progress Level)
 - Version =  (Optional)
- Find What's New in a Folder
 - Folder = <Full Path to Folder>
 - Created On  Date you last Checked
- Find the Generics in a Folder (Great for Library folders)
 - Folder = <Full Path to Folder>
 - Generic = True
 - Type Name = Part (Optional)
- Big Brother a Co-Worker
 - Created By = <His Login Name>
 - Created On  <Monday's Date, 7:00 am>
 - (This Search will tell you every object checked in by your coworker this week. Just to let you know if he's working on real stuff, or just making it look good for the Boss)

Final List of Search Tips

- Pro/INTRALINK is case sensitive; watch your P's and q's
- Use an asterisk (*) as a wildcard to search for multiple items.
- Items separated by a Semi-colon (;) are equal to OR statements
- Use Revision  and Version  to limit the number of results.
- Use Part Type to Limit your results to a specific object type. (Parts, Drawings, Assemblies, etc.)
- Use multiple Search Criteria with  and  to Bracket your results. Especially useful for Created On and Version and <User Defined Attributes>

- All Search Criteria is AND, if you want to exclude something make sure to use the  symbol.
- Do NOT do Wildcard Searches without any other limiting criteria! They take forever and return too many results to be useful.

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Announcements

Customer PTC E-Newsletter Survey

For the past 2 years I've been sending you our Customer PTC E-Newsletter such as this one.

In an attempt to deliver the highest quality and create the most value we would like to use this survey to further our "Learning" Relationship with you, our Customers. Even if you are a first time recipient of the newsletter, please feel free to share your comments on this one you're reading.

It will not take longer than a few minutes to fill out this quick survey as your input is invaluable and we greatly appreciate your input. Please click on the following link to begin:

[To Enter Survey, Please Click](#)

Please note it may be impossible to "Customize" the newsletter to meet every individual request however we will attempt to integrate as many ideas as possible.

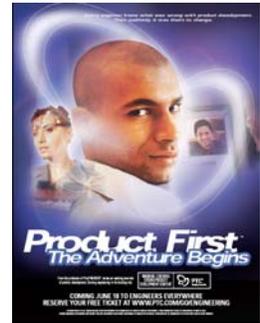
Thank-you very much for your time and feedback as we try to improve this value-added service.

PTC Sponsored Events

Click below to see PTC sponsored events:

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

Click on the poster to gain access to the Product First Virtual Event resource center!! See the software and pick up a screen-saver or two.



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. Future plans include several foreign-language editions of Profiles for our many international readers. Currently, Profiles is printed in English and Japanese.

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, 2003 Your local Pro/Engineer User Groups
<http://www.prouser.org/rugs/>

Upcoming, 2003 Pro/USER International Conference
<http://www.prouser.org/>

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/E 2001 Student Edition!

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

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 products 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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