

PLMJobManager NX-Refile

Refiling NX-Parts with Teamcenter Engineering environment

Josef Feuerstein, Christof Keller

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Introduction

What is Refile?

At any new version of NX, there are new functionality and modules. This causes changes of the data model.

When opening a Part-file, there is a check in which version it was saved.

When the saved version is older than the current one, NX is converting the data model inside the Part-file. – This is called Refile

Why Refile?

From our development... we are able to open Part-files from Version 12.

Therefore we do not need a Refile?

When working with Teamcenter, we do not have write access to loaded or refiled parts.

Why do we have no write access?

- Part i owned by a different group
- Part is released
- Part has a different owning site

Parts from a prior NX-version get a modification flag after loading. If we refile the Parts during open it will increase the loading time. Without write access, we do a refile every time, when opening a part or assembly. Part is from an „old“ project ... does anybody know the NX-Version at that time? ... does anybody know that there are „old“ projects?

To have a clean NX-Environment it is necessary to Refile all Partfiles automatically and secure with the „ugmanager_refile_program.exe Utility“.



NX-Refile with the *PLMJobManager*

The PLMJobManager organizes the conversion of the NX-Data with the NX-Refile utility inside a Teamcenter environment.

Benefit of a NX-Refile with the PLMJobManager:

- ✓ Unique setup and control of the Refile-Options.
- ✓ Distribution of the Refile process to multiple computer-clients and organize them.
(Less Refile process time)
- ✓ Avoid „multiple“ Refile of NX-Parts.
- ✓ Supports the preparation of a Refile project.
- ✓ Simplifies the upgrade to newer NX-Versions.
- ✓ Both the TcEng Single and Multisite is supported
- ✓ Processing of „native“ NX data is also possible



NX-Refile with the *PLMJobManager*

It supports and optimizes the upgrade to a higher NX-Version within a unique procedural method.

The following methods are supported from the PLMJobManager:

- ✓ processing sequence of the NX Partfiles:
 - Single Parts → recent parts at first, older parts at last
 - Assemblies → with the „Button Up“ principle
(Button Up = dependent of the amount of components, from button to top)
- ✓ Adjustments for processing sequence i.e. volumes, groups, projects etc...
- ✓ Analysis of the Refile-Logfiles for Status, error messages, warnings, etc..
- ✓ Storage of the Client NX-Refile-Logfiles.
- ✓ Center control of the Refile processes in a Multisite environment
(with a central PLMJobServer Database we are able to serve multiple sites)



Introduction

Phase 1 – Analysis

- How many Datasets/Parts
- Check the Data integrity
- Analyse the environment (Precise/Imprecise, Loadoptions, Reference-Sets, Release status ...)
- Analyse and Setup the Refile-Methods (order, settings and parameters)
- Check of disk space
- Clone the productive environment and Tests ...

Phase 2 – Preparation and Test

- PlmJobManager-OS-User and TC-User setup
- Data cleanup – purge Datasets,
- Check if all Datasets are available in the volume – purge Volumes
- Check data with utilities „update_all_features, update_all_drawings, update_all_smart_models“
- Check assemblies
- Installation of the PlmJobManager -Clients
- Access via Remote Desktop Connection or VNC
- Installation PlmJobManager -Manager-Tool (Server + Clients)
- Import PlmJobManager-Database from TCEng.
- Define Datapackage and Order for the PlmJobManager
- Define available Timeframes (day, night, take care of backup times)
- Check Licences
- Check-Out Objects ... check them in, or mark them.
- Run Refile-Tests

Phase 3 – Performing

- Update the PlmJobManager-Database
- Explicit Check-Out Objects / User reference in a folder
- Check-Out Objects → prepare a Check In
- Run a Clearlocks
- Backup the Data
- Create Data packages from the PlmJobManager
- Refile-Packages at the PlmJobManager-Clients
- Analyze the PlmJobManager-Database
- Analyze the error Refile-Parts
- Repair the error Parts
- Send repaired Parts for a new Refile
- Analyze the Refile results ... create reports from the PlmJobManager

Interface of the *PLMJobManager* NXRefile

The Interface is divided into different task areas:

- Item List → Shows the Itemlists and the Refile results
- Job Control → Organize and control of the PLMJobClient processes
- Reports → Analysis of the Results
- Job Scripts and Parameters → Setup and control of the Job parameter and scripts
- Sites / Setup → Setup and control and dispatching of the data (Item's, Datasets)

RefileManager V2.2 (Build:117) [WorkInst:CustomerNameShort_WorkInst_TEST][JobServer:JF-18:13000][@Dipl.Ing. J.Feuerstein (13.06.2007)]

File Print Job's Stop View Extra Exit

Item List Job Control Reports Job Scripts and Parameters Sites / Setup

Reset filter Status: Ok+Err Err Ok All (inc. non proc.) Proc. after: 15.06.2007 00:00 Proc. before: 15.06.2007 23:59

List max. IR's: 10 IR Name: Proc. Status: Err. Code: Comp. Min: Max: Site: UgM.Type: DataS.Type: sel via Group Packet

Load IR's Edit Proc.Status View JobLog JobLog show in folder Open with NX IR's to Sel.Group:

Ir.NameRev	Ir.Own	Rt.Jo	Ir.Creat	Ir.Owner	Ir.LastMo	DaS.Type	UgM.Comp	UgM.LastModDate	Rt.CmdLine	Rt.ErrorMsg	Rt.St
000002/A	Item1	SP	D	09.07.2006 dba	infodba	refile_user	master	0	22.05.2007 08:43	-keep_volume=yes -update_mod_props=no -non...	
000002/B	Item1	SP	D	14.06.2007 dba	infodba	refile_user	master	0	14.06.2007 10:58	-keep_volume=yes -update_mod_props=no -non...	
000008/A	Item1	SP	D	07.12.2006 dba	infodba	refile_user	master	0	22.05.2007 08:42	-keep_volume=yes -update_mod_props=no -non...	
000009/A	Item1	AP	N	07.12.2006 dba	infodba	refile_user		2	30.05.2007 13:18		
000011/A	Item1	AP	N	07.12.2006 dba	infodba	refile_user		3	30.05.2007 13:21		

Summaries for Item1
Count = 5 Maximum = 3

Ir.NameRev	Ir.Own	Rt.Jo	Ir.Creat	Ir.Owner	Ir.LastMo	DaS.Type	UgM.Comp	UgM.LastModDate	Rt.CmdLine	Rt.ErrorMsg	Rt.St
000002/A	Item2	SP	N	09.07.2006 dba	infodba	refile_user		0	22.05.2007 08:43		
000002/B	Item2	SP	N	14.06.2007 dba	infodba	refile_user		0	14.06.2007 10:58		
000008/A	Item2	SP	N	07.12.2006 dba	infodba	refile_user		0	22.05.2007 08:42		
000009/A	Item2	AP	N	07.12.2006 dba	infodba	refile_user		2	30.05.2007 13:18		
000011/A	Item2	AP	N	07.12.2006 dba	infodba	refile_user		3	30.05.2007 13:21		

Summaries for Item2
Count = 5 Maximum = 3

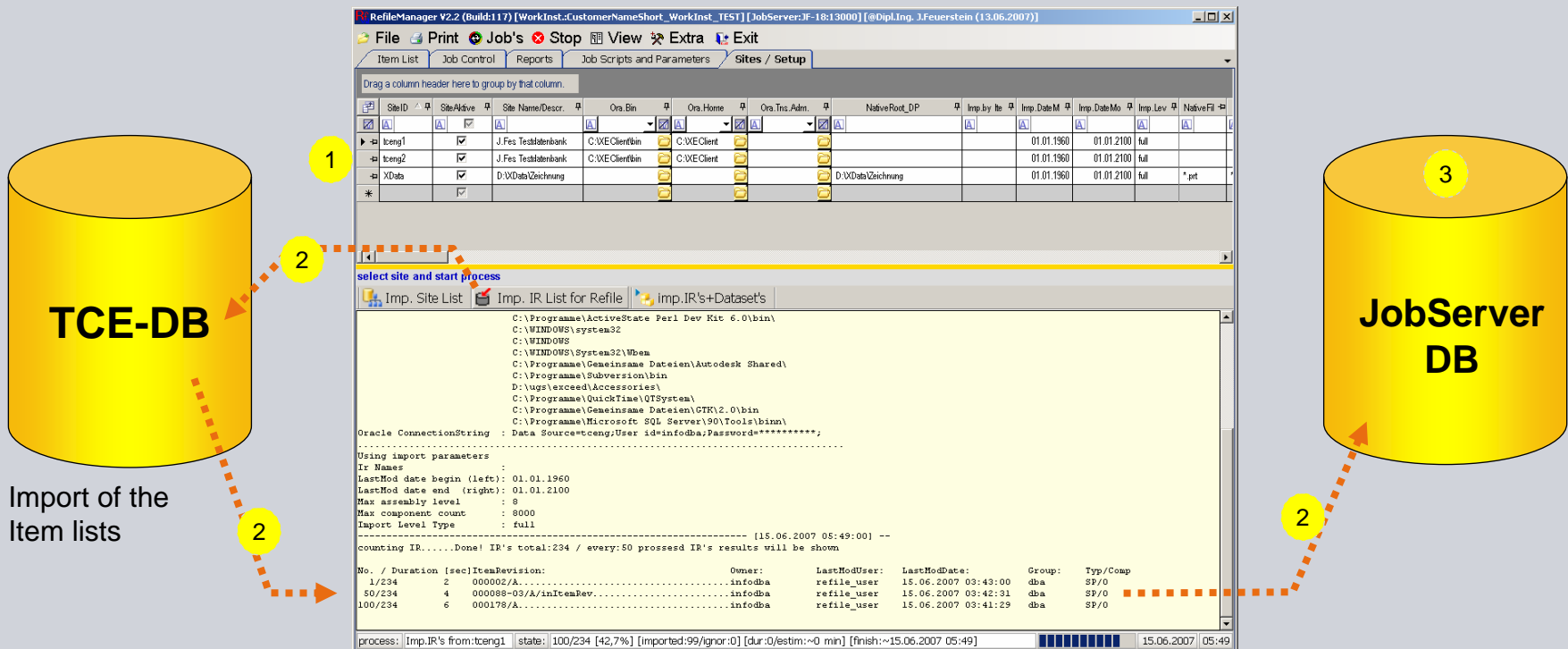
Info: 0[sec] needet to load and display: 100 datarows visible in DataGrid:100
----- [15.06.2007 05:15:52] --
Info: 0[sec] needet to load and display: 100 datarows visible in DataGrid:1
----- [15.06.2007 05:16:18] --
Info: 0[sec] needet to load and display: 10 datarows visible in DataGrid:1
----- [15.06.2007 05:19:46] --
Info: 0[sec] needet to load and display: 10 datarows visible in DataGrid:1
----- [15.06.2007 05:20:22] --
Info: 0[sec] needet to load and display: 10 datarows visible in DataGrid:1

process: .idle... state: .idle... 15.06.2007 05:44

Introduction

Load the data into the PLMJobManager

- In the PLMJobServer we capture all customer Sites (1)
- Import of all Item list data into the PLMJobServer-DB (2).
- This is the content of the PLMJobServer-DB (3) and they are the database for the NX-Refile Process



Setup and control of the Refile options and scripts

The setup and control of the NX-Refile Parameter **(2)** is done inside the JobServer **(1)**. Also the needed scripts **(3)** and the NX-Refile setup **(4)** will be organized there.

Benefit:

- ✓ Easy administration of all NX-Refile parameters. **(2)**
- ✓ Clear organization of the scripts **(3)** and setups **(4)**

The image displays three screenshots from the Siemens NX RefileManager V2.2 software interface, illustrating the setup and control of the NX-Refile options and scripts.

1. Job Scripts and Parameters: This screenshot shows the 'Job Scripts and Parameters' tab in the RefileManager. It lists various job scripts (RISp, RAp, RISpNative, RApNative) and their corresponding parameters. The 'Script File' column shows the location of the scripts, such as 'RefilleNx4\ClientScripts\RefilleNx4.Cmd'.

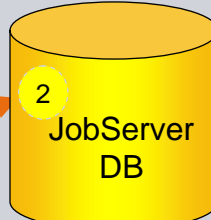
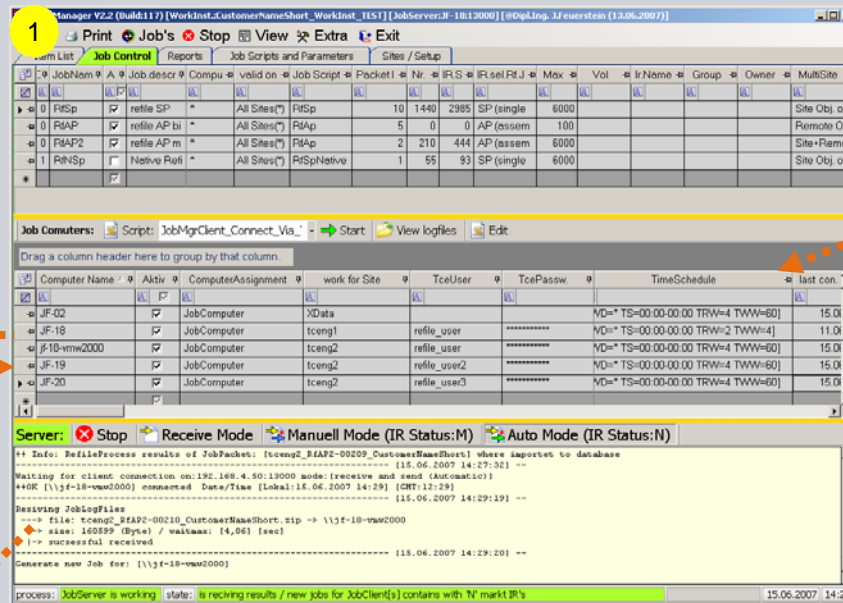
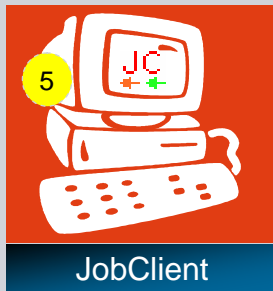
2. Setup refile parameters: This screenshot shows the 'Setup refile parameters' dialog box. It allows users to configure various options for the refile process, such as 'Use', 'Option', 'Value', and 'Description'. The 'Preview refile parameters' section at the bottom shows the current configuration.

3. RefileNx4.Cmd: This screenshot shows the 'RefileNx4.Cmd' script file. It contains a series of commands and conditional statements that control the refile process, including setting the 'run_refile' variable and checking for the existence of certain files and directories.

4. RefileNx4.Cmd: This screenshot shows the 'RefileNx4.Cmd' script file, which is a batch file used to execute the refile process. It contains a series of commands and conditional statements that control the refile process, including setting the 'run_refile' variable and checking for the existence of certain files and directories.

Working with the JobServer: Job Control

The JobServer (1) will be located at one of your locations. It organizes the JobServer-DB (2) organizes all Job Clients (3) and storage of the Refile results. (4)



The JobServer if organizing the received JobLogfiles

Procedure of the processing:

The JobClients (5) are connecting to the JobServer (1) and receiving a Refile Job (packet) (6). The JobClient hands over the Results to the JobServer (7).

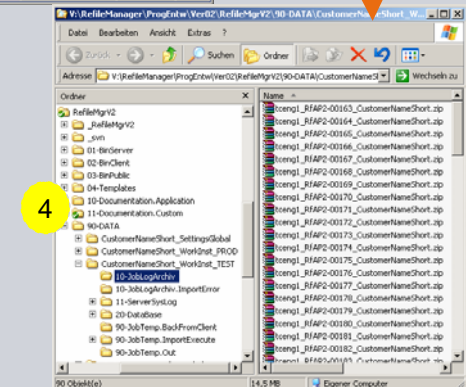
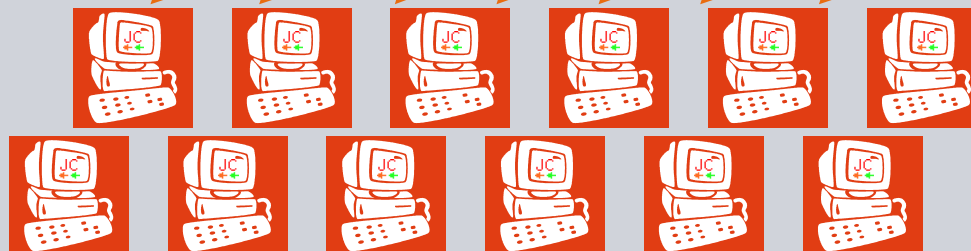
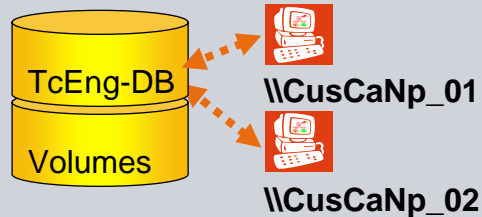


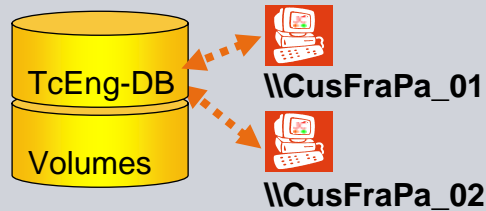
Chart Overview “Mutisite environment”

Sites

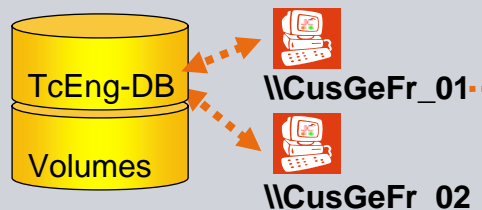
Site: USA
Location: Newport, Carlifornia



Site: Europe1
Location: Paris, France



Site: Europe2
Location: Frankfurt, Germany



JobServer and NXRefile environment

The JobServer will be located at one of your locations. From all sites the IR Lists for NX-Refile will be imported to the JobServer Database

JobServer V2.31 (Build:09.02.2008) [WorkInst.:TEST] [JobServer:JF-18:13000] [@Dipl.Ing. J.Feuerstein]

File Print Job's Stop View Extra Exit

Items Rf Job Control Reports Scripts/Param. Sites/Data Import

Or	JobName	Job.description	Aktiv	valid on site	Job Script/Para	MultiSite Objects	Packet IRs si
01	RfSpOwningParts	Refile Single Parts from Owning Site	<input checked="" type="checkbox"/>	All Sites(*)	RfSp	S_Obj	
02	RfSpRemoteParts	Refile Single Parts from Remote Site	<input checked="" type="checkbox"/>	All Sites(*)	RfSp	Remote Obj. only	
03	RfApOwningParts	Refile Assembly Parts from Owning Site	<input checked="" type="checkbox"/>	All Sites(*)	RfAp	S_Obj	
04	RfApRemoteParts	Refile Assembly Parts from Remote Site	<input checked="" type="checkbox"/>	All Sites(*)	RfAp	Remote Obj. only	

Job Computers: Script: select Start View logfiles Edit

Drag a column header here to group by that column.

Computer Na	Aktiv	work for Site	ComputerAssign	Schedule	Job.Info
CusCaNp_01	<input checked="" type="checkbox"/>	CusCaNP	JobClient	[TRW=4] [TWW=15] [WD=* TS=17:30-05:30]	active
CusCaNp_02	<input checked="" type="checkbox"/>	CusCaNP	JobClient	[TRW=4] [TWW=15] [WD=* TS=17:30-05:30]	active
CusFraPa_01	<input checked="" type="checkbox"/>	CusFraPa	JobClient	[TRW=4] [TWW=15] [WD=* TS=17:30-05:30]	active
CusFraPa_02	<input checked="" type="checkbox"/>	CusFraPa	JobClient	[TRW=4] [TWW=15] [WD=* TS=17:30-05:30]	active
CusGeFr_01	<input checked="" type="checkbox"/>	CusGeFr	JobClient	[TRW=4] [TWW=15] [WD=* TS=17:30-05:30]	active
CusGeFr_02	<input checked="" type="checkbox"/>	CusGeFr	JobClient	[TRW=4] [TWW=15] [WD=* TS=17:30-05:30]	active

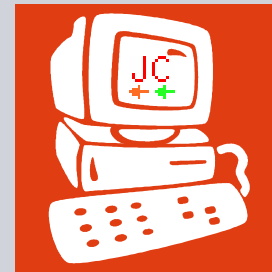
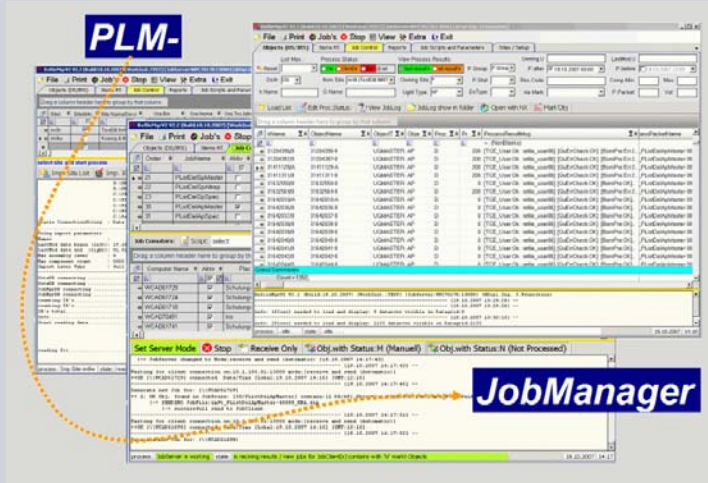
Set Server Mode Stop Receive Only Obj.with Status:M (Manuell) Obj.with Status:N (Not Pro

SiteId : CusCaNP
Node Name : CusCaNP_01 [Mem:1023Mb]
Node NX Version : v4.0.3.3
Node TCE Version : 913
RefileJob.Log : _RefileJob.LOG
Refile IR list : CusCaNP_RfSp-00006_CustomerNameShort_ObjectsList.txt
Refile comands : -keep_volume=yes -update_mod_props=no -non_masters=yes -refile_released=yes -bypass=yes

Site: CusCaNP ItemNameRev: 000128/A DataSetName: 000128/A DataSetType: master ErrCode: 0 Process Time Start: 18.02.2008 14:12:43

process: ..idle... state: ..idle...

System requirements



JobServer:

- WinXP or Win2000 Workstation
- W2003 or W2000 Server



JobClient:

- Workstation WinXP or Win2000
- with Full NX- und TCE-Installation

Service models ...

Full-Service (20% Customer; 80% SIEMENS PLM)

- SIEMENS PLM covers the complete planning, the analysis and the Refile project itself with the PlmJobManager.
- We see 20% for customer supply...

Support (80% Customer; 20% SIEMENS PLM)

- We only make support thru consulting, workshops or agreed service days.
- Planning analysis and the Refile itself does the customer.

Refile Time calculation example:

- Approx. 320 NX-Datasets (DS) each Client and each hour.
- With a Client availability of 12 h, we receive 3840 DS/day each client.
- → multiple clients needed
- → needed Refile period?



Teamwork ...

Teamwork for customer projects in the area of:

PLMJobManager – NXRefile

Siemens PLM ⇐ Customer ⇒ Dipl.Ing. J.Feuerstein

We have a common target:

⇒ defined tasks as a business model

PLMJOBMANAGER



NX-REFILE

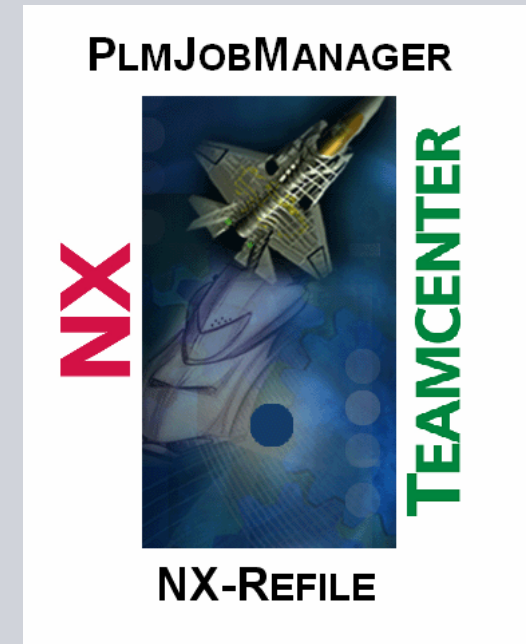


Success stories ...

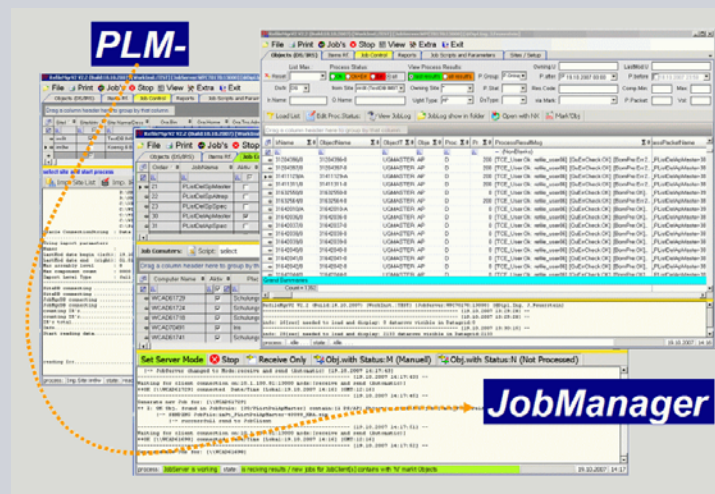
Refile-Projects:

- Koenig & Bauer AG
- B/S/H (Refile NX2 + NX4) (28 Standorte)
- Windmüller und Hölscher
- Dorst Technologies
- Isringhausen
- Freudenberg
- MontBlanc
- Reintjes
- Siemens Konstanz I&S Postsysteme
- Stabilus
- Möller
- Bizerba
- Renk AG Augsburg
- Grob (in preparation)
- ASML (in preparation)

~ 8.000.000 Datasets successfully
refiled with PLMJobManager



Thanks for your attention



Josef Feuerstein, Büro Feuerstein
Christof Keller, Siemens PLM
<http://www.PLMJobManager.com>

Notes