



TAURUS for RDz

Integrating Tools in RDz

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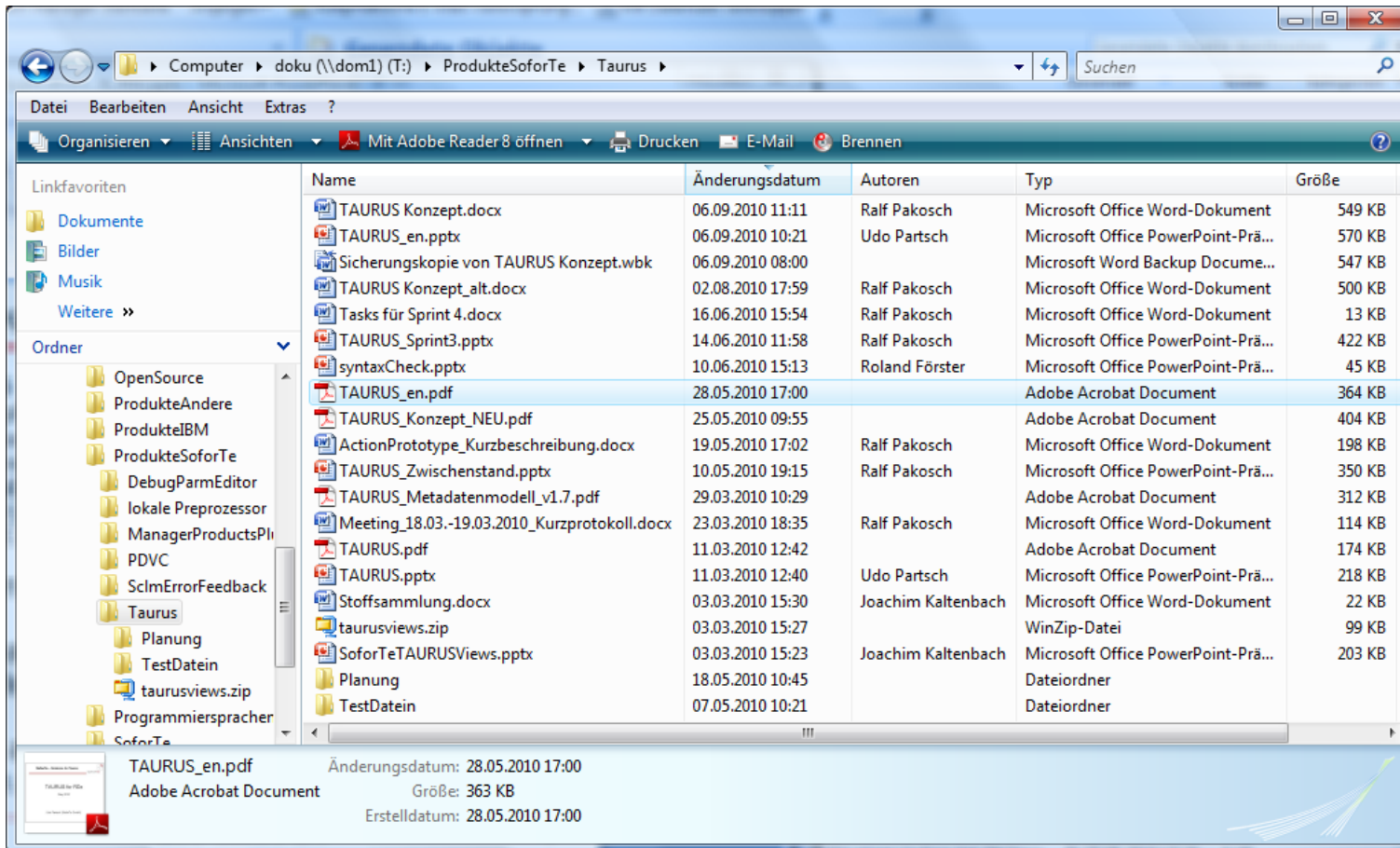
Initial Situation

- Existing Development Tools for z, e.g.
 - Based on ISPF
 - In-house Development Procedures
 - Software Source and Configuration Management on z
 - Home-grown
 - Standard Product (e.g. SCLM, Endeavor, ChangeMan)
- Implementation of RDz

Requirements:

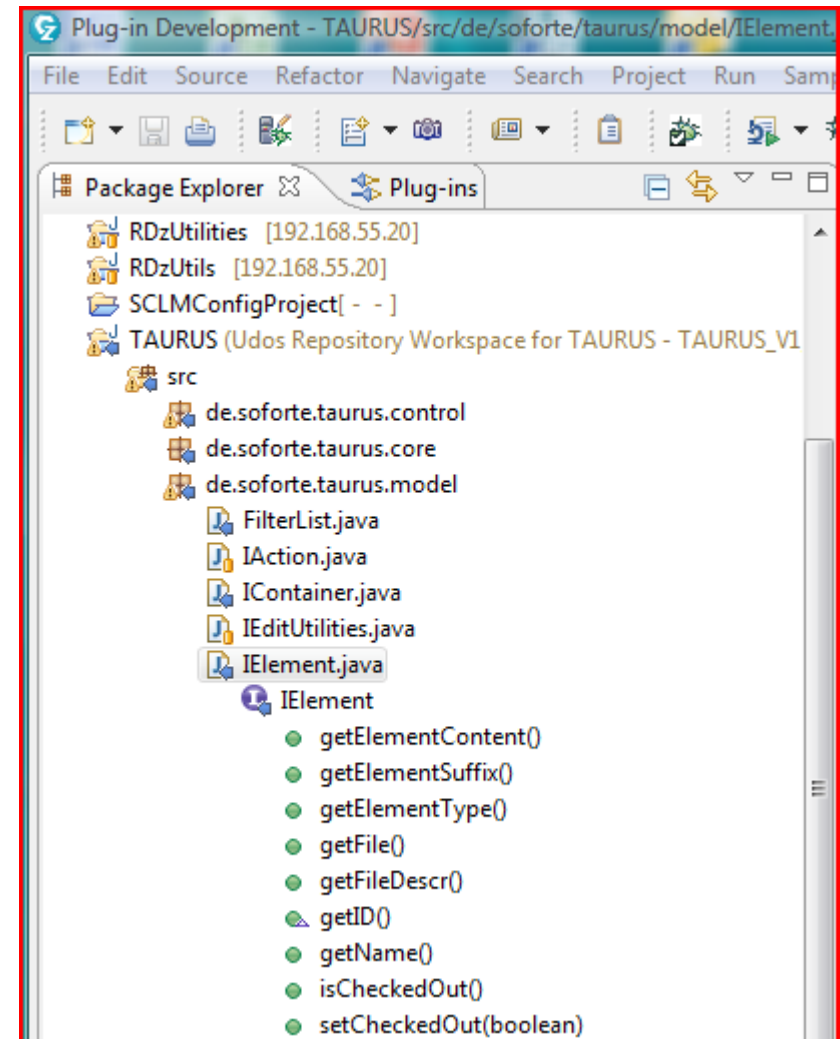
- Cost-effective integration of existing mainframe or distributed development tools into RDz
- Keep existing processes stable (1. Step)

Windows Explorer



- Navigator contains folders, no files
- Files are displayed in a table view with sortable columns

- Navigator contains folders and files
- UI concepts optimized for JAVA development
 - Tree view with
 - Projects
 - Packages
 - Classes
 - Methods
- No table support for Java packages and Classes
 - not necessary?
 - Sort by name
 - Names are self-explanatory
 - Tree levels are well-arranged



Menu	Functions	Confirm	Utilities	Help			
BROWSE		SCLM.DEV1.SOURCE			Row 00001 of 00026		
Command ==>					Scroll ==> CSR		
Name	Prompt	Size	Created	Changed		ID	
FLM01XY		13	2010/02/26	2010/09/06	11:41:44	SOFJK	
TESTUP2		30	2010/08/26	2010/09/05	19:31:42	SOFCD	
FLM01EQU		21	2009/06/18	2010/08/31	14:21:56	SOFCD	
TESTUP1		32	2010/08/30	2010/08/30	12:00:07	SOFCD	
FLM01AD9		31	2010/08/16	2010/08/27	14:51:14	SOFRP	
FLM01MD6		19	2009/06/18	2010/08/27	08:01:28	SOFJK	
FLM01CDT		7	2009/11/11	2010/08/25	11:43:38	SOFCD	
SOFUP1		12	2010/01/11	2010/08/25	11:43:13	SOFCD	
FLM01INC		10	2009/11/12	2010/08/24	14:20:57	SOFRP	
FLM01CD8		28	2010/07/07	2010/08/18	16:15:04	SOFUC	
TE06DB2		141	2010/08/16	2010/08/18	16:09:27	SOFCD	
FLM01MD2		18	2010/01/31	2010/08/18	16:07:03	SOFRP	
TE01DB2		141	2010/02/12	2010/08/10	11:24:53	SOFCD	
TE02DB2		142	2010/02/18	2010/08/10	11:16:19	SOFCD	
TESTDB2		141	2010/02/11	2010/08/10	10:55:55	SOFCD	
T01CDCB		1	2009/12/22	2010/08/04	16:28:30	SOFCD	
T00COB		33	2009/12/03	2010/08/04	16:25:25	SOFCD	
T01COB		81	2009/12/22	2010/07/18	16:54:57	SOFUP	
FLM01CD7		25	2010/06/03	2010/06/03	11:15:27	SOFCD	
INK0006		26	2010/03/06	2010/04/07	10:40:23	SOFJK	
TE05DB2		141	2010/03/01	2010/03/03	13:09:52	IBMUSER	
TE00DB2		141	2010/02/10	2010/02/18	18:59:11	IBMUSER	
STSP00		41	2009/12/09	2009/12/09	12:30:29	SOFRP	
FLM01CIN		0	2009/11/12	2009/11/12	15:44:57	SCLM	
FLM01MD1		0	2009/07/14	2009/07/14	15:29:06	SCLM	
FLM01MD3		0	2009/06/18	2009/06/18	10:13:47	SCLM	

- Navigation supported using dialogs (no tree structure)
- Files are displayed using table views with sortable columns

4 already existing alternatives integrating ISPF tools in RDz:

- **Menu Manager**
 - Integrating non complex tools
 - Working with the RDz project view,
 - Supported to extend RDz Project View, LPEX, Remote Systems View
 - Not supported with SCLM/DT, CARMA, ...
- **RDz plug-in development**
 - High flexibility to integrate tools
 - High effort, high skill
- **HATS**
 - Integrating complex mainframe tools, e.g.
 - ISPF tool is not maintainable
 - No source available
 - Cannot use two HATS applications for TSO/ISPF at the same time
- **CARMA**
 - Integrating a mainframe SCM tool
 - Mainframe configuration and programming
 - Often plug-in development necessary

TAURUS

in development, planned availability: end of 2010

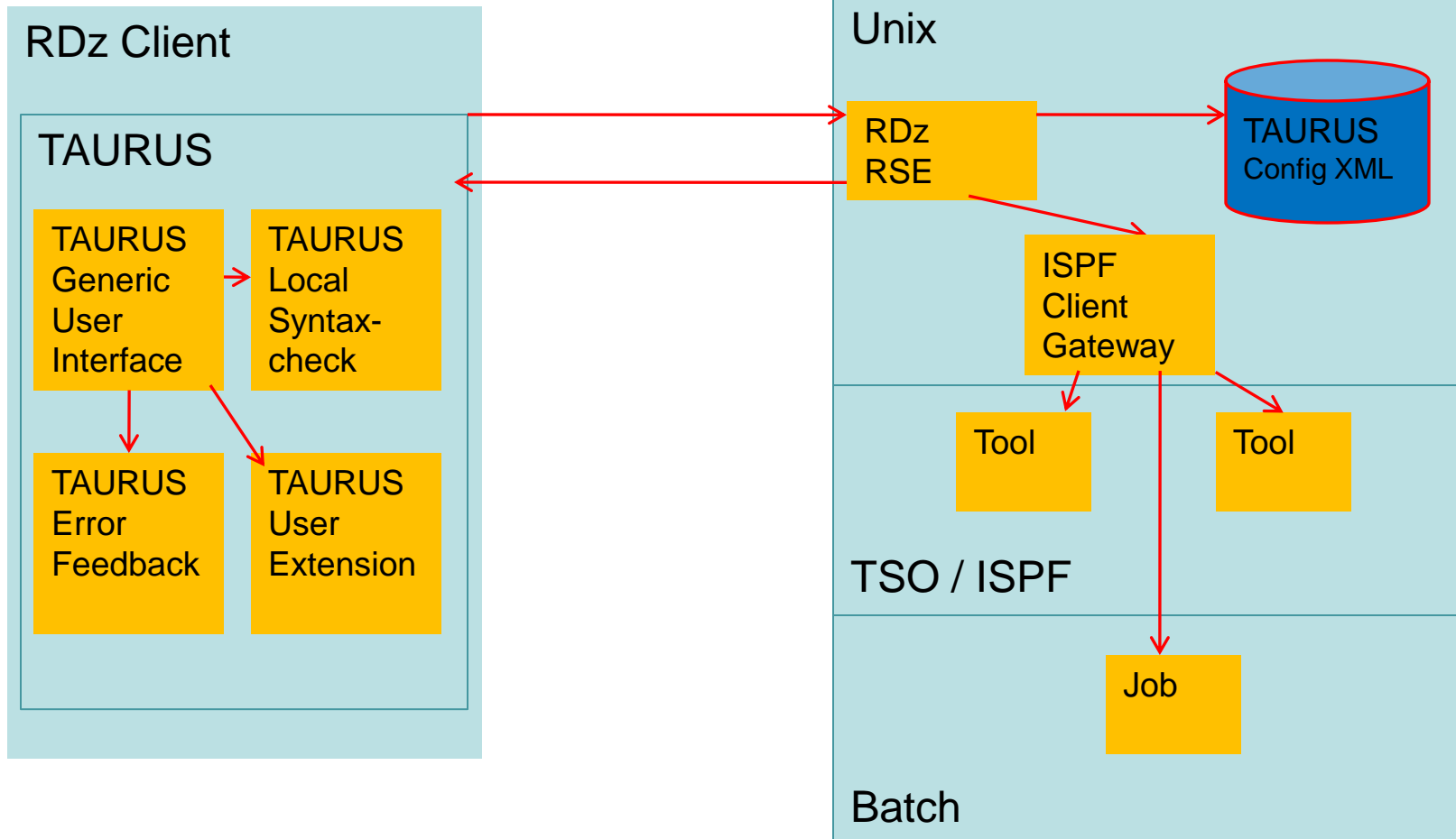
➤ TAURUS

- Tool **A**ttachment **U**tility and **R**epository based **U**ser Interface **S**upport
- Generic user interface to integrate mainframe and distributed tools into RDz
- TAURUS configuration
 - XML based Configuration using the Eclipse Modeling Framework (EMF)
 - Flexible user interface configuration
 - Configuration of the tool attachment
- TAURUS Menu Manager
 - Configurable menus

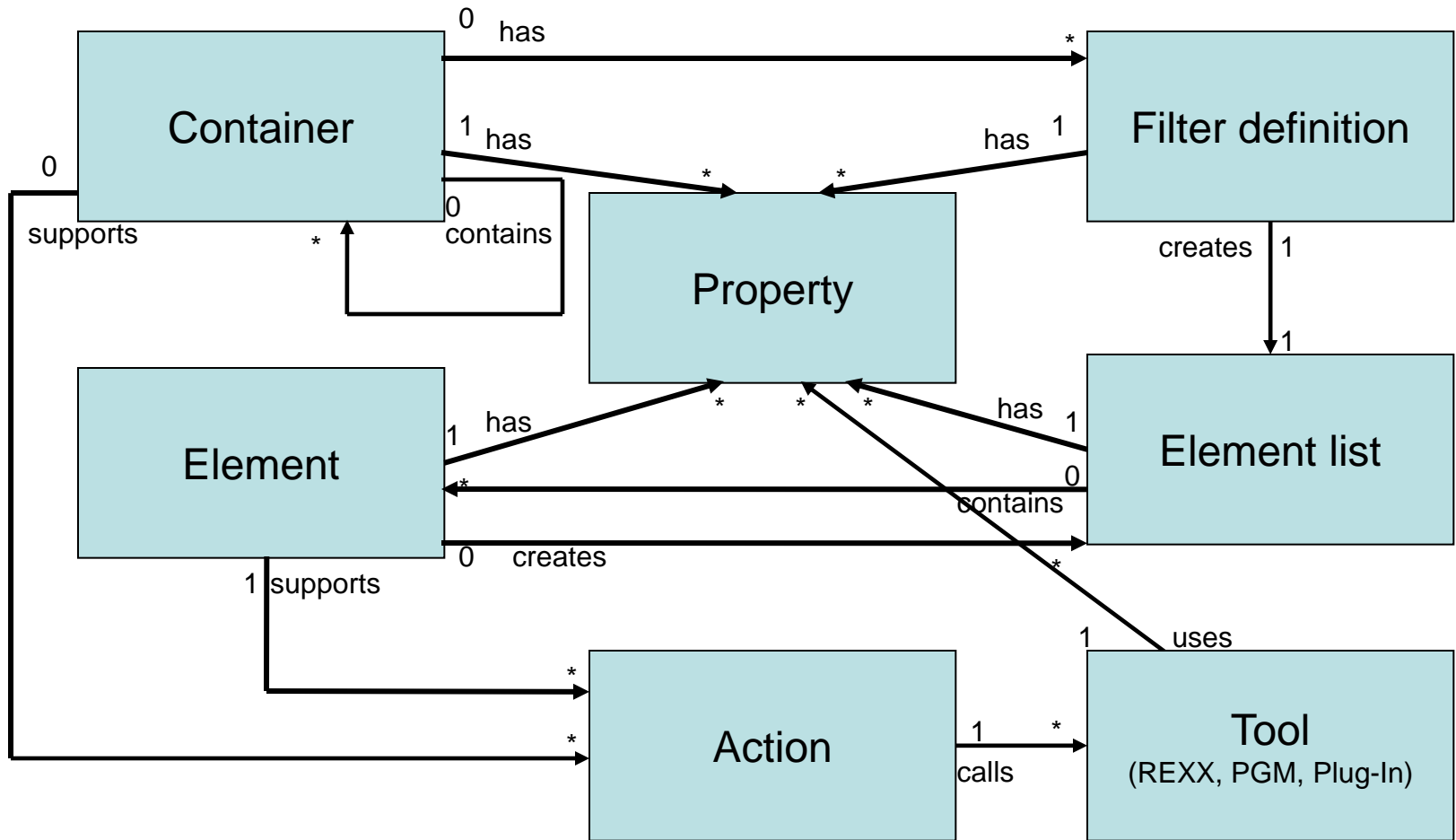
TAURUS technical Architecture

Windows

z/OS



TAURUS Architecture Model (simplified)



- User Interface Configuration
 - Tree structure
 - Table based element lists
 - Filter view
 - Element actions and properties
 - Container actions and properties
 - Filter actions and properties

- Configuration of the Tool Attachment (Action)
 - Mapping of mainframe and/or distributed tools to UI-Actions
 - Definition of tool input-/output parameters
 - Definition of file input/output
 - Mapping menus to actions

- Configuration to integrate standard RDz Functions in TAURUS Menus, e.g.
 - Error Feedback
 - Syntax check

- Menu Manager
 - Configurable menus
 - Input dialog
 - Display dialog
 - Selection dialog

- **Generic TAURUS Client**
 - Dynamically defined user interface based on the TAURUS XML configuration
 - **Tree View**
 - container structure
 - container actions
 - **Filter Table View**
 - Definition of search criteria for elements
 - Filter actions
 - **Element List Table View**
 - Element actions
 - **Properties View**
 - Container properties
 - Element properties
 - Filter properties
 - Supports **local and remote syntax check**
 - Supports **error feedback**
 - Supports **remote edit and/or local edit**
 - Supports **dynamic menus to enter, display or select data**

TAURUS Example – TAURUS Perspective

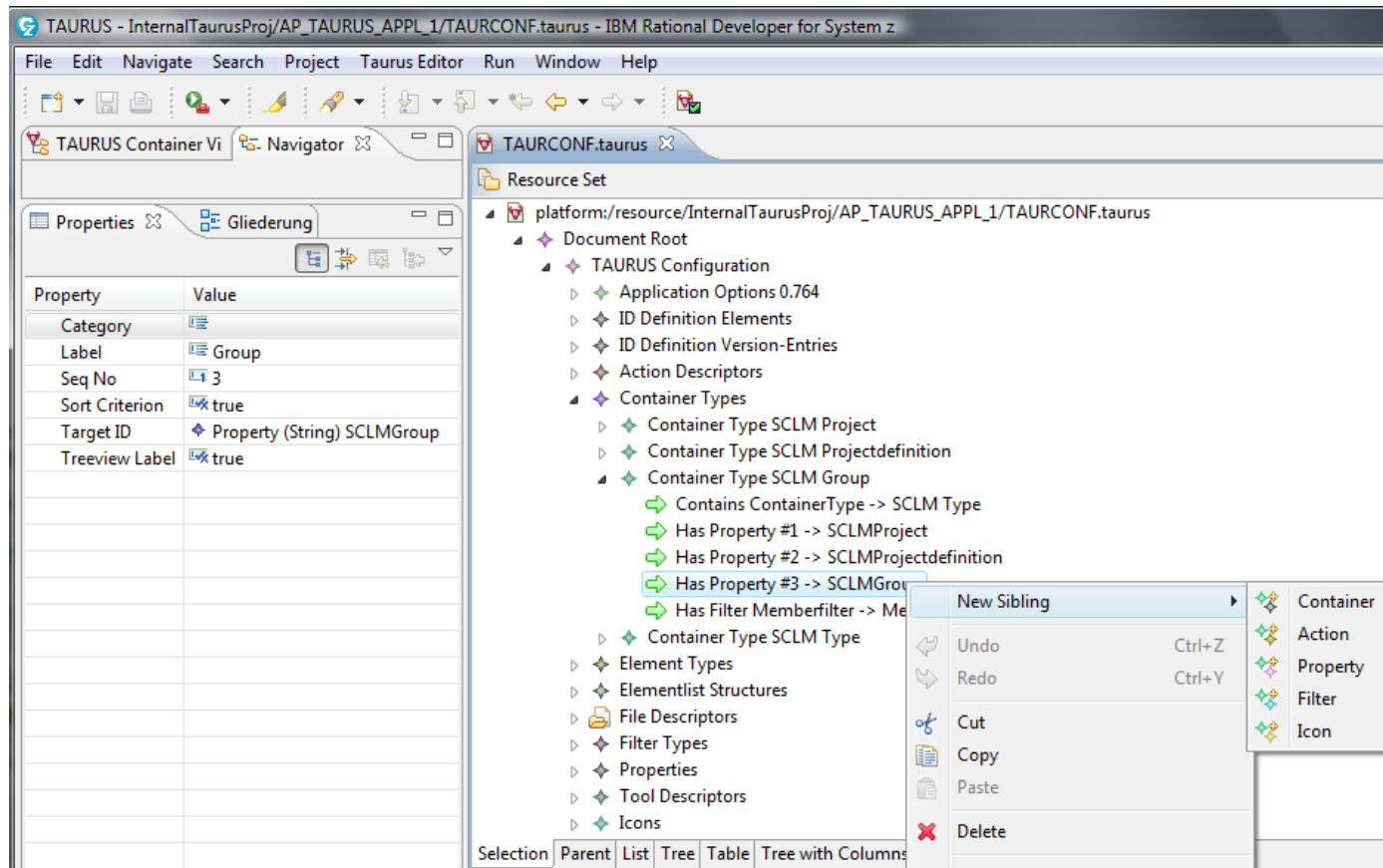
The screenshot illustrates the TAURUS workflow. It starts with the 'TAURUS Contain' window showing a project tree. A 'Create Filter' button is used to open the 'TAURUS Filter Dialog'. In this dialog, the 'Filename' is set to 'SCLM Demo Sources', and other fields like 'Project*', 'Projectdefinition*', 'Startgroup*', 'Type*', and 'Membername*' are populated. The 'Hierarchy-flag*' is checked. The 'OK' button is pressed to create the filter. This action results in the 'TAURUS Filter View' window, which displays a list of filters. A context menu is shown over the 'SCLM Demo Sources' filter, with options: 'New Filter', 'Delete Filter', and 'Change Filter'. The 'SCLM Demo Sources' filter is selected, and its properties are viewed in the 'Properties' window. The 'TAURUS Element Table View' window shows a table of SCLM Demo Sources with columns: Project, Group, Type, Member, Change Use..., Change Date Time, and Checked Out. A context menu is shown over the table, with options: Edit, Remote Browse, Check-Out, Check-In, Promote, Build, Local Syntax Check, Show Versions, Create SCLM Dependencies List, and Refresh Element Properties. The 'Refresh Element Properties' option is selected, which updates the 'Properties' window.

Project	Group	Type	Member	Change Use...	Change Date Time	Checked Out
SCLM	DEV1	SOURCE	STSP00	SOFRP	09/12/09 12:30:29	
SCLM	DEV1	SOURCE	T00COB	SOFCD	10/08/0	
SCLM	DEV1	SOURCE	T01CDCB	SOFCD	10/08/0	
SCLM	DEV1	SOURCE	T01COB	SOFUP	10/07/1	
SCLM	DEV1	SOURCE	TE00DB2	IBMUSER	10/02/1	
SCLM	DEV1	SOURCE	TE01DB2	SOFCD	10/08/1	
SCLM	DEV1	SOURCE	TE02DB2	SOFCD	10/08/1	
SCLM	TEST	SOURCE	TE03DB2	IBMUSER	10/02/1	
SCLM	RELEASE	SOURCE	TE03DB2	IBMUSER	10/02/1	
SCLM	RELEASE	SOURCE	TE04DB2	IBMUSER	10/02/1	
SCLM	DEV1	SOURCE	TE05DB2	SOFJK	10/03/0	
SCLM	DEV1	SOURCE	TE06DB2	SOFCD	10/08/1	
SCLM	DEV1	SOURCE	TESTDB2	SOFRP	10/08/1	
SCLM	DEV1	SOURCE	TESTUP1	SOFUP	10/09/1	
SCLM	TEST	SOURCE	TESTUP2	SOFRP	10/09/13 18:27:16	
SCLM	DEV1	SOURCE	TESTUP2	SOFRP	10/09/14 12:11:18	

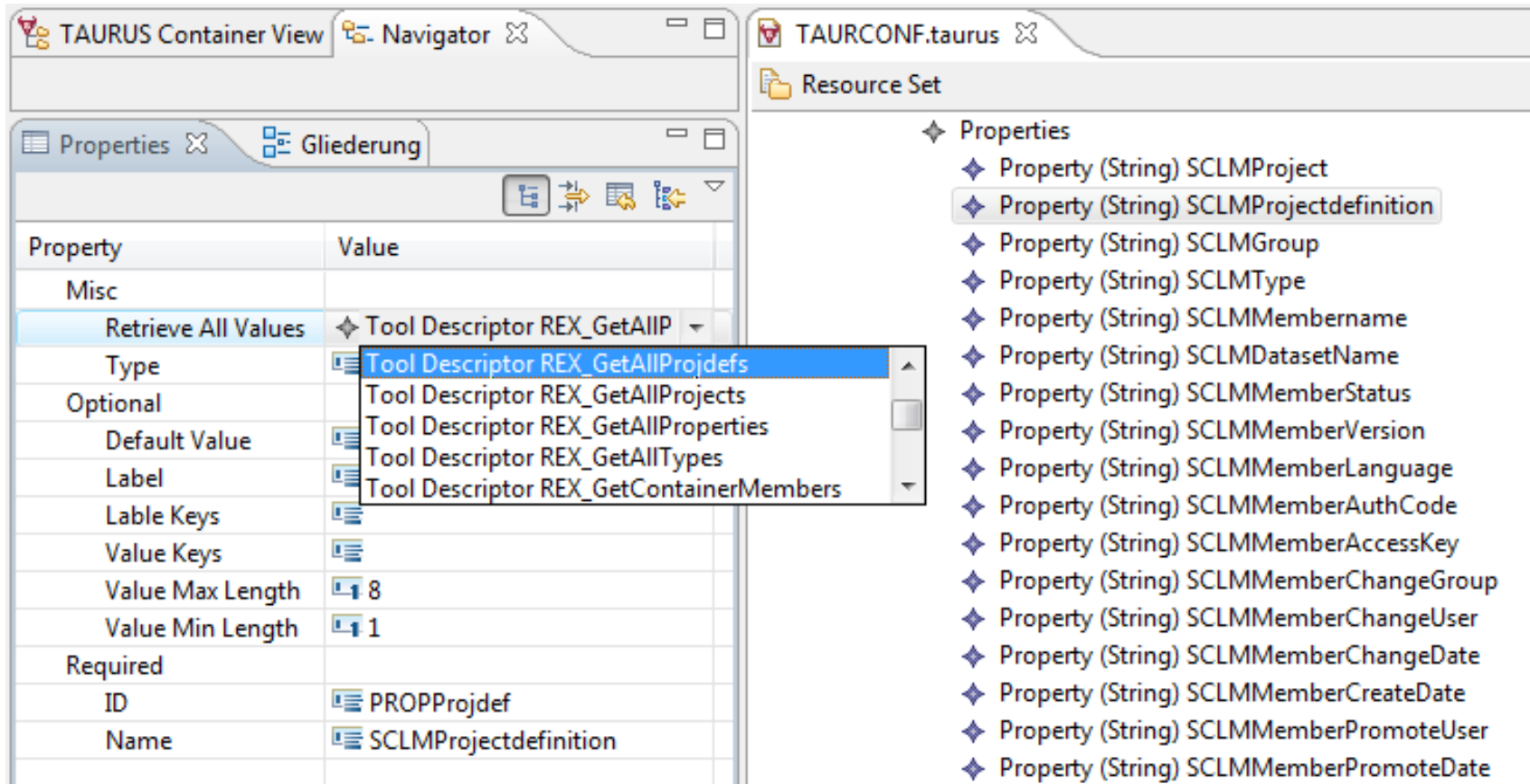
Property	Value
1 SCLM Accounting Info	
001 Project	SCLM
003 Group	DEV1
004 Type	SOURCE
005 Membername	TESTUP1
006 Physical Dataset	SCLM.DEV1.SOURC
007 Accounting Stat	EDITABLE
008 Member Versior	1
009 Language	COBE
010 Authorization C	P
011 Checked Out	SOFUP
012 Change Group	DEV1
013 Change Userid	SOFUP
014 Change Date Tir	10/09/17 15:29:33
015 Create Date Tim	09/12/18 11:37:10
016 Promote User	
017 Promote Date Ti	00/00/00 00:00:00
018 Predecessor Dat	00/00/00 00:00:00
019 Build Map Nam	
020 Build Map Type	
021 Build Map Date	10/09/17 14:51:37

TAURUS – Configuration Editor (1)

- Graphical editor for the TAURUS configuration file (XML)
 - Generated via EMF
 - Fully customizable
 - Easy to use



➤ Editing attributes in the Property View



The screenshot displays the TAURUS Configuration Editor interface. The main window is titled "TAURUS Container View" and "Navigator". The "Properties" view is active, showing a table with columns "Property" and "Value". The "Retrieve All Values" property is selected, and a dropdown menu is open, listing several tool descriptors. The "Value" column for "Retrieve All Values" is currently set to "Tool Descriptor REX_GetAllIP".

Property	Value
Misc	
Retrieve All Values	Tool Descriptor REX_GetAllIP
Type	Tool Descriptor REX_GetAllProjdefs
Optional	
Default Value	
Label	
Lable Keys	
Value Keys	
Value Max Length	8
Value Min Length	1
Required	
ID	PROPProjdef
Name	SCLMProjectdefinition

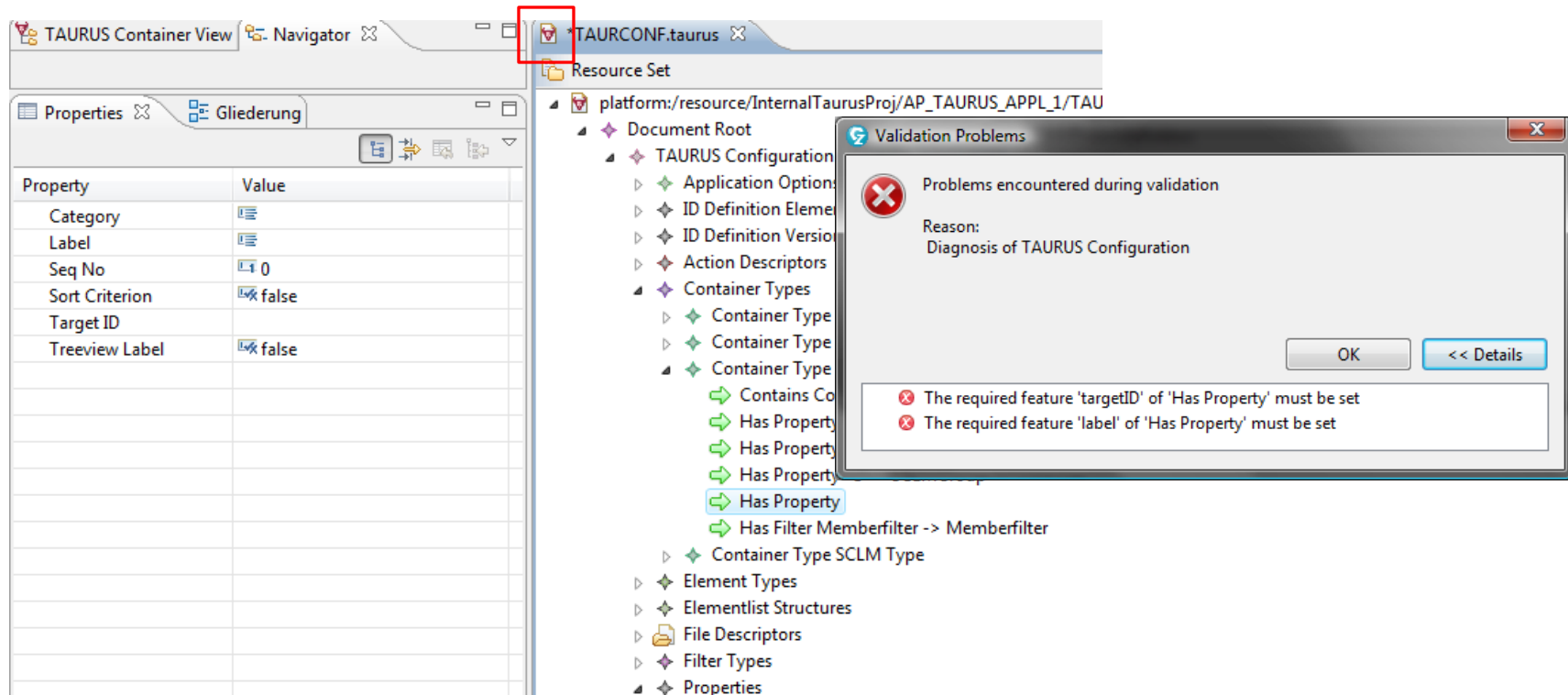
The dropdown menu for "Type" contains the following options:

- Tool Descriptor REX_GetAllProjdefs
- Tool Descriptor REX_GetAllProjects
- Tool Descriptor REX_GetAllProperties
- Tool Descriptor REX_GetAllTypes
- Tool Descriptor REX_GetContainerMembers

The right-hand pane shows the "TAURCONF.taurus" configuration file with a "Resource Set" containing a list of properties:

- Property (String) SCLMProject
- Property (String) SCLMProjectdefinition
- Property (String) SCLMGroup
- Property (String) SCLMType
- Property (String) SCLMMembername
- Property (String) SCLMDatasetName
- Property (String) SCLMMemberStatus
- Property (String) SCLMMemberVersion
- Property (String) SCLMMemberLanguage
- Property (String) SCLMMemberAuthCode
- Property (String) SCLMMemberAccessKey
- Property (String) SCLMMemberChangeGroup
- Property (String) SCLMMemberChangeUser
- Property (String) SCLMMemberChangeDate
- Property (String) SCLMMemberCreateDate
- Property (String) SCLMMemberPromoteUser
- Property (String) SCLMMemberPromoteDate

➤ Syntax Validation



The screenshot displays the TAURUS Configuration Editor interface. On the left, the 'Properties' pane shows a table with the following data:

Property	Value
Category	
Label	
Seq No	0
Sort Criterion	false
Target ID	
Treeview Label	false

The right pane shows a tree view of the configuration structure. A red box highlights the 'TAURCONF.taurus' tab. A 'Validation Problems' dialog box is open, displaying the following text:

Problems encountered during validation
Reason:
Diagnosis of TAURUS Configuration

The dialog box contains two error messages:

- ✘ The required feature 'targetID' of 'Has Property' must be set
- ✘ The required feature 'label' of 'Has Property' must be set

The dialog box has 'OK' and '<< Details' buttons.

➤ In addition the editor supports:

- Undo
- Restoring default values
- Copy, Paste, Drag & Drop of type definitions

Comparison TAURUS – CARMA (1)

	CARMA	TAURUS
Configuration	VSAM	XML (EMF graphical Editor)
Communication	CARMA Server	RSE with ISPF Client Gateway
Host Tool Integration	DLL required (C, COBOL,..)	REXX (recommendation)
Client Tool Integration	Not configurable	Plug-Ins configurable, Extension points
Container tree structure	supported	supported
Table view for elements	Configurable with limitations	supported
Local syntax check and error feedback	Not configurable	supported

Comparison TAURUS – CARMA (2)

	CARMA	TAURUS
Complex actions (1 to n tools)	Not configurable	supported
Action menus	Configurable with limitations	supported
Dependent element lists	Not configurable	supported
SCLM integration	Sample	TAURUS for SCLM
Endevor integration	With RDZ 7.6	TAURUS for Endevor
ChangeMan integration	as Service	TAURUS for ChangeMan