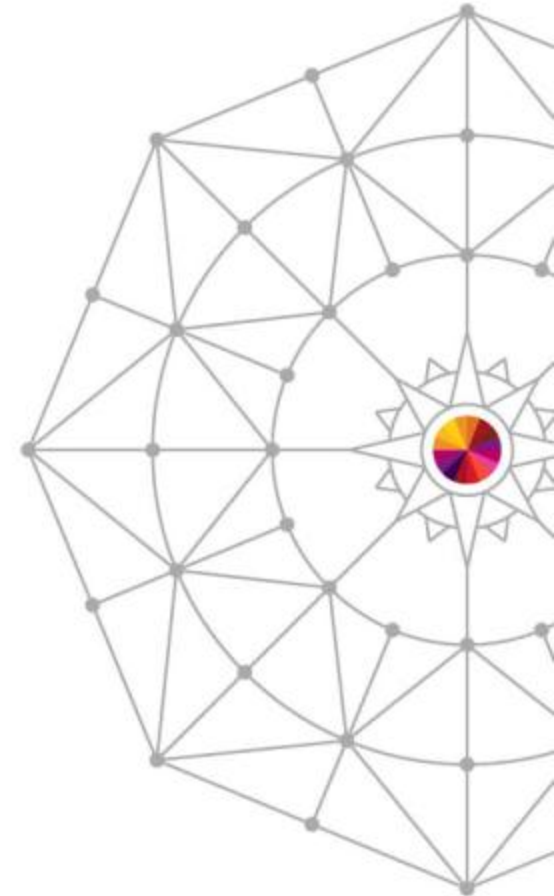


Universal Data Manager

Blair Svihra.
Dino Software Corporation.

12th March 2014
Session Number 15363



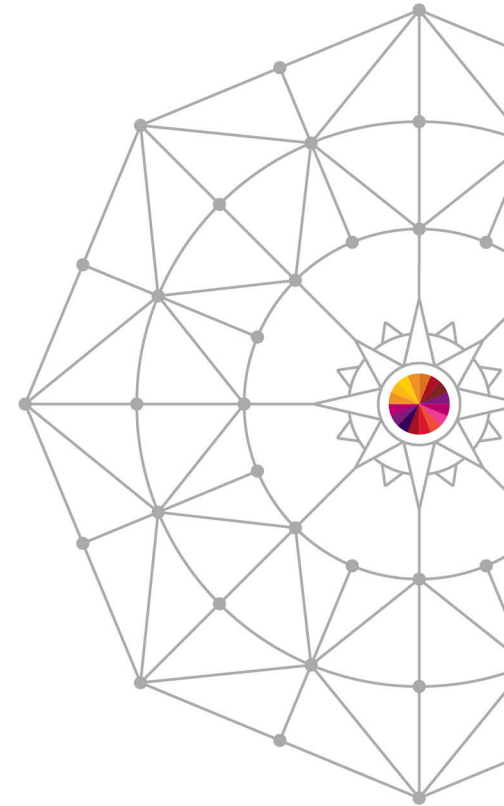
UDM Overview

- UDM is a true centralized SRM Tool for managing z/OS systems
- For all functions it allows processes to be run on multiple systems, in parallel
 - Results from all systems are returned to a single Window
- Unique design ensures installation takes minutes rather than days



UDM Scope

- UDM allows users to centrally store and run:
 - z/OS or TSO Commands
 - JCL decks
 - Reports
- UDM allows service levels to be defined and managed centrally via:
 - Timed scheduling
 - Log Message Traps
 - Single screen Alert monitor



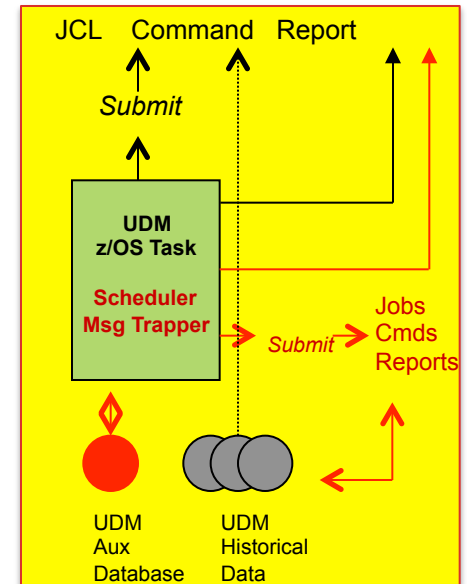
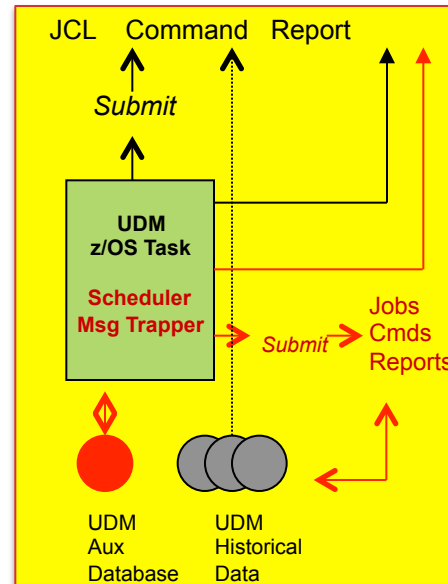
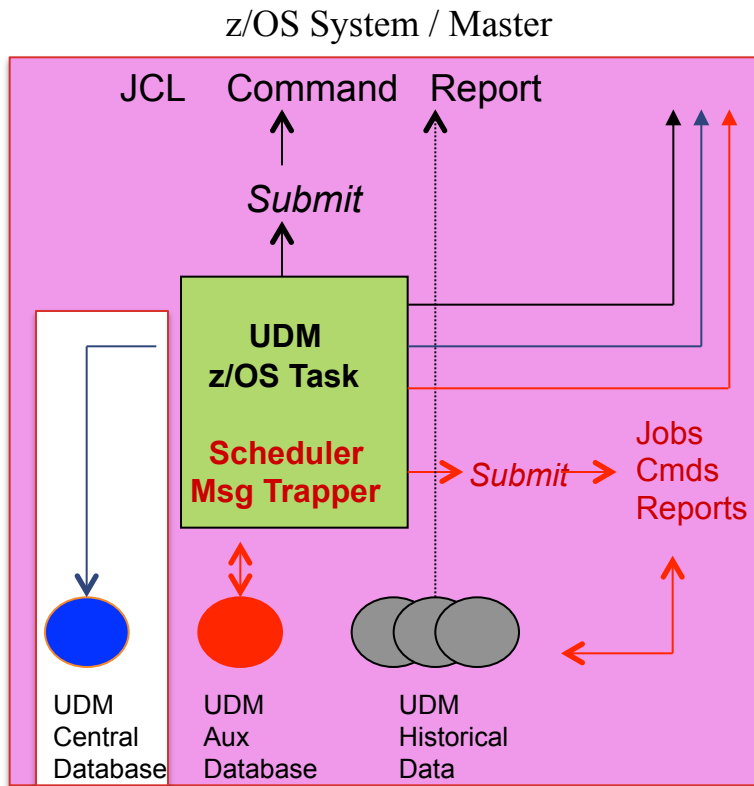
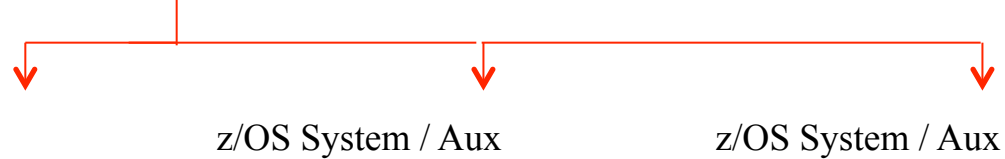
UDM Architecture

- UDM is the '*new kid on the block*' but it means the design uses the latest technologies
- Existing solutions tend to use either
 - Distributed servers
 - Host to Host communication
- UDM uses '*multi threading*' and communicates directly with all z/OS systems in parallel



UDM Architecture

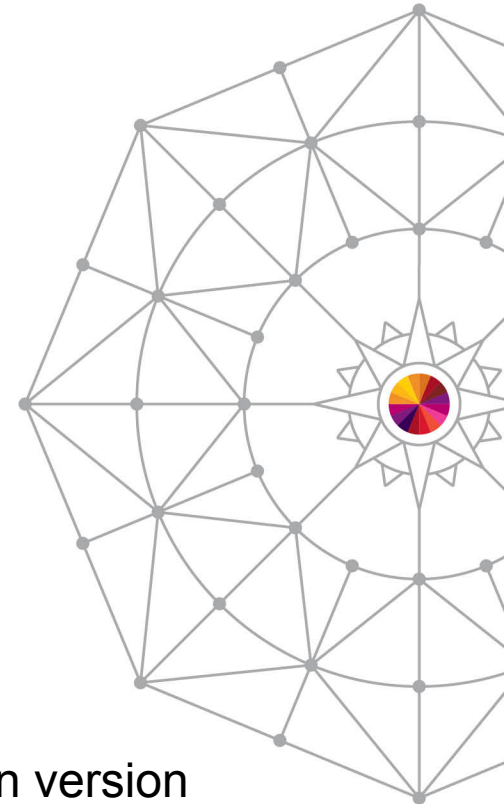
UDM GUI



UDM Installation

No complicated install or customization simply:

- Download Libraries
 - Only two libraries required
- Initialize Parmlib
 - Only four parameters actually required
- Start Procedures
 - Common procedure for all systems
- Start GUI
 - Common GUI no need for each user to have their own version



UDM Installation

Step 1 - Start the Procedure on each System

Simple Procedure

```
//UDMPROC          PROC SSID=UDM1,ID=UDM1
//UDMMAIN          EXEC PGM=UDMMAIN,TIME=NOLIMIT,REGION=0M,
//                  PARM='MEMBER=&ID,SSID=&SSID'
```

Minimal Libraries

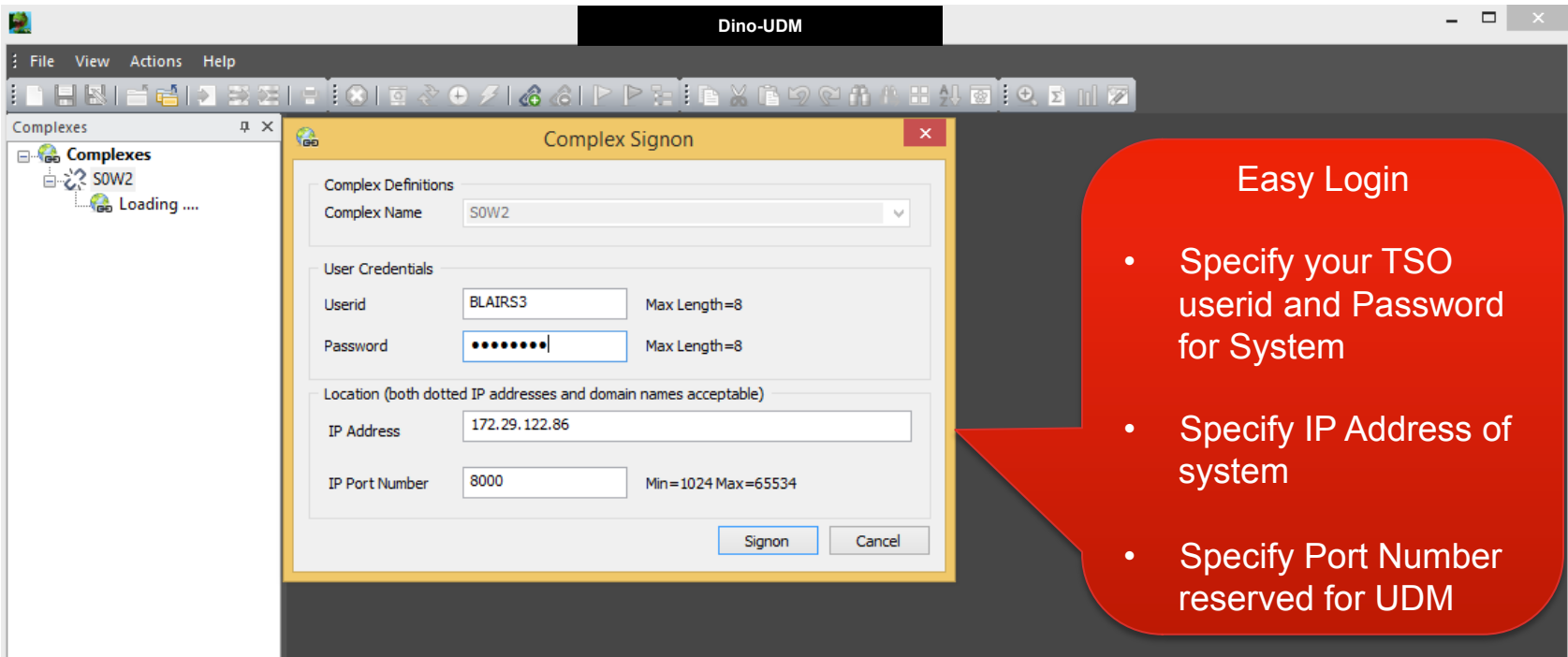
```
//STEPLIB          DD  DISP=SHR,DSN=DINO.BASE.V1R0.LOADLIB
//SYSCOPY           DD  DISP=SHR,DSN=DINO.BASE.V1R0.SYSCOPY
```

Minimal Parameters

```
//PARMLIB          DD *
SITEHLQ             = UDMTEST           /* Prefix for created datasets */
PORT                 = 8000              /* Port to use for communication */
COMPLEX_SYSTEM       = Y                 /* Main system in Complex */
SYSPLEX_SYSTEM        = Y                /* Main system in Sysplex */
MULTICAST_PORT        = 8005             /* Multicast broadcast port */
AUTH_CODE             = XXXXX-K04A1-DJNS0-FFFAG-Z4HKZ
```

UDM Installation

Step 2 - Start the GUI



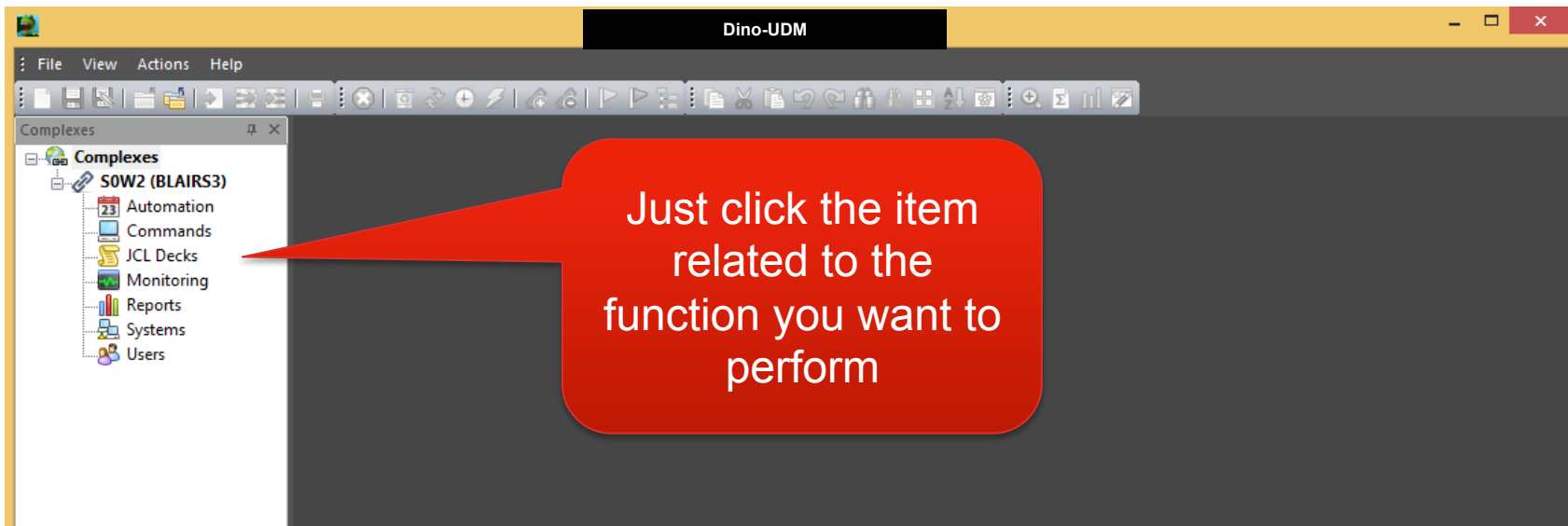
The screenshot shows the Dino-UDM application window. On the left, a tree view under 'Complexes' shows 'SOW2' with a 'Loading' status. The main area displays the 'Complex Signon' dialog box. This dialog has three sections: 'Complex Definitions' with a dropdown for 'Complex Name' set to 'SOW2'; 'User Credentials' with fields for 'Userid' (containing 'BLAIRS3', Max Length=8) and 'Password' (masked with dots, Max Length=8); and 'Location (both dotted IP addresses and domain names acceptable)' with fields for 'IP Address' (containing '172.29.122.86') and 'IP Port Number' (containing '8000', Min=1024 Max=65534). At the bottom right of the dialog are 'Signon' and 'Cancel' buttons.

Easy Login

- Specify your TSO userid and Password for System
- Specify IP Address of system
- Specify Port Number reserved for UDM

UDM Installation

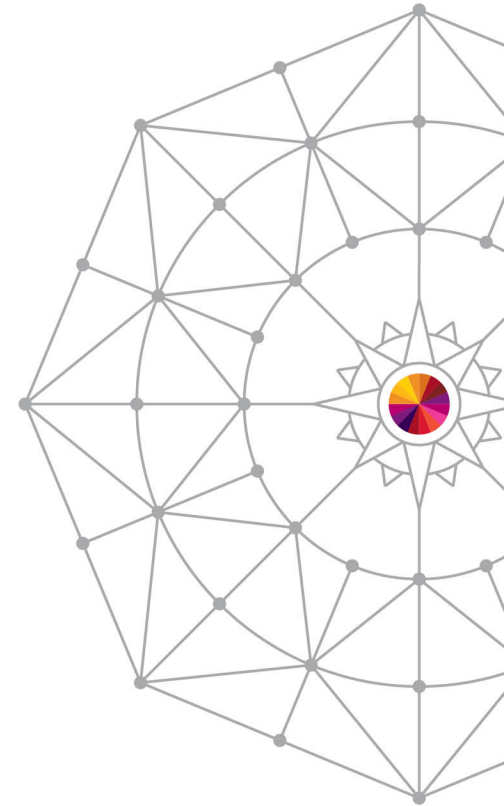
Step 3 Use the Features



UDM Features

UDM Divided into Four Main Areas

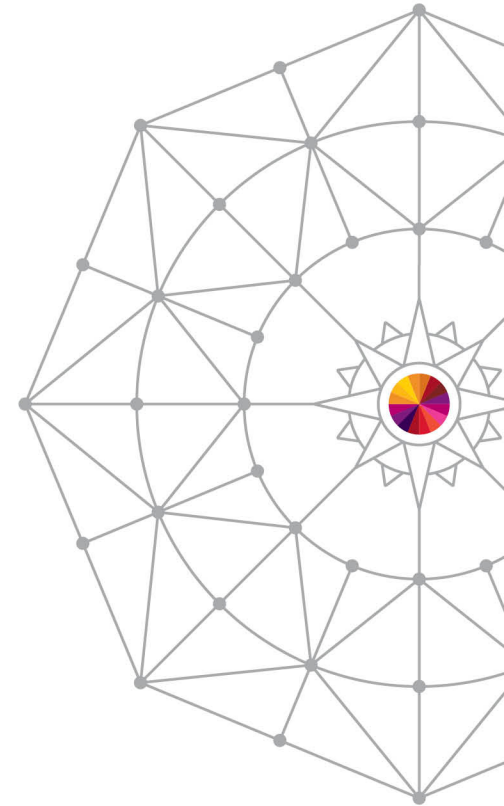
- Command Interface
- JCL Interface
- Reporting Interface
- Automation Interface



UDM Command Interface

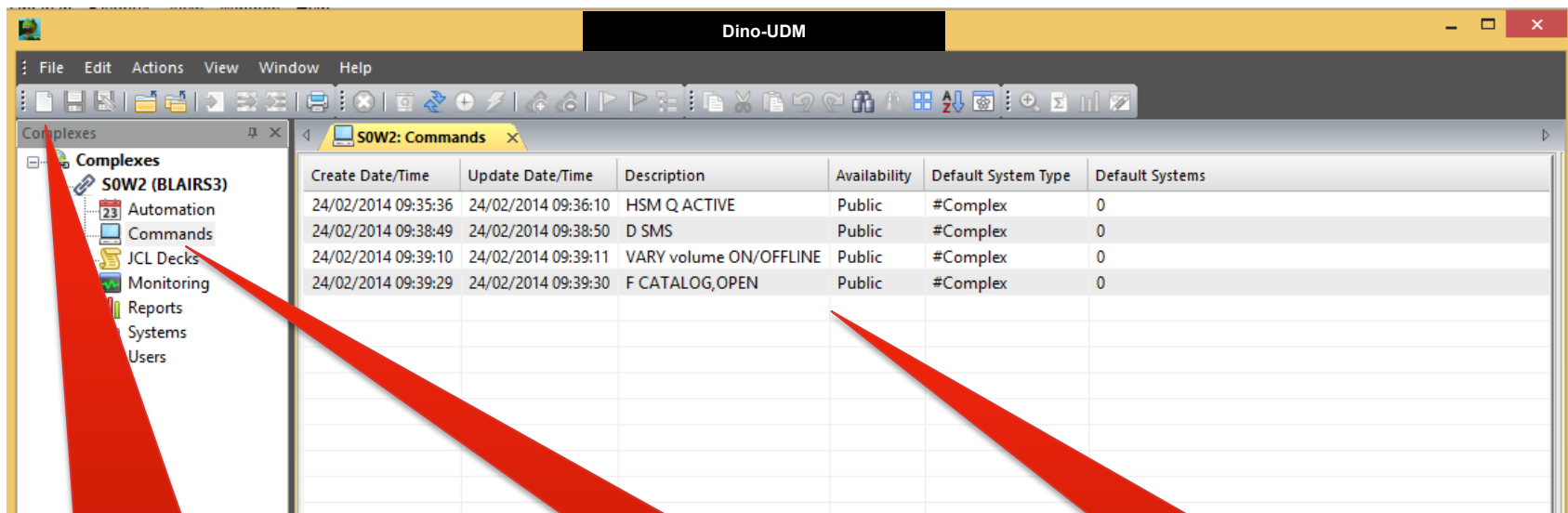
The Command Interface provides the ability to:

- Centrally define and store common commands
 - TSO or z/OS Commands can be specified
 - Variables allow generic commands to be created
- Issue Commands to multiple Systems
 - Commands issued with Users authority
- Review output within a single Window



UDM Command Interface

Centrally store common Commands (TSO/z/OS)



Create Date/Time	Update Date/Time	Description	Availability	Default System Type	Default Systems
24/02/2014 09:35:36	24/02/2014 09:36:10	HSM Q ACTIVE	Public	#Complex	0
24/02/2014 09:38:49	24/02/2014 09:38:50	D SMS	Public	#Complex	0
24/02/2014 09:39:10	24/02/2014 09:39:11	VARY volume ON/OFFLINE	Public	#Complex	0
24/02/2014 09:39:29	24/02/2014 09:39:30	F CATALOG,OPEN	Public	#Complex	0

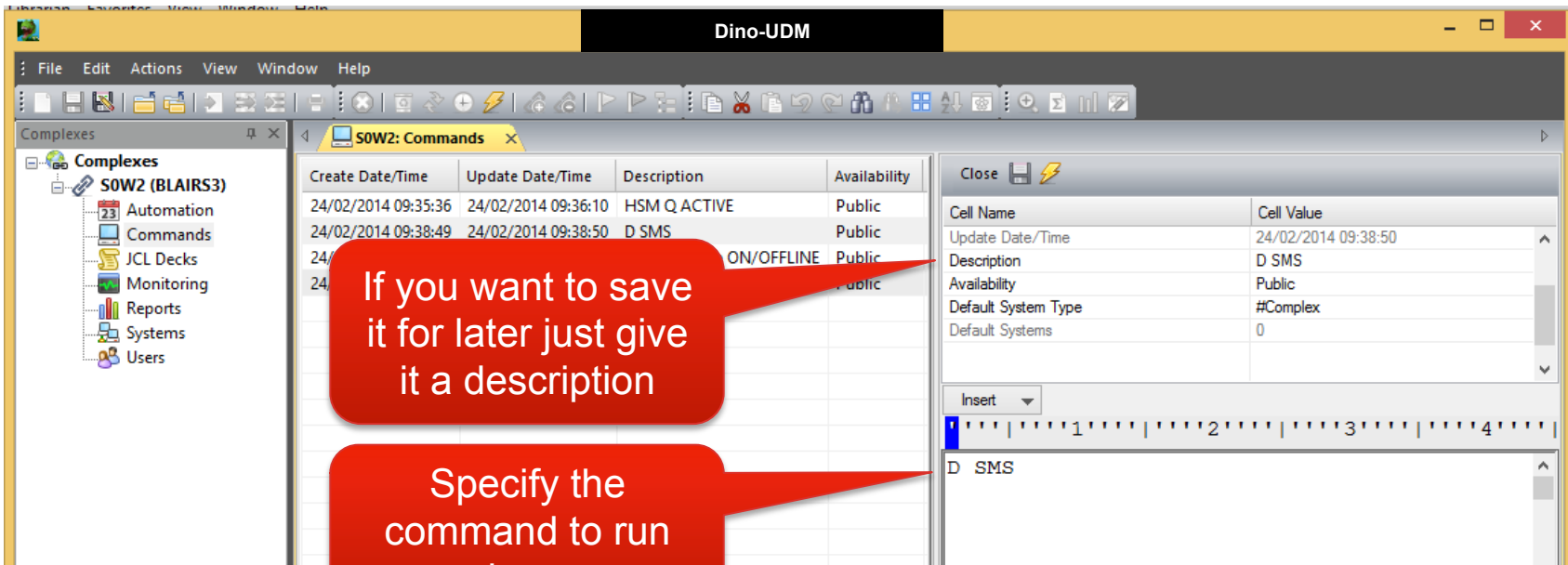
Add a new
Command

Double click to work
with Commands

Previously Saved
Commands

UDM Command Interface

Centrally define common Commands (TSO,z/OS)



The screenshot shows the Dino-UDM application window. On the left is a tree view with 'Complexes' expanded, showing 'SOW2 (BLAIRS3)' and its sub-items: Automation, Commands, JCL Decks, Monitoring, Reports, Systems, and Users. The main area displays a table of commands for 'SOW2: Commands'. The table has columns for Create Date/Time, Update Date/Time, Description, and Availability. The first row shows 'HSM Q ACTIVE' as Public. The second row shows 'D SMS' as Public. A red callout bubble points to the 'D SMS' row with the text: 'If you want to save it for later just give it a description'. Below the table, another red callout bubble points to the 'D SMS' entry in the detail view on the right, with the text: 'Specify the command to run here'. The detail view on the right shows fields for Cell Name, Update Date/Time, Description, Availability, Default System Type, and Default Systems. The 'Description' field is highlighted with a red box and contains the text 'D SMS'.

Create Date/Time	Update Date/Time	Description	Availability
24/02/2014 09:35:36	24/02/2014 09:36:10	HSM Q ACTIVE	Public
24/02/2014 09:38:49	24/02/2014 09:38:50	D SMS	Public
24/02/2014 09:38:49	24/02/2014 09:38:50	ON/OFFLINE	Public
24/02/2014 09:38:49	24/02/2014 09:38:50		Public

Cell Name | **Cell Value**

Update Date/Time	24/02/2014 09:38:50
Description	D SMS
Availability	Public
Default System Type	#Complex
Default Systems	0

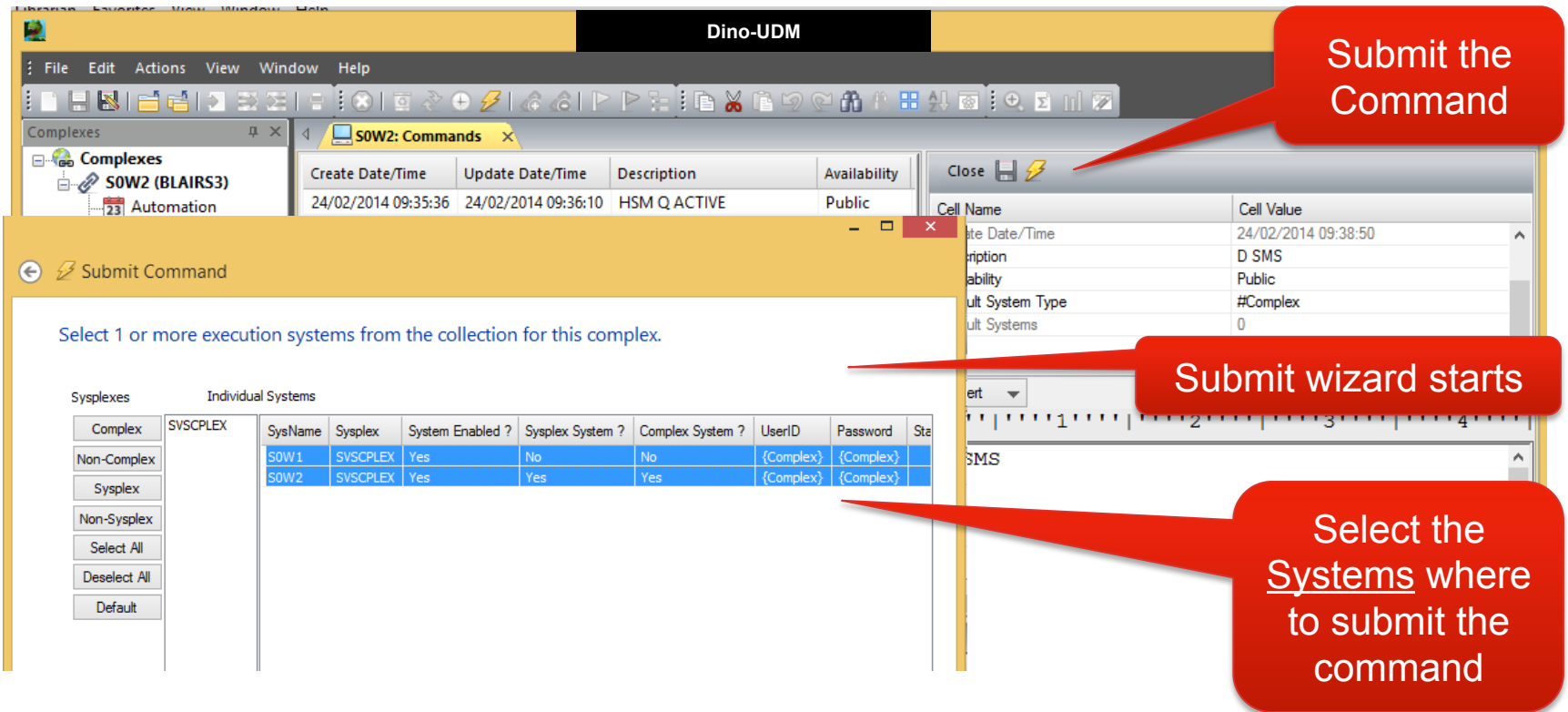
Insert

1 2 3 4

D SMS

UDM Command Interface

Issue Commands to multiple Systems



Submit the Command

Submit wizard starts

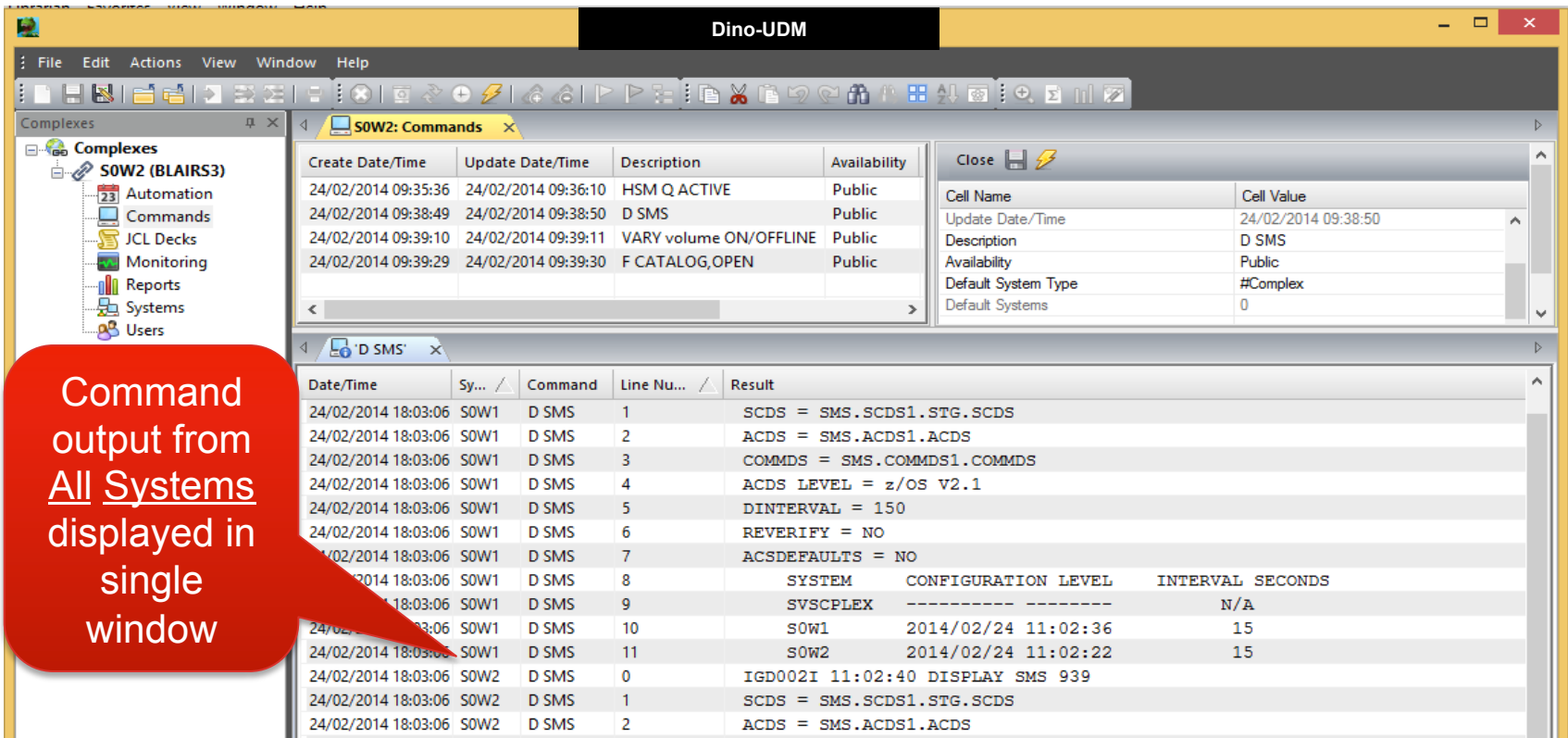
Select the Systems where to submit the command

Select 1 or more execution systems from the collection for this complex.

SysName	Sysplex	System Enabled ?	Sysplex System ?	Complex System ?	UserID	Password	Sta
S0W1	SVSCPLEX	Yes	No	No	{Complex}	{Complex}	
S0W2	SVSCPLEX	Yes	Yes	Yes	{Complex}	{Complex}	

UDM Command Interface

Review output within a single Window



The screenshot shows the Dino-UDM software interface. On the left is a tree view of 'Complexes' with 'SOW2 (BLAIRS3)' selected. The main window displays 'SOW2: Commands' and 'D SMS'. A red callout bubble points to the 'D SMS' output table, stating: 'Command output from All Systems displayed in single window'.

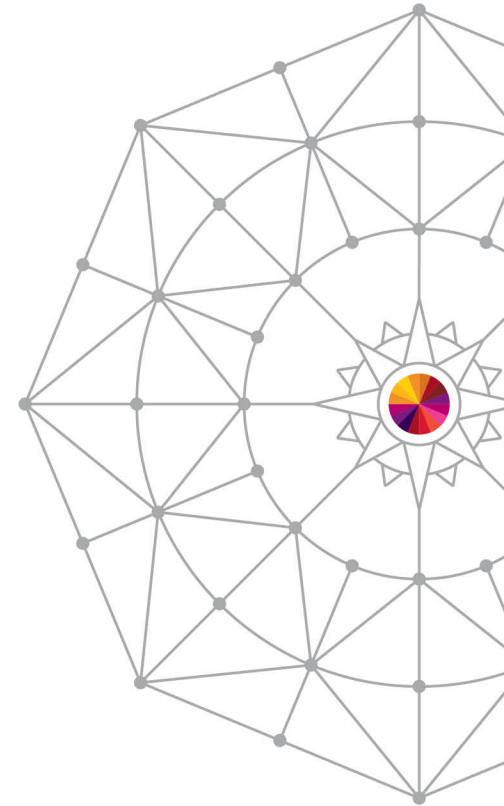
Create Date/Time	Update Date/Time	Description	Availability
24/02/2014 09:35:36	24/02/2014 09:36:10	HSM Q ACTIVE	Public
24/02/2014 09:38:49	24/02/2014 09:38:50	D SMS	Public
24/02/2014 09:39:10	24/02/2014 09:39:11	VARY volume ON/OFFLINE	Public
24/02/2014 09:39:29	24/02/2014 09:39:30	F CATALOG,OPEN	Public

Date/Time	Sy...	Command	Line Nu...	Result
24/02/2014 18:03:06	SOW1	D SMS	1	SCDS = SMS.SCDS1.STG.SCDS
24/02/2014 18:03:06	SOW1	D SMS	2	ACDS = SMS.ACDS1.ACDS
24/02/2014 18:03:06	SOW1	D SMS	3	COMMDS = SMS.COMMDS1.COMMDS
24/02/2014 18:03:06	SOW1	D SMS	4	ACDS LEVEL = z/OS V2.1
24/02/2014 18:03:06	SOW1	D SMS	5	DINTERVAL = 150
24/02/2014 18:03:06	SOW1	D SMS	6	REVERIFY = NO
24/02/2014 18:03:06	SOW1	D SMS	7	ACSDEFAULTS = NO
24/02/2014 18:03:06	SOW1	D SMS	8	SYSTEM CONFIGURATION LEVEL INTERVAL SECONDS
24/02/2014 18:03:06	SOW1	D SMS	9	SVSCPLEX ----- N/A
24/02/2014 18:03:06	SOW1	D SMS	10	SOW1 2014/02/24 11:02:36 15
24/02/2014 18:03:06	SOW1	D SMS	11	SOW2 2014/02/24 11:02:22 15
24/02/2014 18:03:06	SOW2	D SMS	0	IGD002I 11:02:40 DISPLAY SMS 939
24/02/2014 18:03:06	SOW2	D SMS	1	SCDS = SMS.SCDS1.STG.SCDS
24/02/2014 18:03:06	SOW2	D SMS	2	ACDS = SMS.ACDS1.ACDS

UDM Command Interface

Did someone mention security?

- Commands are NOT submitted using authority of server
- Commands are submitted using authority of YOUR TSO Userid
- This means no complicated Security setups or bypassing of security



UDM JCL Interface

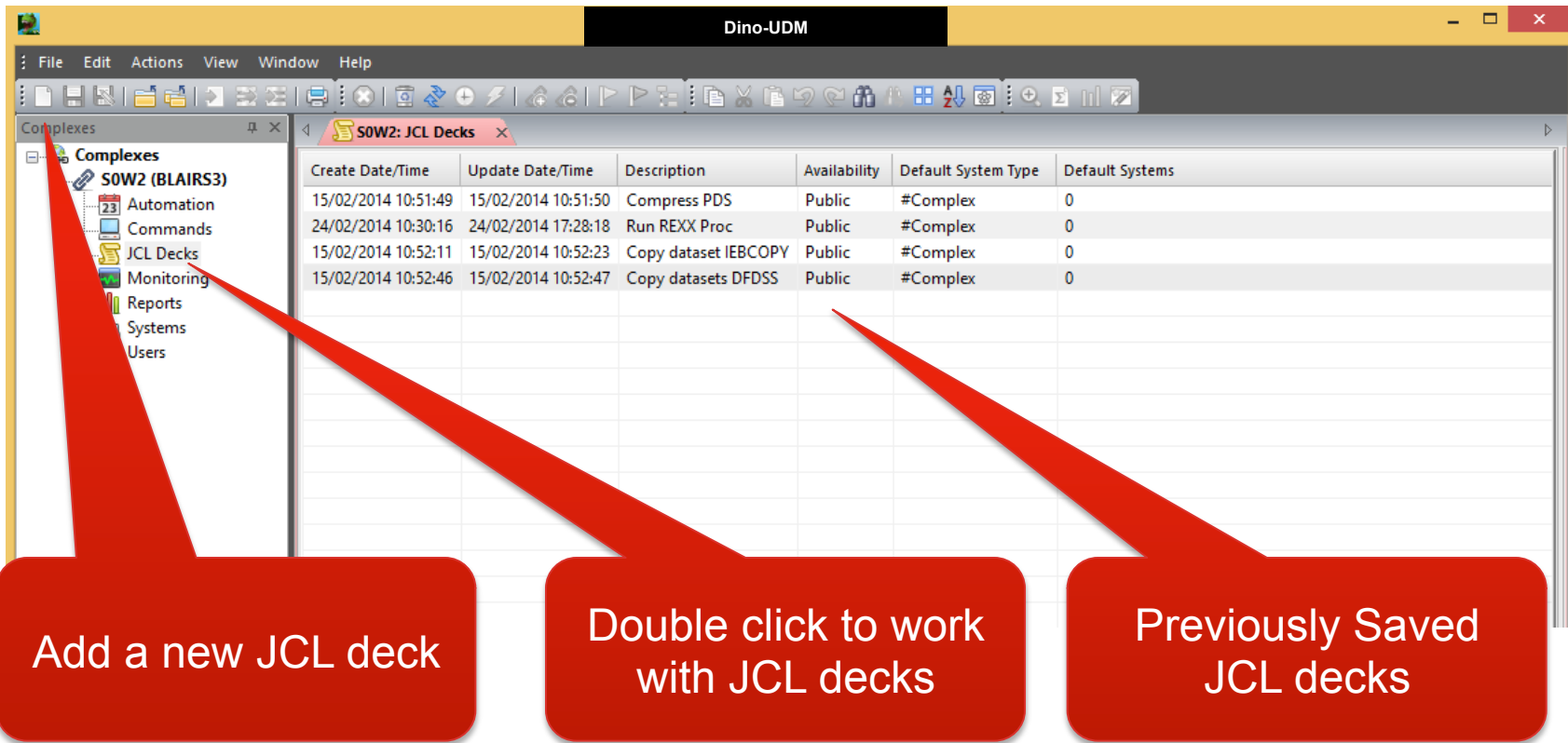
The JCL Interface provides the ability to:

- Centrally define / store common JCL decks
 - Variables allow generic JCL decks to be created
- Submit JCL to multiple Systems
- Review Job Status and Output within a single Window



UDM JCL Interface

Centrally store common JCL Decks



The screenshot shows the 'Dino-UDM' application window. On the left, a tree view under 'Complexes' shows 'SOW2 (BLAIRS3)' expanded, with 'JCL Decks' selected. The main area displays a table of JCL decks. Three red callout boxes point to specific elements: the first points to the 'JCL Decks' folder in the tree, the second points to a row in the table, and the third points to the 'Default Systems' column.

Create Date/Time	Update Date/Time	Description	Availability	Default System Type	Default Systems
15/02/2014 10:51:49	15/02/2014 10:51:50	Compress PDS	Public	#Complex	0
24/02/2014 10:30:16	24/02/2014 17:28:18	Run REXX Proc	Public	#Complex	0
15/02/2014 10:52:11	15/02/2014 10:52:23	Copy dataset IEBCOPY	Public	#Complex	0
15/02/2014 10:52:46	15/02/2014 10:52:47	Copy datasets DFDSS	Public	#Complex	0

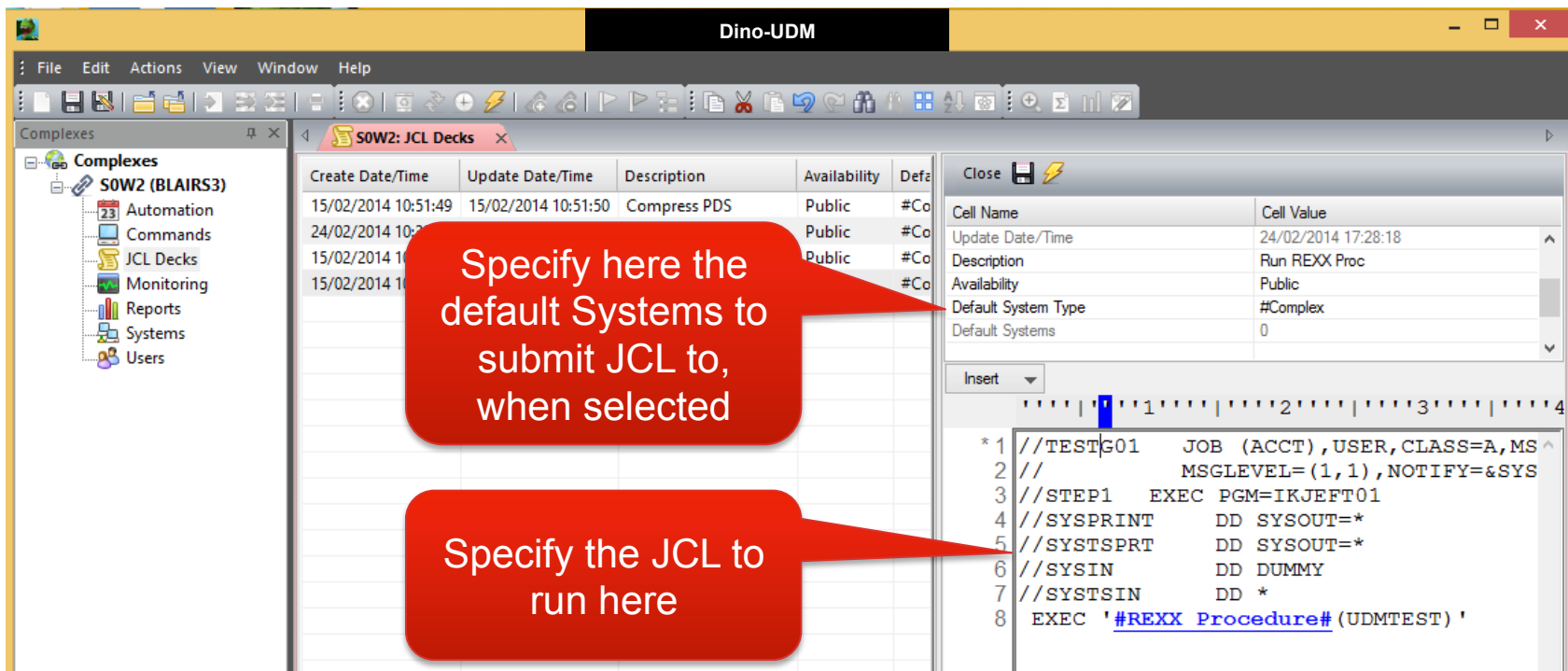
Add a new JCL deck

Double click to work with JCL decks

Previously Saved JCL decks

UDM JCL Interface

Centrally define common JCL Decks

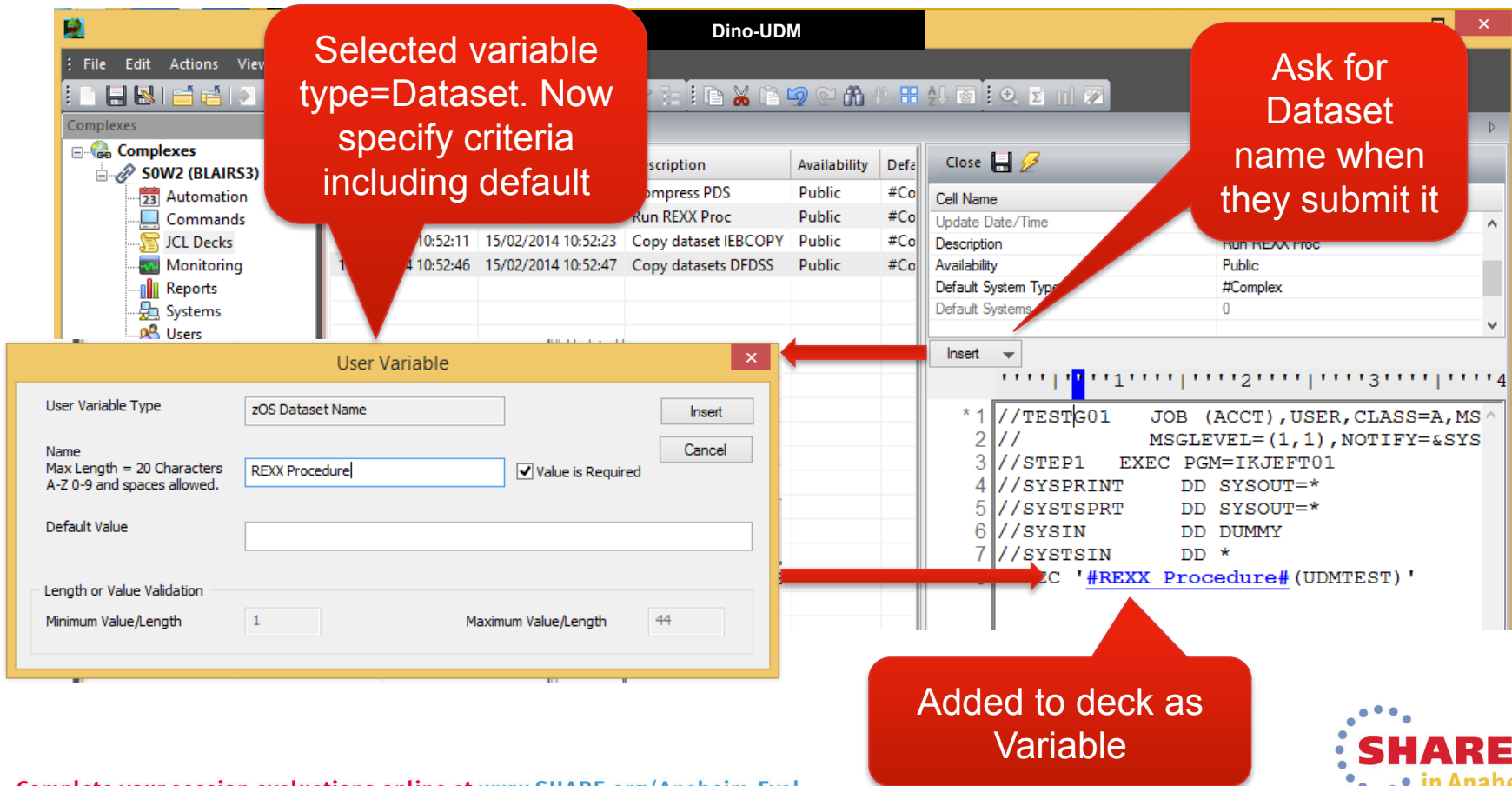


The screenshot shows the Dino-UDM JCL Interface. On the left, a tree view shows the 'Complexes' structure, including 'S0W2 (BLAIRS3)' and its sub-items: 'Automation', 'Commands', 'JCL Decks', 'Monitoring', 'Reports', 'Systems', and 'Users'. The main window displays a table of JCL decks. A red callout points to the 'Default Systems' column, stating: 'Specify here the default Systems to submit JCL to, when selected'. Another red callout points to the 'JCL' column, stating: 'Specify the JCL to run here'. The table has columns: 'Create Date/Time', 'Update Date/Time', 'Description', 'Availability', and 'Default Systems'. The 'JCL' column contains the following code:

```
* 1 //TESTG01 JOB (ACCT),USER,CLASS=A,MS ^
2 // MSGLEVEL=(1,1),NOTIFY=&SYS
3 //STEP1 EXEC PGM=IKJEFT01
4 //SYSPRINT DD SYSOUT=*
5 //SYSPRINT DD SYSOUT=*
6 //SYSIN DD DUMMY
7 //SYSTSIN DD *
8 EXEC '#REXX Procedure# (UDMTEST) '
```

UDM JCL Interface

Variables allow generic JCL decks to be created



Selected variable type=Dataset. Now specify criteria including default

Ask for Dataset name when they submit it

Added to deck as Variable

User Variable Dialog Box:

- User Variable Type: zOS Dataset Name
- Name: REXX Procedure
- Max Length = 20 Characters
- A-Z 0-9 and spaces allowed.
- Value is Required: ☒
- Default Value:
- Length or Value Validation: Minimum Value/Length: 1, Maximum Value/Length: 44

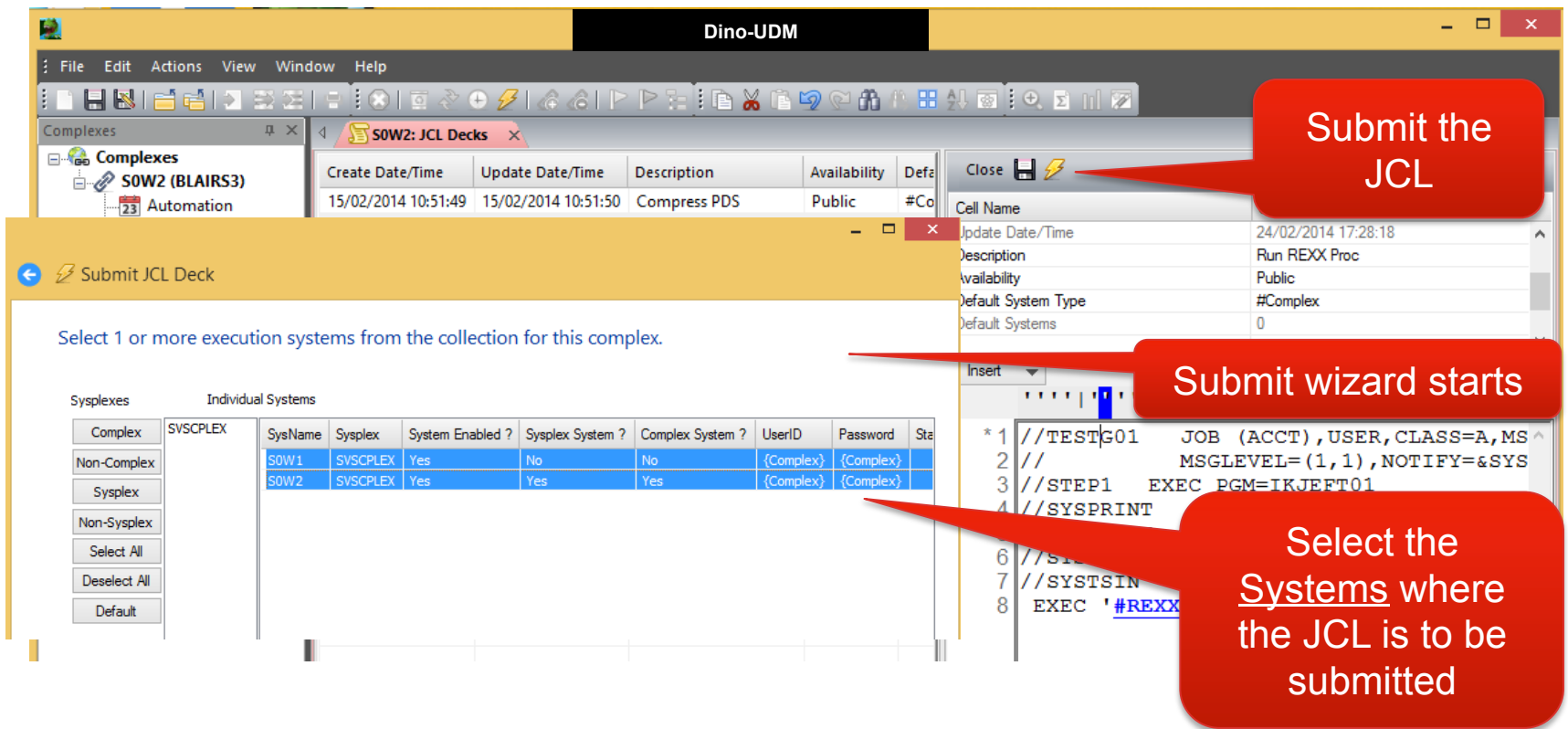
JCL Deck Editor:

```

* 1 //TESTG01 JOB (ACCT),USER,CLASS=A,MS ^
2 // MSGLEVEL=(1,1),NOTIFY=&SYS
3 //STEP1 EXEC PGM=IKJEFT01
4 //SYSPRINT DD SYSOUT=*
5 //SYSPRINT DD SYSOUT=*
6 //SYSIN DD DUMMY
7 //SYSTSIN DD *
      EC '#REXX Procedure# (UDMTEST) '
  
```

UDM JCL Interface

Submit JCL to multiple Systems



Submit the JCL

Submit wizard starts

Select the Systems where the JCL is to be submitted

Complexes

- SOW2 (BLAIRS3)
- Automation

Create Date/Time	Update Date/Time	Description	Availability	Defa
15/02/2014 10:51:49	15/02/2014 10:51:50	Compress PDS	Public	#Co

Submit JCL Deck

Select 1 or more execution systems from the collection for this complex.

Sysplexes

- Complex
- Non-Complex
- Sysplex
- Non-Sysplex
- Select All
- Deselect All
- Default

Individual Systems

SysName	Sysplex	System Enabled ?	Sysplex System ?	Complex System ?	UserID	Password	Sta
SOW1	SVSCPLEX	Yes	No	No	{Complex}	{Complex}	
SOW2	SVSCPLEX	Yes	Yes	Yes	{Complex}	{Complex}	

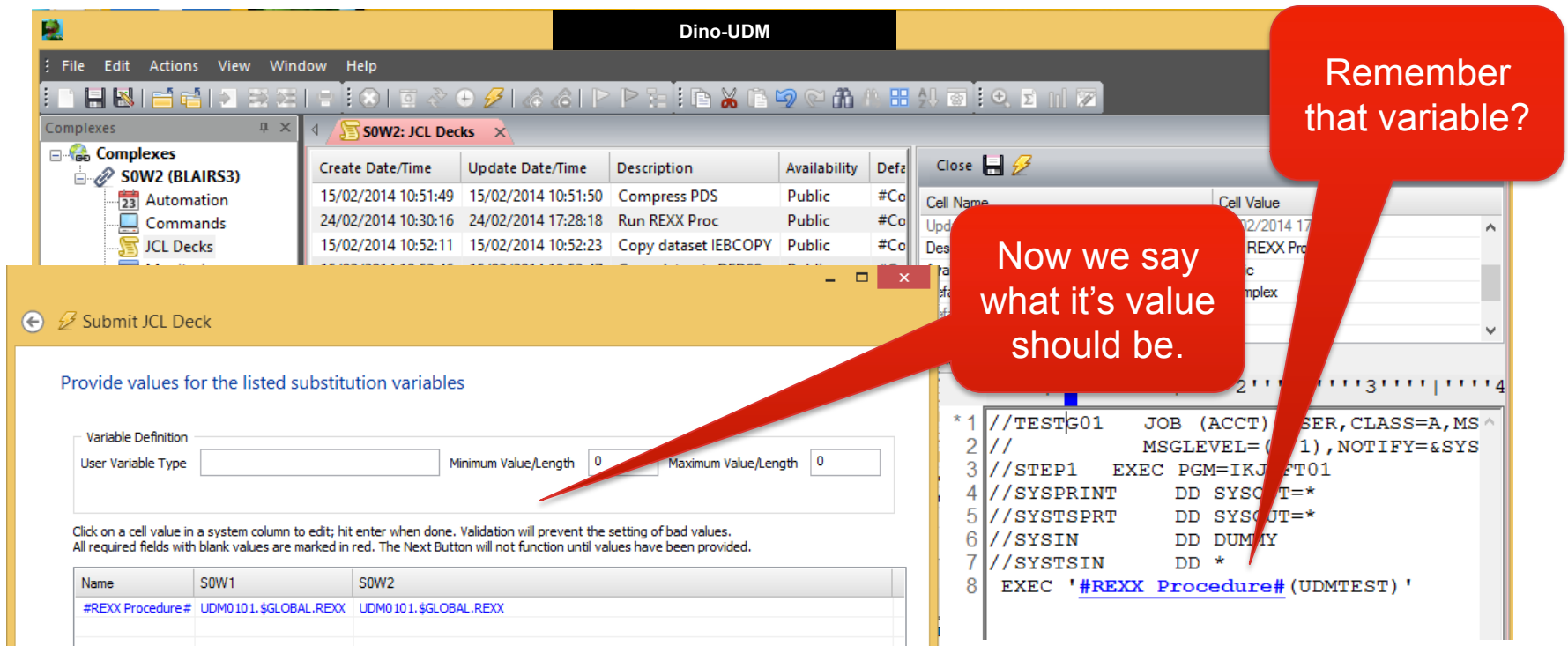
JCL Code Editor

```

* 1 //TESTG01  JOB (ACCT),USER,CLASS=A,MS
2 //          MSGLEVEL=(1,1),NOTIFY=&SYS
3 //STEP1    EXEC PGM=IKJEFT01
4 //SYSPRINT
6 //SI
7 //SYSSTIN
8 EXEC '#REXX
  
```

UDM JCL Interface

Specify Variable Values for each System



Dino-UDM

File Edit Actions View Window Help

Complexes SOW2 (BLAIRS3) Automation Commands JCL Decks

SOW2: JCL Decks

Create Date/Time	Update Date/Time	Description	Availability	Defa
15/02/2014 10:51:49	15/02/2014 10:51:50	Compress PDS	Public	#Co
24/02/2014 10:30:16	24/02/2014 17:28:18	Run REXX Proc	Public	#Co
15/02/2014 10:52:11	15/02/2014 10:52:23	Copy dataset IEBCOPY	Public	#Co

Submit JCL Deck

Provide values for the listed substitution variables

Variable Definition

User Variable Type Minimum Value/Length 0 Maximum Value/Length 0

Click on a cell value in a system column to edit; hit enter when done. Validation will prevent the setting of bad values. All required fields with blank values are marked in red. The Next Button will not function until values have been provided.

Name	SOW1	SOW2
#REXX Procedure#	UDM0101.\$GLOBAL.REXX	UDM0101.\$GLOBAL.REXX

Remember that variable?

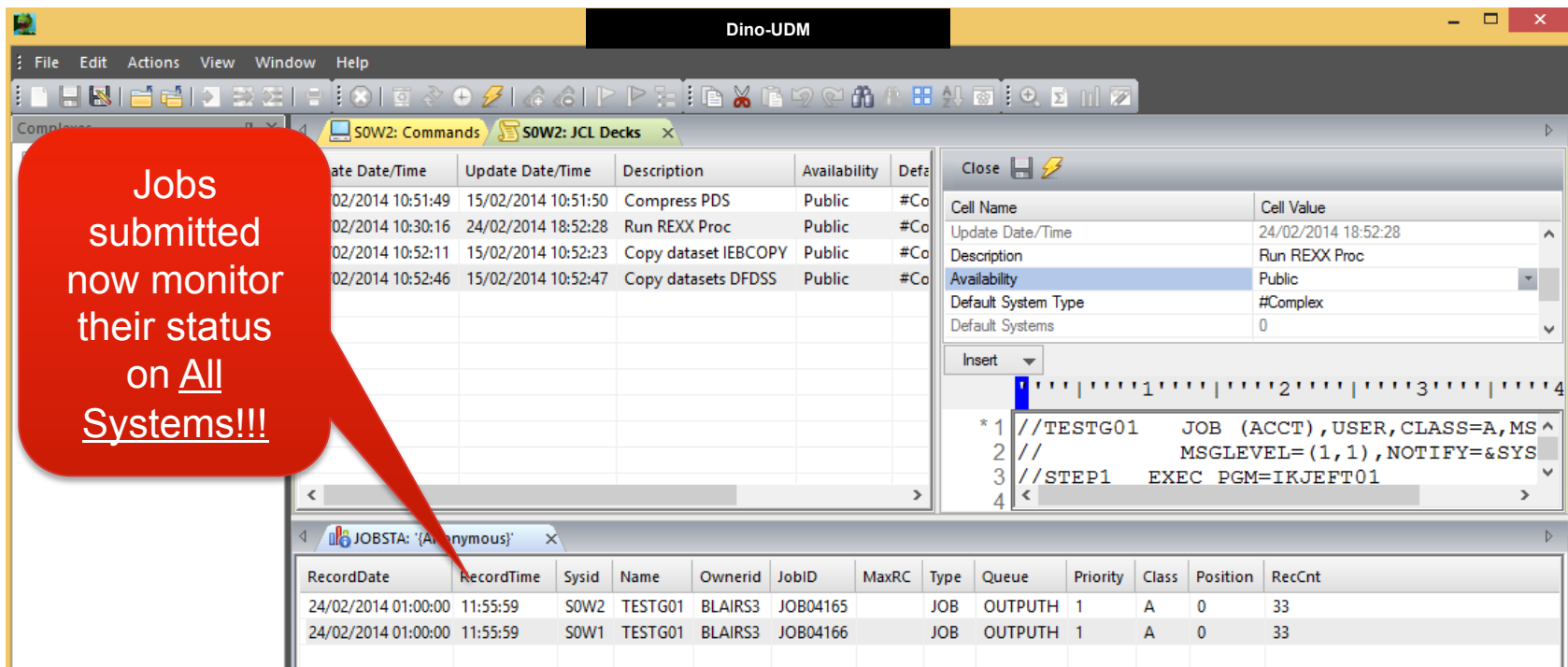
Now we say what it's value should be.

```

* 1 //TESTG01 JOB (ACCT) USER, CLASS=A, MS ^
2 // MSGLEVEL=(0,1), NOTIFY=&SYS
3 //STEP1 EXEC PGM=IKJFT01
4 //SYSPRINT DD SYSOUT=*
5 //SYSPRINT DD SYSOUT=*
6 //SYSIN DD DUMMY
7 //SYSTSIN DD *
8 EXEC '#REXX Procedure# (UDMTEST) '
  
```

UDM JCL Interface

Review Job Submit Status



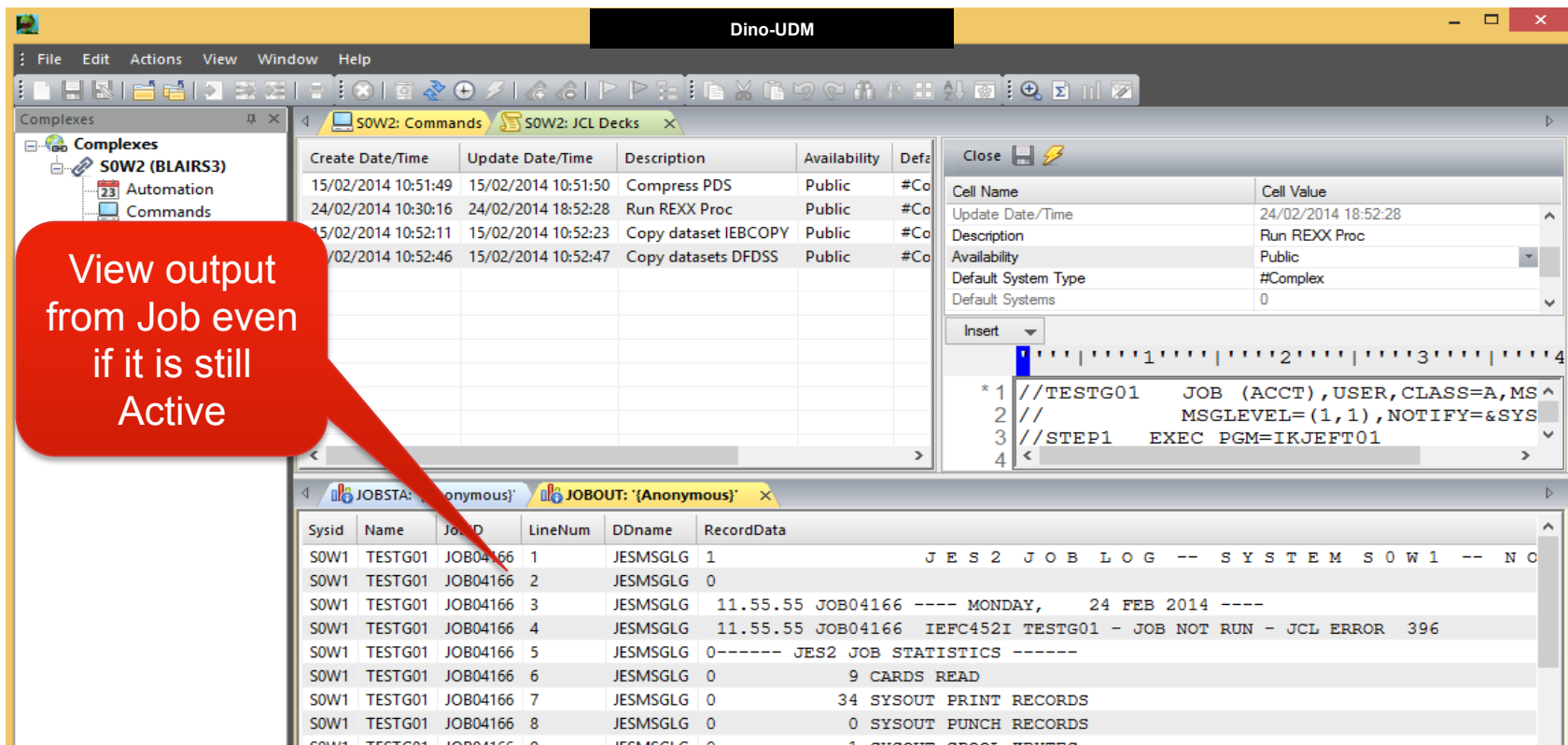
Jobs submitted now monitor their status on All Systems!!!

Date Date/Time	Update Date/Time	Description	Availability	Defa
02/2014 10:51:49	15/02/2014 10:51:50	Compress PDS	Public	#Co
02/2014 10:30:16	24/02/2014 18:52:28	Run REXX Proc	Public	#Co
02/2014 10:52:11	15/02/2014 10:52:23	Copy dataset IEBCOPY	Public	#Co
02/2014 10:52:46	15/02/2014 10:52:47	Copy datasets DFDSS	Public	#Co

RecordDate	RecordTime	Sysid	Name	Ownerid	JobID	MaxRC	Type	Queue	Priority	Class	Position	RecCnt
24/02/2014 01:00:00	11:55:59	SOW2	TESTG01	BLAIRS3	JOB04165		JOB	OUTPUTH	1	A	0	33
24/02/2014 01:00:00	11:55:59	SOW1	TESTG01	BLAIRS3	JOB04166		JOB	OUTPUTH	1	A	0	33

UDM JCL Interface

Review Job Output



View output from Job even if it is still Active

Complexes

- SOW2 (BLAIRS3)
 - Automation
 - Commands

SOW2: Commands

Create Date/Time	Update Date/Time	Description	Availability	Defa
15/02/2014 10:51:49	15/02/2014 10:51:50	Compress PDS	Public	#Co
24/02/2014 10:30:16	24/02/2014 18:52:28	Run REXX Proc	Public	#Co
15/02/2014 10:52:11	15/02/2014 10:52:23	Copy dataset IEBCOPY	Public	#Co
15/02/2014 10:52:46	15/02/2014 10:52:47	Copy datasets DFDSS	Public	#Co

Close

Cell Name	Cell Value
Update Date/Time	24/02/2014 18:52:28
Description	Run REXX Proc
Availability	Public
Default System Type	#Complex
Default Systems	0

Insert

```

1 //TESTG01 JOB (ACCT),USER,CLASS=A,MS ^
2 //      MSGLEVEL=(1,1),NOTIFY=&SYS
3 //STEP1 EXEC PGM=IKJEFT01
4 <
  
```

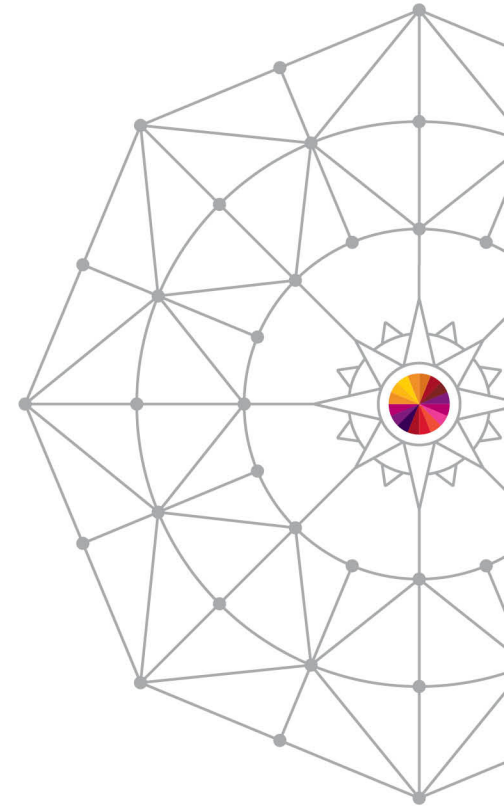
JOBSTA: (Anonymous)

Sysid	Name	JobID	LineNum	DDname	RecordData
SOW1	TESTG01	JOB04166	1	JESMSG LG	1 JES2 JOB LOG -- SYSTEM SOW1 -- NC
SOW1	TESTG01	JOB04166	2	JESMSG LG	0
SOW1	TESTG01	JOB04166	3	JESMSG LG	11.55.55 JOB04166 ---- MONDAY, 24 FEB 2014 ----
SOW1	TESTG01	JOB04166	4	JESMSG LG	11.55.55 JOB04166 IEFC452I TESTG01 - JOB NOT RUN - JCL ERROR 396
SOW1	TESTG01	JOB04166	5	JESMSG LG	0----- JES2 JOB STATISTICS -----
SOW1	TESTG01	JOB04166	6	JESMSG LG	9 CARDS READ
SOW1	TESTG01	JOB04166	7	JESMSG LG	34 SYSOUT PRINT RECORDS
SOW1	TESTG01	JOB04166	8	JESMSG LG	0 SYSOUT PUNCH RECORDS
SOW1	TESTG01	JOB04166	9	JESMSG LG	1 SYSOUT PUNCH BYTES

UDM Reporting Interface

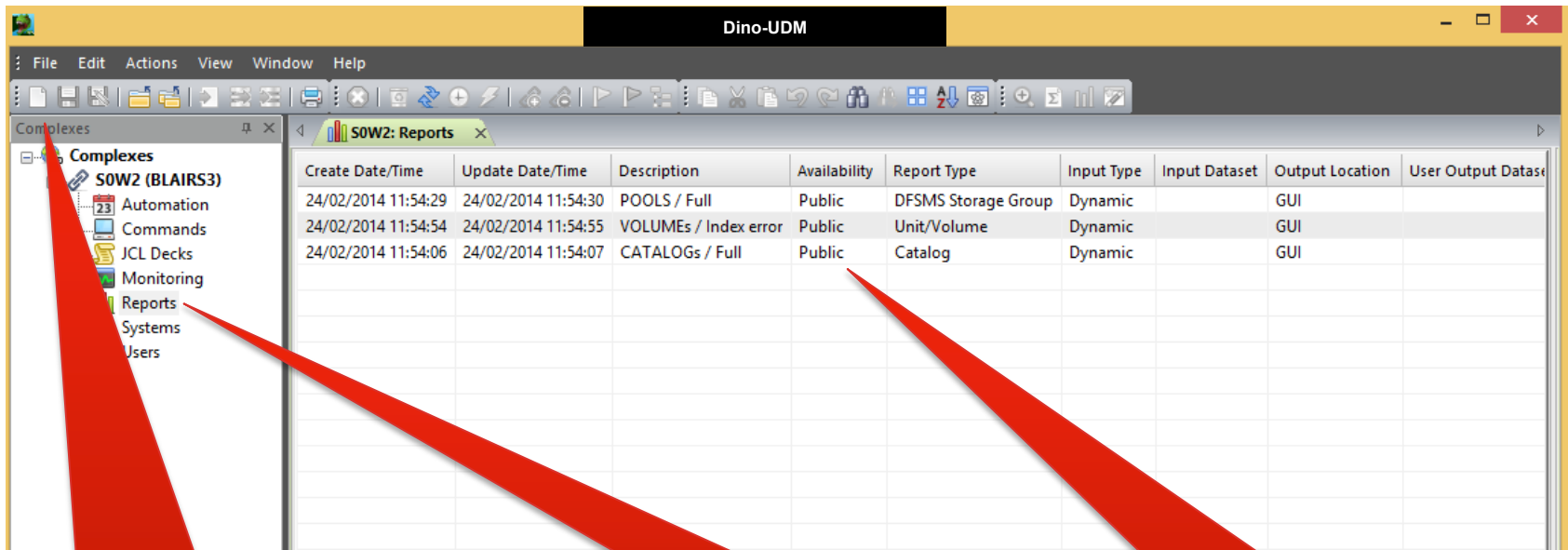
The Reporting Interface provides the ability to:

- Centrally define and store common Reporting requirements
- Run Reports on multiple Systems
- Review Output within a single Window
- Manipulate results



UDM Reporting Interface

Centrally store common Reporting requirements



The screenshot shows the Dino-UDM Reporting Interface. On the left is a sidebar with a tree view under 'Complexes' containing: SOW2 (BLAIRS3), Automation, Commands, JCL Decks, Monitoring, Reports, Systems, and Users. The main area displays a table of reports. Three red arrows point from the 'Reports' item in the sidebar, the first row of the table, and the 'Availability' column header to red callout boxes at the bottom.

Create Date/Time	Update Date/Time	Description	Availability	Report Type	Input Type	Input Dataset	Output Location	User Output Dataset
24/02/2014 11:54:29	24/02/2014 11:54:30	POOLS / Full	Public	DFSMS Storage Group	Dynamic		GUI	
24/02/2014 11:54:54	24/02/2014 11:54:55	VOLUMES / Index error	Public	Unit/Volume	Dynamic		GUI	
24/02/2014 11:54:06	24/02/2014 11:54:07	CATALOGs / Full	Public	Catalog	Dynamic		GUI	

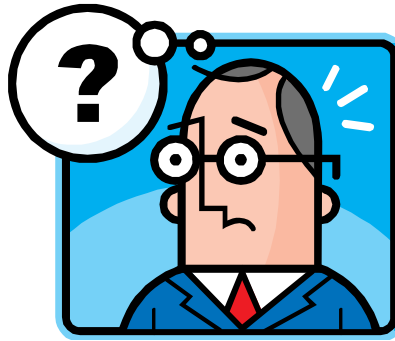
Add a new Report

Double click to work
with Reports

Previously Saved
Reports

UDM Reporting Interface

Hang on this is all looking very familiar!?!?!?!?

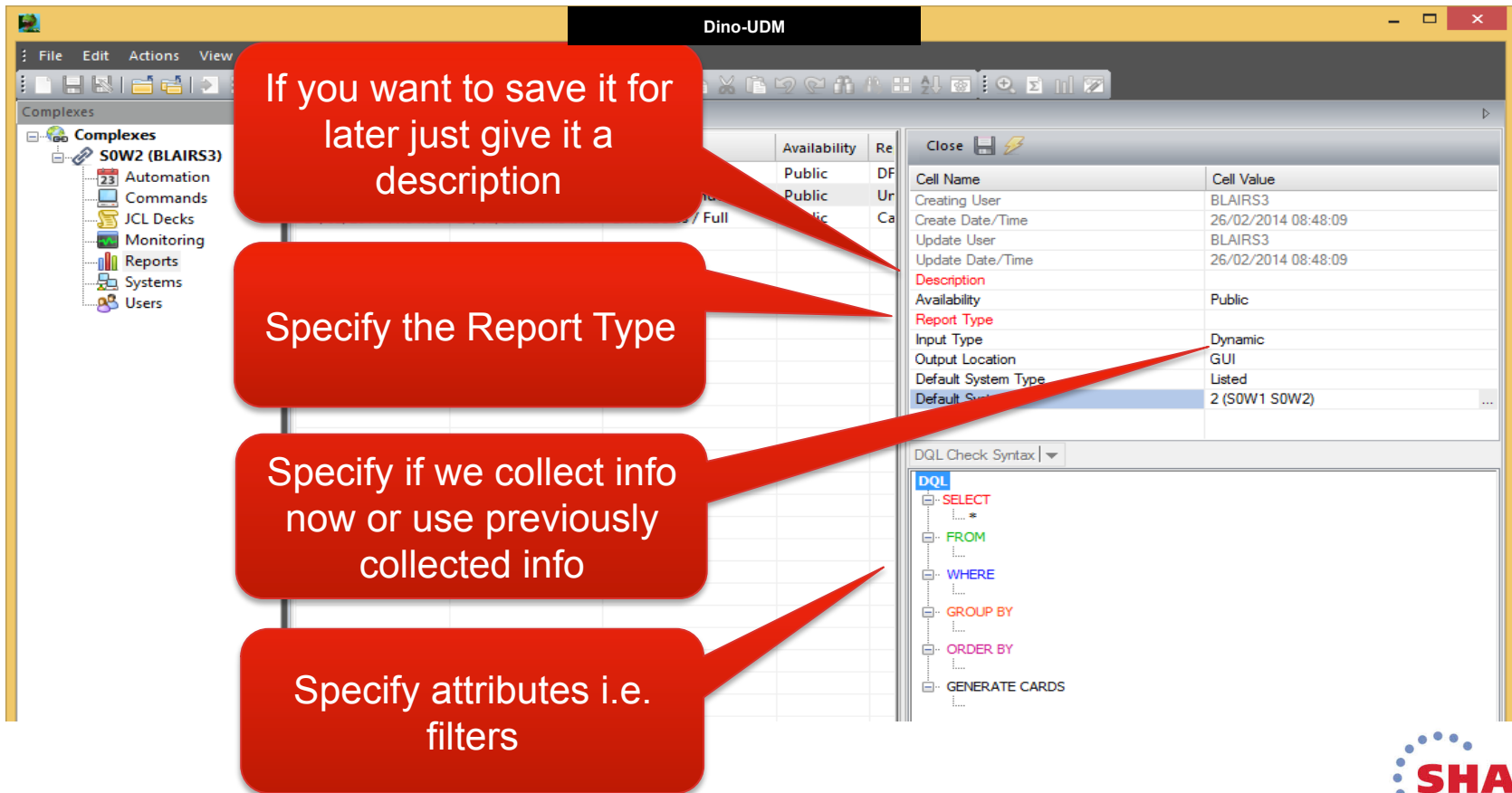


That's the idea..

Delete, Defining, Submitting is the same irrespective of what your working with, Commands, JCL decks, Reports, Automation requests....

UDM Reporting Interface

Centrally define common Reporting requirements



The screenshot shows the Dino-UDM Reporting Interface. On the left is a tree view of 'Complexes' with 'SOW2 (BLAIRS3)' selected. The main area displays a table of reporting requirements. Red callout boxes point to specific fields in the table:

- If you want to save it for later just give it a description** (points to the 'Description' field)
- Specify the Report Type** (points to the 'Report Type' field)
- Specify if we collect info now or use previously collected info** (points to the 'Input Type' field)
- Specify attributes i.e. filters** (points to the 'Default System Type' field)

The table has columns 'Cell Name' and 'Cell Value'. The data rows are:

Cell Name	Cell Value
Creating User	BLAIRS3
Create Date/Time	26/02/2014 08:48:09
Update User	BLAIRS3
Update Date/Time	26/02/2014 08:48:09
Description	
Availability	Public
Report Type	
Input Type	Dynamic
Output Location	GUI
Default System Type	Listed
Default System	2 (SOW1 SOW2)

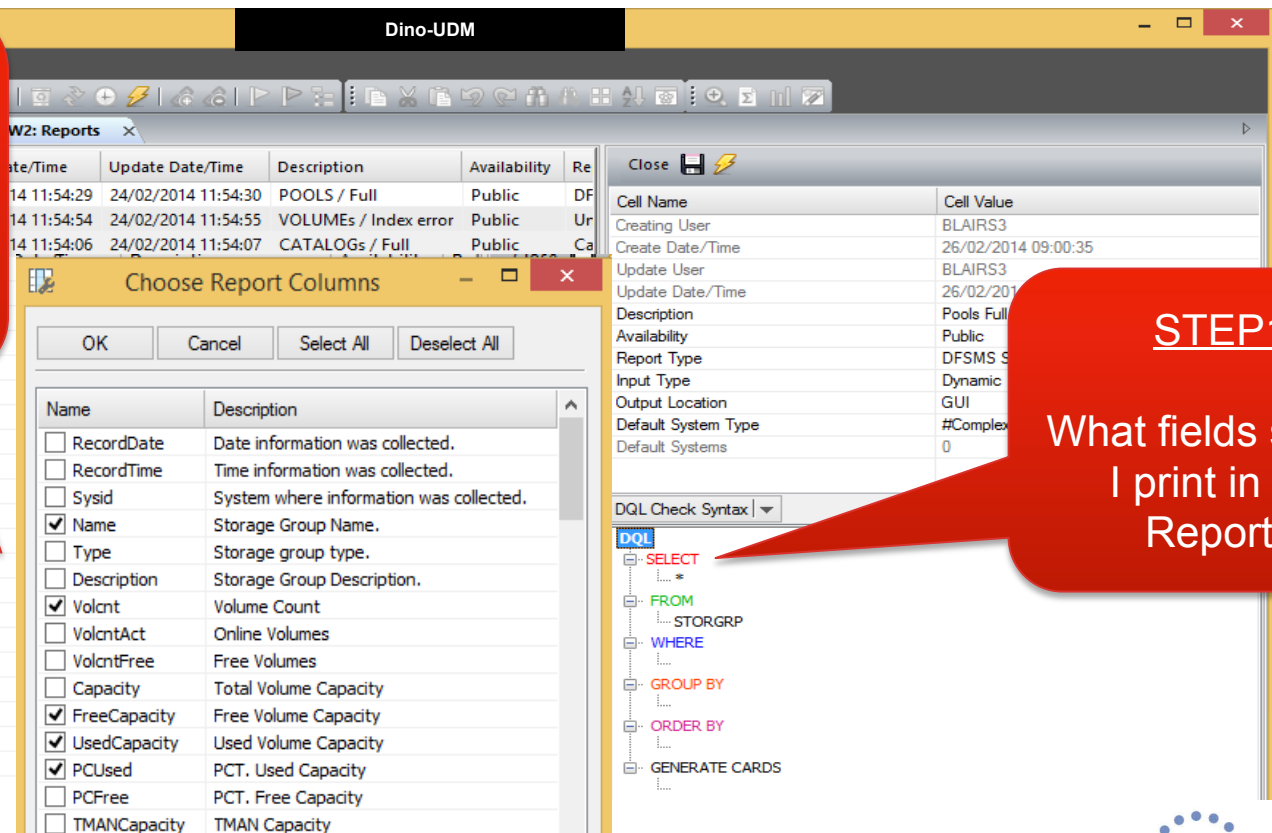
Below the table is a 'DQL Check Syntax' section with a dropdown menu and a list of SQL clauses: SELECT, FROM, WHERE, GROUP BY, ORDER BY, and GENERATE CARDS.

UDM Reporting Interface

Define Report Attributes (Fields to Show in Report)

Show me:

- Storage Group
- Volumes in Group
- Free space
- Used space
- Percent used



Choose Report Columns

Name	Description
☐ RecordDate	Date information was collected.
☐ RecordTime	Time information was collected.
☐ Sysid	System where information was collected.
☒ Name	Storage Group Name.
☐ Type	Storage group type.
☐ Description	Storage Group Description.
☒ Volcnt	Volume Count
☐ VolcntAct	Online Volumes
☐ VolcntFree	Free Volumes
☐ Capacity	Total Volume Capacity
☒ FreeCapacity	Free Volume Capacity
☒ UsedCapacity	Used Volume Capacity
☒ PCUsed	PCT. Used Capacity
☐ PCFree	PCT. Free Capacity
☐ TMANCapacity	TMAN Capacity

Buttons: OK, Cancel, Select All, Deselect All

Background Table (W2: Reports):

Date/Time	Update Date/Time	Description	Availability	Re
14 11:54:29	24/02/2014 11:54:30	POOLS / Full	Public	DF
14 11:54:54	24/02/2014 11:54:55	VOLUMES / Index error	Public	Ur
14 11:54:06	24/02/2014 11:54:07	CATALOGs / Full	Public	Ca

Right Panel (Cell Name / Cell Value):

Cell Name	Cell Value
Creating User	BLAIRS3
Create Date/Time	26/02/2014 09:00:35
Update User	BLAIRS3
Update Date/Time	26/02/2014
Description	Pools Full
Availability	Public
Report Type	DFSMS S
Input Type	Dynamic
Output Location	GUI
Default System Type	#Complex
Default Systems	0

DQL Check Syntax | DQL

```

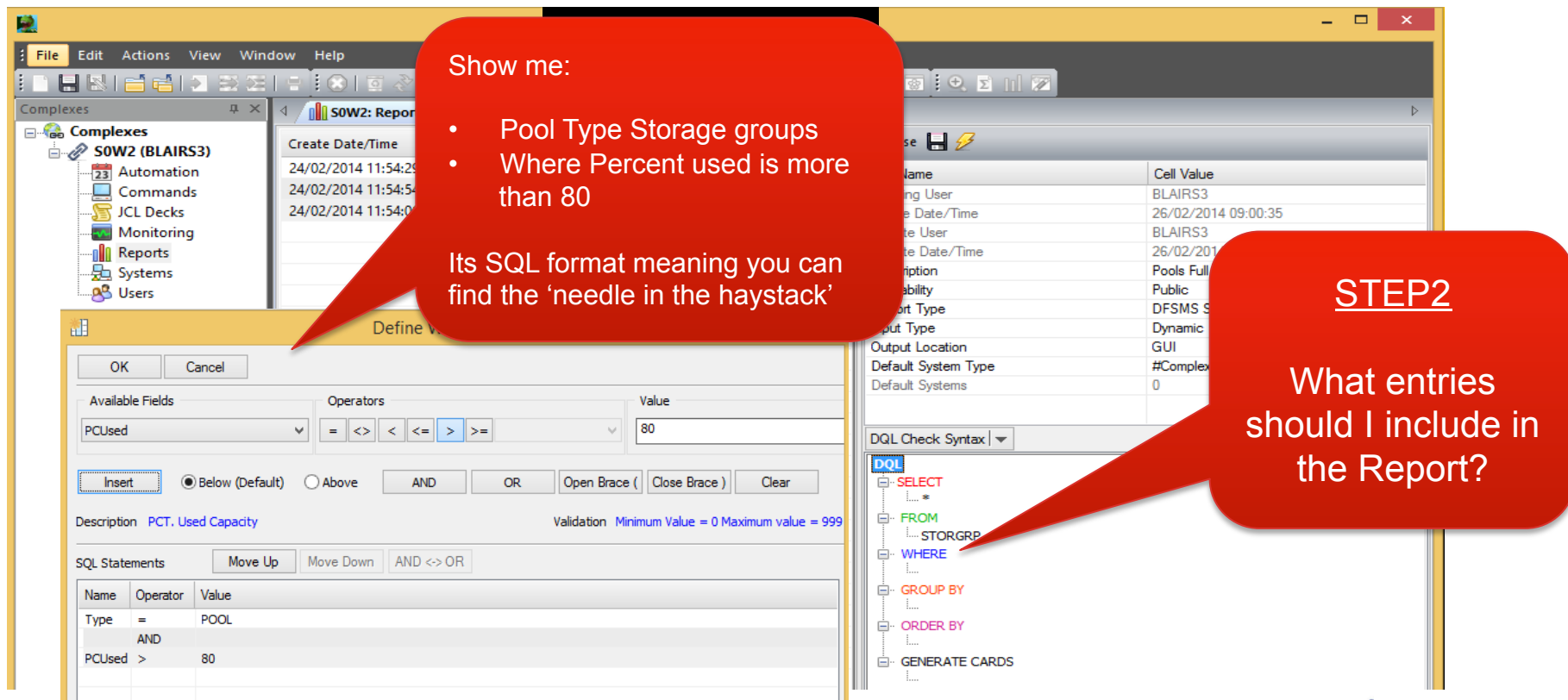
SELECT
  ... *
FROM
  ... STORGRP
WHERE
  ...
GROUP BY
  ...
ORDER BY
  ...
GENERATE CARDS
  
```

STEP1

What fields should I print in the Report?

UDM Reporting Interface

Define Report Attributes (Filters)



Show me:

- Pool Type Storage groups
- Where Percent used is more than 80

Its SQL format meaning you can find the 'needle in the haystack'

STEP2

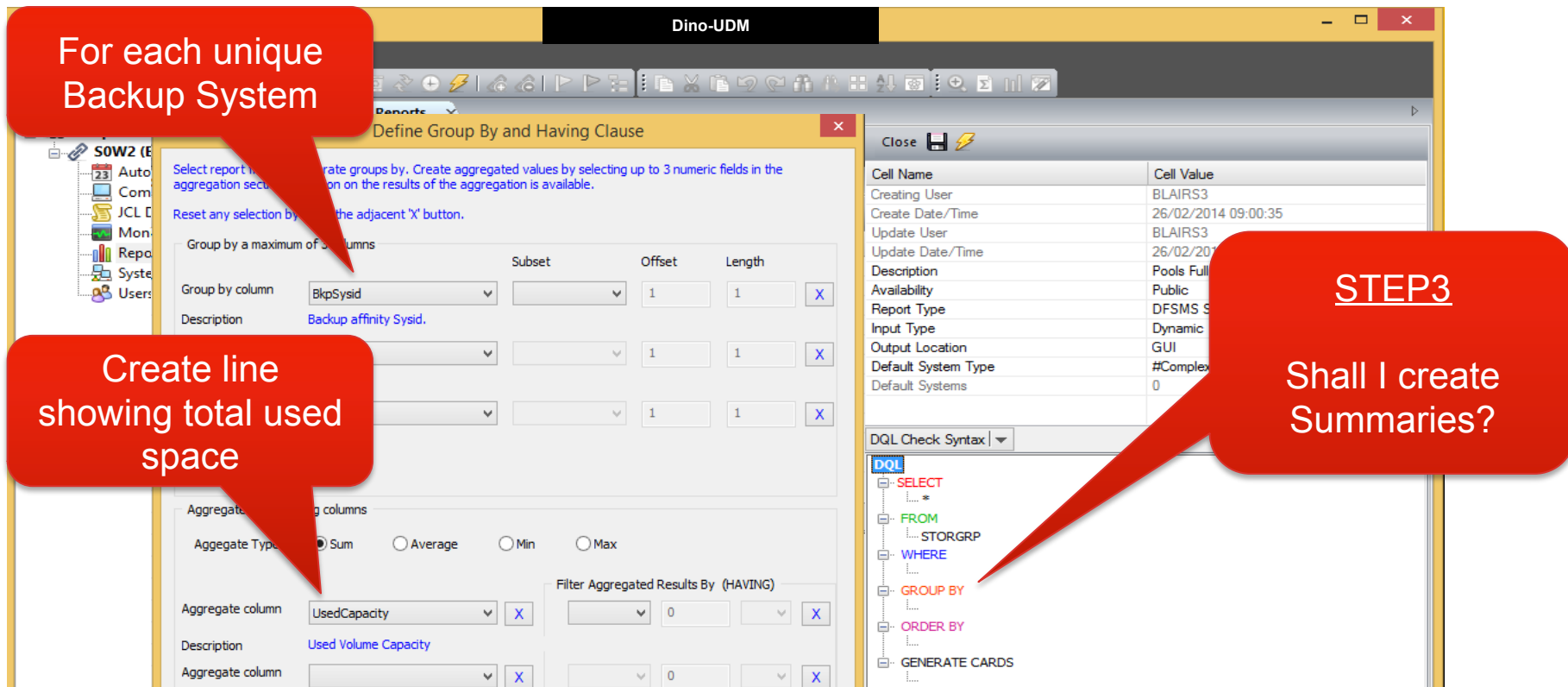
What entries should I include in the Report?

Available Fields: PCUsed
Operators: = <> < <= > >=
Value: 80
Insert: Below (Default) Above AND OR Open Brace (Close Brace) Clear
Description: PCT. Used Capacity Validation: Minimum Value = 0 Maximum value = 999
SQL Statements: Move Up Move Down AND <=> OR
Name Operator Value
Type = POOL
AND
PCUsed > 80

DQL Check Syntax |
DQL
SELECT
*
FROM
STORGRP
WHERE
GROUP BY
ORDER BY
GENERATE CARDS

UDM Reporting Interface

Define Report Attributes (Aggregate Functions)



For each unique Backup System

Create line showing total used space

STEP3
Shall I create Summaries?

Dino-UDM

Define Group By and Having Clause

Select report attributes to aggregate groups by. Create aggregated values by selecting up to 3 numeric fields in the aggregation section. Information on the results of the aggregation is available.

Reset any selection by clicking the adjacent 'X' button.

Group by a maximum of 3 columns

Group by column	Subset	Offset	Length
BkpSysid		1	1
Description		1	1
		1	1

Aggregate columns

Aggregate Type: ☒ Sum ☐ Average ☐ Min ☐ Max

Aggregate column	Filter Aggregated Results By (HAVING)
UsedCapacity	0
	0

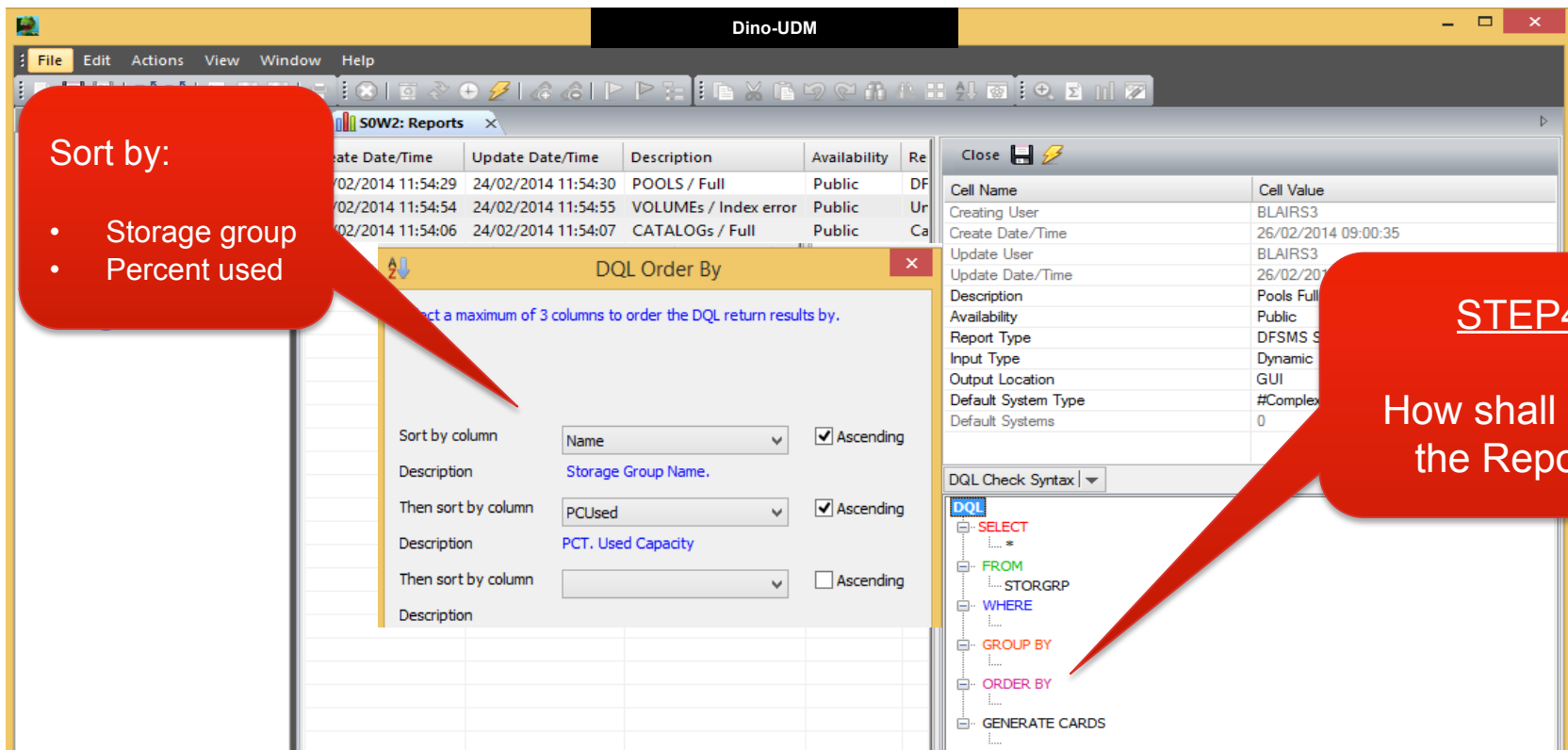
DQL

```

SELECT
... *
FROM
... STORGRP
WHERE
...
GROUP BY
...
ORDER BY
...
GENERATE CARDS
  
```

UDM Reporting Interface

Define Report Attributes (Sort Criteria)



Sort by:

- Storage group
- Percent used

STEP4
How shall I sort the Report?

DQL Order By

Select a maximum of 3 columns to order the DQL return results by.

Sort by column	Order
Name	☒ Ascending
Description	Storage Group Name.
Then sort by column	PCUsed
Description	PCT. Used Capacity
Then sort by column	☐ Ascending
Description	

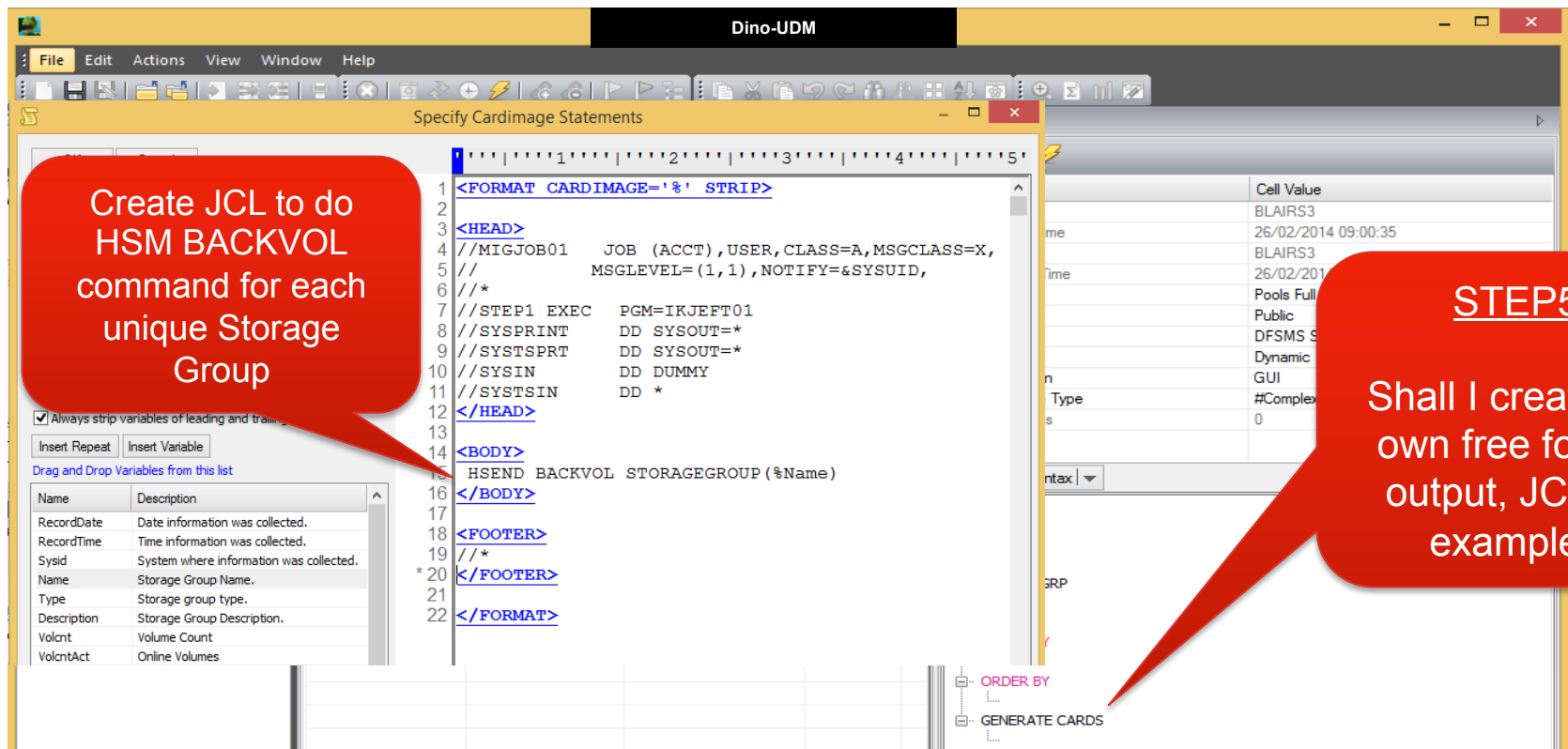
DQL Check Syntax

```

DQL
SELECT
  ... *
FROM
  ... STORGRP
WHERE
  ...
GROUP BY
  ...
ORDER BY
  ...
GENERATE CARDS
  
```


UDM Reporting Interface

Define Report Attributes (Card Images)



Create JCL to do HSM BACKVOL command for each unique Storage Group

```

1 <FORMAT CARDIMAGE='% ' STRIP>
2
3 <HEAD>
4 //MIGJOB01 JOB (ACCT), USER, CLASS=A, MSGCLASS=X,
5 // MSGLEVEL=(1,1), NOTIFY=&SYSUID,
6 // *
7 //STEP1 EXEC PGM=IKJEFT01
8 //SYSPRINT DD SYSOUT=*
9 //SYSTSPRT DD SYSOUT=*
10 //SYSIN DD DUMMY
11 //SYSTSIN DD *
12 </HEAD>
13
14 <BODY>
15 HSEND BACKVOL STORAGEGROUP(%Name)
16 </BODY>
17
18 <FOOTER>
19 // *
20 </FOOTER>
21
22 </FORMAT>
  
```

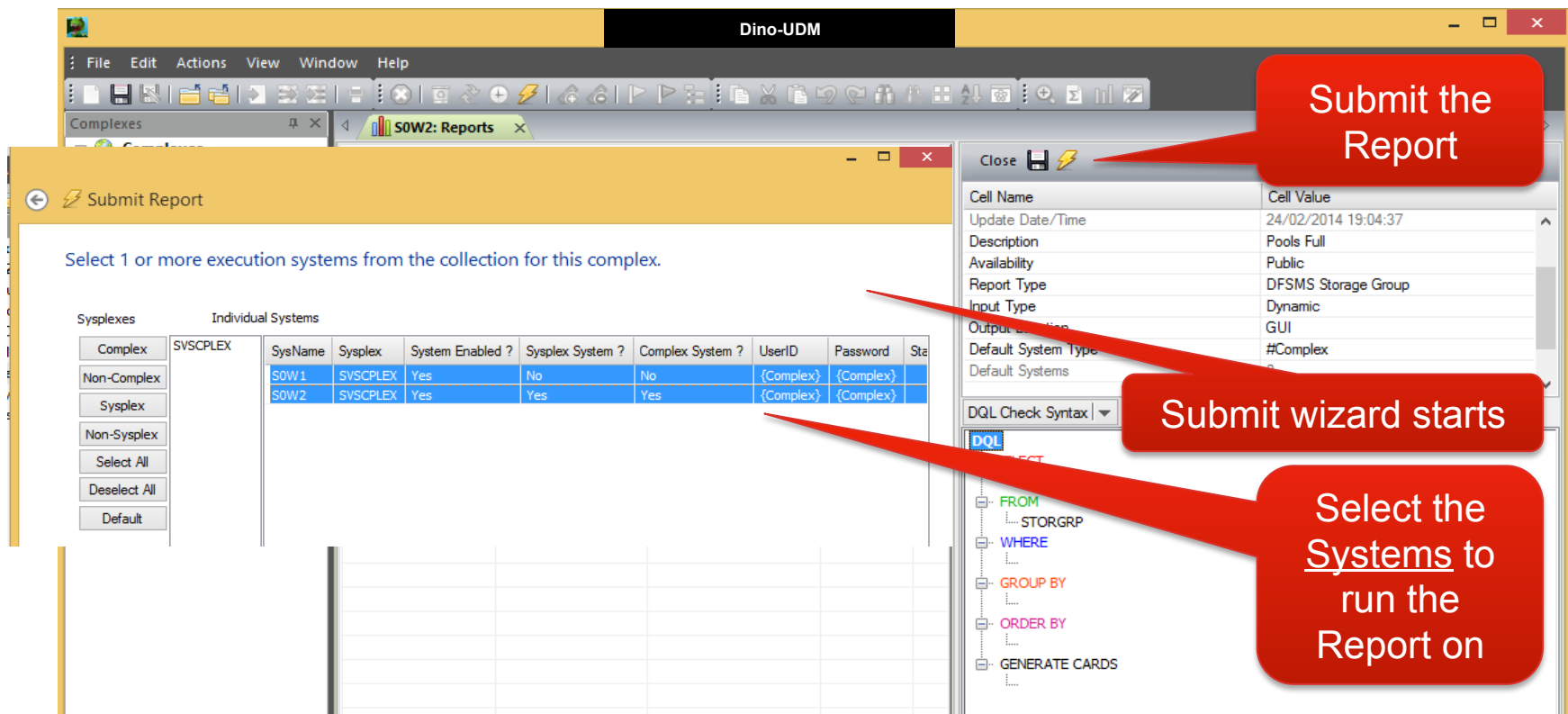
STEP5

Shall I create my own free format output, JCL for example?

ORDER BY
GENERATE CARDS

UDM Reporting Interface

Run Reports on multiple Systems



The screenshot shows the Dino-UDM application window. The main area is titled 'Submit Report' and contains a table of systems. A red callout points to the 'Submit the Report' button in the top right. Another red callout points to the 'Submit wizard starts' button in the bottom right. A third red callout points to the 'Select the Systems to run the Report on' button in the bottom right.

Submit the Report

Submit wizard starts

Select the Systems to run the Report on

Sysplexes	Individual Systems
Complex	SVSCPLEX
Non-Complex	
Sysplex	
Non-Sysplex	
Select All	
Deselect All	
Default	

SysName	Sysplex	System Enabled ?	Sysplex System ?	Complex System ?	UserID	Password	Sta
S0W1	SVSCPLEX	Yes	No	No	{Complex}	{Complex}	
S0W2	SVSCPLEX	Yes	Yes	Yes	{Complex}	{Complex}	

Cell Name: Cell Value

Update Date/Time: 24/02/2014 19:04:37

Description: Pools Full

Availability: Public

Report Type: DFSMS Storage Group

Input Type: Dynamic

Output Location: GUI

Default System Type: #Complex

Default Systems:

DQL Check Syntax

DQL

FROM

STORGRP

WHERE

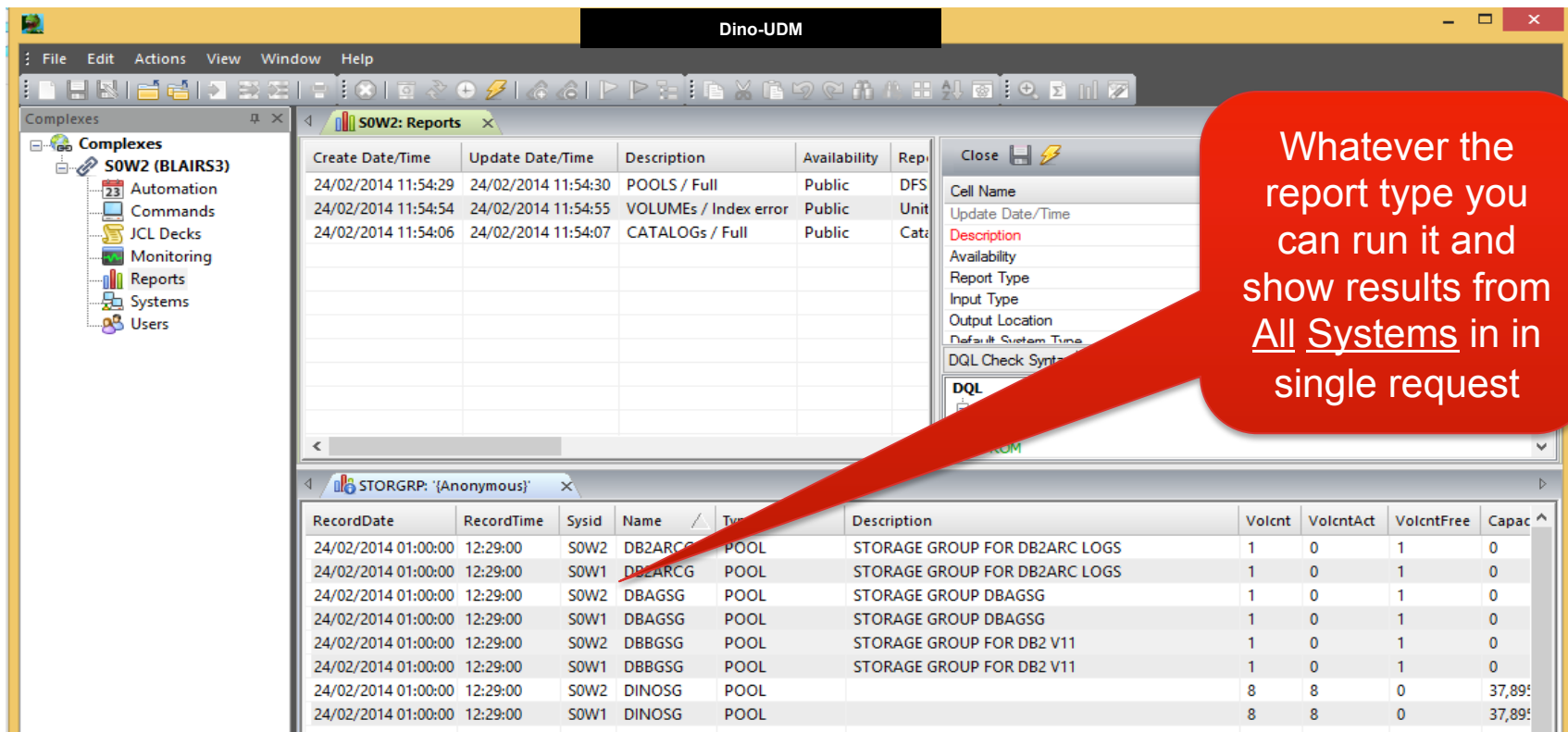
GROUP BY

ORDER BY

GENERATE CARDS

UDM Reporting Interface

Review Output within a single Window



SOW2: Reports

Create Date/Time	Update Date/Time	Description	Availability	Rep.
24/02/2014 11:54:29	24/02/2014 11:54:30	POOLS / Full	Public	DFS
24/02/2014 11:54:54	24/02/2014 11:54:55	VOLUMES / Index error	Public	Unit
24/02/2014 11:54:06	24/02/2014 11:54:07	CATALOGS / Full	Public	Cat

STORGRP: {Anonymous}

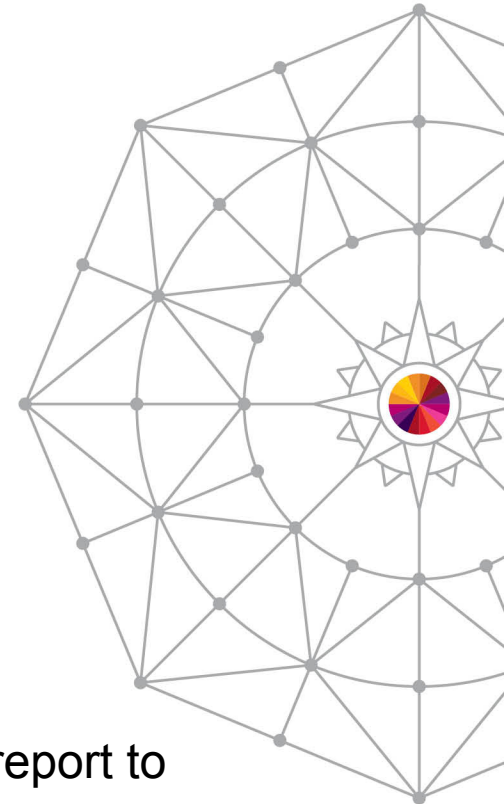
RecordDate	RecordTime	Sysid	Name	Type	Description	Volcnt	VolcntAct	VolcntFree	Capac
24/02/2014 01:00:00	12:29:00	SOW2	DB2ARCG	POOL	STORAGE GROUP FOR DB2ARC LOGS	1	0	1	0
24/02/2014 01:00:00	12:29:00	SOW1	DB2ARCG	POOL	STORAGE GROUP FOR DB2ARC LOGS	1	0	1	0
24/02/2014 01:00:00	12:29:00	SOW2	DBAGSG	POOL	STORAGE GROUP DBAGSG	1	0	1	0
24/02/2014 01:00:00	12:29:00	SOW1	DBAGSG	POOL	STORAGE GROUP DBAGSG	1	0	1	0
24/02/2014 01:00:00	12:29:00	SOW2	DBBGSG	POOL	STORAGE GROUP FOR DB2 V11	1	0	1	0
24/02/2014 01:00:00	12:29:00	SOW1	DBBGSG	POOL	STORAGE GROUP FOR DB2 V11	1	0	1	0
24/02/2014 01:00:00	12:29:00	SOW2	DINOSG	POOL		8	8	0	37,895
24/02/2014 01:00:00	12:29:00	SOW1	DINOSG	POOL		8	8	0	37,895

Whatever the report type you can run it and show results from All Systems in in single request

UDM Reporting Interface

Manipulate Report Results

- Export Report to CSV,Excel,HTML...
- Create Graphs from Report data
- Import Report data into JCL Skeletons
- Navigate to other reports, for example when displaying Storage groups, show all Volumes in Storage group
- Pivot the Report for example use this in a Unit Address report to show if the volume is online to all Systems
- Statistically analyze Report data



UDM Automation Interface

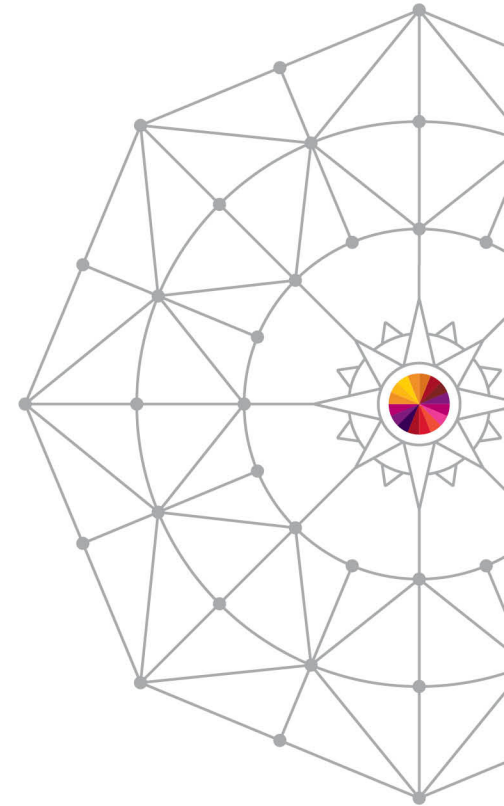
Now that was all very manual?



You can define, Commands, JCL, Reports etc. but you physically have to press the button to submit them



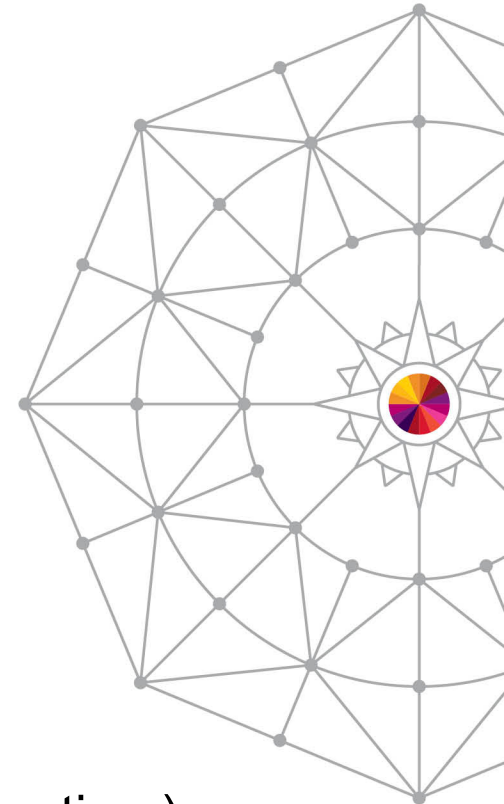
The Automation Interface allows you to submit these processes automatically



UDM Automation Interface

When Automation can Occur?

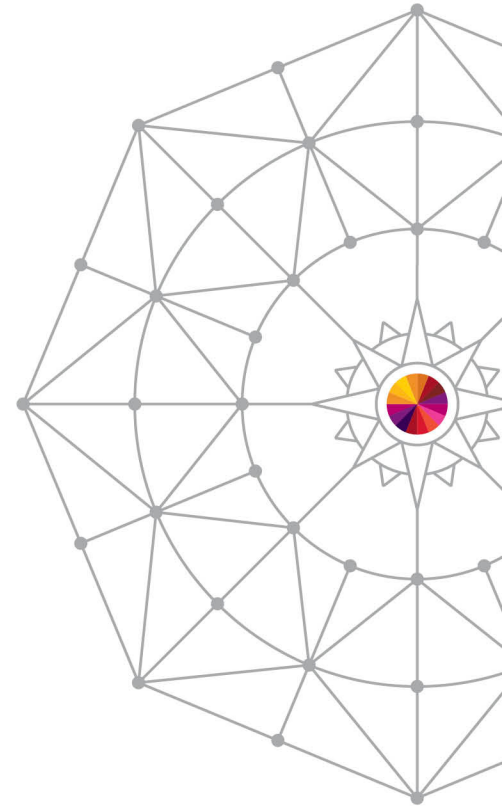
- With the Automation Interface you can take Actions if the following events occur:
 - Specific Console messages issued
 - Specific Times are reached, for example at the start of every month
 - Specific Conditions are reached, for example a Catalog is full or Storage group is full (SQL interrogation)



UDM Automation Interface

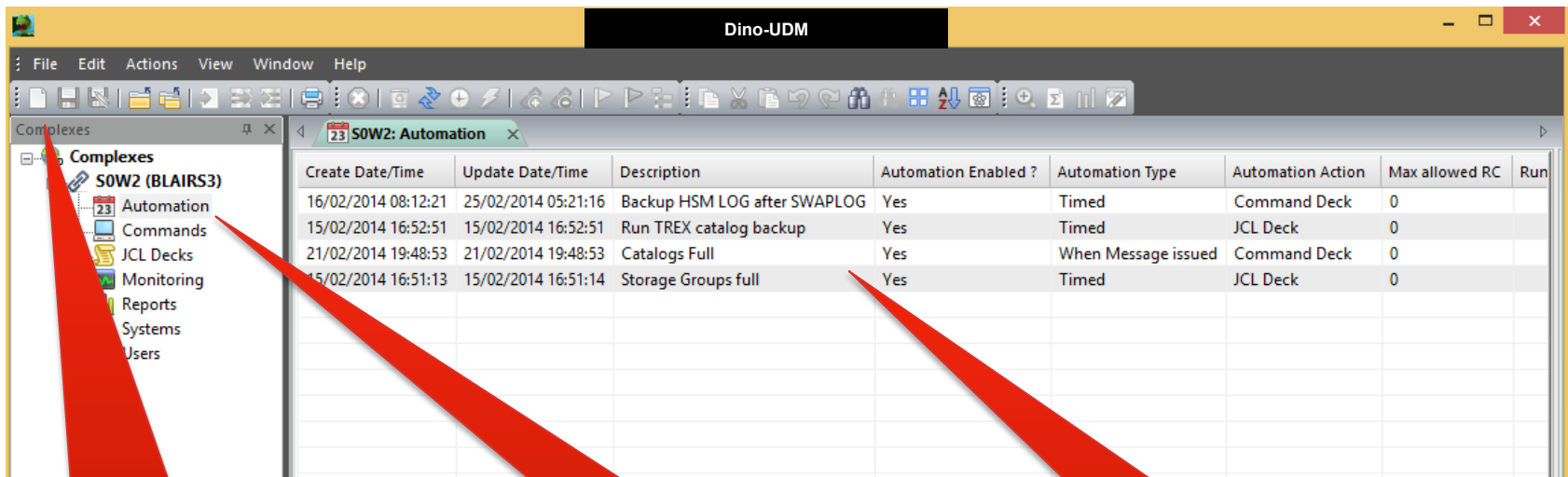
What Automation can do?

- With the Automation Interface you can take the following Actions when an event occurs :
 - Run a TSO or z/OS command
 - Submit some JCL
 - Run a Report, which could then generate JCL for each observation found



UDM Automation Interface

Define Automation Just Like the Other Features



Create Date/Time	Update Date/Time	Description	Automation Enabled ?	Automation Type	Automation Action	Max allowed RC	Run
16/02/2014 08:12:21	25/02/2014 05:21:16	Backup HSM LOG after SWAPLOG	Yes	Timed	Command Deck	0	
15/02/2014 16:52:51	15/02/2014 16:52:51	Run TREX catalog backup	Yes	Timed	JCL Deck	0	
21/02/2014 19:48:53	21/02/2014 19:48:53	Catalogs Full	Yes	When Message issued	Command Deck	0	
15/02/2014 16:51:13	15/02/2014 16:51:14	Storage Groups full	Yes	Timed	JCL Deck	0	

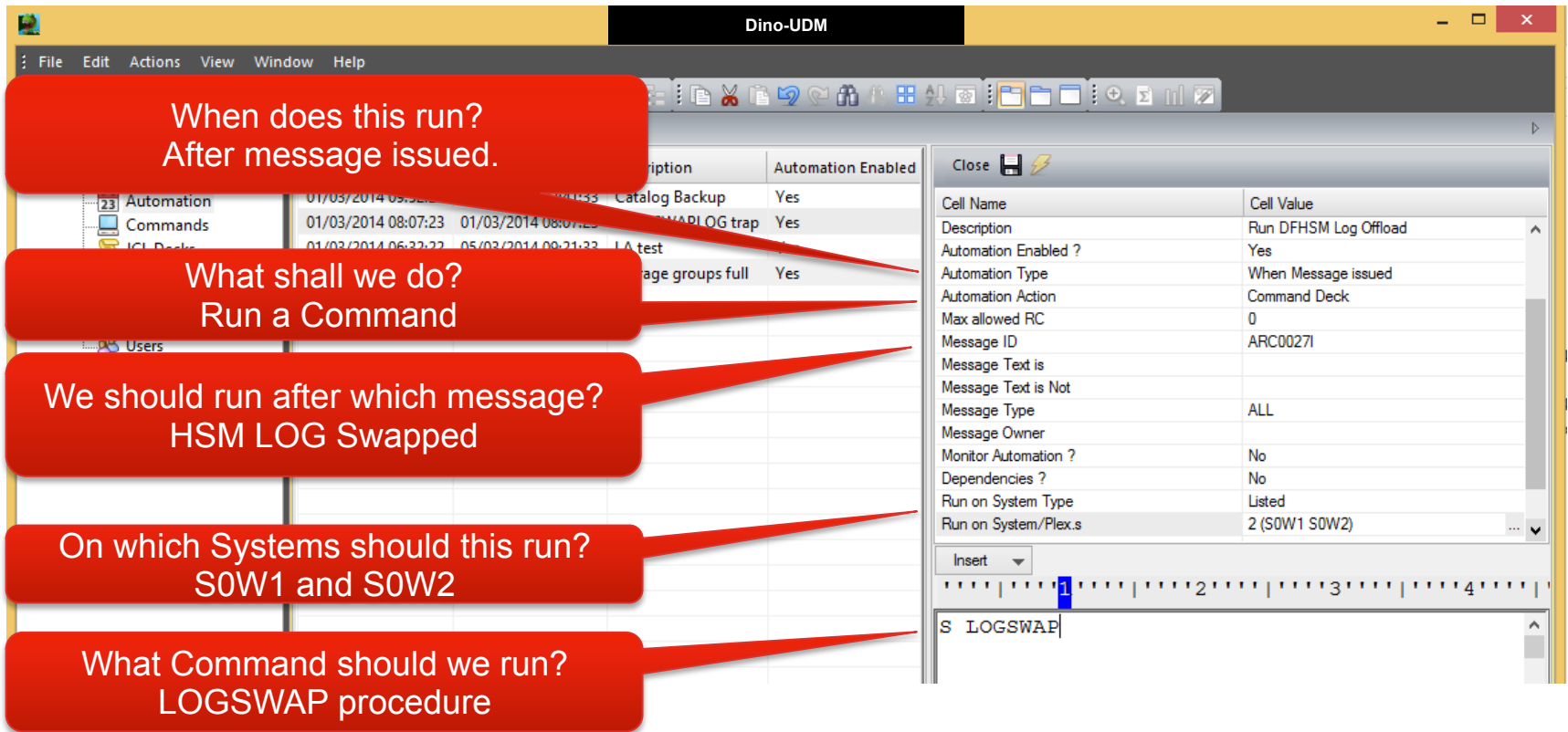
Create new
Automation

Double click to work
with Automation

Currently defined
Automation

UDM Automation Interface

Sample Message Trap Automation



**When does this run?
After message issued.**

**What shall we do?
Run a Command**

**We should run after which message?
HSM LOG Swapped**

**On which Systems should this run?
S0W1 and S0W2**

**What Command should we run?
LOGSWAP procedure**

Description	Automation Enabled
01/03/2014 09:23:11 Catalog Backup	Yes
01/03/2014 08:07:23 01/03/2014 08:07:23 HSM LOG trap	Yes
01/03/2014 06:32:22 05/03/2014 09:21:33 LA test	Yes
01/03/2014 06:32:22 05/03/2014 09:21:33 Message groups full	Yes

Cell Name	Cell Value
Description	Run DFHSM Log Offload
Automation Enabled ?	Yes
Automation Type	When Message issued
Automation Action	Command Deck
Max allowed RC	0
Message ID	ARC00271
Message Text is	
Message Text is Not	
Message Type	ALL
Message Owner	
Monitor Automation ?	No
Dependencies ?	No
Run on System Type	Listed
Run on System/Plex.s	2 (S0W1 S0W2)

Insert

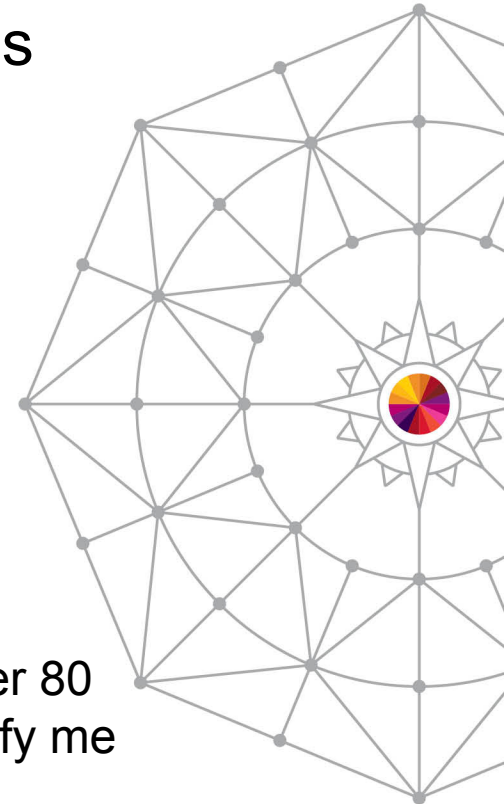
1

S LOGSWAP

UDM Monitoring Interface

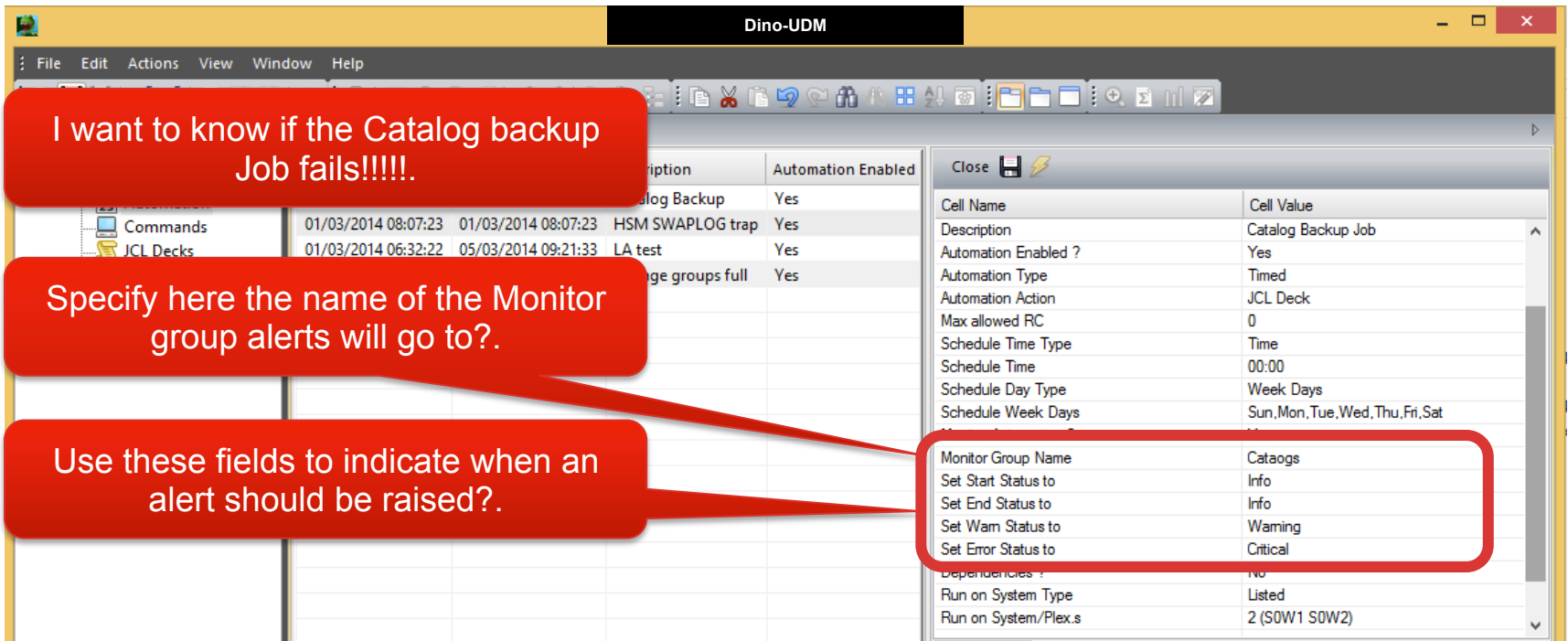
Centrally monitor Automation and your Systems

- You can raise an alert when:
 - The process starts
 - For example notify me when a Console message is issued
 - When the process ends OK
 - For example run report automation to show Pools over 80 Percent used. It ends with 0 if some are found so notify me
 - When the process ends in Error
 - For example notify me if the Catalog backup Job failed



UDM Monitoring Interface

Define Monitoring Criteria when you Define Automation



I want to know if the Catalog backup Job fails!!!!.

Specify here the name of the Monitor group alerts will go to?.

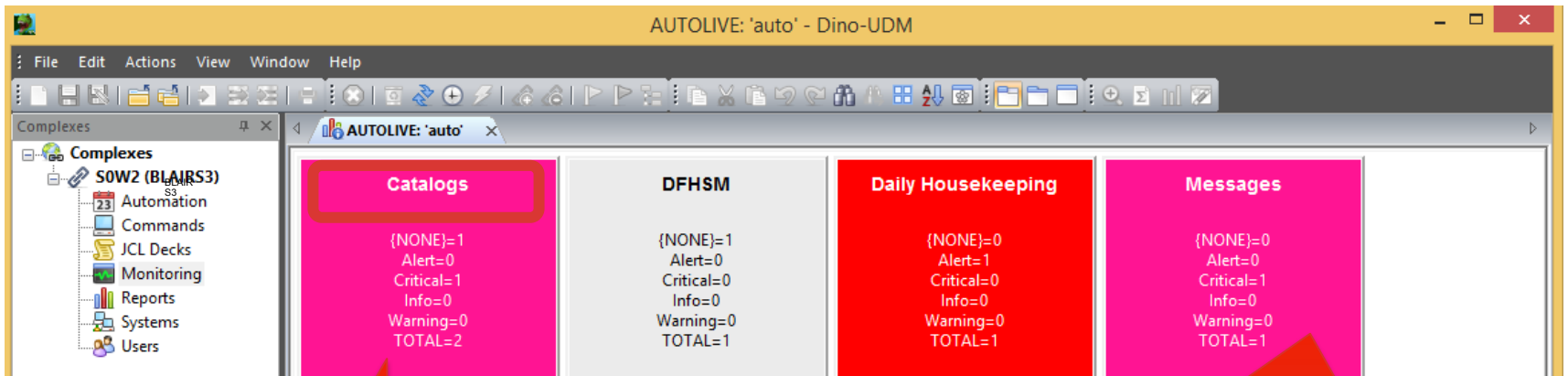
Use these fields to indicate when an alert should be raised?.

Description	Automation Enabled
Catalog Backup	Yes
HSM SWAPLOG trap	Yes
LA test	Yes
Storage groups full	Yes

Cell Name	Cell Value
Description	Catalog Backup Job
Automation Enabled ?	Yes
Automation Type	Timed
Automation Action	JCL Deck
Max allowed RC	0
Schedule Time Type	Time
Schedule Time	00:00
Schedule Day Type	Week Days
Schedule Week Days	Sun, Mon, Tue, Wed, Thu, Fri, Sat
Monitor Group Name	Catalogs
Set Start Status to	Info
Set End Status to	Info
Set Warn Status to	Warning
Set Error Status to	Critical
Dependencies ?	No
Run on System Type	Listed
Run on System/Plex.s	2 (SOW1 SOW2)

UDM Monitoring Interface

Single Window Shows the Status of your Enterprise



Catalogs

{NONE}=1
Alert=0
Critical=1
Info=0
Warning=0
TOTAL=2

DFHSM

{NONE}=1
Alert=0
Critical=0
Info=0
Warning=0
TOTAL=1

Daily Housekeeping

{NONE}=0
Alert=1
Critical=0
Info=0
Warning=0
TOTAL=1

Messages

{NONE}=0
Alert=0
Critical=1
Info=0
Warning=0
TOTAL=1

Pools

{NONE}=0
Alert=0
Critical=0
Info=1
Warning=0
TOTAL=1

Systems

{NONE}=0
Alert=0
Critical=0
Info=0
Warning=1
TOTAL=1

For each unique "Monitor Group" box created with the name of the Monitor Group.

Simply click the box to show the details ie what is causing the alert.

Color reflects highest condition reported for any Automation process associated to the Monitor Group.

ON ANY SYSTEM!!!!

More Information

If you would like to hear more about UDM and what it can do for you:

Visit it us at booth 223

Go to : WWW.Dino-Software.Com

Email : Support@Dino-Software.Com

Phone: 1-800-480-Dino(3466)

