Don’t be afraid of change

IBM IMS Configuration Manager for z/OS

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IBM

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Overview

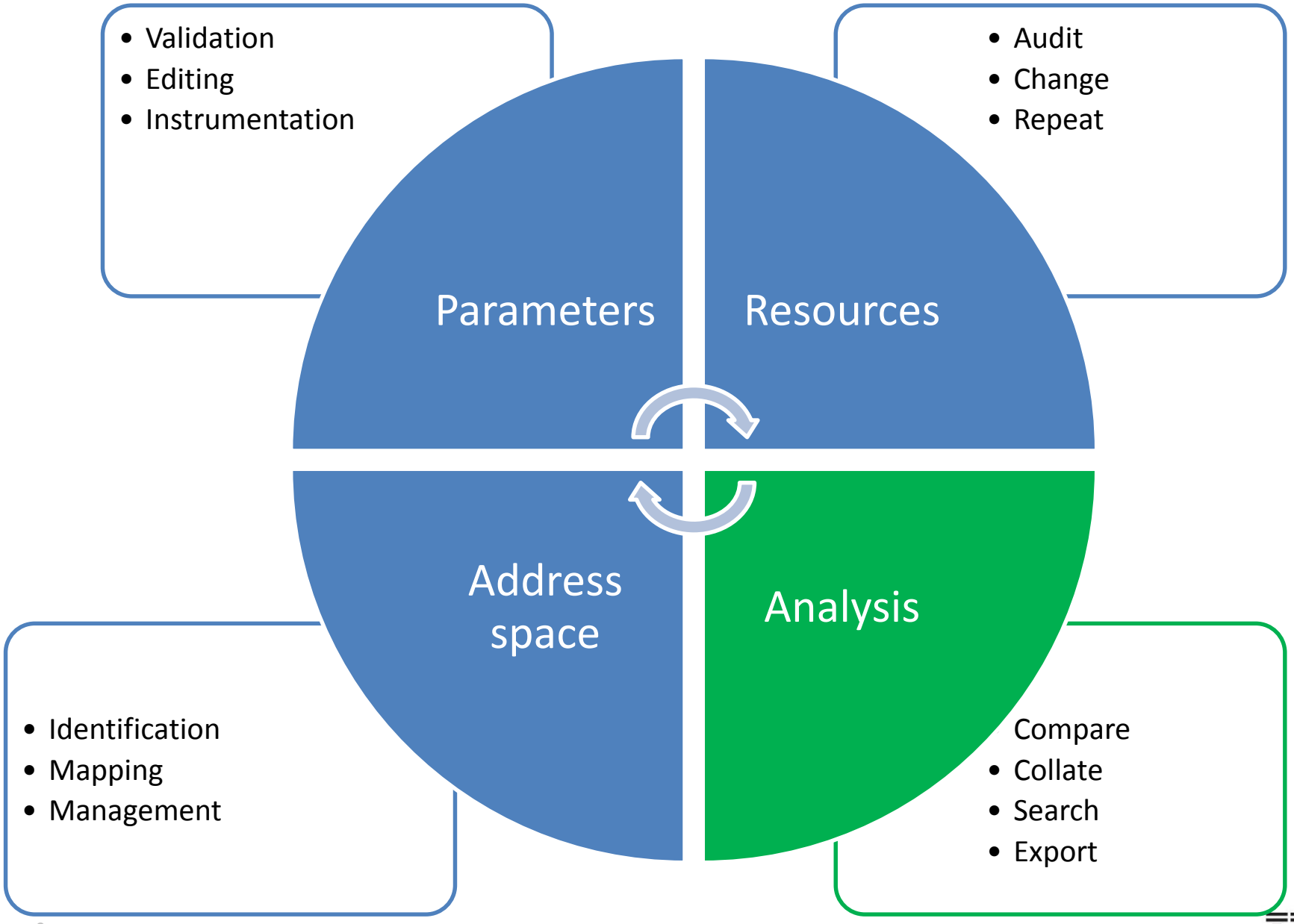
- IMS is continuously introducing new features that help improve access and responsiveness:
  - Transition to a GENless environment: DRD, repository, Catalog
  - Command-based administration
  - Open database access
- Collectively, these improvements help you make changes to IMS rapidly, effectively and provide unparalleled options for application developers
- But how well positioned are you to leverage these opportunities?

Fears

- Inertia: the cost of change verses the benefit realized from that change
- Uncertainty: Poorly understood in-house processes combined with fear of your IMS environment
- Reality: the need to balance agility with reliability, auditability, and compliance

Solution

- IMS CM helps you realize the potential benefit of new IMS capabilities quickly and easily
- *The result is **not** another set of in-house customizations*
- Instead, you get an IBM-supported enterprise-grade solution for managing MODBLKS resources and IMS parameters that:
  - Transparently evolves as IMS evolves
  - Provides the necessary audits, controls, and documentation


Validation
Editing
Instrumentation
Audit
Change
Repeat
Parameters
Resources
Address space
Analysis
Identification
Mapping
Management
Compare
Collate
Search
Export

Auto discovery of IMS Systems

- IMS Configuration maps an entire IMS topology in seconds

Empty member list

```
  File  Help
──────────────────────────────────────────────────────────────────────────────
                              System Member List
Command ===> ____________________________________________________ Scroll ===> PAGE

Enter NEW to create a new Member

     Name     Type     IMSplex  VV.R  Description
/    *        *        *        *     *
****************************** Bottom of data ********************************
```

```
VIEW       GPL210.DEVT.SGPLSAMP(GPLDSCVR) - 01.25
Command ===> ____________________________
****** ***************************** Top of Data *******
000001 //GPLDSCVR JOB ,CLASS=A,NOTIFY=&SYSUID
000002 //GPLUTIL  EXEC PGM=GPLUTIL
000003 //STEPLIB  DD  DISP=SHR,DSN=<HLQ.V2R1M0.SGPLLINK>
000004 //         DD  DISP=SHR,DSN=<HLQ.VnRnMn.SDFSRESL>
000005 //SYSIN    DD  *
000006 *
000007 DISCOVER TO(REPOSITORY,GPLREPOS)
000008 /*
000009 //GPLREPOS DD  DISP=SHR,
000010 //             DSN=<HLQ.V2R1M0.REPOSTRY>
000011 //SYSPRINT DD  SYSOUT=*
000012 //
****** **************************** Bottom of Data *****
```

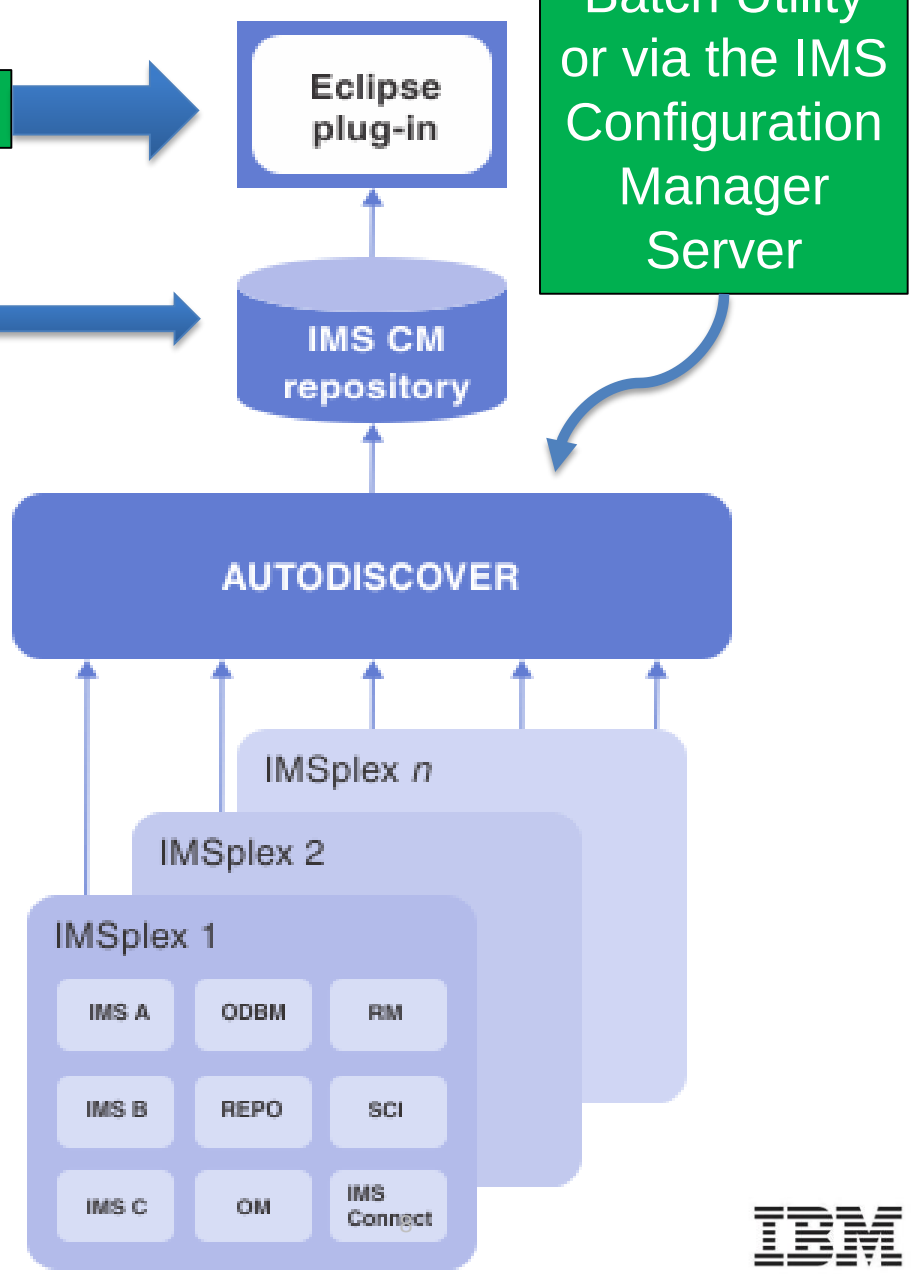
+ Discovery job

Automated IMS Systems Topology Mapping

List, View, Compare, and Issue Commands

Store their complete configuration

- Identify IMSplexes, IMS systems, and IMS Connect across all LPARs
- Find systems without a PLEX (on the same MVS LPAR)
- Map CSL address spaces, PROCLIBs, and MODBLK resources



IBM

Complete IMS topology

File Help

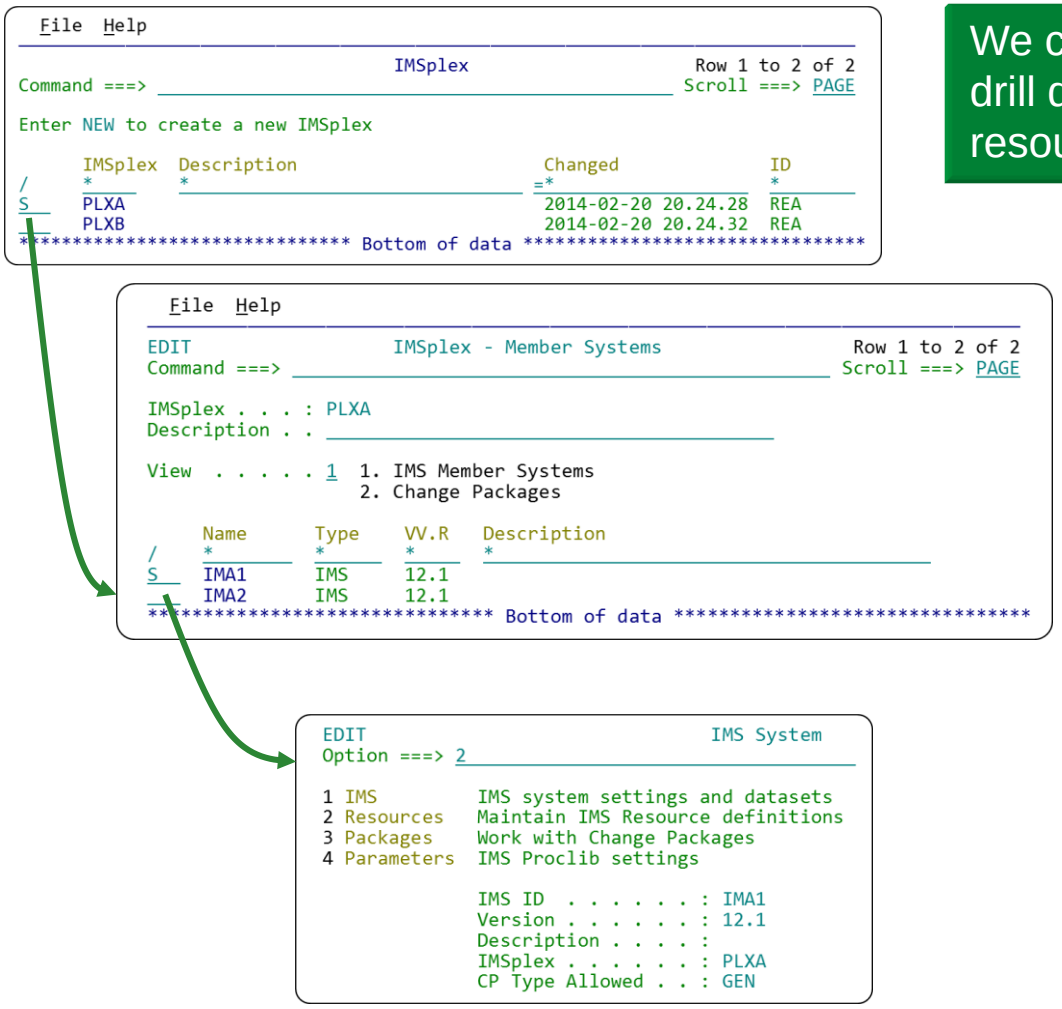
System Member List Row 1 of 103 More: <>

Command ===> Scroll ===> PAGE

Enter NEW to create a new Member

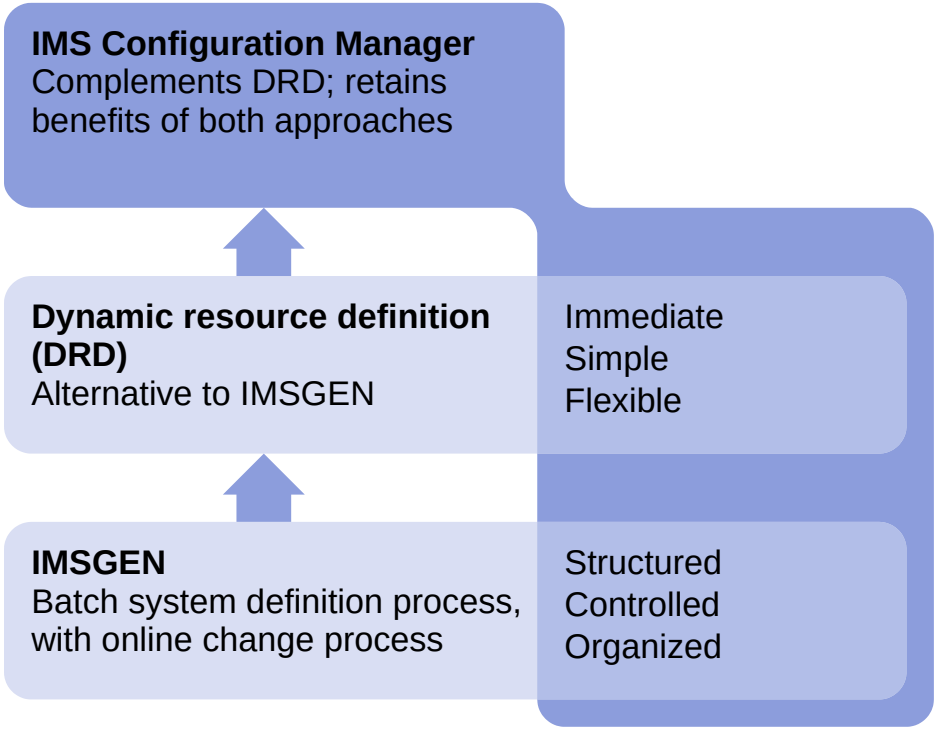
/	Name	Type	IMSplex	VV.R	Description
	*	*	*	*	*
___	CACTHWS0	IMSCON		10.1	
___	CDQ1SC	SCI	PLCDH	1.5	
___	DCH1OD	ODBM	PLCDH	1.2	
___	DCJ1OD	ODBM	PLCDJ	1.2	
___	DCJ1OM	OM	PLCDJ	1.5	
___	DCJ2OD	ODBM	PLCDJ	1.2	
___	DDH1OM	OM	PLDDH	1.6	
___	DDJ1OD	ODBM	PLDDJ	1.3	
___	DDJ1OM	OM	PLDDJ	1.6	
___	IBDP	IMS	PLXDP	11.1	
___	IBDR	IMS	PLBDP	11.1	
___	ICDH	IMS	PLCDH	12.1	
___	ICDJ	IMS	PLCDJ	12.1	
___	ICDP	IMS	PLXDP	12.1	
___	ICDQ	IMS	PLDDQ	12.1	
___	ICDR	IMS	PLCDP	12.1	
___	ICMIC00	IMSCON	+3	12.1	
___	ICMIC01	IMSCON		12.1	
___	ICMIC02	IMSCON	PLXDP	13.1	

We can browse through the PLEX and drill down to systems and their resources

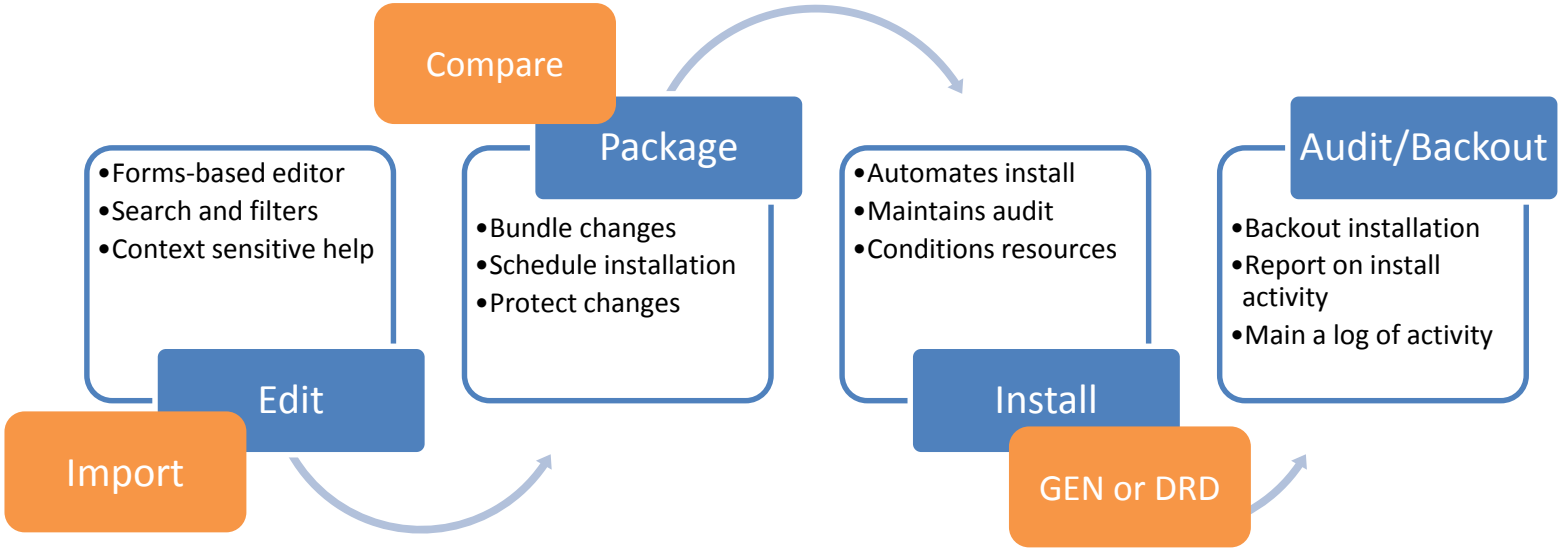


Example: DRD

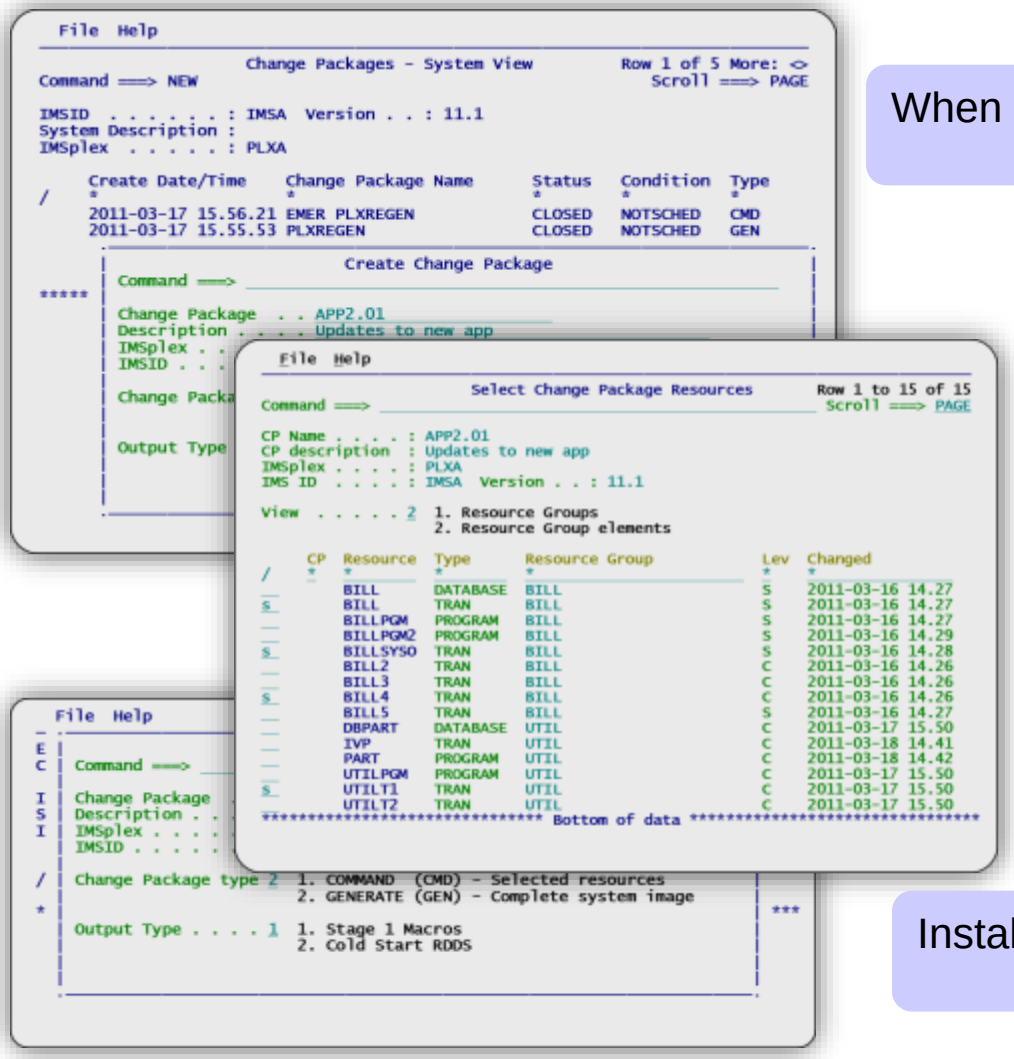
- DRD offers a more modern approach to application development and management
- Reduces the need for performing an IMSGEN
- More flexible and immediate than an online change
- But there are processes, controls, structures, and dependencies that have developed over years?
- IMS Configuration Manager adds structure to the DRD process.
  - Maintain your processes but gain the benefits of DRD
  - Add a layer of audit and control that allows you to open up the process to developers
  - Automation and reversibility of change process



ICM Processes: updating resources



Structure your process



When ready, bundle changes in a package

Pick individual resources

Bundle all resources for a given system

Continue working on the next update cycle

Install the resources

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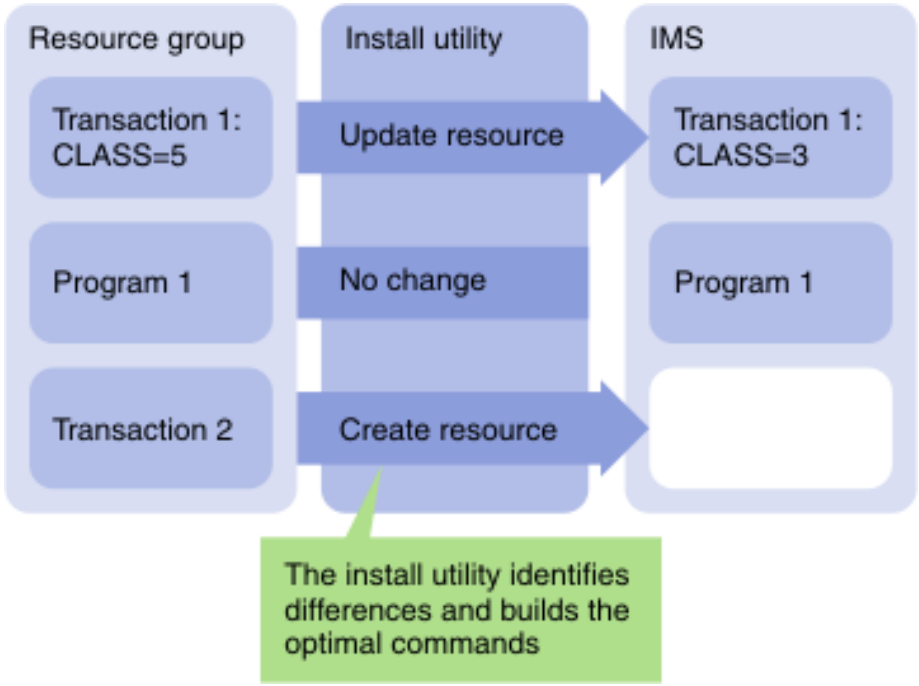
IMS Configuration Manager resource installer

- The installer provides enhanced services on top of the IMS type-2 command interface
- Automatically determines optimum method of install
- Rollback option
- Full-logging of install activity
- Builds and records system image



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Resource updates can also be received in batch in the form of stage 1 source

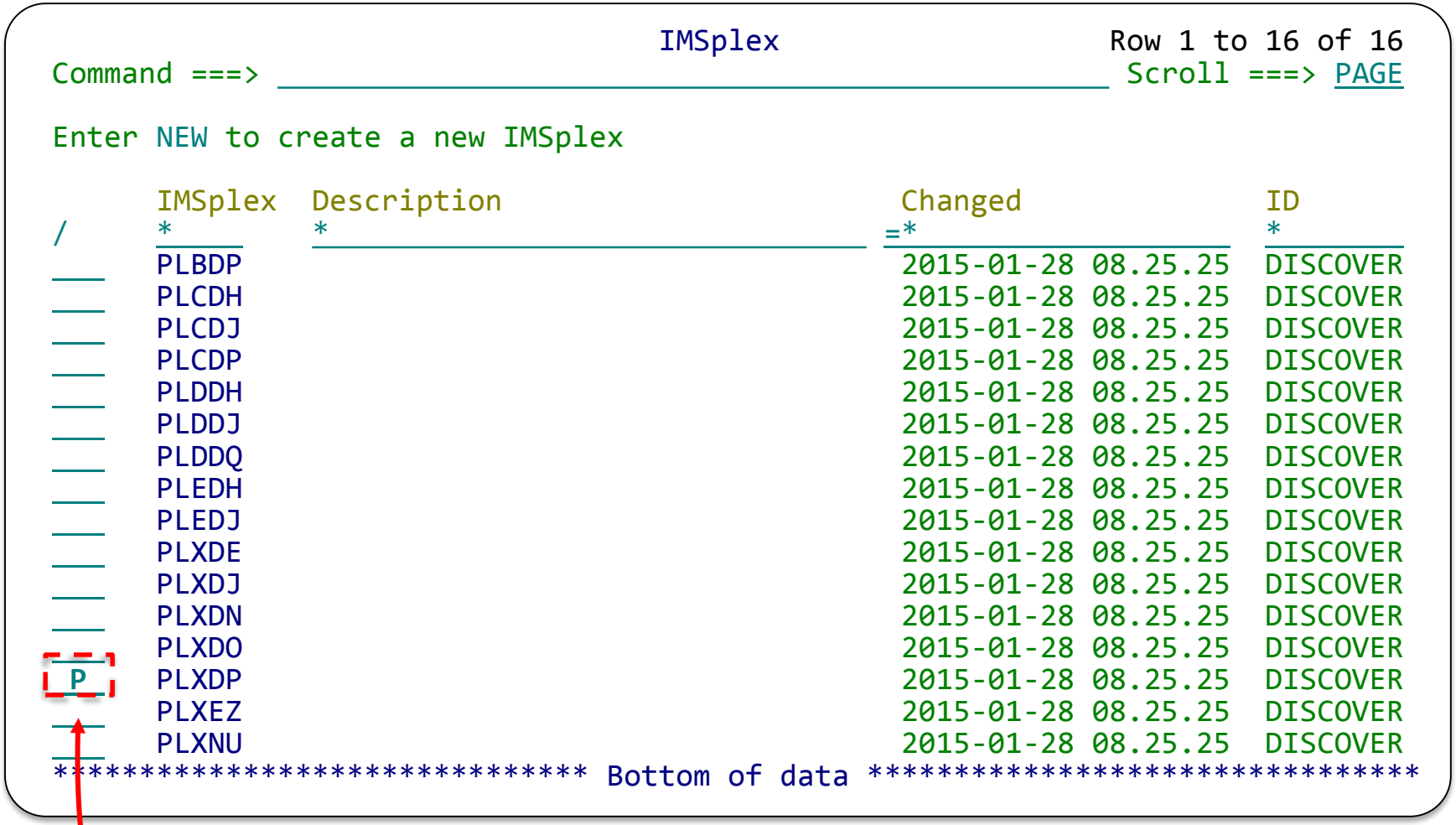
Receives stage 1
Analyzes for differences
Builds change packages

```
  File  Edit  Edit_Settings  Menu  Utilities  Compilers  Test  Help
VIEW       IMPOT00.GPL.WORKSHOP.JCLUTIL(TAKEUS10) - 01.08  Columns 00001 00072
Command ===> _____________________________________________ Scroll ===> PAGE
000038   COMPARE +
000039           INPUT1(RG('IMPOT21 BASE') +
000040                  IMSID(ICDP) +
000041                  DDNAME(REPOSITORY,OUTREPOS)), +
000042           INPUT2(RG('EMPTY RG') +
000043                  DDNAME(REPOSITORY,OUTREPOS)), +
000044           UPDCP(NAME('IMPOT21 Updates APP A') +
000045                  IMSID(ICDP) +
000046                  MATCH(INPUT1) +
000047                  NOMATCH(INPUT1(CREATE_RES),INPUT2(DELETE_RES)) +
000048                  UPDREPOS(INPUT1))
000049 /*
000050 //
****** ***************************** Bottom of Data ****************************
```

Example: Parameter management

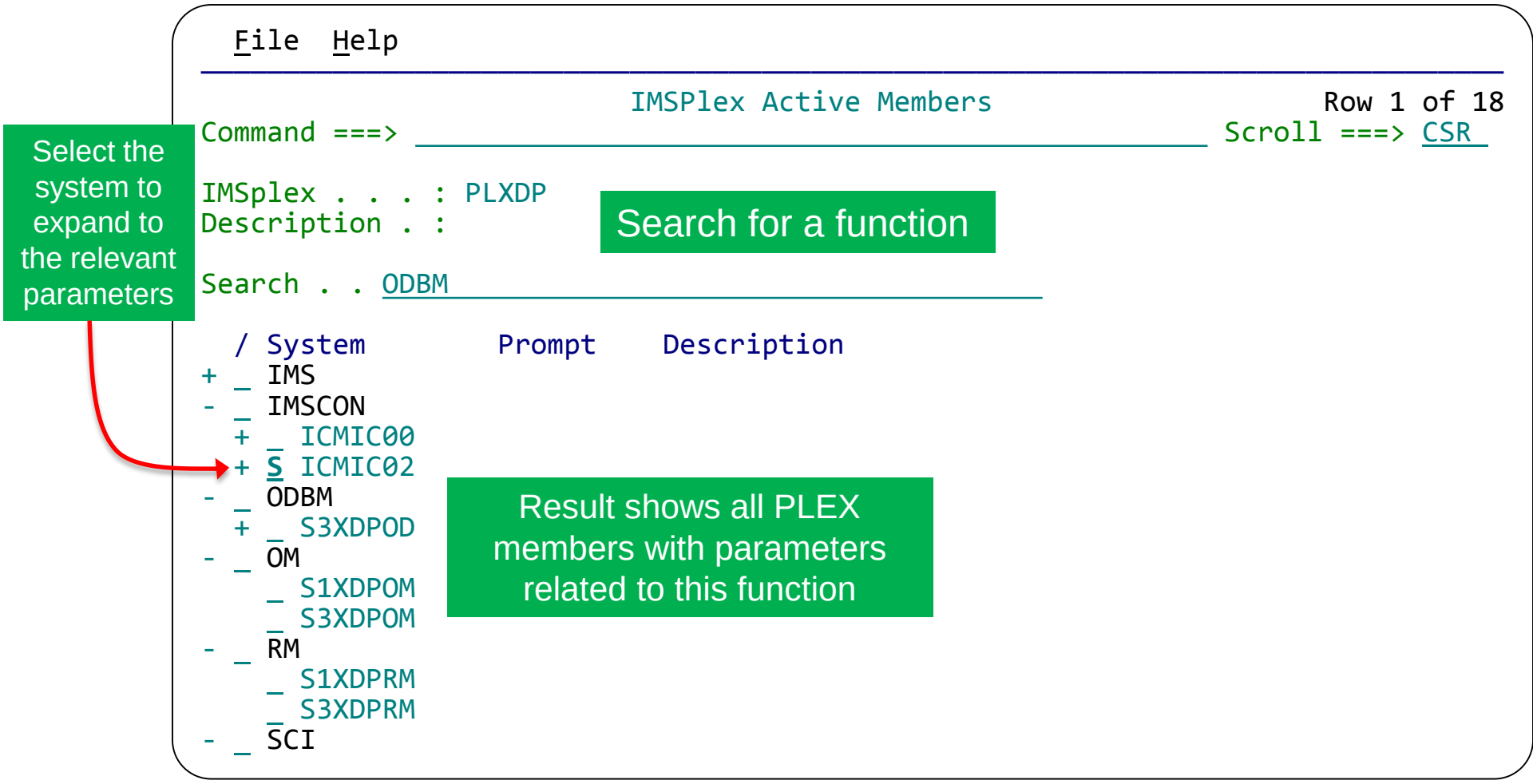
- Configuration
  - 35 members
  - 890 parameters and sub-parameters in these members
  - 157 parameters introduced in V12 and V13
- Interdependencies
- Implemented on unmapped topologies
- Address: inventory, map relationships, relate to functional change, validate

IMS Parameter management



Use P (pick) line command to see active members within an IMSPlex

IMS Parameter management



IMS Parameter management

```
File  Help
                              IMSPlex Active Members                    Row 4 of 55
Command ===> ____________________________________________________ Scroll ===> CSR

IMSplex . . . : PLXDP
Description . :

Search . . ODBM_____________________________________________

  / System         Prompt    Description
- _ ICMIC02
    _ HWSCFG02
      _ DRDAPORT=...         Port used for Open Database APIs and DRDA
      _ ODACCESS=...         Communication between ODBM, DRDA clients
      _ ODBMAUTOCONN=...     IMS Connect automatically to ODBM
      _ ODBMTMOT=...         Amount of time that IMS Connect waits
      _ IMSPLEX (MEMBER=ICMI2XDP,TMEMBER=PLXDP)
    ------------------------------------------------------------------------
- _ ODBM
  S S3XDPOD
    _ CSLDIPS3
      _ ARMRST=...           Whether the z/OS ARM restarts the ODBM
      _ **  THE ODBMCFG=PS3 EXEC parameter or in this PROCLIB member
```

Impact on IMS Connect

See parameters even if they are not physically in the member

Additional CSL address spaces required for function

Select the member to edit it

IMS Parameter management

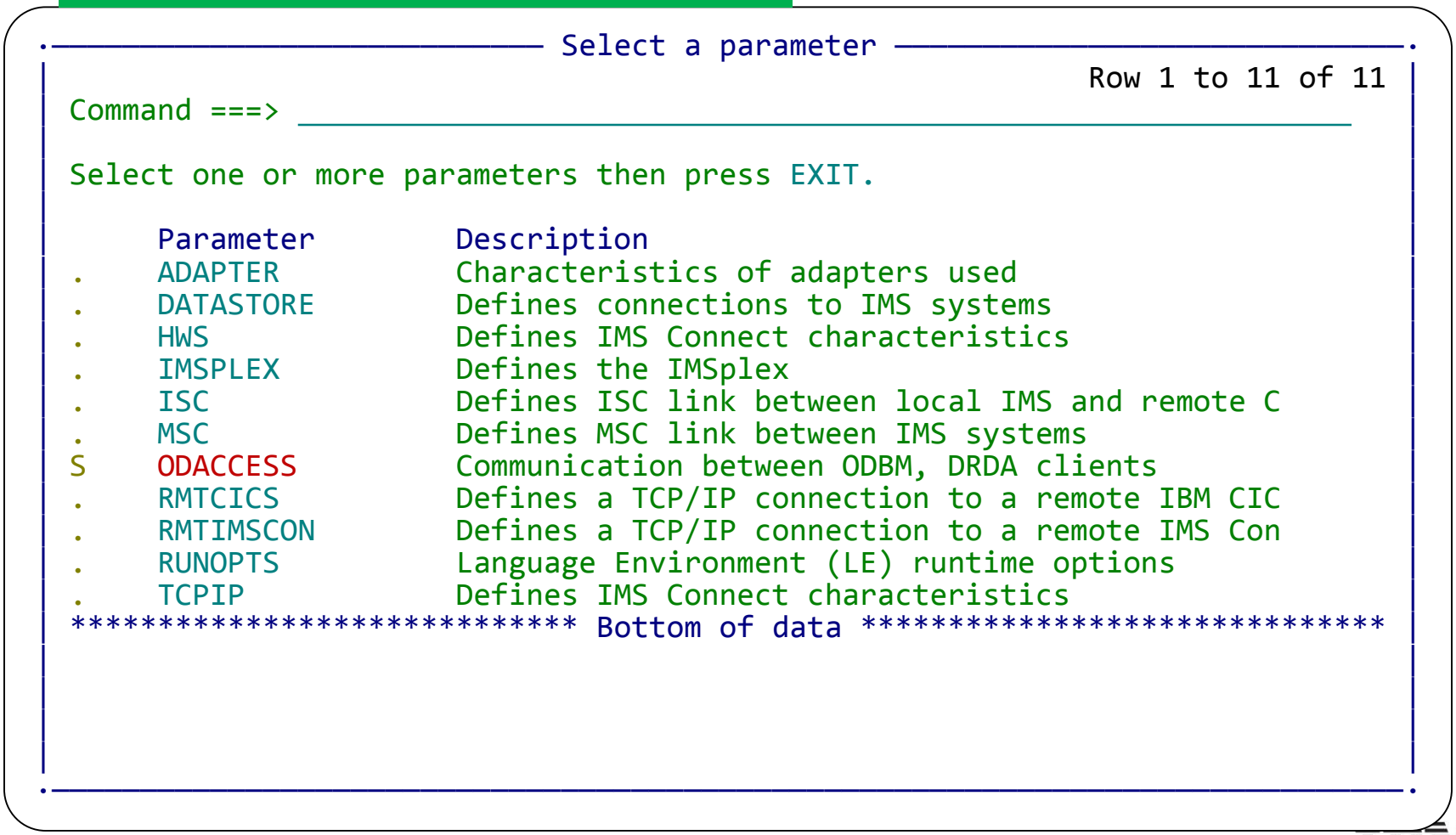
Additional features:
CHECK, and MODEL…

Standard ISPF edit

```
EDIT       PLXDP.PROCLIB(CSLDIPS3) - 01.04                Columns 00001 00072
Command ===>                                                Scroll ===> CSR
CHECK  Validate the member syntax
MODEL  Insert a new parameter with syntax assistance
HELP   Press F1 to request parameter sensitive help
****** ***************************** Top of Data ****************************
000001 ********************************************************************
000002 **  This PROCLIB member is specified by the ODBMINIT=PS3            *
000003 **  value on the ODBM start up procedure.                           *
000004 **                                                                  *
000005 **  Parameters specified here are used for ODBM initialization.     *
000006 **                                                                  *
000007 **  ODBM configuration parameters are specified in the              *
000008 **  CSLDCPS3 PROCLIB member which can be specified by either        *
000009 **  THE ODBMCFG=PS3 EXEC parameter or in this PROCLIB member        *
000010 **  ON THE ODBMCFG=PS3 parameter.                                   *
000011 **                                                                 **
000012 ********************************************************************
000013 ODBMNAME=S3XDP
000014 IMSPLEX(NAME=PLXDP)
000015 ODBMCFG=PS3
000016 RRS=Y
****** ***************************** Bottom of Data ***************************
```

IMS Parameter management

MODEL allows you to add the functions for the feature in place (direct editing of the member)



IMS Parameter management

Parameters are inserted in place with context sensitive help and validation

```
  File  Edit  Edit_Settings  Help
EDIT       GPL000.QAAUTO.HWS.PROCLIB(HWSCFG02) - 01.08     Columns 00001 00072
Command ===> _____________________________________________ Scroll ===> CSR
CHECK  Validate the member syntax
MODEL  Insert a new parameter with syntax assistance
HELP   Press F1 to request parameter sensitive help
000032 ODACCESS(
000033   DRDAPORT=(ID=_____,KEEPAV=0,PORTTMOT=18000),
000034   IMSPLEX=(MEMBER=________,TMEMBER=_____),
000035   ODBMAUTOCONN=_,
000036   ODBMTMOT=18000)
=NOTE= DRDAPORT - Port used for Open Database APIs and DRDA
=NOTE=  ID      - The port number
=NOTE=            1-65535
=NOTE=  KEEPAV  - The interval for keep alive mechanism
=NOTE=            0-2147460 Default 0
=NOTE=  PORTTMOT- Time that IMS Connect waits
=NOTE= IMSPLEX  - IMSplex
=NOTE=  MEMBER  - XCF member name that identifies IMS Connect
=NOTE=  TMEMBER - Target XCF member name
=NOTE= ODBMAUTOCONN - IMS Connect automatically to ODBM
=NOTE= ODBMTMOT - Amount of time that IMS Connect waits
```

IMS Parameter management

Complete Help available in-context: no need for searching through multiple IMS manuals

```
                        Help - ODBMNAME (CSLDIxxx)
                                                          More:     +
ODBMNAME=
  Specifies the 1- to 6-character name of the ODBM address space. You can
  specify the ODBMNAME parameter on either the CSLODBM startup procedure
  or in the CSLDIxxx member of the IMS PROCLIB data set. Each instance of
  ODBM in an IMSplex must have a unique ODBMNAME.

  For each ODBMNAME, ODBM creates an eight-character ODBMID that
  identifies the instance of ODBM within the IMSplex. The ODBMID is the
  ODBMNAME followed by the characters "OD" and any blank spaces that ODBM
  needs to add to make the ODBMID eight characters in length.

  For example, if you specify an ODBMNAME that is three characters long,
  ODBM creates the eight-character ODBMID by appending the characters OD
  to the ODBMNAME and then padding the ODBMID with three blank spaces. If
  ODBMNAME=ABC, ODBM creates an ODBMID of "ABCODbbb", in which b
  represents a blank space.

  If you specify the ODBMNAME parameter in the CSLDIxxx member of the IMS
  PROCLIB data set, you must also either define a separate CSLDIxxx member
  for each instance of ODBM in an IMSplex or specify ODBMNAME in the
```

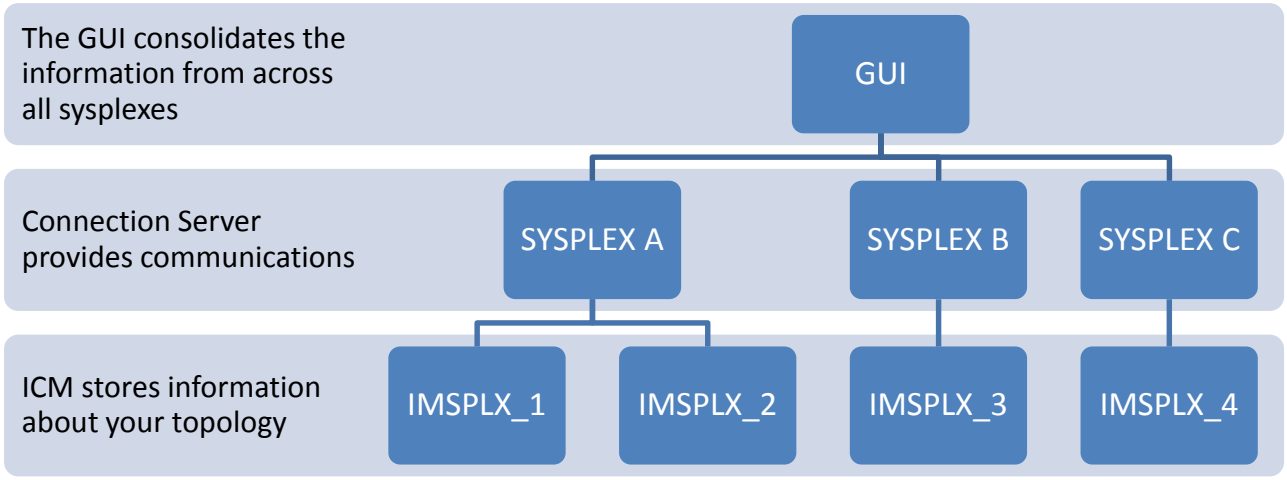
IMS Parameter management

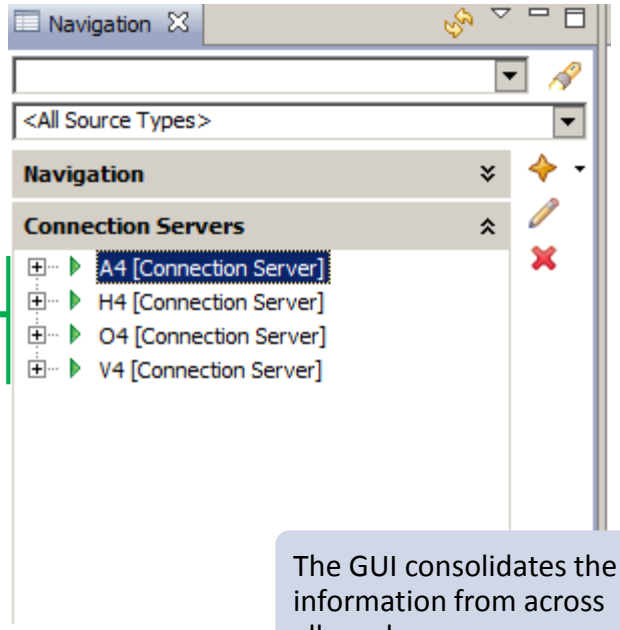
```
  File  Help
──────────────────────────────────────────────────────────────────────────────
                          IMSPlex Active Members                  Row 12 of 55
Command ===> ____________________________________________ Scroll ===> CSR

IMSplex . . . : PLXDP
Description . :

Search . . ODBM ____________________________________________

  / System        Prompt    Description
- _ ODBM
  - _ S3XDPOD
      _ CSLDIPS3
        _ ARMRST=...         Whether the z/OS ARM restarts the ODBM
        _ **  THE ODBMCFG=PS3 EXEC parameter or in this PROCLIB member
        _ **  ON THE ODBMCFG=PS3 parameter.
        _ ODBMNAME=S3XDP     The name of the ODBM address space
        _ IMSPLEX(NAME=PLXDP)
        _ IMSPLEX(NAME=PLXDP)
      ------------------------------------------------------------------------
      _ CSLDCPS3
      _ <SECTION=LOCAL_DATASTORE_CONFIGURATION>
            _ ODBM (          Attribute specifications for the data store
          H NAME=S3XDP,       ODBM, DATASTORE, and ALIAS subparameter
            _ DATASTORE(NAME=IDDP,
            _ ALIAS(NAME=DDP1,NAME=DDP2,NAME=DDP3)
------------------------------------------------------------------------------
```

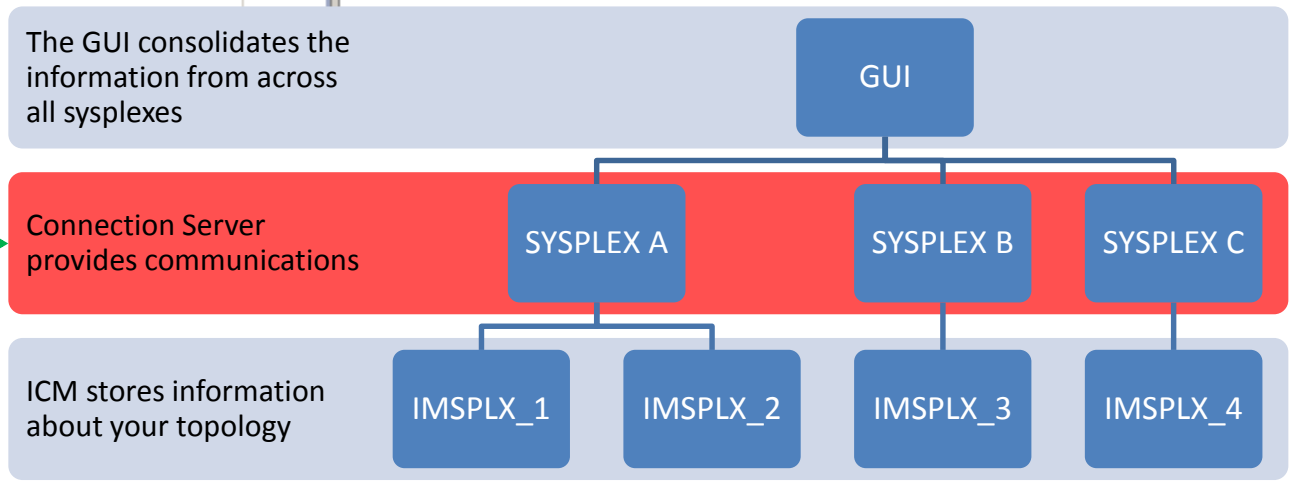
Easily identify relationships between members

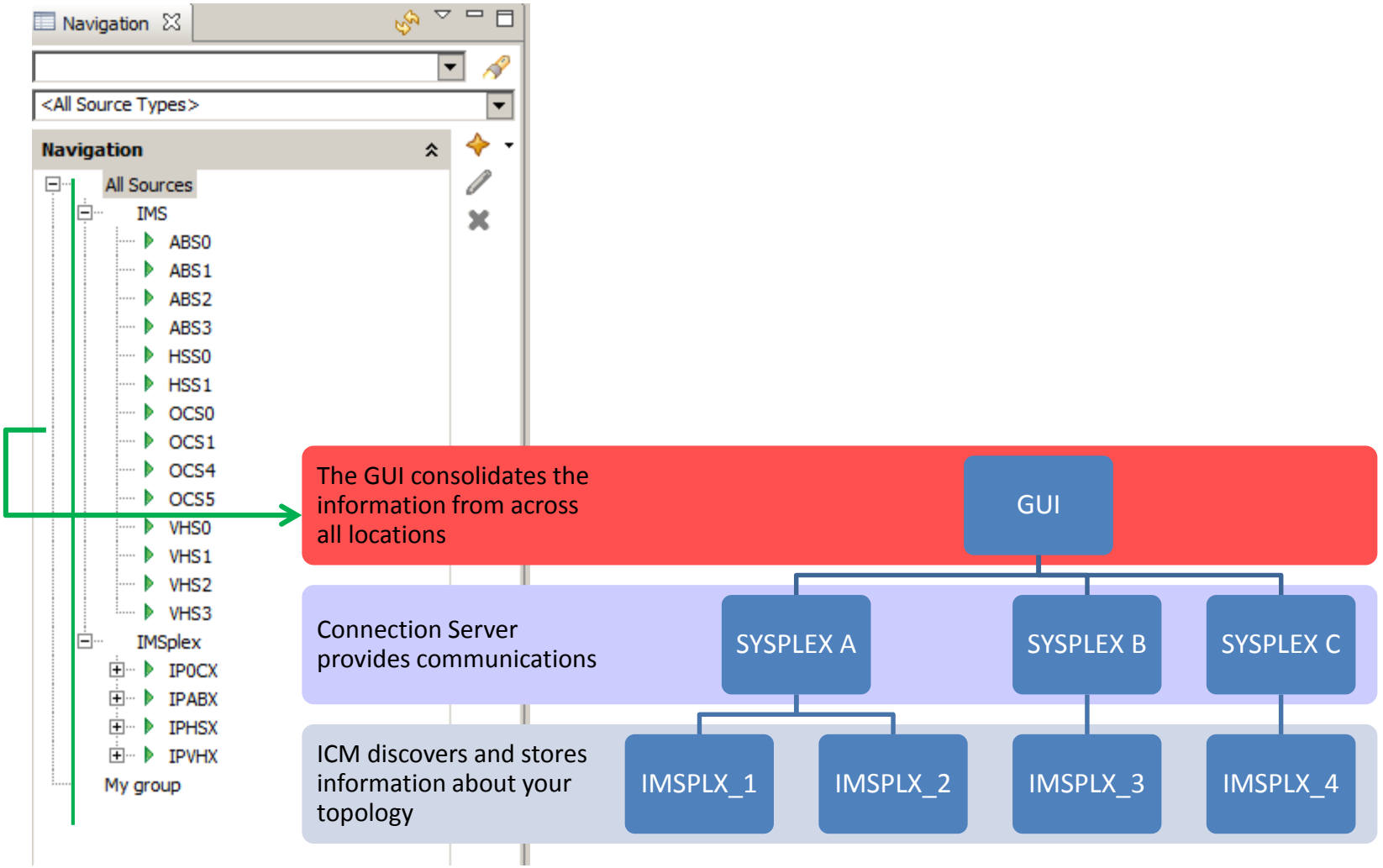
Help is also available in context (H line action)

GUI consolidates information

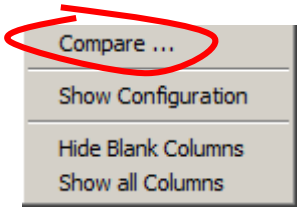



Navigation
<All Source Types>
Navigation
Connection Servers
A4 [Connection Server]
H4 [Connection Server]
O4 [Connection Server]
V4 [Connection Server]


The GUI consolidates the information from across all sysplexes
GUI
Connection Server provides communications
SYSPLEX A
SYSPLEX B
SYSPLEX C
ICM stores information about your topology
IMSPLX_1
IMSPLX_2
IMSPLX_3
IMSPLX_4


Navigation
<All Source Types>
Navigation
All Sources
IMS
ABS0
ABS1
ABS2
ABS3
HSS0
HSS1
OCS0
OCS1
OCS4
OCS5
VHS0
VHS1
VHS2
VHS3
IMSplex
IPOCX
IPABX
IPHSX
IPVHX
My group
The GUI consolidates the information from across all locations
GUI
Connection Server provides communications
SYSPLEX A
SYSPLEX B
SYSPLEX C
ICM discovers and stores information about your topology
IMSPLX_1
IMSPLX_2
IMSPLX_3
IMSPLX_4

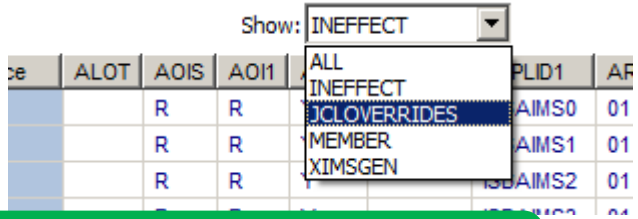
Compare configuration across all plexes to make sure you are using the best system configuration for evaluation



<Locate value> <Find value>

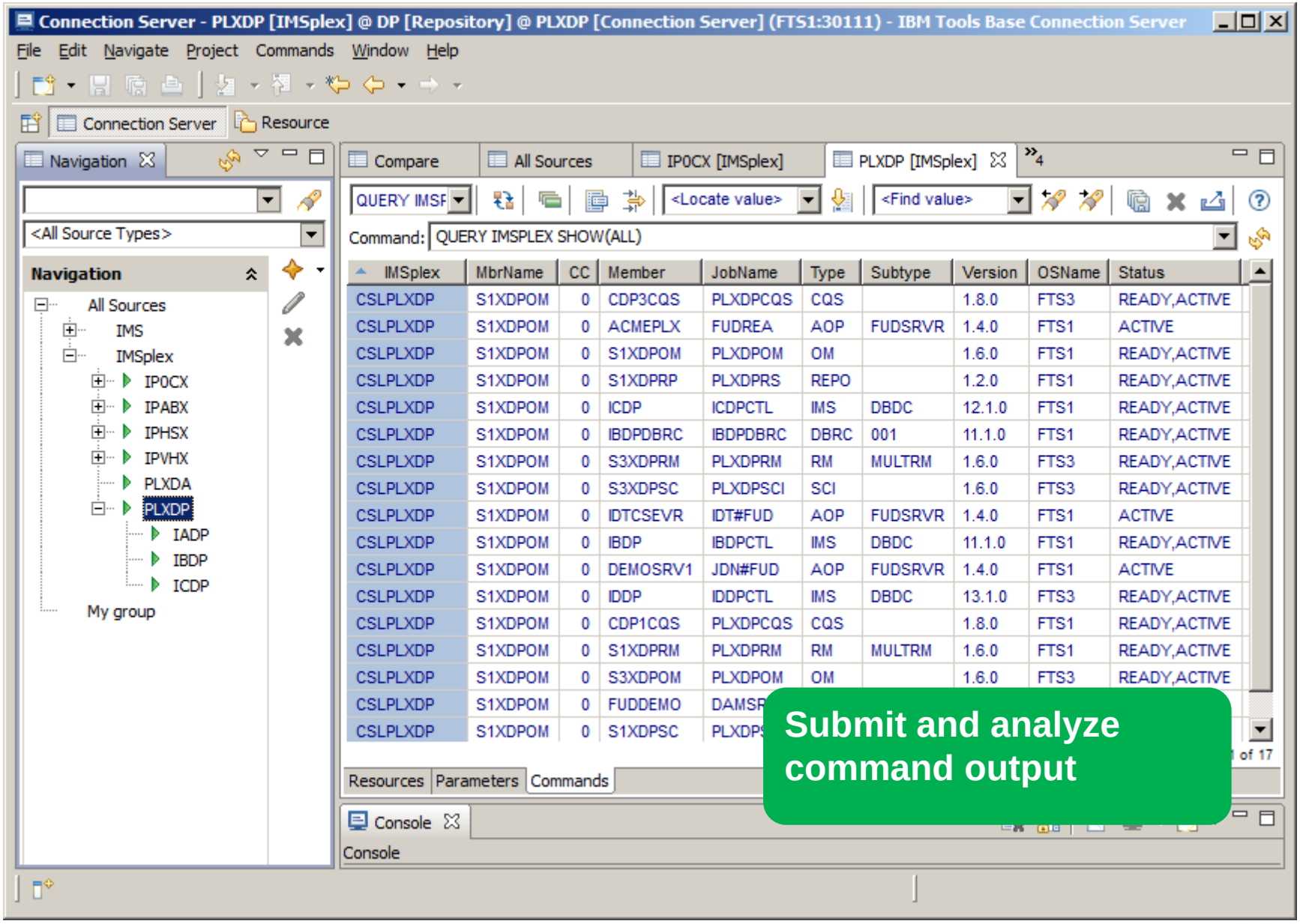
MemberName	APPLID1	CPLOG	CSAPSB	CSLG	DBRCNM	DBWP	DC	DLIPSB	DMB	DSCT	FBP	FRE	IRLM	LSO	LUMC	LUMP	MAXPST	OTMAASY	OTMANM	PIINCR	PIMAX
DFSPB00M	IMABIMS0	500K	4500K	0BA	ABS0XDRG	32	00M	15M	400	M	7M	1200	Y	S			990	S	IMABIMS0	4	2000
DFSPB01M	IMABIMS1	500K	4500K	0BA	ABS1XDRG	32	01M	15M	400	M	7M	1200	Y	S			990	S	IMABIMS1	4	2000
DFSPB02M	IMABIMS2	500K	4500K	0BA	ABS2XDRG	32	02M	15M	400	M	7M	1200	Y	S			990	S	IMABIMS2	4	2000
DFSPB03M	IMABIMS3	500K	4500K	0BA	ABS3XDRG	32	03M	15M	400	M	7M	1200	Y	S			990	S	IMABIMS3	4	2000
DFSPB00H	IMHSIMS0	16M	2000	0SH	HSS0XDRG	28	00H	6000	400	H	400	1000	N	S			800		IMHSIMS0	4	2000
DFSPB01H	IMHSIMS1	16M	2000	0SH	HSS1XDRG	28	01H	6000	400	H	400	1000	N	S			800		IMHSIMS1	4	2000
DFSPB00C	IM0CIMS0	16M	3500	0C0	OCS0XDRG	32	00C	500	100	C	3000	4000	N	S	50M	500M	400	S	IM0CIMS0	4	8000
DFSPB01C	IM0CIMS1	16M	3000	0C0	OCS1XDRG	32	01C	300	100	C	3000	4000	N	S			400	S	IM0CIMS1	4	8000
DFSPB04C	IM0CIMS4	16M	3000	0C0	OCS4XDRG	32	04C	300	100	C	3000	4000	N	S			400	S	IM0CIMS4	4	8000
DFSPB05C	IM0CIMS5	16M	3000	0C0	OCS5XDRG	32	05C	300	100	C	3000	4000	N	S			400	S	IM0CIMS5	4	8000
DFSPB008	IMVHIMS0	16M		0HV	VHS0XDRG		008			8	7M	9000					990	S	IMVHIMS0		
DFSPB018	IMVHIMS1	16M		0HV	VHS1XDRG		018			8	7M	9000					990	S	IMVHIMS1		
DFSPB028	IMVHIMS2	16M		0HV	VHS2XDRG		028			8	7M	9000					800	S	IMVHIMS2		
DFSPB038	IMVHIMS3	16M		0HV	VHS3XDRG		038			8	7M	9000					800	S	IMVHIMS3		

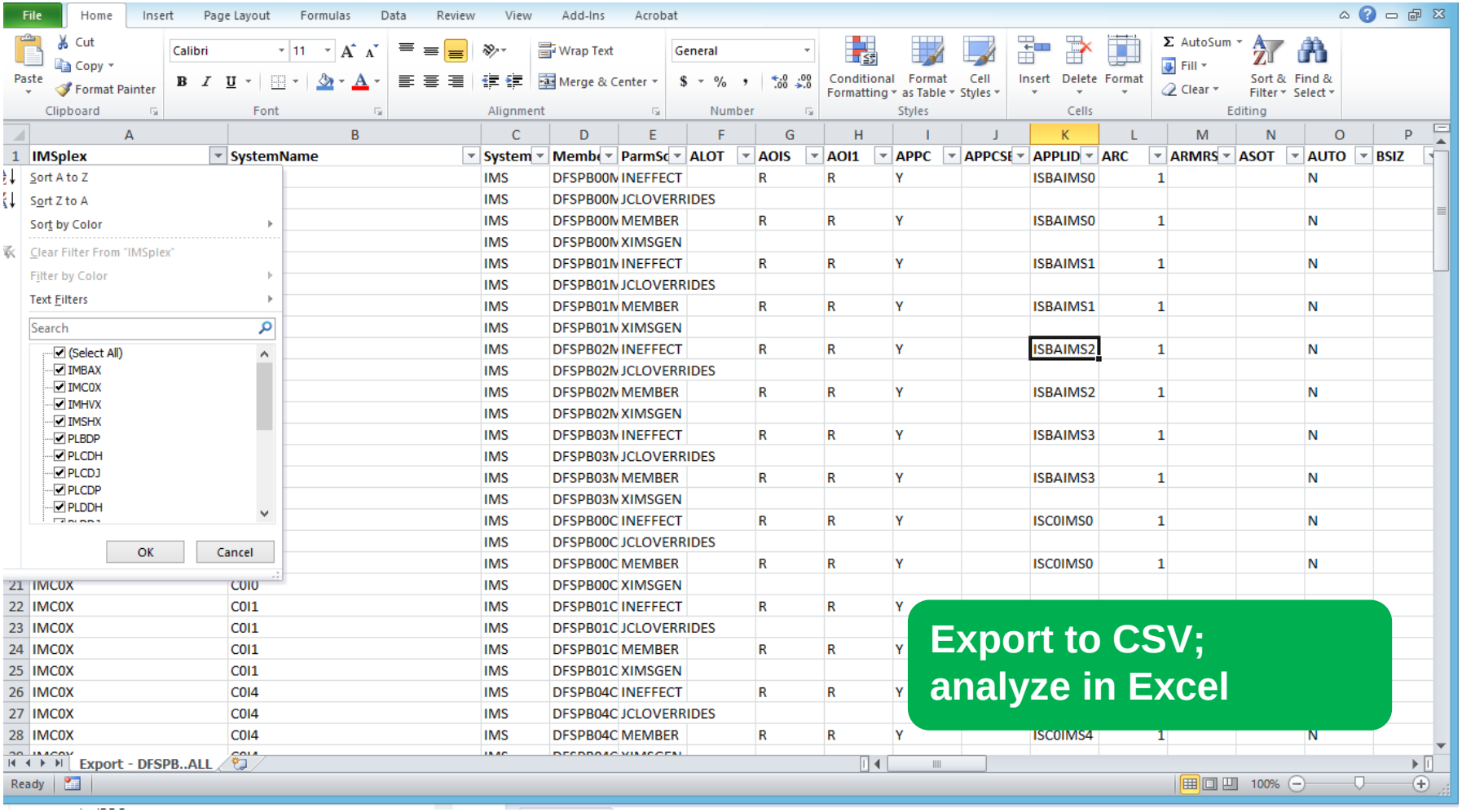
Only show differences; only highlight significant differences



NEW: attribute configuration differences to where they are set

IBM


Connection Server - PLXDP [IMSplex] @ DP [Repository] @ PLXDP [Connection Server] (FTS1:30111) - IBM Tools Base Connection Server
File Edit Navigate Project Commands Window Help
Connection Server
Resource
Navigation
<All Source Types>
Navigation
All Sources
IMS
IMSplex
IP0CX
IPABX
IPHSX
IPVHX
PLXDA
PLXDP
IADP
IBDP
ICDP
My group
Compare
All Sources
IP0CX [IMSplex]
PLXDP [IMSplex]
QUERY IMSF
<Locate value>
<Find value>
Command: QUERY IMSPLEX SHOW(ALL)
IMSplex MbrName CC Member JobName Type Subtype Version OSName Status
CSLPLXDP S1XDPOM 0 CDP3CQS PLXDPCQS CQS 1.8.0 FTS3 READY,ACTIVE
CSLPLXDP S1XDPOM 0 ACMEPLX FUDREA AOP FUDSRVR 1.4.0 FTS1 ACTIVE
CSLPLXDP S1XDPOM 0 S1XDPOM PLXDPOM OM 1.6.0 FTS1 READY,ACTIVE
CSLPLXDP S1XDPOM 0 S1XDPRP PLXDPRS REPO 1.2.0 FTS1 READY,ACTIVE
CSLPLXDP S1XDPOM 0 ICDP ICDPCTL IMS DBDC 12.1.0 FTS1 READY,ACTIVE
CSLPLXDP S1XDPOM 0 IBDPDBRC IBDPDBRC DBRC 001 11.1.0 FTS1 READY,ACTIVE
CSLPLXDP S1XDPOM 0 S3XDPRM PLXDPRM RM MULTRM 1.6.0 FTS3 READY,ACTIVE
CSLPLXDP S1XDPOM 0 S3XDPSC PLXDPSCI SCI 1.6.0 FTS3 READY,ACTIVE
CSLPLXDP S1XDPOM 0 IDTCSEVR IDT#FUD AOP FUDSRVR 1.4.0 FTS1 ACTIVE
CSLPLXDP S1XDPOM 0 IBDP IBDPCTL IMS DBDC 11.1.0 FTS1 READY,ACTIVE
CSLPLXDP S1XDPOM 0 DEMOSRV1 JDN#FUD AOP FUDSRVR 1.4.0 FTS1 ACTIVE
CSLPLXDP S1XDPOM 0 IDDP IDDPCTL IMS DBDC 13.1.0 FTS3 READY,ACTIVE
CSLPLXDP S1XDPOM 0 CDP1CQS PLXDPCQS CQS 1.8.0 FTS1 READY,ACTIVE
CSLPLXDP S1XDPOM 0 S1XDPRM PLXDPRM RM MULTRM 1.6.0 FTS1 READY,ACTIVE
CSLPLXDP S1XDPOM 0 S3XDPOM PLXDPOM OM 1.6.0 FTS3 READY,ACTIVE
CSLPLXDP S1XDPOM 0 FUDDEMO DAMSR
CSLPLXDP S1XDPOM 0 S1XDPSC PLXDP
of 17
Resources Parameters Commands
Console
Console
Submit and analyze command output



	IMSplex	SystemName	System	Membe	ParmSc	ALOT	AOIS	AOI1	APPC	APPCSE	APPLID	ARC	ARMRS	ASOT	AUTO	BSIZ
1	IMSplex	SystemName	System	Membe	ParmSc	ALOT	AOIS	AOI1	APPC	APPCSE	APPLID	ARC	ARMRS	ASOT	AUTO	BSIZ
			IMS	DFSPB00M	INEFFECT		R	R	Y		ISBAIMS0	1			N	
			IMS	DFSPB00M	JCLOVERRIDES											
			IMS	DFSPB00M	MEMBER		R	R	Y		ISBAIMS0	1			N	
			IMS	DFSPB00M	XIMSGEN											
			IMS	DFSPB01M	INEFFECT		R	R	Y		ISBAIMS1	1			N	
			IMS	DFSPB01M	JCLOVERRIDES											
			IMS	DFSPB01M	MEMBER		R	R	Y		ISBAIMS1	1			N	
			IMS	DFSPB01M	XIMSGEN											
			IMS	DFSPB02M	INEFFECT		R	R	Y		ISBAIMS2	1			N	
			IMS	DFSPB02M	JCLOVERRIDES											
			IMS	DFSPB02M	MEMBER		R	R	Y		ISBAIMS2	1			N	
			IMS	DFSPB02M	XIMSGEN											
			IMS	DFSPB03M	INEFFECT		R	R	Y		ISBAIMS3	1			N	
			IMS	DFSPB03M	JCLOVERRIDES											
			IMS	DFSPB03M	MEMBER		R	R	Y		ISBAIMS3	1			N	
			IMS	DFSPB03M	XIMSGEN											
			IMS	DFSPB00C	INEFFECT		R	R	Y		ISC0IMS0	1			N	
			IMS	DFSPB00C	JCLOVERRIDES											
			IMS	DFSPB00C	MEMBER		R	R	Y		ISC0IMS0	1			N	
			IMS	DFSPB00C	XIMSGEN											
21	IMC0X	C0I0														
22	IMC0X	C0I1	IMS	DFSPB01C	INEFFECT		R	R	Y							
23	IMC0X	C0I1	IMS	DFSPB01C	JCLOVERRIDES											
24	IMC0X	C0I1	IMS	DFSPB01C	MEMBER		R	R	Y							
25	IMC0X	C0I1	IMS	DFSPB01C	XIMSGEN											
26	IMC0X	C0I4	IMS	DFSPB04C	INEFFECT		R	R	Y							
27	IMC0X	C0I4	IMS	DFSPB04C	JCLOVERRIDES											
28	IMC0X	C0I4	IMS	DFSPB04C	MEMBER		R	R	Y		ISC0IMS4	1			N	

Demonstration: from zero to hero

- We will start with an empty configuration “I know nothing”
- We’ll run discovery to identify our topology
- Browse topology in ISPF
  - Show hierarchy
  - Show search
- Browse in GUI
  - Show configuration across all systems.
  - Highlight significant differences in configuration with heat map.
  - Demonstrate that resource change control, type-II commands, all available for discovered systems


Questions?

More information:

- IBM IMS Configuration Manager for z/OS: http://www.ibm.com/software/products/en/imsconfmanaforzos/
- James Martin, US Representative, Fundi Software: james_martin@fundi.com.au
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