SEE/Change

PE Notes 4.5501

(Version 4.5501)



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2 **Primary PE Enhancements**

2.1 SEE/Change Configuration Auditing

PE 4.5501 provides for the auditing of changes made to the SEE/Change database by the Configuration Manager (CFGM). This new functionality has been added to simplify the work of systems audit staff, and to assist resolution of support issues arising during routine operations. The audit trail consists of field-level 'before and after' data captured from the principal CFGM files, presented via a new enquiry function within the Audit Manager (AM). Otherwise, auditing occurs transparently and the CFGM UI remains unchanged.

For auditing purposes, existing CFGM functionality is divided into six 'audit areas', each corresponding to a Work with (WW) command. Each Audit Area is further subdivided into 'activities', typically named after the major screen displays in the respective WW command. The Audit Areas and their constituent Activities are shown in the following table:

Work with - Audit Area	Activity			
WRKSYSCFG - Work with	System Details			
System/Site Configuration	Site Details			
	Users for Distribution			
WRKAPPCFG - Work with	App Details			
Application Configuration	Libraries			
	Source Pools			
	Where Used/Libs			
	Additional Libs			
	Add Lib Desc			
	RIs Forward			
WRKPRMDTA - Work with	Each SEE/Change general parameter e.g., 'Date			
Parameter Data	Format'			
WRKOBJAUT - Work with	*OBJ – Specific named object			
Object Authorities	*LIBTYP – Object type in a named library			
	*LIB – All objects in a named library			
	*TYP – Object type in all libraries			
	*ALL – All objects in all libraries			
WRKUSRAUT - Work with	Each enrollable SEE/Change function e.g., 'Grant			
User Enrolment	movement authorisation'			
WRKTAL - Work with	Module/Integration Library			
System Authorisation Lists	Acceptance/QA Library			
	Live/Prod Library			
	Revert from Module/Integration			
	Revert from Acceptance			
	Revert from Ready/Release			
	Revert from Live			
	Allocate CR to a Release			
	Ready for Release			
	Create Release Packet			

When enabled, configuration auditing relies on a new trigger program OMSTRG applied to each auditable CFGM file. This program captures change data and writes it to new audit files named after the originating files and suffixed with '_A'. For example, when the XAP file is updated by the WRKAPPCFG command an audit trail is written to a new database file named XAP_A.

Each user change to the CFGM database causes a small (< 1KB) increment to one of these files, so the additional storage occupied in OMSDTA will be small. A new purge function removes unwanted historical audit data.

2.2 Starting Configuration Auditing

The configuration audit function is initially disabled. To enable it, follow these steps:

- 1) Use 'Work with General Parameters' (WRKPRMDTA, CFGM option 11) to locate the new general parameter @CFA and set it to 'Y'. This allows configuration auditing to operate in the current database.
- 2) Use 'Work with User Enrolment' (WRKUSRAUT, CFGM option 22) to gain authorisation to the new STRCFGAUD command.
- 3) In 'More Audit Manager Options' (AM option 60) select 'Start Configuration Auditing' (option 31). The command STRCFGAUD will then begin auditing changes to configuration files in the current OMSDTA database. Auditing continues until you invoke the ENDCFGAUD command (option 32) or reset the general parameter @CFA to 'N'.

NB: STRCFGAUD requires exclusive access to the CFGM files. If these files cannot be allocated to the job running the STRCFGAUD command, it will fail. Please ensure no one else is using SEE/Change and end the communication subsystem before invoking these commands.

2.3 Configuration Audit Enquiry

You can make an audit enquiry by selecting 'Display Configuration Audit' (option 30) from the AM menu, or by keying DSPCFGAUD at the command line.

The main enquiry screen invites you to identify an Audit Area of interest. The F4 function key lists the available Audit Areas:

```
THENON
                   SEE/Change Development Environment.
                    Display Configuration Audit
Audit Area. .(P).
   .....
Opt :
                    Select Audit Area
   : Enter any char to select
      Work with System/Site Configuration
Work with Application Configuration
   :
   :
                                                        :
       Work with Parameter Data
       Work with Object Authorities
Work with User Enrolment
   :
   :
       Work with System Authorisation Lists
   :
                                                 Bottom :
   : F12=Cancel
        .....
F1=Help F3=Exit F4=Prompt F5=Refresh F9=Cmd F11=Change view
 F12=Cancel F21=Show system entries F22=Show DFU/SQL only
```

When you have selected an Audit Area, a corresponding list of configuration changes appears. Each change action is characterized as a data addition (action ADD), update (action UPD), or deletion (action DLT) as shown in the display below:

THENON SEE/Change Development Environment.									
Display conliguration Addit									
Audit A	Audit Area(P). WRKSYSCFG Work with System/Site Configuration								
5=Display 6=Print									
Opt Act	Date	Time	User	Activity	System (P)				
	23/09/21		*ALL						
ADD	22/09/21	13:34:37	NIGEL	Users for Distribution	Prod 3				
ADD	22/09/21	13:34:37		Users for Distribution					
ADD	22/09/21	13:34:26		Site Details					
ADD	22/09/21	13:34:26		System Details					
ADD	16/09/21	18:44:10	RICHARD	Users for Distribution	PRD 1				
UPD	16/09/21	18:32:41		System Details	Developmen				
ADD	15/09/21	15:24:55		Site Details	-				
UPD	14/09/21	11:50:05	NIGEL	System Details	PRD 1				
ADD	13/09/21	16:05:28	HARVEY	Users for Distribution					
UPD	13/09/21	14:25:27	NIGEL	Site Details	PRD 2				
UPD	13/09/21	14:25:18		System Details					
UPD	13/09/21	14:25:14		System Details					
UPD	13/09/21	14:25:00		Site Details	PRD 1				
UPD	13/09/21	14:24:47		System Details					
					More				
E1-Uolo	E2-Evit	E4-Drompt	E5-Dofroch	EQ-Cmd Ell-Change Wiew					
F12-Cor	COL E21-0	how quater	optriog P2	2-Show DELL/SOL only					
rız=can	icer FZI=S	now system	entries F2	z-snow provsér outě					

The listing appears in reverse chronological order and includes changes made up to and including the current date. However, you can enter an earlier date if required. Also shown are the 'Activity and the user originating the change.

You can enter filtering criteria in the first line of the subfile. Enter a specific username or the name of an 'Activity within the audit area. You need supply only the first few characters of the 'Activity name, which is not case-sensitive.

The rightmost subfile column provides further filtering depending on the selected Audit Area. For example, the Audit Area 'Work with System/Site Configuration' shown above allows entry of a limiting system code, and a similar facility appears in other Audit Areas. However, when you press function key F11 (Change view), the rightmost column contains the name of the SEE/Change program responsible for the change. Additionally, you can press F22 (Show DFU/SQL only) to see changes made by these utilities.

Function key F21 (Show system entries) reveals entries created when auditing starts (action STR) or ends (action END), and when you purge historical audit data (action PRG). Here the Activity column identifies a database file affected by the operation, as seen in the display below. You can filter system entries by date and username, as already described.

THENON SEE/Change Development Environment.							
Audit A	rea(P).	WRKSYSCFG	Work with	guration Audit System/Site Configuration			
Opt Act	Date 17/10/21	Time	User HARVEY	Activity			
PRG	28/09/21	15:14:35	HARVEY	O#AUD A upto 15/06/20			
PRG	28/09/21	15:14:35	HARVEY	XSI A upto 15/06/20			
PRG	28/09/21	15:14:35	HARVEY	XSY A upto 15/06/20			
STR	7/09/21	9:26:00	HARVEY	XSY			
STR	7/09/21	9:26:00	HARVEY	XSI			
END	7/09/21	9:24:21	HARVEY	XSY			
END	7/09/21	9:24:08	HARVEY	XSY			
STR	7/09/21	9:12:53	HARVEY	XSY			
STR	7/09/21	9:12:52	HARVEY	XSI			
END	7/09/21	9:03:37	HARVEY	XSY			
END	7/09/21	9:01:46	HARVEY	XSY			
END	7/09/21	8:56:19	HARVEY	XSY			
END	7/09/21	8:54:46	HARVEY	XSY			
STR	7/09/21	8:52:19	HARVEY	XSI			
					More		
F1=Help F12=Can	F1=Help F3=Exit F4=Prompt F5=Refresh F9=Cmd F11=Change view F12=Cancel F21=Hide system entries F22=Show DFU/SQL only						

For a specific (non-system) change, you can display (option 5) or print (option 6) some lower-level detail. Both options show the selected change with a listing of 'before' and 'after' data points, seen in 'Display Audit Detail' screen below:

THENON SEE/Change Development Environment. Display Audit Detail Audit Area. WBKSYSCEG Work with System/Site Configuration								
Job	EL/QPADEV0003	Program OMS610						
Act Date Time	User Ac	tivity	System					
UPD 13/09/21 14:25: 5=Display Extended Detai	2/ NIGEL SI	te Details	PRD 2					
Opt Before	After	Field						
PR1	PR1	Sys Co	ode					
PR1 Draduation sustan 1	PR1	Site (Code					
Production system i	PRD Z	Desc						
			Bottom					
FI=Heip F3=Exit F5=Ref	resn F9=Cmd F12=	Jancel						

This screen shows the action, date, time, username, Activity and filter setting (where appropriate) for the selected change.

A list containing 'before' and 'after' data values, and the field name appears beneath.

For the ADD action, the 'Value' column contains the new data values.

For the DLT action, the 'Value' column contains the data values immediately prior to deletion.

For the UPD action, both 'before' and 'after' columns are present, with changed field value(s) highlighted.

This screen format truncates field values it cannot accommodate. Select option 5, 'Display extended detail' to see the entire values.

Use option 6 against a change appearing on the main 'Display Configuration Audit' screen to obtain a report version of the change. For changed fields the 'after' column values are marked with >>> to ease identification, as shown below:

	Dis	play Spooled File		
File : OMS4740 Control				Page/Line 1/1 Columns 1 - 130
*+1+2+ LSTCFGAUD THENON		6+7+8+ nge Development Environmen	9+0	.+1+2+3 16/10/21 Page 1
	Configurat Audit Area : WRKSYSCFG Job : 360345/NIG	ion change details Work with System/Site EL/QPADEV0003	Configuration Program	: OMS610
Act Date Time UPD 13/09/21 14:25:27	User Activity NIGEL Site Details	System PRD 2		
Field	Before/Aft	er		
Sys Code	PR1 PR1			
Site Code	PR1 PR1			
Desc	Production >>> PRD 2	system 1		
END OF REPORT	16/10/21 14:45:10			

2.4 Purging Configuration Audit Data

Once you have enabled configuration auditing with the STRCFGAUD command, audit data accumulates indefinitely. While this is unlikely to generate excessive quantities of data, you may nevertheless wish to remove older data from the configuration audit database.

In 'More Audit Manager Options' (AM option 60) select 'Purge Configuration Audit' (option 21). The command PRGCFGAUD will then remove audit entries up to an end date supplied as parameter to the command. The command also creates a PRG system entry for each purged audit file.

The end date must be over 12 months ago, so at least 12 months of configuration audit data is retained.

2.5 Ending Configuration Auditing

Use 'Work with General Parameters' (WRKPRMDTA, CFGM option 11) to locate the general parameter @CFA and set it to 'N'. This prevents the audit of further configuration changes.

To completely remove Configuration Auditing:

- 1) Ensure general parameter @CFA is set to N.
- 2) Ensure that SEE/Change is not in use elsewhere.
- In 'More Audit Manager Options' (AM option 60) select 'End Configuration Auditing' (option 32). Auditing will cease until you reset the general parameter @CFA to 'Y' and invoke the STRCFGAUD command.

NB: ENDCFGAUD requires exclusive access to the SEE/Change configuration files. If the files cannot be allocated to the job running the command, it will fail. Ensure nobody is using SEE/Change and end the communications subsystem before using the ENDCFGAUD command.

3 Software Performance Reports

The following table lists software performance reports that have been resolved in this PE.

SPR Log Number	Description
5914	WRKOBJAUT would fail when there are over 9999 entries
5917	Dev in MDL/INT SQLRPGLE_S not highlighted when object changed

4 Installation

4.1 Warnings

To ensure a successful upgrade please use the SEE/Change upgrade guide. This comprehensive guide is available from the thenon.com website Download Area or from the support line.

Steps must be taken to preserve any customised code especially if upgrading by reinstalling the product libraries and running a conversion.

4.2 Dependencies

- Must be applied after 4.5500.
- SEE/Change 4.5501 will run on IBM i 7.3 or higher.
- Must be applied to all remote sites? **See compatibility chart.**

5 RDi Plug-in Compatibility Chart

SEE/Change Plug-in Compatibility

SEE/Change Server	IDE Version				
Version	RDP 8.x.x.x	RDP 9.x.x.x			
4.5401	1.4.2	1.4.2			
4.5402	1.4.2	1.4.2			
4.5403	N/A	1.4.3			
4.5500	N/A	1.4.3			

6 SEE/Change Compatibility Chart

		Development								
		4.5200	4.5201	4.5300	4.5400	4.5401	4.5402	4.5403	4.5500	4.5501
	4.5200	Yes	1	1,2	1,2	1,2	1,2,3	1,2,3	1,2,3	1,2,3
	4.5201	No	Yes	2	2	2	2,3	2,3	2,3	2,3
C.	4.5300	No	No	Yes	Yes	Yes	3	3	3	3
tio	4.5400	No	No	No	Yes	Yes	3	3	3	3
Inc	4.5401	No	No	No	No	Yes	3	3	3	3
õ	4.5402	No	No	No	No	No	Yes	Yes	Yes	Yes
P	4.5403	No	No	No	No	No	No	Yes	Yes	Yes
	4.5500	No	No	No	No	No	No	No	Yes	Yes
	4.5501	No	No	No	No	No	No	No	Yes	Yes
	Notes					Minimum i5/OS Levels				
	Note 1: Yes, however the Alternative ALTER TABLE support will be ignored on production machine					4.5200	V5R3			
	Note 2: Yes, howev	er changes to the default of	object delivery sequence w	vill be ignored on production	on machine	4.5201	V5R4			
	Note 3: Yes, howev	er SSH distribution is not	supported.			4.5300	V5R4			
					4.5400	V6R1				
						4.5401	V6R1			
						4.5402	V6R1			
						4.5403	V6R1			
						4.5500	V7R1			
						4.5501	V7R3			

Disclaimer: Every effort has been made to ensure accuracy however we cannot take responsibility for any errors caused by using this information