

Oracle E-Business Suite Release 12.2.5: Upgrade Sizing and Best Practices

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This document contains database schema sizing information, application tier sizing information, upgrade timing, and other best practices, all designed to make your upgrade to Oracle E-Business Suite Release 12.2.5 as smooth as possible.

The sizing data is based on the upgrade of a 146 GB Oracle E-Business Release 12.1.3 Oracle Database 12.1.0.2 to Release 12.2.5.

There is a change log at the end of this document.

Database Size

BEFORE AND AFTER DATABASE SIZES

Before Upgrade DB Size (GB)	After Upgrade DB Size(GB)	Delta(GB)	% Growth
146	121	-25	-17.12

The reduction in Database size is a result of multiple obsolete schemas and objects being removed from the upgraded system. This reduction is specific to this upgrade and customers should not necessarily expect the same % decrease.

Environment details

Operating system: Oracle Linux Enterprise Edition Server Release 5.8

Server Memory: 141 GB Number of CPUs: 24 Database Release: 12.1.0.2 Oracle E-Business Suite: 12.1.3

Notes: The database and application tiers are on the same machine.

Database Configuration

SGA: 10 GB

Shared Pool Size: 1 GB

PGA: 10 GB Log Buffer: 30 MB

job_queue_processes: 24

During the upgrade of the Admin Tier, the batchsize was 1000 and number of workers used was 24.

Application Tier Size

Oracle E-Business Suite Release 12.2 introduces Online Patching. This requires three application tier file systems:

- fs1 (Production file system) Used by the current users of the system.
- fs2 (Copy of production file system) Used by the patching tools.
- fs_ne (Non-editioned file system) Stores files containing data that is needed across all file systems (for example, data import and export files, report output files, and log files).

All three file systems serve a single database. The file system that is currently being used by the running application is never patched: all patches are applied to the file system that is not currently in use.

FILE SYSTEM SIZES BEFORE AND AFTER UPGRADE

Component	Before Upgrade Size	After Upgrade Size
ORACLE_HOME	9.00 GB	9.30 GB
APPL_TOP	51 GB	Not applicable
INST_TOP	27 MB	Not applicable
fs1 (APPL_TOP+ INST_TOP)	Not applicable	41 GB
fs2 (APPL_TOP+ INST_TOP)	Not applicable	34 GB
fs_ne	Not applicable	1 GB

Tablespace Size

Tablespace size was calculated as "Total TableSpace Size – Free Space"

TABELSPACE CHANGE DETAILS

Tablespace Name	Before Upgrade Size (MB)	After Upgrade Size(MB)	Difference(MB)	% Growth
APPS_TS_TX_IDX	30309	30068.37	-240.63	-0.79
APPS_TS_ARCHIVE	903.87	823.75	-80.12	-8.86
APPS_TS_TX_DATA	53886.87	45985.87	-7901	-14.66
APPS_TS_INTERFACE	2151.81	1748.62	-403.19	-18.73
APPS_TS_NOLOGGING	375.37	226	-149.37	-39.79
APPS_TS_SUMMARY	19888	1101.25	-18786.75	-94.46
UNDO_TBS	351.46	891.71	540.25	153.71
SYSAUX	1099.94	1544.75	444.81	40.43
APPS_TS_SEED	4528.87	4744.37	215.50	4.75
SYSTEM	18640.95	19257.20	616.25	3.30
CTXSYS	53	54	1	1.88
APPS_TS_MEDIA	4718.12	4776	57.88	1.22
APPS_TS_QUEUES	3701.12	3729	27.88	0.75
XDB	111.25	111.37	0.12	0.10
CWMLITE	0.12	0.12	0	0
DW_DERIVED_TBS	0.06	0.06	0	0
TS_SIM_X	0.06	0.06	0	0
OPMOR	4.62	4.62	0	0
IAS_META	201.19	201.19	0	0
WCRSYS_TS	1.69	1.69	0	0
DW_BASE_IDX	0.06	0.06	0	0
OWAPUB	0.06	0.06	0	0
DW_DM_TBS	0.06	0.06	0	0
DSGATEWAY_TAB	5.50	5.50	0	0

DISCO_PTM5_META	1.94	1.94	0	0
B2B_DT	60.87	60.87	0	0
RE	6.56	6.56	0	0
TS_SALES_DATA_ENGINE_X	0.06	0.06	0	0
TS_SALES_DATA_ENGINE	0.06	0.06	0	0
DISCO_PTM5_CACHE	97.50	97.50	0	0
APPS_CALCLIP	3226.25	3226.25	0	0
BAM	7.31	7.31	0	0
DW_MVLOG_TBS	0.06	0.06	0	0
ODM_DATA	31.44	31.44	0	0
DW_REFERENCE_TBS	0.05	0.0575	0.01	0
TS_SIM	0.06	0.06	0	0
ORABPEL	11.50	11.50	0	0
DATA	0.31	0.31	0	0
MTR	1.69	1.69	0	0
BIA_RTL	0.06	0.06	0	0
OLAP_BAAD	0.19	0.19	0	0
OLTS_SVRMGSTORE	2.19	2.19	0	0
DW_LOOKUP_TBS	0.06	0.06	0	0
TS_SALES_DATA_X	0.06	0.06	0	0
SYNCSERVER	48.77	48.77	0	0
DW_BASE_TBS	0.06	0.06	0	0
TS_SALES_DATA	0.06	0.06	0	0
RBS_MIG	39.06	39.06	0	0
DEMANTRA	0.25	0.25	0	0
B2B_RT	39.19	39.19	0	0
OLTS_CT_STORE	7.19	7.19	0	0
OLTS_BATTRSTORE	0.31	0.31	0	0
DCM	178.25	178.25	0	0
OLTS_DEFAULT	1.56	1.56	0	0
OLTS_ATTRSTORE	0.31	0.31	0	0
DW_REFERENCE_IDX	0.06	0.06	0	0
APPS_OMO	638.12	638.12	0	0
DW_DERIVED_IDX	0.06	0.06	0	0
B2B_LOB	10.69	10.69	0	0
UDDISYS_TS	19.12	19.12	0	0
DW_AGGREGATE_IDX	0.06	0.06	0	0
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HTMLDB	707.62	707.62	0	0
B2B_IDX	14.31	14.31	0	0
OCATS	1.75	1.75	0	0
APPS_TS_DISCO_OLAP	16.12	16.12	0	0
GEOR_TBS	1921.75	1921.75	0	0
APPS_TS_DISCO	769.87	769.87	0	0
DW_AGGREGATE_TBS	0.06	0.06	0	0
TS_DP	0.06	0.06	0	0
Total	148795.95	123138.58	-25657.37	-17.243

Notes: Difference was rounded out to last 2 decimals only.

Schema Size

Two new Oracle E-Business Suite schemas have been created for Release 12.2.5:

- 1. APPS_NE: For the Non-Editioned file system
- 2. GHG: For the Oracle Environmental Accounting and Reporting

Only a few of the schemas THAT are listed below show significant change in the size after the upgrade.

SCHEMA CHANGE DETAILS

Schema Name	12.1.3 Size(MB)	12.2.5 Size (MB)	Difference	%Difference
CSR	19.75	42.12	22.37	113.29
XDO	2376.75	3544.87	1168.12	49.14
FPA	32.12	42.25	10.13	31.51
INL	13.25	15.87	2.62	19.81
FLM	6.87	8	1.13	16.36
IMC	4.18	4.81	0.62	14.92
RLM	6	6.75	0.75	12.5
EAM	24.62	27.62	3	12.18
CSD	21.37	23.87	2.5	11.69
ECX	58	64.62	6.62	11.42
APPLSYS	16642.25	18380.87	1738.62	10.44
POS	19.87	21.87	2	10.06
RRS	15.12	16.62	1.5	9.91
SYS	19354.40	21179.46	1825.06	9.42
BNE	78.25	85.50	7.25	9.26
WMS	47.50	51.25	3.75	7.89
BIC	18.12	19.50	1.37	7.58
МТН	49.87	53.62	3.75	7.51

EGO	892.56	954.81	62.25	6.97
РО	1737.87	1849.62	111.75	6.43
IEX	44.50	47	2.50	5.61
CSM	87.25	91.62	4.37	5.01
CE	86.56	90.87	4.31	4.98
PON	37.87	39.62	1.75	4.62
FUN	19.75	20.62	0.87	4.43
OE	79.50	82.87	3.37	4.24
GME	77.62	80.87	3.25	4.18
PA	2190.25	2275.87	85.62	3.90
CTXSYS	51.75	53.75	2	3.86
CS	279.75	290.12	10.37	3.70
JL	67.87	70.37	2.50	3.68
XLA	7222.81	7488.62	265.81	3.68
MSC	4516.12	4677.12	161	3.56
AR	2424.18	2502.62	78.43	3.23
QRM	3.87	4	0.13	3.22
QA	27.87	28.75	0.87	3.13
MSD	98.75	101.81	3.06	3.10
XLE	8.12	8.37	0.25	3.07
HR	7697.12	7927.75	230.62	2.99
вом	878.31	900.25	21.93	2.49
IEO	15.25	15.62	0.37	2.45
IES	36.37	37.25	0.87	2.40
JA	85.75	87.75	2	2.33
RG	21.87	22.37	0.50	2.28
HXC	153.31	156.56	3.25	2.11
ОКС	1501.50	1530.87	29.37	1.95
AZ	26.12	26.62	0.50	1.91
CZ	462.12	470.50	8.37	1.81
НХТ	21	21.37	0.37	1.78
DDR	59.12	60.12	1	1.69
CSI	1160.93	1180.37	19.43	1.67
ОТА	93.50	95	1.50	1.60
OSM	201.06	204.18	3.12	1.55
PJI	1155.50	1173.50	18	1.55
GMD	50.12	50.87	0.75	1.49

AHL	61.50	62.37	0.87	1.42
PSA	26.25	26.62	0.37	1.42
GMF		286.62	4	1.42
	282.62			
AP	2010.06	2034.31	24.25	1.20
IEU	35.25	35.62	0.37	1.06
IBY	548.37	554.12	5.75	1.04
QP	381.50	385.12	3.62	0.95
BEN	1768.75	1785.25	16.50	0.93
IGI	69.25	69.87	0.62	0.90
JG	29.37	29.62	0.25	0.85
FA	281.06	283.43	2.37	0.84
FV	46.75	47.12	0.37	0.80
ENG	110.75	111.62	0.87	0.79
OKE	31.87	32.12	0.25	0.78
XNP	133.37	134.30	1	0.74
PN	68.37	68.87	0.50	0.73
LNS	17.75	17.87	0.12	0.70
ICX	338.75	340.87	2.12	0.62
AMV	22.12	22.25	0.12	0.56
ASG	24.50	24.62	0.12	0.51
GMS	25.37	25.50	0.12	0.49
XTR	134	134.62	0.62	0.46
IBE	30.87	31	0.12	0.40
PSP	51.87	52.06	0.18	0.36
JTF	892.62	895.75	3.12	0.35
MRP	547.43	549.06	1.62	0.29
CCT	43.87	44	0.12	0.28
GML	49.12	49.25	0.12	0.25
CN	1154.25	1157.12	2.87	0.24
OKS	293.81	294.31	0.50	0.17
XDB	110.18	110.31	0.12	0.11
WIP	1617.75	1619.25	1.50	0.09
CSF	3911.25	3914.50	3.25	0.08
CSP	652	652.12	0.12	0.01
ASO	2694.87	2692.25	-2.62	-0.09
OZF	251.12	250.75	-0.37	-0.14
OKL	254.37	253.75	-0.62	-0.24
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INV	4577.87	4550.12	-27.75	-0.60
AMS	1215.25	1207.62	-7.62	-0.62
PV	46.25	45.87	-0.37	-0.81
IEC	39.25	38	-1.25	-3.18
AK	501	481.87	-19.12	-3.81
AST	3	2.87	-0.12	-4.16
ONT	451	429	-22	-4.87
WSH	824	751.62	-72.37	-8.78
BIM	150.37	125.87	-24.50	-16.29
CSC	235	185.75	-49.25	-20.95
HRI	846.50	583.25	-263.25	-31.09
DOM	10.25	2.25	-8	-78.04
BIS	331.93	62.37	-269.56	-81.20
ENI	65.37	12.25	-53.12	-81.26
APPS	17083.5	722.62	-16360.87	-95.77
OPI	730.75	13	-717.75	-98.22
POA	267.93	Not Applicable		
BSC	476.18	Not Applicable		
IGS	651.25	Not Applicable		
JTS	4.12	Not Applicable		
BIL	27.12	Not Applicable		
AMW	86.87	Not Applicable		
MST	16	Not Applicable		
PSB	113.81	Not Applicable		
IGF	91.12	Not Applicable		
ZPB	6967.37	Not Applicable		
FEM	1524.50	Not Applicable		
BIV	18.62	Not Applicable		
ОКІ	52.62	Not Applicable		
ITA	103.12	Not Applicable		
PFT	4	Not Applicable		
FII	1420.75	Not Applicable		
ISC	436.37	Not Applicable		
DDD	55.62	Not Applicable		
GCS	1382.25	Not Applicable		
FTP	20.25	Not Applicable		
BIX	94.87	Not Applicable		

IGW	26.75	Not Applicable		
APPS_NE	Not Applicable	296.75	296.75	
СМІ	Not Applicable	2.62	2.62	
GHG	Not Applicable	0.37	0.37	

Notes:

- 1. Difference was rounded out to last 2 decimals only.
- 2. "Not Applicable" under the 12.2.5 size column represents dropped schemas in Oracle E-Business Suite 12.2.5.
- 3. "Not Applicable" under the 12.1.3 size column represents new schemas added in Oracle E-Business Suite 12.2.5.

Release 12.2 Upgrade Best Practices

This section describes the recommended initialization (init.ora) parameter settings for the upgrade.

It is recommended to follow AWR pool advisories for optimizing the SGA and PGA size in the Release 12.2 upgrade.

An upgrade involves tens of concurrent sessions. Suitable starting values are:

log buffer = 30 to 100 Mb

shared pool = 1 to 4 GB

pga target = 3 to 20 GB

sga target = 5-50 GB (multi-GB)

You should ensure that SGA and PGA are allocated appropriately within the available memory of the system. If set higher, then excessive paging, or even swapping might occur.

Set "job_queue_processes = No. of CPUs" – adobjcmp.sql (Phases: plb+90 and last+63). This parameter is set at the beginning of the upgrade; it will be most useful in the phases mentioned above.

Setting parallel_max_servers to 2 x no. of CPUs will help with large index creation, statistics gathering, and some large upg+phase jobs.

AD Parallel workers – start with 1 x number of CPU cores. Possibly increase to 1.5 x number of CPU cores.

For more than 32 cores, start with:

- parallel max servers = 1 x number of CPU cores.
- AD Parallel workers = between 0.5 and 1.0 x number of CPU cores.

In order to maximize multiblock I/O sizes, you should remove "db_file_multiblock_read_count" (if specified).

Ensure you reset the following init.ora parameters after completion of the Release 12.2 upgrade.

recyclebin

parallel_max_servers

job_queue_processes

Please refer to the following documents for additional help.

Best Practices for Minimizing Oracle E-Business Suite Release 12 Upgrade Downtime (<u>Document 1581549.1</u>) Express Diagnosis of Oracle E-Business Suite Release 12 Upgrade Performance Issues (Document 1583752.1)

Notes: The AWR advisory statistics are reported for the last snapshot interval only. Where there are many workers accessing the same objects at the same time (e.g. AD Parallel jobs), the SGA Target Advisory (and Buffer Pool Advisory) may underestimate the reduction in physical reads obtained from increasing the SGA.

Isolate post-upgrade concurrent programs to a separate manager queue.

The downtime portion of the upgrade involves the automatic submission of 95 distinct concurrent programs. For a list of the programs, refer to the "Required Post-Upgrade Jobs" section of this document.

In several cases, these programs will run in multiple threads, so the total number of concurrent requests that form part of the post-upgrade step is much higher. These programs will be picked up and executed by the concurrent manager once the system is up, and as such their execution will be mixed with the execution of ongoing concurrent jobs in the system.

To improve manageability of this situation, you can define a separate concurrent manager queue to process only these programs. This can be achieved by using inclusion and exclusion rules to prevent other manager queues (such as the standard manager) from picking up these requests, and cause this new manager queue to process only these requests. Doing this allows you to control the number of target processes allocated to these post-upgrade concurrent programs, with the use of work shifts. For additional details about configuring new manager queues, target processes, inclusion/exclusion rules, and work shifts, refer to Oracle E-Business Suite Setup Guide from the Online Documentation Library.

Before you shut down all services as part of the "**Perform the Upgrade**" tasks mentioned in the Upgrade Guide, you need to deactivate all Request Processing managers. This step is necessary to ensure that when the services are brought up at the end of the upgrade, the existing Request Processing Managers do not start picking up and executing requests. After the upgrade is complete, you need to perform the following steps to create new program type and managers to run the post-upgrade requests.

To create a new program type, and include a program in that program type:

1. Log in to Oracle E-Business Suite as SYSADMIN, and navigate to System Administrator > Concurrent: Program

> Type

Name: R12PUPT

Application: System Administration

Description: Program Type for Post Upgrade Request

- 2. Include programs from the above list into this new program type.
- 3. Navigate to System Administrator >Concurrent: Program >Define
- Search for Program "Refresh Materialized Views" and Type (choose):R12PUPT
- Do the same for other programs in the list.

To exclude a program type from the Standard Manager:

- Log in to Oracle E-Business Suite as SYSADMIN and navigate to System Administrator > Concurrent: Manager>
 Define
- 2. Search for Standard Manager.
- 3. Click on Specialization Rules.
- 4. Go at the bottom of the list to add a new record.
- Include/Exclude (choose): Exclude

Type(choose): Request Type

Application(choose): System Administration

Name(choose): R12PUPT

6. Do the same for all other Request Processing managers.

To create a new concurrent manager and include a program type:

1. Log in to Oracle E-Business Suite as SYSADMIN and navigate to System Administrator > Concurrent: Manager

> Define Check the Enabled box.

2. Enter the following to create the new concurrent manager:

Manager: R12_Post_Upgrade

Short Name: R12PU

Application(choose): Application Object Library

Description: New manager queue for R12 post upgrade requests

Type(choose): Concurrent Manager

Cache Size: 1

Program Library Name(choose): FNDLIBR

Specialization Rules:

Include/Exclude(choose): Include
Type(choose): Request Type

Application(choose): System Administration

Name(choose): R12PUPT

Work Shifts:

Work Shift (choose): Standard

Processes: Enter a Value, for example 4

Sleep Second: 30

After completing the above steps, activate all "Request Processing Managers" that you previously deactivated.

Note that after all these post-upgrade requests run, you should revert the exclusion/inclusion of managers and programs to the original state, removing the new program type and new manager. This is necessary as some of the programs in the list may need to run in the future, as part of the regular system batch processing requirements rather than part of the upgrade.

Determine optimal number of workers for upgrade.

While monitoring CPU usage and I/O response times, you should test a range of values between 1 x No. of CPUs to 1.5 x No. of CPUs. The goal is to maximize the number of workers, while keeping CPU usage below 100% (ignoring occasional spikes) and I/O response times below 10-15 milliseconds (again, ignoring occasional spikes).

Required Post-Upgrade Jobs

Below is a list of of the concurrent programs that form part of the required post-upgrade steps. These concurrent programs are automatically submitted during the regular downtime upgrade, so no manual submission is required. These jobs took 2 hrs for the 121 GB database upgrade, using 30 target processes in the concurrent manager.

CONCURRENT PROGRAMS SUBMITTED AUTOMATICALLY POST-UPGRADE.

APPLICATION NAME	CONCURRENT PROGRAM NAME	USER CONCURRENT PROGRAM NAME	ELAPSE D TIME	TOTAL REQUES TS
ADMIN	ADDRPOBS	Drop obsolete products schema	70.22	74
Application Object Library (FND)	AFFURGO2	Sync responsibility role data into the WF table.	1.5	1
Application Object Library (FND)	AFLOBBLD	Rebuild Help Search Index	4.4	3

Receivables (AR)	ARGLTP	Compile value set hierarchies	0.07	1
Receivables (AR)	ARGLTP	General Ledger Transfer Program	0.07	1
Receivables (AR)	ARHDQCMAL	DQM Compile All Rules	5.83	1
Receivables (AR)	ARHDQM	DQM Staging Program	0.05	1
Oracle Order Capture (ASO)	ASOPAUPD	Update Parallel Approvals Data	0.09	3
Application Implementation (AZ)	AZR12UPGRADE	iSetup R12 Upgrade Selection Sets Column	0.05	1
Application Object Library (FND)	B21053695	Bug21053695	0	3
Incentive Compensation (CN)	CN_FORMULA_GEN	Generate Formula Packages	1.02	1
Incentive Compensation (CN)	CN_R1212_CNSRPT XN	CN_R1212_CNSRPTXN	0.06	18
Oracle Service (CS)	CS_KB_SYNC_SOLU TIONS_INDEX	Knowledge Management Solution Index Synchronization	5.88	1
Application Object Library (FND)	DIAGPATCHINGCP	Diagnostics patching CP	0.62	1
Application Object Library (FND)	FDFCHY	Compile value set hierarchies	0.07	1
Application Object Library (FND)	FDFCHY	General Ledger Transfer Program	0.07	1
Application Object Library (FND)	FDFCMPN	Compile Non-Compiled Flexfields	9.53	1
Application Object Library (FND)	FDFVGN	Flexfield View Generator	2.93	599
Application Object Library (FND)	FNDIRLOAD	FNDIRLOAD	42.99	18
Application Object Library (FND)	FNDIRLPP	iRep Loading Post Processor	10.14	6
Application Object Library (FND)	FNDLOAD	Generic Loader	27.53	5
Application Object Library (FND)	FNDSCMPI	Compile Security	0	2
Application Object Library (FND)	FNDWFDSRHP	Workflow Role Hierarchy Propagation	1.25	68
Application Object Library (FND)	FNDWFDSURV	Workflow Directory Services User/Role Validation	0.10	1
Oracle General Ledger (SQLGL)	GLSTFL	General Ledger Accounting Setup Program	0.81	167
Receivables (AR)	HZ_THIRD_PARTY_U PDATE	Third Party Data Integration Update	0.18	1
Asia/Pacific Localizations (JA)	JAINDFOBS	India - Remove India Localization contexts from DFFs	0	1
Advanced Supply Chain Planning (MSC)	MSCHUBM	Maintain APCC Data Model	0.29	3
Advanced Supply Chain Planning (MSC)	MSCQFM	Migrate Personal Queries to SP Work Area	0	3
Advanced Supply Chain Planning (MSC)	MSCREFMV	Refresh Materialized Views	0.02	1
Trade Management (OZF)	OZFMIGUTLREC	Migrate Accruals for Multi Currency Changes	0.02	1
Oracle Retail Point-of- Service (POS)	POSUPFCONFPRG	POS Insert Onboard Configuration Details	0.06	3
XML Publisher (XDO)	XDOTMGEN	XML Publisher Template Re-Generator	82.46	2

Sample Upgrade Timings

Before applying the main 12.2 upgrade driver (u10124646.drv), AD patch 10117518 must be applied on both file systems (fs1 and fs2). As a result of applying this patch, two new schemas (APPS_NE and GHG) will be created for use in Release 12.2.

Timing information for AD patch

The overall time taken to apply the patch was about 40 minutes.

- 1. The time taken for creating the users and granting privileges to them was 20 minutes.
- 2. Compiling JSPs (using perl) took 2 minutes.
- 3. The following database activity timing information is for the Release 12.2 AD patch (10117518), which took 16.48 minutes.

PHASE-WISE BREAKDOWN OF TIME FOR UPGRADE

Phase	Time
first	23 sec
con	40 sec
seq	1 sec
tab	2 min
tbm	2 sec
pls	9 sec
plb	15 sec
dat	1 sec
dfr	1 sec
en	1 sec
last	1.54 min
invoker	2.20 min
Total	7.47 min

Timing information for Release 12.2 main upgrade driver

The following timing information is for the Release 12.2 main upgrade driver (u10124646.drv) only which took 8 hrs 4 mins.

PHASE-WISE BREAKDOWN OF TIME FOR UPGRADE

Phase	Time
Start	3 min 5 sec
Con	4 min 3 sec
seq	35 sec
tab	9 min 40 sec
tbm	17 min 28 sec
os	7 sec
pls	8 min 29 sec
vw	4 min 54 sec
plb	3 hr 17 min 16 sec
pda	2 min 42 sec

daa	18 min 42 sec
upa	3 sec
pdt	1 min
dat	33 min 5 sec
upg	1 hr 6 min 32 sec
dfr	1 min 2 sec
en	5 min 58 sec
last	35 min 6 sec
invoker	24 min 11 sec
Total	8 hrs 4 min

Timing information for 12.2.5 Release Update Pack (Patch 19676458)

Timing reported here is only for application of the Oracle E-Business Suite 12.2.5 Release Update Pack. The patch was applied in downtime mode and took 8 hours and 17 mins to complete.

Refer the following document for the steps needed to apply EBS 12.2.5 Release Update Pack:

 Oracle E-Business Suite Release 12.2.5 Readme (Doc ID 1983050.1). Follow section 8.1 "Path A - Upgrade and New Installation Customers upgrading to Oracle E-Business Suite 12.2.5 Release Update Pack" to upgrade to EBS 12.2.5.

References:

- Oracle E-Business Suite Release 12.2 Information Center (My Oracle Support Knowledge <u>Document 1581299.1</u>)
- Database Initialization Parameters for Oracle E-Business Suite Release 12 (My Oracle Support Knowledge <u>Document</u> 396009.1)
- Oracle E-Business Suite Recommended Performance Patches (My Oracle Support Knowledge <u>Document 244040.1</u>)
- Best Practices for Minimizing Oracle E-Business Suite Release 12 Upgrade Downtime (<u>Document 1581549.1</u>)
- Express Diagnosis of Oracle E-Business Suite Release 12 Upgrade Performance Issues (<u>Document 1583752.1</u>)



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