

SAP R/3 4.6B on DB2 for OS/390 Experiences

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Configuration

- SAP 4.6B
- OS/390 2.8
- DB2 V6.1
- TCP/IP 2.8
- 9672-R26
 - Majority of storage allocated to Real
 - Small amount of expanded

Configuration (cont)

- 3 Lpars
 - Dev, QA, Prod
- No other work running on machine apart from SAP

Configuration (cont)

- SAP Central Instance runs on OS/390 (Application server) - NEW
- Database on OS/390
- SAP kernel code resides in HFS files
- All user code (ABAPS etc) are maintained in DB2 tables
- Application Servers on NT

Configuration (cont)

- ICLI address space (Integrated Call Level Interface)
 - Provides remote SQL connection between remote application servers and database servers
- TCP/IP options ESCON connection
OSA/2 FAST/Express

Experiences

- Ensure that you read and complete the items in UNIX System Services Planning (SC28-1890-xx)
 - Make UMASK settings
 - C++ Environment variables
 - Magic Numbers Lex
 - Yac File utility
 - Man pages RACF Security profiles BPX.**

Security

- File Permissions
- Group authorities SAPSYS
- User authorities <SAP>ADM
- UNIXPRIV class
- Ensure that you have reviewed all facility classes required for SAP in SAP R/3 Planning Guide

Security (cont)

- Issue with using shared RACF database which is still being investigated
 - RACF does not support Unix Network Information System (NIS)
 - Needed for shared data access (/usr/sap/trans)

NFS

- Used to share HFS files between OS/390 LPARs
- Slow when exporting/importing between OS/390 systems
- Manual incorrect for mount of NFS files between OS/390 (BINARY,XLAT(Y))

Samba

- Used to export HFS files to NT application servers
- Check file permissions issues in samba config file
- Sync uids & passwords between NT and OS/390 otherwise problems occur

USS

- Performance and tuning will need to be done all through the installation and testing phases
- Follow the guide for WLM implementation in SAP R/3 Planning Guide, otherwise you may well have performance problems with enclaves
- Lots of work in ensuring HFS structure matched sites standards

USS (cont)

- Lots of new address spaces running as all SAP processes run on OS/390
- Page datasets sizes

USS (cont)

- Lots of processes running under USS
 - DISP R/3 Dispatcher
 - DIA R/3 Dialog process
 - BTC R/3 Batch work process
 - UPD R/3 Update work process
 - SPO R/3 Spool work process
 - ENQ R/3 Enqueue server
 - MSG R/3 message server
 - GW R/3 Gateway server

Conclusions

- Ensure that you plan SAP R/3 with ample time
- Build a team of both OS/390 & Unix specialists
- Co-ordinate all activities, otherwise confusion reigns

References

Unix Systems Planning	SC28-1890
SAP R/3 on DB2 for OS/390: Planning Guide SAP R/3 release 4.6.B	SC33-7966
SAP R/3 on DB2 for OS/390: Connectivity Guide	SC33-7965
High Availability Considerations: SAP R/3 on DB2 for OS/390	SG24-2003
SAP R/3 on DB2 for OS/390: Disaster Recovery	SG24-5343
SAP R/3 on DB2 UDB for OS/390: Application Servers on OS/390	SG24-5840
Samba Installation, Configuration, Sizing Guide	SG24-6004

Samba for OS/390 can be downloaded from IBM site
<http://www.mks.com/s390/gnu/index.htm>

USS Processes

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```
$ su
```

```
# ps -ef
```

UID	PID	PPID	C	STIME	TTY	TIME	CMD
OMVSKERN	1	0	-	14:58:46	?	0:00	BPXPINPR
OMVSKERN	16777218	1	-	14:58:57	?	0:18	BPXVCLNY
OMVSKERN	16777219	1	-	14:58:58	?	0:18	BPXVCMT
OMVSKERN	67108868	1	-	15:03:35	?	3:19	EZBTCPIP
OMVSKERN	16777221	1	-	14:58:57	?	0:18	GFSCMAIN
OMVSKERN	6	1	-	15:03:39	?	3:19	EZBTTSSL
OMVSKERN	7	1	-	15:03:40	?	0:18	GFSCRPCD
OMVSKERN	8	1	-	15:03:40	?	0:18	GFSCRPCD
OMVSKERN	9	1	-	15:03:40	?	3:19	EZBTMCTL
OMVSKERN	10	1	-	15:03:40	?	3:19	EZACFALG
OMVSKERN	11	1	-	15:03:40	?	0:18	GFSCRPCD
OMVSKERN	12	1	-	15:03:40	?	0:18	GFSCRPCD
OMVSKERN	13	1	-	15:03:40	?	0:18	GFSCRPCD
OMVSKERN	14	1	-	15:03:40	?	0:18	GFSCRPCD
OMVSKERN	15	1	-	15:03:40	?	0:18	GFSCRPCD
OMVSKERN	16	1	-	15:03:41	?	0:18	GFSCRPCD
OMVSKERN	18	1	-	15:03:41	?	3:19	EZASASUB

USS Processes

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UID	PID	PPID	C	STIME	TTY	TIME	CMD
STCUSER	19	1	-	15:03:41	?	0:00	PORTMAP
OMVSKERN	20	1	-	15:03:42	?	0:00	FTPD
OMVSKERN	21	1	-	15:03:42	?	0:00	GFSAMAIN
OMVSKERN	22	16777219	-	15:03:45	?	0:18	BPXVCWT
OMVSKERN	23	1	-	15:03:51	?	3:19	EZBTTMST
OMVSKERN	40	16777219	-	15:16:42	?	0:18	BPXVCWT
OMVSKERN	33554473	16777219	-	15:16:43	?	0:18	BPXVCWT
OMVSKERN	43	16777219	-	15:16:44	?	0:18	BPXVCWT
OMVSKERN	33554476	16777219	-	15:16:45	?	0:18	BPXVCWT
OMVSKERN	46	16777219	-	15:16:46	?	0:18	BPXVCWT
OMVSKERN	47	16777219	-	15:16:47	?	0:18	BPXVCWT
OMVSKERN	48	16777219	-	15:16:48	?	0:18	BPXVCWT
q01adm	83886143	16778163	-	07:06:12	?	0:00	dw.sapQ01_DVEBMGS10 pf
=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05							
q01adm	16777351	67108998	-	15:52:48	?	0:00	
q01adm	33554578	16777351	-	15:53:08	?	0:00	
q01adm	16777363	1	-	15:53:08	?	0:00	/u/local/samba/bin/smbd -D
All Rights Reserved.							
q01adm	16777364	16777351	-	15:53:22	?	0:00	

USS Processes

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UID	PID	PPID	C	STIME	TTY	TIME	CMD
q01adm	16777365	1	-	15:53:22	?	0:14	/u/local/samba/bin/nmbd -D
All Rights Reserved.							
q01adm	33554620	16777363	-	16:12:59	?	0:03	/u/local/samba/bin/smbd -D
All Rights Reserved.							
OMVSKERN	83886998	1	-	07:03:53	?	0:02	/usr/sbin/fome46bs -PL
AN FOME46B -LOGDIR /icli/Q01/DQ01ICLI -PORT 5200							
q01adm	67109783	16778163	-	07:07:20	?	0:14	dw.sapQ01_DVEBMGS10 pf
=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05							
q01adm	67109801	16778163	-	07:05:56	?	0:01	dw.sapQ01_DVEBMGS10 pf
=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05							
q01adm	33555373	1	-	07:05:04	?	0:52	/usr/sap/Q01/SYS/exe/r
un/sapocol							
q01adm	83887023	1	-	07:05:19	?	0:00	/usr/sap/Q01/SYS/exe/r
un/sapstart pf=/usr/sap/Q01/SYS/profile/START_DVEBMGS10_							
q01adm	67109809	16778163	-	07:06:00	?	0:02	dw.sapQ01_DVEBMGS10 pf
=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05							
q01adm	83887026	83887023	-	07:05:22	?	0:06	ms.sapQ01_DVEBMGS10 pf
=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05							

USS Processes

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UID	PID	PPID	C	STIME	TTY	TIME	CMD
q01adm	16778163	83887023	-	07:05:22	?	0:13	dw.sapQ01_DVEBMGS10 pf =/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05
q01adm	948	83887023	-	07:05:22	?	0:00	co.sapQ01_DVEBMGS10 -F pf=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05
q01adm	949	83887023	-	07:05:22	?	0:00	se.sapQ01_DVEBMGS10 -F pf=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05
q01adm	950	16778163	-	07:05:27	?	0:01	gwrddp pf=/usr/sap/Q 01/SYS/profile/Q01_DVEBMGS10_lpar05
q01adm	951	16778163	-	07:05:30	?	7:08	dw.sapQ01_DVEBMGS10 pf =/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05
q01adm	952	16778163	-	07:05:30	?	3:26	dw.sapQ01_DVEBMGS10 pf =/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05
q01adm	953	16778163	-	07:05:32	?	0:05	dw.sapQ01_DVEBMGS10 pf =/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05
q01adm	954	16778163	-	07:05:48	?	0:00	dw.sapQ01_DVEBMGS10 pf =/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05
q01adm	955	16778163	-	07:05:49	?	1:17	dw.sapQ01_DVEBMGS10 pf =/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05

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UID	PID	PPID	C	STIME	TTY	TIME	CMD
q01adm	956	16778163	-	07:05:50	?	0:00	dw.sapQ01_DVEBMGS10 pf
=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05							
q01adm	957	16778163	-	07:05:51	?	0:00	dw.sapQ01_DVEBMGS10 pf
=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05							
q01adm	16778174	16778163	-	07:05:56	?	0:07	dw.sapQ01_DVEBMGS10 pf
=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05							
q01adm	959	16778163	-	07:06:14	?	0:42	dw.sapQ01_DVEBMGS10 pf
=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05							
q01adm	67109824	16778163	-	07:08:52	?	0:00	dw.sapQ01_DVEBMGS10 pf
=/usr/sap/Q01/SYS/profile/Q01_DVEBMGS10_lpar05							
q01adm	50332909	16777363	-	09:39:24	?	0:00	/u/local/samba/bin/smbd -D
All Rights Reserved.							
OEDFLTU	83887684		1	12:38:05	?	0:00	OMVS
OEDFLTU	1605	83887684	-	12:38:07	ttyp0001	0:00	sh -L
U137312	67110599		1	13:44:17	?	0:00	OMVS
U137312	1736	67110599	-	13:44:17	ttyp0002	0:00	sh -L
OMVSKERN	33556169	1736	-	13:44:20	ttyp0002	0:00	sh -i
OMVSKERN	1738	33556169	-	13:44:23	ttyp0002	0:00	ps -ef