


# 공개 S/W 기술지원 NHN

한국소프트웨어진흥원  
공개SW기술지원센터

## &lt;Revision 정보&gt;

일자	VERSION	변경내역	작성자
2007. 5. 3	0.1	초기 작성	손명선

	공개SW 기술지원	
	구분 : 기술지원	단계:
	작성자: 손명선	작성일: 2007.5.3
	검토자:	검토일:
	승인자:	승인일:

#### 1. 대상기업/기관 정보

구분	항목	내용	비고
기업/기관 정보	지역	경기도 성남시 분당구 정자동 206번지 KTIDC	
	기업/기관 명칭	(주)NHN	
	부서	서비스기술팀	
	직책	과장	
	담당자 이름	김옥(시디네트웍스)	
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#### 2. 대상기업/기관 지원사항

구분	항목	내용	비고
기업/기관 지원사항	접수내용	NHN 네이버 UCC 컨텐츠 제어 분배 서버 이중화 구축 (MySQL DB서버 Active/Standby HA 클러스터 구축)	
	지원내역	<p>1. 설치 환경 파악</p> <pre>[root@krkt06uldh06 src]# uname -a Linux krkt06uldh06 2.6.9-42.ELsmp #1 SMP Tue Aug 15 10:35:26 BST 2006 x86_64 x86_64 x86_64 GNU/Linux [root@krkt06uldh06 src]# ifconfig eth0      Link encap:Ethernet  HWaddr 00:A0:D1:E6:00:32 inet addr:61.78.57.177  Bcast:61.78.57.191 Mask:255.255.255.224 inet6 addr: fe80::2a0:d1ff:fee6:32/64 Scope:Link UP BROADCAST RUNNING MULTICAST  MTU:1500 Metric:1 RX packets:175682 errors:0 dropped:0 overruns:0 frame:0 TX packets:16382 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:1000 RX bytes:36911507 (35.2 MiB)  TX bytes:2502626 (2.3</pre>	

		<pre> MiB) Interrupt:201  eth1      Link encap:Ethernet  HWaddr 00:A0:D1:E6:00:33 inet addr:192.168.100.200  Bcast:192.168.100.255 Mask:255.255.255.0 inet6 addr: fe80::2a0:d1ff:fee6:33/64 Scope:Link UP BROADCAST RUNNING MULTICAST  MTU:1500 Metric:1 RX packets:148 errors:0 dropped:0 overruns:0 frame:0 TX packets:99 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:1000 RX bytes:16395 (16.0 KiB)  TX bytes:11195 (10.9 KiB) Interrupt:209  lo        Link encap:Local Loopback inet addr:127.0.0.1  Mask:255.0.0.0 inet6 addr: ::1/128 Scope:Host UP LOOPBACK RUNNING  MTU:16436  Metric:1 RX packets:8 errors:0 dropped:0 overruns:0 frame:0 TX packets:8 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:0 RX bytes:560 (560.0 b)  TX bytes:560 (560.0 b) </pre>	
		<p>2. Encluster HA 패키지 압축 해제</p> <pre> [root@krkt06uldh06 clunix]# tar zxvf EnClusterHA_x86_64.tar.gz ./EnCluster/ ./EnCluster/setup ./EnCluster/source/ ./EnCluster/source/heartbeat-2.0.2-1.i386.rpm ./EnCluster/source/DBI-1.53.tar.gz ./EnCluster/source/cmdm-1.6.5-cez.i386.rpm ./EnCluster/source/heartbeat-lldirectord-2.0.2-1.x86_64.rp m ./EnCluster/source/heartbeat-stonith-2.0.2-1.x86_64.rpm ./EnCluster/source/mkdrbddev </pre>	

		<pre> ./EnCluster/source/heartbeat-2.0.7-clx.i386.rpm ./EnCluster/source/libnet-1.1.2.1-clx.x86_64.rpm ./EnCluster/source/libnet-debuginfo-1.1.2.1-clx.x86_64.rpm ./EnCluster/source/heartbeat-stonith-2.0.2-1.i386.rpm ./EnCluster/source/heartbeat-pils-2.0.2-1.i386.rpm ./EnCluster/source/DBD-mysql-3.0008/ ./EnCluster/source/DBD-mysql-3.0008/Makefile.PL ./EnCluster/source/DBD-mysql-3.0008/eg/ ./EnCluster/source/DBD-mysql-3.0008/eg/proc_example1.pl ./EnCluster/source/DBD-mysql-3.0008/eg/prepare_memory_usage.pl ./EnCluster/source/DBD-mysql-3.0008/eg/proc_example2.pl ./EnCluster/source/DBD-mysql-3.0008/eg/proc_example3.pl ./EnCluster/source/DBD-mysql-3.0008/dbdimp.o ./EnCluster/source/DBD-mysql-3.0008/ChangeLog ./EnCluster/source/DBD-mysql-3.0008/mysql.c ./EnCluster/source/DBD-mysql-3.0008/INSTALL.html ./EnCluster/source/DBD-mysql-3.0008/mysql.bs ./EnCluster/source/DBD-mysql-3.0008/dbdimp.h ./EnCluster/source/DBD-mysql-3.0008/Makefile ./EnCluster/source/DBD-mysql-3.0008/mysql.xs ./EnCluster/source/DBD-mysql-3.0008/mysql.xsi ./EnCluster/source/DBD-mysql-3.0008/lib/ ./EnCluster/source/DBD-mysql-3.0008/lib/Mysql.pm ./EnCluster/source/DBD-mysql-3.0008/lib/Mysql/ ./EnCluster/source/DBD-mysql-3.0008/lib/Mysql/Statement.pm ./EnCluster/source/DBD-mysql-3.0008/lib/Bundle/ ./EnCluster/source/DBD-mysql-3.0008/lib/Bundle/DBD/ ./EnCluster/source/DBD-mysql-3.0008/lib/Bundle/DBD/mysql.pm ./EnCluster/source/DBD-mysql-3.0008/lib/DBD/ ./EnCluster/source/DBD-mysql-3.0008/lib/DBD/mysql/ ./EnCluster/source/DBD-mysql-3.0008/lib/DBD/mysql/Getl </pre>	
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		nfo.pm ./EnCluster/source/DBD-mysql-3.0008/lib/DBD/mysql/INST ALL.pod ./EnCluster/source/DBD-mysql-3.0008/lib/DBD/mysql.pm ./EnCluster/source/DBD-mysql-3.0008/mysql.o ./EnCluster/source/DBD-mysql-3.0008/pm_to_blib ./EnCluster/source/DBD-mysql-3.0008/constants.h ./EnCluster/source/DBD-mysql-3.0008/t/ ./EnCluster/source/DBD-mysql-3.0008/t/40bindparam.t ./EnCluster/source/DBD-mysql-3.0008/t/60leaks.t ./EnCluster/source/DBD-mysql-3.0008/t/prepare_noerror.t ./EnCluster/source/DBD-mysql-3.0008/t/40blobs.t ./EnCluster/source/DBD-mysql-3.0008/t/param_values.t ./EnCluster/source/DBD-mysql-3.0008/t/42bindparam.t ./EnCluster/source/DBD-mysql-3.0008/t/10dsnlist.t ./EnCluster/source/DBD-mysql-3.0008/t/40bindparam2.t ./EnCluster/source/DBD-mysql-3.0008/t/35prepare.t ./EnCluster/source/DBD-mysql-3.0008/t/41blobs_prepare.t ./EnCluster/source/DBD-mysql-3.0008/t/50chopblanks.t ./EnCluster/source/DBD-mysql-3.0008/t/lib.pl ./EnCluster/source/DBD-mysql-3.0008/t/41bindparam.t ./EnCluster/source/DBD-mysql-3.0008/t/_prepare_noerror. t ./EnCluster/source/DBD-mysql-3.0008/t/50commit.t ./EnCluster/source/DBD-mysql-3.0008/t/35limit.t ./EnCluster/source/DBD-mysql-3.0008/t/40nulls.t ./EnCluster/source/DBD-mysql-3.0008/t/20createdrop.t ./EnCluster/source/DBD-mysql-3.0008/t/dbdadmin.t ./EnCluster/source/DBD-mysql-3.0008/t/30insertfetch.t ./EnCluster/source/DBD-mysql-3.0008/t/mysql.mtest ./EnCluster/source/DBD-mysql-3.0008/t/40numrows.t ./EnCluster/source/DBD-mysql-3.0008/t/texecute.t ./EnCluster/source/DBD-mysql-3.0008/t/insertid.t ./EnCluster/source/DBD-mysql-3.0008/t/40listfields.t ./EnCluster/source/DBD-mysql-3.0008/t/00base.t ./EnCluster/source/DBD-mysql-3.0008/t/mysql.dbtest ./EnCluster/source/DBD-mysql-3.0008/Makefile.PL.embedd ed	
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		<pre> ./EnCluster/source/DBD-mysql-3.0008/TODO ./EnCluster/source/DBD-mysql-3.0008/MANIFEST.SKIP ./EnCluster/source/DBD-mysql-3.0008/myld ./EnCluster/source/DBD-mysql-3.0008/META.yml ./EnCluster/source/DBD-mysql-3.0008/dbdimp.c ./EnCluster/source/DBD-mysql-3.0008/blib/ ./EnCluster/source/DBD-mysql-3.0008/blib/arch/ ./EnCluster/source/DBD-mysql-3.0008/blib/arch/auto/ ./EnCluster/source/DBD-mysql-3.0008/blib/arch/auto/DBD / ./EnCluster/source/DBD-mysql-3.0008/blib/arch/auto/DBD /mysql/ ./EnCluster/source/DBD-mysql-3.0008/blib/arch/auto/DBD /mysql/.exists ./EnCluster/source/DBD-mysql-3.0008/blib/arch/auto/DBD /mysql/mysql.bs ./EnCluster/source/DBD-mysql-3.0008/blib/arch/auto/DBD /mysql/mysql.so ./EnCluster/source/DBD-mysql-3.0008/blib/lib/ ./EnCluster/source/DBD-mysql-3.0008/blib/lib/Mysql.pm ./EnCluster/source/DBD-mysql-3.0008/blib/lib/Mysql/ ./EnCluster/source/DBD-mysql-3.0008/blib/lib/Mysql/State ment.pm ./EnCluster/source/DBD-mysql-3.0008/blib/lib/auto/ ./EnCluster/source/DBD-mysql-3.0008/blib/lib/auto/DBD/ ./EnCluster/source/DBD-mysql-3.0008/blib/lib/auto/DBD/m ysql/ ./EnCluster/source/DBD-mysql-3.0008/blib/lib/auto/DBD/m ysql/.exists ./EnCluster/source/DBD-mysql-3.0008/blib/lib/Bundle/ ./EnCluster/source/DBD-mysql-3.0008/blib/lib/Bundle/DBD / ./EnCluster/source/DBD-mysql-3.0008/blib/lib/Bundle/DBD /mysql.pm ./EnCluster/source/DBD-mysql-3.0008/blib/lib/DBD/ ./EnCluster/source/DBD-mysql-3.0008/blib/lib/DBD/mysql/ ./EnCluster/source/DBD-mysql-3.0008/blib/lib/DBD/mysql/ GetInfo.pm </pre>	
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		./EnCluster/source/DBD-mysql-3.0008/blib/lib/DBD/mysql/I NSTALL.pod ./EnCluster/source/DBD-mysql-3.0008/blib/lib/DBD/.exists ./EnCluster/source/DBD-mysql-3.0008/blib/lib/DBD/mysql. pm ./EnCluster/source/DBD-mysql-3.0008/blib/man3/ ./EnCluster/source/DBD-mysql-3.0008/blib/man3/.exists ./EnCluster/source/DBD-mysql-3.0008/blib/man3/DBD::my sql::INSTALL.3pm ./EnCluster/source/DBD-mysql-3.0008/blib/man3/DBD::my sql.3pm ./EnCluster/source/DBD-mysql-3.0008/blib/man3/Mysql.3p m ./EnCluster/source/DBD-mysql-3.0008/blib/man3/Bundle:: DBD::mysql.3pm ./EnCluster/source/DBD-mysql-3.0008/MANIFEST ./EnCluster/source/DBD-mysql-3.0008/README ./EnCluster/source/cluman-1.6.5h-cez.i386.rpm ./EnCluster/source/libnet-1.1.2.1-clx.src.rpm ./EnCluster/source/heartbeat-debuginfo-2.0.2-1.x86_64.rp m ./EnCluster/source/heartbeat-2.0.2-1.x86_64.rpm ./EnCluster/source/heartbeat-2.0.2-1.src.rpm ./EnCluster/source/DBD-mysql-3.0008.tar.gz ./EnCluster/source/heartbeat-pils-2.0.7-clx.i386.rpm ./EnCluster/source/heartbeat-pils-2.0.2-1.x86_64.rpm ./EnCluster/source/drbd-0.7.16.tar.gz ./EnCluster/source/libnet-1.1.2.1-clx.i386.rpm ./EnCluster/source/heartbeat-stonith-2.0.7-clx.i386.rpm ./EnCluster/module/ ./EnCluster/module/mysql_mon ./EnCluster/module/connective_mon ./EnCluster/module/MysqlCheck ./EnCluster/module/authkeys ./EnCluster/module/NetCheck ./EnCluster/module/mysql.monitor ./EnCluster/config/ ./EnCluster/config/snapshot.cdb	
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		<pre> ./EnCluster/config/erbd.cf ./EnCluster/config/ha.cf ./EnCluster/config/hacommand.cf ./EnCluster/config/nodeinfo.cf  3. Installer를 이용한 설치 [root@krkt06uldh06 EnCluster]# ./setup ccd /usr/local/mysql/ [root@krkt06uldh06 EnCluster]# ./setup  ==== EnCluster HA Installer ====  ### SELECT ONE ON MENU ###  1. Install PERL Module 2. Install EnCluster Admin 3. Install EnCluster HA 4. Install ERBD (Replication) 5. Configuration 6. EXIT  ##### :2  ==== EnCluster HA Installer ====  ### SELECT ONE ON MENU ###  1. Install CMDB Cluman 2. Config CIP 3. Input the License KEY 4. Patch 5. go to MAIN MENU  ##### :1 Install CMDB Cluman </pre>	
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		<pre> ===== EnCluster HA Installer =====  ### SELECT ONE ON MENU ###  1. Install CMDB Cluman 2. Config CIP 3. Input the License KEY 4. Patch 5. go to MAIN MENU  #####  :2 Config CIP Please input the Cluster IP Address!           ex) 192.168.123.100      : 61.78.57.170 Your Cluster IP is 61.78.57.170 Do you want to continue.. Please press any keys !!  ===== EnCluster HA Installer =====  ### SELECT ONE ON MENU ###  1. Install CMDB Cluman 2. Config CIP 3. Input the License KEY 4. Patch 5. go to MAIN MENU  #####  :3 Config the License KEY Please input the EnCluster HA License!         ex) ENC16-XXXXXX-XXXXXX-XXXXXX-XXXXXX-XXXXXX  ===== EnCluster HA Installer =====  ### SELECT ONE ON MENU ### </pre>	
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		<pre> 1. Install CMDB Cluman 2. Config CIP 3. Input the License KEY 4. Patch 5. go to MAIN MENU  ##### :4 Patch Patch is completed !!Do you want to continue.. Please press any keys !!  ==== EnCluster HA Installer ====  ### SELECT ONE ON MENU ###  1. Install CMDB Cluman 2. Config CIP 3. Input the License KEY 4. Patch 5. go to MAIN MENU  ##### :5  ==== EnCluster HA Installer ====  ### SELECT ONE ON MENU ###  1. Install PERL Module 2. Install EnCluster Admin 3. Install EnCluster HA 4. Install ERBD (Replication) 5. Configuration 6. EXIT  ##### </pre>	
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		<pre> :3  ==== EnCluster HA Installer ====  ### SELECT ONE ON MENU ###  1. Install PERL Module 2. Install EnCluster Admin 3. Install EnCluster HA 4. Install ERBD (Replication) 5. Configuration 6. EXIT  #####  :4  ==== EnCluster HA Installer ====  ### SELECT ONE ON MENU ###  1. Install ERBD Replication 2. go to MAIN MENU  #####  :1 Install ERBD Replication  ==== EnCluster HA Installer ====  ### SELECT ONE ON MENU ###  1. Install PERL Module 2. Install EnCluster Admin 3. Install EnCluster HA 4. Install ERBD (Replication) 5. Configuration </pre>	
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		<pre> 6. EXIT  #####  :5  ==== EnCluster HA Installer ====  ### SELECT ONE ON MENU ###  1. Configure 2. go to MAIN MENU  #####  :1 Configuration Do you want to continue.. Please press any keys !!  ==== EnCluster HA Installer ====  ### SELECT ONE ON MENU ###  1. Configure 2. go to MAIN MENU  #####  :2  ==== EnCluster HA Installer ====  ### SELECT ONE ON MENU ###  1. Install PERL Module 2. Install EnCluster Admin 3. Install EnCluster HA 4. Install ERBD (Replication) 5. Configuration 6. EXIT </pre>	
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		##### :6	
		<p>4. ERBD 패키지 업그레이드 설치</p> <pre>[root@krkt06uldh06 drbd-0.7.23]# cd drbd [root@krkt06uldh06 drbd]# ls drbd_actlog.c          drbd_proc.c lru_cache.c drbd_bitmap.c          drbd_receiver.c lru_cache.h drbd_buildtag.c        drbd_req.c Makefile drbd_compat_types.h    drbd_sizeof_sanity_check.c Makefile-2.4 drbd_compat_wrappers.h drbd_worker.c Makefile-2.6 drbd_fs.c              hlist.h mempool-2.4.c drbd_int.h             Kconfig mempool.h drbd_main.c            linux [root@krkt06uldh06 drbd]# make clean rm -rf .tmp_versions rm -f *.oas *.ko *.cmd *.d *.tmp *.mod.c *.flags .depend .kernel* [root@krkt06uldh06 drbd]# ls drbd_actlog.c          drbd_proc.c lru_cache.c drbd_bitmap.c          drbd_receiver.c lru_cache.h drbd_buildtag.c        drbd_req.c Makefile drbd_compat_types.h    drbd_sizeof_sanity_check.c Makefile-2.4 drbd_compat_wrappers.h drbd_worker.c Makefile-2.6 drbd_fs.c              hlist.h</pre>	

		<pre> mempool-2.4.c drbd_int.h          Kconfig mempool.h drbd_main.c         linux [root@krkt06uldh06 drbd]# cd .. [root@krkt06uldh06 drbd-0.7.23]# ls benchmark  documentation  drbd.spec.in  README upgrade_0.6.x_to_0.7.0.txt ChangeLog  drbd           INSTALL       scripts upgrade_0.7.0_to_0.7.1.txt COPYING    drbd_config.h  Makefile      testing  user [root@krkt06uldh06 drbd-0.7.23]# make tools make -C drbd drbd_buildtag.c make[1]: Entering directory `/usr/local/src/clunix/drbd-0.7.23/drbd' make[1]: Leaving directory `/usr/local/src/clunix/drbd-0.7.23/drbd' make[1]: Entering directory `/usr/local/src/clunix/drbd-0.7.23/user' gcc -c -Wall -I../drbd -c -o drbdsetup.o drbdsetup.c gcc -c -Wall -I../drbd -c -o ../drbd/drbd_buildtag.o ../drbd/drbd_buildtag.c gcc -o drbdsetup drbdsetup.o ../drbd/drbd_buildtag.o bison -d -o drbdadm_parser.c drbdadm_parser.y flex -s -odrbdadm_scanner.c drbdadm_scanner.fl gcc -c -Wall -I../drbd -c -o drbdadm_scanner.o drbdadm_scanner.c gcc -c -Wall -I../drbd -c -o drbdadm_parser.o drbdadm_parser.c gcc -c -Wall -I../drbd -c -o drbdadm_main.o drbdadm_main.c gcc -c -Wall -I../drbd -c -o drbdadm_adjust.o drbdadm_adjust.c gcc -o drbdadm drbdadm_scanner.o drbdadm_parser.o drbdadm_main.o drbdadm_adjust.o ../drbd/drbd_buildtag.o make[1]: Leaving directory `/usr/local/src/clunix/drbd-0.7.23/user' make[1]: Entering directory </pre>	
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		<pre> /usr/local/src/clunix/drbd-0.7.23/scripts' make[1]: Nothing to be done for `all'. make[1]: Leaving directory /usr/local/src/clunix/drbd-0.7.23/scripts' make[1]: Entering directory /usr/local/src/clunix/drbd-0.7.23/documentation' To (re)make the documentation: make doc make[1]: Leaving directory /usr/local/src/clunix/drbd-0.7.23/documentation'  Build successful. [root@krkt06uldh06 drbd-0.7.23]# make V=1 make -C drbd drbd_buildtag.c make[1]: Entering directory /usr/local/src/clunix/drbd-0.7.23/drbd' make[1]: Leaving directory /usr/local/src/clunix/drbd-0.7.23/drbd' make[1]: Entering directory /usr/local/src/clunix/drbd-0.7.23/user' gcc -c -Wall -I../drbd -c -o ../drbd/drbd_buildtag.o ../drbd/drbd_buildtag.c gcc -o drbdsetup drbdsetup.o ../drbd/drbd_buildtag.o gcc -o drbdadm drbdadm_scanner.o drbdadm_parser.o drbdadm_main.o drbdadm_adjust.o ../drbd/drbd_buildtag.o make[1]: Leaving directory /usr/local/src/clunix/drbd-0.7.23/user' make[1]: Entering directory /usr/local/src/clunix/drbd-0.7.23/scripts' make[1]: Nothing to be done for `all'. make[1]: Leaving directory /usr/local/src/clunix/drbd-0.7.23/scripts' make[1]: Entering directory /usr/local/src/clunix/drbd-0.7.23/documentation' To (re)make the documentation: make doc make[1]: Leaving directory /usr/local/src/clunix/drbd-0.7.23/documentation' make[1]: Entering directory /usr/local/src/clunix/drbd-0.7.23/drbd' </pre>	
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		<pre> Calling toplevel makefile of kernel source tree, which I believe is in KDIR=/lib/modules/2.6.9-42.ELsmp/build  test -f ../scripts/adjust_drbd_config_h.sh &amp;&amp; W KDIR=/lib/modules/2.6.9-42.ELsmp/build /bin/sh ../scripts/adjust_drbd_config_h.sh  Adjusted drbd_config.h: --- ./linux/drbd_config.h2007-01-12 21:20:38.000000000 +0900 +++ ./linux/drbd_config.h.new2007-04-13 15:26:45.000000000 +0900 @@ -72 +72 @@ -//#define NO_MORE_DEV_FS +#define NO_MORE_DEV_FS  make -C /lib/modules/2.6.9-42.ELsmp/build SUBDIRS=/usr/local/src/clunix/drbd-0.7.23/drbd modules make[2]: Entering directory `/usr/src/kernels/2.6.9-42.EL-smp-x86_64' mkdir -p /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_versions make -f scripts/Makefile.build obj=/usr/local/src/clunix/drbd-0.7.23/drbd gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.drbd_size of_sanity_check.o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmodel=kernel -pipe -fno-reorder-blocks -Wno-sign-compare -funit-at-a-time -I/usr/local/src/clunix/drbd-0.7.23/drbd -DMODULE -DKBUILD_BASENAME=drbd_sizeof_sanity_check -DKBUILD_MODNAME=drbd -c -o </pre>	
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		<pre> /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_drbd_sizeof_sanity_check.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_sizeof_sanity_check.c gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.drbd_buildtag.o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmodel=kernel -pipe -fno-reorder-blocks -Wno-sign-compare -funit-at-a-time -I/usr/local/src/clunix/drbd-0.7.23/drbd -DMODULE -DKBUILD_BASENAME=drbd_buildtag -DKBUILD_MODNAME=drbd -c -o /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_drbd_buildtag.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_buildtag.c gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.drbd_bitmap.o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmodel=kernel -pipe -fno-reorder-blocks -Wno-sign-compare -funit-at-a-time -I/usr/local/src/clunix/drbd-0.7.23/drbd -DMODULE -DKBUILD_BASENAME=drbd_bitmap -DKBUILD_MODNAME=drbd -c -o /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_drbd_bitmap.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_bitmap.c gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.drbd_fs.o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmodel=kernel -pipe -fno-reorder-blocks -Wno-sign-compare </pre>	
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		<pre> -funit-at-a-time -I/usr/local/src/clunix/drbd-0.7.23/drbd -DMODULE -DKBUILD_BASENAME=drbd_fs -DKBUILD_MODNAME=drbd -c -o /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_drbd_fs.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_fs.c gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.drbd_pro c.o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmmodel=kernel -pipe -fno-reorder-blocks -Wno-sign-compare -funit-at-a-time -I/usr/local/src/clunix/drbd-0.7.23/drbd -DMODULE -DKBUILD_BASENAME=drbd_proc -DKBUILD_MODNAME=drbd -c -o /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_drbd_proc.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_proc.c gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.drbd_wor ker.o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmmodel=kernel -pipe -fno-reorder-blocks -Wno-sign-compare -funit-at-a-time -I/usr/local/src/clunix/drbd-0.7.23/drbd -DMODULE -DKBUILD_BASENAME=drbd_worker -DKBUILD_MODNAME=drbd -c -o /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_drbd_worker.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_worker.c gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.drbd_rec eiver.o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmmodel=kernel -pipe </pre>	
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		<pre> -fno-reorder-blocks -Wno-sign-compare -funit-at-a-time -I/usr/local/src/clunix/drbd-0.7.23/drbd -DMODULE -DKBUILD_BASENAME=drbd_receiver -DKBUILD_MODNAME=drbd -c -o /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_drbd_receiver.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_receiver.c /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_receiver.c: In function `drbd_asender': /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_receiver.c:2315 : warning: unused variable `empty' gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.drbd_req. o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmmodel=kernel -pipe -fno-reorder-blocks -Wno-sign-compare -funit-at-a-time -I/usr/local/src/clunix/drbd-0.7.23/drbd -DMODULE -DKBUILD_BASENAME=drbd_req -DKBUILD_MODNAME=drbd -c -o /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_drbd_req.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_req.c gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.drbd_actl og.o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmmodel=kernel -pipe -fno-reorder-blocks -Wno-sign-compare -funit-at-a-time -I/usr/local/src/clunix/drbd-0.7.23/drbd -DMODULE -DKBUILD_BASENAME=drbd_actlog -DKBUILD_MODNAME=drbd -c -o /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_drbd_actlog.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_actlog.c gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.lru_cache </pre>	
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		<pre> .o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmodel=kernel -pipe -fno-reorder-blocks -Wno-sign-compare -funit-at-a-time -I/usr/local/src/clunix/drbd-0.7.23/drbd -DMODULE -DKBUILD_BASENAME=lru_cache -DKBUILD_MODNAME=drbd -c -o /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_lru_cache.o /usr/local/src/clunix/drbd-0.7.23/drbd/lru_cache.c gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.drbd_main.o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmodel=kernel -pipe -fno-reorder-blocks -Wno-sign-compare -funit-at-a-time -I/usr/local/src/clunix/drbd-0.7.23/drbd -DMODULE -DKBUILD_BASENAME=drbd_main -DKBUILD_MODNAME=drbd -c -o /usr/local/src/clunix/drbd-0.7.23/drbd/.tmp_drbd_main.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_main.c ld -m elf_x86_64 -r -o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_sizeof_sanity_check.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_buildtag.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_bitmap.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_fs.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_proc.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_worker.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_receiver.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_req.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_actlog.o /usr/local/src/clunix/drbd-0.7.23/drbd/lru_cache.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd_main.o </pre>	
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		<pre> Building modules, stage 2. make -rR -f /usr/src/kernels/2.6.9-42.EL-smp-x86_64/scripts/Makefile. modpost scripts/mod/modpost -m -i /usr/src/kernels/2.6.9-42.EL-smp-x86_64/Module.symvers /usr/local/src/clunix/drbd-0.7.23/drbd/drbd.o gcc -Wp,-MD,/usr/local/src/clunix/drbd-0.7.23/drbd/.drbd.mod .o.d -nostdinc -iwithprefix include -D__KERNEL__ -linclude -Wall -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Os -fomit-frame-pointer -g -Wdeclaration-after-statement -mno-red-zone -mcmodel=kernel -pipe -fno-reorder-blocks -Wno-sign-compare -funit-at-a-time -DKBUILD_BASENAME=drbd -DKBUILD_MODNAME=drbd -DMODULE -c -o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd.mod.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd.mod.c ld -m elf_x86_64 -r -o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd.ko /usr/local/src/clunix/drbd-0.7.23/drbd/drbd.o /usr/local/src/clunix/drbd-0.7.23/drbd/drbd.mod.o make[2]: Leaving directory `/usr/src/kernels/2.6.9-42.EL-smp-x86_64' mv .drbd_kernelrelease.new .drbd_kernelrelease Memorizing module configuration ... done. make[1]: Leaving directory `/usr/local/src/clunix/drbd-0.7.23/drbd'  Build successful. [root@krkt06uldh06 drbd-0.7.23]# make install make[1]: Entering directory `/usr/local/src/clunix/drbd-0.7.23/user' install -d /sbin/ install -m 755 drbdsetup /sbin/ install -m 755 drbdadm /sbin/ make[1]: Leaving directory </pre>	
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		<pre> /usr/local/src/clunix/drbd-0.7.23/user' make[1]: Entering directory `/usr/local/src/clunix/drbd-0.7.23/scripts' mkdir -p /etc/ha.d/resource.d install -d /etc/rc.d/init.d/ install -m 755 drbd /etc/rc.d/init.d/drbd install -m 755 drbddisk /etc/ha.d/resource.d  Don't forget to run update-rc.d or chkconfig make[1]: Leaving directory `/usr/local/src/clunix/drbd-0.7.23/scripts' make[1]: Entering directory `/usr/local/src/clunix/drbd-0.7.23/documentation' set -e; for f in drbdsetup.8 drbd.conf.5 drbd.8 drbdadm.8 drbddisk.8 ; do W s=\${f##*.}; W install -v -D -m 644 \$f /usr/share/man/man\${s}/\${f} ; W done `drbdsetup.8' -&gt; `/usr/share/man/man8/drbdsetup.8' `drbd.conf.5' -&gt; `/usr/share/man/man5/drbd.conf.5' `drbd.8' -&gt; `/usr/share/man/man8/drbd.8' `drbdadm.8' -&gt; `/usr/share/man/man8/drbdadm.8' `drbddisk.8' -&gt; `/usr/share/man/man8/drbddisk.8' make[1]: Leaving directory `/usr/local/src/clunix/drbd-0.7.23/documentation' make[1]: Entering directory `/usr/local/src/clunix/drbd-0.7.23/drbd' install -d //lib/modules/2.6.9-42.ELsmp/kernel/drivers/block install -m 644 drbd.ko //lib/modules/2.6.9-42.ELsmp/kernel/drivers/block /sbin/depmod -a    /sbin/depmod -e drbd.ko 2&gt;&amp;1 &gt;/dev/null    true make[1]: Leaving directory `/usr/local/src/clunix/drbd-0.7.23/drbd' [root@krkt06uldh06 drbd-0.7.23]# ls benchmark documentation drbd.spec.in README upgrade_0.6.x_to_0.7.0.txt </pre>	
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		<pre> ChangeLog drbd          INSTALL      scripts upgrade_0.7.0_to_0.7.1.txt COPYING   drbd_config.h  Makefile      testing  user [root@krkt06uldh06 drbd-0.7.23]# drepmod -a [root@krkt06uldh06 drbd-0.7.23]# modprobe drbd </pre>	
		<p>5. 각종 설정파일 수정</p> <pre> [root@krkt06uldh06 etc]# vi hacommand.cf "hacommand.cf" 1L, 98Ckrkt06uldh05 61.78.57.178 drbddisk Filesystem::/dev/drbd0::/data::ext3 mysqlqld MysqlCheck NetCheck [root@n1 sbin]# cat pidchk #!/bin/sh source /usr/clx/etc/nodeinfo.cf  mysqlpro="/sbin/pidof mysqlqld" if [ -z `echo \$mysqlpro` ] then #echo "process down" if [ -s \$PIDVALUE ] then #echo "pid file up" rm -rf \$PIDVALUE fi #else #echo "process up you can nomally shutdown" fi [root@n1 sbin]# vi /etc/ha.d/resource.d/MysqlCheck "/etc/ha.d/resource.d/MysqlCheck" 29L, 414C#!/bin/sh source /usr/clx/etc/nodeinfo.cf  # Start, Stop, Restart Script  export PATH=/usr/sbin:/sbin:/bin:/usr/bin:\$PATH  case "\$1" in </pre>	



		<pre> start)/etc/ha.d/resource.d/mysql_mon localhost 5 &amp;/usr/clx/sbin/cmitool setf node_svc \$SNODE \$SVCD run down;;  stop) #      /usr/clx/sbin/pidchkillall mysql_mon;;  *)echo "Usage: \$0 {start stop}"exit 1 esac  exit 0  ~  ~  [root@n1 etc]# vi nodeinfo.cf "nodeinfo.cf" 7L, 102CANODE=n1 SNODE=n2 SVCD=mysql SVCTRY= CONNECTTRY=5 PINGD=61.78.57.161 PIDVALUE=/data/\$HOSTNAME.pid ~  [root@krkt06uldh06 etc]# vi ha.cf "ha.cf" 12L, 200Clogfacility daemon logfile /usr/clx/log/ha-log keepalive 2 deadtime 10 warntime 5 initdead 20 udpport 1001 baud 38400 serial /dev/ttyS0 auto_failback off node krkt06uldh05 node krkt06uldh06 </pre>	
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		<pre>[root@krkt06uldh06 etc]# vi erbd.cf "erbd.cf" 69L, 1675Cskip { As you can see, you can also comment chunks of text with a 'skip[optional nonsense]{ skipped text }' section. This comes in handy, if you just want to comment out some 'resource &lt;some name&gt; {...}' section: just precede it with 'skip'.  The basic format of option assignment is &lt;option name&gt;&lt;linear whitespace&gt;&lt;value&gt;;  It should be obvious from the examples below, but if you really care to know the details:  &lt;option name&gt; :=valid options in the respective scope &lt;value&gt; := &lt;num&gt; &lt;string&gt; &lt;choice&gt; ...depending on the set of allowed valuesfor the respective option. &lt;num&gt; := [0-9]+, sometimes with an optional suffix of K,M,G &lt;string&gt; := (&lt;name&gt; W"([^W"WWWn]* WW.)*W")+ &lt;name&gt; := [/_A-Za-z0-9-]+ }  resource drbd0 { protocol C; incon-degr-cmd "echo '!DRBD! pri on incon-degr'   wall ; sleep 60 ; halt -f"; startup { wfc-timeout 120; degr-wfc-timeout 120; }  disk { on-io-error detach; }  net {</pre>	
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		<pre># sndbuf-size 512k; # timeout60:      # 6 seconds (unit = 0.1 seconds) # connect-int 10;  # 10 seconds (unit = 1 second) # ping-int      10;  # 10 seconds (unit = 1 second) # max-buffers    2048; # max-epoch-size 2048; # ko-count 4; # on-disconnect reconnect:  }1,1Top}  syncer { rate 100M; group 1; al-extents 257; }  on krkt06uldh05 { device      /dev/drbd0; disk/dev/sdb1; address     192.168.100.100:7788; meta-disk   internal; }  on krkt06uldh06 { device      /dev/drbd0; disk        /dev/sdb1; address     192.168.100.200:7788; meta-disk   internal; } }  ~</pre>	
		<p>6. 서비스 시작 및 종료 테스트(IP 및 프로세스, Data Failover테스트 완료)</p> <pre>[root@krkt06uldh06 ~]# /etc/rc.d/init.d/drbd start</pre>	

		<pre> Starting DRBD resources:  [ d0 s0 n0 ]. [root@krkt06uldh06 ~]# cat /proc/drbd version: 0.7.23 (api:79/proto:74) SVN Revision: 2686 build by root@krkt06uldh06, 2007-04-13 15:26:45 0: cs:Connected st:Secondary/Secondary ld:Consistent ns:480 nr:71535396 dw:71535876 dr:3773 al:16 bm:13117 lo:0 pe:0 ua:0 ap:0 [root@krkt06uldh06 ~]# /etc/rc.d/init.d/heartbeat start Starting High-Availability services: [ OK ] [root@krkt06uldh06 source]# /etc/rc.d/init.d/heartbeat satandby auto_fallback: off Attempting to enter standby mode 2007/04/13_16:33:21 Going standby [all]. [ OK ] [root@krkt06uldh06 etc]# /etc/rc.d/init.d/cmctl start Starting CMDDB: [ OK ] [root@krkt06uldh06 etc]# /etc/rc.d/init.d/cmctl status cmdb is running. actiond is running. lmonitord is running. clumand is running. </pre>	
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