

ClusterXL Error Messages CLUS – XXXXXX (new in R80.20+)

Each important cluster event that affects the cluster members has a unique code that appears in the /var/log/messages file and dmesg Error Messages CLUS-XXXXXX → see SK125152

cphaprob stat → show CLUS event code

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Last member state change event:
Event Code: CLUS-114802
State change: INIT -> STANDBY
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Cluster relevant files

- /etc/fw.boot/ha_boot.conf → ClusterXL ID, CCP
- /var/opt/fw.boot/ha_boot.conf → ClusterXL ID, CCP
- \$FWDIR/conf/discntd.if → disconnected interfaces
- \$FWDIR/boot/modules/fwkernel.conf → FW kernel parameter (CCP, Freeze, ...)

ClusterXL member status (Monitoring Cluster State)

cphaprob stat → show cluster status
> show cluster state

Stat	Status	Version
ACTIVE	everything is OK	all
ACTIVE ATTENTION ACTIVE(!)	problem has been detected, but the cluster member still forwarding packets	all R80.20+
DOWN	one of the critical devices is having problems	all
STANDBY	the member is waiting for an active machine to fail in order to start packet forwarding	all
READY	refer to sk 42096	all
INIT	the cluster member is booting up, and ClusterXL product is already running, but the Security Gateway is not yet ready	all
ClusterXL inactive or machine is down	Local machine cannot hear anything coming from this cluster member	all
ACTIVE(IF)	Cluster member is in the freeze state	R80.20+
ACTIVE(IP)	This is the pivot cluster member in Load Sharing Unicast mode	R80.20+
ACTIVE(IFP)	This is the pivot cluster member in Load Sharing Unicast mode and it is in the freeze state	R80.20+
LOST	The peer cluster member lost connectivity to this local cluster member (for example, while the peer cluster member is rebooted).	R80.20+
BACKUP	Applies only to a VSX Cluster in virtual system load sharing mode with three or more cluster members configured.	all VSX

CCP and Sync Debug

tcpdump -npi ethX -x port -s 0 8116 2>/dev/null | ccp_analyzer -g -c

Reasons for "Ready" state on GAIA (sk42096)

- # fw ver -k → Firewall module version
- > show version all → OS version
- # uname -a → 32-bit / 64-bit OS
- > show version os edition
- # fw ctl get int fwha_version → CCP version
- # fw ctl multik stat → number of CoreXL FireWall instances
- # fw6 ctl multik stat → number of CoreXL FireWall inst. IPv6
- # cat /proc/cpuinfo | grep processor → total number of CPU cores
- # cplc print → CoreXL license on each member

ClusterXL commands

Cluster analysis

- # cphaprob stat → show cluster status
- > show cluster state
- # cphaprob -a if → CCP, VIP, cluster informations
- # cpstat ha -f all → long ClusterXL error message, problem notification, VIP
- # cphaprob syncstat → sync infos drops, queue, delta sync interval (default 100 ms)
- # fw ctl pstat → sync infos (old command)
- # fw hastat → standby member infos (ok, state)
- # cphaprob -reset syncstat → Reset counter
- > show routed cluster-state detailed → Cluster and routed infos
- # cphaprob -l list → device infos and state
- Attention!** Be careful with these commands!
- # fw ctl setsync off → sync off
- # fw ctl setsync start → sync on
- # cphaconf set_ccp broadcast → CCP to Broadcast
- # cphaconf set_ccp multicast → CCP to Multicast
- # fw fcu <ip> → full sync to standby member(sk107042)
- # cphastop → stop HA module
- # cphastart → start HA module
- # cphastart -d → start HA module in debug mode
- # cphastart -d & hastart.txt → start HA and log into text file
- # clusterXL_admin up → cluster member admin up
- # clusterXL_admin down → cluster member admin down
- # clusterXL_admin up -p → member admin up (permanent)
- # clusterXL_admin down -p → member admin down (permanent)

ClusterXL CCP encryption (new in R80.30+)

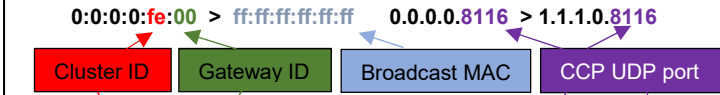
- # cphaprob ccp_encrypt → show encryption status
- > show cluster members ccpenc
- # cphaconf ccp_encrypt on → enable encryption on the fly
- # cphaconf ccp_encrypt off → disable encryption on the fly
- # cphaprob ccp_encrypt_key → display encryption key
- # cphaconf ccp_encrypt_key <key> → set 32 byte encryption key

Multiple clusters to the same network segment (sk25977)

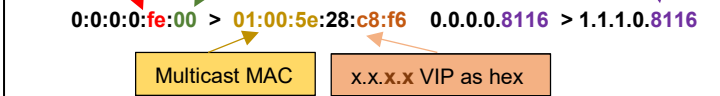
- <= R77.20
- \$FWDIR/boot/modules/fwkernel.conf
- fwha_mac_magic=VALUE
- fwha_mac_forward_magic=VALUE
- = R77.30
- \$FW_BOOT_DIR/ha_boot.conf
- cluster_id VALUE
- >= R80.10
- # guidbedit.exe
- table → Network-Objekts → network_objekts → [Clustername]
- cluster_magic → change VALUE
- SmartDashboard Policy Install
- Check ClusterXL ID
- more \$FWDIR/boot/modules/fwkernel.conf → R77.20
- cphaconf cluster_id get → R77.30+
- cphaprob mmagic → R80.10+

CCP protocol

CCP Broadcast



CCP Multicast



Interesting SK's

- sk93306 → ATRG: ClusterXL
- sk56202 → How to troubleshoot failovers in ClusterXL
- sk62570 → How to troubleshoot failovers in ClusterXL-Advanced Guide
- sk92723 → Cluster flapping prevention
- sk25977 → Connecting multiple clusters to the same network segment (same VLAN, same switch)
- sk43984 → Interface flapping when cluster interfaces are connected through several switches
- sk32488 → When to use 'fwha_freeze_state_machine_timeout' parameter
- sk42096 → Cluster member is stuck in 'Ready' state
- sk107042 → ClusterXL upgrade methods and paths
- sk20576 → How to set ClusterXL Control Protocol (CCP) in Broadcast / Multicast mode in ClusterXL
- sk125152 → ClusterXL Error Messages