CONVEX CXbatch V2.1.1 Release Notice

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Overview of CONVEX CXbatch V2.1.1

About This Package

This release of CONVEX CXbatch V2.1.1 provides nqsdaemon and netdaemon patches for CONVEX CXbatch release 2.1.

There are installation instructions for ConvexOS V2.1.1; see the ConvexOS V2.1.1 Installation Procedures, Part number 710-007930-007.

Contents of this Release

This release of CONVEX CXbatch V2.1.1 includes:

- This release notice, Part number 710-007830-008.
- Installation instructions, Part number 710-007930-007.
- Media for the software, Part number 710-003915-210.

Prerequisites

Before you install CONVEX CXbatch V2.1.1, your system must already be running these software packages:

- ConvexOS V9.1 or a later release of the operating system.
- ConvexOS V9.1 Utilities or a later release of the system utilities.
- CONVEX CXbatch V2.1 software.

If you do not have all of the necessary components, contact the CONVEX Technical Assistance Center (TAC) for information on performing this upgrade.

See the CONVEX CXbatch V2.1.1 Installation Procedures for instruction on how to install CONVEX CXbatch V2.1.1.

Problems Resolved in CONVEX CXbatch V2.1.1

Below are the Problem Reports that are resolved by CONVEX CXbatch V2.1.1.

nqsdaemon

(PR-23486) - CXbatch 2.1 no longer checkpoints jobs automatically on shutdown even though the queue's checkpointability is set to "yes". CXbatch also will not automatically checkpoint jobs on shutdown even though the job was submitted with the '-c' option of qsub (checkpointable job) and the queue's checkpointability is "available".

Resolution: CXbatch now properly checkpoints jobs in queues which Checkpointability set to "yes" on shutdown. CXbatch also checkpoints jobs that were submitted with the -c option to queues with Checkpointability set to "available" on shutdown.

(PR-20134) - When the "-a" option of qsub is exploited, nqsdaemon may create unnecessary data structures. This could ultimately lead to nqsdaemon "hanging" while it attempts to process hundreds of unneeded internal data records.

Resolution: nqsdaemon no longer places multiple, duplicate Event entries on its Event list.

(PR-22198) - CXbatch has SIGALRM blocked when it spawns the CXbatch shell (to run batch jobs). This is evident when using /bin/sh as the shell because unlike ksh and csh, /bin/sh does not reinitialize its environment (unblock signals) on start-up.

Resolution: The CXbatch Shepherd process now unblocks SIGARLM prior to spawning the batch job.

(PR-22907) - The error: CXbatch: nqs_wakeup(): Empty event list should NOT be a FATAL CXbatch error.

Resolution: A spurious SIGALRM is now logged as a WARNING, and CXbatch will not abort on such a condition.

(PR-23578) - A job which had one been SUSpended and later RESumed was SUSpended again when CXbatch was shutdown. All of the rest of the jobs that had never been suspended were just checkpointed as expected.

Resolution: A job that is suspended and subsequently resumed will not revert to a suspended state following a CXbatch shutdown.

(PR-23580) - The nqsdaemon prematurely sets the SUSPENDED flag in a request's control file for the "suspend request" command. If the request is not properly checkpointed and suspended, CXbatch will still show the request in a suspended state following a reboot.

Resolution: nqsdaemon now sets the SUSPENDED flag on a job only after the checkpoint completes successfully.

netdaemon

(PR-20800, PR-22254) - If $HOME/.rhosts files are disallowed by System Administrators and /etc/hosts.equiv is restricted to 600 (or 640), qdel req@remote will fail with Unexpected completion code from Cxbatch daemon.

Resolution: The netdaemon child will now lose its root privileges after it has verified remote user access. /etc/hosts.equiv no longer needs to be world readable to perform remote qdel operations.

sleep(3)

[Though sleep(3) is not part of CXbatch per se, this bug in the C Library with which CXbatch is built did affected several CXbatch installations. Though this bug is not fixed until ConvexOS 10.0, this version of CXbatch has been built with a fixed version of sleep(3). In previous version of CXbatch, this bug would manifest itself by causing nqsdaemon to hang. This would usually occur on systems running NIS (formerly YP).]

(PR-18674, PR-19358, PR-19882) - sleep(3) should unblock SIGARLM before it sets the alarm. This will prevent applications from hanging if the call sleep(3) with SIGARLM blocked.

Resolution: sleep(3) not temporarily unblocks SIGALRM to prevent it from never returning. Previously, programs build in anything other than -pcc mode would never return from a sleep(3) call if SIGARLM was blocked.