LifeKeeper® Protection Suite for IBM Rational® ClearCase®

Key Features:

- Supports Rational ClearCase MultiSite configurations

- Seamless integration with Rational ClearCase to ensure the highest levels of availability for Rational ClearCase on Linux

- Full 32bit and 64bit support for Xeon, Opteron and Power-based systems

- Runs on enterprise Linux distributions from Red Hat and SUSE

- Supports Active/Active and Active/Standby Rational ClearCase Configurations

- Data can reside on shared SCSI, Fiber Channel, Network Attached Storage or on replicated volumes

- Maximizes developer productivity, minimizes disruption caused by IT outages

- Automated availability monitoring, failover recovery, and failback of all critical Rational ClearCase application and IT-infrastructure resources

- Ready-for-IBM Rational certified

Within application development environments, the ability to control, manage, collaborate and communicate is directly related to the availability of the underlying IT infrastructure. In times of an IT outage, without access to project information, or source code, the ability of application developers to respond quickly and collaboratively to business requirements diminishes significantly.

For organizations that have implemented IBM Rational ClearCase on Linux, SteelEye LifeKeeper ensures the highest levels of application infrastructure availability, collaboration and productivity.

SteelEye LifeKeeper for Rational ClearCase enables integrated monitoring and failover protection of the entire Rational ClearCase environment running on Linux, including the Registry Server, Release Area, and Versioned Object Base (VOB) and View Storage.

LifeKeeper protects Rational ClearCase services, either locally on the same server where the processes are currently running, or from a failed primary server onto a backup server.

The LifeKeeper solution for Rational ClearCase is certified for Rational ClearCase v7 running on IA32 and Opteron platforms and with both RHEL and SLES Linux distributions.

Comprehensive Monitoring, Recovery & Availability

In order to ensure the highest levels of availability of Rational ClearCase, several network-wide resources required by Rational ClearCase must be accurately and automatically monitored: License Server Host (one or more), Registry Server Host (one, plus an optional backup), Release Host, and a Registry Region. In some implementations, a Rational ClearCase configuration can also contain a number of Client Hosts, in addition to the Server Hosts. How these system resources function, and how LifeKeeper protects them are described as follows.

Protection of the License Server Host

Rational ClearCase functions require a valid license to perform the requested task. The Rational ClearCase License Server performs the role of allocating these licenses and ensures that the maximum number of licenses allowed as defined in the *license.db* file is not exceeded. Obviously, this server and its function must be highly available. If the licensing function is out of operation, no Rational ClearCase commands can be executed.

By implementing LifeKeeper and configuring Rational ClearCase to take advantage of its ability to implement multiple license servers within the same enterprise, a key single point of failure for the Rational ClearCase environment is eliminated.

Protection of the Registry Server

The Rational ClearCase Registry Server holds the databases used to determine the locations of the networked Rational ClearCase data structures. As with the License Server, if the Registry Server is down, then Rational ClearCase cannot operate. This server must be highly available and is protected out of the box by LifeKeeper for Rational ClearCase.

Protection of the Release Host

The Release Host serves as the network-wide area for storing the entire Rational ClearCase product distribution, including executable files, configuration files, and online documentation. Rational ClearCase provides a method to create symbolic links to the Release Area via NFS mount points. Given the criticality of the Release Host, the availability of the Host and of the NFS mounts must be monitored and maintained at all times. LifeKeeper monitors and protects the Release Host and its associated NFS mount points.

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SteelEye LifeKeeper prevents the following negative effects of planned or unplanned downtime of Rational ClearCase:

- Loss of ability to manage files, directories and other development assets across the lifecycle

- Loss of control over personal workspaces and seamless access to the exact files and directory versions that are needed

- Loss of parallel development support including automatic branching and advanced merging and differencing

- Loss of activity-based changed management

- Loss of build and release management

Technical Requirements

- Red Hat or SUSE Enterprise Linux
- Rational ClearCase 2003.06 or later
- SteelEye LifeKeeper for Linux version 4.5 or later
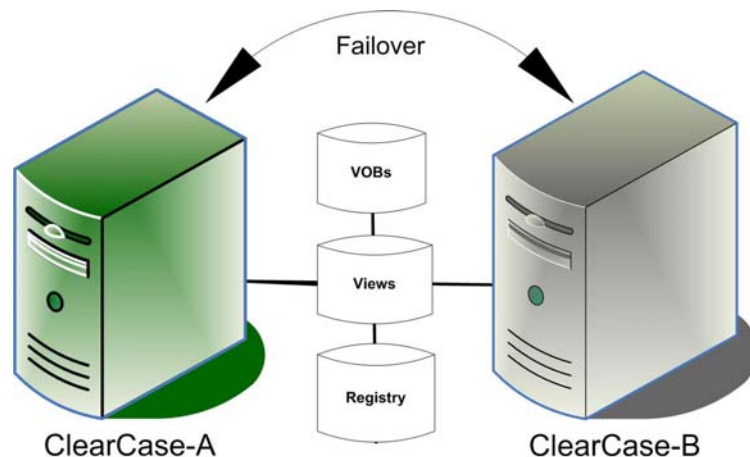
Protection of the Client Host

A Client Host runs the Rational ClearCase programs (such as *cleartool* and *checkout*) which constitute the user-level interface to Rational ClearCase. A Client Host by itself does not require protection by LifeKeeper, however, the DNS entries used by Client Hosts commands to find the active Server Host are migrated as part of a LifeKeeper recovery procedure. This allows the Client Host to always find the currently active Server Host without any reconfiguration.

Protection of the Server Host

A Server Host stores Rational ClearCase data such as VOB and View storage directories. Rational ClearCase Server processes execute on these hosts and communicate with client programs through remote procedure calls. LifeKeeper protection is enabled on these hosts via the use of NFS mount protection for local storage and virtual IP address protection for storage that resides on NAS devices to ensure the highest levels of availability for Server Hosts.

Example Active/Active Configuration

In this configuration, both nodeA and nodeB are primary LifeKeeper servers protecting active Rational ClearCase components. Each server also serves as the backup for its cluster member. In this example, nodeA protects the shared storage array for Views and the Registry as the primary server while nodeB is it backup. NodeB protects the shared storage array for VOBs as the primary server with node A as its backup. LifeKeeper monitors the health of the servers and the Rational ClearCase processes on the servers and takes an automated recovery action on any error detection. Client connections are seamlessly routed between nodes as needed to ensure constant availability of Rational ClearCase operations to the end-users.

About SteelEye Technology®

SteelEye, a subsidiary of SIOS Technology Inc, is a leading provider of application and data availability management solutions for business continuity and disaster recovery. The SteelEye LifeKeeper family of software products enable enterprises of all sizes to ensure continuous availability of business-critical applications and data on industry standard Intel-compatible servers and storage systems. SteelEye software products are available worldwide and may be purchased directly from SteelEye or through the SteelEye international network of business partners.

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