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InterSystems Caché: Database Mirroring: An Executive Overview

Providing a reliable infrastructure for rapid, unattended, automated failover

Technology Overview

Traditional availability and replication solutions often require substantial capital investments in infrastructure, deployment, configuration, software licensing, and planning. Caché Database Mirroring (Mirroring) is designed to provide an economical solution for rapid, reliable, robust, automatic failover between two Caché systems, making mirroring the ideal automatic failover high-availability solution for the enterprise.

In addition to providing an availability solution for unplanned downtime, mirroring offers the flexibility to incorporate certain planned downtimes on a particular Caché system while minimizing the overall SLA's for the organization. Combining InterSystems Enterprise Cache Protocol (ECP) application servers with mirroring provides an additional level of availability. Application servers allow processing to seamlessly continue on the new system once the failover is complete, thus greatly minimizing workflow and user disruption. Configuring the two mirror members in separate data centers offers additional redundancy and protection from catastrophic events.

Key Features and Benefits

- Economical high availability database solution with automatic failover
- Redundant components minimize shared-resource related risks
- Logical data replication minimizes risks of carry-forward physical corruption
- Provides a solution for both planned and unplanned downtime
- Provides business continuity benefits via a geographically dispersed disaster recovery configuration
- Provides Business Intelligence and reporting benefits via a centralized Enterprise Data Warehouse configuration

Traditional availability solutions that rely on shared resources (such as shared disk) are often susceptible to a single point of failure with respect to that shared resource. Mirroring reduces that risk by maintaining independent components on the primary and backup mirror systems. Further, by utilizing logical data replication, mirroring reduces the potential risks associated with physical replication, such as out-of-order updates and carry-forward corruption, which are possible with other replication technologies such as SAN-based replication.

Finally, mirroring allows for a special Async Member, which can be configured to receive updates from multiple mirrors across the enterprise. This allows a single system to act as a comprehensive enterprise data store, enabling - through the use of InterSystems DeepSee - real-time business intelligence that uses enterprise-wide data. The async member can also be deployed in a Disaster Recovery model in which a single mirror can update up to six geographically-dispersed async members; this model provides a robust framework for distributed data replication, thus ensuring business continuity benefits to the organization. The async member can also be configured as a traditional reporting system so that application reporting can be offloaded from the main production system.

#Caché #System Administration #Mirroring

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