Evidian

IT SOLUTIONS
WELLINGTON

Wellington IT Solutions

Software vendor deploys SafeKit high availability solution with its banking application for Credit Unions.

Making a critical banking application suite highly available

Wellington IT Solutions (www.well-it.com) develops Locus, a software suite offering a full range of banking options, including ATM, on-line web services, text messaging, e-mail and Interactive Voice Response systems, for numerous Credit Unions around Ireland and the UK.

Wellington IT Solutions needs high availability for its critical solutions:
- Ensuring 24x7 availability of its application suite meant for banking activities of Credit Unions (ATM, on-line web services…),
- Combining automatic failover and replication with no data loss between 2 Wellington application servers,
- Isolating servers in distinct rooms to protect them from disasters such as fire damage.

To solve these constraints, Wellington IT Solutions chose SafeKit, Evidian's software-only clustering solution.

Integrated high-availability solution

Wellington IT Solutions deploys its Locus application suite on two standard Linux servers without shared disks, as follows:
- The Locus software suite, including Oracle Standard Edition, is installed on each server,
- SafeKit, the software clustering solution, is installed on each server,
- A customized SafeKit module for Locus and Oracle: real-time application data replication over the network, failure recovery and automatic change of virtual IP address.

Thus, with SafeKit, customers of Credit Unions can 24x7 connect to their accounts through ATM, on-line web services, text messaging, e-mail and Interactive Voice Response systems. Moreover, Credit Unions save the cost of shared disks and business editions of operating systems and databases.

Deployment of a SafeKit cluster at Wellington IT Solutions

Phase 1. Normal status.

Server 1 runs the application. SafeKit replicates on server 2, in real time over the network, the files opened by the application. Only the modifications made by the application are replicated, thereby limiting the traffic.

farm module

mirror module
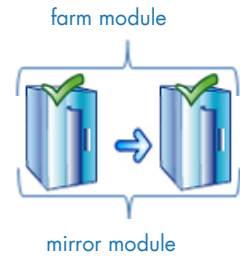
There are no prerequisites in terms of server organization. For example, the files may be on a RAID5 disk on server 1 and on a simple disk on server 2.

Thanks to the synchronous replication of write operations on both servers, no data is lost in case of failure. Therefore, any set of data committed by a transactional application like Oracle is stored on the secondary server. (This possibility is not offered by products that implement asynchronous replication)..

Phase 2. Switchover in case of failure.

If server 1 fails, SafeKit ensures switchover to server 2. SafeKit switches the cluster's virtual IP address and starts the application on server 2. The application retrieves the replicated files: no write operation on the disk is lost between server 1 and server 2.

Switchover timeout is equal to the failure detection timeout (30 seconds by default) plus the application restart time. (There is no timeout for returning or recovering the file system on the secondary server, as is the case with disk replication solutions).

Phase 3. Failure recovery.

When server 1 is restarted, SafeKit re-synchronizes the files automatically. Only the files modified on server 2 when server 1 was inactive are resynchronized. Server 1 is resynchronized without stopping the applications on server 2.

farm module
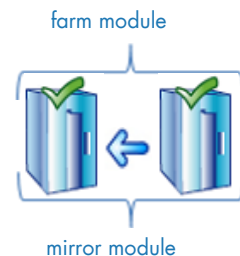
mirror module

After this re-synchronization, the system is again highly available. The files are again in mirror mode; the only difference is that the application runs on server 2, with server 1 as backup.

If the administrator wants his or her application to rather run on server 1, he or she makes the switchover manually, with a simple mouse click, or automatically.

"Business continuity and disaster recovery are a major concern for our Locus banking application deployed in numerous Credit Unions around Ireland and the UK. We have found with SafeKit a simple and robust solution for high availability and synchronous replication between two servers with no data loss. With this software solution, we are not dependent on a specific and costly hardware clustering solution. It is a perfect tool to provide a software high availability option to an application of a software vendor."

Peter Knight,
Sales Manager,
Wellington IT Solutions.

For more information: www.evidian.com