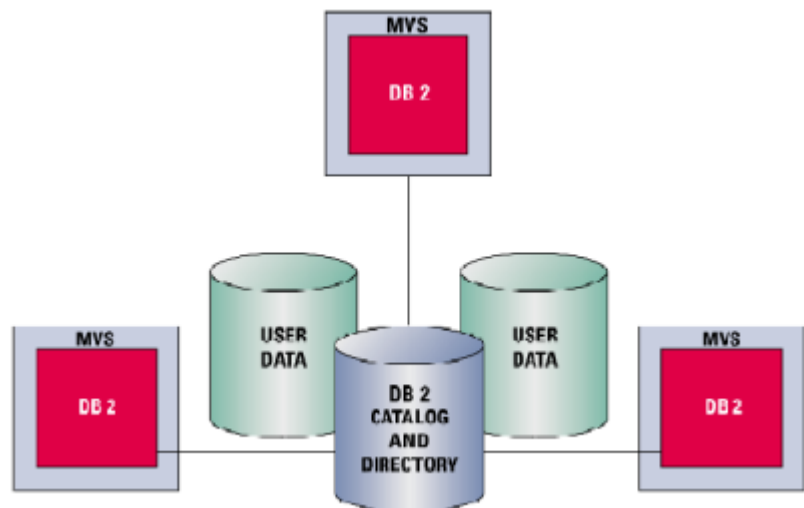


# Db2 Checkpoint - Db2 for z/OS Data Sharing

Db2 data sharing, along with the use of IBM's Parallel Sysplex® clustering technology, has many advantages over single, stand-alone S/390® platforms. For example, improved workload balancing, 24/7 availability, lateral growth, minimized impact of failures, and significant cost savings. Data sharing allows multiple Db2 subsystems to have concurrent full read and write access to databases on shared direct access storage devices (DASDs). The Db2 subsystems may reside on the same, or on different MVS images. The Db2 subsystems sharing the data belong to a Db2 data sharing group and each Db2 subsystem is a member of the group.<sup>1</sup> Db2 manages these subsystems through a single Db2 catalog and directory that provides a single definition of all shared Db2 objects. The chief advantage of data sharing is that applications may execute against any one or more Db2 subsystems. If one Db2 subsystem in the group fails, another can process the workload. SoftBase's premier application restart tool, the Db2 Checkpoint, takes advantage of this ability by storing checkpoint/restart information in a secure Db2 table, which is accessible from any CPU in the data sharing group. If an application fails, Db2 Checkpoint can restart the application either at the failed subsystem or another subsystem. If restart data is stored anywhere other than Db2 and a failure occurs, data inconsistencies are possible which can jeopardize restart information. Data consistency between all Db2 subsystems is an essential requirement for data integrity and necessary to perform routine database restarts in the event of a failure. Data consistency means that, if data mirroring is

occurring, whatever is stored on the primary data image is identical to what is stored on the mirrored secondary data image. When the secondary data image is consistent with the primary data image, applications can be restarted at the secondary location without incurring the downtime associated with a tedious and time-consuming database restoration process. Restoring Db2 and rerunning applications is costly and inevitably incurs downtime. Typically, downtimes of 2-4 times the application runtime are experienced per database restore and associated application reruns.

Therefore, IBM recommends automating your restart management process for Parallel Sysplex environments to further reduce the possibility of data inconsistencies. While Db2 data sharing provides the redundancy between primary and secondary subsystems to make restarts possible, Db2 Checkpoint provides the technology to restart failed applications in sync with Db2 at either primary or secondary subsystems. When applications fail due to Deadlock-Timeouts or Resource Unavailable situations, (-904, -911) Db2 Checkpoint can restart those applications automatically. In other situations, the application is simply resubmitted.



Depending upon the criticality of your business applications, IBM estimates that potential system downtime costs can range between \$14,000 to as much as \$6,000,000 for every hour of system downtime.<sup>2</sup> With Db2 data sharing, if an application abends, that application only needs to be restarted and an installation can be up and running in a relatively short time, even if the primary subsystem fails completely.

Together, Db2 data sharing and SoftBase's Db2 Checkpoint contribute to the data consistency and integrity customers expect and require. So, when considering application restartability in a Parallel Sysplex environment, choose Db2 Checkpoint for consistent and reliable performance.