

CS Gold Spring Semester Start & End procedures

MPP Monitoring Checklist

MPP Monitoring is a process that monitors transaction times to ensure proper operation of the entire CS Gold® system. If transaction times exceed the maximum delay for which the system is set, this process will begin shutting down systems, thereby forcing readers offline and lightening the load on the system. Once proper transaction times have been restored, this process will start up the systems it previously shut down. There are numerous conditions that can trigger MPP Monitoring in a CS Gold system. Please reference the MPP Monitoring Checklist below.

1. Check where the delays are occurring.
 - a. The time it took the transaction to move from Line Driver to MGR and MPP942 on the TPS can be determined by comparing time stamps in the relevant Line Driver logs and the MPP942.log.
 - b. The time between the In and Out Messages in MPP942.log shows how long it took the Database to process the transaction.

2. Check for Server problems.
 - a. Check the HP server management webpages <http://localhost:2301> to ensure that Write Cache is disabled on the RAID controller.
 - b. Check for excessive fragmentation on the hard drive, especially with the DBF files.
 - c. Check for adequate server memory.
 - i. Check for excessive page fault rates on the TPS for the CS Gold® processes DBDEngine, DBDSend, DBDLstn, DBDMgr, DBDMpp, DcsTcpServer.
 - ii. Check for excessive page fault rates on the Database server for the Oracle process oracle.exe.

3. Check for Network problems.
 - a. Use "ping -n1000 -l1000" to check network round-trip time between the TPS and Database server.
 - b. Some Ethernet errors occur due to incorrect auto-negotiation of duplex setting with some switches.
 - c. A firewall between the TPS and Database server is not acceptable.
 - d. A hub between the TPS and Database server is recommended. A switch between the TPS and Database server is not recommended.
 - e. The TPS and Database server should be on the same subnet.

4. Check for Third-Party Application conflicts.
 - a. Ensure the proper exclusions are set up in backup and virus scan software on the servers per the list below:
 - i. TPS
 1. D:\cbord
 - ii. Database server
 1. C:\orant
 2. D:\orant
 3. D:\oracle
 4. D:\golddb_orcl
 5. E:\orant
 6. E:\oracle
 - b. Ensure that the disk defragmenter software is not running during busy periods.
 - c. Use of a software firewall on the servers is not acceptable.
5. Check for problems in CS Gold.
 - a. Ensure that too many EL Rules are not applied to transactions because those EL Rules are not defined narrowly enough. Specify a plan or range of plans and/or a location or range of locations in an EL Rule to prevent it from being applied unnecessarily to other transactions.
 - b. Ensure that EL Rules are not inefficient. Check this by running MPP942 at debug level 7. If the response time for a rule's SQL is greater than 80ms, that SQL should be tuned.
6. Check for excessive Download MPP activity from a DAC or A1000 repeatedly downloading due to bad CRCs.
7. If MPP Monitoring occurs at specific repeating times, check for Batch Queue jobs at those times that consume too many system resources.
8. Check for problems in Oracle.
 - a. Check for Database locks in **D:\diebold\dcsgoldserver\log\csdashboard.out** using the command **grep "WatchLocks"**.
 - b. Check for Oracle errors in the Alert.log.
 - c. If Data Guard is in use, ensure that the Primary and Standby instances are communicating properly.

If you are unable to resolve MPP Monitoring problems using this checklist, please contact Support at (866) 789-2977.