STEP Performance Troubleshooting Best practice

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Content

Introduction

This guide is used to troubleshoot performance problems. The questions in section one aim at identifying the problem layer, subsequent sections focus in more detail on specific areas of the system.

Helpdesk can skip the rest of this document and focus only on providing the information requested in 'Helpdesk tasks' of the Appendix B at the end of the document.

Technical Support must read this document from start to end and provide the information requested in 'Technical Support tasks' of the Appendix B at the end of the document.

List of information to be attached to the JIRA issue where appropriate when assigning to R&D

- Raw profiling data files covering time interval of the problem.
- Step.log files.
- Heapdumps downloaded to garm.stibo.dk.
- Connection details, servernames and account information.

Use the checklist in Appendix B to list all the things that you have checked/verified so R&D will not have to check them again.

IMPORTANT

If the problem description from the customer is not crystal clear to you, you will have to request a video screencast from the customer showing the problem or to setup a webex where the customer presents the problem.

1 Problem layer identification

- In STEP Admin console fetch profiling data for the period in time when the problem occurred and expand the service methods in the Details pane:
  - If the service call say: "com.stibo.customer" – it indicates that Custom Solutions should be involved.
  - If you expand the service method and it ends with a long-running SQL statement and you identify the same SQL statement with the same duration on the SQL tab then it indicates that it is waiting for the Oracle database.
  - If the service call say: "com.stibo.ddsconnector" or "com.stibo.idsconnector" – it indicates it is waiting for the DTP server.
- If the problem occur for only one specific user or group of users – it indicates that the problem is user or workstation related.
- If none of the above fit well it means the problem might be on the application server.

2 Database server

- Having fetched the profiling data in STEP Admin console and identifying the service call ending with a SQL statement, go to the SQL tab and identify the same SQL statement having the same duration and attach the SQL statement including the execution plan to the Jira issue.
- If you have access to the DB-toolbox you can typically dig out similar and more information for the specific session. Attach information to the Jira issue.
- Does the system wait for locks in the database? Report in appendix B.
- Check cpu usage of the database server and report in appendix B.
- Check io usage on the database server and report in in appendix B.
- Examine alert log for errors and report in appendix B.
- Assign the Jira issue to R&D.

3 DTP server

- Check that the configuration for QuarkXPress Server/Adobe InDesignServer is using asset push - report in appendix B.
- Check logging configuration, debug level should only be used when required and will have a performance impact - report in appendix B.
- Compare number of DTP server renders with license, hardware and user load - report in appendix B.
- Emergency action: restart dtp-servers.

4 Application server

- Check the STEP Admin console sensors page for warnings and criticals - report in appendix B.
- Look at the memory graph in STEP Admin console and report in appendix B – if constant high with only small "garbage collections":
  - Consider increasing heap memory.
  - Check for heapdumps on the server and put them in a location in garm.stibo.dk (default stibosw logon). Put reference to files in appendix B.
- Look at the cpu usage on the application server both from the cpu graph in STEP Admin console and by using Task Manager/top and report in appendix B. If it is high:
  - Check if image GraphicsMagick processing (gm.exe etc.) are starting and stopping. If so, many image conversions may be going on. Increasing the sizes of image caches might help fix this.
- Look at the thread graph in STEP Admin console:
  - Compare the number of threads to the number of cpu cores in the application server and report in appendix B. If the number of threads is higher - processes will queue and experience wait.
- Ping database server using ping command in appendix A and report the result in appendix B.
- Trace route to dbserver to look for unwanted network equipment.
- Check number of background processes – option 38 in db-toolbox. Report total sum in appendix B.
- Examine the io-usage of the application server. If it is high:
  - Check if the memory on the server is used up, ie. more memory in use than real memory available will make the server swap – report in appendix B.

- Check if log files are quickly filling up and if so, check if some debug information has been enabled – report in appendix B.
- Assign the issue to R&D.

5 User interface/client application

- Examine task manager on user workstation while reproducing the problem – report in appendix B:
  - Does the java process have high cpu-usage (probably > 90%), then the problem might be in the UI. Assign to R&D.
  - Do other processes have a high cpu-usage - if so, then ask user to shut these down and then reproduce.
  - Does the system have a memory usage beyond the real memory in the system? Then try to shutdown other processes until below and then ask user to reproduce.
  - Consider rebooting PC and start STEP with only STEP running on the PC to see if it can still be reproduced.
- Check the Network Latency indicator in the lower right corner of the STEPworkbench client – report in appendix B. If it is above 125ms then ask the customer to examine the network.
- Open the Java Control Panel and enable the ‘Show console’, then reproduce and attach the output from the console to the Jira issue.
- If problem persists – assign to R&D.

6 Appendix A

	Windows	**Linux/Solaris**
IO usage	Process Explorer	sar -d sar -d -f /var/adm/sa/sadd (where dd is the day of month) iostat -zdxnk 2
CPU usage	Process Explorer Task Manager	sar -u sar -f /var/adm/sa/sadd (where dd is the day of month) top, mpstat -P -ALL 2
Memory usage	Process Explorer	vmstat sar -r -f /var/adm/sa/sadd (where dd is the day of month)
Ping	ping dbserver ping –l 8000 dbserver ping –l 32000 dbserver	ping –c5 dbserver ping –c5 –s8000 dbserver ping –c5 –s32000 dbserver
Latency requirements:	Max 0.2ms with a 64 bytes packetsize Max 1.0ms with a 32K packetsize	

7 Appendix B

Helpdesk tasks	**Initials**	**Date**	**Comments**
Is the problem tied to one specific user or a group of users?			
Is the problem reproducible?			
What is the expected duration of the operation?			
When did the problem occur - date/time?			
When was the last time the system was patched?			
Can this be reproduced on test system?			
Is Stibo allowed to reproduce the problem?			

Technical Support tasks	**Initials**	**Date**	**Comments**
Symptom clarification			
Specific events (user ID/BGP ID, date/time)			
Every time, periodic, rare?			
Database server			
Waiting for locks?			
CPU usage – normal/high			
IO usage – normal/high			
Alert log errors			
DTP server			
Dtp server is using assetpush			
Debug logging enabled			
Number of renders OK			
Application server			
Sensor warnings or criticals			
Memory usage – normal/high			
Heapdumps available			
CPU usage of JVM – normal/high			
CPU usage of server – normal/high			
Number of threads higher than number of CPU cores			
Ping times			
Total number of BGP’s			
Swapping?			
Excessive debug logging enabled?			
User interface/client application			
CPU usage – normal/high			
Memory usage too high – swapping?			
Network latency to application server			