

ClearCase VOB Database Troubleshooting

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Introduction

Rational ClearCase® VOBs use a proprietary database format, the Raima database. Troubleshooting VOB databases can be difficult when the only errors you see are: **db_vista error –912**. How do you troubleshoot ClearCase VOB database problems? What do the error messages mean?

The Rational ClearCase database resides in the db subdirectory of the VOB storage location. All database transactions come through the vobrpc_server and db_server processes. The vobrpc_server process reads and writes data on behalf of the view_server process. The db_server process reads and writes data as a result of cleartool and clearmake commands. The lockmgr process coordinates simultaneous access. As such the log files where errors would be reported are the db_server_log and vobrpc_server log files. Errors in the scrubber_log and vob_scrubber_log files might also indicate problems internal to the database.

Error Messages and What They Mean

Error Number	Possible Cause	What To Do	Initial Steps to Take
-4	User is not in <vobstore>\db directory while running db utility. User is also not root or administrator while running db utility.	Change to the correct directory. Ensure user is administrator or root.	Change to the correct directory. Ensure user is administrator or root.
-6	bit-flip possible.	If everything appears to be working normally, and dbcheck only reports a few errors, it is acceptable to continue using the VOB while Rational gathers information needed to fix the database.	Gather information in Troubleshooting section.
-16	Possible corruption.	If everything appears to be working normally, and dbcheck only reports a few errors, it is acceptable to continue using the VOB while Rational gathers information needed to fix the database. This should only affect DOs.	Gather information in Troubleshooting section.
-20	Running dbcheck with large –p value.	Running dbcheck with large –p value.	Gather information in Troubleshooting section.
-35	Specifying too long of a path to db directory.	Specifying too long of a path to db directory.	Gather information in Troubleshooting section.
-43	Possible network issue.	This does not appear to be database corruption. Rational will need to gather information to investigate. This may be a network issue.	Gather information in Troubleshooting section.
-900	Disk full	Disk full	Check for disk space where the db directory is located. Gather information in Troubleshooting section.

Error Number	Possible Cause	What To Do	Initial Steps to Take
-901	There should also appear an Operating System error.	You are experiencing a normal OS error which needs to be fixed. However, this could also indicate database corruption.	Locate the OS error. Gather information in Troubleshooting section.
-902	Not likely to be corruption	Not likely to be corruption	Gather information in Troubleshooting section.
-903	Missing key file	Missing key file	Ensure that all files in the db directory are present. Restart.
-904	Insufficient Memory	Insufficient Memory	How much memory is on the server? Add more memory and/or paging space. If this occurred while running dbcheck, rerun without the -p option.
-905	Not database corruption	Have there been any changes to the VOB storage directory?	Check for permissions and db files. Gather information in Troubleshooting section.
-906	Incorrect permissions on transaction files.	Have there been any changes to the VOB storage directory?	Check the permissions on the physical VOB storage directory.
-907	Incorrect lock manager permissions.	Have there been any changes to the lock manager permissions?	Run as a system account. The clearcase_albd account may not have access.
-908	Not likely to be corruption	You've encountered a lock problem and will need to restart ClearCase.	Restart Clearcase.
-909	Reached maximum records limit.	You've reached the maximum records limit. Run countdb.	Gather information in Troubleshooting section.
-910	Key file inconsistency	This is database corruption. If everything appears to be working normally, and dbcheck only reports a few errors, it is acceptable to continue using the VOB while Rational gathers information needed to fix the database.	Gather information in Troubleshooting section.
-911	Not corruption. Adjust lock manager parameters.	Not corruption. Adjust lock manager parameters.	Run as a system account.
-912	Normally not corruption. Disk space problem with VOB storage mount. Problem with VOB server processes. 2 GB limit on string and transaction files.	Normally not corruption. Disk space problem with VOB storage mount. Problem with VOB server processes. 2 GB limit on string and transaction files.	Gather system logs. Check for disk space.
-914	Normally not corruption. Disk space problem with VOB storage mount. Problem with VOB server processes. 2 GB limit on string and transaction files.	Normally not corruption. Disk space problem with VOB storage mount. Problem with VOB server processes. 2 GB limit on string and transaction files.	Gather system logs. Check for disk space.

Error Number	Possible Cause	What To Do	Initial Steps to Take
-915	Network error	Heavy network traffic may be the cause.	Check for network errors in logs.
-916		This does not appear to be database corruption. Rational will need to gather information to investigate.	Gather information in Troubleshooting section.
-917	Insufficient lock manager parameters	Insufficient lock manager parameters	Run as system account. Clearcase_albd may not have access to directory.
-918	Normal, not an error.		
-919	Disk space problem with VOB storage mount. Problem with VOB server processes. 2 GB limit on string and transaction files.	Disk space problem with VOB storage mount. Problem with VOB server processes. 2 GB limit on string and transaction files.	Check for disk space. Gather information in Troubleshooting section.
-920	Lock manager socket deleted.	Lock manager socket deleted.	
-921		This does not appear to be database corruption. Rational will need to gather information to investigate.	Gather information in Troubleshooting section.
-922	Lock manager is busy	Lock manager is busy	Adjust lock manager parameters. Increase -u.
-923	Memory error (only on Windows)	There is a memory error and ClearCase needs to be restarted.	Restart ClearCase. Restart the computer.
-925	Corrupt *.tjf or *.taf file.	There are corrupt transaction files. Contact support. Any recent updates to the VOB that have not been written to the database may be lost.	Restart ClearCase. Contact Support. Back up the vista.* files and the logs subdirectory Lock the VOB (if possible) Stop ClearCase Remove the vista.* files from the database subdirectory Start ClearCase Unlock the VOB Immediately lock/unlock the VOB again
1	Possible corruption	If everything appears to be working normally, and dbcheck only reports a few errors, it is acceptable to continue using the VOB while Rational gathers information needed to fix the database.	Gather information in Troubleshooting section.
2	Possible corruption	If everything appears to be working normally, and dbcheck only reports a few errors, it is acceptable to continue using the VOB while Rational gathers information needed to fix the database.	Gather information in Troubleshooting section.

Error Number	Possible Cause	What To Do	Initial Steps to Take
3	Possible corruption	If everything appears to be working normally, and dbcheck only reports a few errors, it is acceptable to continue using the VOB while Rational gathers information needed to fix the database.	Gather information in Troubleshooting section.
5	Running a utility that requires a VOB to be locked.	Running a utility that requires a VOB to be locked.	Gather information in Troubleshooting section.
All others	This does not appear to be database corruption. We will need to gather some information to investigate.	This does not appear to be database corruption. Rational will need to gather information to investigate.	Gather information in Troubleshooting section.

Troubleshooting

Gather the following information before contacting Support to troubleshoot VOB database issues.

- 1) Obtain the Operating System and ClearCase version information. What version of the operating system is in use? Are there any service packs or patches installed? What version of ClearCase is installed?
- 2) When was the last time dbcheck was run before the corruption?
- 3) Did the system recently, since the last time a dbcheck was run, experience a power failure? If so, when?
- 4) Did the system recently experience a crash or hang, so the computer had to be restarted? If so, when?
- 5) Is RAID 5 in use? Any other RAID configuration? Hardware or software based?
- 6) Save and send in operating system logs from the VOB server. On Windows, send in the System and Application logs from the Event Viewer.
- 7) On Windows, run CCDoctor on the VOB server and save the output to a .ccdoc extension file.
- 8) On Windows, send in a WinMSD report in complete mode. On Windows 2000, send in a System Info in text format.
- 9) On Windows, run **cleartool getlog -a > <path>\getlog.txt** on the VOB server.
- 10) Perform a dbcheck as Administrator or root on the VOB server.
 - a. Log on as Administrator or root
 - b. Lock the VOB. If there are errors locking the VOB, copy the database to another location and run the dbcheck.
 - c. Change to the db directory on the VOB server.
 - d. Run the dbcheck. On Windows: <atriahome>\etc\utils\dbcheck -a -k -p8192 vob_db > c:\tmp\dbcheck.txt
 - e. On UNIX: <ATRIAHOME>/etc/utils/dbcheck -a -p8192 vob_db > /tmp/dbcheck.txt

Note: the string vob_db is not an abbreviation, and should be entered literally. Make sure the dbcheck.txt output file indicates processing of each of the 7 database files.

- 11) Sign in to the Rational FTP server, and put the output into your directory. Uploading files to the FTP site:
 - a. At the command prompt: **ftp exchange.rational.com**
 - b. Login: **anonymous**
 - c. Password: **your full e-mail address**
 - d. Enter: **bin** for binary mode before putting the files into the ftp directory.
 - e. Put the zipped files into the directory.
 - f. **Quit**

Or, you can e-mail your files to support@rational.com with your SR number in the subject line.

After you have placed the requested information on Rational's FTP server, please call the Support Representative you have been working with and tell them that the information has been uploaded. If you cannot contact the Support Representative directly, call our general Support number at (800) 433-5444.



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