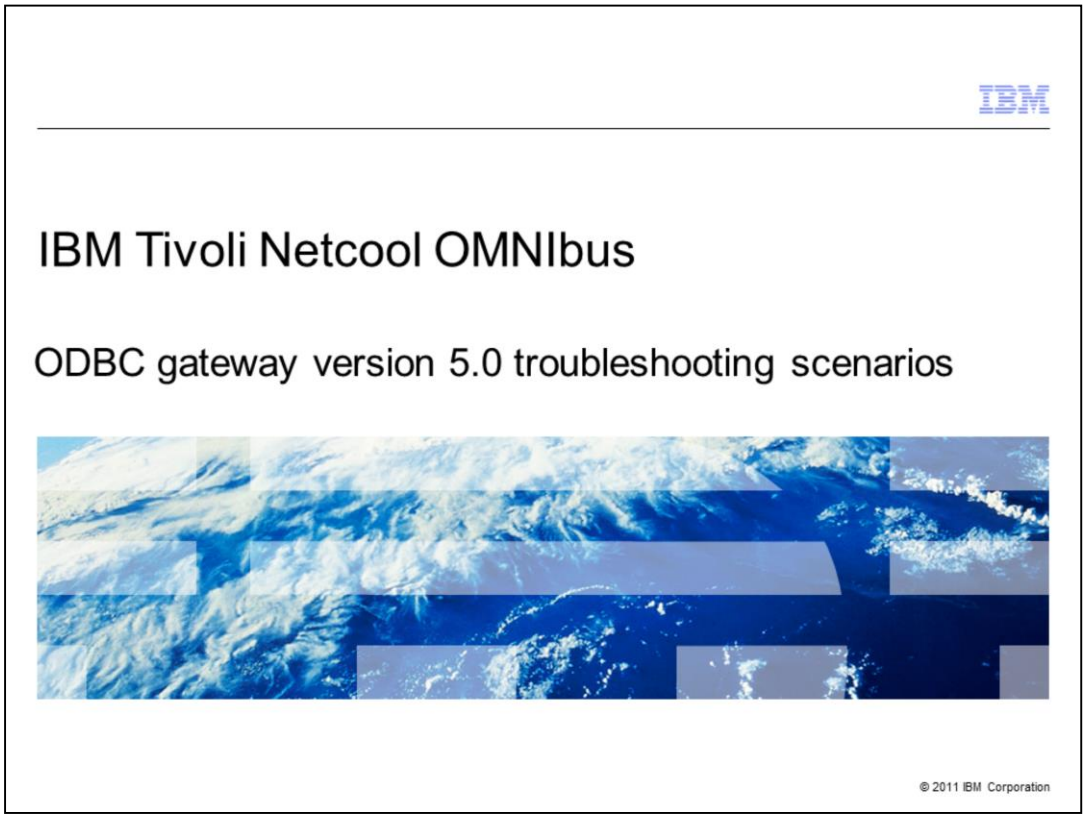
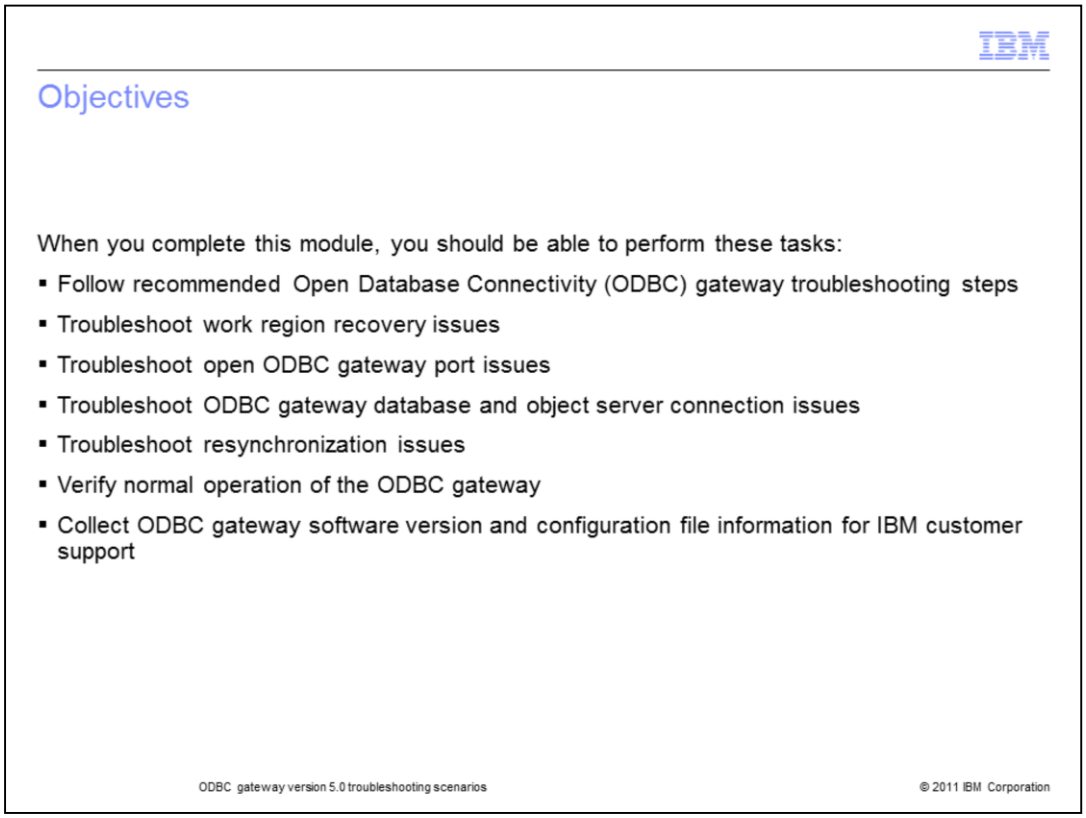



IBM Tivoli Netcool OMNIbus ODBC Gateway version 5.0, ODBC Gateway Troubleshooting Scenarios




When you finished this training you should be able to:

Follow gateway troubleshooting steps

Troubleshoot work region recovery

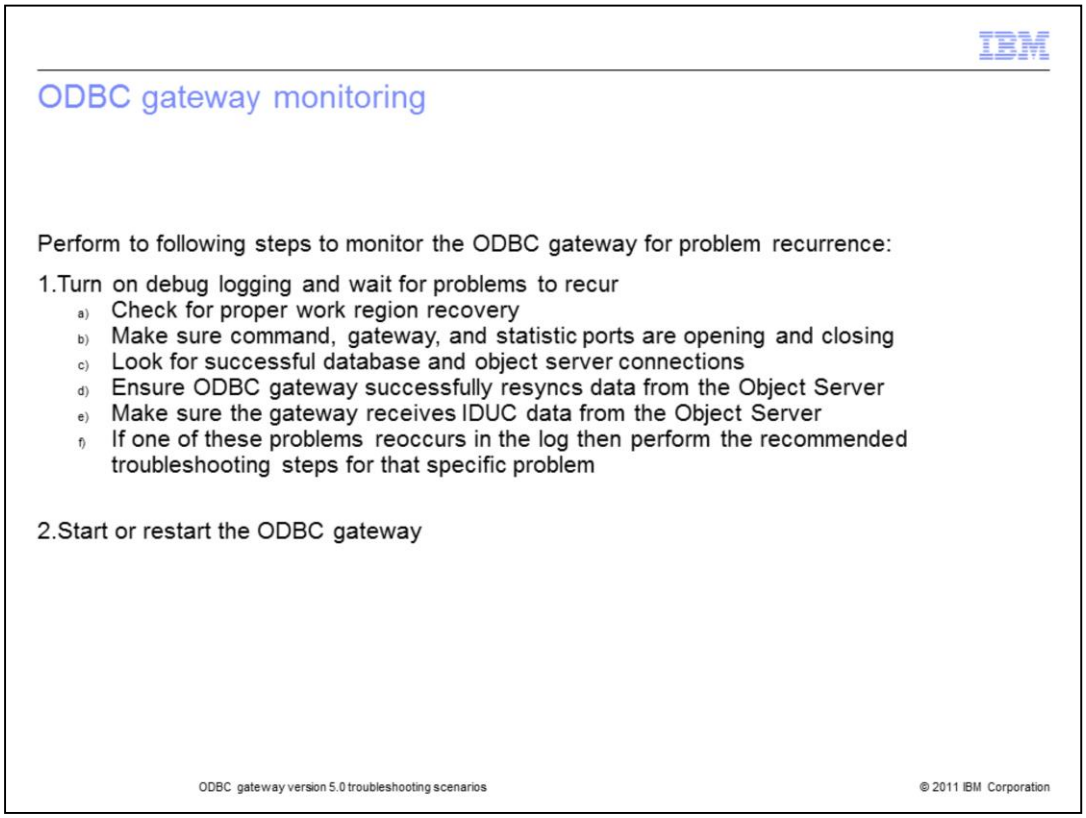
Open gateway ports

Reconnect gateway databases to object server connections

Resynchronize backups

Verify the gateway is working properly

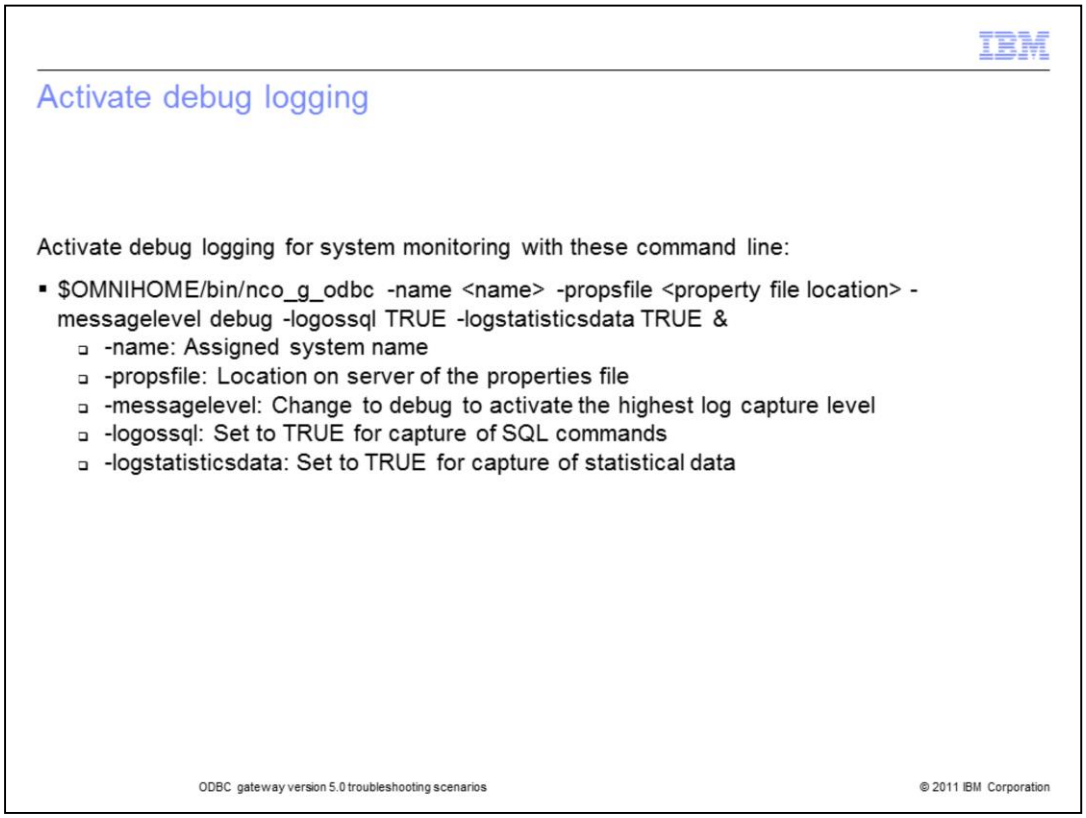
Collect software version and configuration file information before contacting IBM support personnel




When a problem occurs with the ODBC gateway, the recommended action to take is to enable debug logging and to monitor the ODBC gateway for the problem to recur.

Perform to following steps to monitor the ODBC gateway:

- Turn on debug logging and wait for problems to recur. Debug logging is the highest level of log capture
    - Check for work region recovery problems
    - Make sure command, gateway, and statistic ports are opening and closing
    - Look for database and object server connection problems
    - Ensure the ODBC gateway resyncs all data from the object server
    - Make sure the ODBC gateway receives IDUC from the object server
    - If one of these problems recur in the log then perform the recommended troubleshooting steps for that specific problem
- Start or restart the ODBC gateway to enable logging




Activate system monitoring for problems recur with the command line shown. Tailor parts of the command line for your ODBC gateway.

- For the name parameter use your assigned system name

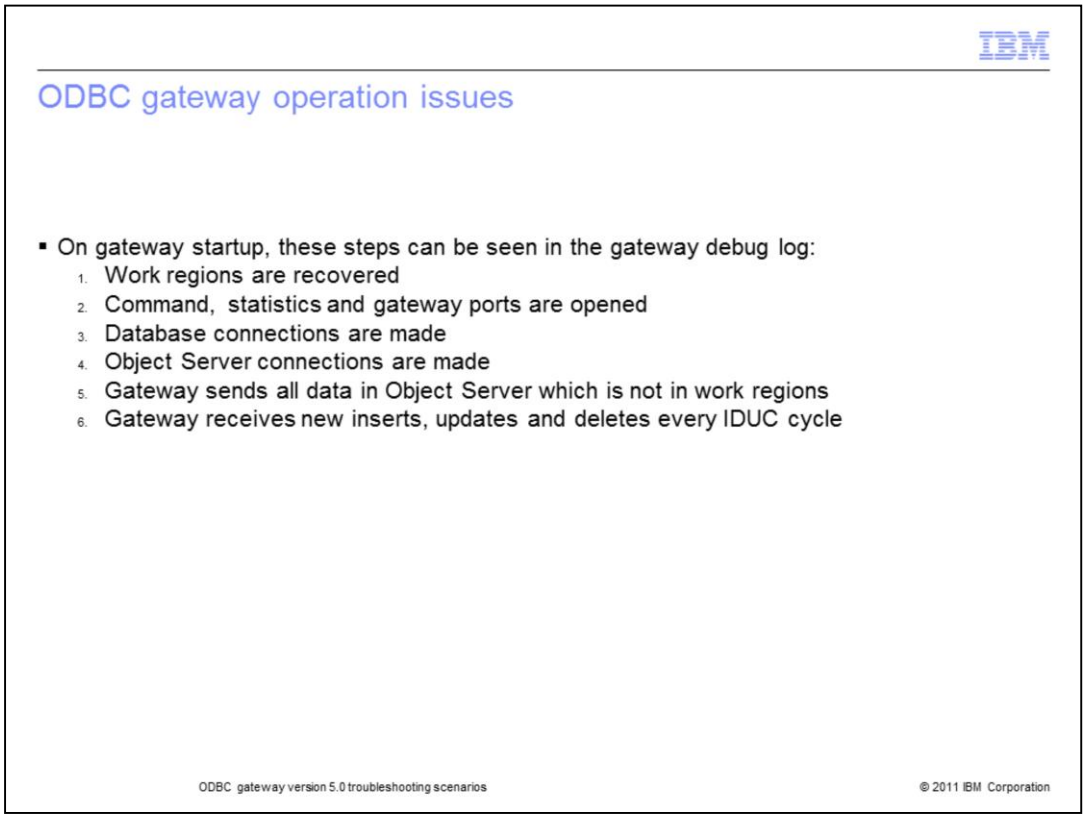
- In propsfile enter the path to the location on the server of the nco_g_odbc properties file

- For messagelevel change the logging level to debug to activate the highest log capture level

- In logossql you set the parameter to TRUE for the capture of SQL commands

- Finally, logstatisticsdata is set to TRUE for the capture of statistical data

- These logging options can also be configured in the properties file. A gateway restart is required.




ODBC gateway troubleshooting starts with looking for problems with any of these in the gateway debug log:

- Work regions not recovered

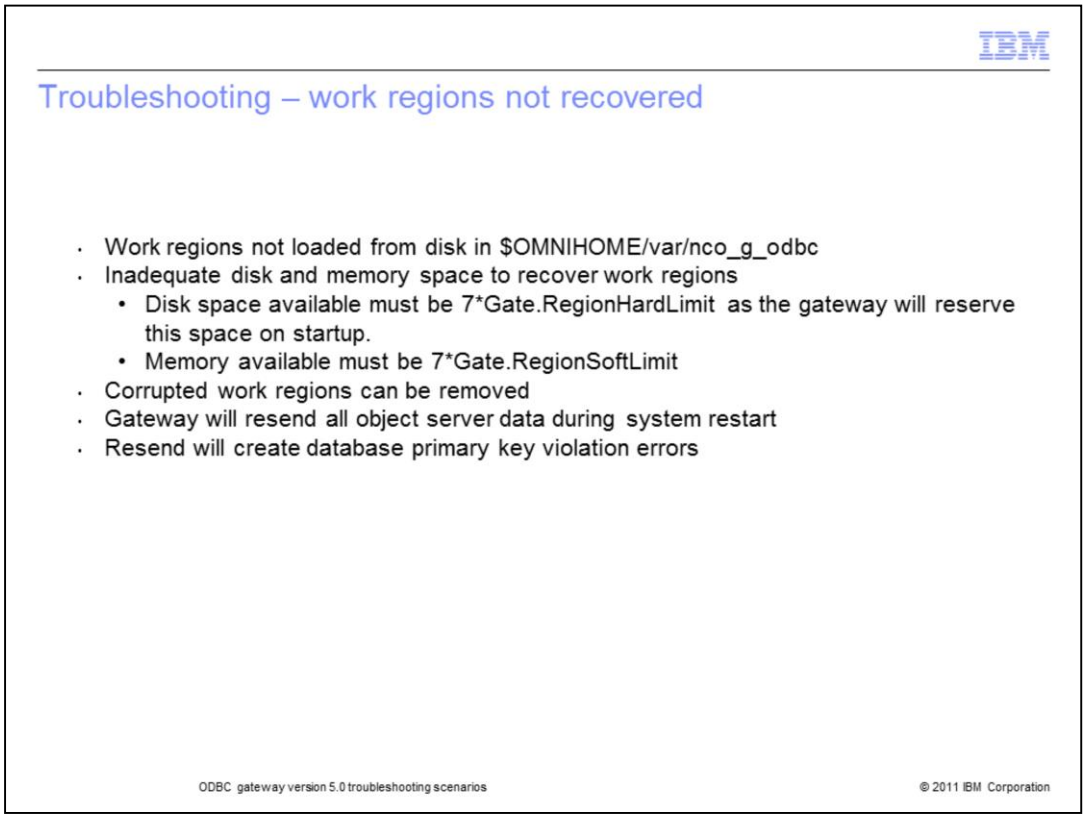
- Ports cannot be opened

- Databases not being able to connect

- Not connecting to Object Servers

- ODBC gateway is not able to resynchronize and send all data currently in the Object Server but not in work regions, and

- ODBC gateway is not receiving the regular cycle of Inserts, Deletes, Updates, and Changes (IDUCs)

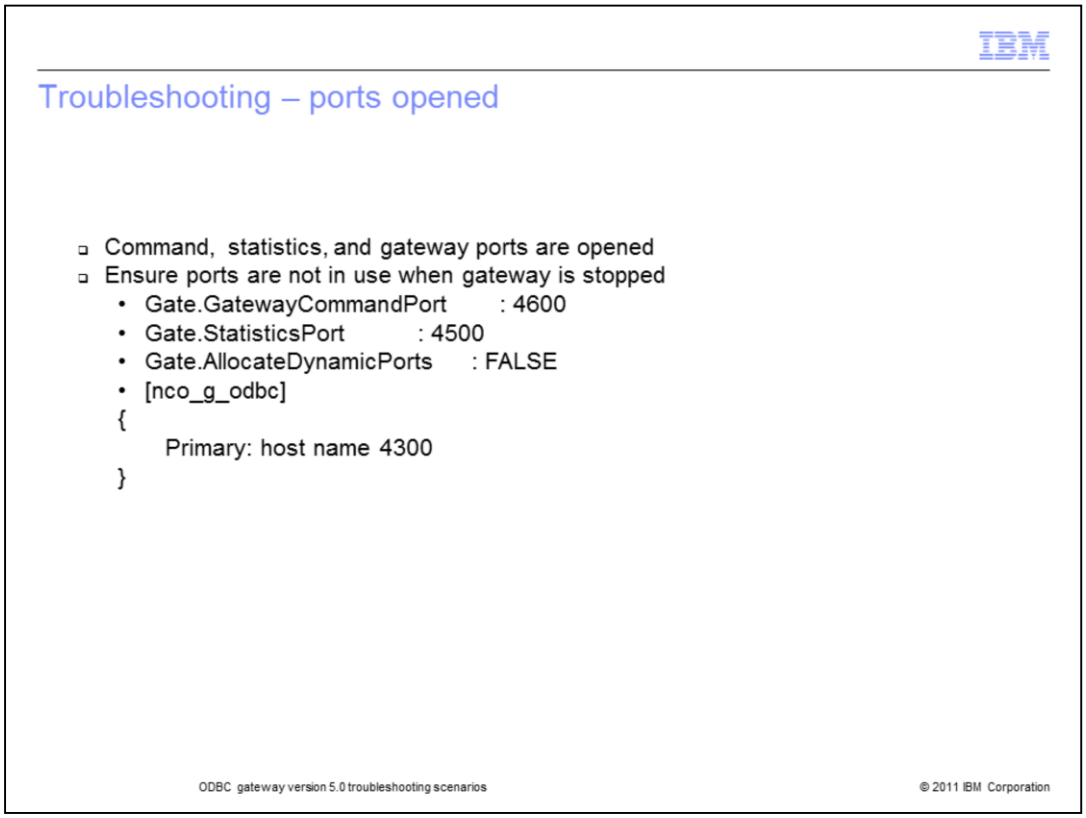



If the gateway debug log shows an error in recovering work regions. Check the work regions in the $OMNIHOME/var/nco_g_odbc directory. When this does not occur you must always check to ensure there is adequate disk storage and memory space available for the recovery.

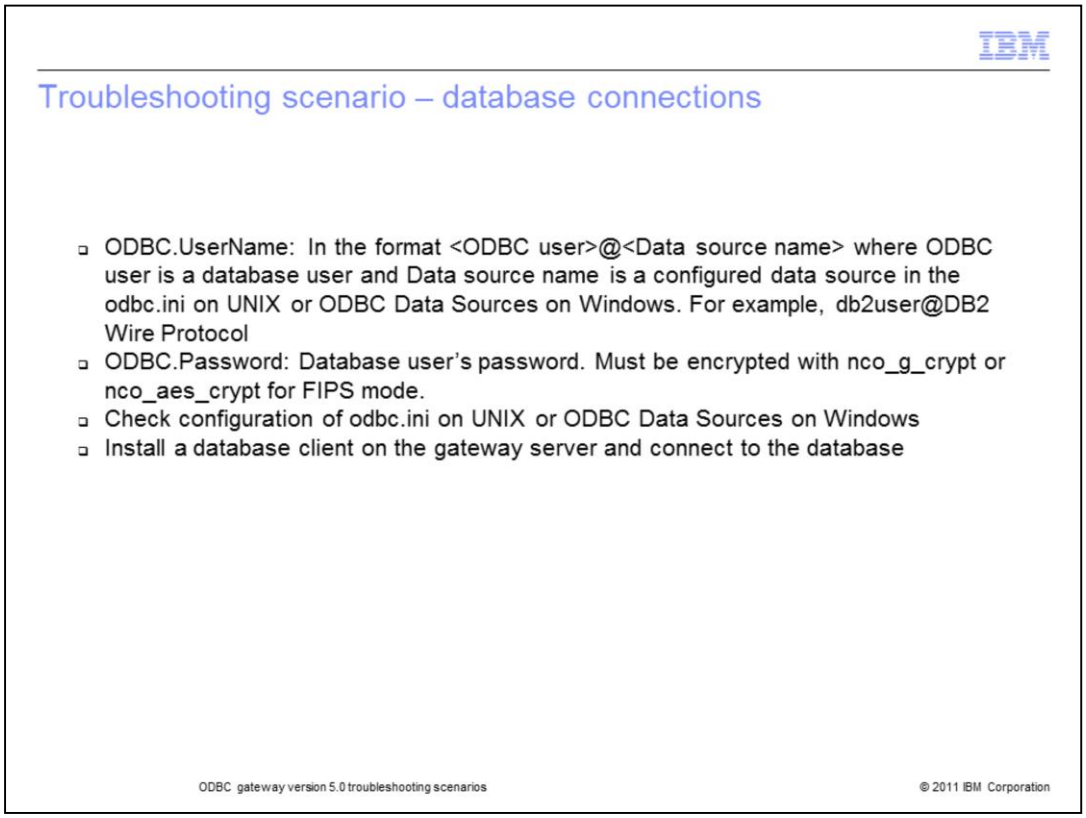
For adequate disk space, available space must be seven times the region hard limit.

For adequate memory, available memory must be seven times the region soft limit.

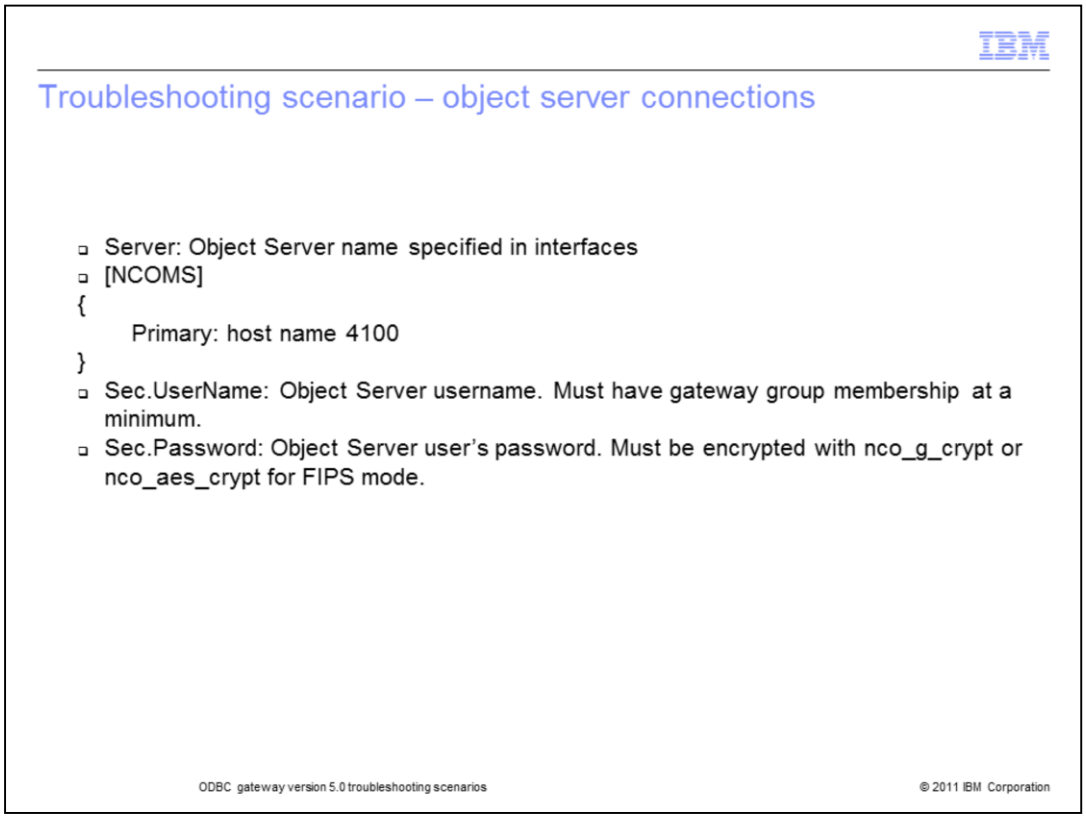
If the work regions are corrupted in any way then they can be removed. This calls for deleting all files within the $OMNIHOME/var/ directory. The ODBC gateway will resend all object server data after performing a ODBC gateway restart. When the work regions are removed, this will create database primary key violation errors initially as duplicate entries cannot be inserted until the gateway has retransferred all events in the Object Server.



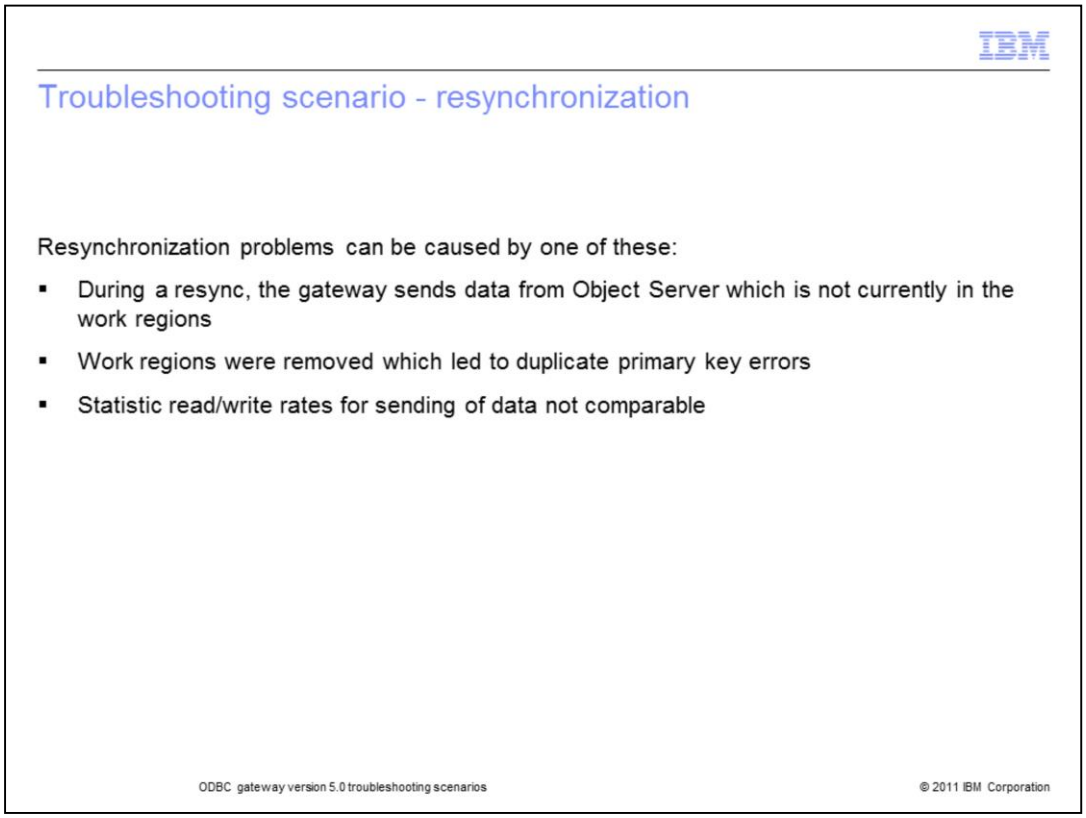

If the gateway log reports an error in opening ports, check the port usage. The gateway opens three items: command, statistics, and gateway port.Port 4600 is the gateway command default port and 4500 is the statistics default port. Port 4300 is the default NCO_GATE gateway port configured in the omni.dat file. These ports should be configured to be unique and, unused ports on the system.




When the gateway log reports an error in connecting to the target database, check the properties file settings for ODBC.UserName and ODBC.Password. The ODBC.UserName property specifies the username@data source name. The ODBC.Password must be encrypted and not in plain text. Check that the Data Source is defined in the odbc.ini file on UNIX and ODBC Data Sources on Windows systems. Test connectivity by installing a new database client on the gateway server and connecting that client to the database.



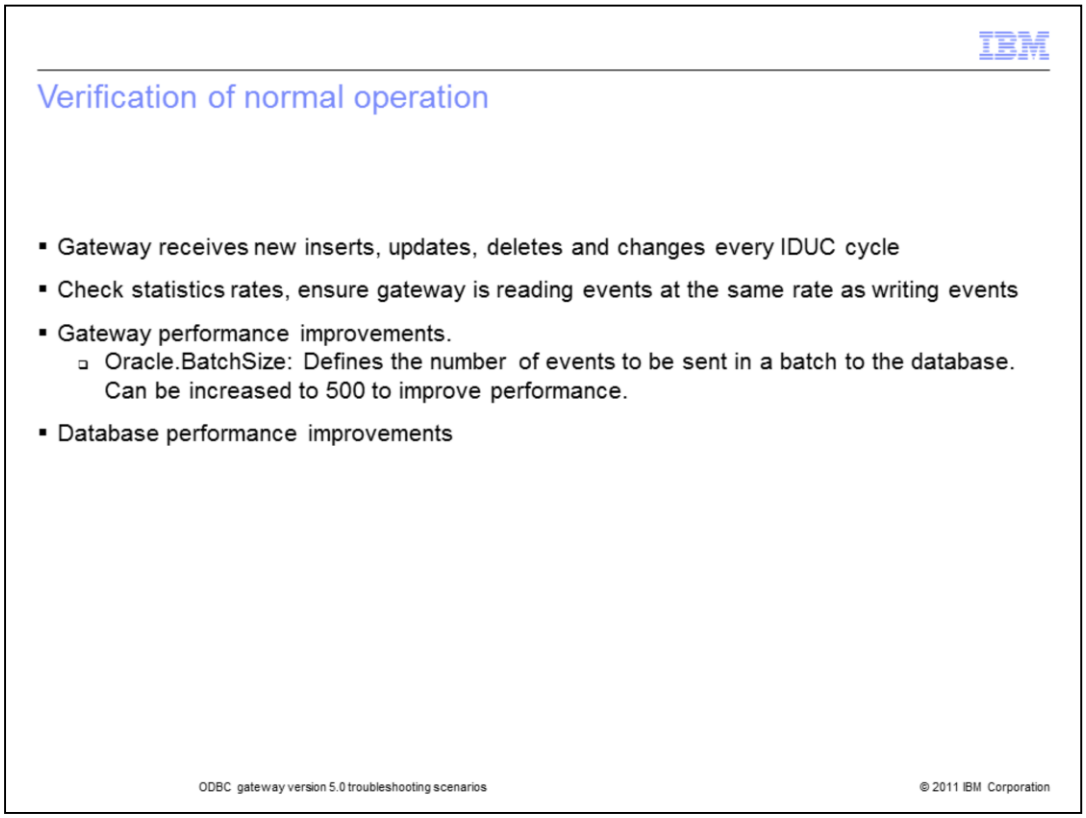

The server in the gateway properties file must also be defined in the local interfaces file. If not then the gateway log reports an object server connection error. The gateway user name properties must be set to a specific object server user. The password must be the encrypted user password and not a plain text password.



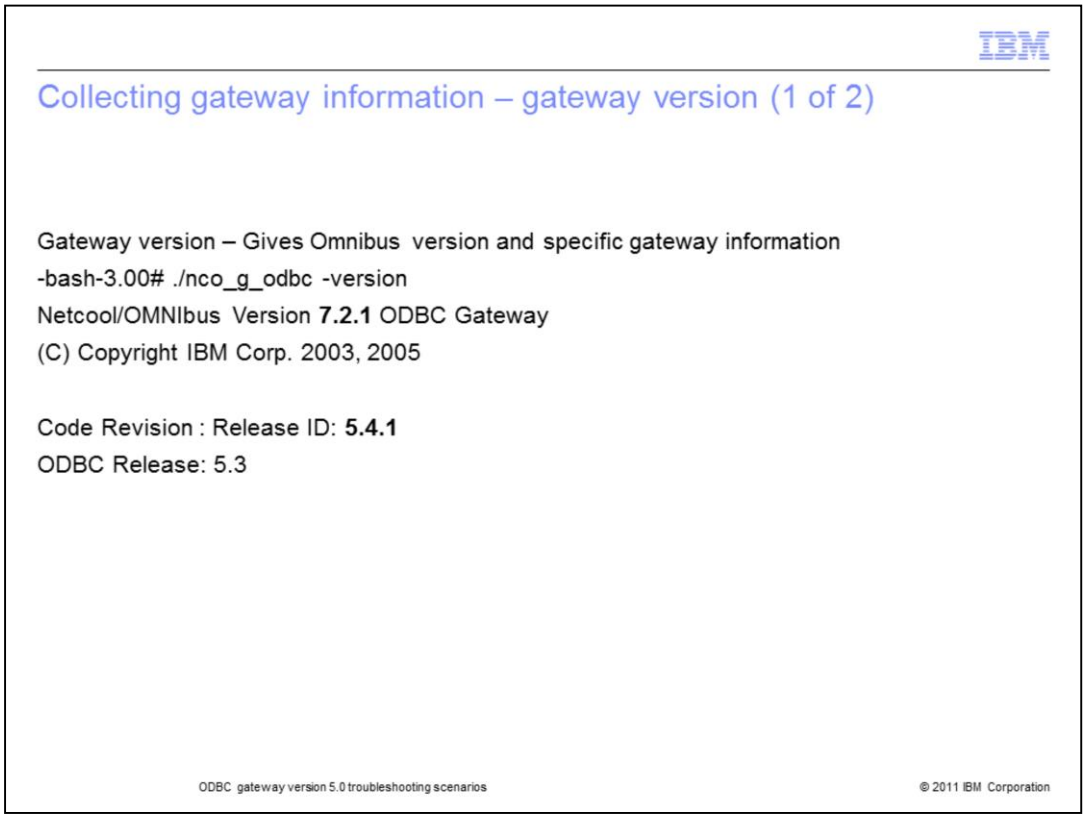

When resynchronization issues occur the problem can be caused by one of these:

During a resync, the gateway sends all data from the Object Server which is not currently in the work regions. This causes duplicate primary key errors. These errors are to be expected if the work regions were deleted.

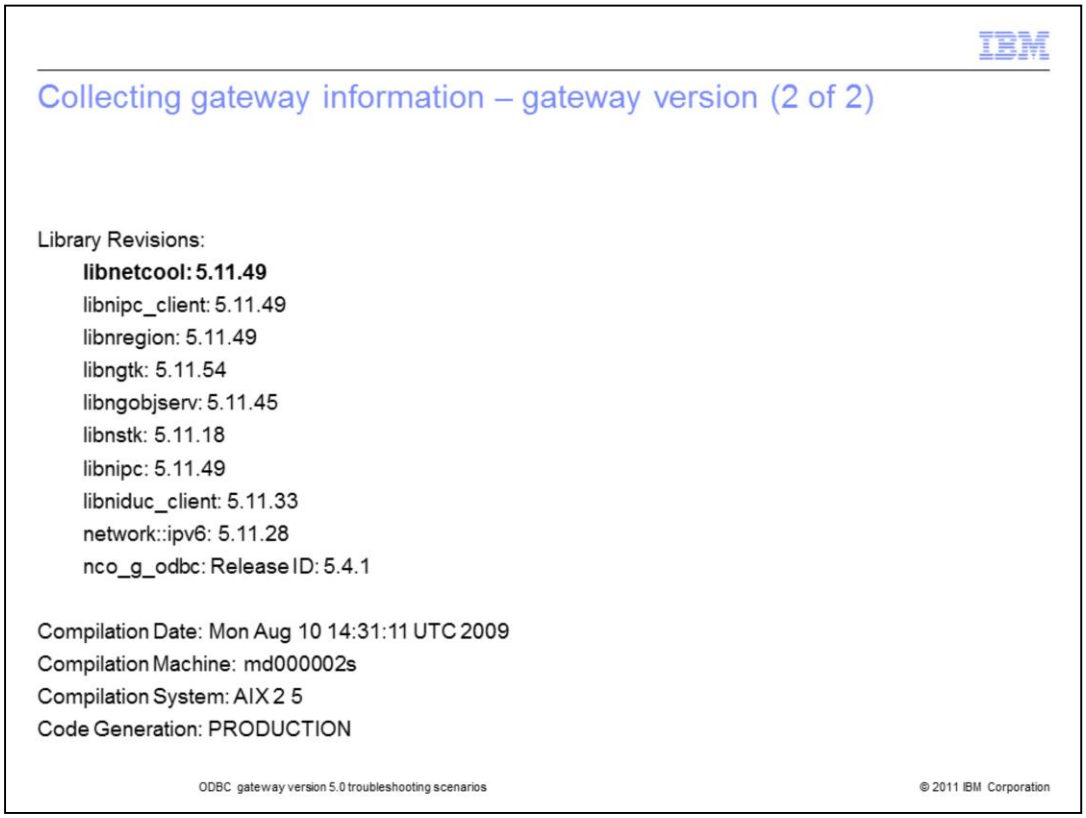
Statistic read and write rates for sending of data should be comparable. The Batch number should be close. If it is not then the gateway writer is not able to send data to the database at the same rate that the gateway reader is reading from the Object Server.



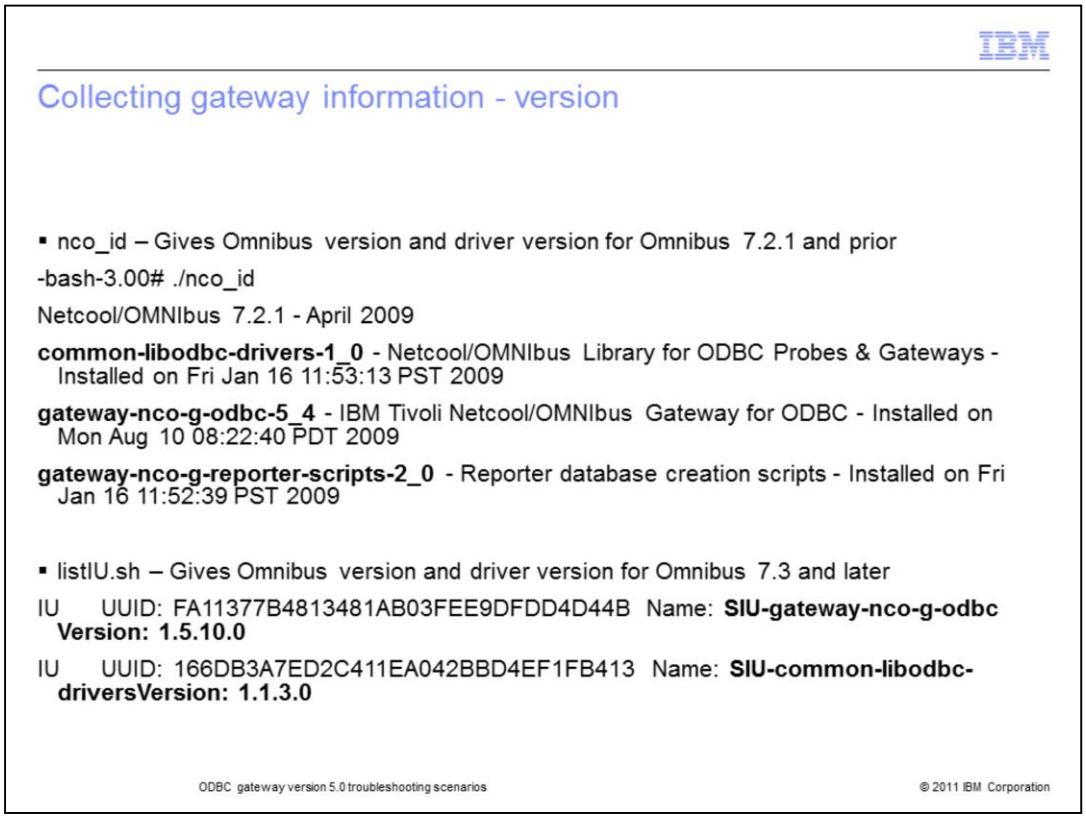

After the gateway has completed its startup sequence, it subscribes to receive new insert, update, delete, and change notifications from the Object Server. During normal operation, check the gateway statistics rates to ensure the gateway is reading events at the same rate that it is writing to the database. If the current writer batch is far below the reader batch it indicates a performance problem in the gateway. The Oracle.BatchSize setting can be increased up to 500 to improve the performance. If the writer performance is still poor then consult with your database administrator.




If the error encountered is not resolved, there is certain information that should be collected for IBM support. The nco_g_odbc –version command will output the current ODBC release version, code release ID, and OMNIibus version number.

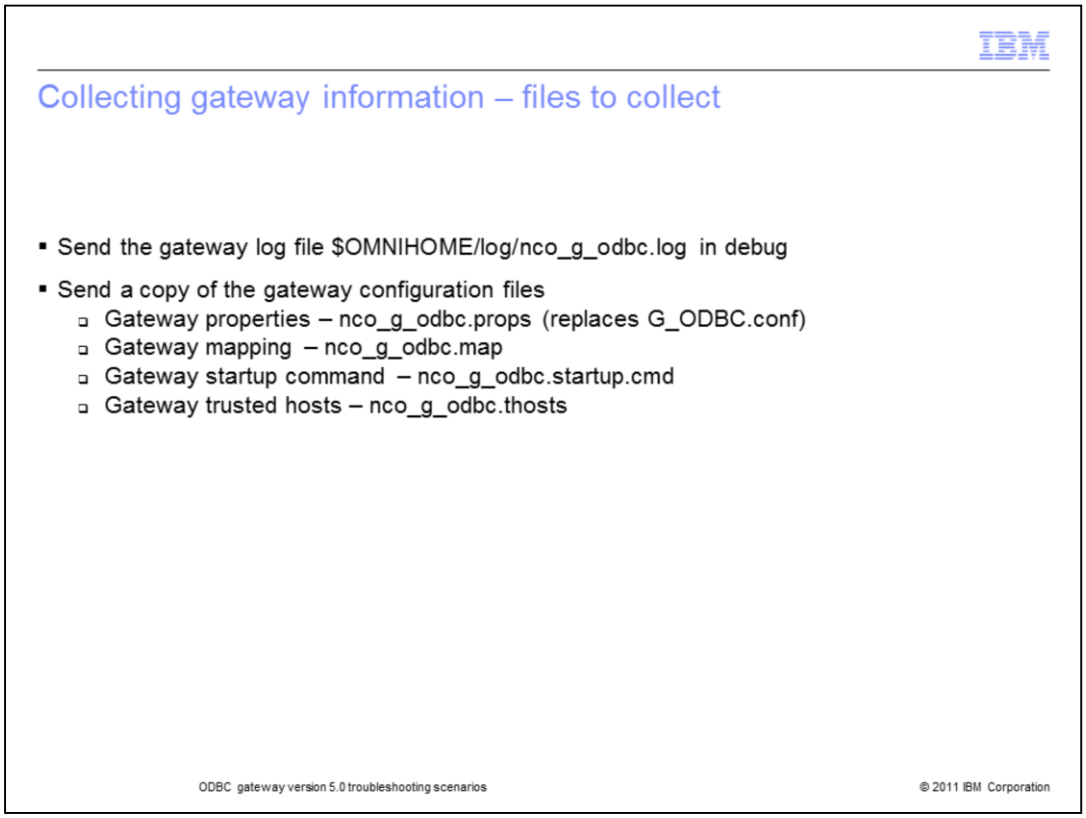



The library revision listing in the gateway version output is for IBM support usage. Library revision lists determine the Omnibus fix pack level.

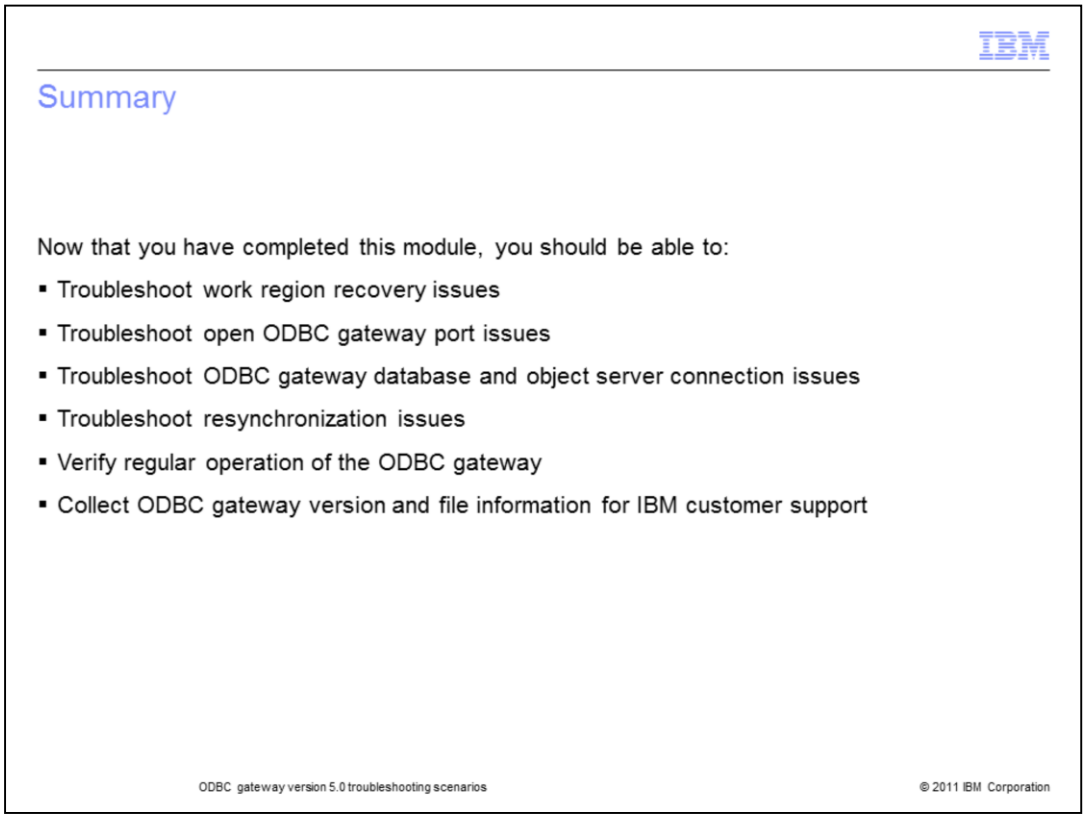



For OMNIbus 7.2.1 and prior, the nco_id command gives OMNIbus and libodbc driver version information.

For OMNIbus 7.3 and later, the listIU.sh command gives OMNIbus and libodbc driver version information.




When contacting IBM support send a copy of the gateway debug log file. Also send the four gateway configuration files – properties, mapping, startup command, and trusted hosts.




Now that you have completed this module, you should be able to troubleshoot issues involving:

- Work region recovery
- ODBC gateway ports
- Database and Object Server connections
- Object Server resynchronization
- The verification of regular gateway operation
- And the collection of version and file information for IBM support

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