Tuning Network Communication for Performance

For an OpenEdge database, there are five parameters that impact network communication performance. They are: Message Buffer Size, Prefetch Delay, Prefetch NumRecs, Prefetch Factor, and Prefetch Priority.

Message Buffer Size is used to specify the message buffer size in bytes. OpenEdge RDBMS uses message buffers to move records—bundled in messages—between servers and remote clients. It is recommended that you set Message Buffer Size to 8,192 bytes.

Prefetch Delay instructs the server to fill the network message with multiple records before sending it to the client instead of sending the message immediately after the first record is added to the message. It is recommended that you enable Prefetch Delay.

Prefetch NumRecs and Prefetch Factor provide two alternatives for specifying how full the message buffer needs to be before the message is sent. Prefetch NumRecs specifies the number of records. Prefetch Factor is an integer value that represents the percentage.

You should use one of these two parameters. A best practice for performance is to use Prefetch Factor and set it to 100. This ensures that the message buffer is 100% full before the message is sent, thereby minimizing network traffic.

In some environments, there may be reasons why you prefer to send small messages more frequently instead of large messages less frequently. In such a case, you should set Prefetch Factor to a lower value.

Prefetch Priority specifies the number of records to add to a query without polling. It instructs OpenEdge RDBMS to give priority to the query over processing requests from other remote connections. It is recommended that you start by setting Prefetch Priority to 100.

If you follow the recommended guidelines for setting these network communication parameters, your database will be tuned for optimal performance. Over time, the only parameter you may need to change to improve performance is Prefetch Priority.

If you find from monitoring your system CPU usage that there is a lot of polling going on, then you can increase the Prefetch Priority value.

Increasing the Prefetch Priority value instructs OpenEdge RDBMS to give priority to database queries over other requests.

Here’s how you change Prefetch Priority online.

You have now seen how you can configure and tune network communication parameters of an OpenEdge database for optimal performance.

To learn more about database performance tuning, take the course, *Progress OpenEdge Database Performance Tuning.*