

Appendix E: Client polling intervals

This appendix discusses the client polling interval in an Everserve community. It describes the tradeoffs in modifying the polling interval, and describes the configuration files used to modify this interval.

It is intended for use by Everserve administrators who are tuning the performance of Everserve on their networks.

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Overview

All communication in an Everserve community is initiated by clients. Typically, clients are peers in the roles of Targets and Relays. The server knows which clients are connected to it by listening for connections. Clients regularly “poll” or “ping” the server to see if there are any deliveries waiting for them. After a delivery has been processed, clients send a receipt back to the server.

Please note that the Everserve “ping” is not an ICMP ping. The Everserve ping is an application level ping, which is sent over the Everserve Transport Provider port, which is usually 1856.

The polling interval is configurable by modifying configuration files. The default client polling interval is 5 minutes. This means that each client will contact all of its senders every 5 minutes to tell it that it is alive and to check for deliveries.

By modifying configuration files, it is possible to change the client polling interval. If the polling interval is set too short, your server may become overwhelmed with polling requests. However, if the polling interval is too long deliveries may take an unacceptable amount of time to start.

All of these configuration changes are made on the server. When the client process starts up, it connects to the server to obtain a `ConnectionFactory`. This `ConnectionFactory` contains the information that the client will use for the remainder of the session, including the hostname or IP address of the preferred JMS server, the port number to use, and the ping interval.

To change any of these settings, first shut down the Everserve server, modify the appropriate settings, and then restart the Everserve server. You do *not* need to redeploy community seed files. However, clients will need to be restarted to see these changes, since the `ConnectionFactory` is sent to clients on the initial connection for a session.

Through our testing, we have found that the 3 minute interval is a good balance of prompt deliveries with the need to preserve network bandwidth and avoid saturating servers.

PING handshake description

As stated earlier, all communication originates with the client. In order for the server to know if the client has disconnected, the server needs to know how often it should expect to hear from the client. For the client to know if the server is unavailable, it needs to know how long it should take to hear back from the server.

There are two configuration settings which control these settings

1. `TransportConfigurationProperty.connection.check.interval` tells the server how often it should expect to get PING requests from the client. This setting can be found in the `everserve.properties` file, which is located on Windows in the `Program Files\Synchron Networks\Everserve\Server\config` directory. The default value for this setting is 300 seconds. Note that the `XSLT.BAT` file is used to apply any changes in the `everserve.properties` file to the `everserve.xml` file.
2. `PING_TIMEOUT_INTERVAL` is used for two purposes: to tell the client how often it should send a PING request to the server, and how long to wait for the response to this PING request. The client sends a PING at *half* of the duration set in the `PING_TIMEOUT_INTERVAL`. It then waits the `PING_TIMEOUT_INTERVAL` number of msec for the response from the server. This setting can be found in the `server.cfg` file, which can be found on Windows installations in the `Program Files\Synchron Networks\everserve\FioranoMQ5\bin` directory. The default value for this setting is 180000 msec.

The PING process can be described from the client's point of view and the server's point of view. This description uses the settings' default properties:

From the client's point of view:

Time 0	Everserve client process starts at boot or at application start time. Client pings the server, and starts a timer
180 seconds (3 minutes)	The default PING_TIMEOUT_INTERVAL is 180,000 msec, which is 180 seconds, or 3 minutes. If the client has not received a reply to its ping request by that time, it knows that the server is not responding.
90 seconds after receiving the server ping reply	Client pings the server again. The client pings the server after waiting approximately one-half of the PING_TIMEOUT_INTERVAL msec after receiving the server's reply to the client's last ping. Since the default PING_TIMEOUT_INTERVAL is 180,000 msec, the client will ping the server again approximately 90 seconds after receiving the server's reply.

When the client receives the server's PING reply, it restarts its timer. After one-half of the PING_TIMEOUT_INTERVAL, it will again poll the server to check for messages and to inform the server that it is still alive and connected.

From the server's point of view:

Time 0	The Everserve server receives a ping request from the client and answers it. The server starts a watchdog timer.
After 300 secs:	If the server does not get another ping request from the client by this time, assume the client is dead. The default value for <code>EverserveConfiguration.TransportConfiguration.TransportConfigurationProperty.connection.check.interval</code> is 300 seconds. Note that this value is in seconds.

Example: To change the client pinging interval to hourly

1. Shutdown the Everserve Publisher or Relay
2. Modify this value in the file `server.cfg` found in the directory
`\program files\synchron networks\everserve\fioranomq5\bin`
Set the value `PING_TIMEOUT_INTERVAL` to 7200000

The client pings after half of this number of msec has been reached. One hour = 3600 seconds, or 3600000 msec. Set the PING_TIMEOUT_INTERVAL to twice that number.

3. Modify this value in the file `everserve.properties` found in the directory
`\program files\synchron networks\everserve\server\config`

Set the value

```
EverserveConfiguration.TransportConfiguration.  
TransportConfigurationProperty.connection.check.interval  
to 5400.
```

*The server expects to get the next ping this many seconds after the last ping reply was sent. Set this value to 1.5 * the number of seconds in the client timeout interval. The client timeout is set to 3600 seconds, so set this to 1.5 * 3600, or 5400.*

4. Run the file `xslt.bat` after editing the `Everserve.properties` file. `Xslt.bat` can be found in `\program files\synchron networks\everserve\server\config`.
5. Restart the Everserve service.
6. If any clients are running, they will see this configuration change when they are restarted.