Troubleshoot Gateway.PDC login failures

Last updated by | Charlene Wang | Apr 26, 2021 at 12:01 AM PDT

Contents

This TSG describes some common error we've seen on Gateway over time. If error you don't see you error here please contact networking/connectivity on call.

Error Code and State

Error	State	Explanation
40607	*	We don’t allow windows logins. They are blocked on gateway.
40532	3	Server does not exists. On gateway it should only come with state 3, which is customer trying to connect to instance which does not have public IP turned on.
17828	*	**Bad pre login packet.** • Check gateway CPU usage If you see spikes than it might be GW issue. Failover GW replica on problematic node and see if condition improves. • This could be either customer library issue or networking (packet to reaching gateway). If this is CRI communicate with customer and suggest they try different client library.
17830	*	**Network IO error while reading packet.** • Check gateway CPU usage If you see spikes than it might be GW issue. Failover GW replica on problematic node and see if condition improves. • This could be either customer library issue or networking (packet to reaching gateway). If this is CRI communicate with customer and suggest they try different client library. • If it is state 105, that indicates that the certificate validation on client side is failing.
17832	*	**Bad login packet** • Check gateway CPU usage If you see spikes than it might be GW issue. Failover GW replica on problematic node and see if condition improves. • This could be either customer library issue or networking (packet to reaching gateway). If this is CRI communicate with customer and suggest they try different client library.
17836	*	**Bad TDS header** • Check gateway CPU usage If you see spikes than it might be GW issue. Failover GW replica on problematic node and see if condition improves. • This could be either customer library issue or networking (packet to reaching gateway). If this is CRI communicate with customer and suggest they try different client library.
17835	*	Customer is using client which does not support encryption or skipped pre login (that's where SSL handshake takes place

Error	State	Explanation
17835	22	Login proxy connection throttle. This could be either task waiting long to be proxied or instance issue. • Check instance health. If unhealthy than this is instance issue. • Using query from **section: Check if logins is taking more than 25000 ms** if total_time_ms is > 25000 than this login spent too much time in dispatching queue (waiting to be proxied). Check gateway CPU usage and involve PG to mitigate issue • Also lately we had issues with faulty node IP addresses. Check with PG for details.
40613	24	Number of logins which are waiting to be proxied exceeded limit. Check gateway CPU usage and involve PG for mitigation.
40613	19	Wrong port specified. (we didn't hit this before)
40613	17	Dos (Denial of service) guard refused connection.
40613	*	Check TSG Error 40613: Database x on server y is not currently available
0	0	See TSGCL0237: Login fails with Gateway.PDC error/state = 0/0
If none above		• Check if there is any telemetry for Gateway application: **section: Gateway.PDC telemetry** • If there is telemetry, then check SQL DB TSGs and see if you can find anything there

All error codes here: http://sqlsrc/ds_main/xref/Sql/Ntdbms/include/sqlerrorcodes.h

If you don't see state for your failed login here try to debug code:
http://sqlsrc/ds_main/xref/Sql/Ntdbms/xdb/inc/xdbserver.h#190

Run this query to get failed logins. Every row will have: Total - Total number of logins to instance
Set_peer_address - all IP addresses which connect to instance

```
MonLogin
| where ClusterName == 'tr6.northeurope1-b.worker.sqltest-eg1.mscds.com'
| where event == 'process_login_finish'
| where peer_address !startswith "168"
| where remote_host !startswith "168"
| where AppTypeName == 'Gateway.PDC'
| where TIMESTAMP > StartTime
| where logical_server_name != ''
| project MachineName , peer_address , tds_version , total_time_ms, error, state, connection_id, driver_versio
| summarize total = count(), makeset(application_name), makeset(peer_address), makeset(driver_version) by erro
```

Check if Gateway.PDC under CPU pressure

Below is the query to identify if the gateway on affected PDC is under CPU pressure. If usage is hitting the threshold, the customer will be experiencing connectivity issues and degraded performance:

```
MonRgLoad
| where ClusterName startswith "{Cluster}"
| where TIMESTAMP > (datetime("{StartTime}") - time(1h)) and TIMESTAMP < (datetime("{EndTime}") + time(1h))
| where application_name == "fabric:/Gateway.PDC" and event == "instance_load"
| where code_package_name == "Gateway.Code"
| project TIMESTAMP, NodeName, cpu_load, cpu_load_cap
| render timechart
```

(Note that Gateway.PDC will have different placement depending on whether it is a GM+ (small VM) ring or not, but the query should provide the answer all the same)

Check if logins is taking more than 25000 ms

We have time limit for login to be proxied from Gateway. If some login exceeds this time we dismiss this login and report error. This can be checked with this query:

```
MonLogin
| where TIMESTAMP > ago(2d)
| where AppTypeName == 'Gateway.PDC'
| where ClusterName == "tr2173.westeurope1-a.worker.database.windows.net"
| where event == 'process_login_finish'
| where peer_address !startswith "168"
| where is_success == '0'
| where is_user_error == '0'
| where state == '22'
| where total_time_ms >= 25000
```

Gateway.PDC telemetry

Summary: If you got an incident saying that customer experienced unavailability during some period of time, first step is to check MonLogin table. If there are 0 rows returned in your query, don't assume right away that everything was ok, since there might be telemetry outage for Gateway.PDC.

Steps:

1. Check if there is any telemetry using query [1] in MonLogin
2. If there is no telemetry returned from [1] then execute query [2] and see if there is anything there
3. If there is no telemetry in [1] or [2] then we have issue with MA not uploading telemetry and you will need to engage telemetry team
4. To get your logs, you will need to JIT to nodes where GW replicas are and download xel files manually

[1]

```
MonLogin
| where originalEventTimestamp between({startTime} .. {endTime})
| where ClusterName == {ClusterName}
| where AppTypeName == 'Gateway.PDC'
| summarize count(), min(originalEventTimestamp), max(originalEventTimestamp) by event
```

[2]

```
MonRedirector
| where originalEventTimestamp between({startTime} .. {endTime})
| where ClusterName == {ClusterName}
| where AppTypeName == 'Gateway.PDC'
| summarize count(), min(originalEventTimestamp), max(originalEventTimestamp) by event
```

How good have you found this content?