

40613 states - based on impact source

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Availability Errors based on impact source

The following tables shows major 40613 error codes and associated states along with description of the frequently occurring states.

40613 SQL Engine States

State	Reason	Suggested queue/owner	Next steps
10	A password validation error occurred	Performance	This can occur when gateway sends connections to nodes that no longer host a sql instance for the user database. Check to see if this user database has failed over to another node, or has dumps (which will failover the instance).
13	SQL Server is paused	Availability	Investigate the cause of the SQL Server being paused for long time. Check Database Replicas view for replica health. Also check for sql error logs in the primary. MonSQLSystemHealth where AppName == "{appname}" and event == "errorlog_written" project NodeName, message sort by message
83	Opening Logical Master DB failed	Gateway	See login_substep_failure ¹ for more details on what failed.
84	Connection to Logical Master failed	Gateway	<ol style="list-style-type: none"> 1. Check for a mismatch of the Sql.SecretName property against the CurrentSecretName property in Service Fabric Explorer Failure during Initialize Secrets/LoginErrorsFound_40613_84 2. Check for XOdbc errors: How to Query XOdbc connection open events (state 84) 3. Check if xdbhost is running on the node. <p>Mitigation: Attempt to kill xdbhost on the node. If that fails, kill logical master instance. If that fails and you see connection issues with the logical master, bounce the logical master node.</p>
85	Executing remote login command failed	Gateway	Check for XOdbc errors: How to Query XOdbc execution events (state 85) .
112	DosGuard hit an unknown error	Gateway	
114	Retrieving the firewall rules failed	Gateway	
115	Calling AuthenticateLogin failed	Gateway	We have recently seen several cases of this due to a stuck updateSLO on the logical master database. This is causing master to be unavailable and results in an error with this state (115). Please check if the master DB is in the middle of an updateSLO and if so attempt to address that following the corresponding GEODR0004: Stuck update SLO TSG or escalate to the Provisioning team if the TSGs prove to be not helpful. Ask help from Provisioning instead from GeoDR team because master update slo always go through detach/attach code path rather than copy/geodr.

			If it's not related to an updateSLO, see login_substep_failure ¹ for more details
125	Opening the UserDB failed	Availability	See login_substep_failure ¹ for more details. Usually occurs due to a failover
127	Database is not attached to this node (it is not primary)	Availability	<p>This can happen if</p> <ol style="list-style-type: none"> 1. The database is unavailable. Check XTS Database Replicas. Follow HA TSGs 2. The database is *available* but the Gateways are not sending the connection to the right node where the primary is hosted. <p>This query will yield one row per target of logins. After the failover has stabilized (typically 8-15 seconds), all Gateways should be pointing logins to same direction, therefore 1 row is expected (*fix database/server name & timeframe)</p> <p>Run: [Kusto.Explorer] [Kusto.Explorer on SAW] [Kusto.WebExplorer] [Lens] https://sqlazureus12.kusto.windows.net:443/sqlazure1</p> <pre>MonLogin where logical_server_name =~ "bqm-east-us-v12-prd" and database_name =~ "bqm2015r2pocgoldmansachs" where originalEventTimestamp between (ago(1h) .. now()) where event == "process_login_finish" and package == "xdbgateway" and is_success == true summarize makeset(NodeName), count() by fabric_node_name</pre> <p>If you see some Gateways constantly sending logins to the wrong place, kill sqlserver to trigger a new reconfiguration which should update Gateway caches.</p>
128	Retrieving the database firewall rules failed	Availability	See login_substep_failure ¹ (message column) for more details. Usually occurs due to a failover.
129	da	Availability	<p>Database is unusable. SQL Server instance is unavailable right now. Contact ha team for info (Failover SQL Server to fix issue)</p> <ul style="list-style-type: none"> • Before killing sql server if any of these conditions is not met it would be better to call an expert. <ul style="list-style-type: none"> ○ In case it's a primary database: make sure there's a healthy secondary available. ○ In case it's standard database: make sure the log

			isn't full before doing it, otherwise recovery will take a lot of time.
134	LoginSessDb_DbRecovering	Availability	
136	UseDbFailedInRetrieveDatabaseFirewallRules	Availability	See login_substep_failure ¹ for more details
143	Deactivating	Performance	
162	x_elfReplicatedMasterNotReady	Availability	<p>When user don't specify the DB name, the logins will be targeted to the master DB. This state indicates logins are failing for master.</p> <ul style="list-style-type: none"> Check backend master db health status firstly, if master db is not available, contact availability team to perform the mitigation steps.

40613 XODBC States

(Ring: Tenant / MDS : MonLogin / NodeRole: DB / Package: sqlserver / Session Name: sqlservr_login_mds / Event: process_login_finish)

State	Reason	Suggested queue/expert	Notes
1	Creating connection handle failed	Gateway	
2	Setting certificate callback failed	Gateway	
3	Establishing the connection failed	Gateway	<ul style="list-style-type: none"> Need to find relevant trace in other logs to see why connection failed. Need to check errorlog in SQL Instance hosting the user database to find the actual error code the XODBC command got as a result. Use table: MonSQLSystemHealth filtering by MachineName/AppName hosting the DB from the XODBC table to get it. <ul style="list-style-type: none"> Look for errors like the following to obtain a connection_id to continue the investigation: 2014-03-20 13:32:50.92 Logon Error: 40613, Severity: 17, State: 84. 2014-03-20 13:32:50.92 Logon Database 'master' on server 'pushsrv01' is not currently available. Please retry the connection later. If the problem persists, contact customer support, and provide them the session tracing ID of '7AC578AC-76A0-4E85-AD72-EA0264A2916F'. Use the obtained connection_id to look for more traces in both TR and CR MonLogin tables (Troubleshooting login issues (using MDS)). Revisit the tables in this TSG once you have identified where the XODBC connection failed.
4	one		
209	Allocating statement handle failed	Gateway	
210	Prepare statement failed	Gateway	
211-223 225-226	Binding a specific parameter failed	Gateway	

224	Executing the statement failed	Gateway	<p>If Error_code == 21:</p> <ul style="list-style-type: none"> Need to check errorlog in SQL Instance hosting the user database to find the actual error code the XODBC command got as a result. Use table: MonSQLSystemHealth filtering by MachineName/AppName hosting the DB from the XODBC table to get it. <ul style="list-style-type: none"> Look for errorlog messages of the type to continue investigation: 2014-03-20 13:33:00.06 spid68 Unexpected Xodbc error 21, ODBC state HY000, SQL state 219 occured. ODBC Message: [Microsoft][ODBC Driver 11 for SQL Server][SQL Server]Warning: Fatal error occurred at Mar 20 2014 1:33PM. Note the error and time, and contact your system administrator. <p>• 66</p>
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40613 Host Instance States (aka. XdbHost or Socket Duplicator)

State	Reason	Suggested queue/expert	Notes
6	Instance name from client is empty	Gateway	
7	Failed to retrieve local TCP port number	Gateway	
8	Local TCP port number is not a known type	Gateway	Instance host listens to both TDS (end-user TSQL) and UCS (DB replication) ports, this is connected to.
9	Failed to copy server name	Gateway	
10	Could not find SQL instance requested by client	Gateway	This implies that the client is connecting to an xdbhost that doesn't contain the sqlserver. LoginErrorsFound_40613_10 .
12	Failed to prepare login data and socket that will be sent to SQL instance	Gateway	<p>Usually in these cases, we see that MonLogin has failures in both gateway and xdbhost:</p> <pre> MonLogin where logical_server_name == "fet-aem-prod-db01" and database_name == "fet-aem-prod-db01" where event == "process_login_finish" where is_success == 0 where originalEventTimestamp > datetime(2018-08-01 12:52:09.4960000) and originalEventTimestamp < datetime(2018-08-01 12:54:09.4960000) MonLogin where ClusterName == "tr28.canadacentral1-a.worker.database.windows" where event == "socket_dup_substep_failure" where originalEventTimestamp > datetime(2018-08-01 7:52:09.4960000) and originalEventTimestamp < datetime(2018-08-01 12:54:09.4960000) </pre> <p>The failures at XDBHost will have 40613,12 with internal error of 4317, state : 2. However XDBHost times out the connection.</p> <p>The failures at Gateway have a breakdown of where time is spent and we see that, more than 50% of the time is spent in sni_conn_ProcessLogin_Start. This means we are waiting for the client to reach the Gateway, this does not arrive in 5 seconds, the connection is forcibly killed by the service.</p> <p>"preS":"0","preE":"0","SslS":"0","AcptSec":"1","SslE":"0","SslS":"0","AcptSec":"1"</p> <p><i>If failures are only seen in XDBHost, then please look at the Gateway login telemetry to see if most of the time is spent in the Gateway as a result of which XDBHost times out the connection</i></p>

13	Failed to send login data and socket to SQL instance	Gateway	<p>Check if duplication is failing. In the example, "e628ed71e289" is the app name of the task.</p> <pre> MonXdbhost where event == "trace_event" and NodeName contains "92" and Cluster where originalEventTimestamp >= datetime(2017-01-10 11:11:51.3429522) <=datetime(2017-01-10 11:20:55.0574420) where text contains "e628ed71e289" project originalEventTimestamp, text </pre> <p>Case 1: MonXdbhost shows this error: ***[ERROR]Current socket Duplicate task stuck: {e628ed71e289}</p> <p>Check if the sql instance is healthy using MonSQLSystemHealth. If not, restart the sql process.</p> <p>Case 2: MonXdbhost shows this error: ProcessSocketDupAsync ProgressStep::INIT error:1460, {e628ed71e289} task failed</p> <p>This usually indicates a performance issue on the sql side, which makes it unable to process the request due to high resource usage in SQL using Performance TSGs.</p> <p>You can use this query to check if cpu load or memory load for this instance is high by checking the MonRgLoad.</p> <pre> let clusterFilter = "tr11.eastus2-a.worker.database.windows.net"; let nodeFilter = "DB.194"; let appName = "af1e6fd0a2e4"; let startTime = datetime(10/17/2018 6:53:54 AM); let endTime = datetime(10/17/2018 7:53:54 AM); let MB_In_GB = 1024.0; MonRgLoad where ClusterName == clusterFilter and NodeName contains nodeFilter where code_package_name == "Code" where application_name contains appName where TIMESTAMP > startTime and TIMESTAMP < endTime where ClusterName == clusterFilter where event == "instance_load" extend cpusGroup0 = tostring(parsejson(allocated_cpus).Group0) extend cpusGroup1 = tostring(parsejson(allocated_cpus).Group1) extend memory_load_gb = memory_load / MB_In_GB, memory_load_cap_gb = project TIMESTAMP, application_name, NodeName, code_package_name, cpu cpu_current_cap, kernel_load, memory_load_gb, memory_load_cap_gb order by TIMESTAMP desc render timechart </pre> <p>Check wait stats (most likely not a perf issue if ASYNC_NETWORK_IO wait times are high).</p> <pre> let clusterFilter = "tr11.eastus2-a.worker.database.windows.net"; let nodeFilter = "DB.194"; let appName = "af1e6fd0a2e4"; let startTime = datetime(10/17/2018 6:53:54 AM); let endTime = datetime(10/17/2018 7:53:54 AM); MonDmCloudDatabaseWaitStats where ClusterName == clusterFilter and NodeName contains nodeFilter where AppName contains appName where TIMESTAMP > startTime and TIMESTAMP < endTime extend waiting_tasks = delta_waiting_tasks_count extend signal_time_ms_per_wait = delta_signal_wait_time_ms / waiting_tasks extend wait_time_ms_per_wait = delta_wait_time_ms / waiting_tasks where wait_type == "MEMORY_ALLOCATION_EXT" project TIMESTAMP, wait_type, wait_time_ms_per_wait, waiting_tasks, signal_time_ms_per_wait, max_wait_time_ms </pre>
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14	SQL instance responded with a failure after receiving the login data and socket	Gateway	<p>Check if duplication is failing</p> <pre>MonXdbhost where event == "trace_event" where originalEventTimestamp >= datetime(2017-01-10 11:11:51.3429522) <=datetime(2017-01-10 11:20:55.0574420) where text contains "{AppName}" and text contains "****"</pre> <p>***[ERROR]Current socket Duplicate task stuck: {e628ed71e289}</p> <p>Also, happens when there more than 2 DAC connections. >> What is the m has to close 1 connection</p> <pre>MonSQLSystemHealth where TIMESTAMP > ago(12h) where AppName =~ "{AppName}" where LogicalServerName == "{LogicalServerName}" where message contains "error" and message contains "maximum number" project originalEventTimestamp , ClusterName , NodeName , message</pre> <p>2017-03-15 10:32:59.40 Logon Error: 17810, Severity: 20, State: 1.</p> <pre>MonSQLSystemHealth where NodeName == "DB.101" and event == "errorlog_written" and Cluster where TIMESTAMP > ago(12h) where LogicalServerName == "innibldwedatamodelertemporarydb" where message contains "error" and message contains "maximum number" project originalEventTimestamp , ClusterName , NodeName , message</pre> <p>2017-03-15 10:32:59.40 Logon Error: 17810, Severity: 20, State: 1.</p> <p>2017-03-15 10:32:59.40 Logon Could not connect because the maximum number of exists. Before a new connection can be made, the existing dedicated administrator conn or ending the process. [CLIENT: 40.68.37.158]</p>
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Redirector (aka. XdbGateway)

Ring: Control/ MDS Table: MonLogin/ NodeRole: GW/Package: xdbgateway/SessionName:
xdbgateway_logins/Event: process_login_finishp>

State	Reason	Suggested queue/expert	Notes
2	Failed to retrieve local TCP port number	Gateway	
3	Local TCP port number is not a known type	Gateway	Gateway listens to both TDS (end-user TSQL) and UCS (DB replication) ports, this lookup the client connected to.
4	WinFab lookup failed	See table in Notes	See lookup_error_code and lookup_state in the process_login_finish event correspond to connection_id to see where the failure occurred. You can use http://erhow:rors/ to translate the winfab error code in the lookup_error_

Lookup error code	Lookup state	Suggested queue	Next step
E_FABRIC_TIMEOUT	SERVICE_ENDPOINT	Service Fabric (and Gateway)	The naming se likely unrespo in IsWinfabNami
E_PATH_NOT_FOUND	SERVICE_ENDPOINT	Availability	<p>This error indic stopped adver PRIMARY is to Check state of backend using Replicas.xts] v</p> <p>Look for additi Detection alert of this issue ar</p> <p>Contact HA Tea additional alert</p>
2147943860 or 2147500037	DATABASE_ALIAS	Gateway	Use SQLAliasCa see if any of th is unhealthy (e If yes, failover instance. The e the connection timing out.
E_FABRIC_SERVICE_DOES_NOT_EXIST >>What about FABRIC_E_SERVICE_OFFLINE?	SERVICE_ENDPOINT	Availability	<p>1) This indicate node is unheal cache is out of</p> <p>2) If all Gatewa error, the prob backend.</p> <p>Mitigation instance of log</p> <p>3) If only one c nodes throw tl are directing lo problem is like notification on</p> <p>Mitigation killing sqlserve failover, if that the problemat</p>
2147943860	ACTIVATE_DATABASE	Performance	<p>This indicates t was idle and d not complete a timely manner arrived.</p> <p>These errors sl transient, and client-side retr</p>

				Contact Perform not self-heal.
5	Proxy failed to parse the Login ACK sent from the Backend	Gateway	See login_substep_failure ¹ for more details	
16	Proxy failed to open connection to the backend	Gateway	<p>This is typically a TCP error since the failure is at the SNIOpen call.</p> <p>Most likely possibility is the XDBHost thread starvation issue. Mitigation is to kill xdbhost node.</p> <p>Kill xdbhost: Get-FabricNode -NodeName DB.50 -NodeClusterName tr9.eastasia1-a.worker.databases -Process -ProcessName xdbhostmain.exe -ApplicationNameUri fabric:/Worker</p> <p>When the database is an OSS database (MySQL / PostGres), the client is connecting to (SQL gateway listens on 1433) instead of OSS gateway. Client needs to change their ap to the right port. Killing the OSS Gateway process might help as well.</p>	
19	Server doesn't exist	Gateway	This is user error. There seem be an issue here as it is marked as 40613. Contact GW to	
22	Client is being throttled due to slow connections to backend	Gateway	<p>This is similar to 16. State 22 is caused during tcp::open to xdbhost on the DB node (even duplication comes into play). Thus, delay here is most likely due to networking or xdbhost not sql server.</p> <p>Possible Causes:</p> <ol style="list-style-type: none"> 1) Check if RGManager is running on the DB node using Service Fabric Explorer. If it is not running, contact performance team and block list the node 2) Slow XDBHost / Stuck XDBHost. If in event process_login_finish, total_time_ms is too high or lookup_state == 10060 in this case, xdbhost process has hung --> Mitigate by restarting node hosting the primary replica. If the restart command fails, see 5). Sometimes, I've noticed nodes being disabled by winfab, leading to xdbhost being shutdown. If node itself is stuck in "Disabling" state (can be seen in Node View in Service Fabric Explorer for this is to log into a Jumpbox, right click problematic machine -> start/stop -> restart. If you notice problem isolated in a few of the GW nodes, look at event report_login_proxyconn_throttling to spot if GW nodes are slow. Restarting GW machine might fix it. 3) Login spikes causing rare login to fail (lookup_state 1460 --> login was disconnected from the queue for too long). Typically no backend problems, just login spike causing this issue. Should move to redirect, add retry logic to shield against this. Meanwhile we should increase config from 15s to 30s as discussed + investigate how to scale quicker in longer term. 4) Network outage --> No known mitigation. Check if there are any active high severity network issues in CRGW00016 - Troubleshooting Networking Issues. Check this for more details. - Proxy-Login Throttle 	

5. Frozen VM. The symptom is that the node hosting the database is not emit
verify this, check Kusto views for the affected node, e.g. MonCounterFiveM
MonRgManager or MonXdbhost. These views should always contain data,
entries after a certain point in time, it's likely a frozen VM. For mitigation, s
6. Look at lookup_state column. If it is 10060 (TCP Timeout), follow instructio
[IsGWProxyThrottledTCPTimeoutToBackend](#) for more leads.
7. Some general useful queries are present in this section in Useful Connectiv
page. [Gateway_proxy_debugging](#)

8. In case this is GW overload issue due to login spike

This is the ASC insight content we worked for 40613 State22 scenario due to push

Can you review and see if this can be used to communicate with customer?

Customer Ready Content:

We identified that connections utilizing the Proxy method of connecting to the {Da
{ServerName} were being throttled. By default, connections originating outside of
boundary will use the proxy method which will be a shared common endpoint for c
database(s) in that region. If performance regressions are seen or heavy traffic from
throttling can occur.

When using the proxy method, only the 1433 outbound port from the clients netwo
allowed. Clients within Azure are identified and use the redirect method which duri
process will be provided a redirect token indicating the specific endpoint of the SQ
instance will be listening on a dynamic port within the range of 11000-11999 and 1
will require the network where the client resides to allow those outbound ports in a
standard 1433 port for SQL.

If this is causing issues for your application workload you can force all connections
use the redirect method to connect, avoiding the potential of this scenario occurin
document discusses the connectivity architecture for Azure SQL DB but also include
redirect method for all connections.

<https://docs.microsoft.com/en-us/azure/sql-database/sql-database-connectivity-ar>

This article also discusses the port ranges for connections inside and outside of
Azure due to the connection policy.

<https://docs.microsoft.com/en-us/azure/sql-database/sql-database-develop-direct-v12>

From <<https://portal.microsoftcm.com/imp/v3/incidents/details/89182377/home>>

¹ Correlation with login_substep_failure can be done using the connection_id column in MonLogin table.

Classification

Root Cause: Azure SQL DB v2\Availability (SQL Engine HA) Root Cause: Azure SQL DB v2\Connectivity (Xodbc/XDBGateway)

How good have you found this content?

