



ScaleArc for SQL Server 3.8.4

Release Notes

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Installation Information

Getting started with ScaleArc for SQL Server 3.8.4 is fairly straight forward. Refer to the [Minimum/recommended system requirement to deploy ScaleArc server](#) article for more information on the pre requisites for deployment.

Refer to the [Upgrading ScaleArc](#) article for information on upgrading to ScaleArc v3.8.4 from a previous version of ScaleArc.

Visit ScaleArc support portal at <https://support.scalearc.com> for additional help articles.

Improvements

This section lists the improvements in ScaleArc for SQL Server 3.8.4.

<i>ID</i>	<i>Component</i>	<i>Description</i>
13537	Failover	Scalearc now supports SQL Server Mirroring in Active-Active Mode where database servers have databases configured in Principal as well as in Mirror state.

Fixed Issues

This section lists the issue that has been fixed since ScaleArc for SQL Server 3.8.3.

<i>Issue ID</i>	<i>Component</i>	<i>Description</i>
10543	Core Engine	ScaleArc does not switch to read server immediately after a write query at times causing the application server cannot continue their process.

13477	UI-Stats and Logs	When accessing the detailed analysis of a query in the analytics tab the chart illustrating load balancing does not display load balancing graphs appropriately.
13501	Failover	AutoFailover for MSSQL Mirroring does not get completed successfully.
13568	UI-Stats and Logs	Query Logs cannot be accessed due to "obj.data is undefined" error.
13642	Failover, UI-Cluster Configuration	ScaleArc fails to join SQL Mirror in spite of DB's being healthy.

Known Issues

This section provides a list of issues that are categorized as important.

<i>Issue ID</i>	<i>Component</i>	<i>Description</i>	<i>Solution</i>
5607	Caching	If the maximum query response size for cache is set to a large value then the cache generation takes time.	Do not set the maximum query response size for cache to more than 5MB.
8550	Query Firewall Rules	ScaleArc may inadvertently delete DB firewall pattern while deleting DB Write Ignore pattern.	If a firewall pattern exists for a database, the last write ignore pattern should not be deleted. Deleting this pattern may cause inconsistency which could result in the deletion of the firewall pattern. Do not delete the pattern, but disable the rule.
8670	Analytics	Analytics not getting generated for existing clusters upon changing the time zone of ScaleArc machine.	Change Time Zone before putting ScaleArc into production.
8840	Services	If a user has configured SQL Server with dynamic ports, then ScaleArc will not be able to detect this change. When the port of a DB server which is added in a cluster with an instance name changes, it will be marked down by ScaleArc.	Delete the server marked down and add it again to the cluster.
9328	Install/Upgrade	A session timeout may occur while upgrading from ScaleArc 3.0 to a current version of ScaleArc.	Before performing an upgrade, the session timeout should be increased to at least 120 minutes due to the large package format. Please note, even after increasing the session timeout, a pop message may still appear. Ignore the pop up message.
9342	UI-Cluster Configuration	When trying to create an Always On AG cluster with a windows user; if the AG Listener takes more than 5 seconds to respond to the login request from the UI, ScaleArc closes the	Click the "Fetch SQL Cluster Config" button multiple times to make the UI pull the AlwaysOn AG related info and

		underlying TCP connection to the AG Listener and displays "unable to fetch VNN server information" preventing cluster creation.	create the cluster. This workaround may not work if response time always exceeds 5 sec.
10005	Network Settings	ScaleArc does not support changing the VLAN IP's in a NIC bond.	Currently there is no workaround for this issue.
10052	Caching	ScaleArc does not consider Cache and Firewall rules if the "use <DB name>" command within the query is terminated with newline characters ("\r\n"). ScaleArc fetches the response directly from DB server.	Currently there is no workaround for this issue.
10096	Network Settings	When the NIC bond is deleted; related VLAN interfaces do not get deleted.	Delete the related VLAN interface before deleting the bond.
10104	API	ScaleArc allows creating a clone of a cluster where the inbound IP is one which is not added in ScaleArc as well as not present on existing DB server. Ideally an error "VIP doesn't exists or give appropriate VIP as inbound port" should be indicated to the user.	Go back and assign a valid VIP as an inbound IP for the cloned cluster.
10112	UI-Configuration	Manually configured non-root Windows authentication users added from UI will not be updated by the 'user creds monitor' service. ScaleArc does not monitor the manually configured non-root Windows authentication users added from UI. This is because such users are not added into ScaleArc's internal list of monitored users.	For a manually added user you will need to delete or update the password manually.
10117	UI-Configuration	After upgrading ScaleArc and creating a cluster using a Windows authentication user; if the root user is added again from the "Auto Fetch Users" list then the cluster goes down.	After the upgrade, delete the cluster created that was created with the Windows authentication user and create the cluster again.
10438	Services/Installation	Upon installation of Scalearc a few services such as failover, user_creds_monitor etc. do not work. The watchdog fails to start these services due to timezone / time mismatch.	This issue occurs only when there is timezone and time mismatch on server where ScaleArc is deployed. Please restart watchdog service once the ScaleArc initial setup is complete and timezone has been changed. Watchdog service is accessed by going to Settings -> System Settings -> from the Services tab select Watchdog and click on Restart Selected Services.
10657	Connection Management	Client read connections that are mapped to connections to R/W DB server are candidates for	Currently there is no workaround for this issue.

		migration to other healthy DB servers if the R/W DB server crashes.	
11214	Auto Failover	Manual failover fails if replication changes do not happen within the timeout period on the database server.	Increase the timeout period and trigger the manual failover again.
11105	Auto Failover	ScaleArc does not support SQL Mirroring failover type with External API if a non-mirrored logical database is part of the cluster.	Add only mirrored databases in the cluster for SQL mirroring failover type.
11387	HA	In an HA configured ScaleArc system; if the secondary ScaleArc machine is upgraded before the primary and a HA switch is performed, all the ScaleArc processes (manage, idb_main, idblb) will restart on the new primary. Cluster uptime will restart, but no service impact.	Currently there is no workaround for this issue.
11797	Upgrade	Session timeout may occur when upgrading from a ScaleArc version 3.6 or earlier to 3.8.4.	After the session timeout the following message appears on the UI "Your session has timed out". Click on 'OK', and login again. Upgrade process continues without any issue and completes successfully.
11957	Services	High RES memory utilization may be observed by Samba processes. All of system RAM may be consumed by the Samba process.	To view memory utilization by Samba: Using top/htop on the machine, verify that the process named "samba" is consuming the most memory on the system. If yes follow the resolution steps below. 1. Get shell access to ScaleArc. 2. Change to the super user (root), using "sudo -s" 3. Fire "/opt/idb/utlis/smb restart" to restart the samba process.
12203	Core	Order of query routing rules are not followed in ScaleArc.	Currently there is no workaround for this issue.
12780	UI, Network Settings	VIP's on VLAN interface is displayed for physical interface also.	This behavior is a UI issue, it does not cause a functionality issue and can be safely ignored.
12875	AlwaysOn/ DB Server Management	When a cluster is created with database servers configured in AlwaysOn Availability Groups, after the AG listener IP address is entered, and the cluster config is fetched, then the status is shown as 'down' if all the nodes are named instances. Once we click setup cluster, these instances appear green and available.	Currently there is no workaround for this issue.

13610	Prep Exec	<p>If you turn QLLB and R/W split ON and set the following on the cluster:</p> <ul style="list-style-type: none"> • Set Replay: SET IMPLICIT_TRANSACTIONS ON; • Write Ignore: SET IMPLICIT_TRANSACTIONS ON; <p>Following behaviour can be seen on ScaleArc due to load balancing:</p> <p>Due to the setting, SQL Server will start a local transaction on the server that should be committed on the application end explicitly. Thus when we add this rule in set replay, ScaleArc would not know that the server has started a local transaction since we do not do response parsing. Once we lose the response, since QLLB is ON, we do active dissociation of the connection. So when the next query comes with this transaction descriptor, we load balanced it to a server, and the query then gives an error since this transaction is not valid on this connection. The client connection is thus terminated.</p>	<p>Do not add the SET IMPLICIT_TRANSACTIONS ON; in set replay or write ignore, as the server has the authority to start local transaction on the following set of queries : ALTER TABLE , FETCH, REVOKE, BEGIN TRANSACTION , GRANT, SELECT, CREATE, INSERT, TRUNCATE TABLE, DELETE, OPEN, UPDATE, DROP</p>
13840	Auto Failover	<p>While performing SQL Mirroring, if autofailover occurs for the second time before the suspended database server comes in replication (after first autofailover) this will result in data inconsistency on the DB server.</p>	<p>Manually resume the replication for every DB which is in suspended mode after every auto failover.</p>
13863	Counters	<p>When the maximum query packet size limit set on the debug tab is reached then the queries will go in passthrough and the QPS count in Live monitor is seen as double than the actual QPS.</p>	<p>In the Debug settings tab, set the Maximum Query Packet Size to a number where the query will not go in pass through.</p>
13868	HA	<p>VIP's persist on bonded interface in secondary machine after delinking HA.</p>	<p>After delinking HA, network services need to be restarted on the secondary machine if bonded interfaces are configured.</p>
13891	User Management	<p>No error is displayed on Users and DB pop-up page when a user lacks "View server state" and "View definition state" permissions</p>	<p>Currently there is no workaround for this issue.</p>
13916	HA	<p>While configuring HA at times the 'split brain' alert would be generated even though after HA the machines are in appropriate states.</p>	<p>Please check the state of the machines after HA is configured. If the state of the machines are correct then the event generated on the ScaleArc UI can be ignored and deleted. After configuring HA, if the machines are in 'split brain' state then it is recommended to restart HA service in the machine that is supposed to be secondary.</p>

13929	Always On	SSL cluster creation fails when using certificates of key length greater than 8K.	ScaleArc does not support a key size greater than 8K. Please use certificates of key size 8K or smaller for SSL cluster creation.
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Highlight Behaviors

This section highlights ScaleArc changes/ behaviors impacting end users for this release.

<i>ID</i>	<i>Component</i>	<i>Description</i>
	Upgrade	ScaleArc will automatically restart when upgrading from a previous version of ScaleArc to v3.8.4 because the kernel is also upgraded.
10805	Auto failover	While implementing Auto failover with external API for SQL Mirroring, the following must be configured: <ol style="list-style-type: none"> 1. The database which is in replication on the DB server should be added in the cluster for that root user. 2. In case multiple logical DB's are added, then replicated DB should be first in that list. This is because external API picks the first database added for root user and performs operations as per that database. 3. If user performs manual failover on DB servers then it will not have any effect on role of DB servers on ScaleArc. Ideally user should perform a manual failover using ScaleArc 'manual failover' utility. 4. With Asynchronous mirroring replication on DB servers, user is not recommended to use manual failover from ScaleArc manual failover utility. External API will error out as "Principal server is UP but some of the database server is configured as Async, so aborting the failover" with no changes in role of DB servers.
11183	Analytics	Analytics is unable to populate per minute analytic data from ScaleArc v3.4 to 3.8.4.
11254	Auto failover	<ol style="list-style-type: none"> 1. To enable auto failover database servers must be as Read+Write and StandBy+No Traffic. This is because for SQL Mirroring replication secondary is not going to serve any traffic. So if user configures them as RW and ST-R then, no traffic will get served which ScaleArc is going to direct to ST-R. 2. If logical database on DB server is in async replication, then manual failover will fail with an error as "Principal server is UP but some of the database server is configured as Async, so aborting the failover".
11294	Connection Management	Due to a cluster crash occurring while processing large query inserts on SSL and non-SSL clusters, the limit of the maximum allowable query size is 10K. Any query more than this size would be put in passthrough.
11425	Installation	During installation <i>if</i> there are multiple disks and the smallest disk has size less than 25GB, then installation fails with the following error: "Could not allocate requested partitions: not enough space for LVM requests." Please make sure the disk size is at a minimum 25GB.
11541	Core	ScaleArc core module terminates connections requesting data encryption for customers who are in enterprise license mode.
12312	Connection Management	When connection pooling is enabled and Idle Server Connection Time Out setting is more than 2 Minutes, ScaleArc internally creates/maintains a single connection as part of

		Health Monitoring. This Connection times out when Idle Server Connection Time Out is reached.
12685	HA	While configuring HA, if the default settings are changed, then the following pre checks are performed by ScaleArc: 1. DeadTime should be > 2 times Keep alive time 2. InitDead Time should be > than DeadTime Warning messages will be generated If the above values do not meet the requirements.
12827	Core	The following error message 'Error while reading TDS-Prelogin packet from client' is observed in alert logs on the ScaleArc cluster that is added as a DB server on the super cluster. This message can be ignored.
13597	Auto failover	In SQL Mirroring there are only two servers are currently present in ScaleArc. If user makes R+W server unreachable from Scalearc using iptables rule, the server goes down in ScaleArc. That triggers Auto-failover in ScaleArc. However actually on the database server, R+W server is UP and running fine. Now, if we want to do the failover of individual logical databases then we need to fire an ALTER command for that database on the Secondary machine on ScaleArc. However those commands fail because Primary server is actually UP. So attempt to do failover on individual databases do not succeed. Workaround: To perform Auto failover on individual logical databases, from the SQL Server management studio perform manual failover of logical databases configured as Principle on current Primary Server of Scalearc. This will trigger failover and failover service will make the UI role changes because it will not find any database configured as a Mirror on Secondary server.

Limitations

This section describes limitations in ScaleArc for SQL Server 3.8.4. The following limitations have workarounds.

<i>Issue ID</i>	<i>Component</i>	<i>Description</i>	<i>Solution</i>
7612	Core	For traffic that fires RPC stored procedure with multiple OUTPUT parameters, please do not turn ON prepare cache handling.	Turn OFF prepare caching.
8611	UI	ScaleArc does not support 'username@domainname' format for configuring windows users.	Please use the following format 'domainname\username' for configuring windows users.
8842	Services	Replication monitoring service will not work for servers added as an instance name into a non-Always On cluster.	Configure servers with port number and not instance names.
10060	Authentication	When clients adds SQL User for Windows Authentication, both formats of user specification "NetBIOS-domain-name\username" and "FQDN\username", should be added in ScaleArc	To overcome this situation Windows users on ScaleArc must be configured with DNS or NetBIOS domain names depending upon what the application is sending (e.g., us.scalearc.net\john, us\john).

10709	Auto Failover	Manual failover with external API continues even after API timeout has been reached. Because of which failover happens and DB server roles gets changed but logs says "ERROR Request did not complete successfully: Failed to do failover via external API."	Increase the API timeout value to avoid the issue from occurring.
11402	Auto Failover	External API failover operation is failing with syntax error if mirrored DB name has special characters in it.	The following are unsupported characters for DB names: ? > < * "
11780	Core	On creating a cluster with 2 DB servers having 100 db users and 100 DB's for each the user, with atleast one cache rule configured to each logical db, the cluster stops on its own after being started.	Limit the number of DB users, databases, and cache pattern combinations to less than 3,000.

Following are limitations in ScaleArc for SQL Server 3.8.4 that do not have workarounds:

	Protocol Passthrough	ScaleArc does limited processing for TDS protocols 7.1 or lower, due to protocol limitations. ScaleArc by default puts all such traffic into passthrough. TDS 7.1 was introduced along with SQL 2000, now only seen on legacy drivers. Applications will need to upgrade their drivers to take full benefit of the ScaleArc. Updating drivers to the latest version typically does not require application changes
4803	Core	ScaleArc does not support multiple RPC queries in a RPC batch. Such RPC queries go in query-only passthrough.
5608	Query Processing	MARS traffic is not supported by ScaleArc and it goes in pass-through. MARS is a feature from SQL server 2005 on-wards wherein there can be multiple outstanding requests being processed on a time-shared manner by the server-side-thread on a single connection.
5832	R/W Split	If a write query is received by ScaleArc as part of a multi-query packet and if the first query in the packet is a read query, then the entire query packet is considered as a read query and may be sent to a read-only server.
5887	Core	When a user connects to ScaleArc with a logical DB name that it does not have permissions on, the authentication will succeed through ScaleArc. But then when the client fires a query that causes ScaleArc to open a connection to the server the LOGIN fails and ScaleArc fails the query as a result.
6140	Core	Multi-packet SET Replay is not supported i.e. if the combined packet size of SET queries exceeds 4k (negotiated packet size in case of Auth Offload ON), SET Replay is skipped. The amount of set queries that one can fit in a query packet depends on the query packet size that is negotiated during authentication. So for a packet size of 4096: $(4096 - 8) / 2 = 2044$ characters concatenated (semicolon delimited) SET query can be accommodated in one packet.
6814	Logs	ScaleArc expects queries to be sent in UTF-16 encoding and English characters only. The behavior in case of 'non UTF-16' and in case of 'UTF-16 and non-English characters' is undefined.
8352	Analytics	ScaleArc Analytics does not detect and log stored procedures as different from normal query in the query log currently.
8514	Core	ScaleArc does not support for extended features of TDS like SESSION_RESTORE and FED_AUTH. When running traffic through ScaleArc, if a client requests extended features such as SESSION_RESTORE or FED_AUTH, during the login time, ScaleArc will

		disable these features, authenticate the client and then start processing the traffic as usual.
11196	Authentication Offload	Additional Certificate's common name (CN) validation is currently not performed by ScaleArc behaving as SQL client. SQL client that sets the "TrustServerCertificate" option does an additional validation along with the actual certificate validation. The client takes the Common Name from the certificate (CERT_COMMON_NAME) and tries to see that it matches the server's hostname that the client tried to connect to. If the client tried to connect to the server using an IP address, it would reverse lookup the hostname using the IP address and try to match the CERT_COMMON_NAME with this one. Such validation is currently not supported in ScaleArc.
11198	Caching	Cache pattern and the corresponding cached response are not persistent and on restart of a cluster the response is obtained from server rather than cache.
11388	Caching Core	With cluster having 100 users and 100 logical DBs assigned to each user, CPU utilization for save_cluster_cache () sometimes crossed 50% even in idle cluster (cluster without traffic).
11639	Core	ScaleArc performs passthrough of the traffic containing cursors to database server directly. Hence all the key functionalities of ScaleArc such as Load balancing, R/W Split, Caching and Analytics will not be possible. However Connection Pooling works for Cursors type traffic. Additionally w.r.t Analytics, Cursor type traffic is shown in the Analytics/Logs as part of the "RPC-Query passthrough" group with aggregate Server Response time. Apart from cursors, "RPC-Query passthrough" contains other traffic patterns which are subjected to pass through by ScaleArc.
11914	Authentication Offload	ScaleArc SSL does not support payload data larger than 4096 during the handshake process.

Additional Resources

You can find news, articles, videos, webinars, and other useful information on [ScaleArc's web site](#).

To get the most out of the features in ScaleArc for SQL Server check out our [ScaleArc training videos](#).

Access [ScaleArc's Knowledge Base](#) for how-to articles, feature description, and troubleshooting information.

If you need further assistance with any ScaleArc product or service, please [contact us](#).