Netscaler setup tips for Archicad and BIMcloud

Idle timeout

The “idle timeout” should be set to 10-15 minutes.

Keep Alive

“Keep Alive” should be on.

TLS

TLS 1.2 is supported. AC20 on up will adjust to this, but it might start with lower version of TLS as part of the handshake. If Netscaler will block communication that starts out a handshake with lower than TLS 1.2 then you have to set Archicad to always use TLS1.2. This is done by setting the value in SslMethod under the Teamwork hive for the relevant Archicad to “TLSv1_2”.

Only Archicad 26 supports TLS 1.3.

Buffer size

We had an issue that was suspiciously related to typical 8K(8192 byte) sized buffers. When Archicad submitted a 15016-byte HTTP request, a 17243-byte size set of TCP layer segments was created and Netscaler reproducibly failed always on the 9943-sequence id which carried the bytes 9943-11403. So, if buffer size can be

bumped up beyond 8K, this might improve reliability.

Hello message and cipher length

Archicad sends a 517 byte long hello message as part of the handshake. Due to this issue Netscaler can close down the initial part of the handshake. The length for acceptable hello messages should be longer than 576 bytes. More information about this can be found here:

https://docs.citrix.com/en-us/citrix-adc/current-release/appexpert/policies-and-expressions/advanced-policy-expressions-parsing-ssl.html
See: CLIENT.SSL.CLIENT_HELLO.LENGTH

TCP connection multiplexing

TCP Connection Multiplexing should be disabled. See this help:

https://support.citrix.com/article/CTX124713

HTTPS protocol

Archicad when it submits requests have in its header the default port number 443. Netscaler routing rules should take this into consideration, since often it confuses Netscaler. See:

https://stackoverflow.com/questions/34093253/including-port-number-in-http-host-header-causes-service-unavailable-error

For instance, using rules like the below can circumvent the problem:

HTTP.REQ.HEADER (\"Host\').CONTAINS (\"yourbimcloud.com"\)

SNI

Archicad does not support SNI. https://en.wikipedia.org/wiki/Server_Name_Indication

Max clients

If max clients is set too low problems could arise. Best not to even have a max (This is the case if Max Clients = 0).

https://docs.citrix.com/en-us/citrix-adc/current-release/load-balancing/load-balancing-advanced-settings/set-limit-on-max-client

Connection reuse

Do not allow connection reuse, this confuses Archicad. Perhaps the following setting will work in that case.

https://docs.citrix.com/en-us/citrix-adc/current-release/networking/ip-addressing/enabling-use-source-ip-mode.html

Health tests. Heartbeat

For BIMcloud Manager: http://yourbimcloud.com:24000/ping

For BIMcloud Server: http://yourbimcloud.com:24001/application-server-service/get-runtime-id

modify URL:port accordingly

In General

For BIMcloud to fully work you must have rules to forward traffic to BOTH the BIMcloud Manager and the BIMcloud Server. Additionally,

from the host of the BIMcloud Server a connection must be able to be established with the BIMcloud Manager – (often reverse proxy settings do not take this into account!).

Similarly,

from the host of the BIMcloud Manager you must be able to setup a connection to reach the BIMcloud Server.

Load balancers are used to terminate SSL for BIMcloud. BIMcloud does not support balancing loads between multiple BIMcloud servers. Only one BIMcloud manager is allowed.

The Archicad client is not capable of negotiating multiSSL. So, if there is a one point of

entry for both the BIMcloud Server and the BIMcloud Manager and path routing is not

used then it may be necessary for SSL termination to be directed to two different

"load balancer" instances. One instance for the BIMcloud Manager and one for the BIMcloud

Server. The https certificate can be the same, just the instance that

terminates the

SSL should listen to a different url (one listening to the Manager url, the other

listening to the Server url).

Some diagnostic tests that are helpful

For Archicad earlier than AC26, the feature set for curl version 7.21 is used. For your tests use the curl that is bundled with the Archicad installation. Newer curls available from the Internet may succeed where the Archicad curl does not. It is the Archicad curl that give you guidance.

curl.exe -v -H "Host: yourbimcloud.com:443" https://yourbimclioud.com/ping

To test whether the connection to the BIMcloud Server is correct, use your browser with the URL for the BIMcloud Server.:

https://<BIMcloudServerURL>/application-server-service/get-runtime-id/

For instance,

http://yourbimcloud.com:24001/application-server-service/get-runtime-id

https://yourbimcloud.com:24001/application-server-service/get-runtime-id

The response should look something like this:

{"runtime-id":"1A499443-C850-4E88-BFB0-B5F9CA3D431E"}

The runtime-id would be a different value.

Make sure this works from computers that host Archicad clients and **from the host of the BIMcloud Manager**.

In the Archicad installation directory there is a version of curl. You can test with it using a command prompt:

curl -v https://<BIMcloudServerURL>/application-server-service/get-runtime-id/