

Troubleshooting the ZPC connection for printers

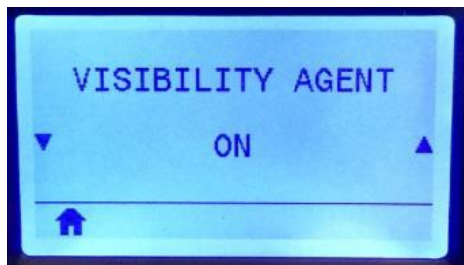
For VisibilityIQ Foresight printer customers, if they want to diagnose connection issues to the ZPC cloud server, the following should be checked:

- 1) Has the printer opted out of connecting to the Cloud ZPC server?

User can verify if the printer opted in/out of connecting to ZPC server via the following options:

- a. Check the printer LCD front panel:

- On printers with an LCD front panel, navigate to the NETWORK menu.
- Scroll to the Visibility Agent setting and the setting should display "ON" as shown below.



- b. Check the printer's web page. The "Network Configuration and Cloud Connect Settings" shall show as below:



- c. Use a SET-GET-DO command to check the value of the setting "weblink.zebra_connector.enable". "on" will allow it to try to connect, "off" will not.
- 2) Is the printer connected to a network, getting an IP address, and able to communicate on the network?
 - 3) Is the printer on static IP instead of DHCP? If yes, then the DNS server and domain need to be configured to ensure the printer connect to ZPC for data transmission.

Examples of the commands used to configure the DNS servers and DNS domain for both wireless and wired connected printers are illustrated below.

- a. For printers with wireless Connection -

```
! U1 setvar "ip.dhcp.enable" "off"
```

```
! U1 setvar "wlan.ip.protocol" "permanent"
! U1 setvar "wlan.ip.addr" "10.3.50.211"
! U1 setvar "wlan.ip.netmask" "255.255.255.0"
! U1 setvar "wlan.ip.gateway" "10.3.50.1"
! U1 setvar "wlan.ip.dns.servers" "10.3.50.61 10.3.50.62"
! U1 setvar "wlan.ip.dns.domain" "zebra.com"
! U1 do "device.reset" ""
```

b. For printers with wired connection -

```
! U1 setvar "ip.dhcp.enable" "off"
! U1 setvar "internal_wired.ip.protocol" "permanent"
! U1 setvar "internal_wired.ip.addr" "10.3.50.211"
! U1 setvar "internal_wired.ip.netmask" "255.255.255.0"
! U1 setvar "internal_wired.ip.gateway" "10.3.50.1"
! U1 setvar "internal_wired.ip.dns.servers" "10.3.50.61 10.3.50.62"
! U1 setvar "internal_wired.ip.dns.domain" "zebra.com"
! U1 do "device.reset" ""
```

Please remember to replace the IP addresses and DNS domain name in the example to those in your organization.

Please refer to the ZPL Manual contains the Set/Get/Do command details.

- 4) Next you should enable weblink logging to gain further information about the ZPC connection. ZPC connection information will be all the conn99 entries. Conn1 and conn2 are weblink entries that are not a part of ZPC.
 - a. ! U1 setvar "weblink.logging.max_entries" "300"
NOTE: You can set the max_entries larger if you have a lot happening on the weblink connections.
 - b. It is best to reset the printer at this point and wait 5 minutes for the ZPC connection to attempt to make a connection. Each ZPC connection attempt doubles the amount of time it waits before trying to connect again, so this gets long very quickly.
- 5) Check the weblink log to see if connection successfully established. It will include "conn99" on each message with one message including the server name and the other "Successfully connected" as shown below. They will not be the only messages. Examples are shown below.
[09-27-2020 09:43:51.338][Info][00001013][conn99.2] Attempting connection to <https://avs.zpc.zebra.com:443/zcore/connect/>
[09-27-2020 09:43:53.466][Info][0000101B][conn99.2] Successfully connected
 - a. To read the weblink log send the following to the printer:
! U1 getvar "weblink.logging.entries"

- 6) If you do not see the "Successfully connected" message then you should find one of the following errors on a conn99 message. Take the following actions to fix the issue.
 - a. "SSL certificate problem: certificate has expired" or "SSL certificate problem: certificate is not yet valid"
Check the time/date on the printer. Correct it to be the current day/time and the issue should go away.
 - b. [09-27-2020 12:44:11.998][Info][00001006][conn99.1] Waiting for an IP (Main Connection) ...
If this is the last message in the log, the printer has not received an IP address. Make sure the network is connected, then diagnose why it is not receiving an IP address
 - c. [09-27-2020 12:46:59.976][Error][0001003C][conn99.1] Couldn't resolve host '**avs.zpc.zebra.com**'
The printer has no network connection or cannot reach the internet, the need to check their network connection.
- 7) If you see none of those messages then you should check if the printer is behind a firewall and needs to use a proxy server and/or a username and password. For full details on this setup see P1058886-001_Link-OS_Addendum1.pdf.
 - a. Proxy: ! U1 setvar "weblink.ip.conn1.proxy" <https://user:pass@my.internal.proxy/>
 - b. Authentication: add a case for each server for which we need Authentication
! U1 setvar "weblink.ip.conn1.authentication.add" "servername.com username password"
- 8) Here are some other items that will let you know what may be going on
 - a. [09-27-2020 16:05:04.472][Info][800B03E8][conn99.1] Closing connection with code 1000
- This generally means the network is getting reset. This is not normal and the user should know why it is resetting so often.
 - b. [09-27-2020 12:44:11.813][Info][00001003][Weblink] Starting AVS Connection
- If the log is small and you see a lot of these then the printer is getting reset often.
 - c. [09-27-2020 16:12:54.286][Info][800B03EA][conn99.1] Closing connection with code 1002
- Network connection loss, check the network connection
 - d. [09-27-2020 16:12:54.300][Error][0000101D][conn99.1] Read failed with an unexpected error
- Error communicating with the server. Check the network connection and the connection to the network.