

Network configuration tips for 3DGence CLOUD and SLICER 4.0

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I INTRODUCTION

This document contains recommendations that will be useful in diagnosing connection problems with 3DGence products. If connection problems do not occur, do not change anything in the settings of network infrastructure, devices, and firewalls.

1. GLOSSARY OF USEFUL TERMS

Glossary of useful terms:

- network infrastructure devices - configurable switches, routers, servers;
- firewall - software or hardware with software, responsible for filtering traffic between the external network and the internal network
- external network - any network outside the internal network (LAN), e.g. the Internet, the network between the MikroTik and a printer.

2. UPDATES

Due to continuous development, 3DGence software is updated periodically. Therefore, in order for the communication between the printer, SLICER 4.0 software and CLOUD system to work properly, the latest firmware version installed in the printer and the latest version of SLICER 4.0 application are required.

2.1. Firmware update

To enable automatic updates to the printer's firmware you must have the option "on" in the printer menu:

network settings → 3DGence Cloud → allow automatic updates.

If the automatic updates option is on, the new firmware will be downloaded and automatically updated when the device is restarted. It is required that the printer is connected to the network.

If the option "off" is set to "allow automatic updates" automatic firmware update will not be possible. In this case, in order to update the firmware, it is necessary to check periodically whether a new software version is available on the support page. New firmware version should be uploaded to a memory stick and updated on the device.

2.2. SLICER 4.0 update

To enable automatic updates for 3DGence SLICER 4.0 in the top bar in the software, leave the options for automatic updates and new version notifications checked by default. These options can be enabled or disabled at any time. The updates take place each time the programme is started if the computer is connected to the network. In addition, the user can check for updates using the "check for updates" button. After checking, a corresponding message will appear in the status bar.

If the automatic update notifications are disabled, you should check periodically to see if a new version of the software is available on the support page.

Please note that updates to the print profiles are only available for the latest software version. In addition, your computer must be connected to the network for the profiles to be updated.

II LOGIN TO 3DGENCE SLICER 4.0

The first time you run 3DGence SLICER 4.0, you will need to log in. To do this, enter your email address and password in the login window, and then select the login button. You can use your access data for 3DGence CLOUD. If you do not already have a 3DGence account, please select "Create a 3DGence account", sign out and submit the form to us. Once the 3DGence has created your account, you will be able to log into the software. This information will be sent via email.

In order to create a user account in the 3DGence SLICER 4.0 application, it is necessary to meet the following conditions:

1. guaranteeing the Internet connection of the computer that has the 3DGence SLICER 4.0 application;
2. adding the appropriate configuration of network infrastructure devices and firewalls.

Network access is only necessary at the time of creating a user account. 3DGence SLICER 4.0 can run without network access. However, please note that in this case, the user is not able to automatically update print profiles and is not notified of software updates until the user reconnects to the network.

If, after creating an account, the user is able to log in to 3DGence CLOUD via the browser, but is not able to log in with the same data to 3DGence SLICER 4.0, point 2 must be fulfilled, i.e. adding the appropriate configuration of network infrastructure devices and firewalls.

Point 2 can be achieved by setting an appropriate rule to allow data traffic:

- allowing data packet traffic in TCP protocol for port 8081 for external network.

Note: you must restart your computer after allowing data packet traffic.

III CONNECTION SLICER 4.0 WITH CLOUD

To guarantee the connection of the 3DGence SLICER 4.0 application to the cloud service, it is necessary that the following conditions are met:

1. guaranteeing the Internet connection of the computer running the 3DGence SLICER 4.0 application;
2. adding the appropriate configuration of network infrastructure devices and firewalls.

Point 2. can be achieved by setting an appropriate rule to allow data traffic:

- allowing data packet traffic in the TCP protocol for port 8081 for the external network.

Note: you must restart your computer after allowing data packet traffic.

IV CONNECTION OF SLICER 4.0 WITH A PRINTER VIA CLOUD

The following conditions are necessary to ensure that your printer is connected to a cloud service

1. the printer is connected to the Internet via an Ethernet cable or WiFi adapter;
2. the network must not be overloaded and the connection must be fast enough not to exceed the response time between the printer and the 3DGence CLOUD service - the acceptable response time between the printer and 3DGence CLOUD is 1 minute;
3. allowing the connection to 3DGence CLOUD from the printer menu;
4. properly configure network infrastructure devices and firewalls.

Points 1. to 3. can be easily met or the problem can be diagnosed by using network diagnostic tools (e.g. ping, trace, etc.) and observing the printer screen.

Point 4. can be achieved by setting an appropriate rule to allow data traffic:

- allowing data packet traffic in the TCP protocol for port 8081 for the external network.

Note: you must restart your computer after allowing data packet traffic.

The IP address that the 3DGence SLICER 4.0 software connects to when communicating with the printer via CLOUD is: 52.178.133.222 (cloud.3dgence.com).

V CONNECTION OF SLICER 4.0 WITH A PRINTER IN A LOCAL NETWORK (LAN)

To ensure that 3DGence SLICER 4.0 connects to the printer on the customer's local area network (LAN), the following conditions are necessary:

1. the printer and the Client using the 3DGence SLICER 4.0 application must be on the same network;
2. ensuring that devices and firewalls are properly configured to allow data traffic between the printer and the 3DGence SLICER 4.0 application.

To fulfil the condition in point 1., it is enough to check with the system command ping if there is a connection between the printer and the client computer (the IP address of the printer can be found on the printer screen).

Meeting point 2. may prove more demanding, as the intervention of a network administrator will be required. A correct configuration will include the following rules to allow data traffic:

- permit traffic for TCP data packets for ports 13526 and 13888 on the local network;
- allow UDP data traffic for ports 13122 and 13123 on the local network.

Note: you must restart your computer after allowing data packet traffic.

It is possible that your firewall settings do not allow communication between the printer and the 3DGence SLICER 4.0 software. If this is the case, please contact your organization's IT department to unblock the firewall.

If the above advice did not help and you are having trouble connecting the 3DGence SLICER 4.0 software to the printer on your local network, please:

- for Windows: zip the %appdata%/slicer/<version_number> folder and send it to 3DGence for problem diagnosis;
- for macOS: zip the /Users/<user_name>/Library/Application Support/slicer/<version_number> folder and send to 3DGence to diagnose the problem.

Note: 3DGence SLICER 4.0 software communication with the printer will not work using a VPN.

It is also possible to connect your computer directly to the printer using an Ethernet cable. The firewall configuration in this case should be the same as described above.



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