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1 Sirona Server Technician's Manual

This manual should help service technicians to setup components related to Dentsply Sirona Server components. Dentsply Sirona Server is a technology that facilitates the communication between devices and software components by reducing efforts for manual configuration.

1.1 Prerequisites for running Sirona Server

All devices that want to communicate with each other...

- ...need to have a valid IPv4 address. IPv6 is not supported at the moment.
- ...need to be in the same IPv4 subnet, which means they have the same subnet mask. To find out the subnet mask of a device under windows, open a command prompt and enter "ipconfig /all". The information printed out will show the subnet mask for all network cards.
- The switches or routers in the network must support multicast, which means they must support IGMP. If in doubt, please look at the routers’ or switches configuration and watch out for IGMP options that might block IGMP functionality. Due to the great variety of different vendors more detailed information cannot be given here.

1.2 Set up the data exchange between Dolphin software and CEREC Ortho

Prerequisites: The CEREC AC with Omnicam and CEREC Ortho must be connected to the same network as the Dolphin PC. If in doubt, ask your network administrator for help.

- You need the most recent version of the Dolphin Connectivity Pack. If you did not get a copy of it yet, please ask your vendor or product manager for help. The Dolphin Connectivity Pack consists of three components in a zip file. Their installation is described in the following. Please unzip the zip archive to a folder on your computer.
- Check the installed dolphin version. If version 11.8 B17 is installed, a hotfix needs to be obtained from Dolphin. Please contact Dolphin support in this case: phone 1.800.548.7241, http://www.dolphinimaging.com/support.html
- Install the "Sirona Registry Server" application on the Dolphin computer by double clicking "Sirona Registry Server Installer.exe" and compile the setup. If you have several computers with Dolphin software installed, this component needs only to be installed on one of them. However, the computer on which "Sirona Registry Server" is installed needs to be running even if the data transfer is started from a another computer with Dolphin installed. Sirona Registry Server enables the participating computers to "find" each other on the network and therefore needs to be running.
- After installation wait for the Sirona Registry Server to start, indicated by a message "Server running at ###.###.###.#####" at the right lower corner of the screen. The actual IP and Port numbers will be displayed instead of the #-symbols.
1.3 Testing the data exchange between Dolphin and CEREC Ortho

Now you can test the data exchange between Dolphin and CEREC Ortho.

- Start Dolphin software from the start menu or by opening the shortcut on the desktop.
- Open an existing patient file or create a new patient. The patient's name should be displayed at the top of the Dolphin software window.
- Click the "3D" icon on the left side.
- Select "CEREC Ortho Scanner" from the 3D menu. Dolphin will display "Retrieving arch files from CEREC Ortho Scanner"
On the CEREC AC Ortho software will now open. The patient's name is listed at the top of the CEREC Ortho window.

Scan the patient's jaw in the order shown by CEREC Ortho.

After completing the scan the jaw model is displayed by CEREC Ortho. Move forward by clicking the ">>" symbol.

Now click the Dolphin 3D icon in the middle of CEREC Ortho.

The data transmission to Dolphin starts, a progress bar is displayed. When the transfer has finished, you can click "OK".

In Dolphin the scanned 3D jaw from CEREC Ortho should now be displayed.

In case you encounter errors, please write down a description of which steps you took and which error occurred. If possible, take screenshots or write down the exact error messages. Then hand over this information to your responsible support person.
1.4 Troubleshooting data exchange between Dolphin Orthodontic Software and CEREC Ortho

1.4.1 Error message "Arch files do not exist"

This error message can occur in the Dolphin software after requesting a jaw scan from CEREC Ortho. After scanning the jaw in CEREC Ortho, the data is not correctly transferred back to Dolphin. While data exchange might work for some patients, it fails for others.

Solution: this is a bug in the Dolphin software. This error occurs at least in Dolphin Version v.11.8.06.24 (built 24). Please contact Dolphin support for help.

1.4.2 Error message "all licenses are in use for Dolphin Imaging"

Please contact Dolphin software for detailed help. According to their support it can help to open the Dolphin Update Service and click the button "Refresh license", but the problem might also be caused by other licensing issues.
General Troubleshooting

Only one selectable IP address for Sirona Server's admin GUI

Problem: running under Windows in the Sirona Server's admin GUI one can only select one IP address for discovery, although the computer has multiple IPv4 addresses.

Solution: check the hosts file C:\Windows\System32\drivers\etc\hosts. If it contains an entry which assign the computer's name an IP address, remove that entry and restart the computer. This entry prevents Windows from returning all IP addresses of the computer when querying for them.

Analyzing discovery problems with wireshark

If you have having trouble with discovery, which means that devices or services do not find a running Sirona Server, please analyze your network traffic with Wireshark (www.wireshark.org). After downloading, installing and starting Wireshark, select the correct network interface for analysis. Then enter "igmp" into the text field "Filter". Then start your client software that is trying to discover Sirona Server. You should now see packages like the following in Wireshark. img/wireshark_multicast

<table>
<thead>
<tr>
<th>IP Address</th>
<th>Source Port</th>
<th>Destination Port</th>
<th>Protocol</th>
<th>Length</th>
<th>Packet</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.49.156.2</td>
<td>224.0.0.222</td>
<td>50000</td>
<td>IGMP</td>
<td>199</td>
<td>SDO</td>
<td>Membership Report Group 224.0.0.222</td>
</tr>
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</table>

The computer registers in a multicast group. After this the network switch asks all members of the multicast group periodically if they are still alive (membership query). The operating system answers to this with a "membership group report". Please look for packages regarding multicast group "239.0.0.222", which is the default multicast group used by Sirona Server. If you do not see any packages regarding this multicast group, please check if all your switches and routers are correctly configured to support multicast. Furthermore, please check your firewall if multicast packages are blocked.

Please consider http://www.r33net.de/multicast-igmp-igmp-snooping for a detailed explanation how multicast works.
We reserve the right to make any alterations which may be required due to technical improvements.