

C360 Sync

Network Connectivity Guide

Trademark and Copyright Statements

Cepheid®, the Cepheid logo, GeneXpert®, Xpert®, C360 Analytics and C360 Sync are trademarks of Cepheid. Microsoft® Windows®, Windows® 7, Windows® XP are trademarks of Microsoft Corporation.

All other trademarks are the property of their respective owners.

©Cepheid 2020. All rights reserved.

Disclaimers

C360 Sync and C360 Analytics software enable institutions to upload data from the GeneXpert system in order to access this data, process it in various ways and share it with other institutions. The administrator of the institution can set data collection policies, modify the kind of data processed, change the level of detail of reports (which may include demographic information about patients such as sex, race and age group), and enable data sharing with other institutions. Cepheid may process this data on behalf of the institution as specified in the User Agreement. The institution is responsible for ensuring that such data processing does not violate any third party rights and complies with applicable laws and regulations, including those concerning privacy and data protection. The institution is also responsible for ensuring that such data processing is secure, including that the GeneXpert system is hosted in a secure environment. The C360 Analytics software requires internet connectivity, and the institution is responsible for providing a secure internet connection and integrating the C360 Analytics software with the institution's existing systems, networks and servers. Cepheid does not guarantee the accuracy or completeness of any data processed by the C360 Sync or C360 Analytics software, and is not liable for data inaccuracies or incompleteness, for problems caused by lack of internet connectivity, malfunctioning of any equipment, system or network outside of Cepheid's control, the institution's configuration of the C360 Sync or C360 Analytics software, and the institution's processing and use of the data.

All examples (printouts, graphics, displays, screens, etc.) are for information and illustration purposes only and shall not be used for clinical or maintenance evaluations. Data shown in sample printouts and screens do not reflect actual patient names or test results. Labels depicted in the manual may appear different from actual product labels. Cepheid makes no representations or warranties about the accuracy and reliability of the information contained in this document. The information was developed to be used by persons trained and knowledgeable in GeneXpert system operation or under the direct supervision of Cepheid technical support or service representatives. Updates to this document may be issued periodically.



Cepheid
904 Caribbean Drive
Sunnyvale, CA 94089-1189
USA

Phone: +1.408.541.4191
Fax: +1.408.541.4192

Table of Contents

C360 Sync Network Connectivity Guide

- 1 Intended Use 1
- 2 Description 1
- 3 About this Manual 1
- 4 Overview 2
- 5 Network Requirements 2
- 6 Verifying Connectivity on the GeneXpert System 3
 - 6.1 Using the C360 Sync Icon 3
 - 6.2 Using the C360 Sync Network Settings Page 4
 - 6.3 Using a Browser 7
- 7 Detecting Disconnected Systems on the C360 Analytics Web Application 8
- 8 Cepheid Headquarters Locations 10
- 9 Technical Assistance 10

List of Figures

Figure 1 Laboratory System Network Layout - Example 2

Figure 2 Network Status Screen - Server Connected 4

Figure 3 Network Status Screen - Server Disconnected 5

Figure 4 Connection Diagnostic Screen 6

Figure 5 Visibility Section of System Page 8

Figure 6 Last Ping Time Slider 8

Figure 7 Systems Screen showing Active Connections 9

List of Figures

C360 Sync Network Connectivity Guide

1 Intended Use

C360 Sync is a medical device data system (MDDS) that transmits data from Cepheid Instrument Systems to C360 cloud.

Note

C360 Analytics is a supplemental information management web application that acts as an IT application and is not to be used for diagnosis, treatment of an individual patient(s), or active patient monitoring.

2 Description

C360 Analytics Product Components

- The C360 Analytics web application is a web portal that is a device-relationship management platform that helps drive the following:
 - User account and rights management
 - Data aggregation, access and trending
- C360 Sync is a software module that provides communication between the cloud and the GeneXpert system. The software resides on your GeneXpert system computer.
- The C360 Analytics server is a back-end cloud database that facilitates analysis of instrument data transmitted and shared over the C360 Analytics web application.

3 About this Manual

This document is intended for IT personnel and describes how C360 Sync communicates with the web application through the laboratory's network and the internet. Additionally, indications are provided to verify that the communication is taking place properly.

This document does not provide instructions on how to use C360 Sync or C360 Analytics; please refer to the applicable user documentation of these products for user instructions.

4 Overview

Laboratory systems are typically connected to a private network, so that these systems are protected from internet traffic and threats. A firewall allows the laboratory management to control which traffic is allowed between the private network and the internet, as shown in Figure 1. In certain cases, an internet proxy is used as an additional security measure.

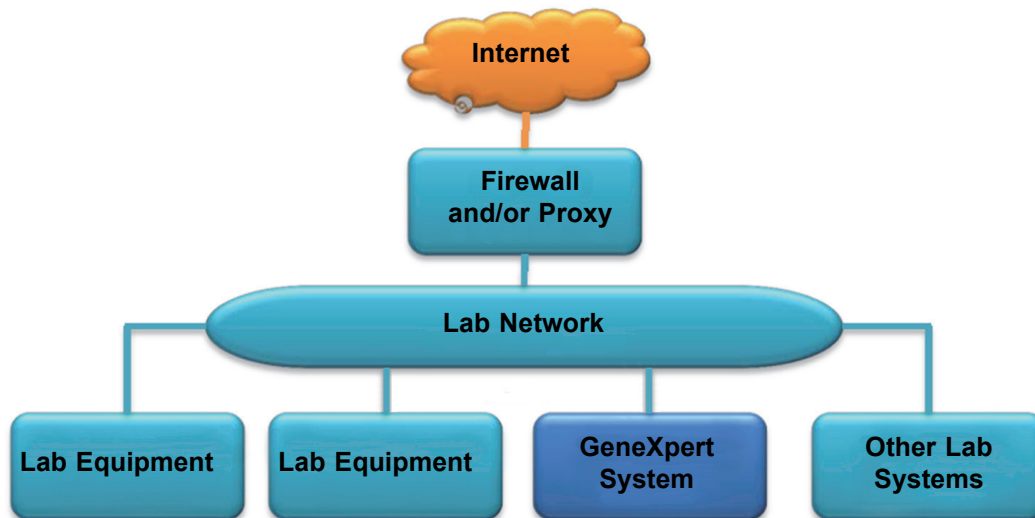


Figure 1. Laboratory System Network Layout - Example

When a GeneXpert system is connected to a network, Cepheid recommends that the system never be connected directly to the internet, but connected to a private network which provides adequate protection to the GeneXpert system, taking into account the characteristics of the GeneXpert system's computer.

Laboratory management is responsible for ensuring that the GeneXpert system is hosted in a secure environment and is protected from internet threats. Below is some guidance designed to assist lab management to troubleshoot common connectivity problems.

Note

When using the term network firewall (below), we typically refer to the hardware firewall equipment, located between your network and the internet, where security measures are typically implemented. However, if security software containing a firewall has been installed on the GeneXpert system, or if the windows OS firewall has been configured, verify the settings of these firewalls as well.

5 Network Requirements

C360 Sync software runs on the GeneXpert system and must have access to its C360 Analytics corresponding instance (for example: eu.remotexpert.cephheid.com or na.remotexpert.cephheid.com) on port **443** and **8081**. All traffic is initiated by the C360 Sync software on the GeneXpert system's computer. The C360 Analytics system does not require your network to be configured for inbound traffic initiation or listening ports.

6 Verifying Connectivity on the GeneXpert System

Laboratory management is responsible for ensuring connectivity between the GeneXpert system and C360 Analytics.

C360 Sync should be installed on the GeneXpert system (see the *C360 Sync Installation Manual*) prior to verifying that the lab network is correctly configured to allow communication with C360 Analytics.

6.1 Using the C360 Sync Icon

C360 Sync provides an icon in the Windows system tray indicating the application's status.



- **Connected:** Communication is established; your network allows C360 Analytics communication.



- **Disconnected:** Communication is not established; please use the instructions below to troubleshoot your network.



- **Service Not Running:** C360 Sync Daemon is not running; open the C360 Sync User Interface (see user instructions) and use the **Start Service** button to launch the Daemon so that communication starts.



- **Installed but not Activated:** C360 Sync is installed but is not yet in an activated state.

6.2 Using the C360 Sync Network Settings Page

The C360 Sync **Network Settings** page provides more indications about the communication status with C360 Analytics and contains a diagnostic tool. Open C360 Sync and navigate to the **Network Settings** page.

When the communication is successful, the **Network Status** area indicates that the server is connected (See Figure 2).

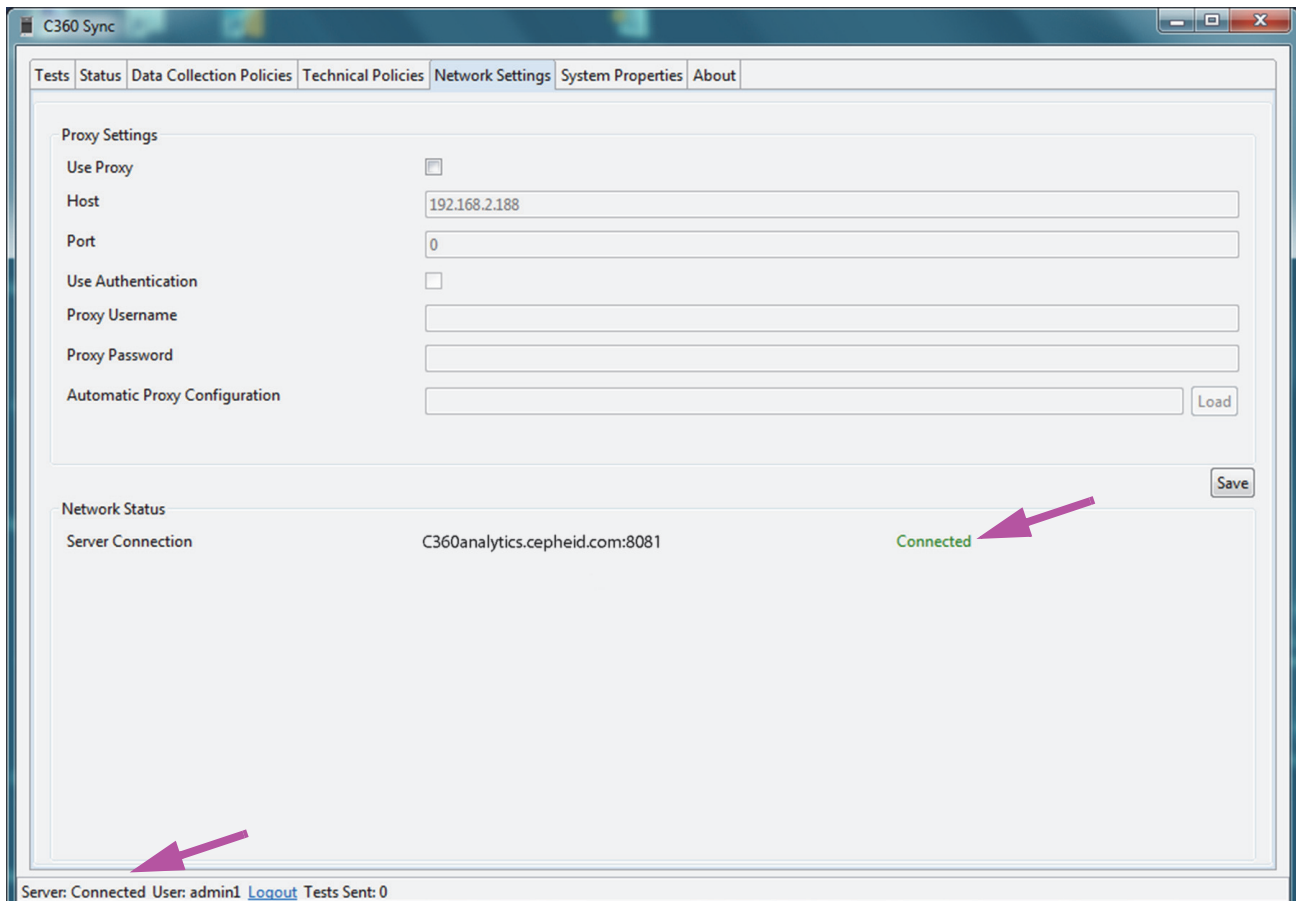


Figure 2. Network Status Screen - Server Connected

When communication is not possible, the server is indicated as **Disconnected** and a **Diagnose Connection** button appears (See Figure 3).

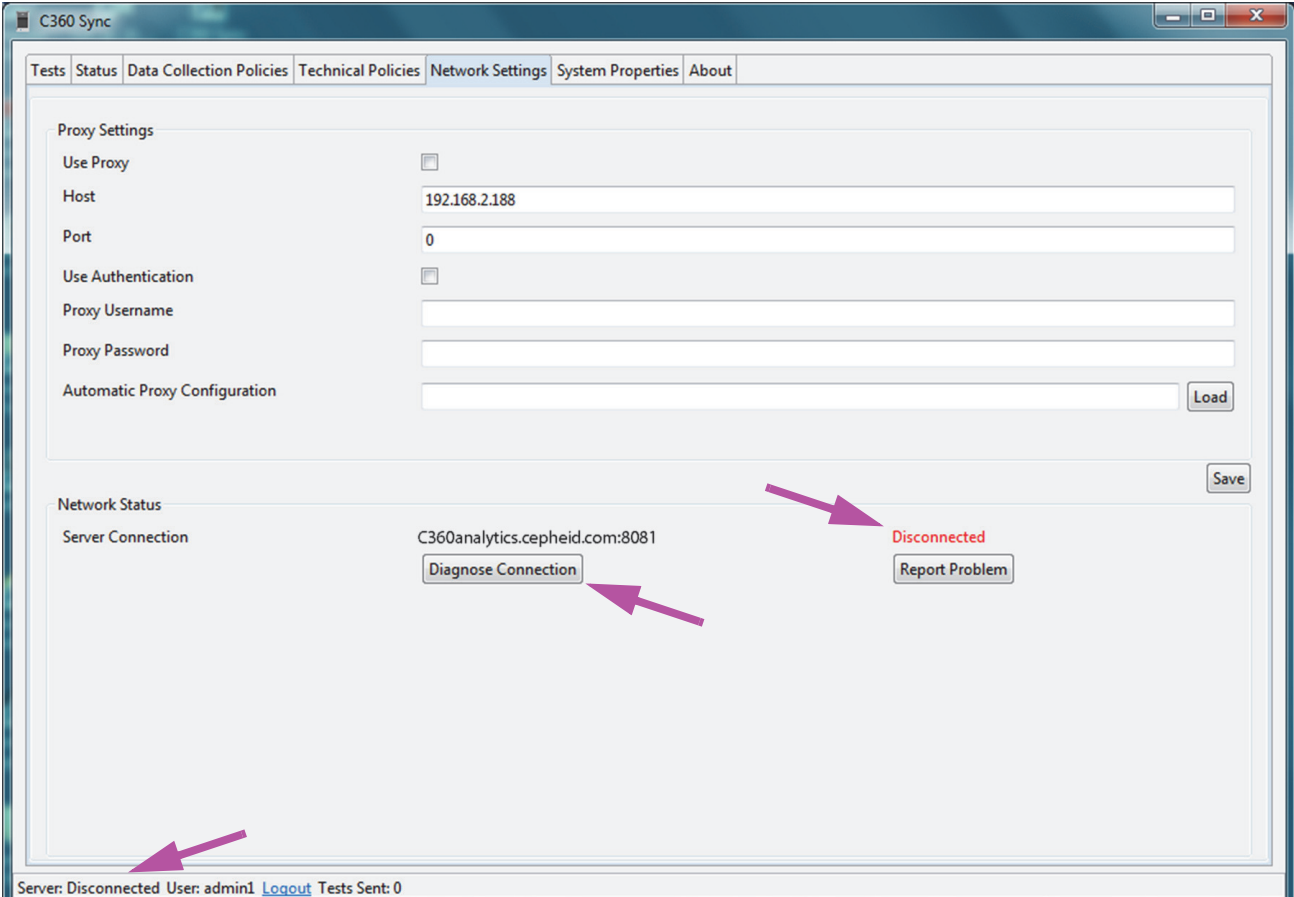


Figure 3. Network Status Screen - Server Disconnected

The **Diagnose Connection** button allows you to run a diagnostic test which will appear in the Network Status window (see Figure 4). Click the **Diagnose Connection** button and then wait until the **Diagnostic finished** text appears, to read the results.

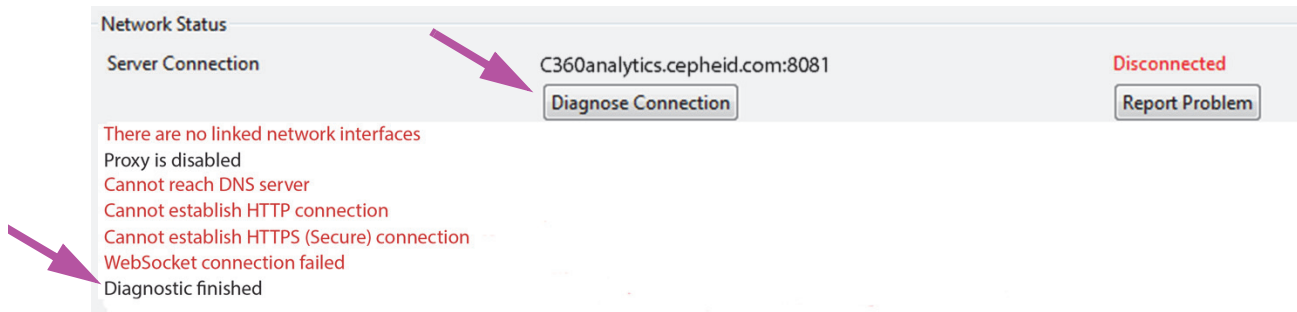


Figure 4. Connection Diagnostic Screen

The black text gives status information, while red text indicates a communication error situation. In the example above, the computer was disconnected from the network, causing most of the communication error messages to be displayed. To troubleshoot the connectivity, it is usually preferable to **address the first line of red text given by the diagnosis tool**, and then run the diagnosis again. The instructions below assume that the error messages are treated in that order:

There are no linked network interfaces: C360 Sync did not find the network interface on the GeneXpert computer. Please verify that:

- A network interface different from the GeneXpert instrument network interface is installed.
- The interface is connected to your network.
- The interface is properly configured in the Windows OS network settings.

Cannot reach DNS server: The network does not provide a DNS server. Please verify that:

- The network settings in the Windows OS are correct and show a correct IP and DNS address.
- If an internet proxy is used, the network settings in C360 Sync are correct.

Cannot establish HTTP connection: C360 Sync cannot access the C360 Analytics URL on port 80. Please verify that:

- The proxy settings in C360 Sync are correct.
- The network firewall or proxy allows to reach the C360 Analytics URL (see also **Using a browser**, below).

Cannot establish HTTPS (Secure) connection: C360 Sync cannot access the C360 Analytics URL on port **443**. Please troubleshoot the network firewall or proxy.

Websocket connection failed: C360 Sync cannot access the C360 Analytics server at specified port.

6.3 Using a Browser

A simple test with an internet browser on the GeneXpert system allows you to verify that the C360 Analytics URL can be reached. If it cannot be reached, the browser may in certain cases provide you with additional information about the issue, beyond the information provided by the diagnostic tool in the C360 Sync Network Settings page.

Open the browser and navigate to the C360 Analytics URL:

- If you directly obtain the first C360 Analytics page, which is a login page or a message that your browser is not supported by C360 Analytics, then it indicates that your network allows reaching the C360 Analytics URL.

Note

For the purpose of verifying connectivity, it is not necessary to log in to C360 Analytics or to update the internet browser.

- If you need to log into your internet proxy before gaining access to the first C360 Analytics page, then the proxy settings in C360 Sync should be populated accordingly.
- If you cannot access the website, please note the browser's error message to help you troubleshoot the network settings, the network firewall, and if present, the internet proxy.

Note

Certain proxies may not be supported by C360 Sync. In that case, it is advised that you set up a routing rule allowing network traffic to the C360 Analytics URL to bypass your proxy.

7 Detecting Disconnected Systems on the C360 Analytics Web Application

Administrators of the system can view the “Systems” page, which provides indication of each GeneXpert system’s status and displays a number of alert states. The **Last ping time** alert (see Figure 6), is useful to verify that the communication between C360 Sync on the GeneXpert system and C360 Analytics is still taking place correctly.

Note

The System page on C360 Analytics cannot help you to troubleshoot the first connection of a GeneXpert system: If a GeneXpert system has never successfully connected to C360 Analytics, the registration will not have taken place and the system will not be listed on the web application. If necessary, contact Cepheid Technical Support for assistance.

Log in to C360 Analytics and navigate to the Systems page.

In the **Visibility** area, select **View only systems with alerts** (see Figure 5).

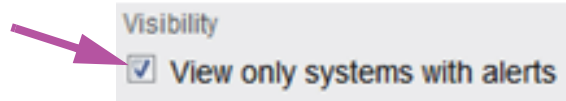


Figure 5. Visibility Section of System Page

Activate the **Last ping time** alert and deactivate all other alerts in the **Threshold** and **Alerts** area.

Set the **Last ping time** slider to a high time (to the right). This reduces the number of alerts for systems which have been temporarily turned off (see Figure 6).

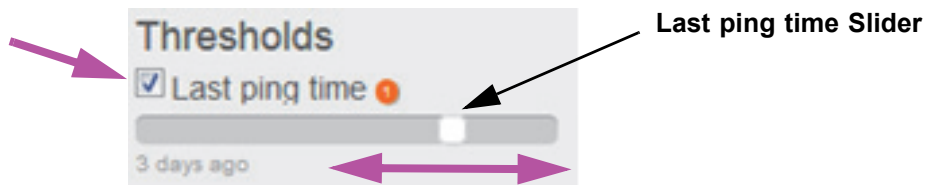


Figure 6. Last Ping Time Slider

The system list will now show a listing of all systems (See Figure 7) that have not connected for a long time, which indicates that the system has been turned off or that there is a persistent loss of connectivity.

The screenshot shows the 'Systems' page in the Cepheid interface. At the top, there are navigation tabs for 'Dashboards', 'Test Results', 'Systems', 'Laboratories', 'Logs', and 'Configuration'. The user is logged in as 'institution.admin@institution.com'. A blue notification bar indicates 'There are 2 systems to review'. Below this, there are filter options for 'Model' (GX-IV, GX-XVI, GX-I, GX-infinity 48, GX-infinity 80, GX-II, GX) and search fields for 'Name', 'Serial Number', 'Laboratory', and 'Location'. There are also checkboxes for 'Show deactivated systems' and 'Download as CSV'. A 'Thresholds' section contains several sliders for 'Last ping time', 'Last reporter startup', 'Last GX test start time', 'Last test uploaded time', 'Last test start time', 'Last QC uploaded time', 'Last QC start time', and 'Local time offset'. A 'Visibility' section has checkboxes for 'View only systems with alerts', 'Unseen event logs', and 'Rejected updates'. At the bottom, a table lists two systems:

Name	GUID	System S/N	SW for last test	Model	Laboratory	Location
System18	d3448d81	875656	4.6	GX-IV	abcdlab	Union
System19	c6d09e9e	453663	4.3.43Dem4_4	GX	abcdlab	Union

Figure 7. Systems Screen showing Active Connections

8 Cepheid Headquarters Locations

Corporate Headquarters	European Headquarters
Cepheid 904 Caribbean Drive Sunnyvale, CA 94089-1189 United States	Cepheid Europe SAS Vira Solelh 81470 Maurens-Scopont France
Telephone: +1 408.541.4191	Telephone: +33.563.825 300
Fax: +1 408.541.4192	Fax: +33.563.825 301
www.cepheid.com	www.cepheidinternational.com

9 Technical Assistance

Before contacting Cepheid Technical Support, collect the following information:

- Product name
- Serial number of the instrument
- Error messages (if any)
- Software version and, if applicable, Computer Service Tag number

Contact Information	
United States	France
Telephone: + 1 888 838 3222	Telephone: + 33 563 825 319
Email: techsupport@cepheid.com	Email: support@cepheideurope.com

- Contact information for other Cepheid offices is available on our website at www.cepheid.com/en/CustomerSupport.



Cepheid
904 Caribbean Drive
Sunnyvale, CA 94089-1189
USA

Phone: +1.408.541.4191

Fax: +1.408.541.4192



Cepheid Europe SAS
Vira Solelh 81470 Maurens-Scopont
France

Tel: +33.563.82.53.00

Fax: +33.563.82.53.01

Email: support@cepheideurope.com

