

TeamCall Telephony Access Platform

TeamCall CA NFON

Admin Guide

Document version

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See section 8 for an overview over the major changes in this document version.

Note: The Word change tracking mode only displays the major changes since the previous version of this document. Older changes (as well as minor changes like formatting, typo fixes or small rephrasings) have already been “accepted”.

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1 Overview

The TeamCall Telephony Access Platform (TAP) is a CTI solution to connect computer systems with telephone systems.

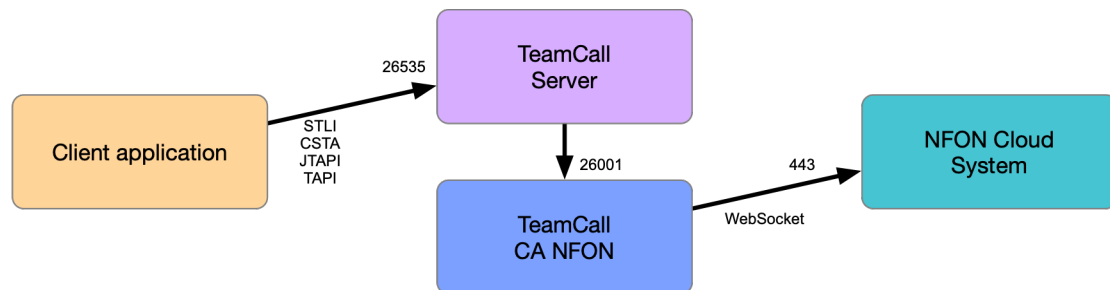
TeamCall CA NFON is the TeamCall component that provides a connection to the NFON cloud phone system.

TeamCall CA NFON runs on Linux (Docker), macOS, and Windows.

This document describes the setup, configuration, and administration of TeamCall CA NFON.

1.1 Architecture and Communication Paths

TeamCall CA NFON is a service that is installed in addition to TeamCall Server. It facilitates the connection of TeamCall Server to the NFON cloud system.



TeamCall Server and TeamCall CA NFON can be installed on the same host or on different hosts.

The arrows in the diagram indicate the network connections between the four components. The arrows indicate the direction in which the network connections are opened.

If firewalls control the communication between the components, the following network connections need to be allowed:

From	To	Port	Configuration
Client application	TeamCall Server	TCP 26535	The port is configured using the <i>loginPort</i> setting in the TeamCall configuration file <i>Default.conf</i>
TeamCall Server	TeamCall CA NFON	TCP 26001	The port is configured using the <i>server_port</i> setting in the CA NFON configuration file <i>ca_config.properties</i>
TeamCall CA NFON	NFON Cloud System	TCP 443	Port 443 is used for WebSocket communication.

2 NFON API access

TeamCall CA NFON uses the NFON API to communicate with the NFON system.

This requires an API username and an API password which need to be obtained from NFON.

3 TeamCall CA NFON on Linux

3.1 Requirements

3.1.1 Docker

On Linux, TeamCall CA NFON runs in a Docker container. This requires Docker to be installed. Installation of Docker is outside of scope of this document.

3.1.2 TeamCall Server

TeamCall CA NFON is used to provide the connection of TeamCall Server to the NFON cloud system. See architecture diagram in section 1.1 above.

So, TeamCall CA NFON alone is not sufficient – you need a TeamCall Server as well. Both services can be (but do not have to be) installed on the same host.

3.2 Installation on Linux

TeamCall CA NFON is provided as a Docker image that can be installed using the standard Docker mechanisms.

4 TeamCall CA NFON on macOS

4.1 Requirements

4.1.1 Java

Both the installer and the TeamCall CA NFON service are Java based applications. So, installation requires a Java runtime, which is available by default on macOS.

4.1.2 TeamCall Server

TeamCall CA NFON is used to provide the connection of TeamCall Server to the NFON cloud system. See architecture diagram in section 1.1 above.

So, TeamCall CA NFON alone is not sufficient – you need a TeamCall Server as well. Both services can be (but do not have to be) installed on the same host.

4.2 Installation on macOS

The product zip file contains a command line script for installation on macOS. This is started from the command line (Terminal.app).

The script needs to run from within the installation package. Use the `cd` command to switch to the unpacked zip folder before starting the installation script.

The script needs administrator permissions.

Use `sudo` if you are not logged in as root:

```
sudo ./macOS-installer.sh
```

The installer will ask for several configuration values:

- NFON API username
- NFON API password
- CA service port
- CA installation path

In each case you can use the enter or return key to use the default value that is being displayed. The configuration will be stored in `config/ca_config.properties` in the installation folder. E.g.,

```
/Applications/TeamCall/CA NFON/config/ca_config.properties
```

See section 6 for details on these configuration values.

You will be asked to confirm your input before the actual installation takes place.

The installer creates a log file at `./CANFON-install.log`

Installing updates

Updating the installation to a new release works just like a new installation.

Please note: The update installation will overwrite the existing configuration. You should enter the same configuration data during the update installation as you used during the initial installation.

4.3 Installed files

The installer installs the following folders and files:

For TeamCall CA NFON:

The installation folder specified during installation. E.g.,

```
/Applications/TeamCall/CA NFON/
```

For starting and stopping of the CA NFON service:

```
/Library/LaunchDaemons/de.ilink.TeamCall.CA-NFON.plist
```

By default, the folder `/Library` is not visible in Finder. You can access this folder as follows:

Select the Finder menu option *Go > Go to Folder...*

A small input window will open. Please enter the path `/Library` and click *Go*.

4.4 Deinstallation

Use this command to deinstall the TeamCall CA NFON service:

```
sudo /Applications/TeamCall/CA\ NFON/uninstaller/uninstaller.sh
```

(Adapt the path if TeamCall CA NFON has been installed to a different location.)

The uninstaller creates a log file at `de.ilink.TeamCall.CA-NFON.uninstall.log`

4.5 Starting and stopping the service on macOS

The following sections explain how to perform maintenance tasks for TeamCall CA NFON on macOS using the command line (Terminal.app).

The calling user needs to be allowed to use the `sudo` command.

Setup of `sudo` permissions is outside of scope of this document.

4.5.1 Review the service status

The following command can be used to check if the service is running:

```
sudo launchctl list de.ilink.TeamCall.CA-NFON
```

If the service is running, a status report will be printed:

```
{
  "StandardOutPath" = "/Applications/TeamCall/CA NFON/log/CA NFON.output";
  "LimitLoadToSessionType" = "System";
  "StandardErrorPath" = "/Applications/TeamCall/CA NFON/log/CA NFON.output";
  "Label" = "de.ilink.TeamCall.CA-NFON";
  "OnDemand" = false;
  "LastExitStatus" = 0;
  "PID" = 1674;
  "Program" = "/usr/bin/java";
  "ProgramArguments" = (
    "/usr/bin/java";
    "-Xmx300m";
    "-Dnfon_ca_config=config/ca_config.properties";
    "-Dlog4j1.compatibility=true";
    "-Dlog4j2.configurationFile=config/ca_nfon_log4j-config.xml";
    "-jar";
    "/Applications/TeamCall/CA NFON/lib/ca_nfon.jar";
  );
};
```

If the service is not running, a message will be printed:

```
Could not find service "de.ilink.TeamCall.CA-NFON" in domain for system
```

4.5.2 Start the service

The following command starts the TeamCall CA NFON service if it does not yet run **(make sure to enter the command as a single line)**:

```
sudo launchctl bootstrap system/  
/Library/LaunchDaemons/de.ilink.TeamCall.CA-NFON.plist
```

If no output appears, the command succeeded, and the service is running.

Otherwise, an error message like this may appear:

```
Bootstrap failed: 5: Input/output error
```

Possible reasons:

- The service is already running.
See section 4.5.1 above on how to review the service status.
- The service has been permanently disabled.
See section 4.5.7 below on how to determine this and section 4.5.6 on how to reenale the service.

4.5.3 Stop the service

The following command stops the TeamCall CA NFON service if it is running:

```
sudo launchctl bootout system/de.ilink.TeamCall.CA-NFON
```

If no output appears, the command succeeded, and the service is no longer running.

Otherwise, an error message like this may appear:

```
Boot-out failed: 5: Input/output error
```

Possible reason:

- The service did not run.
See section 4.5.1 above on how to determine the service status

Note: Stopping the service will not prevent the service from automatically being started when the computer is restarted. See section 4.5.5 below on how to permanently disable the service.

4.5.4 Restart the running service

If you would like to restart the running TeamCall CA NFON service (for example after the configuration has changed) first stop and then start the service **(making sure to enter each command as a single line)**:

```
sudo launchctl bootout system/de.ilink.TeamCall.CA-NFON
```

```
sudo launchctl bootstrap system/  
/Library/LaunchDaemons/de.ilink.TeamCall.CA-NFON.plist
```

4.5.5 Permanently disable the service

Upon installation, the service has been registered to be started automatically when the computer is restarted. To prevent this, the service can be permanently disabled as follows:

```
sudo launchctl disable system/de.ilink.TeamCall.CA-NFON
```

Note: Disabling the service will not stop the service if it is still running. See section 4.5.3 above on how to stop the running service.

Note: A disabled service can no longer be started. See the next section on how to reen able the service.

4.5.6 Reenable a disabled service

Use this command to reen able the service if it is disabled:

```
sudo launchctl enable system/de.ilink.TeamCall.CA-NFON
```

4.5.7 Review the enabled/disabled status of the service

Use this command to check if the service has been disabled **(make sure to enter the command as a single line)**:

```
sudo launchctl print-disabled system | grep "de.ilink.TeamCall.CA-  
NFON"
```

If no output appears, the service is enabled (and has never been disabled).

The following output will appear if the service is enabled (after previously having been disabled):

```
"de.ilink.TeamCall.CA-NFON" => enabled
```

And the following output will appear if the service is disabled:

```
"de.ilink.TeamCall.CA-NFON" => disabled
```

5 TeamCall CA NFON on Windows

5.1 Requirements

5.1.1 Java

Both the installer and the TeamCall CA NFON service are Java based applications. So, installation requires a Java runtime (Java SE 1.8 / Java 8 or higher) to be installed.

Installation of Java for Windows is outside of scope of this document.

5.1.2 TeamCall Server

TeamCall CA NFON is used to provide the connection of TeamCall Server to the NFON cloud system. See architecture diagram in section 1.1 above.

So, TeamCall CA NFON alone is not sufficient – you need a TeamCall Server as well. Both services can be (but do not have to be) installed on the same host.

5.2 Installation on Windows

The product zip file contains a command line script for installation on Windows: `windows-installer.bat`. **The script needs administrator permissions.**

Start it from Explorer by right clicking the script and choosing *Run as administrator* from the context menu.

Or start the Windows command prompt as administrator, use the `cd` command to switch to the unpacked zip folder, and start the installation script:

```
.\windows-installer.bat
```

The script will launch the installer GUI which will ask for several configuration values:

- NFON API username
- NFON API password
- CA service port
- CA installation path

In each case you can use the enter or return key to use the default value that is being displayed.

See section 6 for details on these configuration values.

5.3 Installing updates

Updating the installation to a new release works just like a new installation.

Please note: The update installation will overwrite the existing configuration. You should enter the same configuration data during the update installation as you used during the initial installation.

5.4 Deinstallation

To uninstall TeamCall CA NFON, open the Windows Control Panel section *Programs & Features*. Select *ilink TeamCall CA NFON* and click *Deinstall*.

5.5 Starting and stopping the service on Windows

The TeamCall CA NFON service can be started and stopped via the Windows services list. The service name is *ilink TeamCall CA NFON*.

6 Configuration values

These are the configuration values that are set during installation. The first three values will be written to the configuration file `ca_config.properties` in the installation's `config` folder.

- **NFON API username**
(configuration file parameter `nfonapi_username`)
This is the API username provided by NFON for access to the NFON API.
- **NFON API password**
(configuration file parameter `nfonapi_pwd`)
This is the API password provided by NFON for access to the NFON API.
- **CA service port**
(configuration file parameter `server_port`)
This is the TCP port on which CA NFON will listen for connections from TeamCall CSTAServer.
You will then need to set this port number as `cstaLinkPort` in the TeamCall CSTA Server configuration (*Default.conf*).
Example: 26001
- **CA installation path**
This is the path of the folder into which CA NFON will be installed.

7 Configuring TeamCall CSTA Server to connect to CA NFON

From the point of view of TeamCall CSTA Server, TeamCall CA NFON serves as a stand-in for the NFON cloud system.

So, instead of configuring CSTA Server to connect to a phone system, you configure it to connect to CA NFON.

To do so, configure the following settings in the TeamCall CSTA Server configuration file *Default.conf*:

```
# -----
# Phone system type
# -----
pbxType = generic
implicitAssociation = 0
PBXUsername = ilink      ← You need to set this, but you may choose any value (the value is not used)
PBXPassword = ilink     ← You need to set this, but you may choose any value (the value is not used)

# -----
# TCP/IP address and port of phone system's CTI interface ← in this case: CA NFON
# -----

cstaLinkAddress = 127.0.0.1 ← assuming that CA NFON runs on the same host as CSTA Server
cstaLinkPort = 26001       ← the CA service port specified during installation of CA NFON
```

8 Change log

This is an overview of the highlights of the changes that have been made in this document. The latest changes are on top.

The numbers in parentheses reference section numbers.

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- First version of this document.