Wireless Test Solutions

Onboarding Tool and Generic Client (OTGC) for OCF

System Description and Setup

DEKRA Testing and Certification, S.A.U.
Parque Tecnológico de Andalucía
C/ Severo Ochoa, 2 & 6
29590 Málaga - Spain
☎. +34 952 61 91 00
Fax. +34 952 61 91 13
e-mail: terd_wts_support.es@dekra.com
web: www.dekra-product-safety.com/wireless

VERSION CONTROL

Version	Date	Change log
1.0	2018-05-24	Initial version
1.1	2018-10-01	Include Linux installation steps.

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1 SCOPE

The present document describes the Onboarding Tool and Generic Client (OTGC) for Open Connectivity Foundation (OCF) and its installation on Android and Linux operating systems. The document refers to the Full Function Product (FFP) version of the OTGC, which is currently composed by an Android application and a desktop application for Linux operating systems. In subsequent revisions of this document, iOS and Universal Windows Platform (UWP) versions will be added.

In section 4, this document describes the system requirements and the installation process of the Android application.

In section 5, this document describes the system requirements and the installation process of the Linux application.

2 REFERENCES

[1] "https://openconnectivity.org/specs/OCF_Security_Specification.pdf," [Online].

3 DEFINITIONS AND ABBREVIATIONS

3.1 DEFINITIONS

Access Management Service (AMS)

Service implemented by an OCF Client that provisions access policies to other OCF Devices in order to allow or deny access to their resources. [1]

Credential Management Service (CMS)

Service implemented by an OCF Client that is authorized to provision credentials to other OCF Devices. [1]

Device Ownership Transfer Service (DOXS)

Service implemented by an OBT in order to manage the ownership of the devices in its network. [1]

Generic Client (GC)

An OCF Client that is able to manipulate all kind of OCF Servers.

OCF Server

A sensor or actuator capable of generating a measurement or performing an action.

OCF Client

A device capable of scanning and controlling OCF Servers.

OCF Device

A device (Server or Client) that can be incorporated into an OCF network created by an Onboarding Tool (OBT). An OBT can own an OCF Device using different Ownership Transfer Methods (OTMs).

Offboarding

Process that consists in releasing an OCF device owed by the OTGC.

Onboarding Tool and Generic Client (OTGC)

A logical entity that implements the functions of an OBT and a GC.

Onboarding

Process that consists in owning an OCF device by the OTGC. [1]

Onboarding Tool (OBT)

A logical entity within a specific Internet of Things (IoT) network that establishes ownership for a specific device and helps bring the device into operational state within that network. A typical OBT implements DOXS, AMS and CMS functionalities. [1]

3.2 ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

API	Application Programming Interface
APK	Android Application Package
AMS	Access Management Service
CMS	Credential Management Service
DOTS	Device Owner Transfer Service
FFP	Full Function Product
GC	Generic Client
IoT	Internet of Things
OBT	Onboarding Tool
OCF	Open Connectivity Foundation
OTGC	Onboard Tool Generic Client
OTM	Ownership Transfer Method
UWP	Universal Windows Platform

4 ANDROID

4.1 GETTING STARTED

4.1.1 SYSTEM REQUIREMENTS

This OTGC Android application has the following requirement to have a successful installation:

- Android 5.0.1 (API 21) or higher.

4.1.2 FIND THE ANDROID VERSION

The next steps could be different depending on the phone model.

1. Go to Settings.

Figure 1: Settings icon.

2. Select About phone.

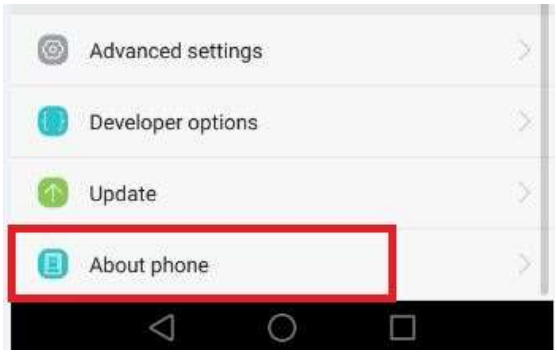

Figure 2: About phone option.

3. Check Android version.

Figure 3: Android version field.

4.2 INSTALL

4.2.1 INSTALL FROM APK

First, navigate to the folder where the Android Application Package (APK) file has been downloaded.

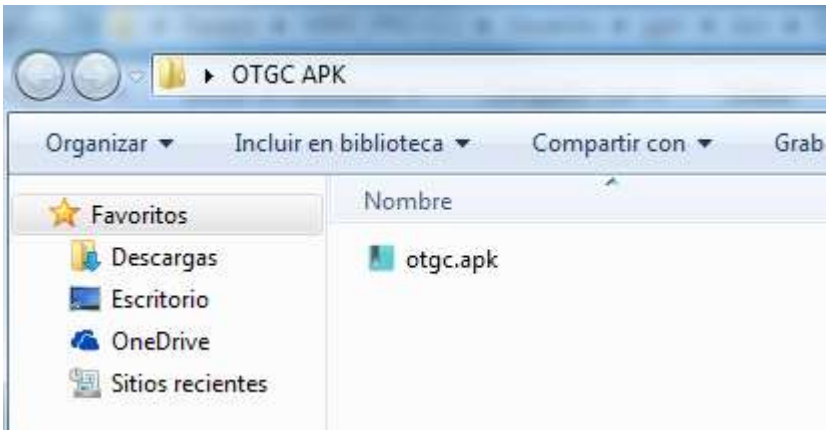

Figure 4: Locate the APK on Windows.

After that, connect the device to the computer and copy the APK file into the device.

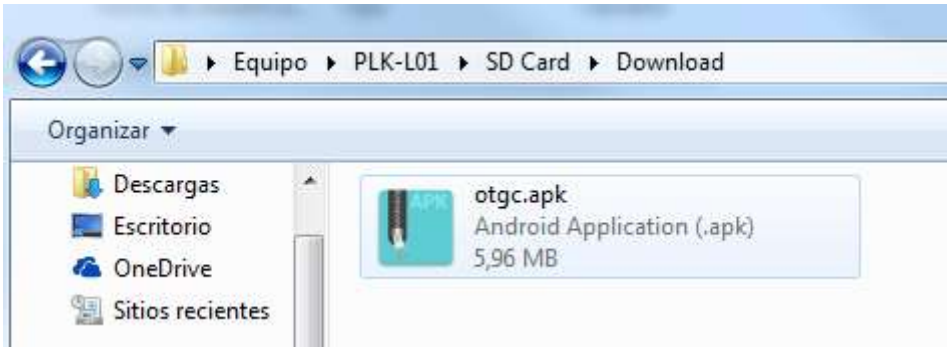

Figure 5: Copy the APK to the device.

Now, within the device, navigate to the folder where the APK file has been copied and click on it to start the installation.

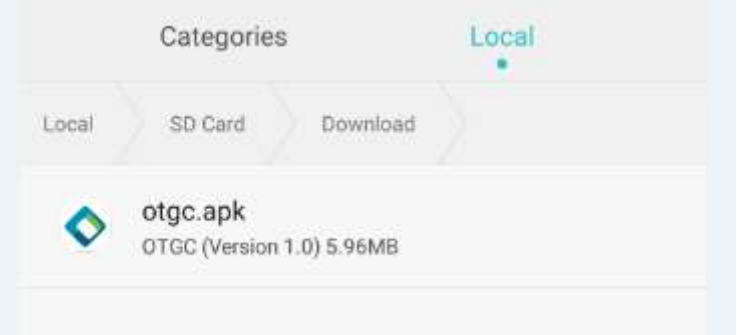

Figure 6: Locate the APK in the device.

Click on **Install** button when the installation screen appears.

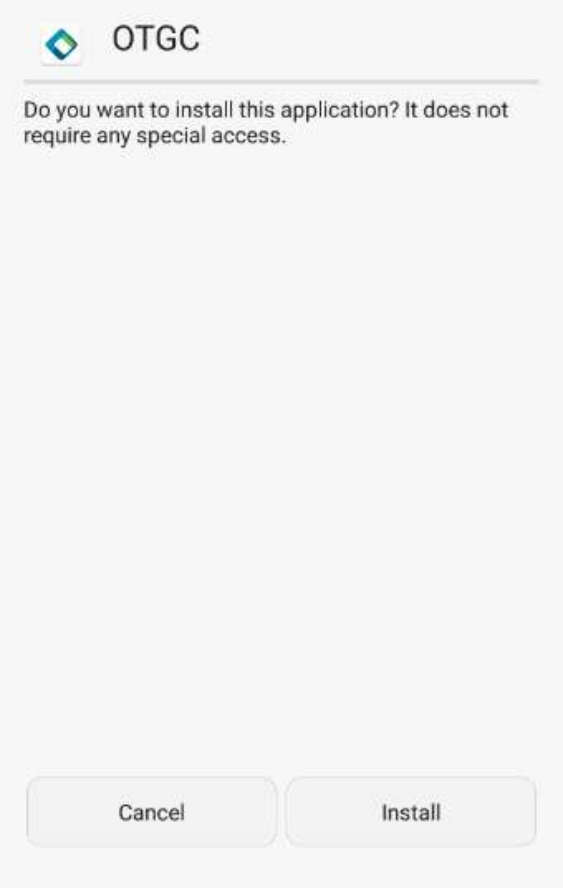

Figure 7: Installation screen.

The installation of the OTGC application starts.

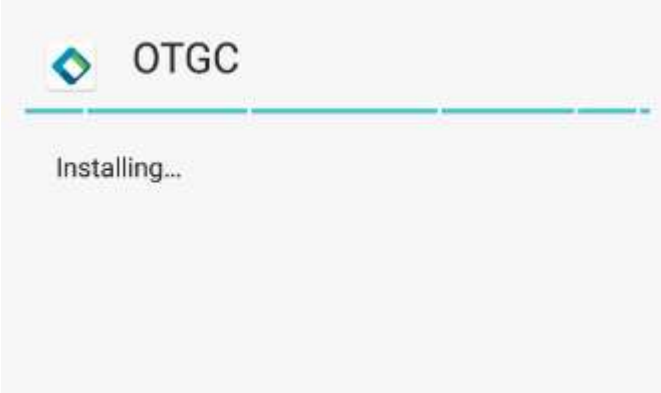

Figure 8: Installation process.

When the installation finishes, a new screen appears with **Done** button to close the installation and **Open** button to open the OTGC application (see Figure **9**). To check if the installation succeeded, an OTGC icon should have been created in the Home screen as in Figure **10**.

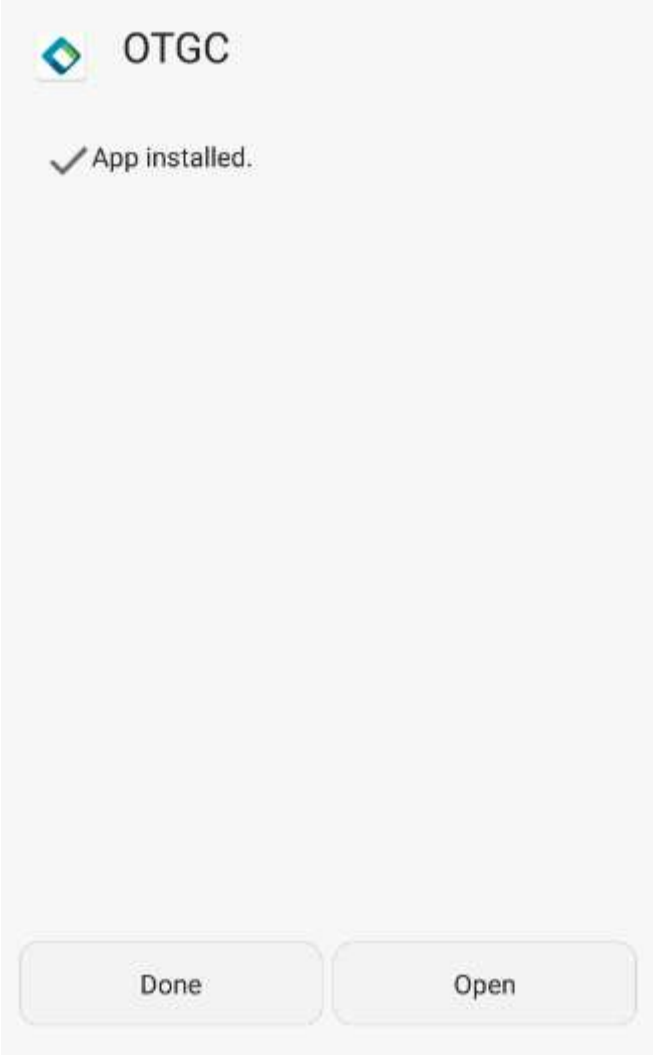

Figure 9: Final installation screen.

Figure 10: OTGC icon in the Home screen.

5 LINUX

5.1 GETTING STARTED

5.1.1 SYSTEM REQUIREMENTS

The OTGC Linux application has the following requirements to have a successful installation:

- Debian-based distribution (tested in Ubuntu 16.04).
- Amd64 architecture.

5.1.2 DEPENDENCIES

The OTGC application has the following dependencies, which must be installed previously or the installation is not possible:

- openjdk-8-jdk.
- openjfx.

These dependencies can be installed using the following command:

```
sudo apt-get install <package>
```

where <*package*> is the name of the package to install.

5.2 INSTALL

5.2.1 INSTALL WITH DPKG COMMAND

First, go to the folder where the OTGC Debian package has been downloaded using the console.

Figure 11: Change to directory that contains the Debian package.

To install the OTGC application, execute the following command, which requires root privileges:

```
sudo dpkg -i otgc-<version>.deb
```

where <*version*> is the target version of the package downloaded (e.g. 1.0.0).

```
ubuntu@ubuntu: ~/Downloads
ubuntu@ubuntu:~/Downloads$ sudo dpkg -i otgc-1.0.0.deb
[sudo] password for ubuntu:
Selecting previously unselected package otgc.
(Reading database ... 537721 files and directories currently installed.)
Preparing to unpack otgc-1.0.0.deb ...
Unpacking otgc (1.0.0) ...
Setting up otgc (1.0.0) ...
Processing triggers for gnome-menus (3.13.3-6ubuntu3.1) ...
Processing triggers for desktop-file-utils (0.22-1ubuntu5.1) ...
Processing triggers for bamfdaemon (0.5.3~bzr0+16.04.20160824-0ubuntu1) ...
Rebuilding /usr/share/applications/bamf-2.index...
Processing triggers for mime-support (3.59ubuntu1) ...
```

Figure 12: OTGC's installation output on Linux.

Once the installation process has finished, an icon of the OTGC application appears on the menu.

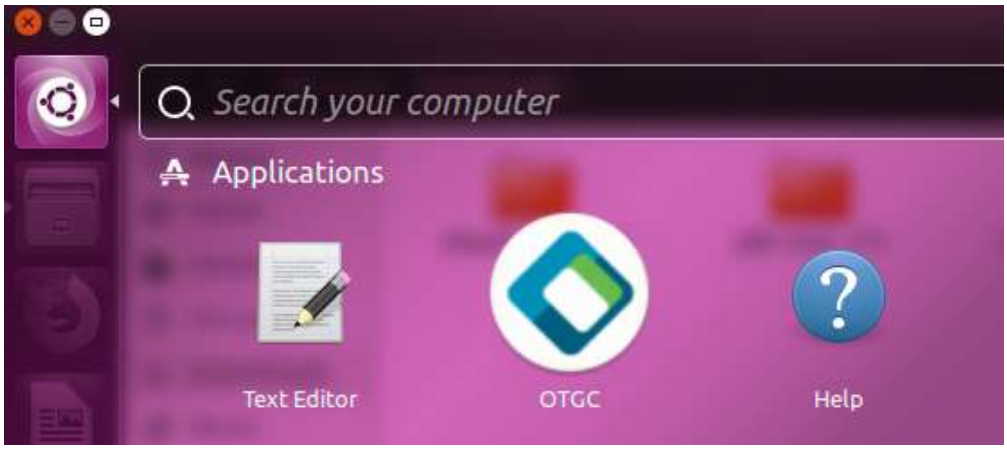

Figure 13: OTGC icon on applications menu.

5.3 UNINSTALL

5.3.1 UNINSTALL WITH DPKG COMMAND

To uninstall the OTGC application, run the command shown in Figure **14**.

```
ubuntu@ubuntu: ~/Downloads
ubuntu@ubuntu:~/Downloads$ sudo dpkg -r otgc
(Reading database ... 537802 files and directories currently installed.)
Removing otgc (1.0.0) ...
Processing triggers for gnome-menus (3.13.3-6ubuntu3.1) ...
Processing triggers for desktop-file-utils (0.22-1ubuntu5.1) ...
Processing triggers for bamfdaemon (0.5.3~bzr0+16.04.20160824-0ubuntu1) ...
Rebuilding /usr/share/applications/bamf-2.index...
Processing triggers for mime-support (3.59ubuntu1) ...
Processing triggers for libc-bin (2.23-0ubuntu10) ...
```

Figure 14: Uninstall OTGC application on Linux.