EUROPEAN COMMISSION

DIRECTORATE-GENERAL INFORMATICS

WiFi4EU Policy Enforcement Component

Implementation Guide
v1.1

Contents

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1. Introduction

Any WiFi installation network participating in WiFi4EU should comply with the conditions stated in the applicable Grant Agreement and annexes. This implies compliance with certain requirements regarding EU visual identity, usage and network quality. The European Commission (EC) is verifying the compliance of the participating networks by providing a "Policy Enforcement Component", also known as "the snippet".

The snippet is a piece of JavaScript code that needs to be integrated in the captive portal page of the participating network. It verifies the compliance of the captive portal in terms of visual identity, counts the number of users and measures connection speed and latency. The EC collects this data to monitor the operational state and usage of the WiFi installation, allowing operational validation prior to voucher payment or potential recovery in case of non-compliance.

In order to validate if a captive portal is compliant, it is possible to use the snippet in a "self-test" mode, which will provide detailed feedback regarding validation of the portal and snippet installation. The EC does not collect the data of the self-test.

2. Browser support

The snippet is written in plain vanilla JavaScript and works on all recent and widely used web browsers.

3. Data collected

The snippet collects following data:

- Network identifier
- Page load time metrics
- Validation of installation of the snippet
- Portal validation results
- Network metrics test (once every n page loads)

The snippet does not collect any personal user data, like userId, passwords, IP addresses, etc.

4. Installation pre-requisites

In order for the snippet to be set up correctly, some information is needed that is available in the WiFi4EU Supplier portal – Installation Report for each WiFi4EU network installation:
- WiFi4EU network UUID: the Universally Unique Identifier (UUID) that the EC attributed to this WiFi4EU network installation. It is generated when the network installation is created in the Installation Report and cannot be changed.
- IP Address/Range: the public IP address or IP address range from which the snippet will send the monitoring data to the EC. This address/range will be whitelisted in the EC data collection firewall to exclude communication from unknown sources.
- Captive portal name: the Uniform Resource Locator (URL) of the captive portal page wherein the snippet will be integrated. The EC will verify the compliance of this page with the WiFi4EU requirements.

5. Installation of the snippet

5.1 Including the snippet in the portal page

Each WiFi4EU network installation that is reported in the Installation Report, needs to have its own captive portal page. The following code should be put in top of the `<head>` tag of that portal page:

```
<script type="text/javascript">
        var wifi4euTimerStart = Date.now();
        var wifi4euNetworkIdentifier = 'NETWORK_IDENTIFIER';
        var wifi4euLanguage = 'PORTAL_LANGUAGE';
</script>
<script type="text/javascript" src="https://collection.wifi4eu.ec.europa.eu/wifi4eu.min.js"></script>
```

To obtain correct metrics it is important that the code is located at the top of the `<head>` tag. The placeholders for the variables need to be replaced by the correct values as explained in the following paragraphs.

5.2 Specifying the network identifier

A network identifier must be provided as a variable in the `<head>` of the portal page replacing the `'NETWORK_IDENTIFIER'` placeholder. The provided `wifi4euNetworkIdentifier` should be of type string and should correspond to the unique identifier (UUID) of the WiFi4EU network installation as indicated in the Installation Report.

Example: `var wifi4euNetworkIdentifier = 123e4567-e89b-12d3-a456-426655440000';`

5.3 Specifying the portal language

The `'PORTAL_LANGUAGE'` placeholder should be set to the correct language code in which the content of the portal page is served. The language code should be one of the 24 predefined language codes [1]:

Language	Code	Language	Code	Language	Code	Language	Code
Bulgarian	bg	Estonian	et	Irish	ga	Portuguese	pt
Croatian	hr	Finnish	fi	Italian	it	Romanian	ro
Czech	cs	French	fr	Latvian	lv	Slovak	sk
Danish	da	German	de	Lithuanian	lt	Slovenian	sl
Dutch	nl	Greek	el	Maltese	mt	Spanish	es
English	en	Hungarian	hu	Polish	pl	Swedish	sv

[1] Language code according to the official Interinstitutional Style Guide

Example: `var wifi4euLanguage = 'en';` when the portal page is served in English.

5.4   Example of the snippet with sample values

This is an example of the snippet with sample values for the `NETWORK_IDENTIFIER` and `PORTAL_LANGUAGE` placeholders:

```
<script type="text/javascript">
        var wifi4euTimerStart = Date.now();

        var wifi4euNetworkIdentifier = '123e4567-e89b-12d3-a456-426655440000';

        var wifi4euLanguage = 'en';
</script>
<script type="text/javascript" src="https://collection.wifi4eu.ec.europa.eu/wifi4eu.min.js"></script>
```

5.5   Installation of the WiFi4EU visual identity

In order to be compliant with WIFI4EU requirements the portal page should contain a specific placeholder that will be used by the snippet to insert a visual identity image. The snippet loads the correct visual identity according to the language setting as defined by the `wifi4euLanguage` parameter.

The visual identity placeholder should:
- Have `wifi4eubanner` as HTML id for the `img` element
- Have original width and height dimensions
- Not be overlapped by another element
- Be visible
- Be in viewport upon loading
- Have no opacity applied

To install the visual identity insert following code in your portal page HTML: `<img id="wifi4eubanner">`

5.6   Sizing and positioning of the WiFi4EU visual identity

In order to be compliant with WIFI4EU requirements the visual identity should always be visible upon pageload. Concerning the size of the visual identity the original aspect ratio should be respected.
On different viewport sizes there are different requirements for the visual identity:
- On viewports smaller than 600px wide: the visual identity should take up at least 90% of the viewport width
- On viewports from 600px and wider: the visual identity should take up at least 50% of the viewport width

Sizing and positioning should be applied on the visual identity placeholder using CSS.

5.7   Walled garden

A walled garden consists of web resources accessible before a user has been authenticated using the portal. In order for the snippet to function properly following addresses should be whitelisted in the walled garden:
`https://collection.wifi4eu.ec.europa.eu`
https://wifi4eucollectorprod.azurewebsites.net/api/PortalCollector

This must be configured on the Network Access Server (NAS) providing the hotspot functionality.

6. Self-test modus

6.1   Activating the self-test modus

A WiFi4EU supplier can test if the snippet is correctly installed and if its portal is compliant by enabling the snippet self-test modus. When running in self-test modus:

- No data is sent to the EC
- No metrics are calculated
- Validation results are shown in the developer console of the browser
- Visual warning is shown on the portal page indicating that the snippet is running in self-test modus

In addition to the network identifier and language variables, the var selftestModus = true; should be added in the portal page.

Example of installing the snippet in self-test modus:

```
<script type="text/javascript">

        var wifi4euTimerStart = Date.now();

        var wifi4euNetworkIdentifier = '123e4567-e89b-12d3-a456-426655440000';

        var wifi4euLanguage = 'en';

        var selftestModus = true;

</script>

<script type="text/javascript" src="https://collection.wifi4eu.ec.europa.eu/wifi4eu.min.js"></script>
```

This is an example of the developer console when the snippet is running in self-test modus:

```
--- Policy Enforcement Component selftest modus activated ---
===============================================================================
--- Validating snippet installation ---
--- Snippet timer correctly installed. ---
--- Snippet language correctly installed. ---
--- Snippet networkIdentifier is correctly installed ---
--- Validating snippet installation end ---
===============================================================================
--- Validating portal compliance ---
--- Validating WiFI4EU logo ---
--- Viewport larger than 600px detected, make sure to repeat this test in a smaller viewport ---
srcCheck: true
existsCheck: true
typeCheck: true
aspectRatioCheck: true
widthToViewportCheck: false
opacityCheck: true
visibilityCheck: true
overlapCheck: true
completelyInViewPortAfterLoadingCheck: true
--- => Logo requirements check FAILED => non-compliant portal. ---
--- Validating WiFI4EU Text ---
contentCheck: true
existsCheck: true
typeCheck: true
visibilityCheck: true
overlapCheck: true
--- Validating portal compliance end ---
===============================================================================
--- Summary ---
--- The Policy Enforcement Component is correctly installed. ---
--- The portal is NON-compliant with WIFI4EU regulations. ---
===============================================================================
.
```

6.2 Snippet installation validation

Following validations are performed to assess the correct snippet installation:
- Is the variable `wifi4euTimerStart` initialised before loading of the snippet? This is crucial for gathering metrics about the page-loading process.
- Is the variable `wifi4euLanguage` initialised before loading of the snippet and does the specified language code match one of the 24 predefined language codes?
- Is the `wifi4euNetworkIdentifier` correctly specified? This will be used to identify the WiFi4EU network installation to which this monitoring data is linked.

6.3 Visual identity validation

A number of validations are performed to verify if the Wifi4EU visual identity is properly displayed in the captive portal page. The result of each validation is displayed as `true` or `false`. True means that the validation has successfully passed.

Self-test modus returns following parameters regarding the visual identity validation:

Parameter	Use
srcCheck	Set to true if the injection of the logo src attribute in the placeholder was successful.
existsCheck	Set to `true` if an HTML element with the attribute `wifi4eubanner` is present on the page.
typeCheck	Set to true if the element identified by `wifi4eubanner` is of type img.
aspectRatioCheck	Set to true if the element identified by `wifi4eubanner` has the correct width to

	height ratio.
viewportWidthCheck	Set to true if the element identified by `wifi4eubanner` has the correct width relative to the viewport.
opacityCheck	Set to true if the element identified by `wifi4eubanner` has opacity set to 1.
visibilityCheck	Set to true if the element identified by `wifi4eubanner` is visible in the viewport upon page load.
overlapCheck	Set to true if the element identified by `wifi4eubanner` is not overlapped by another element.

6.4   De-activating the self-test modus

The self-test modus should only be used for self-validation of the portal. After finishing the self-test, remove the `var selftestModus = true;` setting, so that the snippet is in a normal operating mode and monitoring data is properly sent to the EC.

7. Troubleshooting

Potential Problem:

The snippet is properly installed in the `<head>` of the portal but is not getting loaded. This can be detected by going to the network tab in the developer tool of the browser.

Solution:

Please check if the domain on which the snippet is hosted is available when the user is not logged in yet. This can be achieved by adding the domain to the whitelist or walled garden. The location where the snippet is hosted should be accessible before being logged in and receiving full internet access.

Potential Problem:

The snippet is properly installed and loaded but displaying self-test validation results or pushing validation results takes a lot of time.

Solution:

Remove all slow-loading assets from the website. The snippet is triggered by the `window.onload` event fired by the browser when all assets (images, files…) of the portal `HTML` document are loaded.

In case of issues with the snippet installation or operation, please contact the WiFI4EU Helpdesk as indicated in the WiFi4EU portal.