# CUJOAI Incognito

## Privacy and Tracking Protection

White Paper for Network Operators

# Overview

CUJO AI Incognito is an opportunity for network operators to ensure a private, safe and uncompromised browsing experience for end-customers. Using our proprietary AI-powered machine learning algorithms, Incognito blocks third-party tracking software and stops the flow of information that powers targeted advertisements.

## Why is Incognito important for network operators?

- **Solves a sensitive issue that affects every user**
  Keeping private user data safe is increasingly considered as a NSP's responsibility and many end users want the ability to withhold profiling information.

- **Blocks tracking without the need to install additional software on user devices**
  As Incognito runs in the broadband gateway, all devices at home or in the office benefit from this solution with no endpoint software needed.

- **Ensures greater speed and superior user experience**
  Websites and apps will load faster with less advertising.

# Problem

When a person browses a web site or uses an app, there are a number of 'invisible' transactions that happen that shape the user's experience and what they see.

Website and app providers often supplement their own content with paid content (adverts) which form part of their business model and revenue stream. The invisible transactions include trackers that make the website work correctly, but they also include a range of information requests to target ads more effectively.

Sometimes the information pulled from a user's device can be private or personal in nature and the user might not want this to be used for advertising purposes. Also these transactions increase the communications load and slow the site down.
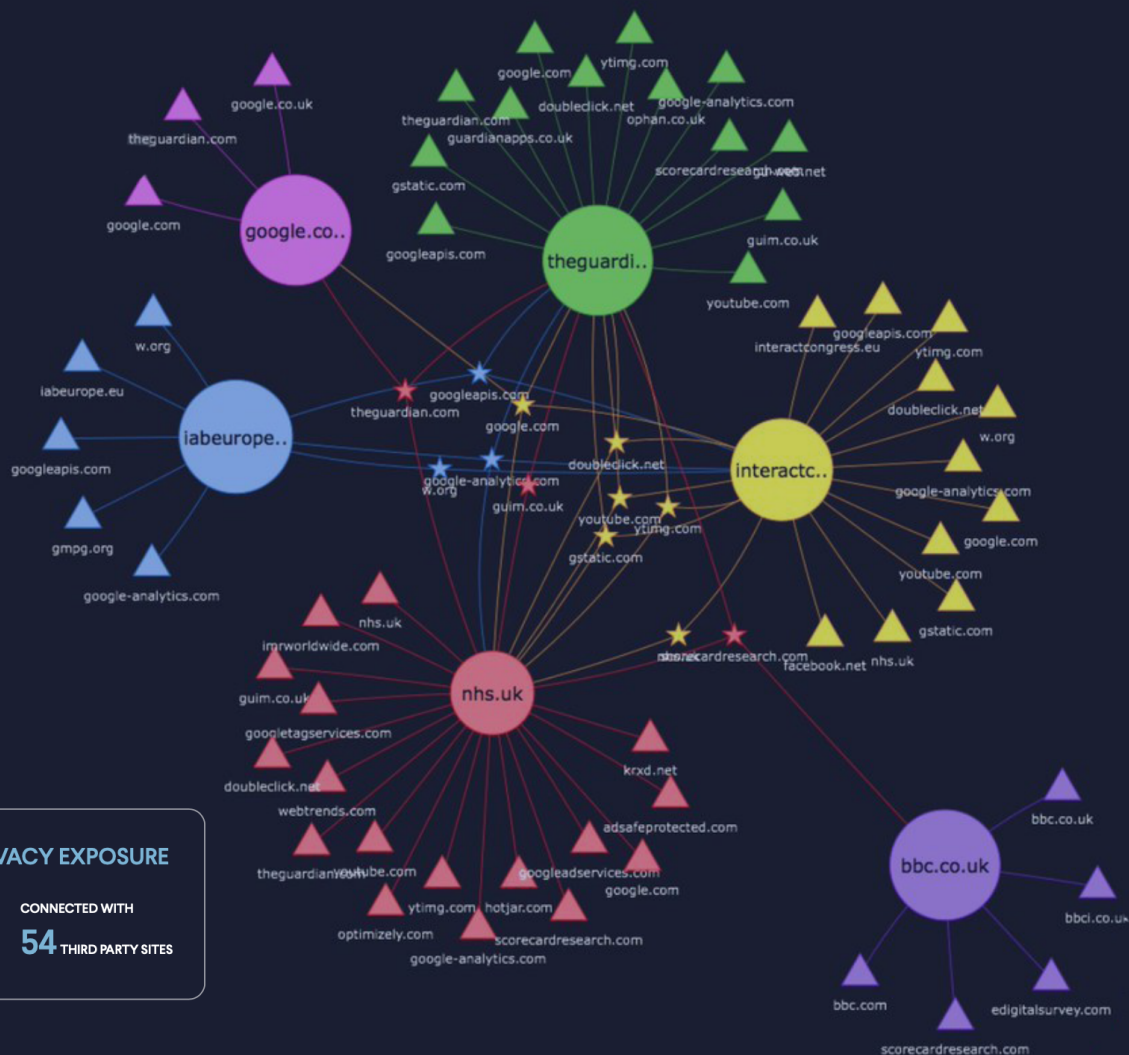
# Solution

CUJO AI Incognito leverages artificial intelligence (AI), machine learning (ML) analysis and real-time traffic classification to evaluate privacy threats in the data flow and then block elements of this to provide the best possible privacy protection.

The CUJO AI software lives on the broadband gateway and in the cloud. The main advantage of this network level based privacy solution is that no additional end-point software is required to protect private information across the broad spectrum of network-attached devices.

Not only does Incognito protect computers and smartphones, but also the growing number of other devices in the home and business that display content for which there is no end-point software available.

## Use cases

**Block activity trackers**
Prevent confidential online behavior from being tracked, without requiring software or plugin installation and maintenance.

**Block advertising networks**
Stop the flow of information that powers targeted advertisements that bombard customers as they use online services.

**Stops adverts on mobile apps**
Removes categories of adverts from appearing in mobile apps such as games.
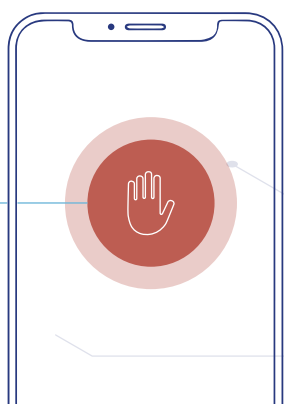
# Technical Overview

CUJO AI Incognito ensures privacy protection by blocking tracking software and preventing sites from employing personal user data for targeted advertisements.

Incognito analyzes and classifies browser interactions, letting the essential traffic through and blocking the traffic to third-party sites and advertising networks that profile the user. We also maintain an active whitelist of sites whose functionality is detrimentally affected if privacy blocking is enabled.

## Not all trackers are harmful

- **Website management**
  Websites often deploy their own tracking systems as well as those from third-parties. A number of these tracking solutions are used to make the website run effectively and give the user a joined up experience. Cookies can be used to personalize the website, saving the user from repeating selections or retyping passwords every time.

- **Website analytics**
  Other tracking solutions help the content owners optimize their site by understanding what pieces of information customers pay attention to and what they skip over.

However, some third-party tracking systems are used to automatically link into social media, profile users and their devices, retarget ads based on previously visited sites and mobile apps used.

# Third-party tracker types blocked by Incognito

- **Social media linking**
  Helps websites integrate your social networks and enable sharing of their content. But the same technology can also be used to track users and build profiles for advertising on social media.

- **Retargeting ads**
  Used to show adverts for products and services from other websites that the user has visited.

- **Ad profiling**
  Specific resources which are used to collect all the available information about the user and their actions online in order to profile them for the benefit of advertising companies.

- **Device fingerprinting**
  Builds a unique profile based on the device characteristics and browser settings that can be used when you visit other sites powered by the same ad network.

- **Web beacons**
  Also known as pixel tracking, this technology tracks content accessed and emails opened (basically anything with a picture) which can then be used to build a profile for advertising.

CUJO AI Incognito uses machine learning to analyze the website requests and upstream responses, looking for third-party trackers like cookies, browser fingerprinting techniques, and tracking ads. Incognito blocks these trackers in the broadband gateway and minimizes the personal information disclosed.



Blocks third-party trackers
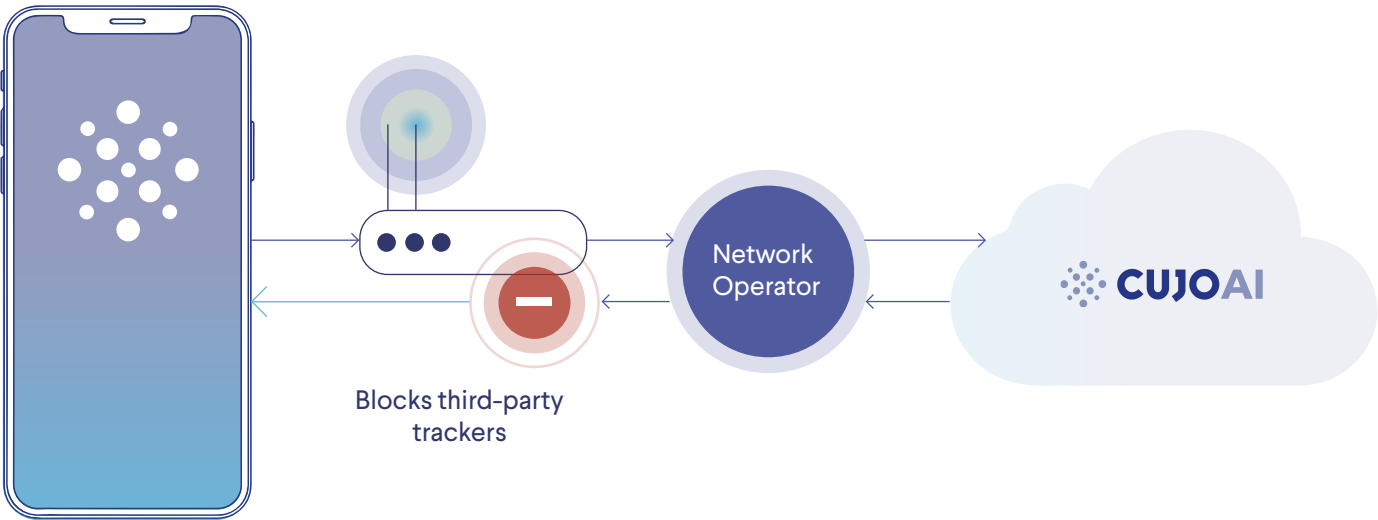
The effect of this is to speed up the page load and often reduce the number and intrusiveness of ads.

Without Incognito

With Incognito
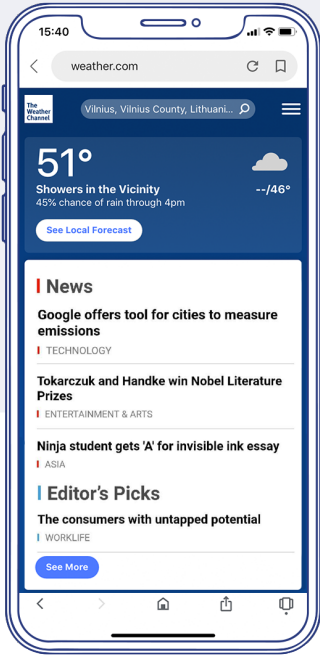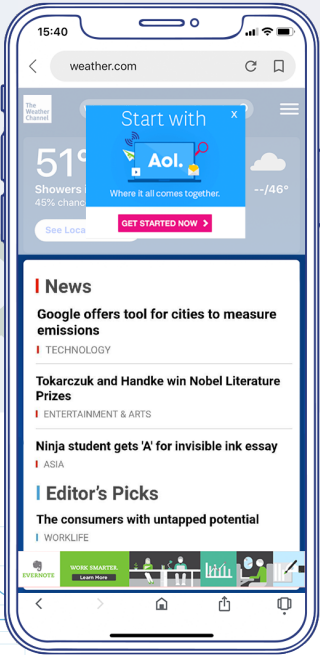
# CUJO AI Incognito Features

With Incognito, online experiences are safer, faster, and confidential user behavior data remains private.

- **Privacy Protection** – Incognito detects and blocks activity trackers, advertising engines and third-party tracking scripts to provide a more private and safer app and browsing experience.

- **Blocks Trackers Everywhere** – Incognito works across all types of Internet browsing, including SSL-encrypted content, TVs, IoT devices and mobile apps.

- **No Endpoint Software** – Incognito provides network-level protection at the broadband or network-deployed gateway, meaning no software is needed on individual devices.

- **Constantly Updating** – Machine learning algorithms monitor, process and react to new tracking and advertising sites in real time, ensuring a constantly up-to-date service.

- **Whitelisting** – Incognito uses whitelists where it knows that sites won't work if tracking software is blocked, and it lets this traffic through.

- **NSP Customizable –** CUJO AI enables the NSP to choose which tracker types are blocked and to customize the whitelist sites for their user base.

# Company

CUJO AI is the global leader in the develoment and application of artificial intelligence to improve the security, control, and privacy of connected devices in homes and businesses.

CUJO AI brings to fixed network, mobile, and public Wi-Fi operators around the world a complete portfolio of products to provide their customers with a seamlessly integrated suite of Digital Life Protection services while improving their own network monitoring, intelligence, and protection capabilities.

# Recognition

## Leading Lights
AWARDS 2019

Most Innovative
Security Strategy 2019

## WORLD ECONOMIC FORUM

Technology Pioneer 2018

## Gartner.

Vendor to Watch & Cool Vendor
in IoT Security 2018

## GLOBAL TELECOMS AWARDS

Security Solution
of the Year 2018

## FROST & SULLIVAN

Technology Innovation Award 2018
(IoT Security, North America)

## HFS Research

Hot Vendor 2018 Q4

## CUJO AI