



SAFEDNS

**Solutions for Software and
Hardware Vendors**

SafeDNS for Software and Hardware Vendors

The internet security and web classification markets require top quality, highly sophisticated solutions to satisfy demand of such market players as software and hardware vendors.

Depending on product specifications vendors look for an additional layer of security for products and their users, websites classification, internet traffic analysis as well as an opportunity to create a more precise user advertising profile.

To reach these goals the company offers vendors to integrate into their products the SafeDNS web content filtering service or its technology for categorizing internet resources. We provide vendors with integration-ready, cost-effective and highly scalable solutions to allow them expand the number of their products' features, secure them from cyber threats and get detailed insights on user behavior online.

All SafeDNS solutions are based on our own database of categorized internet resources, SafeDNS DB with over 90M categorized sites. To make the categorization of internet resources precise we use terabytes of DNS logs generated via the SafeDNS filtering service and data gathered by our own farm of web crawlers. Continuous machine learning, AI and behavior analysis, applied to this data, ensure excellent quality of our technology for internet security and web classification.

SafeDNS integration-ready solutions are designed for:

- Networking hardware vendors (web gateways, Wi-Fi routers, firewalls, and other network equipment)
- Security software developers (DLP- and DPI-systems, antiviruses, web filters, parental controls etc.)
- Internet application developers (antiphishing modules, advertising systems, forums, social media sites etc.)

Our filtering services are already successfully used in networking hardware by Fält Communications and ZYXEL around the world.

Offer customers new opportunities

Integrating SafeDNS is indispensable for:

- Web filtering with filtering by content categories, black and white lists, safe search etc. It allows you to monitor and filter the internet on per user or per device basis with different settings for users of your network equipment.
- Analyzing users' traffic to identify safety violations and create a user advertising profile.
- Using SafeDNS DB in your software and services or the content filtering software already installed onto your equipment.

We have a number of open APIs to integrate our services and database into third-party products:

Categorization SDK and API. It allows to get content categories for certain websites and links from our database via SDK or HTTP GET request to our API.

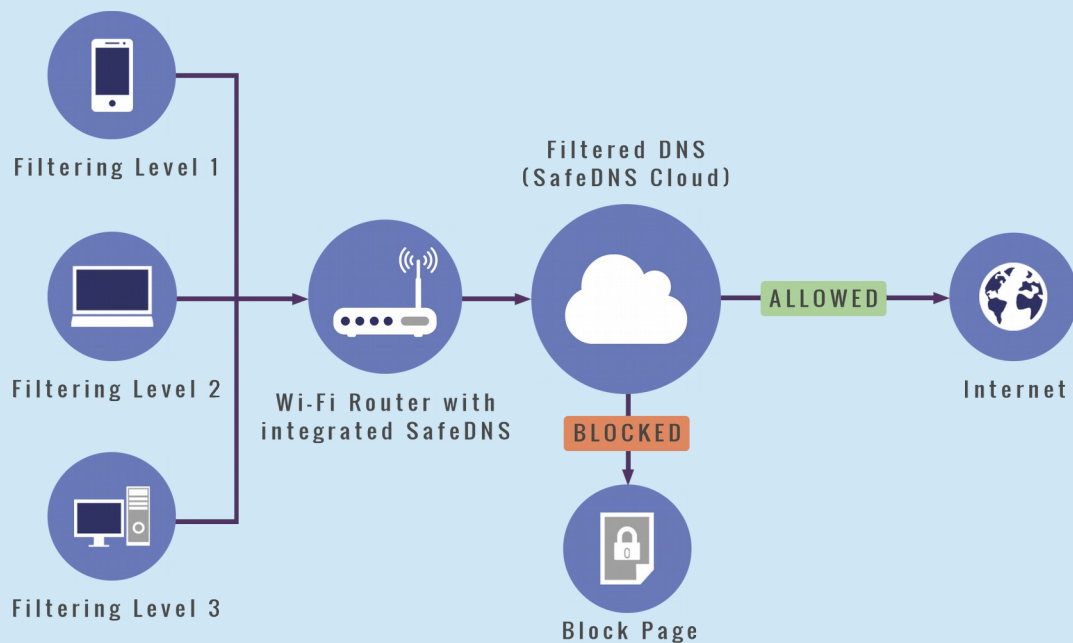
Subscription API. It allows to create users in the SafeDNS cloud service with the preset parameters of subscription (duration and a billing plan), assign and change IP addresses, passwords etc. This API can be used to integrate your network equipment centralized management system with our cloud filtering service. It is usually used in conjunction with our White Label Portal (a brand-free cloud filtering service).

Update API. Used in routers with dynamic IPs to update these addresses in the SafeDNS cloud via the standard API similar to APIs of Dyn.com, DNS-O-MATIC etc.

JSON-RPC API. This is the core API of the entire SafeDNS service. It's used for the management of all user settings, signing DNS requests with user's tokens to differentiate users' requests on the local network and behind the NAT. This API is used in our agent software and is the main API for integration of our service into Wi-Fi routers and other network equipment.

Possible ways to integrate SafeDNS into your networking hardware

Using our cloud service in the Filtered DNS mode. It does not require additional adjustments from the user side, except for the choice of a filtering policy on the equipment or in the management system. You can create different filtering levels, e.g. policies for different users of the equipment. From our side – we create up to 5 unique DNS service IP addresses on our cloud servers. Different filtering settings are applied for each of these IPs. For example, on the first IP users get the maximum filtering level for all adult content, social media, forced safe search in Google and Bing, restricted mode for YouTube etc. On the second IP – medium level of filtering, where access to social media is open, safe mode for YouTube is off. And on the third IP – everything is open, except for porn and malware resources.

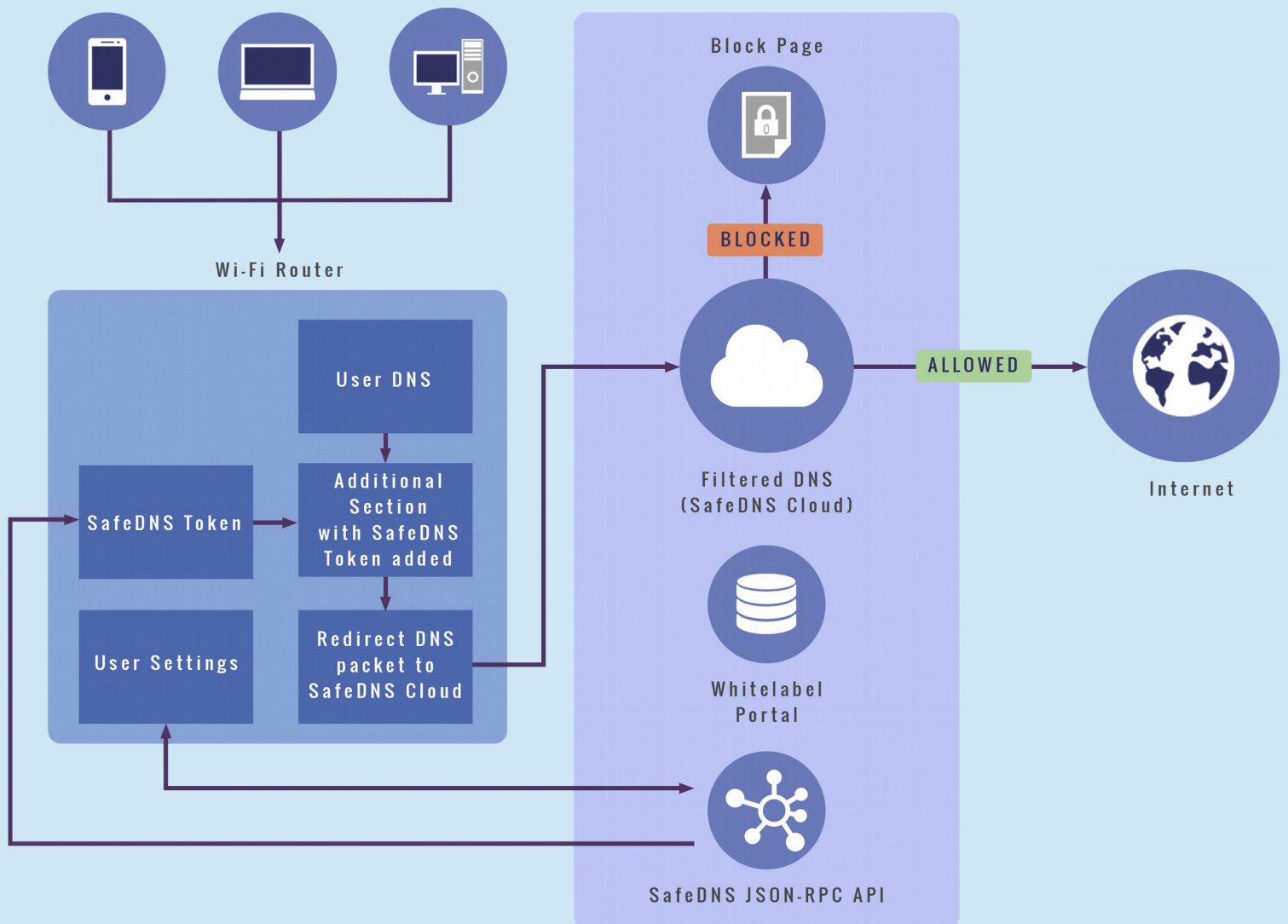


Redirecting all your customers' DNS requests to one of these addresses ensures all of them will be filtered with the same settings considering the chosen level of filtering. You will be able to manage filtering settings for each IP and customize block pages via your account in our service.

Full integration of the SafeDNS cloud content filtering service into your devices for filtering users on a local network and behind a NAT with different filtering settings.

In this case JSON-RPC API is applied. As our filtering technology is based on resolving DNS queries, DNS packets must be modified inside your network equipment according to the scheme below. A special token must be added to the additional section of DNS requests coming from an end user's device. Tokens are applied to identify users on the side of SafeDNS servers to apply the necessary filtering rules to devices of the identified users.

This kind of integration is already deployed in ZYXEL Keenetic SOHO WiFi routers and Fält Communications Wi-Fi routers for transportation systems.



Using SafeDNS Categorization SDK for traffic analysis of your security software or existing content filter in your hardware. In order to get websites and URLs categorized use our special Categorization SDK and API. For high load real time systems SafeDNS Categorization SDK should be used. For other cases we offer high speed Categorization API.



HTTP Request: GET http://z.api.safedns.com/domain/google.com

HTTP Response: {"category": [48], "category_name": ["Search Engines"]}



SafeDNS z.api

Filtering System

For all integration options we provide a detailed description of the solution architecture to seamlessly integrate SafeDNS into your products. Upon additional agreement we can fully develop an integration module for your equipment.

Big data analysis

On top of all listed options **SafeDNS offers big data analysis of DNS requests** from your network equipment in order to identify malware resources and infected end user devices. Based on machine learning and behavior analysis our classification system, already deployed in the SafeDNS core service, is highly precise in identifying malware resources and infected user devices requesting those resources as well as creating a precise user advertising profile.

SafeDNS makes it easy for you to

- Integrate and manage its filtering solutions with open APIs
- Meet customers' expectations for enhanced protection against web threats
- Offer customers new cool features like content filtering and network monitoring
- Get detailed data on how web traffic is used on a network to improve security and create a more precise customer internet usage profile

Why SafeDNS

We provide cloud solutions for web content filtering and internet security focusing on the telecoms market and that of network equipment manufacturers. Our products and services are used by over 100 mobile and internet service providers to allow, block and monitor access to the web and increase customers' safety online. The SafeDNS filtering solutions are integrated into networking hardware of vendors selling it internationally.

The SafeDNS highly scalable distributed network is able to accommodate any number of users and provides fast response worldwide with no latency. We process over a billion requests daily blocking access to 9 million queries to malware and botnets. We have a global coverage with SafeDNS filtering servers located throughout data centers in New Zealand, Europe, North and Central America with 100% up-time during the last 5 years.

Our own farm of web crawlers gathers huge amount of data off the internet. That is why our internal database covers billions of URLs and over 150 million websites.

The efficiency of the SafeDNS web filtering system has by now been proved twice by AV-Comparatives, a world leading test lab. For 2 years straight our filtering service is named Approved Parental Control Product as SafeDNS blocks porn with 98% precision and has zero false positives.

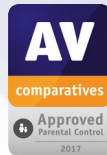
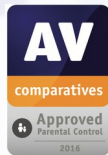
SafeDNS is Editor's Choice for Content Management & Filtering Solutions in 2016 Cyber Defense Magazine Infosec Awards. We create a next-generation innovation and advanced technology for protection against web threats and making the internet cleaner and safer all our users.

This fact is recognized and emphasized with this award by the industry's leading electronic information security magazine. The award further validates our company as an innovator in the sphere of online security and web content filtering.

Being Internet Watch Foundation Member, SafeDNS includes in its web filtering system and blocks URLs of indecent images of children and abuse domains from Child Abuse Images and content list (CAIC) supporting IWF efforts to stop child abuse and exploitation online.



SafeDNS is also Friendly WiFi Approved Provider which means our content filtering solutions are recommended for public WiFi owners and providers seeking to ensure a safer web connection for their users.



AV-Comparatives

For 3 years in a row SafeDNS is named Approved Parental Control Product by AV-Comparatives, a world-known independent test lab. In a 2017 test SafeDNS blocked 99.8% of adult content. It did not have false positives.

Cyber Defense Magazine

"We're thrilled to recognize next-generation innovation in the information security marketplace and that's why SafeDNS has earned this award from CDM"



SAFEDNS

SafeDNS was founded in 2010 for developing internet security and web filtering solutions for the telecom market and end users. SafeDNS provides products and services for educational institutions, home and corporate users like network operators, MSPs and VARs. Now SafeDNS solutions are used by more than 4000 businesses and institutions and hundreds of thousands of home users worldwide.

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