

Offload in Control

A new approach to mobile data offload



The high growth in mobile data volumes requires large investments in cellular infrastructure upgrade to provide the required bandwidth.

The obvious solution is LTE mobile operators look for alternatives due to the need to cut operational costs per bit.

Wi-Fi networks seem like the best candidate for closing the gap.

Introduction

Wi-Fi has evolved immensely in the last years and today it offers a combination of very high data rates combined with secured and seamless access based on SIM/uSIM authentication using EAP-SIM/AKA standards.

Accessing Wi-Fi using the mobile phone or tablet is possible today. Smart phones are usually configured to detect Wi-Fi networks and to switch over automatically when possible.

Wi-Fi offload – the problem

The problem with automatic switchover decisions is that they are taken locally by the phone without any information on the available QoS of the detected Wi-Fi networks. This means that the offload process cannot guarantee that the switch to Wi-Fi will improve the user experience. On the other hand, once the mobile phone switches to Wi-Fi it will not switch back even if the network becomes congested or if there is loss connectivity to the internet unless it is manually switched.

The outcome is that mobile users see public Wi-Fi as a poor quality, unreliable solution which cannot be a real alternative to mobile data services.

Managed offload service

In order to resolve the quality problem, mobile data offload should be offered by the **operator as a centrally managed service**. The service is focused on providing the user with the **best QoS possible**. By shifting the offload decision to the core we turn the Wi-Fi network into a self-optimized network (SON). It enables load balancing between mobile and Wi-Fi networks utilizing all the available bandwidth of both networks.

After offloading, the service continues to monitor the state of the Wi-Fi networks and will switch back part of the users in case the QoS available degrades below a certain level in order to load balance the traffic.

By monitoring the QoS of the Wi-Fi network and assuring a predefine minimum QoS, the Wi-Fi network can be used for Voice offload as well, reducing costs mainly for MVNOs .

MNO Benefits

- Reducing investment in mobile networks upgrade
- Enlarging mobile network reach, especially in dense urban areas
- Load balancing between mobile and Wi-Fi networks for better utilization of network resources
- Offering a reliable Wi-Fi service which is the key to mass usage by end users
- Real time status of Wi-Fi networks
- Seamless solution – can be used to enhance available Wi-Fi service, or to provide a solution for a new service.

MVNO Benefits

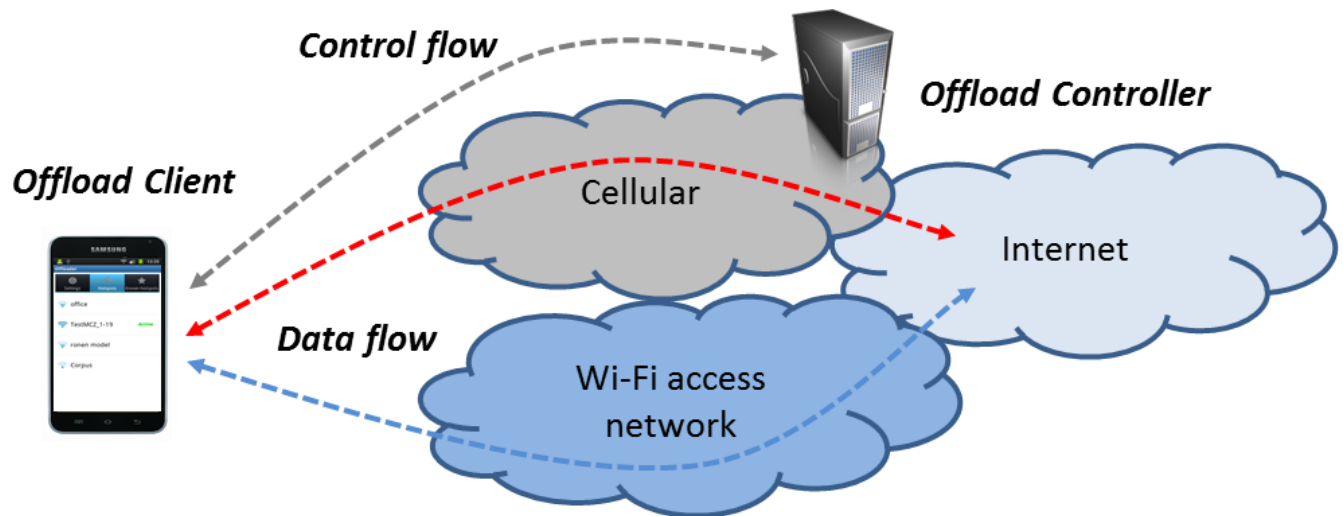
- Reducing operation costs by offloading both voice and data.

Offload in Control

The ContiNewIt **offload in control** solution is based on a combination of an offload controller located within the network and an app on the mobile device. The controller handles all offload decisions and optionally supports end-to-end EAP-SIM/AKA authentication for seamless handoff.

The solution is agnostic to the offload scheme used by the mobile operator and can work over any Wi-Fi network either owned by the mobile provider or by its roaming partners.

Centrally managed offload solution based on QoS



Offload controller

Main features

- Control and monitor the offload process
- Based on 3GPP ANDSF
- Modular, scalable server configuration, redundancy support
- WEB interface for control and monitoring
- Enhanced offload policies
- EAP-SIM/AKA authentication gateway
- Voice offload support including VCC and one number service

Offload client

Main features

- Android and iOS support
- Seamless roaming and authentication
- Support several authentication schemes
- Simple and user friendly GUI

ContiNewit is a new division of IPgallery focused on offload solutions for mobile networks.

ContiNewit takes the vast knowledge and knowhow of IPgallery and uses its field proven technology to offer new innovative solutions for mobile Voice and Data offload.

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