

# MIF Security IPsec Requirements

**Daniel Migault, Carl Williams**

draft-mglt-mif-security-requirements-00.txt - IETF83

# Table of Contents

## I. MIF designed Transport Protocols like SCTP, MPTCP provides:

- Bandwidth Aggregation
- Multihoming
- Mobility (Soft Handover)

Problem Statement: On untrusted and unreliable WLAN, ISPs need

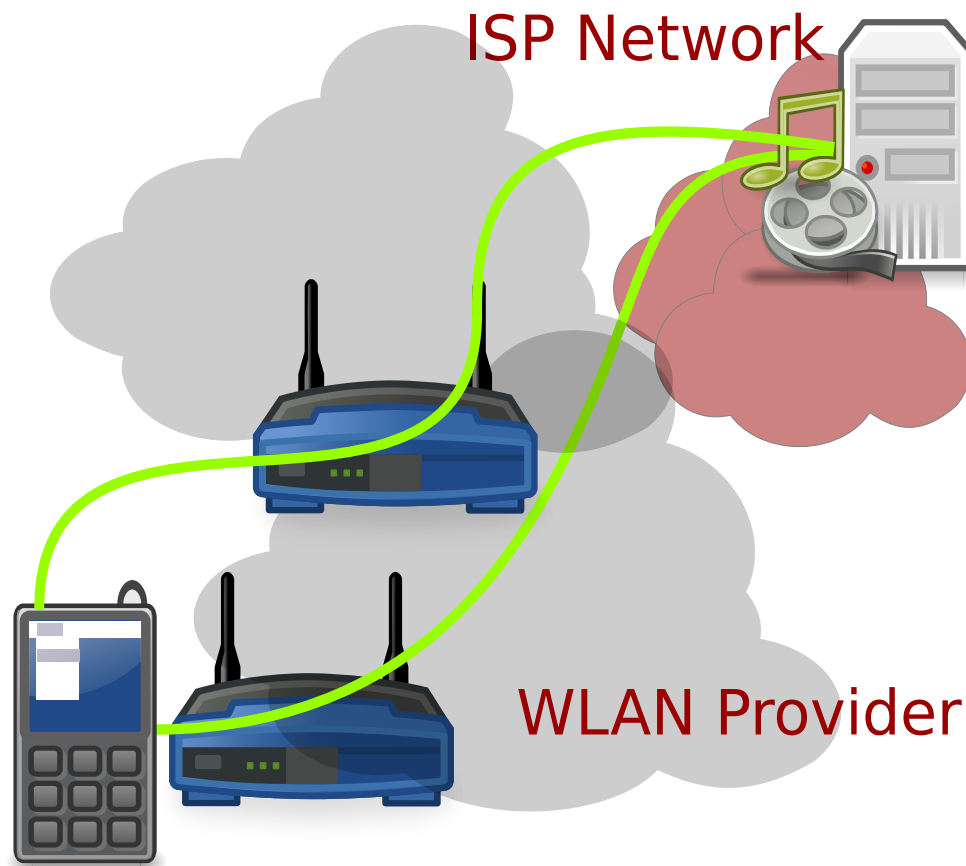
- To Secure with IPsec End Users' Communications
- To make IPsec Secure Communication also benefit from the MIF features
- **Currently IPsec does not address MIF features**

## II. IPsec MIF features

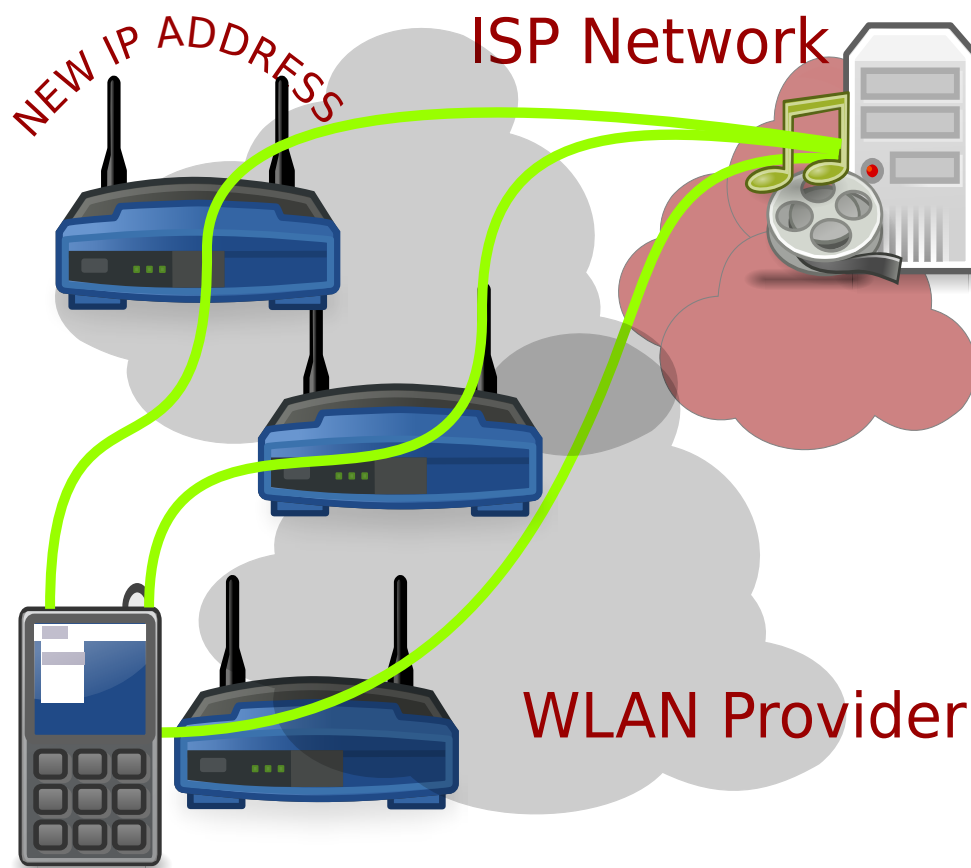
- What IPsec badly configured causes?
- IPsec Security Requirements

## III. What is Next?

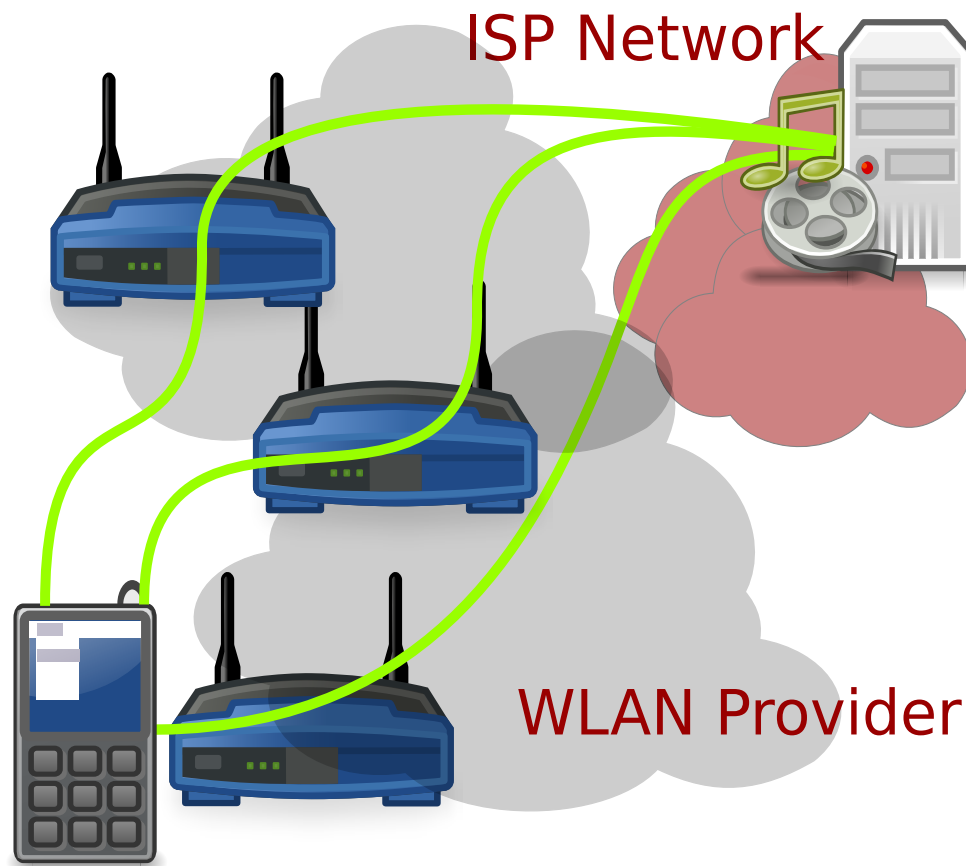
# Bandwidth Aggregation



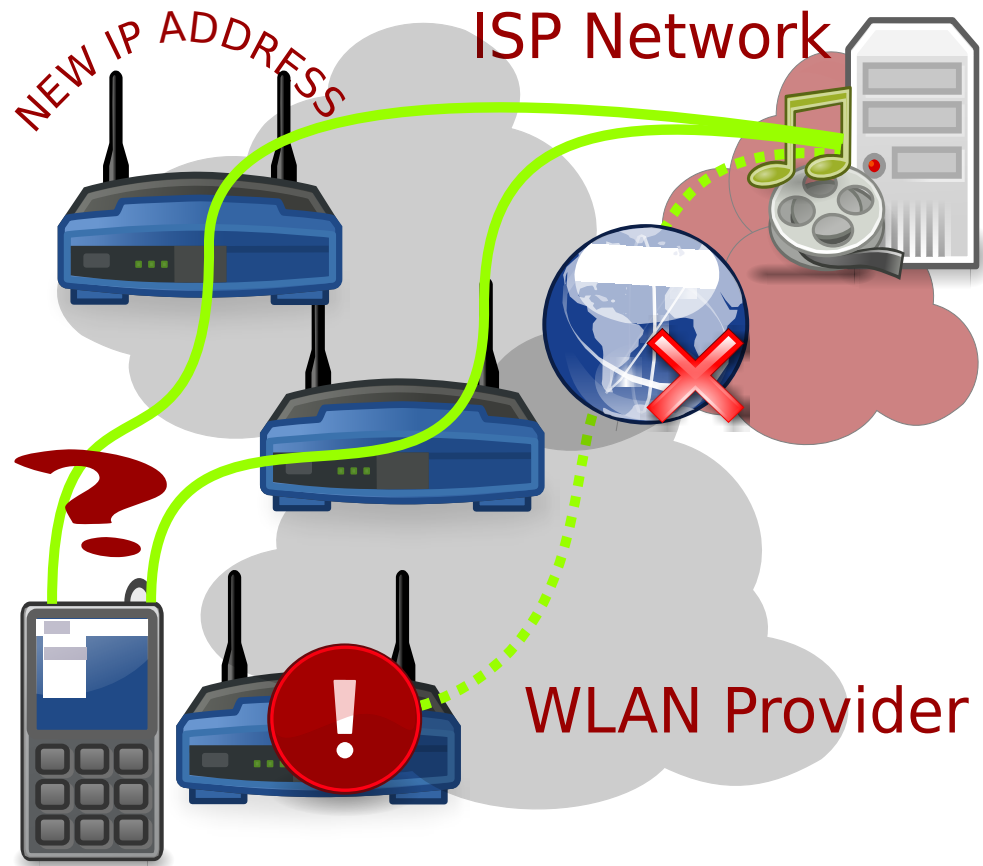
# Bandwidth Aggregation



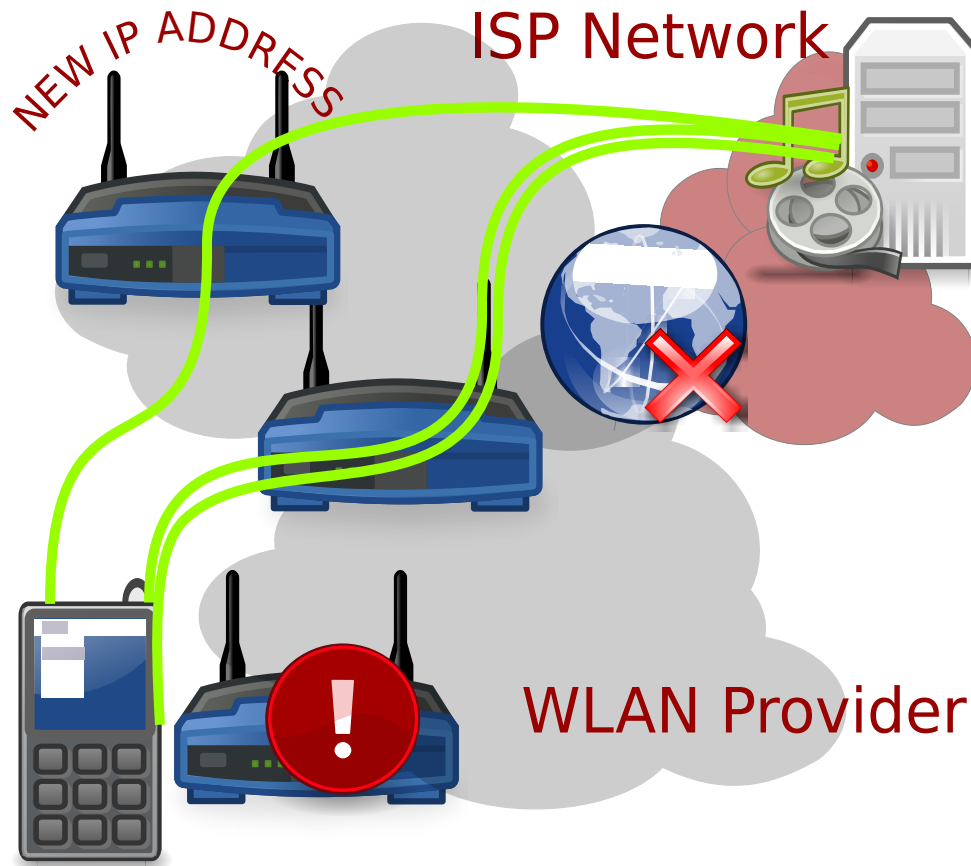
# Multihoming



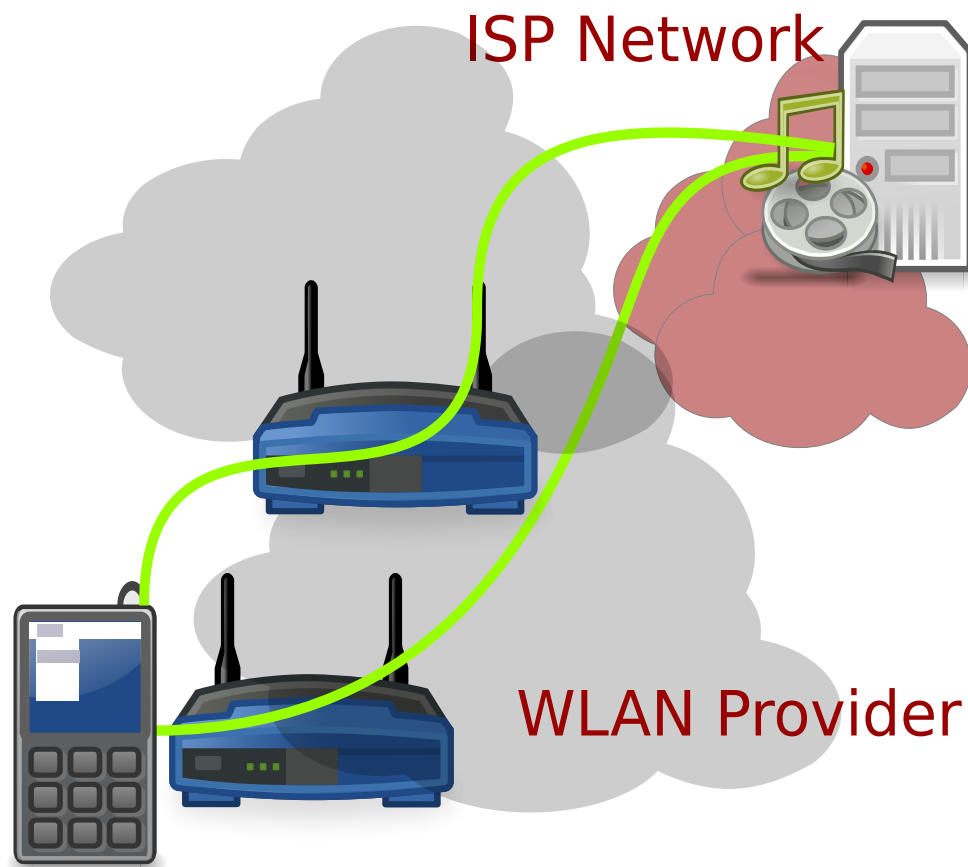
# Multihoming



# Multihoming

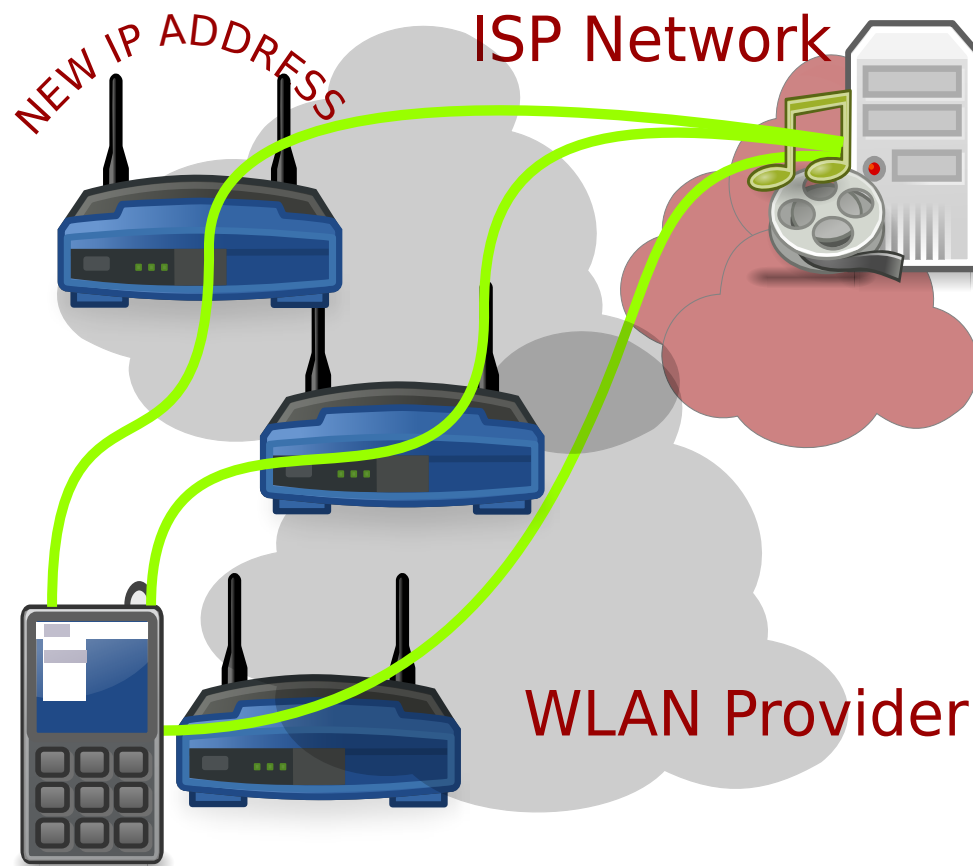


# Mobility Soft Handover

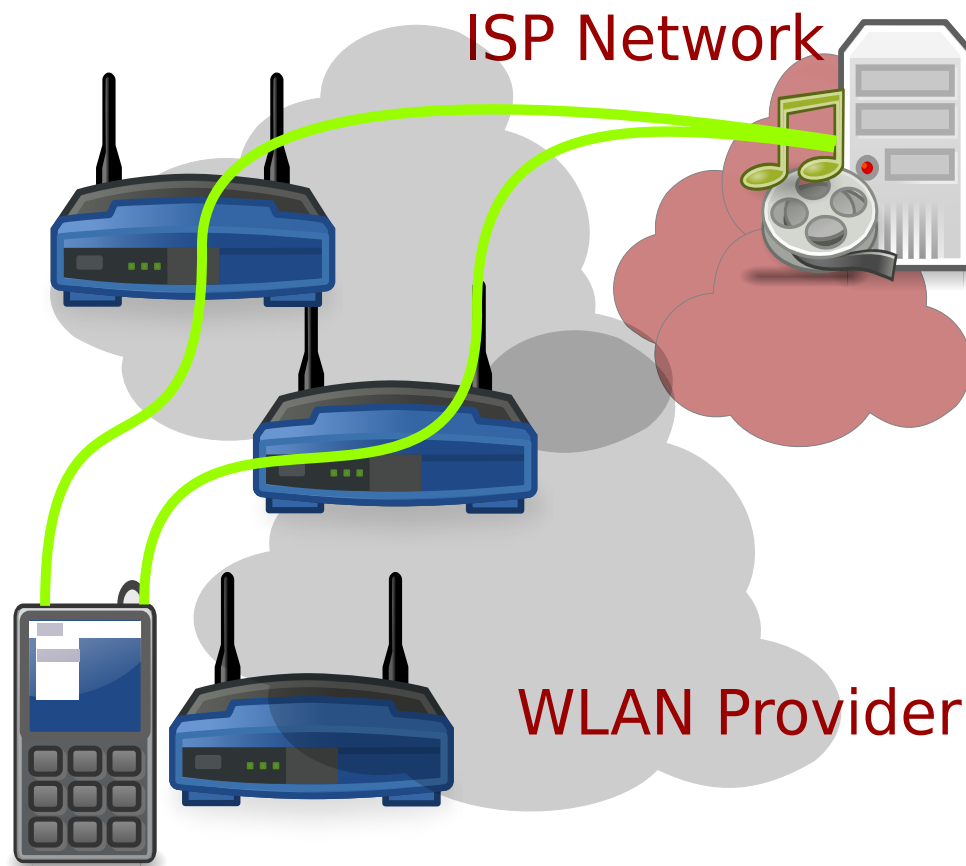




# Mobility Soft Handover



# Mobility Soft Handover



# Offload Context

On WLAN ISPs need:

- MIF features to enhance End User Experience
- To Secure the Communication (IPsec)

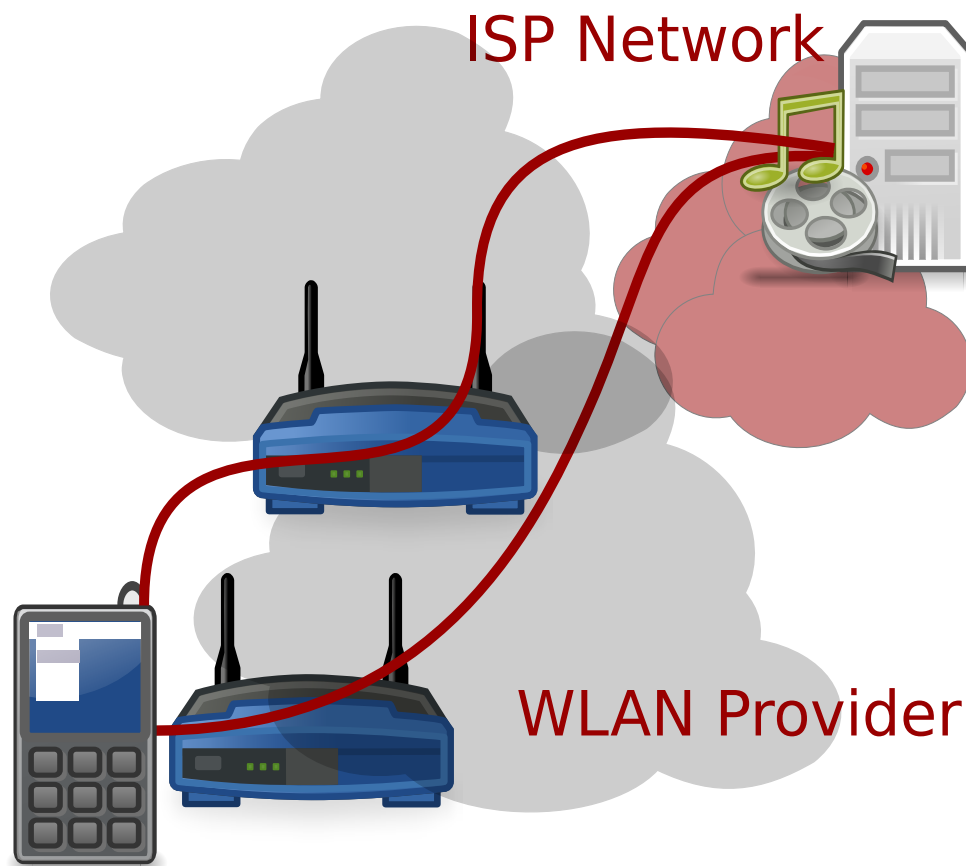
How to deal with IPsec ?

- Bad IPsec configuration breaks Communication: **We don't want it**
- Initiating a new IPsec configuration for each new Interface multiplies exchanges, IKEv2 negotiations, authentications...: **We don't want it**

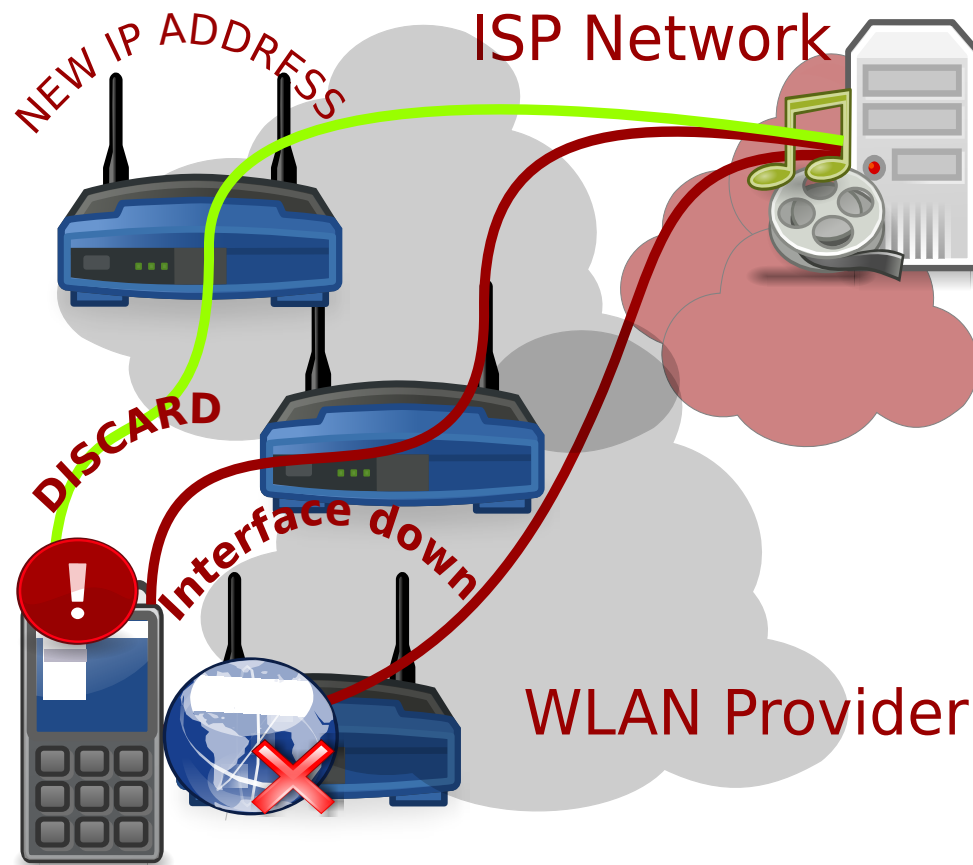
**We want IPsec provides the same features as MIF Transport Protocols like MPTCP, SCTP...**

- MOBIKE address the problem for a single Interface: **We want to extend this to MIF**

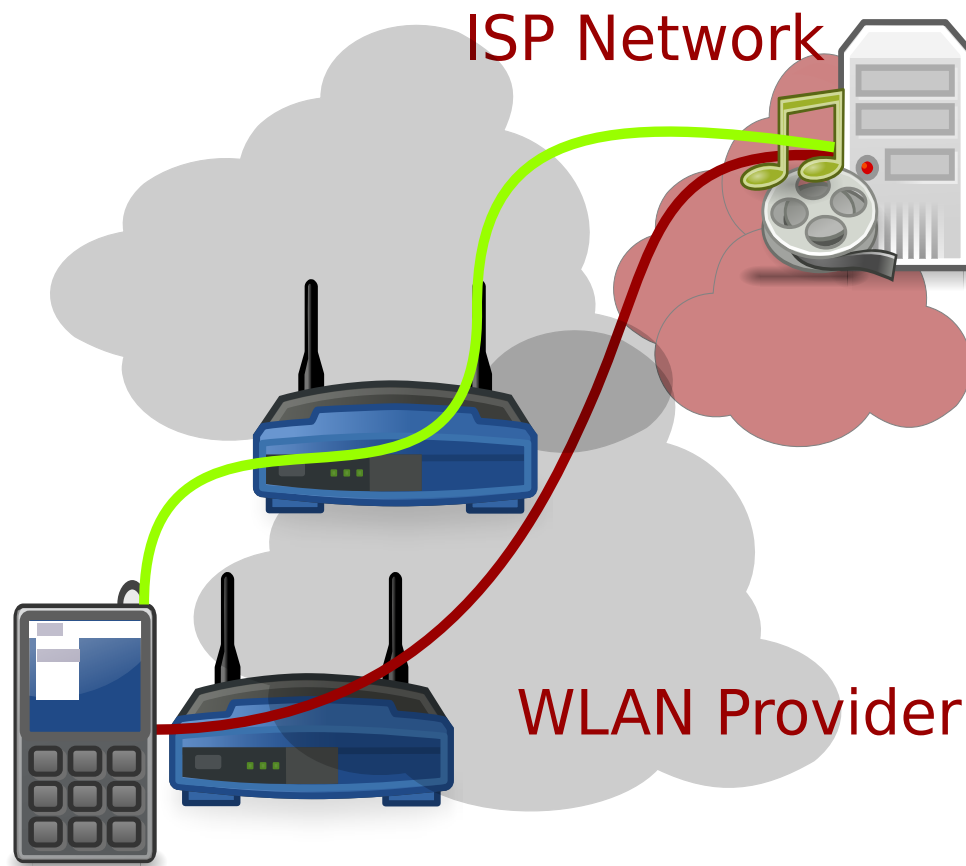
# Ex. Mobility



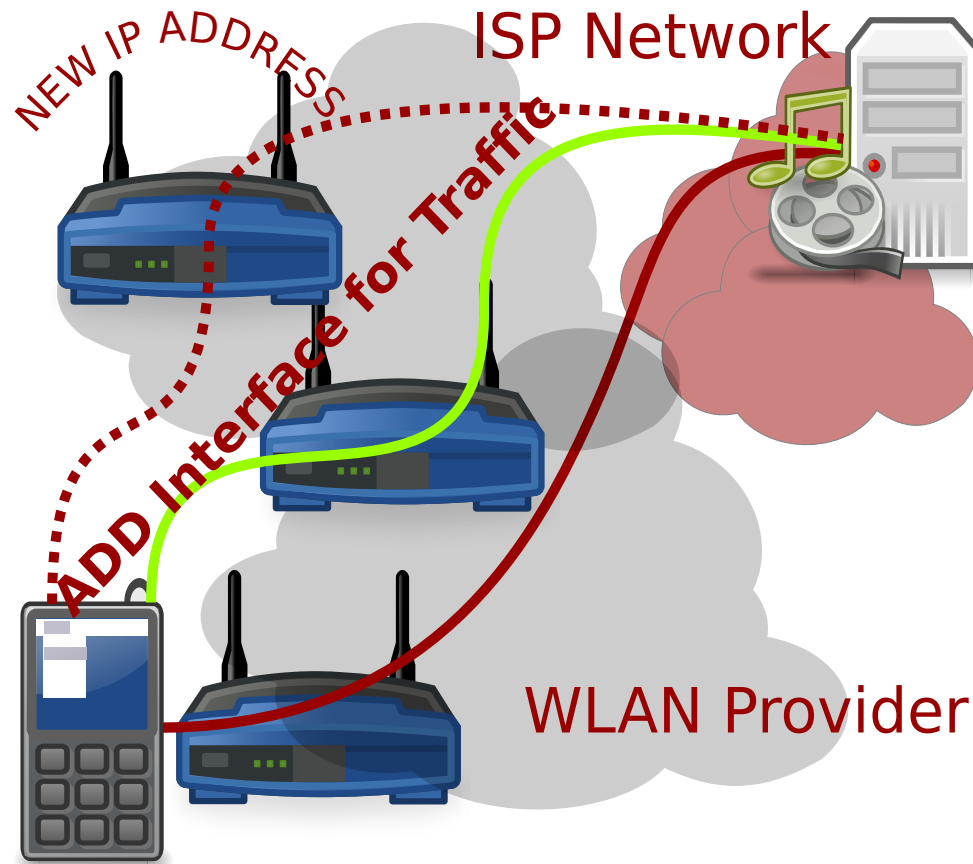
# Ex. Mobility



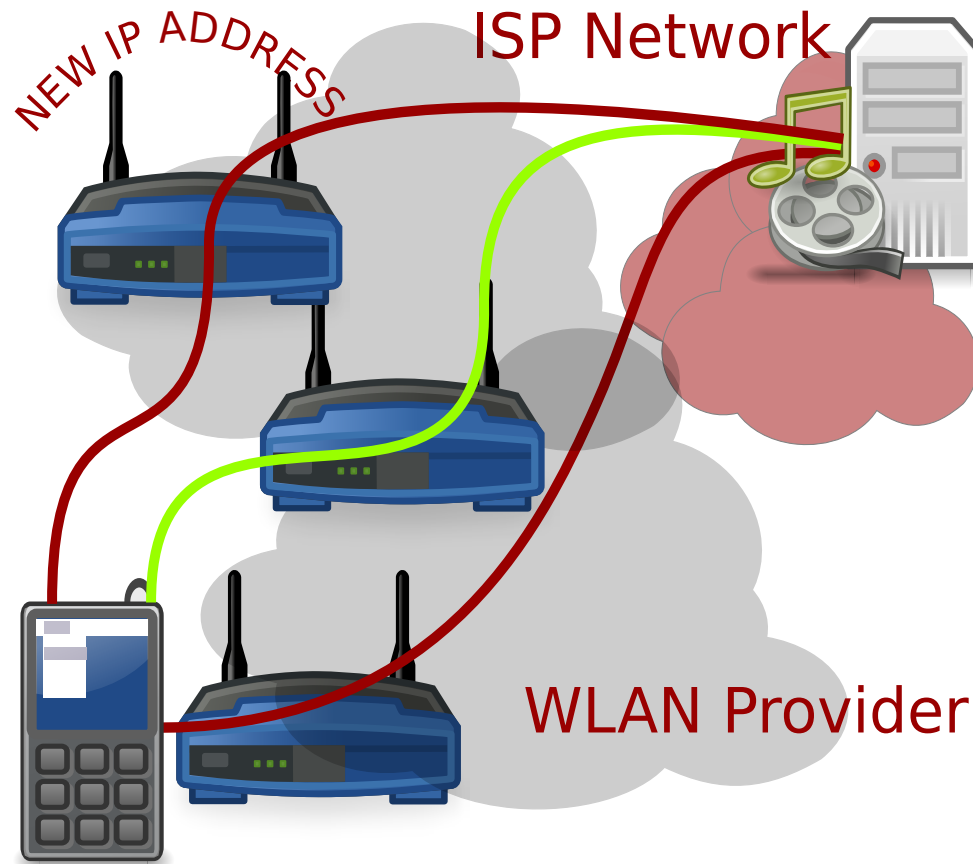
# Mobility Soft Handover



# Mobility Soft Handover

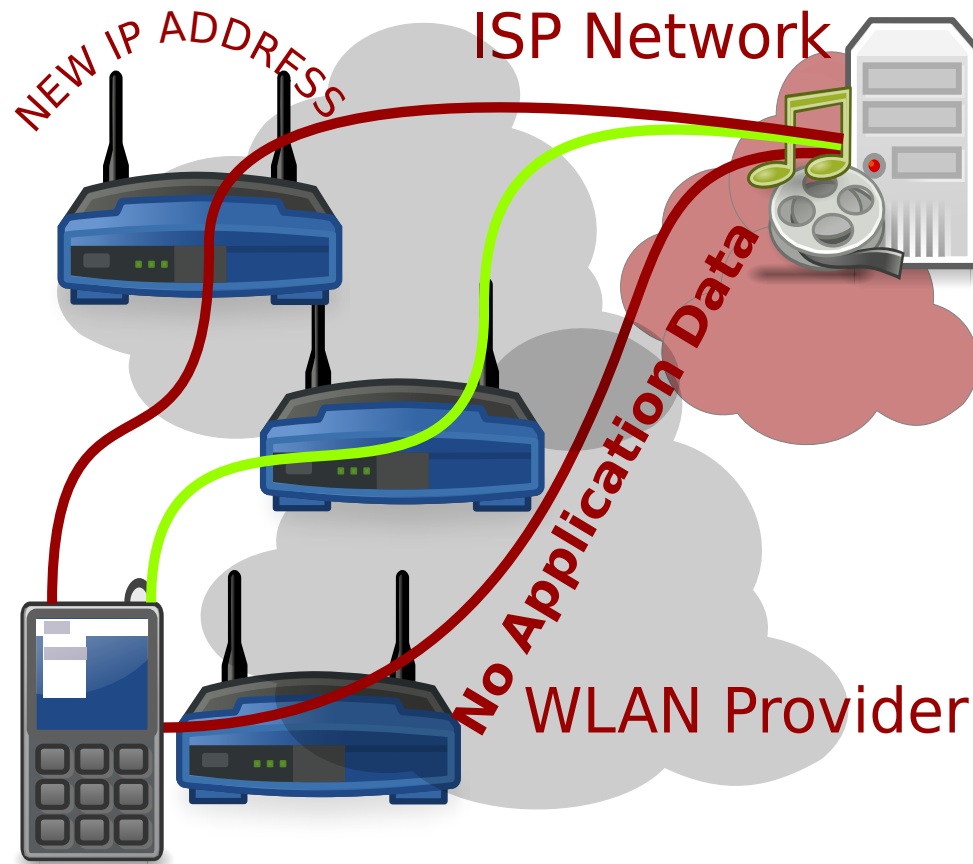


# Mobility Soft Handover

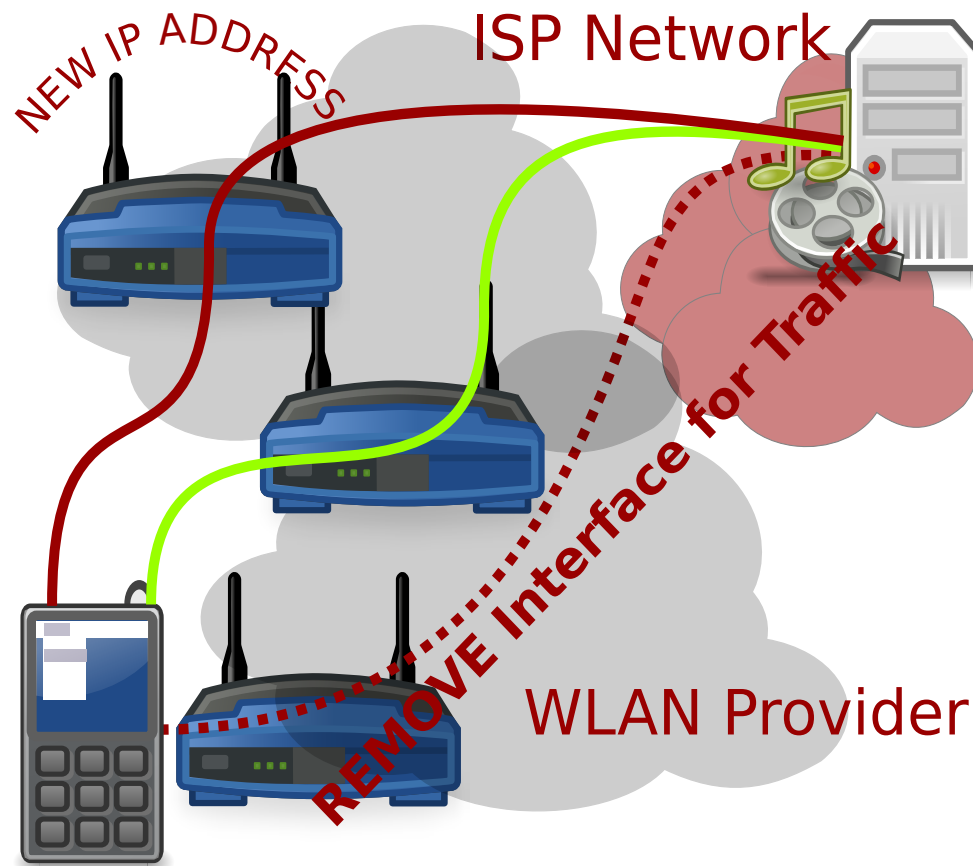




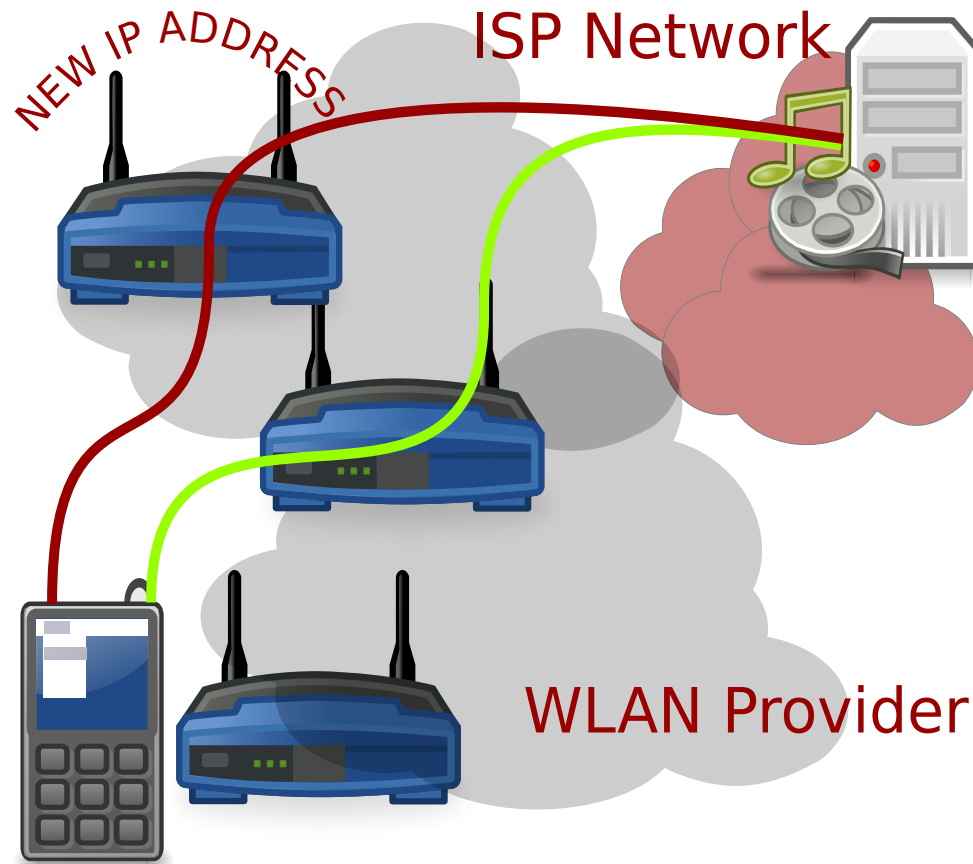
# Mobility Soft Handover



# Mobility Soft Handover



# Mobility Soft Handover



# MOBIKE

MOBIKE does not work because it deals:

- With a Single Interface
- Tunnel mode only
- Multihoming and Mobility (Hard Handover)

MOBIKE needs to be extended for:

- Multiple Interface: ADD / REMOVE
- Traffic Selector for Mobility / Multihoming / Multiple Interfaces Management
- IPsec Transport mode

# Future Work

We would like it to be a Working Group Document

Check if there are other use cases than offload

- Vehicular / MPTCP / Connecton Manager

We expect to provide a finalized version of the draft by next IETF