

February 21 - 25, 2005

Sophia Antipolis, France

Title: Threat of users accessing each other in link layer

Source: ZTE Corporation

Document for: Discussion and decision

Agenda Item:

Work Item: WLAN-IW

1 Introduction

In public LAN, it is a real threat that users can access each other in link layer directly. Users accessing in link layer means that the traffic from one UE is bridged to the target UE by AP, but not routed up to routers in WLAN Access Network. This can result in two threats,

- Threat to legal user's assets, because there is no trust between the users in hotspots (such as airport, hotel, and etc.). A user may access another user's equipment, which indicates a potential risk that user's information assets in his UE could be stolen due to careless files/directories sharing.
 - Threat to 3GPP operator's assets, because users can bypass charging collection at access routers if they access each other in WLAN link layer. Access service provider may lose income if the charging is volume based.
-

2 Solutions

Some technologies available can be used to eliminate the threat of user access in link layer. User traffic could be segregated in three aspects:

- MAC access control on the same AP: this can prevent UEs associated with the same AP access each other directly. Most AP equipments can support this feature in firmware.
 - User traffic segregation in Layer 2 between different APs: this is used to prevent UEs associated with different APs access each other through DS (Distribution Service) in link layer. Some technologies, such as MAC access control or VLAN can be implemented in access controller to achieve this function.
 - Controlled access in Layer 3 on access controller: this prevents IP access between users. VLAN is also competent for this function.
-

3 Conclusions

User access in link layer is a threat to the assets of both user and 3GPP operator. There is a requirement to segregate user traffic at AP and access controller in WLAN AN.

We suggest discussing this topic, supplementing the threat of user accessing each other in link layer to Annex C.2, and adding corresponding requirements in section 4.2. The CR on these changes has been prepared.