

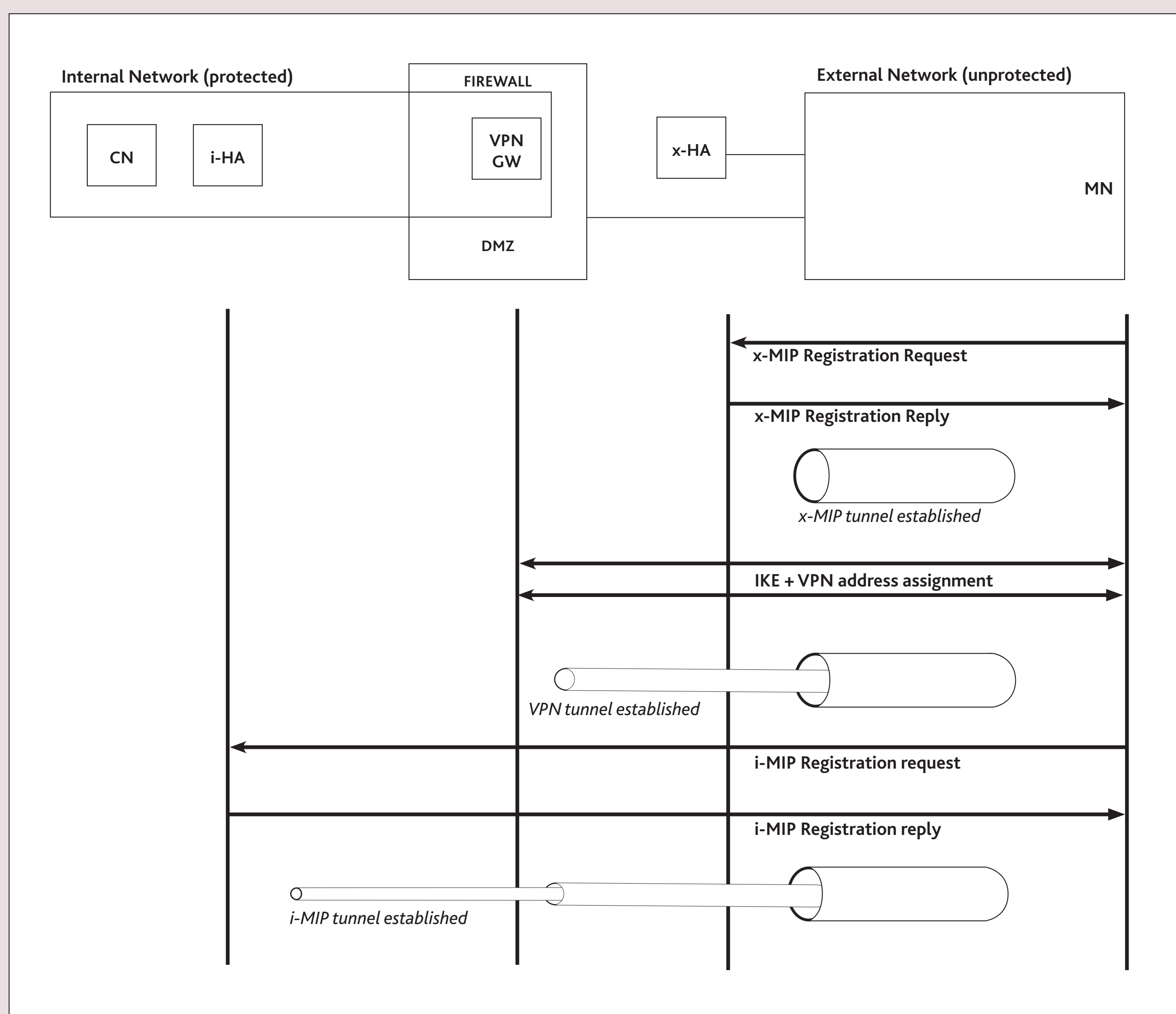
Comparison of HIP VPN with other Mobile VPN solutions

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Implementation alternatives for VPN session mobility

- Mobile IPsec VPN based on Mobile IP
- Mobile IPsec VPN based on Mobile IP and MOBIKE
- Mobile SSL VPN based on Mobile IP
- Mobile SSH VPN based on Mobile IP
- Mobile IPsec VPN based on HIP
- Mobile SSL VPN based on HIP
- HIP based Mobile VPN: A specific HIP proxy
- HIP based Mobile VPN: Adaption of a generic proxy

Interaction of network protocols for a MN roaming out of an internal network into an external network for Mobile IPv4 based VPN



A SSH VPN client maps a home directory on the SSH server as local network drive.

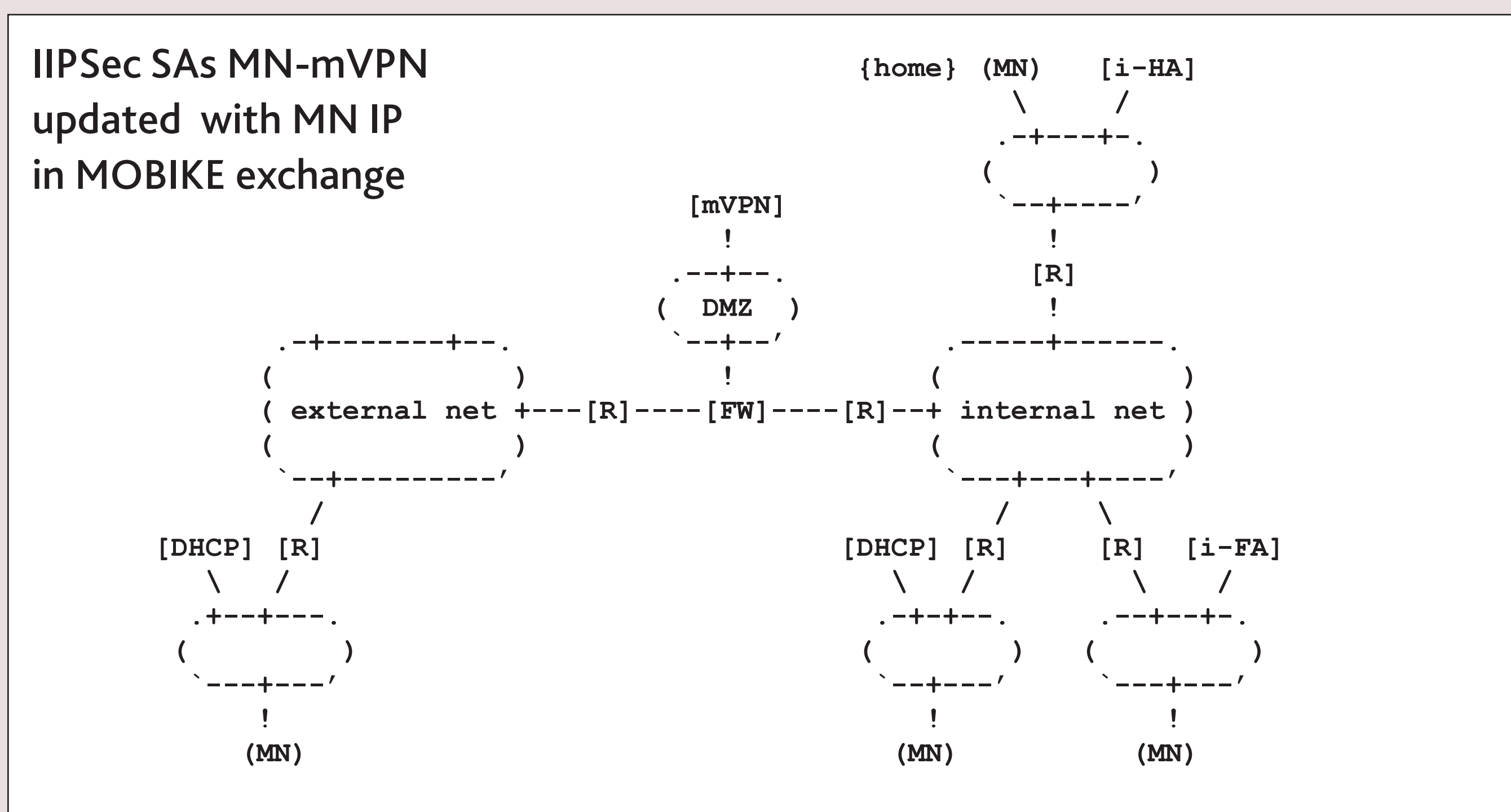
No.	Time	Source	Destination	Protocol	Info
105	20.488396	193.167.36.212	193.167.36.209	HIP	HIP I1
106	20.489752	193.167.36.209	193.167.36.212	HIP	HIP R1
107	20.618358	193.167.36.212	193.167.36.209	HIP	HIP I2
108	20.649663	193.167.36.209	193.167.36.212	HIP	HIP R2

Successful HIP Base Exchange between a Windows XP based SSH VPN client with a wired IP (193.167.36.212) and a Linux (Ubuntu 9.04) based OpenSSH Server with a static IP (193.167.36.209).

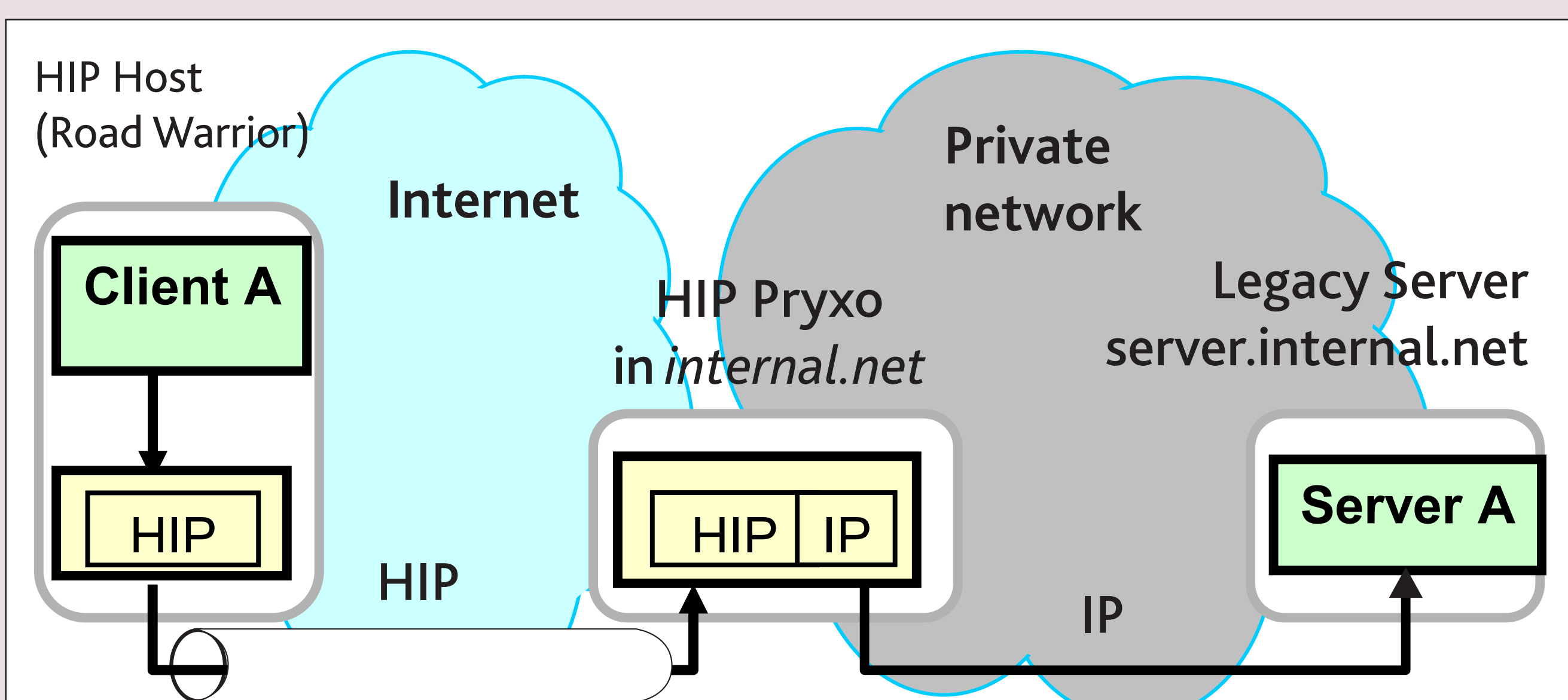
No.	Time	Source	Destination	Protocol	Info
156	70.096214	193.167.36.211	193.167.36.209	HIP	HIP UPDATE
163	70.178260	193.167.36.209	193.167.36.211	HIP	HIP UPDATE
164	70.183988	193.167.36.211	193.167.36.209	HIP	HIP UPDATE

Successful HIP Update messaging between a SSH VPN Windows XP client and a Linux (Ubuntu 9.04) based OpenSSH Server with a static IP (193.167.36.209) after the SSH VPN client has roamed from a wired IP (193.167.36.212) to a wireless IP (193.167.36.211)

Mobile IPsec VPN based on Mobile IPv4 and MOBIKE (R=router)



HIP Based Mobile VPN: A specific HIP proxy between a private internal network and the Internet



HIP proxy specification in IETF draft-melen-hip-proxy-02 implemented in HIP for FreeBSD.
In-progress: HIP proxy implementation in OpenHIP for Windows XP/Vista/7

HIP based Mobile VPN: HIP Proxy implemented with Overlay Convergence Architecture for Legacy Applications (OCALA)

