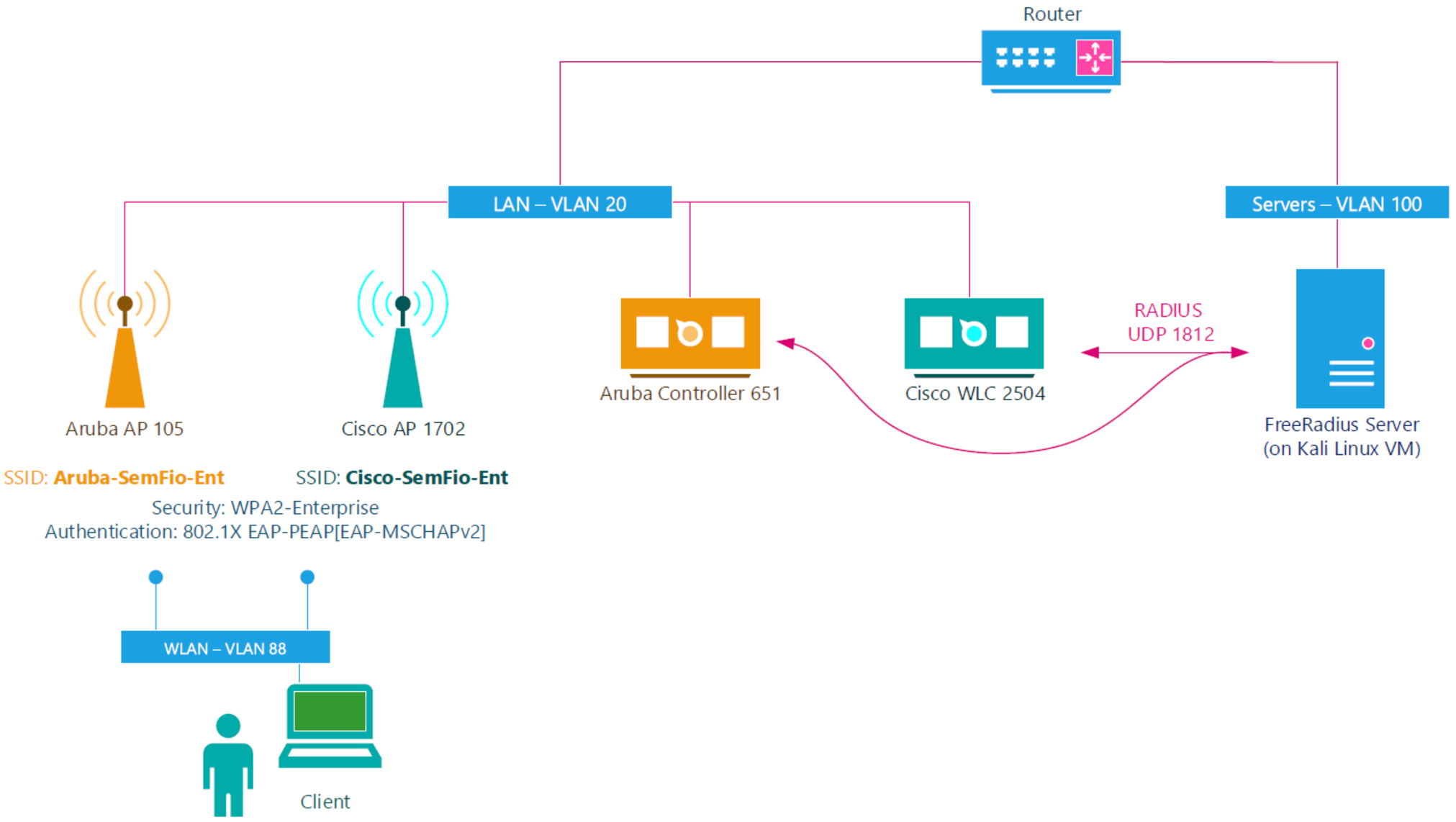
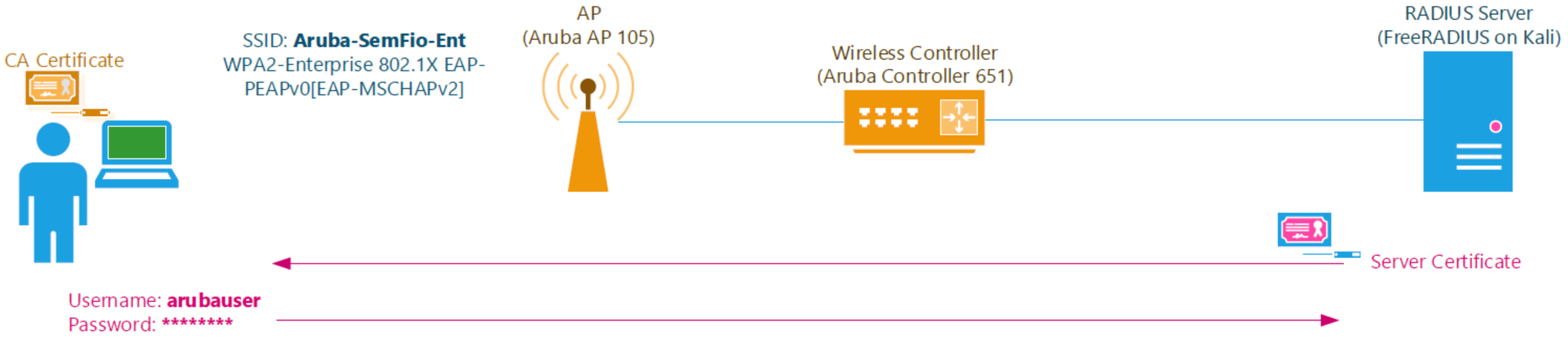
Setup FreeRADIUS on Kali Linux

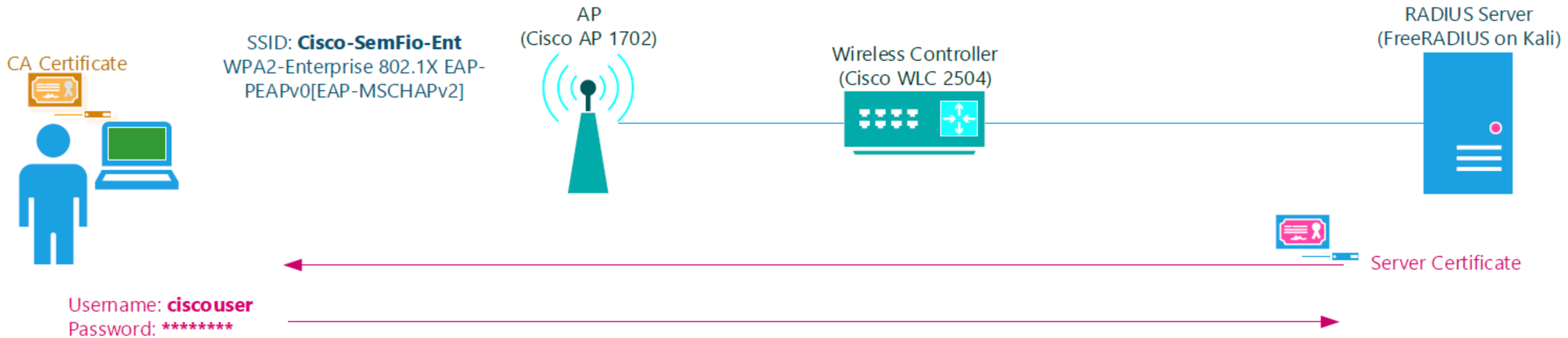
Objective: use FreeRADIUS for 802.1X authentication in a Wi-Fi network infrastructure

Lab Setup


Router
LAN – VLAN 20
Servers – VLAN 100
Aruba AP 105
Cisco AP 1702
Aruba Controller 651
Cisco WLC 2504
RADIUS
UDP 1812
FreeRadius Server
(on Kali Linux VM)
SSID: Aruba-SemFio-Ent
SSID: Cisco-SemFio-Ent
Security: WPA2-Enterprise
Authentication: 802.1X EAP-PEAP[EAP-MSCHAPv2]
WLAN – VLAN 88
Client
Supplicant
Send authentication requests
to the RADIUS Server
(Authenticator)
RADIUS server for
802.1X authentications
(AS)

Authentication Process





Let’s get to work!

1. Install and setup FreeRADIUS on Kali Linux
2. Configure the 802.1X Wi-Fi Networks on the controllers
3. Test

1 - Install and Setup FreeRADIUS

1. Validate network interfaces on Kali Linux
2. Download and Install FreeRADIUS
3. Configure FreeRADIUS to use PEAP with the MSCHAPv2 inner method
4. Add the Wi-Fi controllers as RADIUS clients
5. Add users to the FreeRADIUS server database
6. Create a CA and Server Certificate
7. Startup the FreeRADIUS service

2 - Configure the 802.1X Wi-Fi Network on the Controllers

1. Add the FreeRADIUS server as a RADIUS server on the controllers
2. Create a new WLAN using WPA2-Enterprise with 802.1X authentication
3. Use the FreeRADIUS server as the authentication server
4. Enable the WLAN

3 - Test

1. Import the CA certificate onto the clients (MacOS 10.11.1 & Windows 8)
2. Connect to the new SSID
3. Use the users previously added to the FreeRADIUS user database
4. Voilà!

Some useful debug commands

- On the Aruba Controller (CLI)
  - *configure terminal*
  - *logging level debugging user-debug MAC_ADDRESS*
  - *exit*
  - *show log user-debug all*
- On the Cisco Controller (CLI)
  - *debug client MAC_ADDRESS*
  - *debug aaa all enable*
  - *show debug*

source:

http://community.arubanetworks.com/aruba/attachments/aruba/tkb@tkb/245/1/Useful%20CLI%20commands-v1.pdf

http://www.cisco.com/c/en/us/support/docs/wireless/aironet-1200-series/100260-wlc-debug-client.html#debug_client

Review the tutorial on the blog

www.semfionetworks.com/blog