Beacon Frames:

1. SSIDs of the two access points that are issuing most of the beacon frames in this trace are “30 Munroe St” and “linksys12”.
2. Beacon interval for 30 Munroe St.: .1024 Seconds
   Beacon interval for linksys_ses_24086:
3. Source MAC address on the beacon frame from 30 Munroe St: 00:16:b6:f7:1d:51
4. Destination MAC address on the beacon frame from 30 Munroe St: ff:ff:ff:ff:ff:ff
5. The MAC BSS ID address on the 30 Munroe St, beacon frame: 00:16:b6:f7:1d:51
6. supported rates: 1.0, 2.0, 5.5, 11.0 Mbit/sec
   extended rates: 6.0, 9.0, 12.0, 18.0, 24.0, 36.0, 48.0 and 54.0 Mbit/sec

Data Transfer:

7. MAC address fields in the 802.11 frame:
   i. Reciever address, ii. Source address, iii. Destination address and iv. Transmitter address
   Wireless host MAC address: 00:13:02:d1:b6:4f.
   Access Point MAC address: 00:16:b6:f7:1d:51
   First hop router MAC address: 00:16:b6:f4:eb:a8
   IP address of the wireless host: 192.168.1.109
   Destination IP address: 128.199.245.12
   Destination IP address corresponds to the server gaia.cs.umass.edu. Destination MAC address of the frame containing the SYN is different from the destination IP address of the IP packet contained within this frame. Destination MAC address contains the MAC address of the next hop router.
8. MAC address fields in the 802.11 frame:
   i. Reciever address, ii. Source address, iii. Destination address and iv. Transmitter address
   MAC address of the host: 91:2a:b0:49:b6:4f
   MAC address of Access point: 00:16:b6:f7:1d:51
   MAC address of first-hop router: 00:16:b6:f4:eb:a8
   IP address of the device that sent the TCP segment is 128.199.245.12 (gaia.cs.umass.edu), This is not same with the sender MAC address present in the frame which is basically the MAC address of the first hop router.

Association/Disassociation:

9. Two actions by the host:
   At t = 49.583615, a DHCP release is sent by the host to the 192.168.1.1 (DHCP server).
   At t = 49.609617, the host sends a DEAUTHENTICATION frame to 00:16:b6:f7:1d:51.
10. 11 AUTHENTICATION messages are sent from the wireless host to the linksys_ses_24086 AP starting at around t=49.
11. Host want the authentication to be open. [In AUTHENTICATION frame, fixed parameter contains the information Authentication algorithm: Open System]
12. No, I can’t find a reply AUTHENTICATION from the linksys_ses_24086 AP in the trace.
13. At t = 63.168087 there is a AUTHENTICATION frame sent from host (00:13:02:d1:b6:4f) to AP(00:16:b7:f7:1d:51).
    At t = 63.169071 there is an AUTHENTICATION from sent from the AP to host.
14. At t = 63.169910, ASSOCIATE REQUEST frame sent from host (00:13:02:d1:b6:4f) to AP (00:16:b7:f7:1d:51).
    At t = 63.192101, ASSOCIATE RESPONSE from sent from tAP to host.

15. Supported rates: 1, 2, 5.5, 11, 6, 9, 12, 18 Mbits/sec
    Extended supported rates: 24, 32, 48, and 54 Mbits/sec
    This is same for both host and AP.

Other Frame types

16. at t=2.297613, there is a PROBE REQUEST sent with the following information:
    sender address: 00:12:f0:1f:57:13,
    receiver address: ff:ff:ff:ff:ff:ff,
    BSSID: ff:ff:ff:ff:ff:ff.
    At t=2.300697, there is a PROBE RESPONSE sent with the following information:
    sender address: 00:16:b6:f7:1d:51
    receiver address: 00:12:f0:1f:57:13
    BSSID: 00:16:b6:f7:1d:51
    A PROBE REQUEST is a special frame sent by a host requesting information from either a specific access point, specified by SSID, or all access points in the area, specified with the broadcast SSID.
    A PROBE RESPONSE is sent by AP to the host sending the request and contains all the required information for the host to start communicating with the corresponding AP.