```
Time
                   Source
                                   Destination
                                                    Protocol Length Info
 1997 09:06:06.649564
                   CiscoLinksys_f7:1d:51 Broadcast
                                                    802.11 183
                                                              Beacon frame, SN=3686, FN=0, Flags=......C, BI=100,
SSID="30 Munroe St"
Frame 1997: 183 bytes on wire (1464 bits), 183 bytes captured (1464 bits)
  Encapsulation type: IEEE 802.11 plus radiotap radio header (23)
  Arrival Time: Jun 29, 2007 09:06:06.649564000 SE Asia Standard Time
  UTC Arrival Time: Jun 29, 2007 02:06:06.649564000 UTC
  Epoch Arrival Time: 1183082766.649564000
  [Time shift for this packet: 0.000000000 seconds]
  [Time delta from previous captured frame: 0.102408000 seconds]
  [Time delta from previous displayed frame: 0.102408000 seconds]
  [Time since reference or first frame: 59.577107000 seconds]
  Frame Number: 1997
  Frame Length: 183 bytes (1464 bits)
  Capture Length: 183 bytes (1464 bits)
  [Frame is marked: False]
  [Frame is ignored: False]
  [Protocols in frame: radiotap:wlan_radio:wlan]
Radiotap Header v0, Length 24
  Header revision: 0
  Header pad: 0
  Header length: 24
  Present flags
     Present flags word: 0x000058ee
        .... 0 = TSFT: Absent
        .... .... ... ... ... .1.. = Rate: Present
        .... 1... = Channel: Present
        .... = FHSS: Absent
        .... = dBm Antenna Signal: Present
        .... = dBm Antenna Noise: Present
        .... = Lock Quality: Present
        .... = TX Attenuation: Absent
        .... = dB TX Attenuation: Absent
        .... = dBm TX Power: Absent
        \dots = Antenna: Present
        .... = dB Antenna Signal: Present
         .... = dB Antenna Noise: Absent
        .... = RX flags: Present
        .... = TX flags: Absent
        .... = data retries: Absent
        .... = Channel+: Absent
        .... 0... = MCS information: Absent = A-MPDU Status: Absent
        .... = VHT information: Absent
        .... = frame timestamp: Absent
        \ldots 0... ... O... ... ... = HE information: Absent
        \dots = HE-MU information: Absent
        .... 0.. .... = 0 Length PSDU: Absent
        .... 0... = L-SIG: Absent
        .... = Reserved: 0x0
        ...0 .... = TLVs: Absent
        ..0. .... = Radiotap NS next: False
         .0.. .... = Vendor NS next: False
        0... = Ext: Absent
     .... -...0 = CFP: False
     .... ..0. = Preamble: Long
     .... .0.. = WEP: False
     .... 0... = Fragmentation: False
     ...1 .... = FCS at end: True
     ..0. .... = Data Pad: False
     .0.. .... = Bad FCS: False
     0... = Short GI: False
  Data Rate: 1.0 Mb/s
  Channel frequency: 2437 [2.4 GHz 6]
  Channel flags: 0x00a0, Complementary Code Keying (CCK), 2 GHz spectrum
     .... .... = 700 MHz spectrum: False
     .... .... .... ... ... ... ... 800 MHz spectrum: False
     .... .... .0.. = 900 MHz spectrum: False
     .... = Turbo: False
     .... .... = Complementary Code Keying (CCK): True
     .... .0.. ... = Orthogonal Frequency-Division Multiplexing (OFDM): False
     .... 1... = 2 GHz spectrum: True
     .... ...0 .... = 5 GHz spectrum: False
     .... ..0. .... = Passive: False
     .... .0.. .... = Dynamic CCK-OFDM: False
     .... 0... = Gaussian Frequency Shift Keying (GFSK): False
     ...0 .... = GSM (900MHz): False
     ..0. .... = Static Turbo: False
     .0.. .... = Half Rate Channel (10MHz Channel Width): False
```

```
0... .... = Quarter Rate Channel (5MHz Channel Width): False
   Antenna signal: -30 dBm
   Antenna noise: -100 dBm
   Signal Quality: 100
   Antenna: 0
   dB antenna signal: 70 dB
   RX flags: 0x1818
      802.11 radio information
   PHY type: 802.11b (HR/DSSS) (4)
   Short preamble: False
   Data rate: 1.0 Mb/s
   Channel: 6
   Frequency: 2437MHz
   Signal strength (dB): 70 dB
   Signal strength (dBm): -30 dBm
   Noise level (dBm): -100 dBm
   Signal/noise ratio (dB): 70 dB
   [Duration: 1464µs]
      [Preamble: 192µs]
IEEE 802.11 Beacon frame, Flags: ......C
   Type/Subtype: Beacon frame (0x0008)
   Frame Control Field: 0x8000
      \dots 00 = Version: 0
       .... 00.. = Type: Management frame (0)
      1000 .... = Subtype: 8
      Flags: 0x00
          .... ..00 = DS status: Not leaving DS or network is operating in AD-HOC mode (To DS: 0 From DS: 0) (0x0)
          .... .0.. = More Fragments: This is the last fragment
          .... 0... = Retry: Frame is not being retransmitted
          ...0 .... = PWR MGT: STA will stay up
          ..0. .... = More Data: No data buffered
          .0.. .... = Protected flag: Data is not protected
          0... = +HTC/Order flag: Not strictly ordered
   .000 0000 0000 0000 = Duration: 0 microseconds
   Receiver address: Broadcast (ff:ff:ff:ff:ff)
       .....1. .... = LG bit: Locally administered address (this is NOT the factory default)
       .... 1 .... = IG bit: Group address (multicast/broadcast)
   Destination address: Broadcast (ff:ff:ff:ff:ff)
       .... .1. .... .... = LG bit: Locally administered address (this is NOT the factory default)
       .... 1 .... = IG bit: Group address (multicast/broadcast)
   Transmitter address: CiscoLinksys_f7:1d:51 (00:16:b6:f7:1d:51)
      .....0. .... = LG bit: Globally unique address (factory default)
.....0 .... = IG bit: Individual address (unicast)
   Source address: CiscoLinksys_f7:1d:51 (00:16:b6:f7:1d:51)
       .... ..0. .... = LG bit: Globally unique address (factory default)
       .... ...0 .... = IG bit: Individual address (unicast)
   BSS Id: CiscoLinksys_f7:1d:51 (00:16:b6:f7:1d:51)
       .....0. .... = LG bit: Globally unique address (factory default)
      .... = IG bit: Individual address (unicast)
   .... .... 0000 = Fragment number: 0
   1110 0110 0110 .... = Sequence number: 3686
   Frame check sequence: 0xe0b51818 [unverified]
   [FCS Status: Unverified]
   [WLAN Flags: .....C]
IEEE 802.11 Wireless Management
   Fixed parameters (12 bytes)
      Timestamp: 174378598786
      Beacon Interval: 0.102400 [Seconds]
      Capabilities Information: 0x0601
          .... 1 = ESS capabilities: Transmitter is an AP
          .... .... .0.. = Reserved: 0
          .... = Reserved: 0
          .... .... 0 .... = Privacy: Data confidentiality not required
          .... .... ..0. .... = Short Preamble: Not Allowed
          .... .0.. . = Critical Update Flag: False
          .... 0... = Nontransmitted BSSIDs Critical Update Flag: False
          .... ...0 .... = Spectrum Management: Not Implemented
          .... = QoS: Implemented
          .... .1.. .... = Short Slot Time: In use
          .... 0... ... = Automatic Power Save Delivery: Not Implemented
          ...0 .... = Radio Measurement: Not Implemented
          ..0. .... = EPD: Not Implemented
          .0.. .... = Reserved: 0
          0... = Reserved: 0
   Tagged parameters (119 bytes)
      Tag: SSID parameter set: "30 Munroe St"
          Tag Number: SSID parameter set (0)
          Tag length: 12
          SSID: "30 Munroe St"
```

```
Tag: Supported Rates 1(B), 2(B), 5.5(B), 11(B), [Mbit/sec]
    Tag Number: Supported Rates (1)
    Tag length: 4
    Supported Rates: 1(B) (0x82)
    Supported Rates: 2(B) (0x84)
    Supported Rates: 5.5(B) (0x8b)
    Supported Rates: 11(B) (0x96)
Tag: DS Parameter set: Current Channel: 6
    Tag Number: DS Parameter set (3)
    Tag length: 1
    Current Channel: 6
Tag: Traffic Indication Map (TIM): DTIM 0 of 1 bitmap
   Tag Number: Traffic Indication Map (TIM) (5)
    Tag length: 4
    DTIM count: 0
    DTIM period: 1
    Bitmap control: 0x00
        .... -...0 = Multicast: False
       0000 000. = Bitmap Offset: 0x00
    Partial Virtual Bitmap: 00
Tag: Country Information: Country Code US, Environment Indoor
    Tag Number: Country Information (7)
    Tag length: 6
    Code: US
    Environment: Indoor (73)
    Country Info: First Channel Number: 1, Number of Channels: 11, Maximum Transmit Power Level: 26 dBm
       First Channel Number: 1
       Number of Channels: 11
       Maximum Transmit Power Level: 26 dBm
Tag: EDCA Parameter Set
    Tag Number: EDCA Parameter Set (12)
    Tag length: 18
    WME QoS Info: 0x0f
       0... = U-APSD: Disabled
        .... 1111 = Parameter Set Count: 0xf
        .000 .... = Reserved: 0x0
    Reserved: 00
    Ac Parameters ACI 0 (Best Effort), ACM no, AIFSN 3, ECWmin/max 4/10 (CWmin/max 15/1023), TXOP 0
       ACI / AIFSN Field: 0x03
            .00. .... = ACI: Best Effort (0)
            ...0 .... = Admission Control Mandatory: No
            .... 0011 = AIFSN: 3
            0... = Reserved: 0
       ECW: 0xa4
            1010 .... = ECW Max: 10 (CW Max: 1023)
            .... 0100 = ECW Min: 4 (CW Min: 15)
       TXOP Limit: 0
    Ac Parameters ACI 1 (Background), ACM no, AIFSN 7, ECWmin/max 4/10 (CWmin/max 15/1023), TXOP 0
       ACI / AIFSN Field: 0x27
            .01. .... = ACI: Background (1)
            ...0 .... = Admission Control Mandatory: No
            .... 0111 = AIFSN: 7
            0... = Reserved: 0
       ECW: 0xa4
            1010 .... = ECW Max: 10 (CW Max: 1023)
            .... 0100 = ECW Min: 4 (CW Min: 15)
       TXOP Limit: 0
    Ac Parameters ACI 2 (Video), ACM no, AIFSN 2, ECWmin/max 3/4 (CWmin/max 7/15), TXOP 94
       ACI / AIFSN Field: 0x42
            .10. .... = ACI: Video (2)
            ...0 .... = Admission Control Mandatory: No
            .... 0010 = AIFSN: 2
            0... = Reserved: 0
       ECW: 0x43
            0100 .... = ECW Max: 4 (CW Max: 15)
            .... 0011 = ECW Min: 3 (CW Min: 7)
       TXOP Limit: 94
    Ac Parameters ACI 3 (Voice), ACM no, AIFSN 2, ECWmin/max 2/3 (CWmin/max 3/7), TXOP 47
       ACI / AIFSN Field: 0x62
            .11. .... = ACI: Voice (3)
            ...0 .... = Admission Control Mandatory: No
            .... 0010 = AIFSN: 2
            0... = Reserved: 0
       FCW: 0x32
            0011 .... = ECW Max: 3 (CW Max: 7)
            .... 0010 = ECW Min: 2 (CW Min: 3)
       TXOP Limit: 47
Tag: ERP Information
    Tag Number: ERP Information (42)
    Tag length: 1
    ERP Information: 0x00
```

```
.... 0 = Non ERP Present: Not set
        .... ..0. = Use Protection: Not set
        .... .0.. = Barker Preamble Mode: Not set
        0000 0... = Reserved: 0x00
Tag: Extended Supported Rates 6(B), 9, 12(B), 18, 24(B), 36, 48, 54, [Mbit/sec]
    Tag Number: Extended Supported Rates (50)
    Tag length: 8
    Extended Supported Rates: 6(B) (0x8c)
    Extended Supported Rates: 9 (0x12)
    Extended Supported Rates: 12(B) (0x98)
    Extended Supported Rates: 18 (0x24)
    Extended Supported Rates: 24(B) (0xb0)
    Extended Supported Rates: 36 (0x48)
    Extended Supported Rates: 48 (0x60)
    Extended Supported Rates: 54 (0x6c)
Tag: Vendor Specific: Airgo Networks, Inc.
    Tag Number: Vendor Specific (221)
    Tag length: 21
    OUI: 00:0a:f5 (Airgo Networks, Inc.)
    Vendor Specific OUI Type: 10
    Vendor Specific Data: 0a0240c000030103050e04ff000300110101
Tag: Vendor Specific: Microsoft Corp.: WMM/WME: Parameter Element
    Tag Number: Vendor Specific (221)
    Tag length: 24
    OUI: 00:50:f2 (Microsoft Corp.)
    Vendor Specific OUI Type: 2
    Type: WMM/WME (0x02)
    WME Subtype: Parameter Element (1)
    WME Version: 1
    WME QoS Info: 0x0f
        0... = U-APSD: Disabled
        .... 1111 = Parameter Set Count: 0xf
        .000 .... = Reserved: 0x0
    Reserved: 00
    Ac Parameters ACI 0 (Best Effort), ACM no, AIFSN 3, ECWmin/max 4/10 (CWmin/max 15/1023), TXOP 0
       ACI / AIFSN Field: 0x03
            .00. .... = ACI: Best Effort (0)
            ...0 .... = Admission Control Mandatory: No
            .... 0011 = AIFSN: 3
            0... = Reserved: 0
        ECW: 0xa4
            1010 .... = ECW Max: 10 (CW Max: 1023)
            .... 0100 = ECW Min: 4 (CW Min: 15)
        TXOP Limit: 0
    Ac Parameters ACI 1 (Background), ACM no, AIFSN 7, ECWmin/max 4/10 (CWmin/max 15/1023), TXOP 0
        ACI / AIFSN Field: 0x27
            .01. .... = ACI: Background (1)
            ...0 .... = Admission Control Mandatory: No
            .... 0111 = AIFSN: 7
            0... = Reserved: 0
        ECW: 0xa4
            1010 .... = ECW Max: 10 (CW Max: 1023)
            .... 0100 = ECW Min: 4 (CW Min: 15)
       TXOP Limit: 0
    Ac Parameters ACI 2 (Video), ACM no, AIFSN 2, ECWmin/max 3/4 (CWmin/max 7/15), TXOP 94
        ACI / AIFSN Field: 0x42
            .10. .... = ACI: Video (2)
            ...0 .... = Admission Control Mandatory: No
            .... 0010 = AIFSN: 2
            0... = Reserved: 0
        ECW: 0x43
            0100 .... = ECW Max: 4 (CW Max: 15)
            .... 0011 = ECW Min: 3 (CW Min: 7)
        TXOP Limit: 94
    Ac Parameters ACI 3 (Voice), ACM no, AIFSN 2, ECWmin/max 2/3 (CWmin/max 3/7), TXOP 47
        ACI / AIFSN Field: 0x62
            .11. .... = ACI: Voice (3)
            ...0 .... = Admission Control Mandatory: No
            .... 0010 = AIFSN: 2
            0... = Reserved: 0
        ECW: 0x32
            0011 .... = ECW Max: 3 (CW Max: 7)
            .... 0010 = ECW Min: 2 (CW Min: 3)
```

TXOP Limit: 47