

Optimize CB21AG/PI21AG Roaming Behavior

Document ID: 69403

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Introduction

This document describes how to configure the wireless client in order to minimize delays when roaming from access point to access point.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on these software and hardware versions:

- Cisco 802.11 a/b/g client adapter that runs firmware 4.4 or later
- Cisco Aironet Desktop Utility (ADU) version 4.4 or later

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Procedure

Complete these steps in order to minimize delays when roaming from access point to access point when you use the CB21AG/PI21AG (802.11a/b/g wireless client adapter).

Note: These steps optimize roaming delays at the driver layer and are applicable to all authentication types. If 802.1x authentication is used, there might be additional optimizations possible, which are outside the scope of this document.

Note: Optimizing for faster roaming can potentially contribute to increased battery use and to reduced throughput.

1. Use ADU client software version 4.4 or later.
2. Set the BSS Aging Interval to **30**, and set the Scan Valid Interval to **20**.

Complete these steps in order to set these two parameters via the Windows control panel:

- a. Go to Windows Explorer.
- b. Right-click **My Network Places**.
- c. Choose **Properties** from the drop-down list.
- d. Right-click **Wireless Network Connection#**, where # is the instance number of the Cisco CB21AG Wireless LAN adapter.
- e. Choose **Properties** from the drop-down list. The Wireless Network Connection Properties dialog box appears.
- f. Click **Configure**.
- g. Click the **Advanced** tab.
- h. Set the BSS Aging Interval to **30**, and set the Scan Valid Interval to **20**.

These parameter values are the absolute lowest permitted values and should not be set any lower. The default values are 120 for BSS Aging Interval and 60 for Scan Valid Interval.

3. If your access point coverage permits it, configure the client profile in the ADU *only* to use the 5 GHz (802.11a) or 2.4 GHz (802.11b/g) band, not both. In order to configure the client profile, complete these steps:

- a. Launch the ADU client software.
- b. Click the **Profile Management** tab, highlight the profile of interest, and click **Modify**.
- c. Click the **Advanced** tab.
- d. Under Wireless Mode, uncheck the rates that you do not intend to use.
- e. If you do not use the ADU to manage the CB21AG, you must use registry settings in order to select the rates. Complete these steps:

- a. Choose **Start > Run**, and type **regedit** in order to launch the Registry Editor.
- b. Navigate to **HKEY_LOCAL_MACHINE > System > CurrentControlSet > Control > Class > {4D36E972-E325-11CE-BFC1-08002bE10318}**.
- c. Right-click the **4D36E972-E325-11CE-BFC1-08002bE10318** folder, and choose **Find**.
- d. Type **NetBand** in the search field in order to locate the **NetBand** variable. This is under an [instance] four-digit subkey that has a DriverDesc value of **Cisco Aironet 802.11a/b/g Wireless Adapter**.

The NetBand REG_SZ variable is a bitmask of supported rates. By default this is **15**. The values are:

802.11a	0x01
(not used)	0x02
802.11b	0x04
802.11g	0x08
(not used)	0x10

For example, in order to support only 11b and 11g rates, this is $0x04 + 0x08 = 0x0C$ = 12 decimal.

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Wireless – Mobility: WLAN Radio Standards

Wireless – Mobility: Security and Network Management

Wireless – Mobility: Getting Started with Wireless

Wireless – Mobility: General

Related Information

- **Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) Installation and Configuration Guide, Release 3.0**
- **Cisco Aironet Wireless LAN Client Adapters**
- **Wireless Product Support Page**
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Updated: Oct 05, 2006

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