

Technical Bulletin 35704

Managing Memory Allocation on SoundPoint® IP and SoundStation® IP Phones



This technical bulletin provides a series of recommendations for administrators on how to allocate adequate memory for certain features on SoundPoint IP and SoundStation IP phones.

This information applies to SoundPoint IP and SoundStation IP phones running SIP application version 3.1 or later.

Introduction

Adequate free memory must be available on SoundPoint IP and SoundStation IP products for them to operate correctly. Certain features on the phone will consume a variable amount of memory depending on their usage case. On some phones, this usage may reduce the free memory to such a level that it could affect phone performance.

In particular, the memory available on the SoundPoint IP 330/320, 430, 601 with three Expansion Modules attached, and SoundStation IP 4000 phones may experience issues if too many features are activated with the SIP 3.1.0 and later software releases.

This technical bulletin describes how this type of situation can be detected and measures that can be taken to avoid a deterioration in phone performance due to memory restrictions.

The memory usage on the phone for certain features can be controlled using the `<res/>` parameters that are documented in the latest *SIP Administrator's Guide*, which can be found at <http://www.polycom.com/support/voicedocumentation/>.

Symptoms

You can add specialized features like ring tones, directory entries, backgrounds, audio **.wav** files, dictionaries, and Microbrowser applications to your user's SoundPoint IP and SoundStation IP phones. The users can also add local directory entries to their phones.

Each of these capabilities consumes some of the phones' internal memory. If too many features are allocated at the same time, the phone may run low on memory. This will be observed by one or more of the following issues:

- The phones reboot or freeze up.
- Not all ring tones, directory entries, backgrounds, or dictionaries are downloaded.

- Animations play, but are jerky or incomplete.
- Applications running in the Microbrowser stop or do not run at all.

Resolutions

Polycom makes the following specific recommendations to resolve/avoid issues relating to excessive allocation of phone memory for the following features.

If your deployment uses multiple different SoundPoint IP and SoundStation IP phones, you could consider different memory allocation and feature usage for different models. This can be controlled by appropriate use of the phone configuration files (refer to the “Configuration File Management on SoundPoint IP Phones” white paper at http://www.polycom.com/common/documents/support/technical/products/voice/white_paper_configuration_file_management_on_soundpoint_ip_phones.pdf.)

Idle Browser

The idle browser is optimized for displays containing 3 or 4 key elements. If the phone is having issues displaying a complex page (for example, a large table or large images), try to simplify the page. If the page cannot be simplified, reduce the number of available ring tones or backgrounds, or disable the main browser.

Custom Idle Display Animation

The recommended size for static or simple animation (created with multiple images) on the idle display is 15KB. If the phone is having issues displaying the animation and the file size is less than 15KB, reduce the number of available ring tones or backgrounds, or disable the main browser.

Main Browser

The Microbrowser is optimized for displays containing 3 or 4 key elements. If the phone is having issues displaying a complex page (for example, a large table or large images), try to simplify the page. If the page cannot be simplified, reduce the number of available ring tones or backgrounds, or disable the idle browser.

Local Contact Directory

A typical contact entry consumes 1.5 KB of memory. The recommended number of contacts on SoundPoint IP 301, 320/330 or 430 is about 120 contacts. The recommended maximum number of contacts on SoundPoint IP 501, 550, 560, 601, 650, and 670 is about 250 contacts.

Disabling the idle browser or reducing the number of available ring tones or backgrounds would allow for a larger contact directory.

Corporate Directory

The Corporate Directory feature is optimized for a search with five attributes. If you are having issues with more than five attributes (with a maximum number of eight), reduce the number of available ring tones or backgrounds, or disable the idle browser or main browser.

Ring Tones

If no additional bitmaps or backgrounds were added, there would be room for an additional 10 audio files. This is based on assumption that a typical audio files is about 16KB.

Disabling the idle browser or main browser, or reducing the number of backgrounds would allow for more downloadable ring tones.

Backgrounds

If no additional bitmaps or ring tones were added, there would be room for an additional four backgrounds. This is based on assumption that a typical background files is about 50KB.

Disabling the idle browser or main browser, or reducing the number of available ring tones would allow for more backgrounds.

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