

Software Update Name: BCM050.078-DSP-FIRMWARE

Applicable H/W Platforms: BCM50, BCM50a, BCM50e

Applicable S/W Platforms: 1.00.2.04g, 1.00.2.04j

Category: GEN

Installation Recommendations:

This patch should be applied on those systems in which operator assisted transfers to the modem are required, or in those systems experiencing the echo cancellation problems described below.

Component & Version: DSP Firmware 40.280.50.9

Dependencies: Required patches - BCM050.073-CORE

Product Dependencies - None

Size: 1.27 Mb

System Impact: time to apply approximately 2 minutes

Does patch application force reboot: Yes

Other - All services are interrupted during system reboot

Limitations: None

Patch Removable: no

Description:

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The following issues are addressed:

1. Echo on VoIP call IP Set progressively worse as the call went on. This patch addresses problems with echo canceller performance including:

- 1) Excessive "Clipping" of the returned speech path.
- 2) Continuously audible echo.

Both these problems are dependent on the CoreTel Lossplan, and are both errors in detecting doubletalk conditions.

The following changes have been made to address these problems:

- 1) Due to lossplan changes the ECAN's doubletalk detection can be relaxed. This change will reduce the amount of muting the ECAN's NLP introduces.
- 2) An additional test for doubletalk will prevent the NLP from muting the return echo path if the signal in the return path pre-existed the signal in the forward direction (the echo source). This reduces the likelihood of the NLP muting the return path while there's active speech in the path.

Q01136753

2. BCM50 Softmodem fails training during Operator-Assisted Dialing - During operator assisted dialing, an operator of the BCM50 will answer the modem

call manually and transfer the call to the modem DN. When the operator transfers the call to the modem DN, the soft modem will answer and answer tone will be presented to the caller. On hearing answer tone the caller hangs up the analog set and starts the modem connection. Before the soft modem is connected to the calling modem, the soft modem's Automatic Gain Control is misadjusted, based on the signal received. As a result, the modem connection fails.

This problem is solved by resetting the AGC on state transitions from any state to the loss of carrier state.

Q01292059

This patch includes the content of all preceding DSP Firmware patches:

BCM050.050-DSP-FIRMWARE-1.0-1.0:

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BCM50's T.38 task was not handling the reception of large packets properly.

BCM050.025-DSP-FPGA-1.0-1.0

BCM050.028-DSP-FPGA-1.3-1.0

BCM050.039-DSP-FPGA-1.3-1.1:

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Description: This patch addresses a number of issues as follows:

Modem Connection Failures.

Far end echo delay time was increased to 520 ms from 260 ms to allow for inter continent modem connections.

Q01218225

Main Unit Analog Trunk Port 61-64 Failures.

General symptoms include the loss of function on one or more of ports 61-64 within a few days of initial installation. These symptoms can be temporarily fixed by rebooting the system but re-occur a few days later. This issue affects only BCM50 main unit analog trunk ports and does not affect ports on expansion unit analog trunk MBMs.

Q01191922

T.38 Fax Performance

This patch improves the performance of T.38 (Fax over IP) at high data rates.

Q01115145

Soft Modem Connectivity.

Under certain line conditions, such as high echo, the analog modem would not reliably make connection.

Q01147853

DTMF Tone Generation when Dial Pulse Selected

When dial pulse was selected for an analog trunk, DTMF tone generation, used for signaling through to far end equipment, did not work correctly.

Q01166310

Alarm 40004 & 40005.

This patch addresses a rare system stability issue that would cause alarm 40004 or 40005 to be seen in the Element Manager.