

1. Introduction Google Cloud Messaging

Google Cloud Messaging (GCM) is a service that helps developers send data from servers to android applications on Android devices. The service has the ability to send a lightweight message informing the Android application of new data to be fetched from the server.

Google Cloud Messaging replaces the beta version of Android Cloud to Device Messaging Server (C2DM).

1.1 Benefits using Google Cloud Messaging with MobiDM

By integrating Google Cloud Messaging into MobiDM, we changed the method of how Android devices interact with MobiDM. Instead of a connection that is started from the Android device, the MobiDM server initiates the connection. This results in a lower data usage and longer battery life.

Benefits using GCM include:

- Reduced battery usage on a device
- Improved scalability
- Compliancy to industry standards
- The ability to manually initiate a connection from the MobiDM portal

1.2 How Google Cloud Messaging works in MobiDM

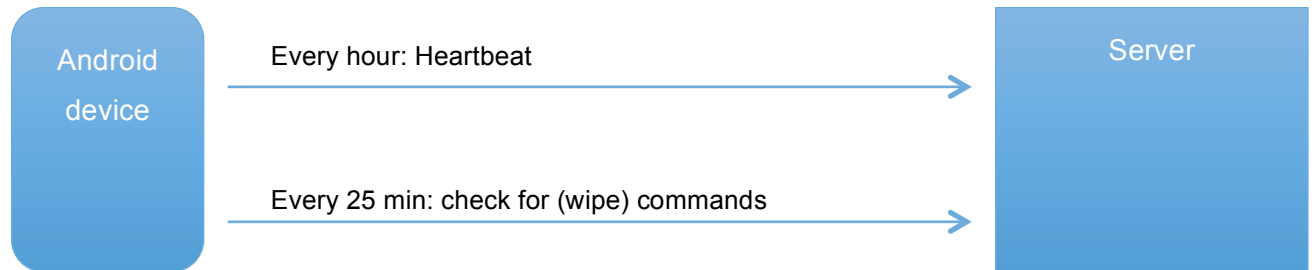
With the introduction of Google Cloud Messaging in MobiDM, Android devices will receive push messages from the server and will stop the client-initiated communication.

MobiDM for Android version 1.2.1.11 and above support GCM. If the Android device and MobiDM server can handle GCM, the client will switch to GCM mode and will by default rely on the GCM push messages from server.

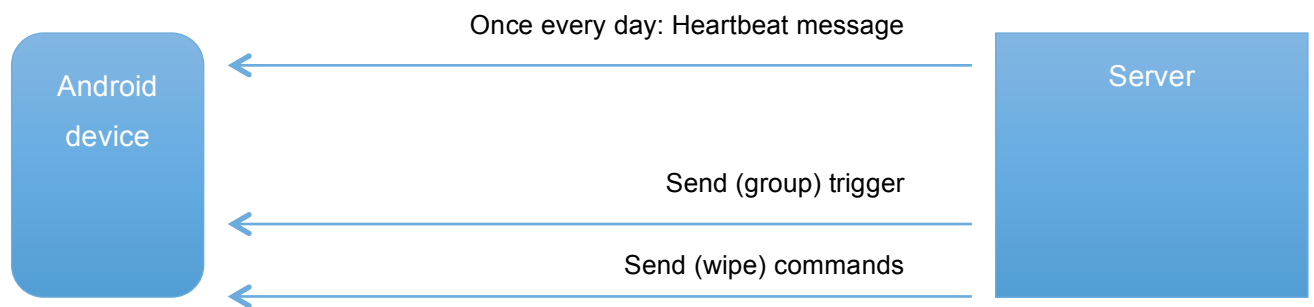
If after 72 hours no message has been received on the Android device, it will initiate a heartbeat once. The MobiDM App will never switch back to client-initiated heartbeat, unless a re-enroll is performed on a 4.8 server (or earlier).

The scheme below explains how the MobiDM App on an Android device connects to the MobiDM server prior to MobiDM 4.8 Service pack 1, and how the connection pattern changes after MobiDM 4.8 Service pack 1

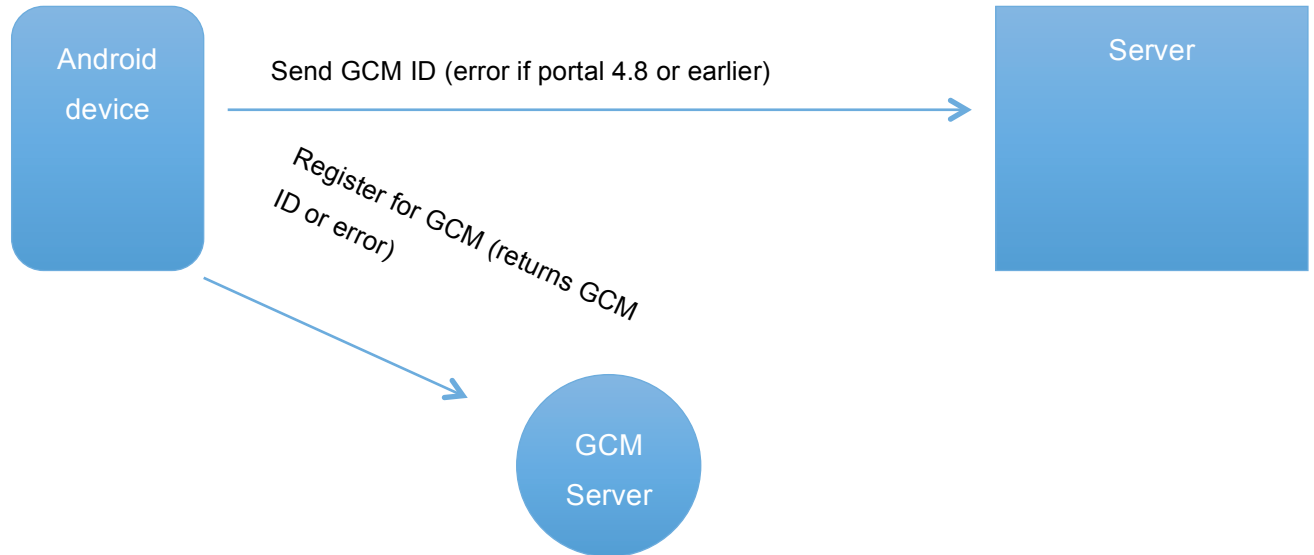
MobiDM 4.8.0 and lower



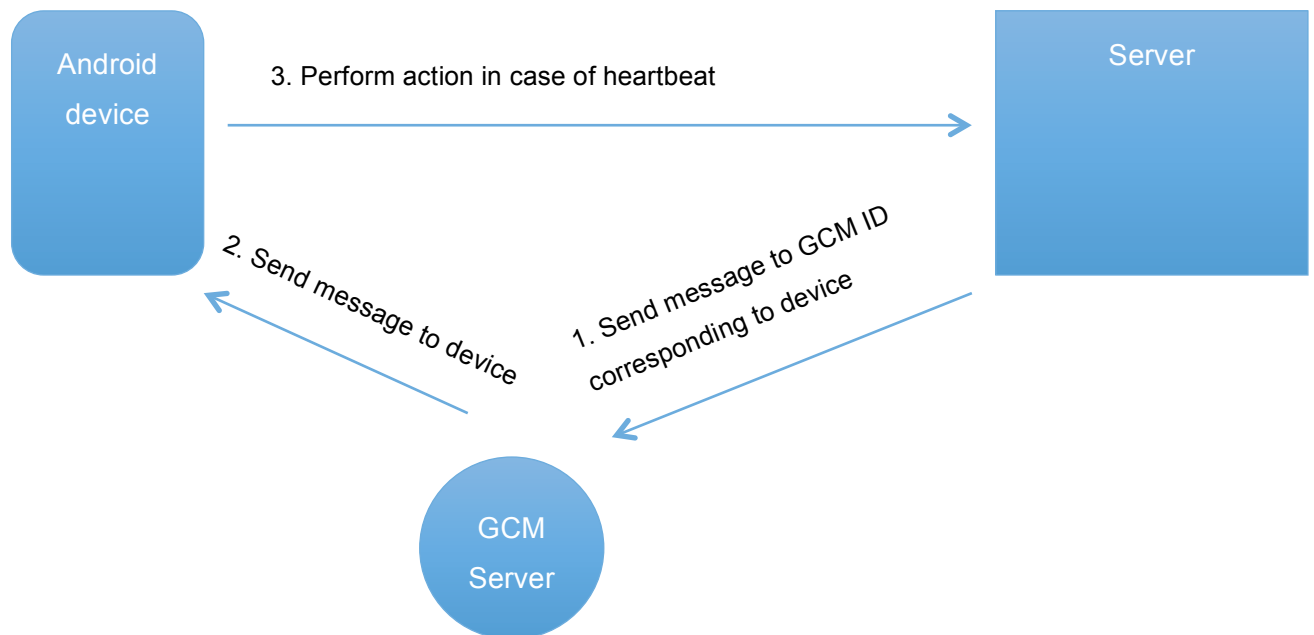
MobiDM 4.8 Service pack 1 and up



Before an Android device can receive a GCM connection on its MobiDM App it needs to be registered at Google's Google Cloud Messaging servers. This is explained below



The following happens when a message is to be sent to the MobiDM App on an Android device:



2. Functional Changes

Due to the integration of Google Cloud Messaging some functional changes have been made to the portal and to the MobiDM Application for Android.

- The MobiDM portal now contains a trigger connection button for Android in the device overview and in the Group Actions
- The connect button in the MobiDM Application is no longer visible if the App has established a successful GCM connection.