EC2x&EG9x&EG25-G Series
QuecOpen FTP Service User Guide

LTE Standard Module Series

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About the Document

Revision History

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1.0	2020-07-17	Mike ZHOU/ Tinker SUN	Initial

Contents

Table Index

Figure Index

1 Introduction

Quectel LTE Standard EC2x&EG9x&EG25-G series modules support QuecOpen® solution. This document mainly guides you to start, verify and use the FTP service of these modules.

1.1. Applicable Modules

Table 1: Applicable Modules

Module Series	Module
EC2x series	EC25 series
	EC21 series
	EC20 R2.1
EG9x series	EG95 series
	EG91 series
EG25-G	EG25-G

2 FTP Service

2.1. Overview

FTP (File Transfer Protocol) is a TCP-based protocol that uses a client/server mode. Through the protocol, users can upload or download files on the FTP server.

The FTP service of Quectel EC2x&EG9x&EG25-G series QuecOpen modules is a built-in service provided by Busybox. It is not started by default and can be started as described in ***Chapter 2.2***.

Execute the following command in the shell command line of the module to view the FTP usage help information, as shown in the following figure.

```
ftpd
```

```
root@mdm9607-perf:~# ftpd
BusyBox v1.23.1 (2018-02-06 08:15:29 UTC) multi-call binary.

Usage: ftpd [-wvS] [-t N] [-T N] [DIR]

Anonymous FTP server

ftpd should be used as an inetd service.
ftpd's line for inetd.conf:
        21 stream tcp nowait root ftpd ftpd /files/to/serve
It also can be ran from tcpsvd:
        tcpsvd -vE 0.0.0.0 21 ftpd /files/to/serve

        -w      Allow upload
        -v      Log errors to stderr. -vv: verbose log
        -S      Log errors to syslog. -SS: verbose log
        -t,-T   Idle and absolute timeouts
        DIR     Change root to this directory
```

Figure 1: FTP Usage Help Information

2.2. Startup Methods

EC2x&EG9x&EG25-G series QuecOpen modules support three methods to start FTP service (through shell command line, init.d service or inetd service). You can choose any of them according to the actual situation. This chapter mainly introduces these three methods and their startup steps.

2.2.1. Startup Through Shell Command Line

Start FTP service through the following shell command line.

```
tcpsvd -vE 0.0.0.0 21 ftpd -w /data
```

0.0.0.0 Indicates IP address.
21 Indicates FTP port.
-w Indicates that FTP has the permission to upload file.
/data Indicates FTP directory.

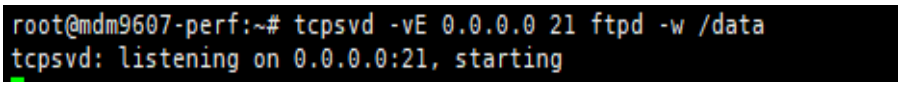

Figure 2: Start FTP Service Through Shell Command Line

2.2.2. Startup Through init.d Service

To start the FTP service through the init.d service, the module needs to integrate the FTP service startup script *start_ftpd_le*. Currently the startup script is not integrated in the module by default and you need to upload it to directory */etc/init.d* of the module (or directory ql-ol-rootfs*/etc/init.d* in SDK package) before you can start FTP service through the init.d service.

1. Upload the startup script *start_ftpd_le* to directory */etc/init.d*. An example of the file contents is as follows:

```
#! /bin/sh
#
# Copyright (c) 2009-2020 @ Quectel Wireless Solutions Co., Ltd.    All Rights Reserved.
#
# FTP Server      init.d script to start the busybox FTP daemon

DAEMON=/bin/tcpsvd
IP=0.0.0.0
PORT=21
PATH=/data

set -e

case "$1" in
   start)
            echo -n "Starting Busybox FTP Server: "
            /sbin/start-stop-daemon -S -b -a $DAEMON -- -vE $IP $PORT /sbin/ftpd -w $PATH
            echo "done"
```

```
        ;;
  stop)
        echo -n "Stopping Busybox FTP Server: "
        /sbin/start-stop-daemon -K -x $DAEMON
        echo "done"
        ;;
  restart)
        $0 stop
        $0 start
        ;;
  *)
        echo "Usage $0 { start | stop | restart}" >&2
        exit 1
        ;;
esac

exit 0
```

2. Execute the following command in shell environment of the module to start FTP service.

```
/etc/init.d/start_ftpd_le start
```

Executing the following command in shell environment of the module can stop FTP service.

```
/etc/init.d/start_ftpd_le stop
```

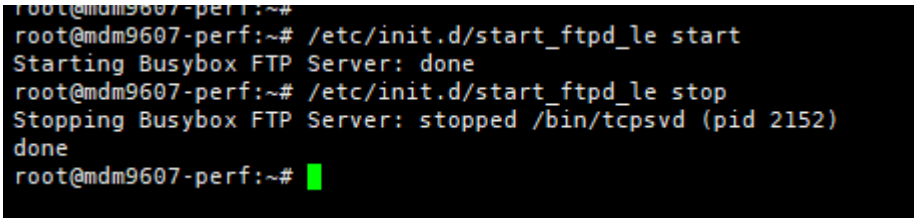

Figure 3: Start or Stop FTP Service Through init.d Service

2.2.3. Startup Through inetd Service

1. Modify */etc/init.d/inetd.busybox* file in the module and an example of the file contents is as follows:

```
#!/bin/sh
#
# start/stop inetd super server.

INETD_DAEMON=/sbin/inetd
```

```
if ! [ -x $INETD_DAEMON ]; then
        exit 0
fi

case "$1" in
        start)
        echo -n "Starting internet superserver:"
        echo -n " inetd" ; start-stop-daemon -S -x $INETD_DAEMON > /dev/null
        echo "."
        ;;
        stop)
        echo -n "Stopping internet superserver:"
        echo -n " inetd" ; start-stop-daemon -K -x $INETD_DAEMON > /dev/null
        echo "."
        ;;
        restart)
        echo -n "Restarting internet superserver:"
        echo -n " inetd "
        killall -HUP inetd
        echo "."
        ;;
        *)
        echo "Usage: /etc/init.d/inetd {start|stop|restart}"
        exit 1
        ;;
esac

exit 0
```

2. Add the following contents to the */etc/inetd.conf* configuration file.

```
21 stream     tcp     nowait    root    ftpd    ftpd -w /data
```

21 Indicates FTP port.
/data Indicates FTP directory.

An example of the configuration file contents is as follows:

```
# /etc/inetd.conf:    see inetd(8) for further informations.
#
# Internet server configuration database
#
# If you want to disable an entry so it isn't touched during
# package updates just comment it out with a single '#' character.
```

```
#
# <service_name> <sock_type> <proto> <flags> <user> <server_path> <args>
#
#:INTERNAL: Internal services
21          stream      tcp      nowait    root    ftpd    ftpd -w /data
```

3. Execute the following command in the shell environment to start FTP service.

```
/etc/init.d/inetd.busybox start
```

Executing the following command in the shell environment can stop FTP service.

```
/etc/init.d/inetd.busybox stop
```

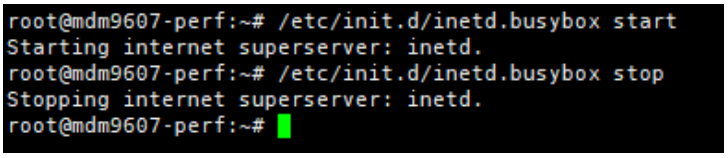

Figure 4: Start or Stop FTP Service Through inetd Service

2.3. FTP Service Verification And Use

Perform the following steps to verify the FTP service connection and use the service.

1. Connect FTP client to FTP server.

   After starting the FTP service, the FTP client connects to the FTP server, and the username and password must be the same as that of logging in to the module through the debug UART. The example is shown in the figure below (taking Windows operating system as an example, where the username for connection is root and the password is quectel123). You can use FTP service only after the connection is successful.

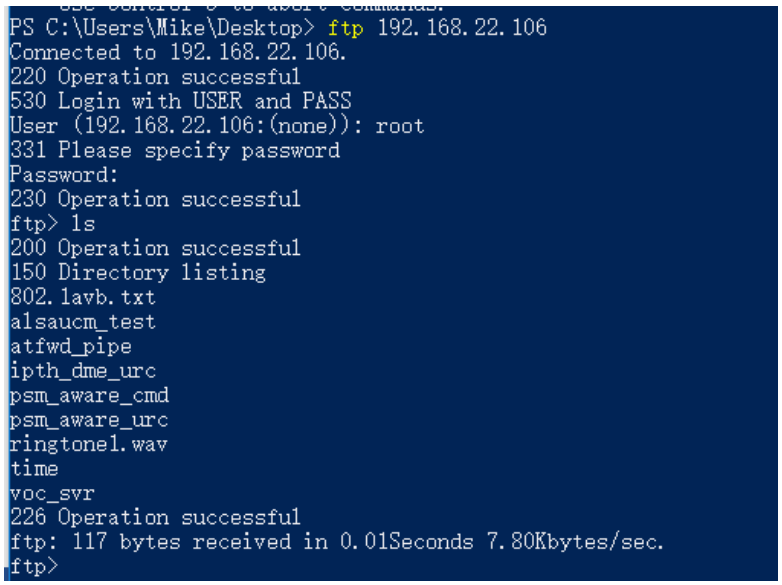

Figure 5: Client Connects to FTP Server (Windows Operating System)

2. After the FTP service is successfully connected, access the FTP service through a browser.

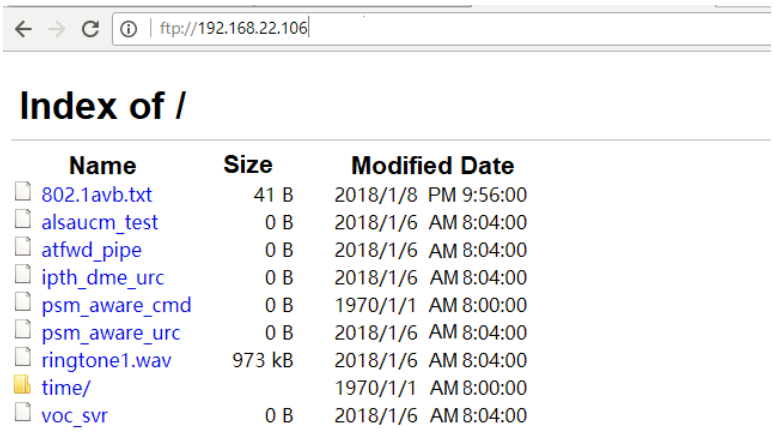

Figure 6: Access FTP Server Through A Browser (Windows Operating System)

3 Appendix A Reference

Table 2: Terms and Abbreviations

Abbreviation	Description
FTP	File Transfer Protocol
IP	Internet Protocol
LTE	Long Term Evolution
SDK	Software Development Kit