XCB User Manual

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Revision History

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1 Introduction

1.1 Purpose

This manual provides a detailed description and comprehensive understanding about the XCB. It is primarily targeted for developers, who are expected to know more about XCB, and help them make a good use of it.

1.2 What is XCB?

XCB is a versatile command-line tool that lets you communicate with Prolin platform. It is modified from the Android Debug Bridge (adb), it has removed some unnecessary functions, upgraded to a new tool with download and login functions, in additional, it also supports serial port.

It has the following characteristics.

1) Uses the command line to communicate with emulator or device.
2) Allows multiple connection options, including serial port and physical link of TCPIP.
3) Multi-connection link. Users can create multiple logical links connect to device or emulator at the same time.

It is a client-server program that includes three components:

1) A client, which runs on your development machine. You can invoke a client from a shell by issuing an XCB command, and also can use TermAssist as the XCB client.

2) A server, which runs as a background process on your development machine. The server manages communication between the client and the XCB daemon running on an emulator or device.

3) A daemon, which runs as a background process on Prolin emulator or device instance.

2 Command

2.1 Querying for Emulator/Device Instances

Before issuing XCB commands, it is helpful to know what emulator/device instances are connected to the XCB server. You can generate a list of attached emulators/devices using the *devices* command:

xcb devices

In response, XCB prints this status information for each instance:

● Instance name — A string created by XCB to uniquely identify an emulator/device instance by its console port number. The format of the instance name is <com/IP addr>-<Port>. Here's an example instance name: com:COM1

● State — The connection state of the instance may be one of the following:

a) offline — the instance is not connected to XCB or is not responding.

b) device — the instance is now connected to the XCB server.

c) bootloader— the instance is now enter the boot mode.

The output of each instance is formatted like this:

[instance name] [state]

Here's an example showing the devices command and its output:

xcb devices

List of devices attached

emulator:5555device

com:COM1   device

127.0.0.1:5555   device

2.2 Connect to the device/ emulator

XCB can connect to the Prolin emulator or device.

For the connection of emulator, if the server is running, it is defaulted to connect to the running emulator and use the emulator name as the instance name, such as *emulator: 5555*.

Users can also specify a link connects to the emulator. When using an Ethernet connection, the IP address must be 127.0.0.1 since the emulator and XCB servers in the same PC. The usage is:

xcb connect 127.0.0.1: [port]

If there is only one emulator or device connected, the XCB command is sent to that device by default. If multiple emulator/device instances are running, you must specify a target instance when issuing xcb commands. To do so, use the -s option in the commands. The usage for the -s option is:

xcb –s < instance name> <command>

For example:

xcb –s com:COM1 devinfo

2.3 Startup/Shutdown the XCB server

Table 1 Switch Commands

Command	Description
xcb start-server	Start the xcb server on PC.
xcb kill-server	kill the xcb server on PC.

2.4 Connection Command

The commands are used for connecting the XCB server and emulator/device.

Table 2 Connection Commands

Command	Description	Example
xcb connect ip:port	Using Ethernet mode to connect the emulator or device.	xcb connect 127.0.0.1:5555
xcb disconnect ip:port	Disconnect the a Ethernet connection	xcb disconnect 127.0.0.1:5555
xcb connect com:comport	Using serial mode to connect the emulator or device	xcb connect com:COM1 xcb connect com:/dev/ttyS0(linux)
xcb disconnect com:comport	Disconnect the a serial connection	xcb disconnect com:COM1

2.5 Installation Command

The commands are used for installing applications and system firmware.

Table 3 Installation Commands

Command	Description	Example
xcb installer aip <aip-file>	Install a application package	xcb installer aip "d:\\TestApp.aip"
xcb installer uaip <appid>	Uninstall specified application	xcb installer uaip MAINAPP
xcb installer aup <aup-file>	Install application upgrade package	xcb installer aup "d:\\TestApp.aup"
xcb installer appdata <appid> <data-file list>	Install application data files	xcb installer appdata MAINAPP "d:\\logo.bmp d:\\config.ini"

xcb installer puk <0-8> <puk-file>	Install user public key file	xcb installer puk 0 "d:\\key_sig.puk"
xcb installer upuk <0-8>	Uninstall the PUK	xcb installer upuk 0
xcb installer opt <opt-file>	Install firmware packages and font packages	xcb installer opt "d:\\simsum.tar.gz"
xcb installer uopt <opt-id>	Uninstall a specified package	xcb installer uopt simsum
xcb installer firmware-kernel <img-file>	Install a kernel image file	xcb installer firmware-kernel "d:\\kernel-2.4.img"
xcb installer firmware-ramdisk <img-file>	Install a ramdisk image file	xcb installer firmware-ramdisk "d:\\ramdisk-2.4.img"
xcb installer firmware-base <img-file>	Install a base image file	xcb installer firmware-base "d:\\base-2.4.img"

2.6 Query Command

The commands are used for checking and obtain information.

Table 4 Query Commands

Command	Description	Comments
xcb devices	Prints a list of all attached emulator/device instances.	
xcb devinfo	Get Device Information	Prints In xml format. To specify the instance name, such as: *xcb –s com:COM1 devinfo*

xcb get-state	Prints the XCB state of an emulator/device instance.	state: offline /bootloader /device;
xcb get-serialno	Gets the instance name	
xcb version	Prints xcb version number	
xcb help	Prints a list of supported xcb commands.	

2.7 Telnetd Command

The commands are used to startup and shutdown telnet server by specifying an instance name. The telnet commands make local users log on the telnet server of the remote device or emulator, commands input in local can be run on that server and results will return to the local, just like directly operating on the server console. It can implement remote operations and control locally, and make it easier to debug and check information.

This function is only effective on the debugging machine.

Table 5 Telnetd Commands

Command	Description	Example
xcb telnetd [port]	Startup telnetd server. The default port 2323; If there is telnet client to connect the machine telnetd monitor port, it will generate a proxy process on the device or emulator, and there generates a	xcb telnetd xcb telnetd 2323 xcb –s com:COM1 telnetd

	connected device or emulator terminal.	
xcb kill-telnetd [port]	shutdown telnetd server	xcb kill-telnetd xcb kill-telnetd 2323 xcb –s com:COM1 kill-telnet

2.8 Forward Command

The forward command is use to established the socket connection between the XCB and device or emulator by the specified port. In this way, the PC application as a XCB client can transparently send data to the application of the specified listener port which is on the remote device server. It is easy for the developers to enable the gdb debugging server by invoking this command. (Users can also refer to the usage of Android adb forward command).

Table 6 Forward Commands

Command	Description	Example
xcb forward <local> <remote>	Forwards socket connections from a specified local port to a specified remote port on the emulator/device instance.	xcb forward tcp:2323 localfilesystem:/tmp/gdb-id xcb forward tcp:5555 tcp:2323
xcb killforward <local> <remote>	Disconnect the socket connection between the specified local port and remote port.	xcb killforward tcp:2323 localfilesystem:/tmp/gdb-id xcb killforward tcp:5555 tcp:2323

2.9 Disableme Command

The command is used for closing the XCB server on the POS terminal.

Table 7 Disableme Commands

Command	Description
xcb disableme	Close the xcb server on the POS terminal.

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