Xtime

Hardware Comparison

Document Revision History

Review sequence	Date	Responsible Person(s)
1st	14-10-2012	Cindy-Lee van der Walt, Creation of Document
2nd	12-12-2013	Johan van Heerde, Revision
3rd	13-12-2013	Cindy-Lee van der Walt, Update
4th	17-12-2013	Johan van Heerde, Revision
5th	08-04-2014	Johan van Heerde, added pre-release freeze section
6th	11-11-2015	Johan van Heerde, additional information pertaining to patch releases.
7th	11-11-2015	Byron van der Merwe, Hardware Information and capibilities.
8th	21-02-2017	Johan van Heerde, Addition of IPB 7 Rev 7

1. Introduction

1.1 Executive Summary

The purpose of this document is to outline the specifications and functionality around the available system controllers and biometric readers on offer from G4S.

1.2 Scope

The scope of this document covers the different hardware devices under the following categories:

Controllers

- EC11
- EC3

Biometric readers

- Ipulse IPB7
- Impro EABR

The document will also highlight the test process and the documentation surrounding it.

There is also some focus on the “What’s new” document that highlights the changes and enhancements

2 Controllers

These are the core system controllers and the system cannot function without system controllers which are the direct interface between XTime, the database and the hardware out in the field.

2.1 Types

Currently there are two controller types that are supported and supplied by G4S Technology.
The firmware on these controllers are specifically designed and written for these controllers and renders full control of the device and its peripherals to the XTime software suite

Units are as follows:

2.1.1 EC11

This controller has been in the field for the last 3 to 5 years and is supplied and manufactured by Impronet which is a South African company with its manufacturing facility based in Durban, KZN.

2.1.2 EC3

This controller has been in the field for the last 3 to 6 months and is supplied and manufactured by Impronet which is a South African company with its manufacturing facility based in Durban, KZN. This is the next generation controller and the upgrade to the EC11

2.2 Comparison

EC11 Controller	Specification	EC3 Controller
ARM920T 128MHz	CPU	ARMv7 1GHz
Linux 2.6.17	Operating System	Linux 4.0.0
8 MB	Flash	8 GB
64 MB	RAM	512 MB
10000	Employee record capacity	720000
32000	Offline clock history capacity	32000
0	Photograph Capacity	400000
IP30	IP Rating	IP20
TCP/IP, UDP – 10/100 Mbps	Ethernet Port	TCP/IP, UDP - 10/100/1000 Mbps
RS485 38400 baud rate default	Terminal Port	RS485 38400 baud rate default
None	S-Bus Port	9600 baud rate

3 Biometric Reader

These units make use of a person's unique finger print template to identify and verify a person against his / her system record. Biometric technology has taken the world by storm due to fraudulent activities and also in the fight to reduce cost on labour.

1.1 Types

Currently there are two types of biometric readers that are supported and supplied by G4S Technology.

The firmware on these biometric readers are specifically designed and written for these units and renders full control of the device and its peripherals to the XTime software suite

Units are as follows:

1.1.1 Ipulse IPB7

This Biometric reader has been in the field for the last 2 to 3 years and is supplied and manufactured by IPulse which is a South African company with its manufacturing facility based in Boksburg, GP.

1.1.2 Impro EABR

This Biometric reader has been in the field for the last 2 to 3 Months and is supplied and manufactured by Impro which is a South African company with its manufacturing facility based in Durban, KZN.

1.2 Comparison

Ipulse IPB7 Rev 6	Ipulse IPB7 Rev 7	Specification	Impro EABR
ARM926EJ-S 200MHz	ARMv7 1GHz	CPU	ARMv7 1GHz
Linux 2.6.34	Linux 4.0.0	Operating System	Linux 4.0.0
250 MB	2 GB	Flash size	8 GB
64 MB	512 MB	RAM size	512 MB
90000	720000	Employee record capacity	720000
32000	32000	Offline clock history capacity	32000
90000	720000	Finger template capacity @ 1 per employee on Tag and Finger	720000
45000	60000	Finger template capacity @ 2 per employee on Tag and Finger	90000
10000	10000	Finger template capacity @ 1 per employee on Finger only	Restricted to license. Can go up to 5000
5000	Restricted to license. Can go up to 10000	Finger template capacity @ 2 per	Restricted to license. Can go up to 5000

		employee on Finger only	
IP65	IP65	IP Rating	IP65
Yes Numeric	Yes Numeric	Keypad	Yes Numeric
No	No	Touch Screen	Yes
1 Inputs, 1 Outputs – Expandable to 2 Inputs and 2 Outputs	1 Inputs, 1 Outputs – Expandable to 2 Inputs and 2 Outputs	GPIO	2 Inputs, 1 Outputs – Expandable to 8 Inputs and 4 Outputs
No	No	Wi-Fi capability	Yes
No	No	3G capability	Yes
TCP/IP, UDP – 10/100 Mbps	TCP/IP, UDP - 10/100/1000 MBps	Ethernet Port	TCP/IP, UDP - 10/100/1000 MBps
No	No	USB	Host, OTG, Mass storage
4000 – SDK port reliant	4000 – SDK port reliant	Photograph Capacity	4000
125KHz and 13.56 Mhz	125KHz and 13.56 Mhz	Tag read capability	125KHz and 13.56 Mhz
Yes	Yes	Read / Write tag capability	Yes
Prox, HID Mifare etc.	Prox, HID Mifare etc.	Tag types	Prox, HID Mifare etc.
125KHz prox and 13.56MHz HID	125KHz prox and 13.56MHz HID	Tag Frequency	125KHz prox and 13.56MHz HID
TCP/IP, UDP	TCP/IP, UDP	Terminal Port	TCP/IP, UDP and RS485
Secugen	Secugen	Biometric module supported	SAGEM