Summary - IQstream to TimeIQ

Name	iqstream_to_timeiq
Worker Type	Application
Version	1.5
Release Date	4/2019
Component Library	ocpi.assets.misc_comps
Workers	iqstream_to_timeiq.hdl
Tested Platforms	isim, xsim, modelsim, zed, matchstiq_z1, e3xx, alst4, ml605

Functionality

The IQstream to TimeIQ component adapts the iqstream protocol to the TimeStamped_IQ protocol.

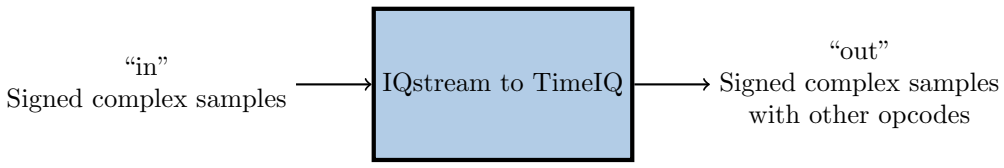
Worker Implementation Details

iqstream_to_timeiq.hdl

The TimeStamped_IQ protocol consists of multiple opcodes which include complex IQ samples, and the iqstream protocol consists only of complex IQ samples. The iqstream_to_timeiq worker forwards data from the input port to the output port and applies the samples opcode to it.

Block Diagrams

Top level



Source Dependencies

iqstream_to_timeiq.hdl

- bsp_picoflexor/components/iqstream_to_timeiq.hdl/iqstream_to_timeiq.vhd

Component Spec Properties

There are no component spec properties for this component

Worker Properties

There are no worker implementation-specific properties for this component

Component Ports

Name	Producer	Protocol	Optional	Advanced	Usage
in	false	iqstream_protocol	false	-	Signed complex samples
out	true	TimeStamped_IQ-prot	false	-	Signed complex samples plus other operations

Worker Interfaces

iqstream_to_timeiq.hdl

Type	Name	DataWidth	Advanced	Usage
StreamInterface	in	32	-	Signed complex samples
StreamInterface	out	32	-	Signed complex samples plus other operations

Control Timing and Signals

The iqstream_to_timeiqworker uses the clock from the Control Plane and standard Control Plane signals.

Worker Configuration Parameters

iqstream_to_timeiq.hdl

Table 1: Table of Worker Configurations for worker: iqstream_to_timeiq

Configuration
0

Performance and Resource Utilization

Table 2: Resource Utilization Table for worker "iqstream_to_timeiq"

Configuration	OCPI Target	Tool	Version	Device	Registers (Typ)	LUTs (Typ)	Fmax (MHz) (Typ)	Memory/Special Functions
0	stratix4	Quartus	17.1.0	N/A	233	151	N/A	N/A
0	zynq	Vivado	2017.1	xc7z020clg400-3	230	244	N/A	N/A
0	zynq_ise	ISE	14.7	7z010clg400-3	235	344	355.881	N/A
0	virtex6	ISE	14.7	6vcx75tff484-2	235	345	279.629	N/A

Test and Verification

The input file contains 5824 bytes of arbitrary data. It is the same input file used for the TimeIQ_to_IQstream unit test. The expected output waveform is identical to the input file.