Project specification

Message Extractor

All exchanges have a custom protocol in which they disseminate data and accept data from their customers. The objective of this project is to design and implement a message extractor/parser.

The format of the incoming data stream is given below.

Address 0 (LSB)

MSG COUNT	MSG_1 LENGTH	PAYLOAD_1	…	MSG_n LENGTH	PAYLOAD_n
2 Bytes	2 Bytes	Variable Bytes	…	2 Bytes	Variable Bytes

Field name	Length	Description
Message Count	2 Bytes	Number of messages in the packet
Message length	2 Bytes	Length of the following message excluding this field
Payload	Variable	Payload data

The expected output of the block is the payload of these messages.

Assumptions:
1. The input of the module is a 64bit AXI-ST interface.
2. The minimum message length for any message is **8 Bytes** and the maximum is **32 Bytes**. The total size of the entire stream can be a maximum of 1,500 bytes.
3. It outputs each message one after the other