

Command MUX Star

Revision History

Date	Revision	Revision
2010-07-22	Initial release	1.0

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1 Introduction

In a typical constellation there is one star that acts as a command master (like the MAC engine star and the InterFPGA star). The other stars are command slave stars. The command mux star is a firmware module that multiplexes multiple command input wormholes into one command output wormhole. This star should be used to connect multiple command slave stars to one command master star.

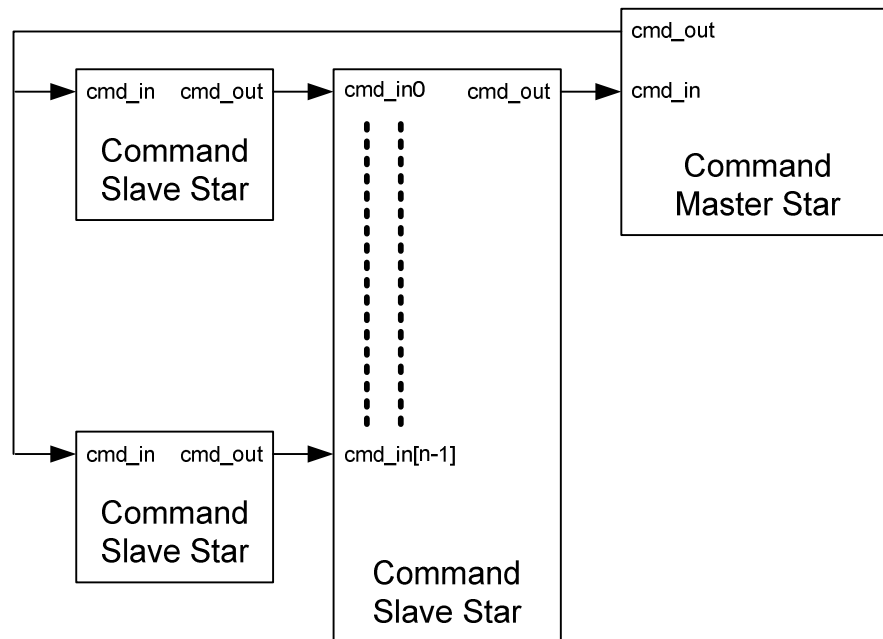


Figure 1: Command mux star usage in a constellation

2 Firmware Architecture

The firmware implementation is just a simple multiplexer. When one of the command input wormholes receives a command, this command is forwarded to the command output wormhole. There is no arbitration between the command input wormholes.

3 Wormhole descriptions

This chapter gives a description of the wormholes on a command mux star. The description given in section 3.2 applies to all command input wormholes.

3.1 Cmdclk_in wormhole of type cmdclk_in

Signal Name	Direction	Width	Description
Cmdclk	Input	1	All wormholes are synchronous to this clock.

3.2 Cmd[x]_in wormhole of type cmd_in

Signal Name	Direction	Width	Description
Cmdin	Input	64	This signal carries the incoming command data packet [63..60] = command word [59..32] = address [31..0] = data
Cmdin_val	Input	1	When asserted the command on the input wormhole is forwarded to the output wormhole.

3.3 Cmd_out wormhole of type cmd_out

Signal Name	Direction	Width	Description
Cmdout	Output	64	This signal carries the outgoing command data packet [63..60] = command word [59..32] = address [31..0] = data
Cmdout_val	Output	1	When asserted high the cmdout carries a valid command packet.

4 Registers Map

The command mux star works on itself and doesn't need to be configured by means of register settings.