

Editor - \\hitz\Designs\CASPER\projects\terry\trunk\lib_devel_10_1\casper_library\adder_tree_init.m

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Icons

Stack: Base

Icons

1.0

1.1

x

Icons

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```
function adder_tree_init(blk,varargin)

    check_mask_type(blk, 'adder_tree');

    defaults = {'latency', 2};
    if same_state(blk, 'defaults', defaults, varargin{:}), return, end
    munge_block(blk, varargin{:});
    n_inputs = get_var('n_inputs', 'defaults', defaults, varargin{:});
    latency = get_var('latency', 'defaults', defaults, varargin{:});

    stages = ceil(log2(n_inputs));

    delete_lines(blk);

    % Take care of sync
    reuse_block(blk, 'sync', 'built-in/inport', 'Position', [30 10 60 25], 'Port', '1');
    reuse_block(blk, 'sync_delay', 'xbsIndex_r4/Delay', 'latency', num2str(stages*latency), ...
        'Position', [30+50 10 60+50 40]);
    reuse_block(blk, 'sync_out', 'built-in/outport', 'Position', [30+(stages+1)*100 10 60+(stages+1)*100 25], ...
        'Port', '1');
    add_line(blk, 'sync/1', 'sync_delay/1');
    add_line(blk, 'sync_delay/1', 'sync_out/1');

    % Take care of adder tree
    for i=1:n_inputs,
        reuse_block(blk, ['din',num2str(i)], 'built-in/inport', 'Position', [30 i*40+20 60 35+40*i]);
    end
    reuse_block(blk, 'dout', 'built-in/outport', 'Position', [30+(stages+1)*100 40 60+(stages+1)*100 55]);

    % If nothing to add, connect in to out
    if stages==0
        add_line(blk,'din1/1','dout/1');
    else
        % Make adder tree
        cur_n = n_inputs;
        stage = 0;
        blk_cnt = 0;
        blks = {};
        while cur_n > 1,
            n_adds = floor(cur_n / 2);
```

adder_tree_init

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