

# Items to keep in mind for constraining clocks or debugging clock related issues

Is it a Master or Generated clock?	• How many levels of generation?
Virtual clock or real?	
If real, Source pin & its drive and transition characterizations	<ul style="list-style-type: none"><li>• Non physical hierarchical block ports not recommended.</li><li>• Specifying both min and max recommended for timing model generation</li></ul>
Are both rising edge and falling edges used?	• Is such a use allowed.?
Any Level sensitive sequential elements. (Latches)	• If so, is it both high and low? Max time borrow>
Thus the waveform.	• Most restrictive edges are used.
Any Multicycle Path (MCP) restrictions.	<ul style="list-style-type: none"><li>• Intermediate edges skipping not done automatically by synthesis tool. MCP is ONLY for timing checks. Designer should put extra logic matching MCP.</li></ul>
Source latency.	<ul style="list-style-type: none"><li>• Will get cancelled for same clk paths.</li><li>• Impacts only for inter domain paths</li></ul>
Network Latency: Ideal (& thus user annotated) or propagated ( Tool calculated)?	
Uncertainty (Inter and Intra clock)	
Non disabled Arcs/Paths from master to Generated. (Very Important)	• Any restrictions in calculating gen clocks latency. Like trace only combinational paths
Nature of relationship. ( ie divide by, multiplied by)	• Realization in design?
Addition of clock or overriding clocks at the source pin.	
Types of clock gatings along the path. (AND, OR only or XOR also?)	• Determines arc's traced in clock propagation
Automatic Clock gating inferences or directives	
Logical exclusivity ( asynchronous relationships with other clocks)	
Physically exclusivity ( Important for coupled timing analysis)	
Clock groups formation.	
Clock propagation restrictions. (Positive unate or negative unate arc or non unate and set_clock_sense)	
Is it Active or inactive in present scenario?	• Any Gen clocks whose master is Inactive?
Clock topology & Pessimism reduction through CRPR	• CRPR_threshold to tradeoff runtime & pessimism removal