It is recommended to use this method to model all varying PHY delays of this nature.¶

The example shown in Figure 90A-3, Figure 90A-4, and Figure 90A-5 have the maximum transmit delays of all functions and the minimum receive delays of all functions aligned at the beginning of time. This ideal alignment will occur periodically if at least one of the following scenarios is true:¶

1) → The alignment of the functions is enforced by a specified relationship between the functions¶
2) → The functions' periods are relatively prime, i.e., the maxima (and minima) of the functions' latency are guaranteed to coincide eventually.¶
3) → The delay of a function is not affected by the delay of the other function (e.g., the delay of a FEC encoding function that is added independently to each lane of a multi-lane PHY is not affected by the preceding lane distribution function)¶

¶

In a non-ideal variation of scenario 2), the period of a function is a near-prime of the other functions instead of an actual prime. For example, if the ratio of the functions' periods is 17/18, then the maxima (and minimal) of the function's variable latency will coincide to within one 18th of the second function's period. In this scenario, the maximum difference between the actual aggregated delay and the summation of the individual delays of the functions can be calculated. Whether this difference is small enough to satisfy the timing requirements is up to the individual application.¶

In another non-ideal scenario, neither 1) or 2) or 3) are true. In this scenario, the aggregated delay of some functions will not be the simple sum of the individual delays of those functions. Instead, the aggregated delay of those functions depends on their in-situ alignment. How this aggregated delay is determined and accounted for in the path data delay value is beyond the scope of this standard. Whether the potential delay difference between the aggregated delay and the sum of the individual function delays is small enough to satisfy the timing requirements is up to the individual application.¶