Idea (1A)

- Communication Scheduling
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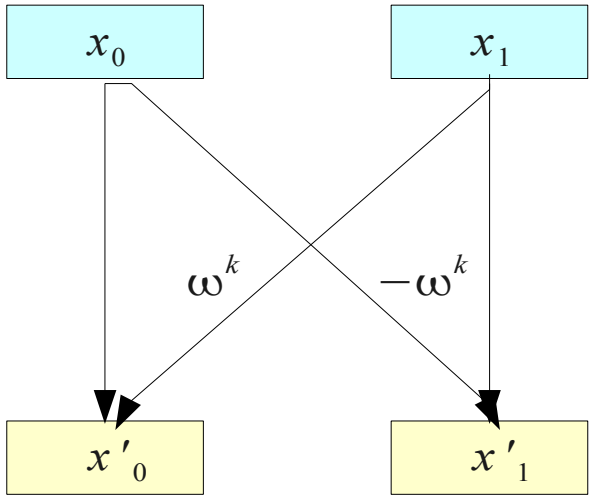
Young Won Lim
02/06/2012

/he 1utter$ly 5peration

$$x'_0 = x_0 + \omega^k x_1$$

$$x'_1 = x_0 - \omega^k x_1$$



/he 1utter$ly 5peration

$$\begin{cases} x'_0 = x_0 + \omega^k x_1 \\ x'_1 = x_0 - \omega^k x_1 \end{cases}$$

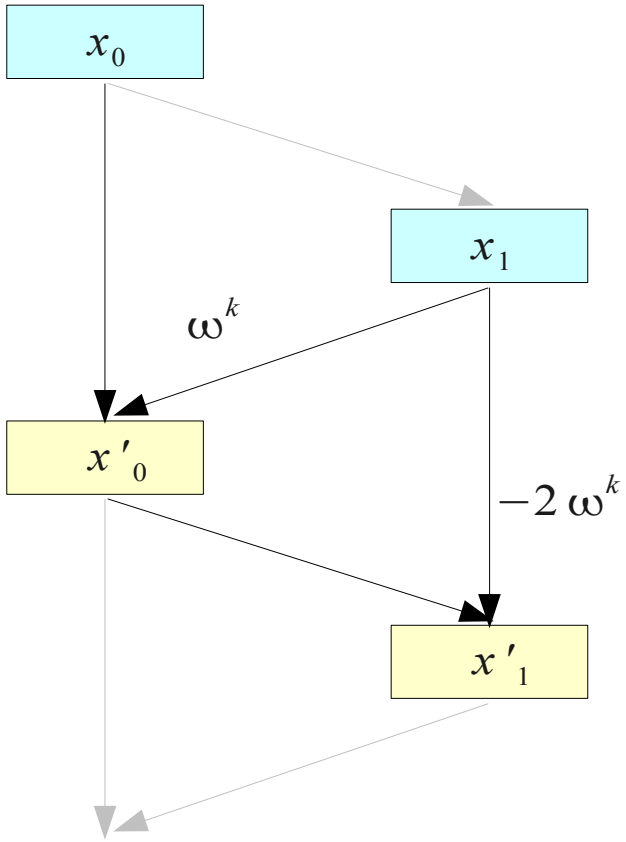
$$x'_0 = x_0 + \omega^k x_1$$

$$x_0 = x'_0 - \omega^k x_1$$

$$x'_1 = x_0 - \omega^k x_1$$

$$\Rightarrow \quad x'_1 = x'_0 - \omega^k x_1 - \omega^k x_1$$

$$x'_1 = x'_0 - 2\,\omega^k x_1$$



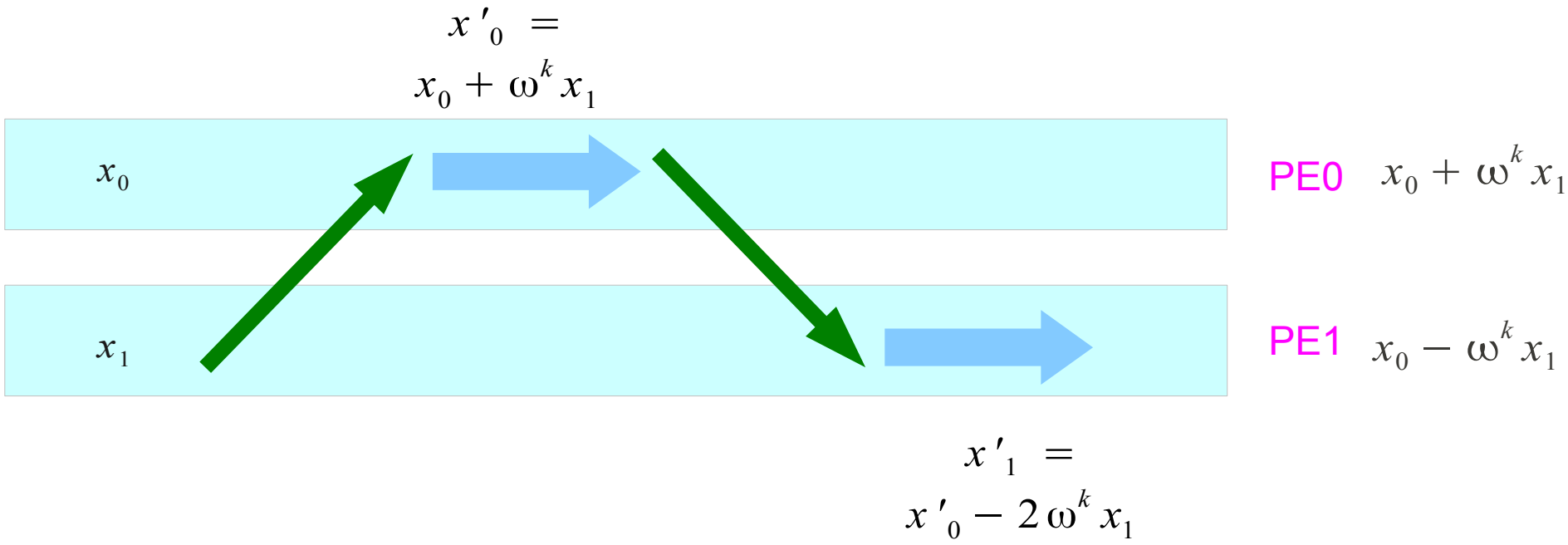
Communication Pattern

MPI_Sendrecv

To avoid deadlock, there must be lower level communication scheduling overhead?

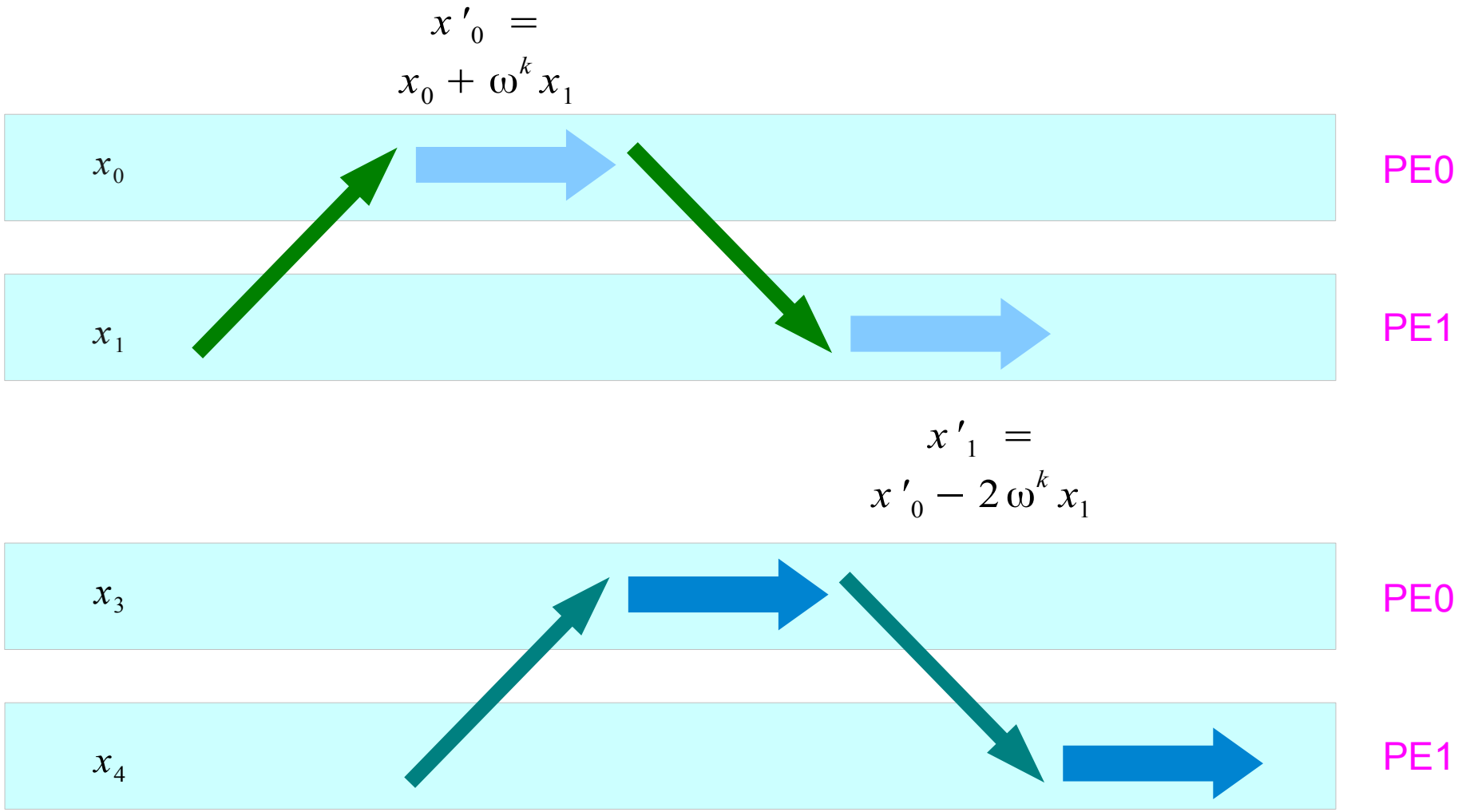
Unless real duplex communication link → Shared Bandwidth

Communication Scheduling

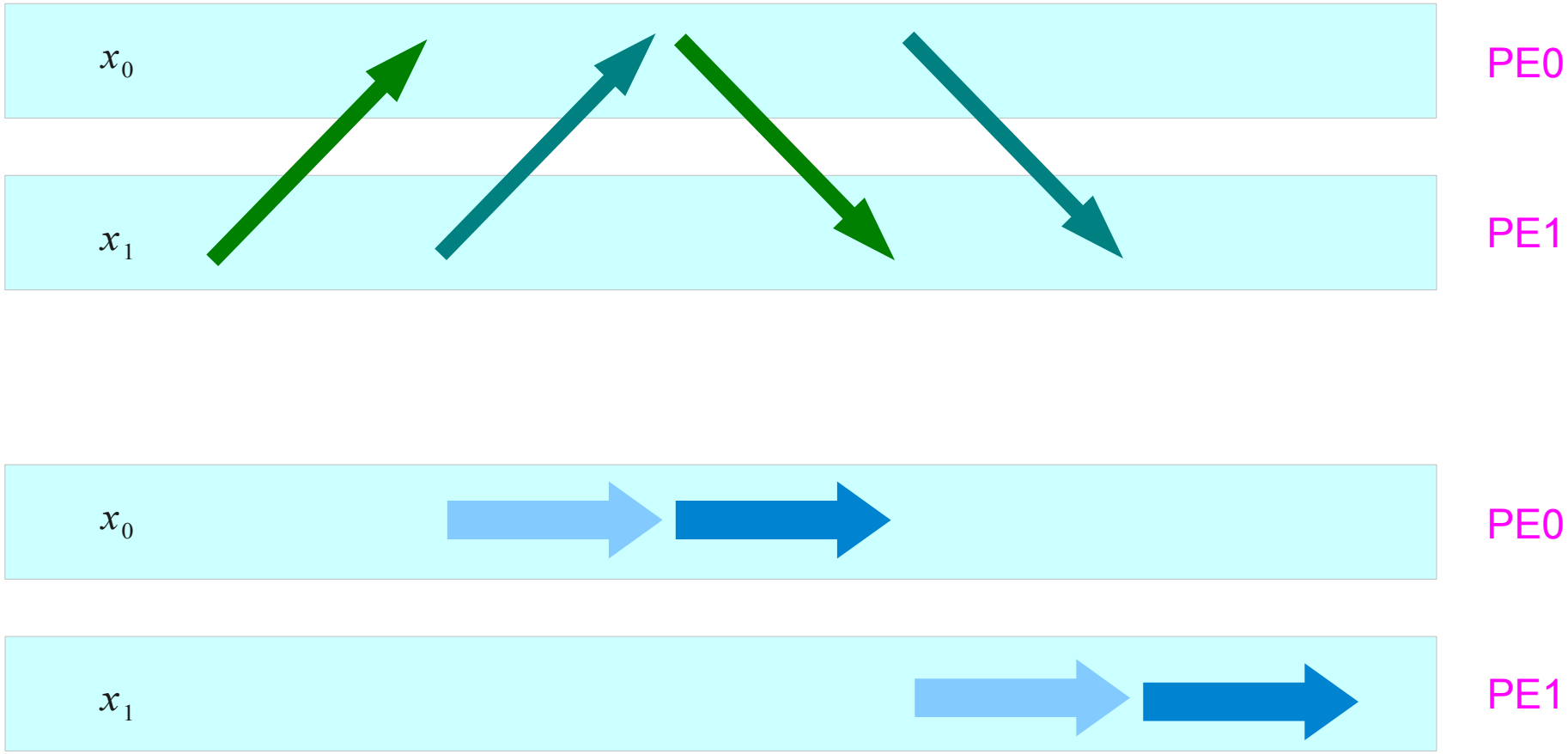


Swapping communication pattern can be avoided

Communication Latency 6iding (1)



Communication Latency 6iding (2)



Speed Up ?

Ratio of Comp time to Comm time?

References

718 http9##en. , i2ipedia.org#
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