

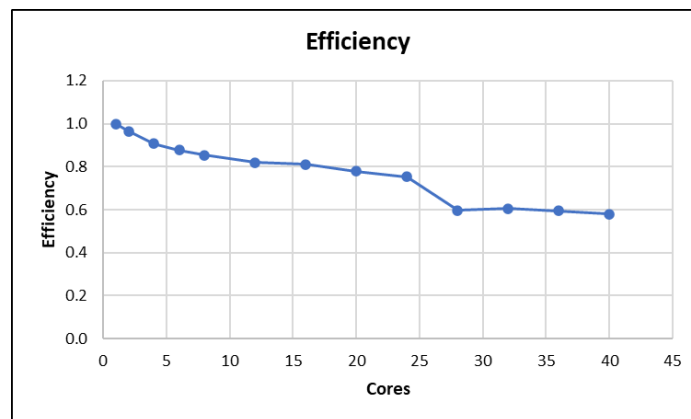
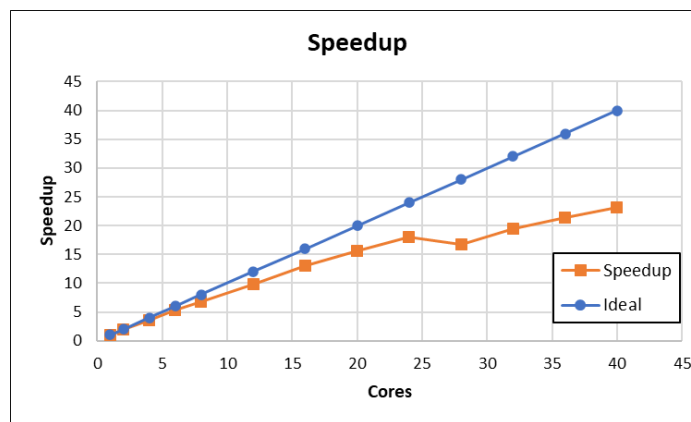
SU2 Scaling Analysis

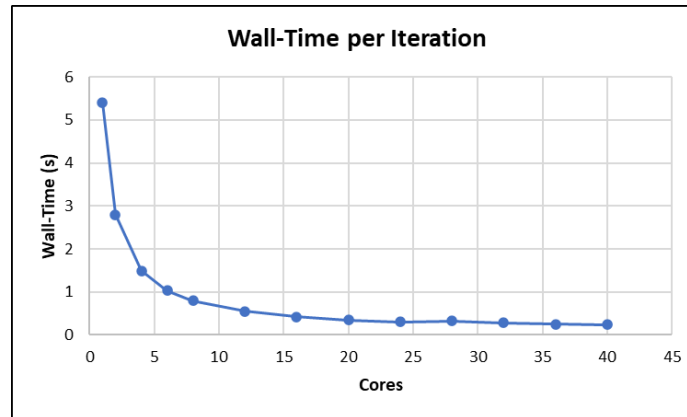
- Strong scaling

Strong scaling analysis was performed using coarse mesh simulations of backward facing step problem. The total mesh count is 237,120. Average wall-clock time per iteration is used as the time standard for scaling analysis. Speedup and efficiency are plotted for different core counts based on the following equations (n is number of cores):

$$\text{Strong Speedup} = \frac{T(1)}{T(n)}$$

$$\text{Strong Efficiency} = \frac{1}{n} * \text{Strong Speedup}$$





- Weak Scaling

Weak scaling analysis was performed using coarse mesh simulations of backward facing step problem, by parameterizing the divisions of the domain in z-direction. Average wall-clock time per iteration is used as the time standard for scaling analysis. Speedup is plotted against node count based on the following relation (n is the number of cores, M is the number of mesh points in base mesh):

$$\text{Weak Speedup} = \frac{T(M, 1)}{T(n \times M, n)}$$

