

Parallel Programming

Prof. **Paolo Bientinesi**

`pauldj@aices.rwth-aachen.de`

WS 18/19

Exercises

1. Implement your own Scatter: Use the same algorithm as we did for the Broadcast (Minimum Spanning Tree), but the root only sends half of its buffer. Assume the buffer size to be a multiple of the number of processes.
2. Implement your own Scatter: Assume that the processes are organized as a $nRows \times nCols$ grid. First Scatter by rows, then Scatter by columns. Assume the buffer size to be a multiple of $nRows$ and $nCols$. Compare the final result with the solution of the previous exercise. Are there differences? If so, why? How would you obtain the exact same answer? If not, why?
3. Implement a Broadcast of vector as a Scatter + $(nProcs-1)$ steps of "pass to the right". Assume the vector size to be a multiple of the number of processes.