GITM Performance Assessment Summary

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The GITM Audit identified that the application did not benefit much from using multiple threads. The underlying cause was found to be poor load balance and. Several recommendations were also made to improve the vectorization and computational performance of the application which will reduce the time to solution.

The Individual Behaviour Model (IBM) GITM (General Individuals Transport Model) code is an off-line particle tracking model that requires velocity fields from a hydrodynamic model, it is implemented in Fortran 90 and parallelised with OpenMP.

The application writes the particle data to a NetCDF file which is done in a sequential manner. To make the code more scalable, it was recommended to use MPI so that the IO can be performed via the parallel NetCDF library.

A full technical report can be found at **https://pop-coe.eu/sites/default/files/pop_files/pop-ar-gitm.pdf**

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