

A Communication Algorithm for the Patch-based Multiblock Structured Mesh Applications

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Multiblock structured mesh allows to handle complex configurations which are widely existed in computational physics applications. A Patch-based data structure is always used in applications with multiblock structured mesh to get satisfying parallel performance. However, such Patch-based data structure seriously challenges the block to block data communications. This talk presents an algorithm for such communication and introduces its integration to JASMIN infrastructure to support the peta-scale simulations while tens of thousands of processors are used. Performance results show its robustness.