

2.2 Command line switch combinations for evaluating the artifact

The optional switches provided by the MiX10 compiler can be turned on or off in combination with the `-NO_CHECKS` switch of the X10 compiler. For example, to evaluate the performance of the IntegerOkay analysis, first generate the X10 code from the MiX10 compiler using the `-no_intok` switch, which will explicitly turn off the IntegerOkay analysis. Next, generate the X10 code without using this switch to get X10 code with the analysis. These two sets of X10 code can be compiled by the X10 compiler to compare their performance for different switches of the X10 compiler (both C++ and Java). Section 5 of the paper discusses the IntegerOkay analysis and section 7.7 of the paper gives the evaluation results for it.

Similarly, the `-use_region_arrays` switch can be toggled to generate code for explicitly generating code with region arrays. Region arrays and Simple arrays are discussed in section 4.1 of the paper. Their comparison is presented in section 7.6 of the paper.

Parallel X10 code can be evaluated similarly, after setting the environment variable `X10_NTHREADS` to specify the number of worker threads used by the X10 runtime²

References

- [1] J. Doherty. McSAF: An Extensible Static Analysis Framework for the MATLAB Language. Master's thesis, McGill University, December 2011.
- [2] A. Dubrau and L. Hendren. Taming MATLAB. In *Proceedings of OOPSLA 2012*, pages 503–522, 2012.

²<http://x10-lang.org/documentation/practical-x10-programming/performance-tuning.html>