

Publications related to Chez Scheme

- [1] Andrew W. Keep and R. Kent Dybvig. Automatic cross-library optimization. In *Scheme 2013: Workshop on Scheme and Functional Programming*, 2013. Describes how Chez Scheme's expander and source optimizer collaborate to perform constant propagation and procedure inlining across library boundaries
full text: <http://www.cs.indiana.edu/~dyb/pubs/auto-xlib-opt.pdf>.
abstract: <http://www.cs.indiana.edu/~dyb/pubs/auto-xlib-opt-abstract.html>.
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- [2] Andrew W. Keep and R. Kent Dybvig. A nanopass framework for commercial compiler development. In *Proceedings of the 18th ACM SIGPLAN International Conference on Functional Programming*, 343–350, 2013. A description of the Nanopass infrastructure used by the Chez Scheme Compiler starting with Version 9
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- [3] Andrew W. Keep, Alex Hearn, and R. Kent Dybvig. Optimizing closures in $O(0)$ time. In *Scheme 2012: Workshop on Scheme and Functional Programming*, 2012. Describes how Chez Scheme's compiler reduces the number and sizes of closures created at run time
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- [4] Andrew W. Keep and R. Kent Dybvig. A sufficiently smart compiler for procedural records. In *Scheme 2012: Workshop on Scheme and Functional Programming*, 2012. Describes how Chez Scheme's compiler optimizes record operations into fully optimal inline memory operations even, in many cases, when defined using the run-time record-type, constructor, predicate, accessor, and mutator operations
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- [5] Andrew W. Keep and R. Kent Dybvig. Ftypes: Structured foreign types. In *Scheme 2010: Workshop on Scheme and Functional Programming*, 2010. Introduces the mechanism for defining and accessing foreign objects, e.g., C structs, from Chez Scheme programs
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- [6] Andrew W. Keep and R. Kent Dybvig. Enabling cross-library optimization and compile-time error checking in the presence of procedural macros. In *Scheme 2010: Workshop on Scheme and Functional Programming*, 2010. Introduces the library-group form and how Chez Scheme optimizes across library and program boundaries within a library group
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- [8] Abdulaziz Ghuloum and R. Kent Dybvig. Fixing letrec (reloaded). In *Proceedings of the 2009 Workshop on Scheme and Functional Programming*, 57–65, 2009. Describes how Chez Scheme and Ikarus handle `letrec` and `letrec*` expressions efficiently while taking advantage of the R6RS prohibition on invoking the continuation of a right-hand side more than once.

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- [15] Oscar Waddell, Dipanwita Sarkar, and R. Kent Dybvig. Fixing letrec: A faithful yet efficient implementation of Scheme's recursive binding construct. *Higher-order and symbolic computation*, 18(3/4):299–326, 2005. Describes how Chez Scheme handles `letrec` expressions efficiently and with full enforcement of the revised report's restriction preventing evaluation of left-hand-side variable references and assignments before the right-hand sides have been evaluated.
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