

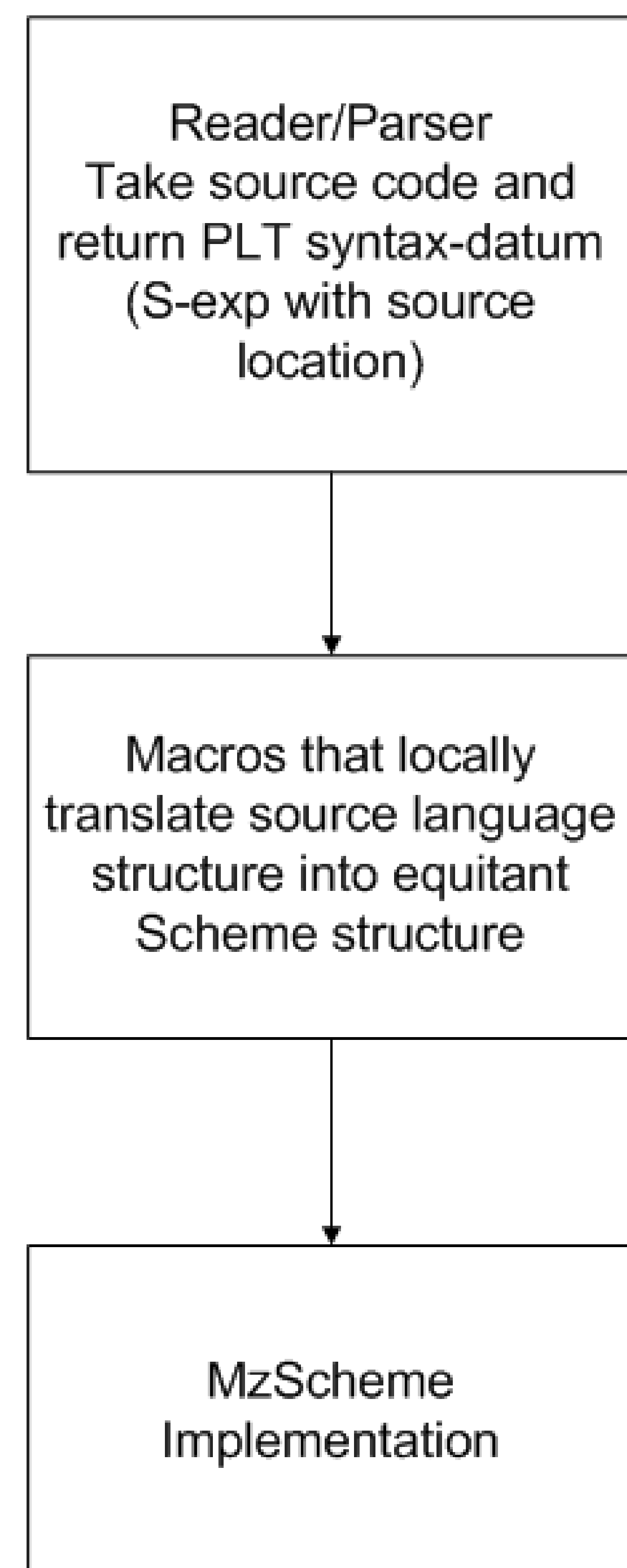


PLT Scheme as an Intermediate Language

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Statement: Using a high level, expressive (such as PLT Scheme) as a intermediate language for some languages will benefit both language people just using one of those languages or need languages inter-operation between several of them.



Implementation Detail

```
Untitled - DrScheme*
File Edit View Language Scheme Insert Help
Untitled (define ...) Save Macro Stepper # Debug Check Syntax Run Stop

#lang planet chongkai/sml

structure p =
struct
  val x = "a";
  val y = x;
  val x = "b";
end

val it = print p.y

Welcome to DrScheme, version 4.2.4.2-svn9feb2010 [3m].
Language: planet chongkai/sml; memory limit: 1024 megabytes.
a
Interactions disabled: (planet chongkai/sml) does not support a
REPL (no #%stop-interaction)
PlaneT: Finished with chongkai/sml.
Determine language from source 6:11 190.78 MB
```

```
Untitled 5 - DrScheme*
File Edit View Language Scheme Insert Help
Untitled 5 (define ...) Save Macro Stepper # Debug Check Syntax Run Stop

#lang planet chongkai/sml

structure p =
struct
  val fooo = 1
  val bar = 2
  val fooo = bar + 100
end

Determine language from source 7:16 138.69 MB
```

Standard ML implement as a set of Scheme macros

```
Untitled - DrScheme*
File Edit View Language Scheme Insert Help
Untitled (define ...) Save Macro Stepper # Debug Check Syntax Run Stop

#lang typed-scheme

(define: x : Number 3)

(define: (factorial [n : Number]) : Number
  (if (= n 0)
      1
      (* n (factorial (- n 1)))))

(display (factorial 3))

Welcome to DrScheme, version 4.2.4.2-svn9feb2010 [3m].
Language: typed-scheme; memory limit: 1024 megabytes.
6
>
Determine language from source 1:54 143.91 MB
```

```
Untitled - DrScheme*
File Edit View Language Scheme Insert Help
Untitled (define ...) Save Macro Stepper # Debug Check Syntax Run Stop

#lang typed-scheme

(define: x : Number 3)

(define: (factorial [n : Number]) : Number
  (if (= n #f)
      1
      (* n (factorial (- n 1)))))

(display (factorial 3))

Welcome to DrScheme, version 4.2.4.2-svn9feb2010 [3m].
Language: typed-scheme; memory limit: 1024 megabytes.
Type Checker: Expected Number, but got False in: #f
> |
Determine language from source 4:2 143.91 MB
```

Typed Scheme, another example
(by Sam Tobin-Hochstadt)