

# Evolutionary report of TOL interpreter performance

In order to compare the speed of the interpreter of TOL language in its different versions with other interpreted and compiled languages, we have the following programs written in the languages TOL, R and C, doing about the same thing, so the comparison is as fair as possible. It is simply a 10 times loop of another large loop of 1000000 times that updates two real variables, is to say, approximately 20 MFLOP

## TOL

```
Real time_by_million =
{
  Real t0 = Copy(Time);
  Real i=0;
  Real j=0;
  Real k=0;
  while(i<10,
  {
    j := 0;
    while(j<1000000,
    {
      k := k+1;
      j := j+1
    }
  ),
  i := i+1
});
Real t = Copy(Time)-t0;
WriteLn("\nt="<<Real(t/i));
t/i
};
```

## R

```
time <- getTime();
i=0;
j=0;
k=0;
while(i<10)
{
  i = i+1;
  j = 0;
  while(j<1000000)
  {
    k = k+1;
    j = j+1;
  };
};
t = Time.now.usec - t0;
time_t t = time(0)-t0;
timeReport(time);
```

## Ch/C/C++

```
#include <stdio.h>
#include <time.h>
int main()
{
  time_t t0 = time(0);
  int i=0, j;
  double k=0;
  while(i<10)
  {
    i = i+1;
    j = 0;
    while(j<1000000)
    {
      k = k+1;
      j = j+1;
    };
  };
  time_t t = time(0)-t0;
  printf("\nt=%1f", (double)t/double);
  return(0);
}
```

Language	Type	Version	Release	Langld	Time	Speed
TOL	Interpreter	v.0.1.2	1999-12-03	TOL v.0.1.2	801,5370	0,0250
TOL	Interpreter	v.0.1.9	2003-08-23	TOL v.0.1.9	693,7500	0,0288
TOL	Interpreter	v.1.1.1	2004-04-05	TOL v.1.1.1	495,9350	0,0403
TOL	Interpreter	v.1.1.2	2004-10-29	TOL v.1.1.2	555,7800	0,0360
TOL	Interpreter	v.1.1.3	2006-03-08	TOL v.1.1.3	330,5450	0,0605
TOL	Interpreter	v.1.1.4	2007-01-24	TOL v.1.1.4	200,0930	0,1000
TOL	Interpreter	v.1.1.5	2007-04-09	TOL v.1.1.5	122,2650	0,1636
TOL	Interpreter	v.1.1.6	2007-11-08	TOL v.1.1.6	63,2850	0,3160
R	Interpreter	v.2.2.1	2005-12-20	R v.2.2.1	30,0000	0,6667
Ch	Interpreter			Ch	12,0000	1,6667
C/C++	Compiler	Debug		C/C++ Debug	0,1100	181,8182
C/C++	Compiler	Release		C/C++ Release	0,0200	1000,0000

One can appreciate the remarkable growth of the speed of TOL in the latest versions, as well as the approach to R statistical language, that is now about twice as fast as TOL 1.1.6 while 4 years ago was more than 20 times faster. Beyond is Ch, a shell C which is considered as one of the fastest interpreter that exist in the open source world and can therefore take as the peak, while still 5 times faster than TOL.

## Evolution of TOL interpreter and comparisson with R and Ch

