



*We do the math*

## REvolution R Enterprise 3.0 IDE Sneak Preview

David Smith, REvolution Computing  
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# Who is REvolution Computing?

- REvolution R
  - Free, high-performance binary distribution of R
- REvolution R Enterprise
  - Subscription-only version, bundled with some proprietary components
  - Fully supported, validated
- R Consulting and Training
- R Community Development
  - R Evangelism ([blog.revolution-computing.com](http://blog.revolution-computing.com))
  - R community portal
  - Technical and financial contributions to R



- `source()` now adds meta-information to function objects
  - `options(keep.source=T)`
  - File name
  - Location of expressions in function in file
  - row/column of start/end of each expression
- Metadata accessible attributes of `sys.calls()`
  - Practical for machines (GUIs), but not for humans

# Function instrumentation in R 2.10.0

```
R version 2.10.0 Under development  
Copyright (C) 2009 The R Foundation for Statistical Computing
```

```
> source("/tmp/f.R")  
> f()  
Called from: g()  
Browse[1]> sys.calls()  
[[1]]  
f()
```

```
[[2]]  
g()
```

```
Browse[1]> xx <- lapply( sys.calls(), function(x) attr( x, "srcfile" ) )  
> attr( xx[[2]], "srcfile" )  
/tmp/f.R  
> ls.str( attr( xx[[2]], "srcfile" ) )  
encoding : chr "native.enc"  
filename : chr "/tmp/f.R"  
timestamp : POSIXct[1:1], format: "2009-07-10 15:07:25"  
wd : chr "/tmp"  
> as.numeric( xx[[2]] )  
[1] 7 3 7 5 3 5
```

```
/tmp/f.R:  
1: f <- function(){  
2:   d <- data.frame( x=rnorm(10), y=rnorm(10))  
3:   g <- function(){  
4:     z <- 10  
5:     browser()  
6:   }  
7:   g()  
8:   rnorm( 10 ) + runif( 10 )  
9: }
```

# What is the REvolution R Enterprise IDE?

- Integration of REvolution R Enterprise with Microsoft Visual Studio Shell
- Integrated Development Environment for R:
  - R command line console
    - History, Intellisense, brace matching, etc.
  - Script editor for R code
    - Syntax highlighting, comment/uncomment, ...
  - Help system
  - Project / Solution manager
    - Collections of files / workspaces
  - Step Debugger
    - (conditional) breakpoints, code stepping in/out, ...

## Visual Studio: User “Freebies”

- Familiar window interface
- Solution / Project system
- Editor change-tracking
- Comment/Uncomment
- Outlining
- Source-code control interface
- Debugging user-interface
- Bookmarks
- Snippets
- ...

- Demo
  - REvolution R Enterprise 3.0 beta

## Future Directions

- Package Builder
- Documentation (Rd) editor / builder
- Debugger: Step into C, C++, etc.
- Profiling
- Other front-ends?



Thank You!

- david@revolution-computing.com
- <http://blog.revolution-computing.com>

Webinar, October 27: <http://bit.ly/2PBnDP>

**“7 Ways to Increase Your R Productivity - New  
REvolution R Enterprise 3.0 Integrated  
Development Environment for Windows”**