

# Artyom Smirnov

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📄 <http://artyom-smirnov.info>

## Brief description

My main direction — system development and DBMS.

My primary programming language — C++.

I enjoy OpenSource software and tools which I use both for work and fun.

## Projects

### C++

Red Database [http://www.red-soft.biz/en/reddatabase\\_product.html](http://www.red-soft.biz/en/reddatabase_product.html)

Firebird DBMS fork with improved security

SciDB <http://www.scidb.org>

DBMS for large-scale scientific experiments based on multi-dimensional arrays

### Python

scidb4py <https://github.com/artyom-smirnov/scidb4py>

Pure python SciDB client library implementation

### Pascal

MTDORB <http://sourceforge.net/projects/mtdorbb/>

Opensource ORB for Pascal

## Experience

Oct 2013 **Software Engineer**, *Red Soft Corporation*.

Development and support of Red Database

Dec 2009 - **Software Engineer**, *SciDB*.

Sep 2013 Query parsing, translating and processing

Client tools

Client libraries and drivers

JDBC driver

Build system, packaging

May 2007 - **Software Engineer**, *Red Soft Corporation*.

Aug 2009 Security improvements in Red Database - fork of Firebird RDBMS

Porting MTDORB from Kylix to Free Pascal

Porting to Linux and supporting Firebird/Red Database replication utility

## Development skills

### Programming Languages

C++, C, **Expert**

Bash

Python, Java **Intermediate**

LaTeX, **Basic**  
Pascal

### Tools

gcc, gdb, valgrind, bison, flex, cmake, git, svn, ant, maven

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## Computer skills

IDE Eclipse, QtCreator, Xcode

OS Linux (RedHat, Debian), MacOS X

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## Education

Sep 2004 - **Information Technology**, *Murom Institute (branch) of the Vladimir State University*,  
Jul 2009 *Murom, Russia*.  
Engineer

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## Publications

Target-oriented distributed approach for query optimization in DBMS (rus)  
Smirnov A.V. Proceedings of «Scientific creativity of the XXI century (NC-2012)». 2012. #3. Pp. 71-79.

Problems of query optimization in extensible DBMS SciDB (rus)  
Smirnov A.V. Algorithms, methods and systems of data processing. 2011. N3(18).

Distributed approach for searching in query optimizer search space (rus)  
Smirnov A.V. Algorithms, methods and systems of data processing. 2011. #3(18).

Dynamically extensible query optimizer (rus)  
Smirnov A.V., Pugin E.V. Proceedings of «Problems of informatics and modelling (PIM-2011)». 2011. P. 69.

SciDB - new DBMS for big size of scientific data (rus)  
Oleg Bartunov, Pavel Velikhov, Roman Simakov, Konstantin Knizhnik, Artyom Smirnov. Supercomputers journal. #5(15). Moscow. 2011.

Overview of SciDB: Large Scale Array Storage, Processing and Analysis (eng)  
J. Rogers, R. Simakov, E. Soroush, P. Velikhov, M. Balazinska, D. DeWitt, B. Heath, D. Maier, S. Madden, J. Patel, M. Stonebraker, S. Zdonik, A. Smirnov, K. Knizhnik, Paul G. Brown SIGMOD 2010

The control of access to system catalog in DBMS «Red Database» (rus)  
Roman Simakov, Artyom Smirnov. Information security of regions journal. #1(4). pp. 62-66. Saratov. 2009.

Development of query optimizer model (rus)  
Smirnov A.V., Pugin E.V. Algorithms, methods and systems of data processing. 2010. #15. Pp. 161-169.

Specifics of data distribution in multidimensional DBMS SciDB (rus)  
Smirnov A.V., Andrianov D.E. Algorithms, methods and systems of data processing. 2009. #14. Pp. 158-163.

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## Links

Personal page <http://www.artiom-smirnov.info/>

LinkedIn <http://www.linkedin.com/in/artiomsmirnov>

GitHub <https://github.com/artiom-smirnov>