

ReactOS Status Report for July 2006

Preface:

This is the 2nd issue of the ReactOS Status Report, and this is the first one produced by me, Aleksey Bragin being in a Project Coordinator's position. In this Status Report I tried to provide the most detailed coverage of the various and most interesting aspects of ReactOS project progress since January, 2006 till the current time.

ReactOS team is also thinking for the future of the project, how people could benefit from the project. We do not want to disclose many details now, but there are some very interesting ideas, particularly in area of virtualization and embedded systems. We will release more information as soon as the ideas are ready, so stay tuned!

For information about joining or donating to the ReactOS Project please visit main web-site <http://www.reactos.org> and ReactOS Wiki http://www.reactos.org/wiki/index.php/Main_Page

Legal situation:

Due to previous internal problems involving some ReactOS developers who were unsure in the cleanness of the ReactOS's code base, it was decided to conduct a full audit of the source code for legal matters. So far, 93% of code is audited already and no suspicious code was found, however many bugs were uncovered and fixed thanks to it. Maybe the whole issue was triggered by a small flamewar between programmers, who wish other projects (like Wine) to succeed instead ReactOS.

The rules for any patch which enters the repository have been also made to be stricter:

1. Anonymous patches are not accepted
2. Every code patch must contain either a reference to a publicly available and well-known documentation and/or to a test-case, demonstrating correctness of the patch
3. Patches whose cleanliness are in doubt will be rejected

Upon the finish of the audit and, if code with unknown origin will be found, it will be removed from the repository, and rewritten by a developer who has not seen this code (some 3rd-party developer) based on the created during auditing process information.

Not only it gives a way to be sure in a good future of the project, without any legal fears, but it also presents a whole new concept of a regression-tested development, which certainly results in better compatibility.

General Status:

By mid of July 2006 the ReactOS Project most recent released version is 0.3-rc1 of the ReactOS System.

The current ReactOS 0.3.0 TODO list is located at:

<http://www.reactos.org/wiki/index.php/0.3.x/0.3.0>

The list of planned features for the 0.3.x development line is located at:

<http://www.reactos.org/wiki/index.php/0.3.x> .

However, the most advanced and “bleeding-edge” changes are located in trunk. With all the changes done during this period of time, we reached a level of compatibility we never had before. ReactOS website screenshots and Support Database speak for themselves, but what is not yet included there is, for example, a nice Google Picasa running under ReactOS without any major bugs, and a lot of supported drivers which could not work before due to serious mistakes in Native API implementation.

Besides of this, it’s possible to classify progress by some ongoing subprojects for the overall project:

Networking:

Mainly there are bugfixes and small improvements into the networking, making it working better. Despite the state of networking is still not mature, a lot of applications already work – FireFox, mIRC, Miranda (with some glitches), FTP apps.

Other major achievements are network cards support, and easier installation and setting up: thanks to Herve Poussineau’s work it is now possible to install network card drivers, even on a LiveCD without necessary rebooting (however TCP/IP stack and NDIS await improvement to not require a reboot too). This gives a chance for more users to try and test ReactOS on their PCs.

Configuration is made easy by a working Control Panel applet, which removes the need to change registry in order to setup your IP and gateway’s addresses, now you can do it in a similar to Windows’ dialog.

Plug and Play:

There are really a lot of good changes into Plug and Play, mainly improving 3rd-party drivers support and ease of installing drivers: no more hacking with copying .sys and .dll files – just point the “New Hardware Found” wizard to the directory where you have your driver, and it will install them for you!

USB:

USB development was put on hold during this period; it’s going to be restarted in the second half of 2006.

Build System Changes:

RBuild is further improved, especially its MSVC-backend, allowing to generate project files more and more closer to the point when you can just open the solution in Visual C++ Express and click “Build”.

ReactOS also utilizes a BuildBot now (instead of an unmaintained and unfinished CIS) – it greatly reduces trunk breakage problems, and automatically provides per-revision ISOs available for download. And thanks to scalability of a BuildBot, we are able to utilize several PCs for parallel building different revisions. Thanks goes to Christoph and

Magnus for hosting the buildslaves and the buildmaster, and to Aleksey for configuring it.

You can see it live at <http://reactos.dyndns.org:8010>.

DirectX and OpenGL:

Magnus Olsen works on DirectX support in ReactOS, and he provided an interesting plan of work on DX-support, which you can read below.

OpenGL support currently regressed due to changes and fixes in the kernel, it's estimated to be back within the coming months.

Website, Translation and Internationalization Support:

Klemens Friedl expanded and improved a lot of the reactos.org website, and especially the RosCMS system and its interface for translators. The work on translating the website is going on, and the list of supported languages grows. You can read more about the website's changes in Klemens' Developer Status section below.

Also, we are still looking for a good candidate for ReactOS Weekly Newsletter, though Ravelo is already preparing a new issue in the meanwhile.

ReactOS participation in Google Summer Of Code

First of all, I would like to thank Google a lot for their effort of supporting FOSS community by providing such a beautiful thing as Summer Of Code.

ReactOS was approved for participation in SoC. We were given 4 project slots, however during midterm evaluation, we had to set unsatisfactory mark to 2 students, because they didn't complete even the initial phase of the project, leaving currently two projects:

Remote Desktop client application by Michele Ciccioiti, which is the best moving project, it already has current progress in ReactOS SVN repository, and Clipboard Server API implementation, which is progressing slower than Remote Desktop client, however there is progress and student's will to finish the project.

These are very valuable projects not only for ReactOS, but for users too. So we wish our best luck to those students to complete projects in time.

Developer Status:

Individual project developers' todo-lists are presented below. Not all active developers are listed here, because some of them were unable to provide the information on time.

For further information as to what projects each developer is working on please watch ros-dev mailing list, visit: http://www.reactos.org/wiki/index.php/People_of_ReactOS and come to irc channel #reactos.

Johannes Anderwald:

Some small fixes in user32 and win32k, reducing number of failures in wine regression tests.

Maarten Bosma:

I am planning to start again with syncing cache manager branch to the new NDK. And then try to make my trim function work. After that I will try to make the package manager at least usable as downloader.

Klemens Friedl:

I have been working on the Compatibility Database (11/2005 to 06/2006) and some RosCMS improvements.

I spend a lot of time on RSDB; it is more than twice as large as RosCMS, circa 250 script files where as RosCMS consists of about 100 script files.

The Compatibility Database is almost finished, I have fixed a lot of small glitches in the beta phase and as soon as ReactOS 0.3 release goes on air, I think we can say that the Compatibility Database is in gold status.

Our website has been translated to 15 different languages from German, French to Chinese, Lithuanian, etc.

About active 50 translators have worked with RosCMS and I got a lot of positive response and some really good technical criticism/suggestions, which I took as a base for further improvements.

I want to thank all translators for take part and keep the translations up-to-date.

Website Status:

<http://www.reactos.org/roscms/?page=webstatus>

I want to work on my SearchLight app and hope that it will be useful (in future) for ReactOS (similar to Beagle for Gnome).

I have talked with Magnus about a ReactOS PE first step setup (LiveCD with Ram-Drive). It would be possible to revamp our old Ram-Drive driver code and use it for storing the registry settings, to achieve a Vista like setup feeling:

Boot into LiveCD ReactOS, GUI setup (first+second step combined; and optional old-style first step setup for experts / low end PCs).

Then reboot into ReactOS installed version, so only one reboot required which sounds cool, even Vista needs 2+ reboots with Vista PE setup.

Alex Ionescu:

Mainly the work is concentrated in the kernel. A few interesting changes:

- Object Manager proper implementation. Provides: great speedup, a compatible implementation of exported functions. Based on: Kernel-mode tests of exported APIs and publicly available books and documentation. Right now Object Manager's rewrite is done, practically all bugs are gone, so this part of kernel is more-or-less solid, and can be counted at.
- Project and Thread Manager fix. Provides: Proper implementation, fixes to bugs due to broken Ob model. Based on: Books (Windows Internals), test cases ran on Windows 2003 SP1.
- I/O manager improvements: PnP and Io manager are now separated, and there are a bunch of improvements and new features added to Io. The amount of fixed errors and incorrect behavior is so big that it worth looking at Svn server logs.

Also, in the meanwhile there were other improvements, like creating a compatible heap manager implementation in Kernel32. Not only it reduces failures of Wine regression tests to zero, but also provides a better implementation leading to speed improvement.

Ged Murphy:

Over the past 6 months, I've mainly been working on the audit, mostly reviewing and unlocking code.

Have worked on:

- Imagesoft
- Rewrote the ReactOS Service Manager
- Added a screenshot app
- Cleaning up of control panel applets
- Wine syncs

Future work:

- Restart work on imagesoft
- Continue work on control panel applets
- Possibly restart work on the explorer interface design
- Wine syncs

Andrew Munger:

1. Testing for 0.3.0. Testing on my rosbox and qemu, reading bugs.
2. Wasting my time working on a win32 console irc client.

Magnus Olsen:

What I have been working on is DirectX support and still do time to time and will continue on it: what I am planning is getting a DirectX HAL interface working partly this year. That is basically all what I plan for this year with DirectX support. I plan to fix as much bugs as I can there and there. Not so much new stuff will be implemented from my side. I think current ReactOS need bugfixing before adding new API if we can concentrate on fixing as much bugs as possible this year ReactOS will come to a real usable state this year.

What I have done the last 6 month is hard to say without looking at svn log:

1. Fixing bugs there and there
2. Adding some new stuff
3. Developing dx draw and dx draw/d3d hal interface.
4. Helping other devs when they need a extra hand

Planning for DirectX developer for 6 month

1. DirectDraw hal interface
2. Getting more work on curent DirectDraw
3. Fixing devenum and dxdiag so they emulate right in Windows and make them more like windows version of them, for moment it is raw port from Wine.

Planing other stuff for 6 month

1. Fixing CRT and RTL bugs some of them
2. Fixing some graphic bugs in win32k and some other bugs
3. Fixing some other bugs in ReactOS, jumping between part as I do and try to figure out how to fix other bugs
4. Trying to care a bit more about bugzilla bug reports and solve them.

Hervé Poussineau:

Done between 2006/01/01 and 2006/06/30:

- USB: allow more than one controller and support hubs
- Green: move green driver to a working state
- Recyclebin: Add static library to manage it. Still not used yet
- Setupapi/newdev: Lots of new functions implemented, select best driver when several matches, can provide a cdrom during installation... main goal was to be able to install drivers from a custom directory
- Fix BSOD in IntPrepareDriver
- MSVC backend: take care of "If" conditions in rbuild files to include files, define dependancies between projects
- services.exe Implement StartService, which now starts pnpmgr during 2nd stage setup. So serial mouse is usable in 2nd stage setup and USB mouse at 3rd boot
- And finally, very important, fix the calculation of loss packets percentage in ping.exe :)

To do during next months:

- mostly fixes in pnp (kernel part and setupapi/newdev/class installers)
- fix installation of vmware drivers (mostly mouse) => work on i8042prt
- other unplanned things :)

James Tabor:

Improvements to User32 and Win32k, making ReactOS's internal elements to work correctly (like menu, scrolls, etc).

Brandon Turner:

I don't have much on my plate. I don't think I have done anything notable in the last 6 months. I plan implementing multiline 'if' in cmd.exe and anything else needed to allow wineimport.cmd to run in ReactOS.

Aleksey Bragin:

Some of things I did since 1st of Jan, 2006:

- Code auditing
- Development (with the help and agreement of all developers of our team) and enforcing new coding style rules to the codebase (still in progress, the codebase is huge)
- Starting to remove "magic" status from Wine syncs
- Working on fixing bugs detected by Wine regression tests

- Introduced kernel-mode regression tests framework, adapted old tests and created new ones for the kernel, which allows us to test and implement the same behavior for kernel internals
- Improving some parts of User32.dll (together with James Tabor)
- Headers updating
- Small cleanups in kernel32 and win32k
- Changing user32 to a FIXME/TRACE/ERR debug messaging system compatible with Wine (provides a lot easier way to tracing problems and finding bugs in different parts of the OS)
- Winetests updating
- Some improvements to RBuild's MSVC backend
- Some work on supporting MSVC compiler
- Translations of various ReactOS modules to Russian language
- Wine autosyncing (together and mostly thanks to Herve Poussineau's work)

Non-development related improvements are described in the other sections of this issue of Status Report.