



pgBackRest port to Windows

09.04.2022

—

Samuel Bassaly
TU Darmstadt

Overview

The goal of this project is to port pgBackRest to Windows.

This means adding support for all sub commands in Windows, plus tests.

This will include the following tasks:

- Add support to Windows file operations.
 - src/storage/win32
- Add support to Windows networking.
- Support unicode on Windows.
- Update/add tests for Windows.
- Add CMake / .sln file for compiling on windows.

As windows can't run `./config`, and its *make* syntax is different, it is desirable to have a CMake for running on Windows.

While most of the sockets' syntax is similar in Win32 API, yet some work needs to be done to ensure that the code behaves in a similar way.

Goals

1. Port pgBackRest to windows
 - a. CMake / meson / .sln project
 - b. Successfully run and pass all tests on Windows
 - c. Port:
 - i. File operations
 - ii. Networking operations
 - iii. Long / Network file names
 - iv. Any other POSIX specific functions
2. Add relevant tests for Windows
3. Provide a small documentation for Windows developers

Milestones

I. May 20 - June 12

- Community bonding period.
- Clone and fully read the source code.
- Setup repo.
- Create a .sln file.

II. June 13 - July 25

- Start Implementation.
- By the end of this phase, all non-Windows components should be ported (i.e. successful compilation)
- Port tests

III. July 25 - September 4

- Extensive documentation
- 100% Test coverage
- Meson / CMake file (if time allows)
- Delivery (pull request with the final branch)

About Me

My name is Samuel Bassaly, and I am currently pursuing my Masters degree in Information and Communications Technology at TU Darmstadt, Germany.

I have 4 years of professional C++ development for Windows and embedded systems.

I have strong knowledge in Win32 APIs, having worked with Windows networking, async IO, multi-threading, DirectX among lots of other Windows APIs.

I also have experience with porting non-windows applications to Windows, having ported several small utilities before.