
Implementation of a Virtual File System

Group 03

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Abstract

The *Virtual File System* was implemented during the course *Java and C# in depth*.

This version of the document describes the project at the final state of milestone 1.
and so on. . .

1. The Full Model

After we did one more experiment that is explained in the appendix I could could examine the measured values and made some observations that are described in this section. Based on those observations I built the full model that will be the basis of a mean value analysis shown further in the document.

1.1. Definitions

blablab

1.2. Observations

This is a table (table 1) measured throughout the and a footnote ¹

N	R_{puts}	$R_{retrieves}$	R_{meas}	X_{meas}	X_{calc}	R_{calc}	Z_{calc}
32	69	112	181	176.5	176.8	181	0
64	72	113	185	344.7	345.9	186	1
96	81	115	196	486.4	489.8	197	1
128	98	119	217	586.8	589.9	218	1
160	124	130	254	628.3	629.9	255	1
192	161	156	317	603.9	605.7	318	1
224	213	204	417	536.4	537.2	418	1
256	251	230	481	531.2	532.2	482	1

Table 1: Measured (on client side) and calculated data of the whole system.

1.3. The Model

and a figure 1. fancy foobar

¹Described in the appendix ??

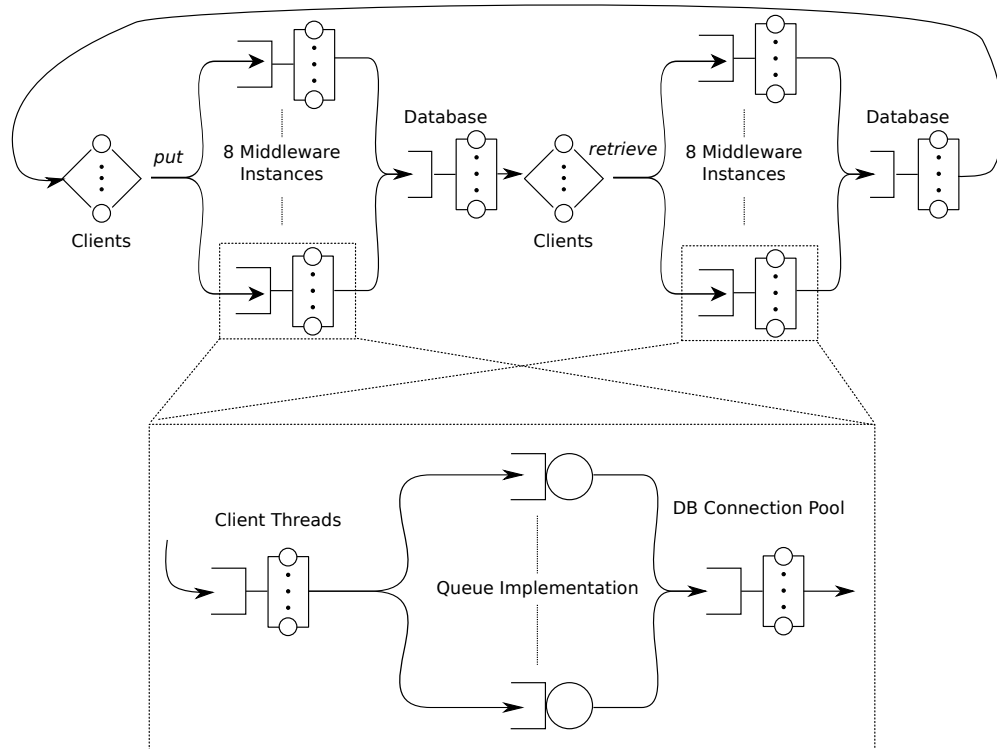


Figure 1: Full model of the system.

citation[1].

some math

$$\mu(n) = \begin{cases} n/S & \text{if } n = 1, 2, \dots, m-1 \\ m/S & \text{if } n = m, m+1, \dots, \infty \end{cases}$$

A. Glossary

VFS core The main Java library, that handles all the interaction with virtual disks and importing/exporting/storing files. It is used by the command line client and the gui.

Virtual Disk A virtual disk denotes a container file that is stored on the host file system. A virtual disk can be opened with the software that is developed during this project and stores the actual files. The file extension of the virtual disk is “*.bfs”.

B. Command line client

The command line client allows the usage of the VFS core and is mainly intended to test the basic functionalities. The console runs either in management mode or in filesystem mode. The management mode is entered automatically when starting the command line client. It allows creating and disposing virtual disks. The filesystem mode is entered as soon as a virtual disk is opened.

TODO: DISCUSSION: sollen ganze ordner importiert und exportiert werden können? wird dies von der client-seite gehandelt?

B.1. startup

The command line client can be started as follows:

```
java -jar VFSCore.jar ch.eth.jcd.badgers.vfs.ui.VFSConsole
```

B.2. commands

Following commands can be used with the command line client in management mode:

- **create c:\path\to\disk.bfs 1024** creates virtual disk of size 1024 megabytes on the host system
- **dispose c:\path\to\disk.bfs** deletes the given virtual disk

- **open c:\path\to\disk.bfs** opens filesystem mode for the given virtual disk

following commands can be used in filesystem mode:

- **ls** lists the contents of the current directory
- **rm file** deletes the entry denoted as file
- **cp src dst** copies the src file to dst
- **import ext_dst** imports a ext_src from the host system to dst
- **export src ext_src** exports a src file to the host system ext_dst

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References

- [1] Raj Jain. *The Art of Computer Systems Performance Analysis*. John Wiley and Sons, Inc., 1991.