

# PHP 4 vs. PHP 5 Performance Comparisons

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## PHP 4 vs PHP 5

This document details the results of benchmark testing performed on equally configured systems running different versions of PHP (4.3.10 and 5.0.3). These performance figures are important to understand when trying to understand the scalability of PHP as it relates to specific needs of a deployed application. It has been shown that purely PHP code scales relative to CPU performance. These performance qualities of core PHP functionality will translate to better scalability when considering computationally intensive PHP applications.

### Test Description:

For the benchmark testing, "PHPBENCH" version 0.8.1.1 was used. These test can be found at <http://mirrors.sunsite.dk/pure-ftp/misc/phpbench/>. The structure of these tests are such that individual tests are executed over a number of iterations. The time of each test is recorded, and an average for the iterations is reported. For these tests, the number of iterations used was 10,000. The reported results correspond to the name of the php file used by the benchmark and can be found in the "tests" directory of the benchmark.

### Test Environment:

The tests were performed on the following hardware and software configuration. The hardware used was a 2 CPU server, where each CPU was a Intel Xeon 2.8Ghz processor. The machine contained 2Gig of RAM (DDR2 PC3200 ECC REG 400). The hard drives on the machine were 2-40Gig SATA. The server was running Red Hat Enterprise Linux version 3.2 with the kernel version 2.4.21-27 and the x86\_64 architecture. The version of Apache running on the machine was 1.3.33. Each version of PHP was built with the following configuration settings:

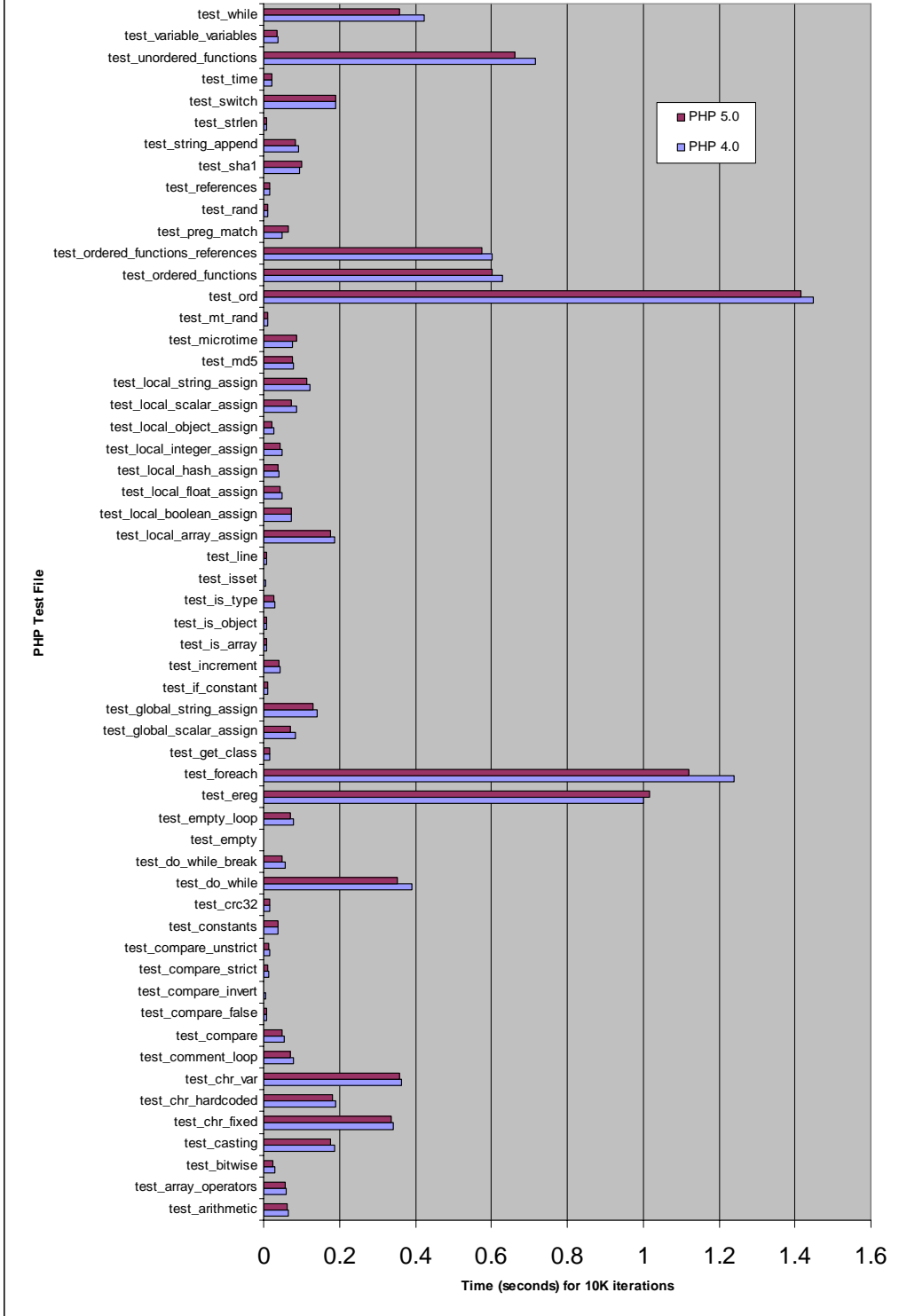
- With mysql*
- With ftp enabled*
- With pcntl (process control) enabled*
- With memory limit enabled*
- With cgi disabled*

The default php.ini was used as well.

### Test Results:

In summary, PHP5 consistently performed better than PHP4. This performance increase varied between being equal in performance to having a performance increase as large as 20.49%. In several test cases, however, PHP4 performed better than PHP5. In one test case testing the function "preg\_match" PHP4 performed 29.37% better than PHP5.

## Performance Comparison between PHP 4 and PHP 5 (4.3.10 vs 5.0.3)



**Full results:**

Test	PHP4	PHP5	Net
test_arithmetic	0.065	0.063	3.54%
test_array_operators	0.059	0.058	1.85%
test_bitwise	0.029	0.025	13.19%
test_casting	0.186	0.176	5.63%
test_chr_fixed	0.342	0.336	1.87%
test_chr_hardcoded	0.191	0.181	4.83%
test_chr_var	0.364	0.358	1.68%
test_comment_loop	0.079	0.070	11.50%
test_compare	0.054	0.049	9.98%
test_compare_false	0.008	0.008	0.00%
test_compare_invert	0.005	0.004	8.89%
test_compare_strict	0.014	0.012	18.88%
test_compare_unstrict	0.017	0.014	18.13%
test_constants	0.039	0.039	-2.34%
test_crc32	0.016	0.017	-4.43%
test_do_while	0.390	0.353	9.54%
test_do_while_break	0.056	0.048	14.70%
test_empty	0.004	0.004	13.95%
test_empty_loop	0.078	0.070	10.65%
test_ereg	1.000	1.017	-1.63%
test_foreach	1.240	1.120	9.68%
test_get_class	0.017	0.017	1.15%
test_global_scalar_assign	0.085	0.071	16.17%
test_global_string_assign	0.140	0.129	7.85%
test_if_constant	0.010	0.010	0.00%
test_increment	0.043	0.041	5.07%
test_is_array	0.009	0.008	5.88%
test_is_object	0.008	0.008	2.38%
test_is_type	0.029	0.027	8.16%
test_isset	0.005	0.004	18.37%
test_line	0.009	0.008	2.35%
test_local_array_assign	0.187	0.176	5.73%
test_local_boolean_assign	0.074	0.073	0.41%
test_local_float_assign	0.048	0.044	8.88%
test_local_hash_assign	0.040	0.038	5.28%
test_local_integer_assign	0.048	0.044	7.92%
test_local_object_assign	0.028	0.023	20.49%
test_local_scalar_assign	0.086	0.074	13.08%
test_local_string_assign	0.123	0.114	7.25%
test_md5	0.078	0.077	1.79%
test_microtime	0.075	0.087	-15.65%
test_mt_rand	0.011	0.011	0.00%
test_ord	1.447	1.416	2.17%
test_ordered_functions	0.629	0.602	4.18%
test_ordered_functions_references	0.603	0.576	4.56%
test_preg_match	0.050	0.065	-29.37%

test_rand	0.011	0.011	-0.94%
test_references	0.017	0.015	12.21%
test_sha1	0.094	0.099	-5.98%
test_string_append	0.091	0.083	8.88%
test_strlen	0.009	0.009	-2.22%
test_switch	0.190	0.191	-0.37%
test_time	0.023	0.023	-1.31%
test_unordered_functions	0.715	0.663	7.35%
test_variable_variables	0.038	0.034	10.90%
test_while	0.423	0.358	15.49%