

NEW FEATURES AND PERFORMANCE

A BRIEF TO PHP 7.3



Laruence
PHP DEVELOPER



SELF INTRODUCTION

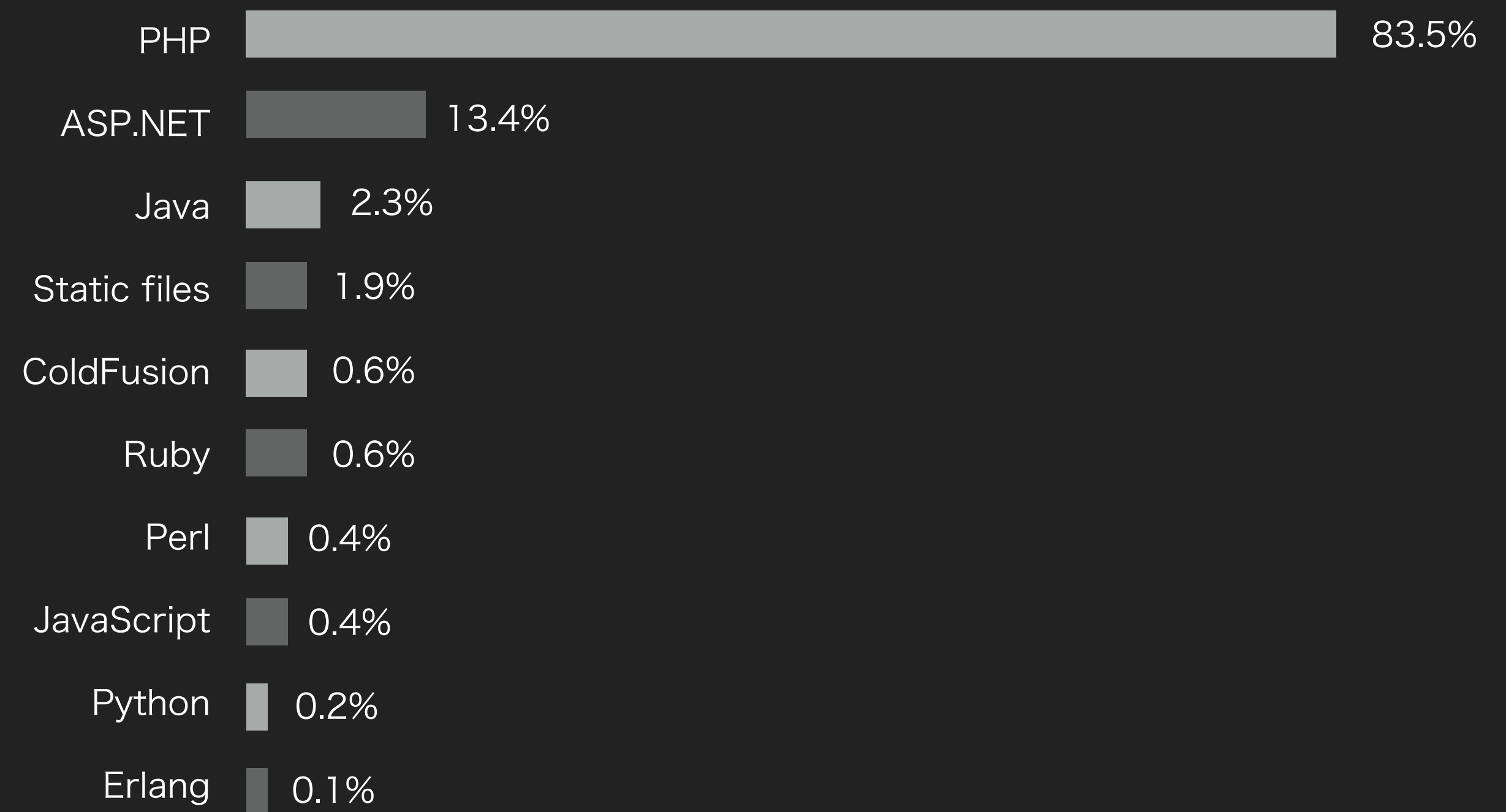
A PROGRAMER

- Author Of Yaf, Yar, Yac, Yacnf, Taint Projects
- Maintainer Of Opcache, Msgpack Projects
- PHP Core Developer Since 2011
- Zend Consultant Since 2013
- PHP7 Core Developer
- Chief Software Architect At Lianjia Since 2015

PHP HISTORY

BORN FOR WEB

- Created In 1994 By Rasmus Lerdorf
- 20+ Years Programming Language
- Most Popular Web Service Program Language
- Php7 Is Released At 3 Dec 2015
- Latest Version Is PHP7.2.5



W3Techs.com, 1 April 2018

HEREDOC AND NEWDOC

- The Ending Token No Longer Needs To Be The First Strings Of Line
- The Ending Token Can Be Indented
- The Exact Number Of Spaces/Tabs Used In The Ending Token Will Be Striped

```
function example($arr) {  
    $out = "";  
    foreach($arr as $str) {  
        $out .= <<<DOC  
            repeat {$str}  
    }  
    return $arr;  
}
```

```
function example($arr) {  
    $out = "";  
    foreach($arr as $str) {  
        $out .= <<<DOC  
            repeat {$str}  
        }  
    }  
    return $arr;  
}
```

TRAILING COMMA IN FUNC CALLS

- Allow Trailing Comma In Function And Method Calls
- Only One Extra Comma Are Allowed
- You Can Not Use This In Function/Method Declarations

```
function func_call($num1, $num2, $num3, $num4) {  
    return $num1 + $num2 + $num3 + $mum4;  
}
```

```
func_call(  
    $argument1,  
    $argument2,  
    $argument3,  
    $argument4,  
);
```

REFERENCE IN LIST

- Items In List Can Be Assigned By Reference

```
$animal = ['dog', 'cat'];
```

```
list($a, &$b) = $animal;
```

```
$b = "monkey";
```

```
var_dump($animal);
```

```
//output:  
//array(2) {  
//  [0]=>  
//  string(3) "dog"  
//  [1]=>  
//  &string(5) "monkey"  
//}
```

```
$animal = ['dog', 'cat'];
```

```
[$a, &$b] = $animal;
```

```
$b = "monkey";
```

```
var_dump($animal);
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```
//output:  
//array(2) {  
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//  string(3) "dog"  
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//  &string(5) "monkey"  
//}
```

HRTIME

- Hrtime Is A High-Resolution Monotonic Timer
- It Doesn't Depends On The System Clock

```
$start = hrtime(true);  
//.....  
$end = hrtime(true);  
  
$elapsed = $end - $start;
```

HRTIME

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MULTIPLY NEW FEATURES & BUGFIX

- Add Net_Get_Interfaces()
- Instanceof Now Allows Literals As The First Operand
- New Flag Json_Throw_On_Error, Json_Encode/Decode Could Throw Exception Instead Warning Now
- Added Is_Countable() Function, To Check Whether A Value May Be Passed To count()
- Multiply New Methods Added In Gmp
- <https://Github.Com/Php/Php-Source/Blob/Master/Upgrading>

FASTER NEW GC

- Composer Gc Performance Problem Resolved
- Multiple Bugs Fixed In The Mean Time

Disable GC when computing deps, refs #3482 [Browse code](#)

master

 **Seldaek** authored Dec 2, 2014 1 parent [91dd999](#) commit [ac676f47f7bbc619678a29deae097b6b0710b799](#)

Showing 1 changed file with 2 additions and 0 deletions. Unified
Split
View

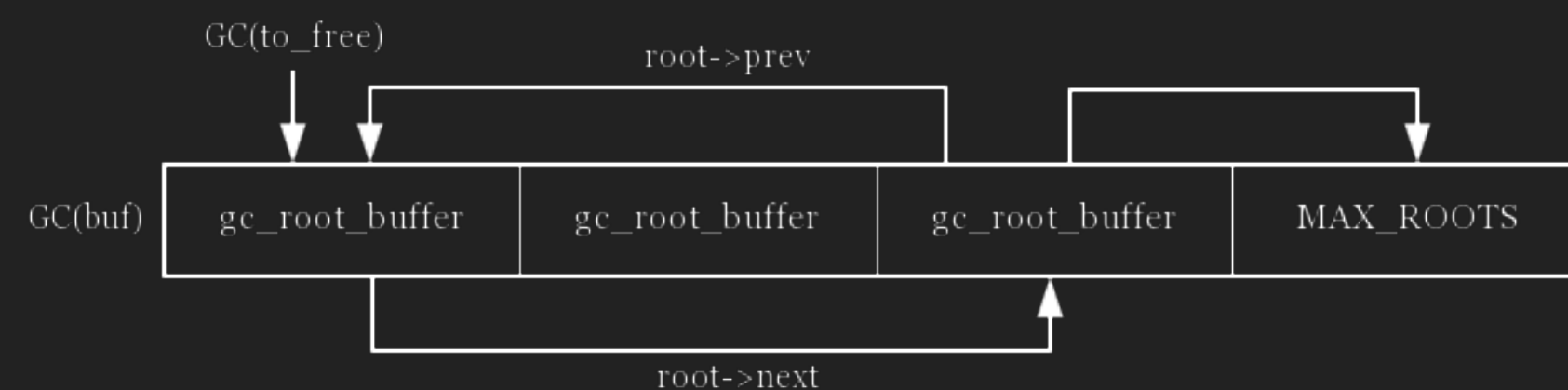
2  src/Composer/Installer.php

	@@ -160,6 +160,8 @@	public function __construct(IoInterface \$io, Config \$config, RootPackageInterfac
160	160	*/
161	161	public function run()
162	162	{
	163 +	gc_disable();
	164 +	
163	165	if (\$this->dryRun) {
164	166	\$this->verbose = true;
165	167	\$this->runScripts = false;

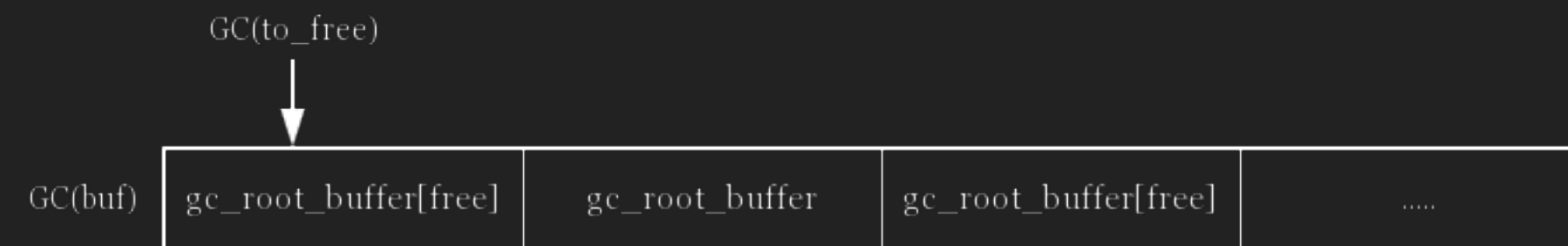
FASTER NEW GC

- Removed Double Link List, Plain Array Instead
- Dynamically Resize-Able Root Buffers
- Dynamically Gc Threshold Adjustment
- Reduced Gc_Buffer_Root Size From 32 To 8 (X86_64)
- 5X Boost Performance In Tests

```
typedef struct _gc_root_buffer {  
    zend_refcounted *ref;  
    struct _gc_root_buffer *next;  
    struct _gc_root_buffer *prev;  
    uint32_t refcount;  
} gc_root_buffer;
```



```
typedef struct _gc_root_buffer {  
    zend_refcounted *ref;  
} gc_root_buffer;
```



SIMD OPTIMIZATION FRAMEWORK

- Runtime Cpu Feature Detection(Sse, Avx)
 - Zend_Cpu_Support_Sse42
- Cpu Specific Version Runtime Selection (Ifunc/Function Pointer)
- Addslashes
 - 2X+ Performance Improved In Test

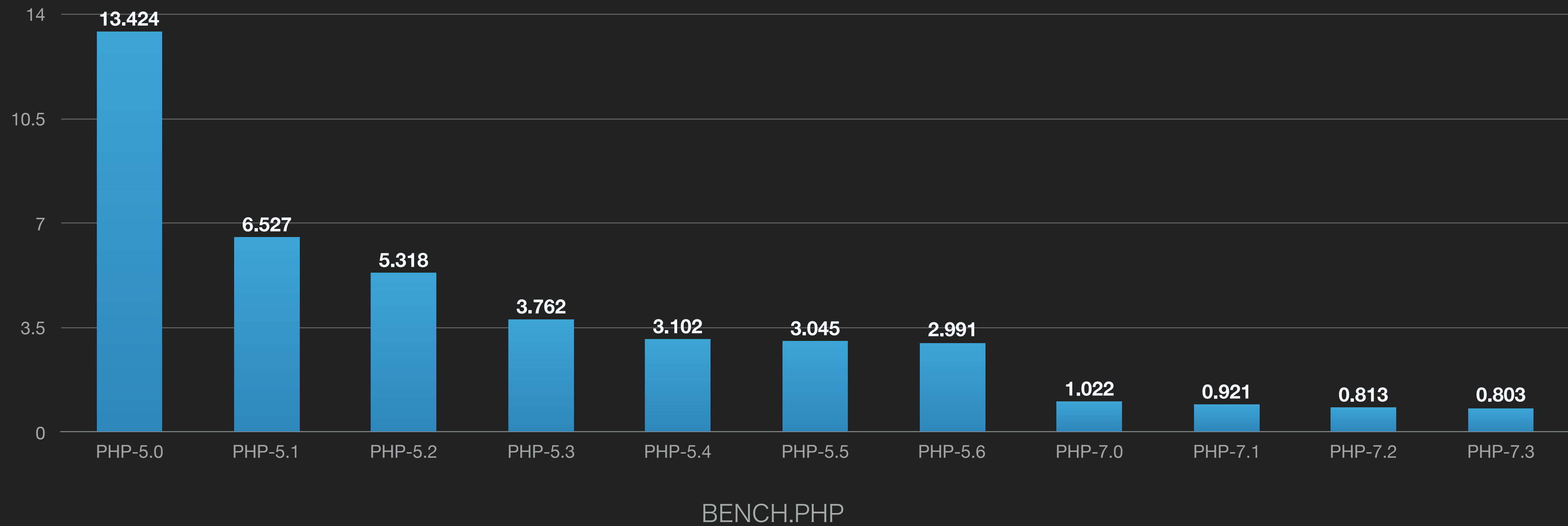
0x00	n	o	s	l	a	h	s	s	.	p	l	a	i	n	t	e
0x10	a	d	d	s	l	a	s	h	e	\	s	.	\r	\n	\n	o
0x20	p	l	a	i	n	t	e	x	t	s	t	r	i	n	g	.

BASE64 SIMD OPTIMIZATION

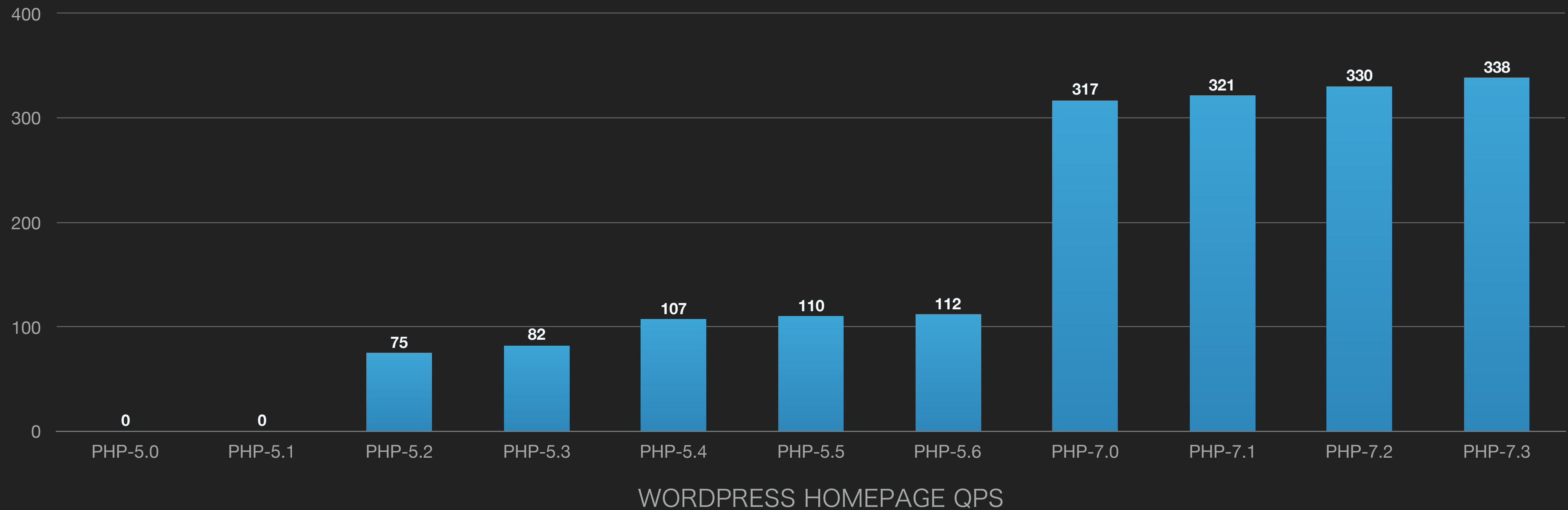
- Base64_Encode/Decode Optimized
- 3X Performance Improved In Test (Sse42)
- [Http://Www.Alfredklomp.Com/Programming/Sse-Base64/](http://Www.Alfredklomp.Com/Programming/Sse-Base64/)

```
$retry = 100;
$start = microtime(true);
while (--$retry) {
    $length = (int)(1000/$retry);
    $str = file_get_contents("/dev/urandom", false, NULL, 0, $length);
    //echo "String length: ", $length, "\n";
    $time = microtime(true);
    for ($i = 0; $i < 1000000; $i++) {
        base64_encode($str);
    }
    $time = microtime(true) - $time;
    //echo "Used time: ", $time, "s", "\n";
}
echo "Total used time: ", microtime(true) - $start, "s\n";
```

PERFORMANCE EVOLUTION



PERFORMANCE EVOLUTION



PHP 7.3 ROADMAP

- Jun 2018, Alpha1
- Jul 2018, Beta
- Aug 2018, Rc
- Nov 2018, Ga

THANKS

PHP: KEEP GETTING FASTER



PHPCON 官网: www.phpconchina.com

全部 PPT 下载: <https://github.com/ThinkDevelopers/PHPConChina>

官方QQ群: 34449228、135615537

官方公众号: ThinkInLAMP

