

PHP 5 Infrastructure Preview Zend Engine 2

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Zend Technologies

Presentation Overview

- Technical history of PHP
- Zend Engine 2
- Future possibilities

Technical history of PHP

- PHP/FI 1 & 2
 - Simplistic scripting engine
 - Hand crafted without using conventional development tools such as lex & yacc
 - No easy way of extending functionality
 - “Execute while interpreting” paradigm
 - Tied to Apache

Technical history of PHP

- PHP 3
 - Flexible scripting language
 - Extremely successful extensibility API
 - Greatly improved performance
 - Limited object oriented support
 - Still “Execute while interpreting” paradigm
 - Still tied to Apache
 - Lots of other goodies...

Technical history of PHP

- PHP 4
 - “compile first/execute later” paradigm
 - Reference counted system
 - Greatly improved performance
 - Multi-threading support
 - Web server abstraction
 - Improved extensibility API's

ZE2 – New Object Model

- New Java-like object model
 - Problems with old model
 - Overview of new model
 - Backwards compatibility issues
 - Example

The Challenge

```
• 1    class MyClass {
• 3        function setMember($value)
• 4        {
• 5            $this->member = $value;
• 6        }
• 7
• 8        function getMember()
• 9        {
• 10            return $this->member;
• 11        }
• 12    }
• 13
• 14    function foo($obj)
• 15    {
• 16        $obj->setMember("foo");
• 17    }
• 18
• 19    $object = new MyClass();
• 20    $object->setMember("bar");
• 21    foo($object);
• 22    print $object->getMember();
```

ZE2 – New Object Model

- Easy to move objects around
 - Easy to return objects from functions
 - Easy to pass objects to functions
- Better performance
- Improved memory usage
- Allows for more OO features

ZE2 – New Object Model

- Improved object de-referencing
 - \$object->method1()->method2()
 - Allows easier mapping to other component technologies such as .NET and Java

ZE2 – New Object Model

- Object cloning
- Destructors
- Unified constructors

ZE2 – Other New Features

- Static class members
- Per-class constants
- Namespaces & nested classes
- New *import* keyword
- *is* operator
- private/protected/public members/methods

ZE2 – Other New Features

- *debug_backtrace()*
- Default values for by-ref arguments
- Memory manager for MT environments
- Exception handling

ZE2 – Other New Features

- Object abstraction (Java, .NET)
- Overloading - `__set()`, `__get()`, `__call()`
- `__autoload()`

ZE2 – Future directions

- Delegation model
- Improved execution architecture

Zend Engine 2 Resources

- Mailing list
 - engine2-help@lists.zend.com
- Forum
 - “PHP: Into the Future” forum at <http://www.zend.com/phorum/>
- Information
 - <http://www.zend.com/zend/future.php>