

# PHP 5 Infrastructure Preview

## Zend Engine 2

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# Presentation Overview

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

# Technical history of PHP

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- 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

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- 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

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- 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

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

# The Challenge

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```
• 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

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- 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

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

# ZE2 – New Object Model

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- Object cloning
- Destructors
- Unified constructors

# ZE2 – Other New Features

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

# ZE2 – Other New Features

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

# ZE2 – Other New Features

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

# ZE2 – Future directions

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- Delegation model
- Improved execution architecture

# Zend Engine 2 Resources

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- Mailing list
  - [engine2-help@lists.zend.com](mailto: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>