



The PHP Company

Top Five Reasons to Modernize

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Audience

- **Executive level**
 - ▶ But line and staff are still welcome
 - ▶ Non-technical
- **Staff trying to sell PHP up stream**
- **Manager looking to understand the business value of PHP**

Agenda

- **Top 5 reasons for modernization**
 - ▶ Green to web
 - ▶ Extend DB2 Data and Programs
 - ▶ Web Services
 - ▶ New Applications
 - ▶ Consolidate Data to DB2
- **Why PHP?**
- **How do we get there?**
 - ▶ PHP Development Roadmap
 - ▶ Resources

Questions?

- Let's keep it interactive!

- Follow us!

 ▶ <http://bit.ly/cjueZg> (Zend Technologies or search for Zend)

 ▶ <http://twitter.com/zend>

Top Five Reasons for Modernizing

Why PHP on i?

Leverage Existing Infrastructure to Develop & Run Dynamic Web Applications Easily



- Powerful , Flexible, & Fastest Growing Web Development Language
- Native on IBM i/OS
- Backing & Support of IBM
- Controlled/Driven by PHP Community
- Easy to Use & Fast to Deploy
- Supports Heterogeneous Environments
- Powerful Integration Capabilities

Application Modernization

Use PHP to web-enable green screen applications, utilizing existing data & business logic without rewriting application

Access RPG Programs & Data as Web Services

Package programs and data as web services and make available to other web applications

Consolidate Data in DB2/400

Move PHP applications that are running on Windows or Linux that access data in DB2 to run in IBM i/OS to speed up or reduce complexity of the applications

Access DB2/400 Data via Browser

Easily access and interact with DB2/400 data using a standard web browser

New/Packaged Web Application on IBM i/OS

Create new applications with PHP on IBM i/OS or leverage thousands of existing Open Sources applications

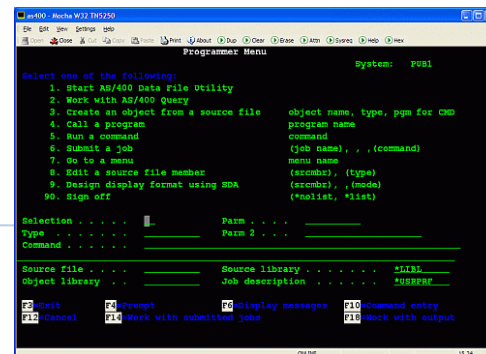
1) Green to the web

- Green is good

- ▶ There is nothing wrong with a solid 5250 application
- ▶ If it works and users are productive & satisfied, don't change it!
- ▶ Great for transactional processing

- Challenges

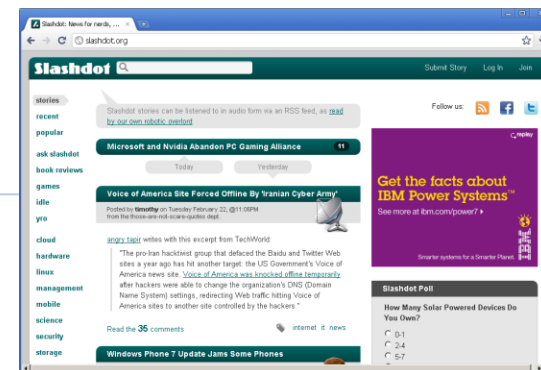
- ▶ No native GUI interface
- ▶ Limited number of colors (no, reverse image is not a color!)
- ▶ Limited real estate
- ▶ Slightly higher learning curve
- ▶ Simply looks old, but stable!



1) Green to the web

• Web is better?

- ▶ User learning curve is shorter in the web
- ▶ Technology mature and stable
- ▶ Nearly everyone can operate a browser
- ▶ Can be aesthetically pleasing
- ▶ Web 2.0 & HTML5 - closing gap on Fat Client Experience
- ▶ The new boss has never worked with a text interface...
...and has no plans to start now!



Allied Beverages

- **Background**

- ▶ Exclusive liquor distributor on East Coast.

- **Challenge**

- ▶ Increase industry leadership through superior customer service
- ▶ Establish e-Commerce and mobile site to support distribution
- ▶ Integrate with IBM i

- **Solution**

- ▶ Implemented PHP natively while simultaneously utilizing legacy code and data.
- ▶ Leverage Web 2.0 and Zend Framework to build eBiz site

- **Benefits**

- ▶ Development time was lower than estimated and shorter than considered alternatives
- ▶ Doubled the speed of eBiz by utilizing Zend Server
- ▶ Site won 2009 IBM COMMON Innovation Award
- ▶ No additional hardware required to implement solution



2) DB2 Data & Program Accessibility

- **Data is a great place to start**

- ▶ Executive dashboards
- ▶ Drill down analysis
- ▶ Access to mountains of statistics and transactional information
- ▶ Real estate limitations broken

Information Management

- **What about programs?**

- ▶ 30+ years of business Logic
- ▶ Solid and dependable routines
- ▶ Stored procedures make programs available like data

Corvette America

- **Background**

- ▶ Leading manufacturer of Corvette interiors and supplier of aftermarket parts and accessories for Corvette dealers and owners who may be buying, selling, restoring or accessorizing a vintage or late model Corvette.

- **Challenges**

- ▶ To maintain lean, efficient central operations while providing fast and impeccable service to a 3,000-member dealer network with a worldwide customer base
- ▶ Driving more processes online to provide a superior business experience for both dealers and customers. Manual, time-consuming order sourcing and fulfillment process.



- **Solution**

- ▶ Zend PHP solutions helped Corvette America's IT group extend the capabilities of its e-commerce application, quickly and cost-effectively, on IBM i.

- **Benefits**

- ▶ Leveraged existing business logic in pricing routines without need for complicated code re-write.
- ▶ Collaborative development approach has team working together
- ▶ Accelerated dealer sales process while improving the efficiency of managing the supply chain.

3) Web Services...

- **What are they?**
 - ▶ Small pieces loosely coupled...
 - ▶ Self described computer programs communicating
- **B2B processing and even some B2C**
 - ▶ GPS maps & Weather integration
 - ▶ Trading Partners (Remember EDI)?
 - ▶ Amazon, Yahoo, Google
 - ▶ Can exist Intra-system as well as Inter-system

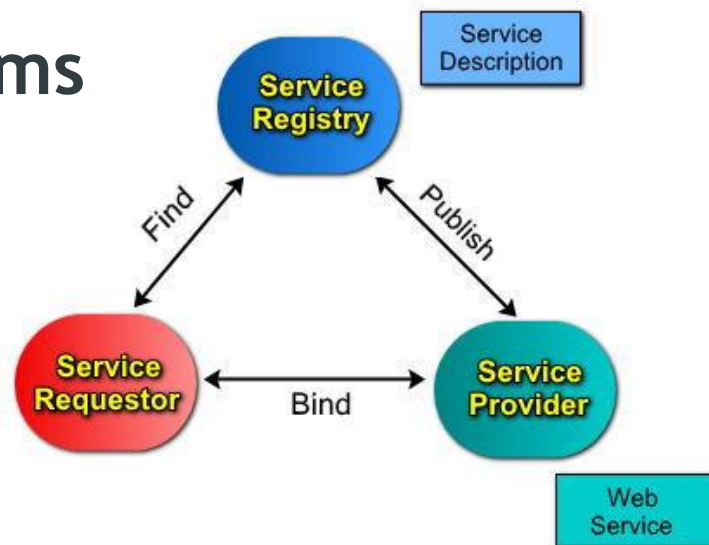
3) Web Services...

- **Extend DB2 Data and Programs**

- ▶ Expose pricing
- ▶ Real time access to inventory
- ▶ Product details
- ▶ Many more possibilities

- **Great equalizer**

- ▶ Platform and language agnostic
- ▶ Available over the internet and in secured communications
- ▶ You are probably using them today and don't realize it!
 - Many search features like iPhone use web services



4) New Applications...

- **Pre-Packaged**

- ▶ Who is writing new applications for IBM i?
- ▶ What languages are they using?
- ▶ Consolidation does not need to happen on Intel!
- ▶ MySQL and PHP extend IBM i with thousands of applications



4) New Applications...

- **Home Grown**

- ▶ Brand new applications created from scratch
- ▶ Integrating new applications with legacy functionality
 - Program calls
 - DB2 Data
 - Native IBM i resources like data queues, user spaces and spooled files

Arrowcast, Inc. - Supplier Portal

- **Background**

- ▶ 210,000 square foot foundry situated on 40 acres in Shawano, Wisconsin; provide quality engineered cast metal components worldwide; with US Government, John Deere, Case.

- **Challenges**

- ▶ Manual, time-consuming order sourcing and fulfillment process.
- ▶ Disparate data (Excel, Access, MSSQL, DB2) on multiple platforms (Windows & IBM i)

- **Solution**

- ▶ Developed PHP-based supplier portal: vendors log on, view only BOM components they are authorized to quote on; electronic PO process and tracking
- ▶ Enabled Arrowcast to consolidate information off of non-System I platforms and databases onto the System I where it originates.

- **Benefits**

- ▶ Supplier Portal helped modernize how they work with suppliers which resulted in higher revenues and improved customer service levels & response time
- ▶ Exposed legacy information to vendors in self service model
- ▶ Improved utilization of existing System i infrastructure
- ▶ Improved delivery quality - went from 50% on time delivery to 90-95%



5) Consolidate Data on IBM i

- Why consolidate?
 - ▶ Rock solid architecture
 - ▶ Accessible via fully implemented TCP/IP stack at IPv4 & IPv6
 - ▶ Mature and dynamic technology
 - ▶ Strategic for IBM
 - ▶ PHP can enable virtually any application
 - ▶ Customers are bringing data back to the central repository

Risks

- But let's say a change is needed, look at risks!
 - ▶ “Process Collapse” cited for #1 cause of failed migrations
 - This is where all the risk is.
 - >60% of ERP implementation starts fail (Rockford Consulting, 2010)
 - ▶ Moral of the story?
 - Ensure that you and the team understand why a change is required
 - Then get behind it!

Key Priorities articulated by CTOs, CIOs and VPs of Engineering

- **Leverage investment in IBM i infrastructure**
 - ▶ Expose DB2/400 data via the web
 - ▶ Webify green screen applications for end-users
- **Maximize leverage of Power Systems computing power**
 - ▶ Move Windows/Linux based PHP apps to IBM i
 - ▶ Deploy new web based applications
- **Mitigate and minimize risk/cost of migrations**
- **Retool RPG programmers and access lower cost development resources to address business needs**
- **Leverage benefits of open-source technologies - create portable applications**

Why PHP?

Why PHP on IBM i?



Low Learning Curve



Rapid
Innovation



Easy Integration into
Heterogeneous Environments



Run an
Agile
Business



Robust, Multi-Platform,
High-Performance, Scalable, Secure



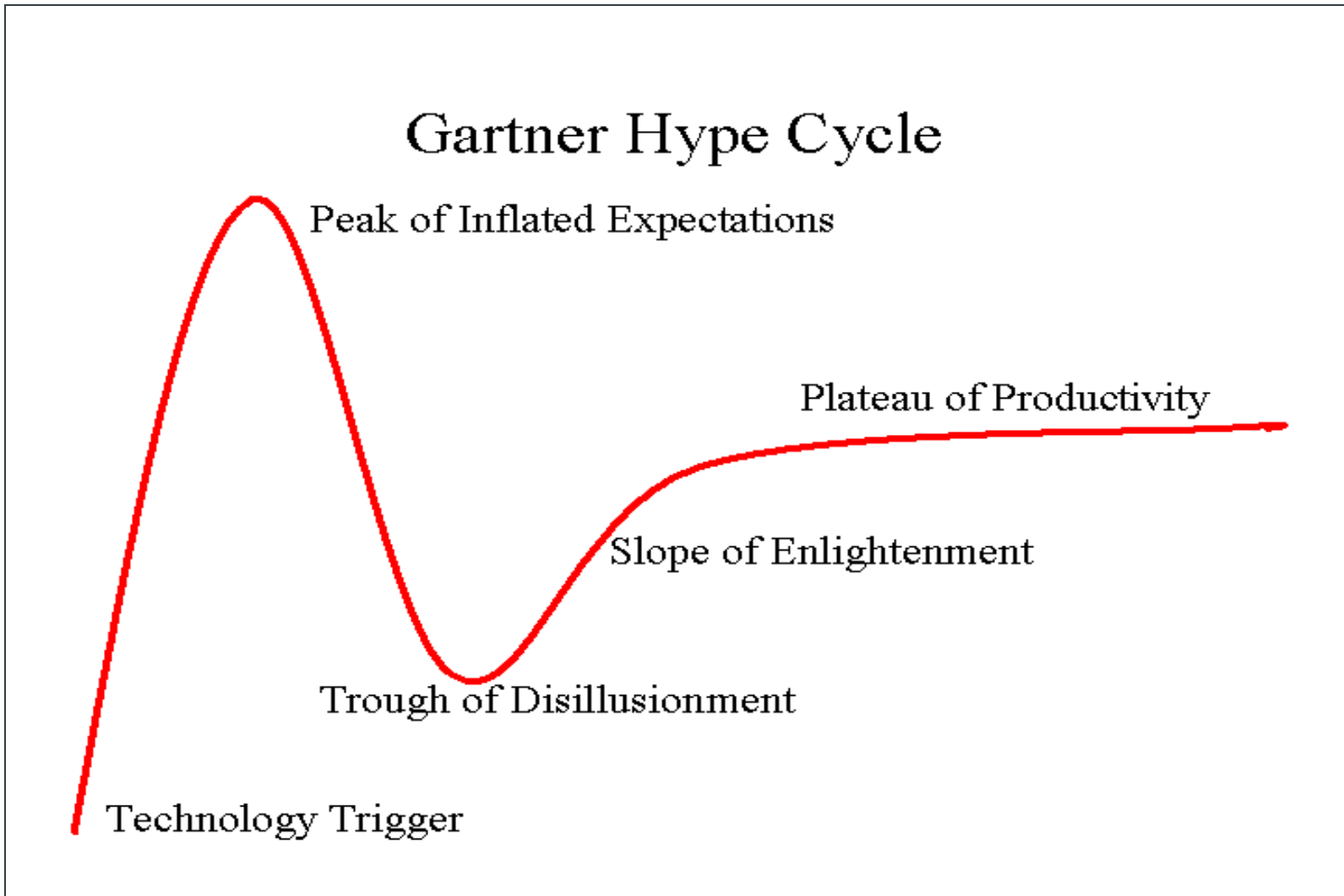
Proven
Deployment



Vibrant Community



PHP Adoption

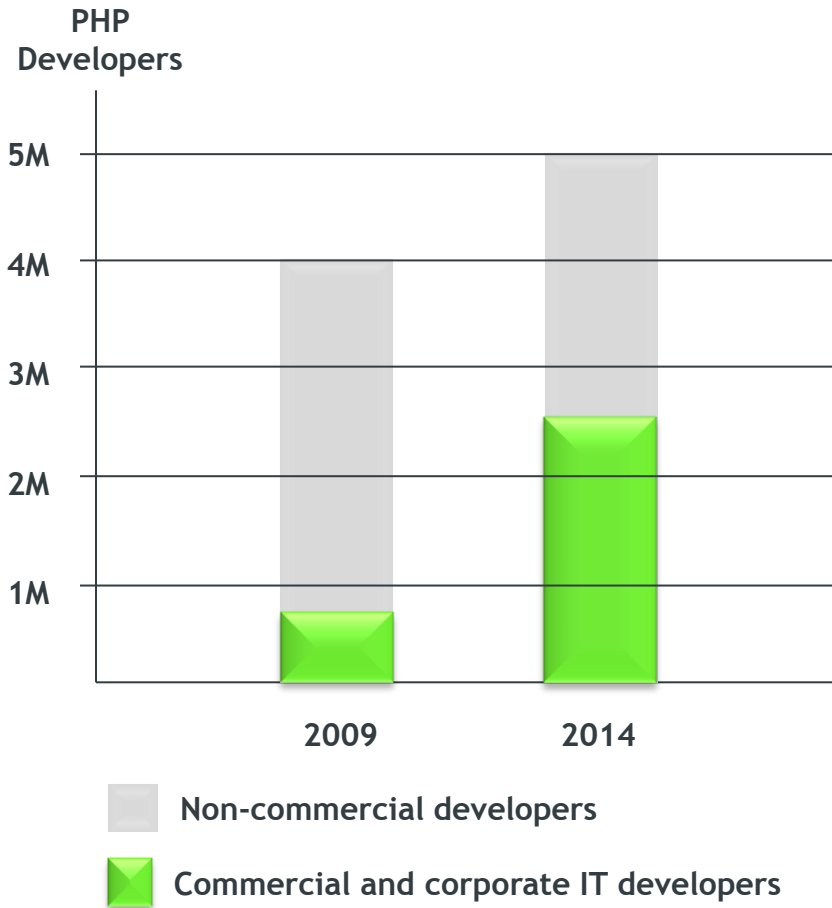


Maturity

- PHP was born with & continues a procedural look and feel
- PHP supports an Object Oriented model
- Frameworks written in PHP
 - ▶ Zend Framework, Smarty, Symfony, more...
- Thriving community
 - ▶ Millions of developers
 - ▶ Enterprise growing rapidly (Gartner: 2.5 Million+ by 2014)
- Thousands of applications
 - ▶ Sourceforge search returns 18,800 hits



Enterprise PHP Adoption is Growing Rapidly



Gartner

“Commercial and corporate IT developers will account for more than 2 million PHP community members—growing from 20% to 50% of the worldwide PHP developer population.”

Gartner Research Note: “PHP: Past, Present and Future”, Dec. 2nd, 2009

Top 10 Internet Sites by WW traffic



1. Google.com



2. Facebook.com



3. Youtube.com



4. Yahoo.com



5. Live.com



8. Blogger.com



7. Baidu.com



6. Wikipedia.com



9. twitter.com



10. qq.com

How do we get there?

Education

- PHP is one of the easiest languages to learn
 - ▶ ...but requires some effort to master!
- The process can be very organic and resources abound
- How do we start?
 - ▶ Next month Webcast is entitled:
 - Getting Started with PHP for IBM
- Assess the landscape...



Education

- Look at the skills of current staff and...
 - ▶ Should some folks begin with procedural
 - ▶ Some with OO experience can start there or
 - ▶ Significant OO experience can move quickly into Frameworks
- Let's look at the Zend Roadmap for PHP

The screenshot displays the Zend PHP Company website. The header includes the Zend logo, navigation links (Solutions, Products, Services, Downloads, Community, Resources, Company, Online Store, Support Center), and utility links (Downloads, Newsletter, Support, Contact). The main content area features a 'zend training' banner with a 'PURCHASE' button. Below the banner, the 'Zend PHP Training Courses' section is visible, including a quote by Galileo Galilei and a description of the training mission. A sidebar on the left lists various training options, and a 'Next Steps' sidebar on the right provides quick links to purchase, contact sales, and view course schedules.

Home / Services / Zend PHP Training

Global Services >
PHP Consulting >
PHP Certification >
PHP Training >
 Zend Training Bundles
 Course Catalog
 Training Units
 Registration Information
 FAQ
 Training Partners
 Meet Our Instructors
 Online Training Schedule
 Classroom Training Schedule

zend training

PURCHASE

Zend PHP Training Courses

Expand Your Knowledge on PHP and Zend Products

Here at Zend's Training Department, our mission is to provide relevant and engaging learning opportunities – from the basics, through cutting edge topics, and on to certification - advancing the knowledge and success of our PHP colleagues, and the wider Open Source community.

"You cannot teach a man anything; you can only help him find it within himself." - Galileo Galilei

Each course offers real-life examples and interactivity to provide a robust and hands-on training experience, to sharpen your existing skills or add new skills. You can take our courses [online](#), in a [classroom](#) setting or [onsite](#) (availability based on geography).

Curriculum Tracks

Next Steps

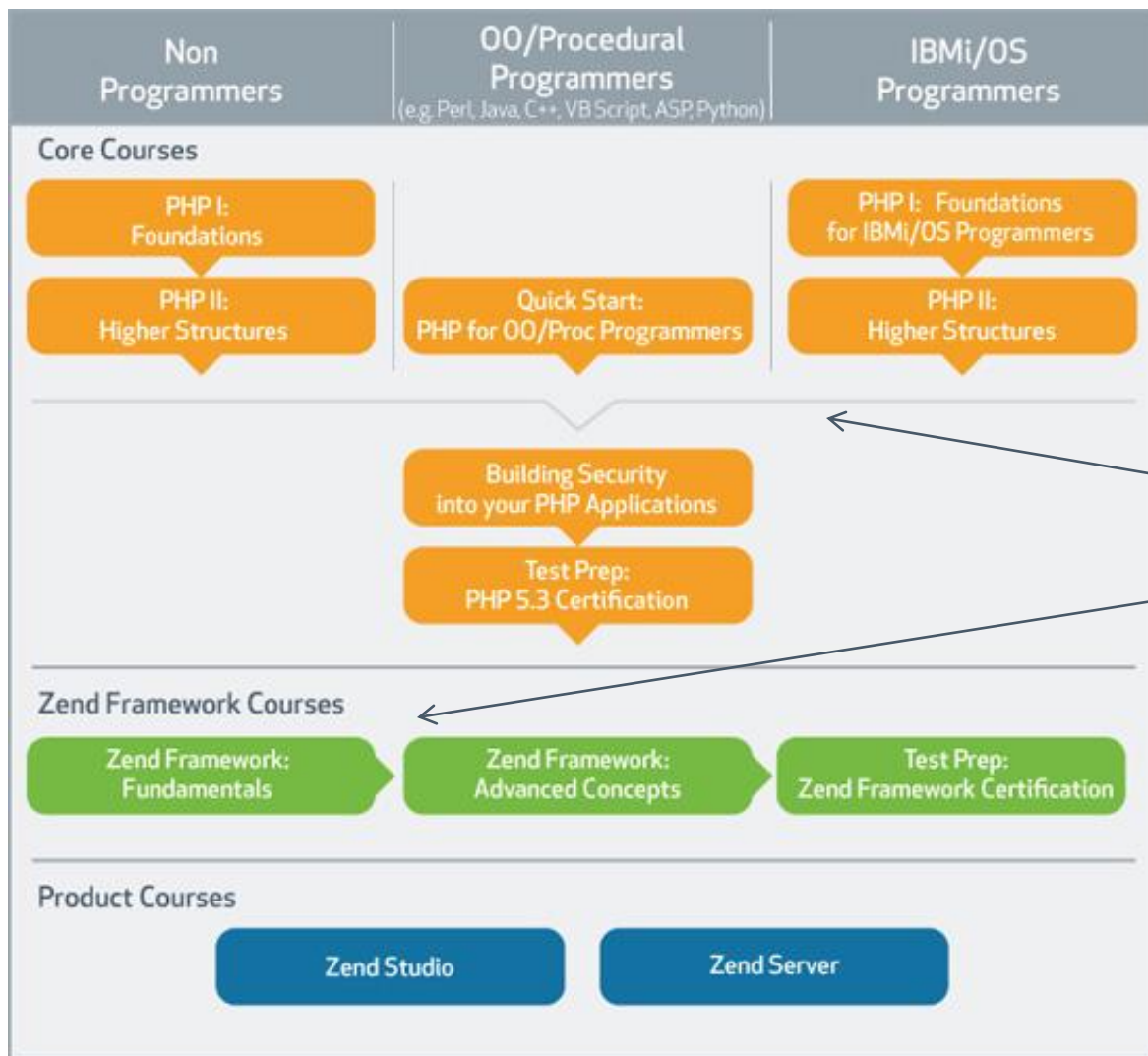
- ▶ Purchase Now
- ▶ Contact Sales
- ▶ Chat with Sales
- ▶ Meet our Instructors
- ▶ View Course Schedule

Resources

- DOCUMENTATION
View PDF Course Catalog
[more>](#)

Master Zend Framework with the
A-Z Training Bundle!
Includes FREE
Zend Studio and

Education



Zend Roadmap for PHP

**SOAK
TIME**

Education

- **PHP 1: Foundations Training for IBM i Programmer**

- ▶ Focus on fundamental PHP concepts
- ▶ Covers basic HTML and JavaScript
- ▶ Class project that you can use in your shop, day 1!
- ▶ Interactive online delivery style
- ▶ Does not intrude heavily on busy shops
 - Two hours a day, every other day, for three weeks
 - No need for travel expense
 - Must ensure proper environment for education (Conference room?)



Education

- How do I ensure success?

- ▶ Follow the roadmap
- ▶ Leverage “soak time” equitably
- ▶ Find time but don’t over estimate current workload
- ▶ Find REAL tasks to implement using PHP
- ▶ Skunkworks?
- ▶ Determine type of student, how did you learn RPG?



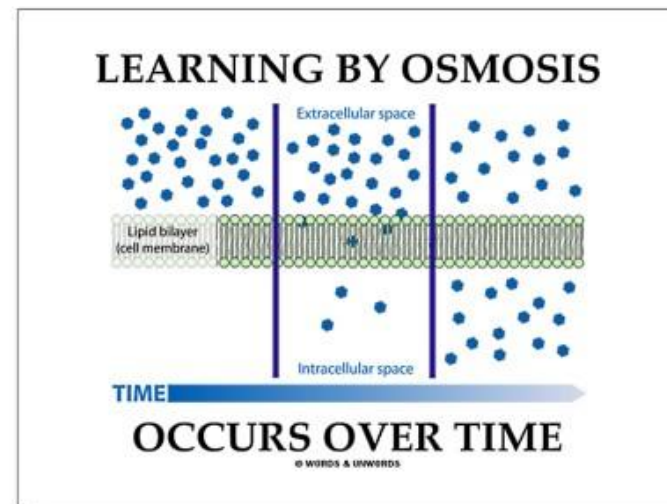
Education

- Can RPG folks learn OO and Frameworks?
 - ▶ Yes, absolutely! But...
 - ▶ Must give time to absorb material
 - ▶ What kind of student
 - Visual thinker
 - Book smart
 - Osmosis



Education

- **Osmosis or statistical learning (my experience)**
 - ▶ OK to start with Procedural PHP
 - ▶ Grow into OO
 - ▶ Zend Framework is component based
 - ▶ Will learn OO/Frameworks by looking and doing
 - ▶ Don't underestimate the value of OPC!



Education

- **What about using a tool?**

- ▶ Tools can be very powerful allies in tactical implementations
- ▶ Produce a lot of code in a short time
- ▶ Score big touchdowns with users quickly
- ▶ Leverage this type of resource carefully

- **But...**

- ▶ Generated code can be unmanageable
- ▶ Throw away and recreate vs. maintain creates risk!
- ▶ Still need to understand underlying code when users asks why?

Education

- **I need to use an IBM i, right?**
 - ▶ No, not exactly
 - ▶ PHP is the SAME syntax regardless of platform
 - ▶ What you learn on Linux/Windows can be leveraged on IBM i
- **But...**
 - ▶ There are friends of the community out there...

Education

- **iDevCloud.com**

- ▶ Low cost access to IBM i resources for training purposes
- ▶ Shared or dedicated LPAR's
- ▶ Zend Sponsorship delivers Zend Server to all environments!
- ▶ Various OS levels
- ▶ Expert system management
- ▶ Article at IT Jungle
 - <http://www.itjungle.com/fhs/fhs081010-story01.html>
- ▶ Thank you Larry and Jim!



Sample skunkworks

Find an excuse to play with PHP

- Internal IT application
- Boss was always asking for IBM i system specific info
 - ▶ System Values, mostly
- Create PHP script showing important info @ click of a mouse
- Other ideas:
 - ▶ Helpdesk automation of green screen tasks
 - ▶ Mundane processes
 - ▶ RPG reports to the web

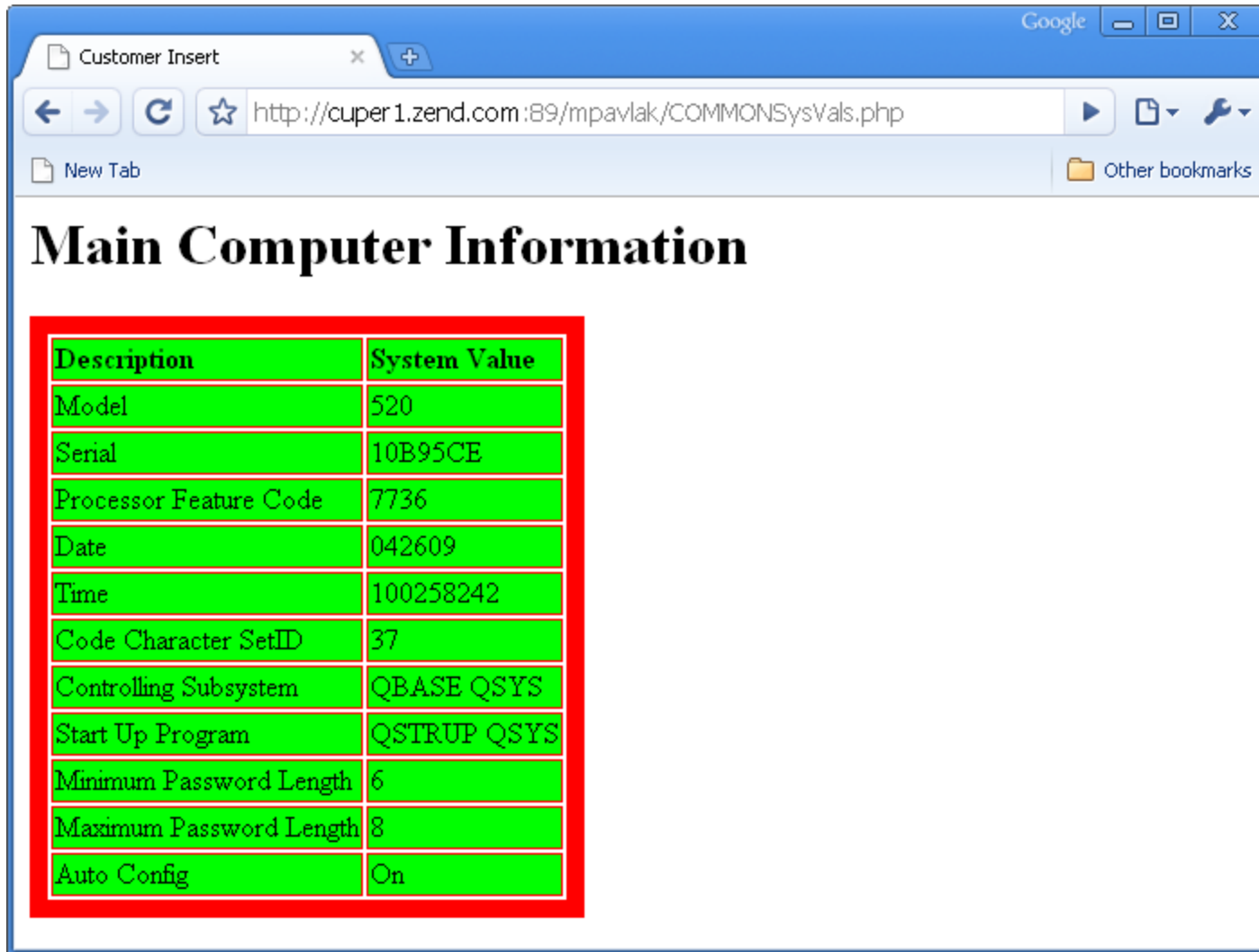
System Values Code Part 1

```
1 <html> <head><title>Customer Insert</title></head><body>
2
3 <h1>Main Computer Information</h1>
4
5 <?php
6
7 include("i5db2connectonly.php");
8
9 // $conn = i5_connect("localhost", "PHPDEV", "phpdev1");
10
11 //if (!$conn)
12 //die("<br>Connection failed. Error number = " . i5_erro() . " msg = " . i5_errormsg());
13
14 //Define table and start filling rows...
15 echo '<TABLE BORDER="10" BORDERCOLOR="red"><TBODY BGCOLOR="00FF00">';
16 echo '<TR><TD><B>Description</TD><TD><B>System Value</TD></TR>';
17
18 print "<TR><TD>Model</TD><TD>" . i5_get_system_value("QMODEL") . "</TD></TR>";
19
20 print "<TR><TD>Serial</TD><TD>" . i5_get_system_value("QSRLNBR") . "</TD></TR>";
```

System Value Code Part 2

```
34 print "<TR><TD>Minimum Password Length</TD><TD>" . i5_get_system_value("QPWDMINLEN") . "</TD></TR>";
35
36 print "<TR><TD>Maximum Password Length</TD><TD>" . i5_get_system_value("QPWDMAXLEN") . "</TD></TR>";
37
38 print "<TR><TD>Auto Config</TD><TD>";
39
40 if(i5_get_system_value("QAUTOCFG") == 1) {
41     echo "On";
42 }
43 else {
44     echo "Off";
45 }
46
47 print "</TD></TR>";
48
49
50 echo '</table>';
51 i5_close($conn);
52 ?>
```

System Values Output



The screenshot shows a web browser window with the address bar containing the URL `http://cuper1.zend.com:89/mpavlak/COMMONSysVals.php`. The page title is "Customer Insert". The main content area displays the heading "Main Computer Information" above a table of system values. The table has two columns: "Description" and "System Value". The table is highlighted with a red border.

Description	System Value
Model	520
Serial	10B95CE
Processor Feature Code	7736
Date	042609
Time	100258242
Code Character SetID	37
Controlling Subsystem	QBASE QSYS
Start Up Program	QSTRUP QSYS
Minimum Password Length	6
Maximum Password Length	8
Auto Config	On

Wrap up

Resources

- Recorded Webinars

- ▶ [http://www.zend.com/en/resources/webinars/IBM i-os](http://www.zend.com/en/resources/webinars/IBM_i-os)

- Zend Server for IBM i main page, link to downloads

- ▶ <http://www.zend.com/en/products/server/zend-server-ibm-i>

- Zend Server manual:

- ▶ PDF: <http://www.zend.com/topics/Zend-Server-5-for-IBMi-Reference-Manual.pdf>

- ▶ Online: http://files.zend.com/help/Zend-Server-5/zend-server.htm#installation_guide.htm

Q&A

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