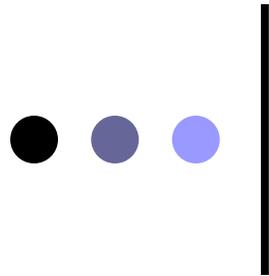




# AMP in the Enterprise

Open Source Confidence

March 2005



# SourceLabs Mission

## Dependable Open Source Systems

- Trusted source of free server infrastructure software stacks
  - No vendor lock in
  - Technology agnostic
  - Tested, certified software
    - Per SourceLabs CERT7 methodology
    - Open disclosure of tests and test results
- Backed by paid mission critical support and maintenance subscriptions
  - Service contract, not consulting, with supporting SLA agreements
  - Rapid escalation path to systems programmers with intimate knowledge of source code
  - One throat to choke
- Driving the next wave of open source beyond Linux



# SourceLabs Mission

## Dependable Open Source Systems



### How this helps you

- Easier to get projects approved – platform better understood.
- Migration to latest versions less problematic
- Head start on capacity planning
- Greater overall recognition of AMP as a credible platform



# What is Certification?

- User/Engineering Certification
  - Example: CISSP
- Vendor Certification = We'll support it
  - WHQL
- For SourceLabs it means CERT7
  - Open disclosure of tests and test results
  - For a particular distribution (i.e.stack)



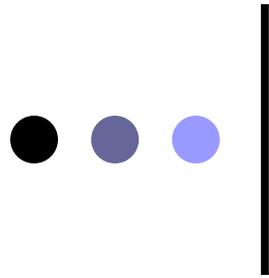
# SourceLabs Capabilities: CERT7 Software Testing

| <b>CERT7 Test Areas</b>    | <b>Enterprise Software</b> | <b>Open Source Software</b> | <b>SourceLabs CERT7 Testing</b> |
|----------------------------|----------------------------|-----------------------------|---------------------------------|
| Unit Functional Testing    | ✓                          | ✓                           | ✓                               |
| System Functional Testing  | ✓                          |                             | ✓                               |
| System Stress Testing      | ✓                          |                             | ✓                               |
| System Scalability Profile | ✓                          |                             | ✓                               |
| System Failover Testing    | ✓                          |                             | ✓                               |
| System Security Hardening  | ✓                          |                             | ✓                               |
| System Regression Testing  | ✓                          |                             | ✓                               |



# CERT7 Lab Configuration

- State of the Art shiny new machines
- Load Balanced through Hardware
- Over 10 multi-proc servers
- Highly Configurable



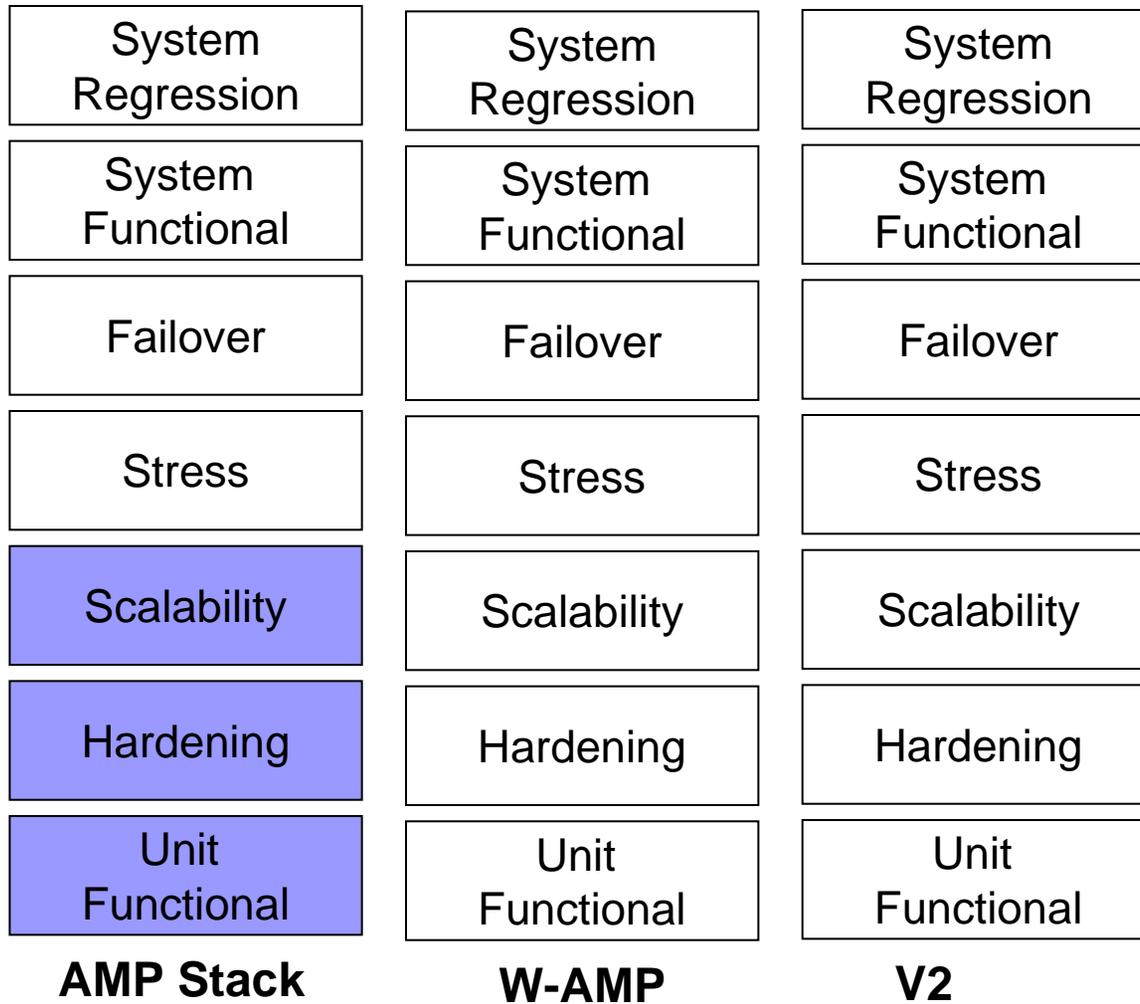
# CERT7 Lab Configuration

## Scalability Systems

| Class        | 1 CPU                   | 2 CPU                             |
|--------------|-------------------------|-----------------------------------|
| Processor    | Xeon 2.8 Ghz            | Xeon 2.8 Ghz                      |
| FSB Speed    | 800                     | 800                               |
| Cache        | 1 MB                    | 1 MB                              |
| RAM Type     | DDR2 PC3200 ECC REG 400 | DDR2 PC3200 ECC REG 400           |
| RAM Amount   | 4 x 512 (2 GB)          | 2 x 512 (1 GB) 4 x 512 (2 GB) 4 x |
| Hard Drives  | 2 X 40GB SATA No RAID   | 512 + 2 x 1 GB (4 GB)             |
| HD Capacity  | 80 GB                   | 2 X 40GB SATA No RAID             |
| NIC          | e1000                   | 80 GB                             |
| Net Speed    | 100 Mbps                | e1000                             |
| Distro       | RHEL 3.2                | 100 Mbps                          |
| Kernel       | 2.4.21-27               | RHEL 3.2                          |
| Architecture | x86_64                  | 2.4.21-27<br>x86_64               |



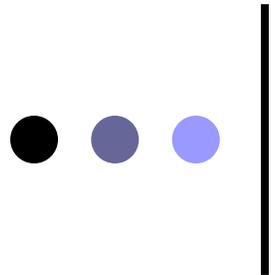
# CERT7 AMP Roadmap





# Tests: AMP Unit Testing

- Acceptance tests
- All included unit tests
- Stress/Burn-in Testing



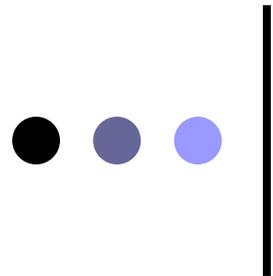
# Tests: AMP Security Hardening

- Open Source Vulnerability Test Tools
  - Nessus (<http://www.nessus.org>)
  - Nikto  
(<http://www.cirt.net/code/nikto.shtml>)
- Over 7000 up to date vulnerability tests
- Configuration research and testing



# Tests: AMP Scalability

- Static HTML
- PHP
- Database/MySQL



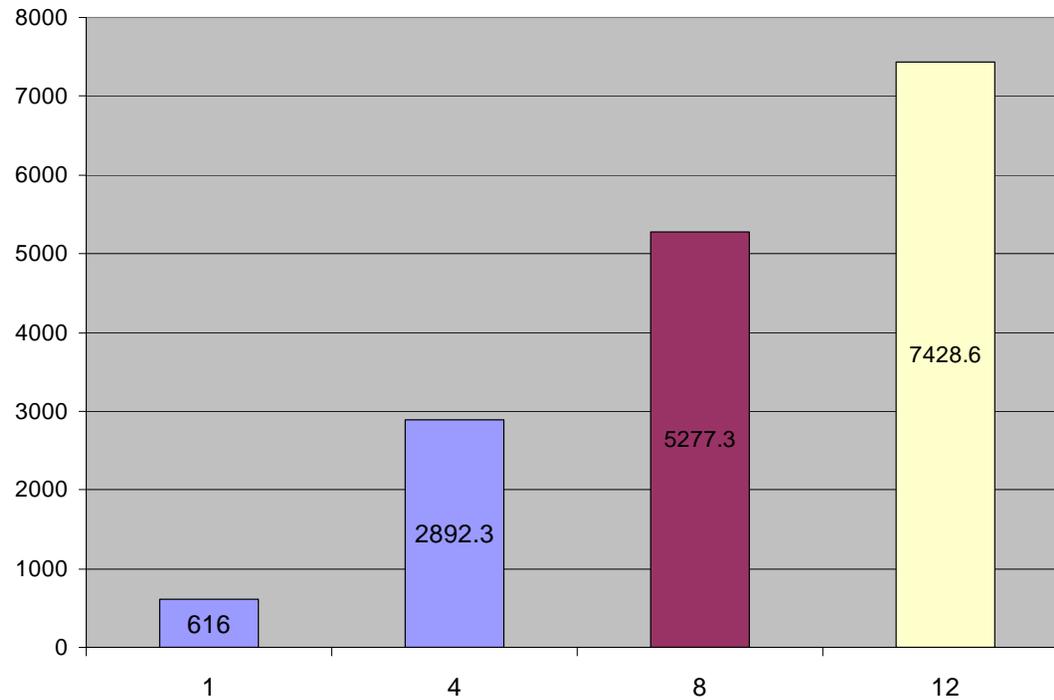
# Tests: AMP Scalability

## Static HTML

- Multiple threads downloading static HTML file of known size
- Quickly becomes network constrained

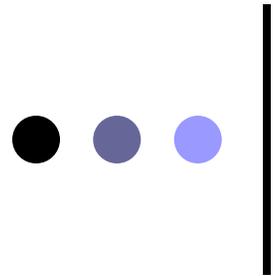


# Tests: AMP Scalability



## Static HTML

- Throughput grows linearly
- CPU utilization very low
- Scalability of static HTML is based on network bandwidth



# Tests: AMP Scalability

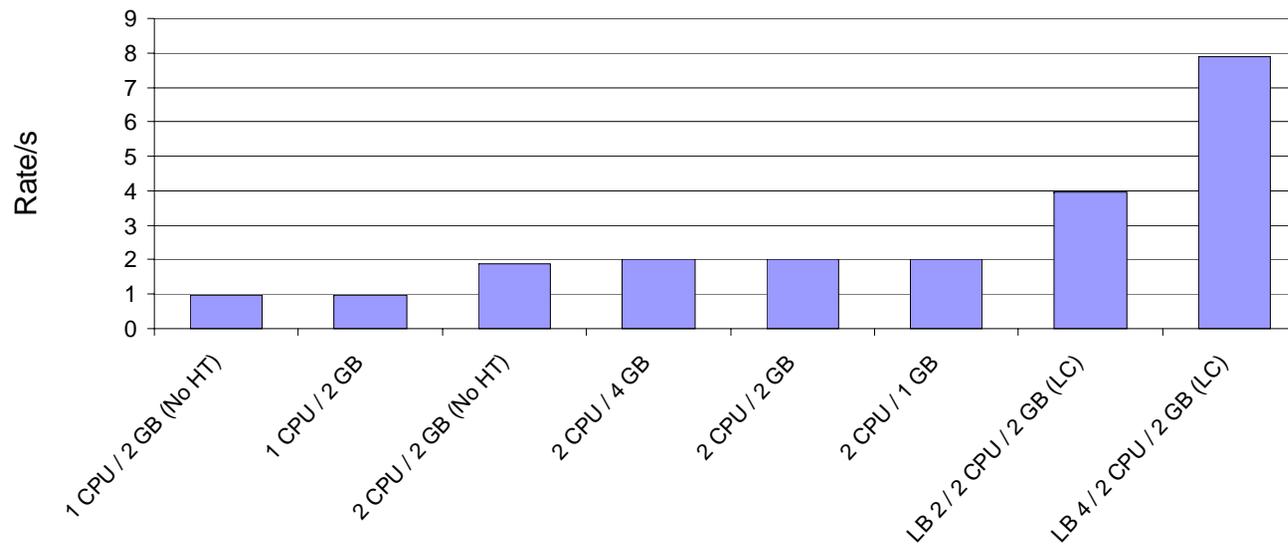
## PHP

- CPU intensive PHP code
- Started from phpbench (<http://mirrors.sunsite.dk/pure-ftpd/misc/phpbench/>)
- added PHP5 specific functionality
- Scale with CPU



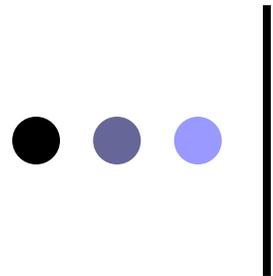
# Tests: AMP Scalability

PHP Bench - Throughput



## PHP

- CPU intensive code bound by CPU
- Scale is linear with CPU resources



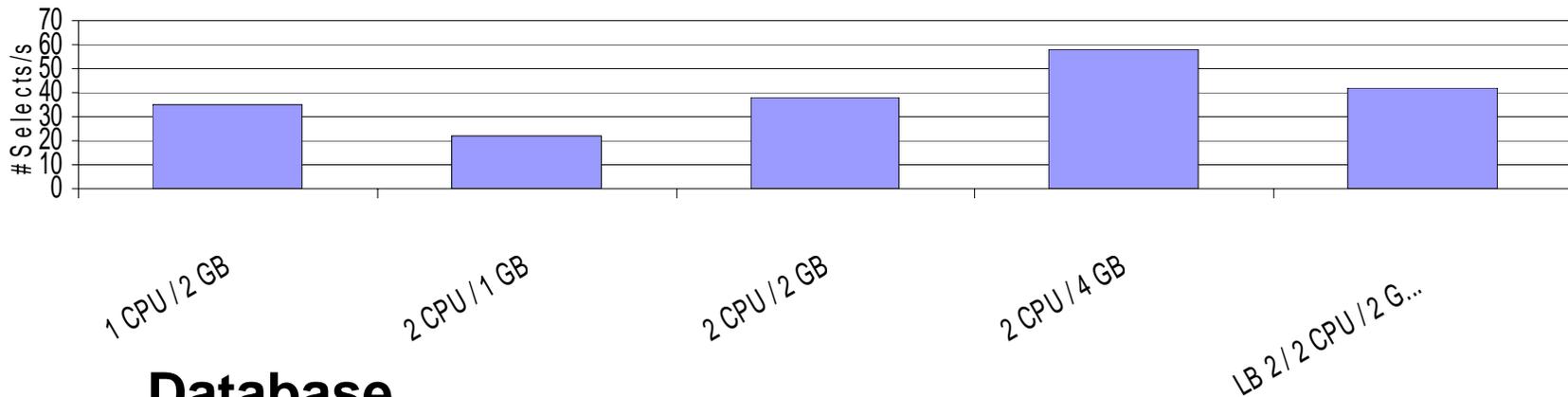
# Tests: AMP Scalability

## Database/MySQL

- Based on ANSI SQL Standard Scalable and Portable Benchmark (AS3AP)
- Set of 4 tests per platform
- 4GB MySQL database.
- All tables use the MyISAM table engine

# Tests: AMP Scalability

MySQL Benchmark - IR Throughput (IR Background)



## :Database

- Memory has great scale factor
- Must consider table type and configuration settings
- Considerable blocking
- Must understand database activity



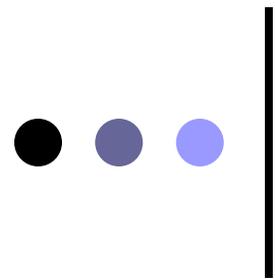
## What can I do now --

- Developers:
  - Understand application
  - Easier to get projects approved – platform better understood.
  - Migration to latest versions less problematic
  - Greater overall recognition of AMP as a credible platform
- Sys Admin/Capacity Planners
  - Understand users
  - Head start on capacity planning



# Discussion and Questions

SourceLabs Corporate Overview  
March 2005



# Next Steps