

网络设计与应用管理实践

Network Design and Application Management Practice
Part I

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2014.2

Overview

- Curriculum information
- Teacher information
- Curriculum content
- Assessment
- Reference

Curriculum Information

- Number: 3103161
- Curriculum name:
 - Network Design and Application Management Practice
- Period:
 - class teaching: 36+
 - practice: 36+
- Credit hour: 3 credit

Teacher Info

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➤ Resource:

➤ <http://liuyu.ie.cnu.edu.cn/2014/netman>

➤ <http://nikinanalieu.github.com/ndmp/>

➤ Office

➤ Network Analysis Lab (326)

Course Content

- Environment
- Elementary knowledge
- Application Management
- Network Device Management
- Network Design

Moodle

- <http://moodle.ie.cnu.edu.cn>
- password: netlab

Environment

- Ubuntu 11.04/12.04 LTS Server
- VMWare Player/Workstation
- Virtualbox
- Windows Server 2003 R2/2008 R2
- DreamSpark

Tools

- Putty
- Cygwin
- Packet Tracer 5.3
- Wireshark
- telnet

Elementary knowledge

- Network Basic
- Application Server Basic
- UNIX Basic

Application Management

- UNIX/Linux Basic
- AMP system
- Network Services

Network Design

- Network Device
- Switch Basic
- Multilayer Switched Networks
- Basic Routing
- Network Address Translation
- Dynamic Routing

Network Design

- Campus Network Design
- Advanced Network Device Management

Assessment

- Regular Grade: 10%
- Practice Report: 60%
- Network Design Report: 15%
- Mid-term Inspection: 5%
- Final (include answer to complaint) : 5%
- Comprehensive Assessment: 5%

Reference

- 计算机网络
- 网络工程师教程
- 思科网络技术学院教程
- BCMSN、BCRAN、BSCI
- <http://help.ubuntu.com>

Q & A

➤ Q&A

➤ break

Application Server Basic

- An application server is a software framework dedicated to the efficient execution of procedures (scripts, routines, programs, etc.) for supporting the construction of applications.

Application Server

- The term was created in the context of web applications but evolved into much more comprehensive service layer. An application server acts as a set of components accessible to the software developer through an API defined by the platform itself.

Application Server

- For web applications, these components are usually performed in the same machine where the web server is running, and their main job is to support the construction of dynamic pages.

Application Server

- Present-day application servers target much more than just web pages generation, they implement services like clustering, fail-over and load-balancing so developers can be focused just on implementing the business logic.

Application Servers

- Java EE Servers
- .NET Framework
- php application Servers

Java EE Servers

- Apache TomEE (ASF)
 - Apache Tomcat, JSP
 - Apache OpenEJB, EJB
 - Apache OpenWebBeans, Java Contexts and Dependency Injection
 - Apache OpenJPA, Java Persistence API (JPA) 2.0
 - Apache MyFaces, Java Server Faces (JSF)
 - Apache ActiveMQ, Java Message Service (JMS)
 - Apache CXF, Web Service frameworks, such as SOAP,XML/HTTP...
 - Apache Derby, relational database management system (RMDBS)



Java EE Servers(open)

➤ JOnAS



➤ Resin from Caucho Technology



➤ Glassfish Application Server (open source)



➤ Jetty from Eclipse



➤ WildFly 8 (2014.2.11)



➤ Geronimo from Apache



J2EE Servers (Commercial)



- WebLogic Server by Oracle
- WebSphere Application Server by IBM



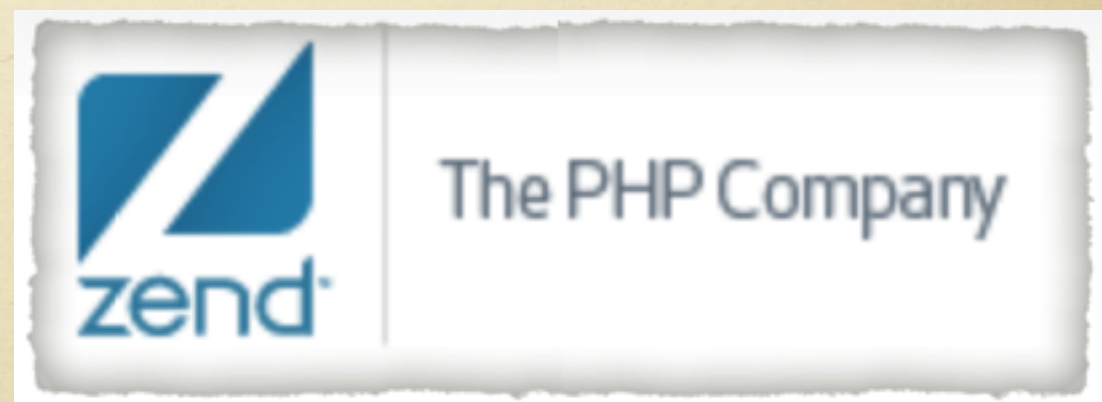
.NET frameworks

- Microsoft IIS
- Third-party
 - Mono, by Novell
 - Base4 Application Server, Open Source
 - TNAPS Application Server , Freeware



php application Servers

- Apache Web Server
- Zend Server



Top web servers

- Apache-based application server
 - LAMP
- Microsoft IIS
- Nginx
- GWS

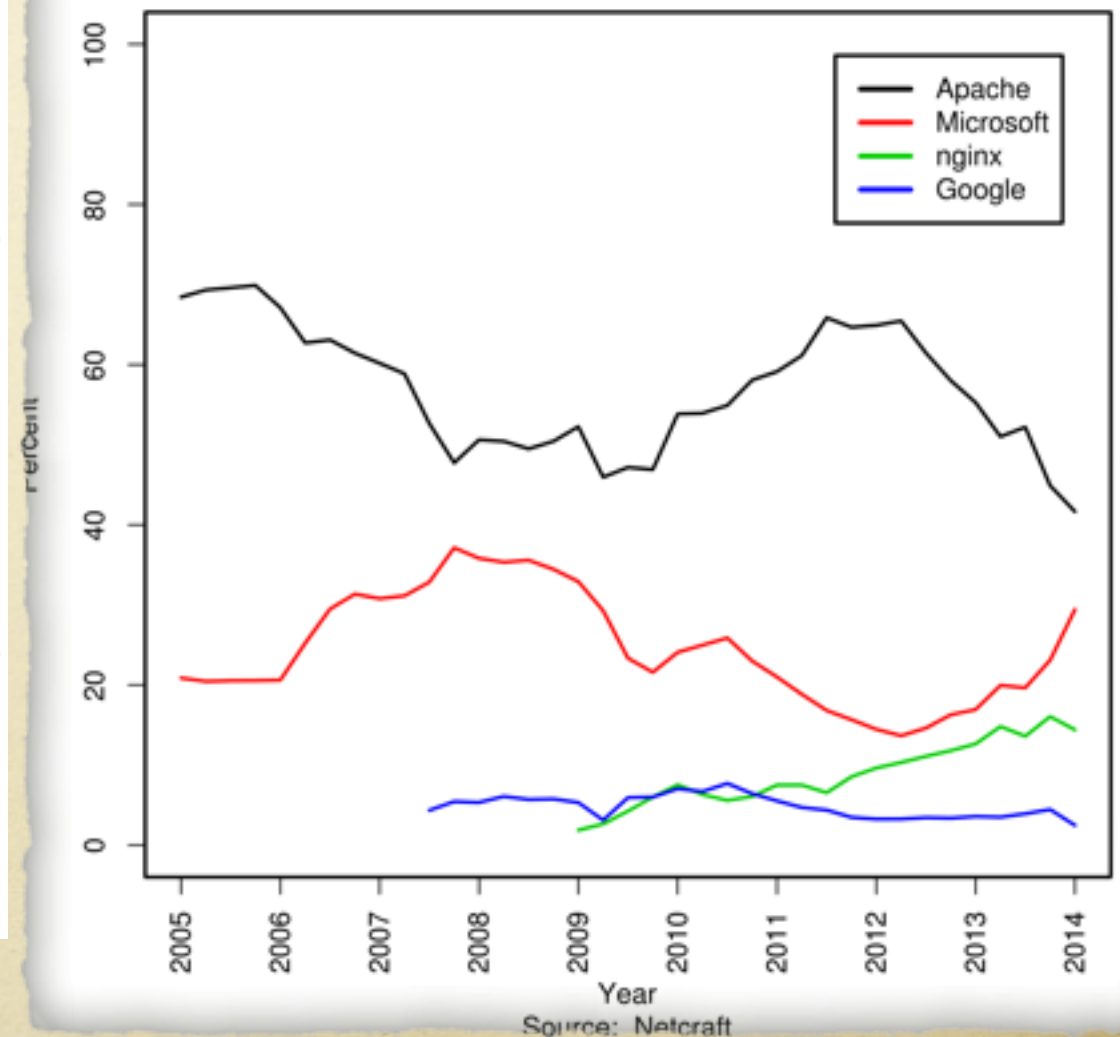
NGINX

market share

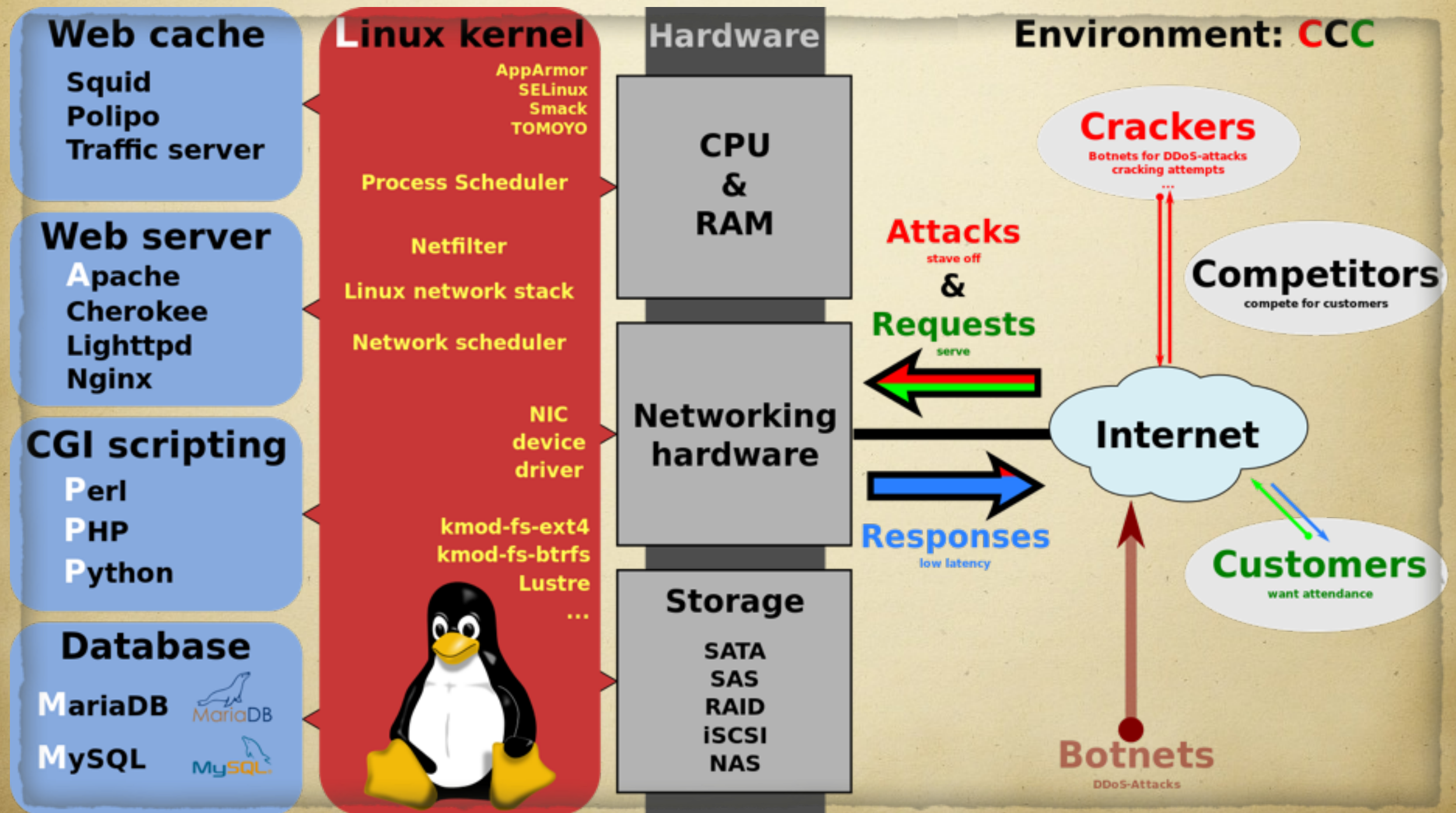
Product	Vendor	May 2013	Percent
Apache	Apache	359,441,468	53.42%
IIS	Microsoft	112,303,412	16.69%
nginx	NGINX, Inc.	104,411,087	15.52%
GWS	Google	23,029,260	3.42%

Product	June 2013	Percent	July 2013	Percent	Change
Apache	358,974,045	53.34%	364,696,792	52.19%	-1.15%
IIS	115,920,681	17.22%	137,351,211	19.65%	+2.43%
nginx	97,991,191	14.56%	95,017,255	13.60%	-0.96%
GWS	26,036,616	3.87%	27,406,059	3.92%	+0.05%

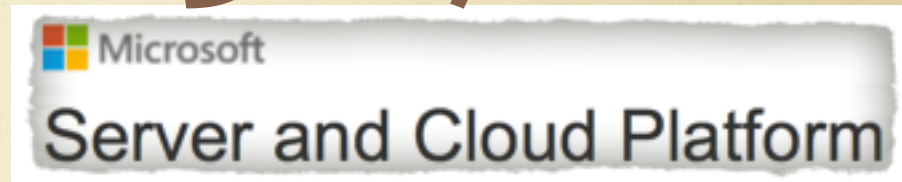
Usage share of web servers

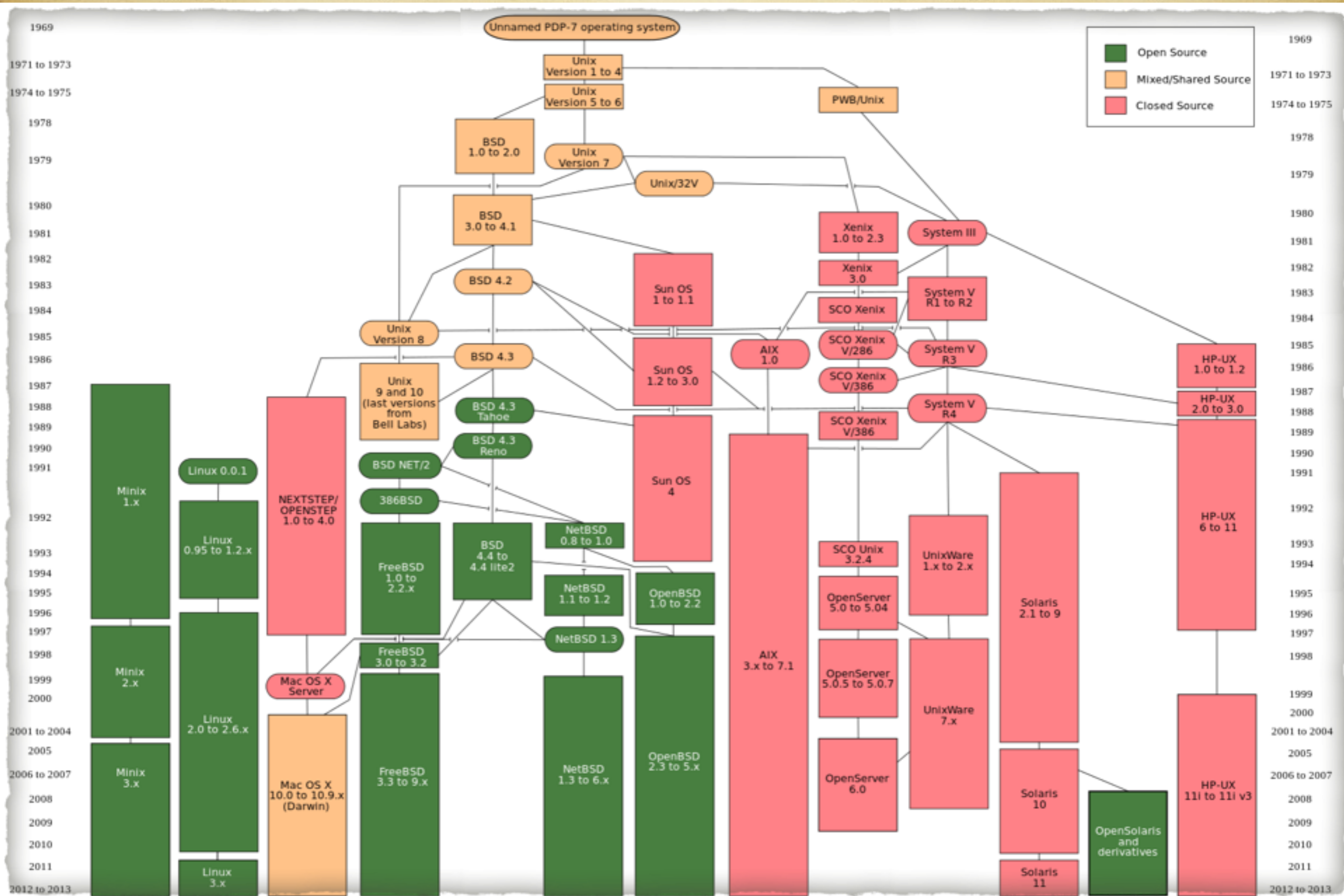


LAMP



Server Operating System





Q&A

➤ Q&A

➤ break