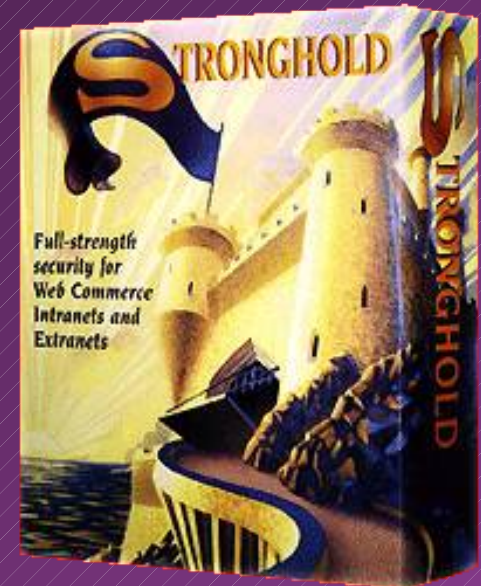




Stronghold

Paul Sutton & Mark Cox
C2Net Europe Limited





What is Stronghold?

- ◆ Secure Web Server
- ◆ Based on Apache
- ◆ Available World-wide with full encryption
 - ◆ Developed outside the US
 - ◆ Has RSA license for use in the US



Web Encryption - SSL

- ◆ Was developed by Netscape
- ◆ Gives end-to-end security
- ◆ Certificates provide trust via third-parties
- ◆ Most servers implement SSL v3
- ◆ Requires use of patented algorithms



Web Encryption - TLS

- ◆ Standardised by IETF
- ◆ Based on SSL v3
- ◆ Does not *require* patented algorithms
- ◆ Will replace SSL
- ◆ Stronghold was the first server to support TLS

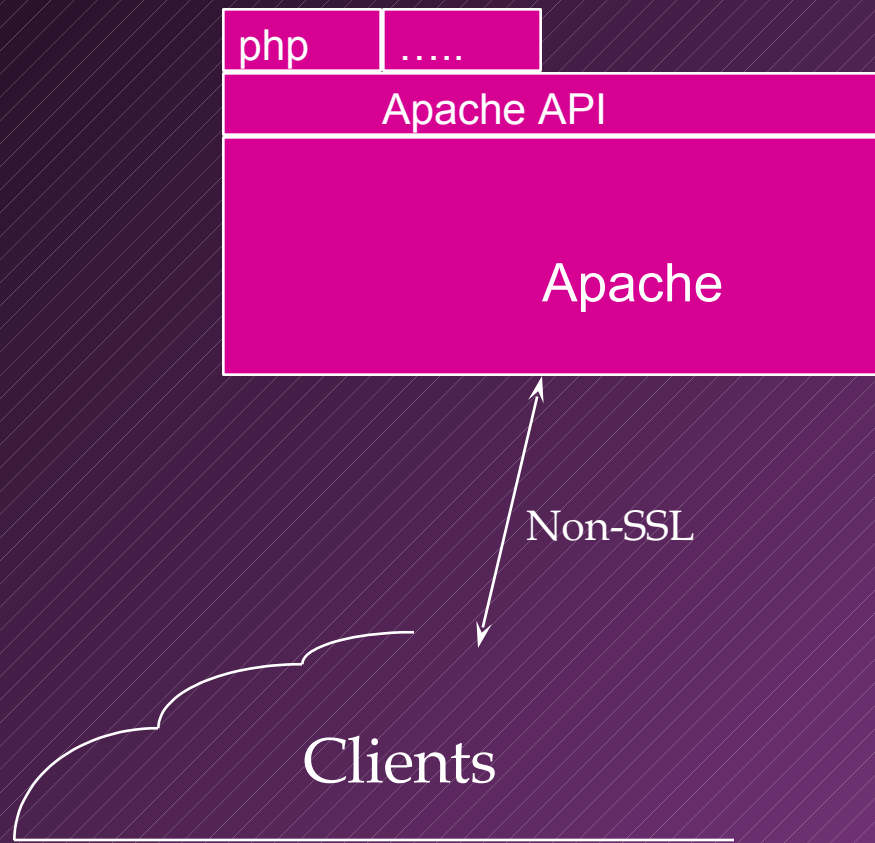


What is in Stronghold?

- ◆ Apache
- ◆ SSLeay
- ◆ modssl
 - ◆ Updates API functions to use SSL
 - ◆ Adds TLS/SSL, session cache
 - ◆ Hardware acceleration
- ◆ PHP2
- ◆ Management tools

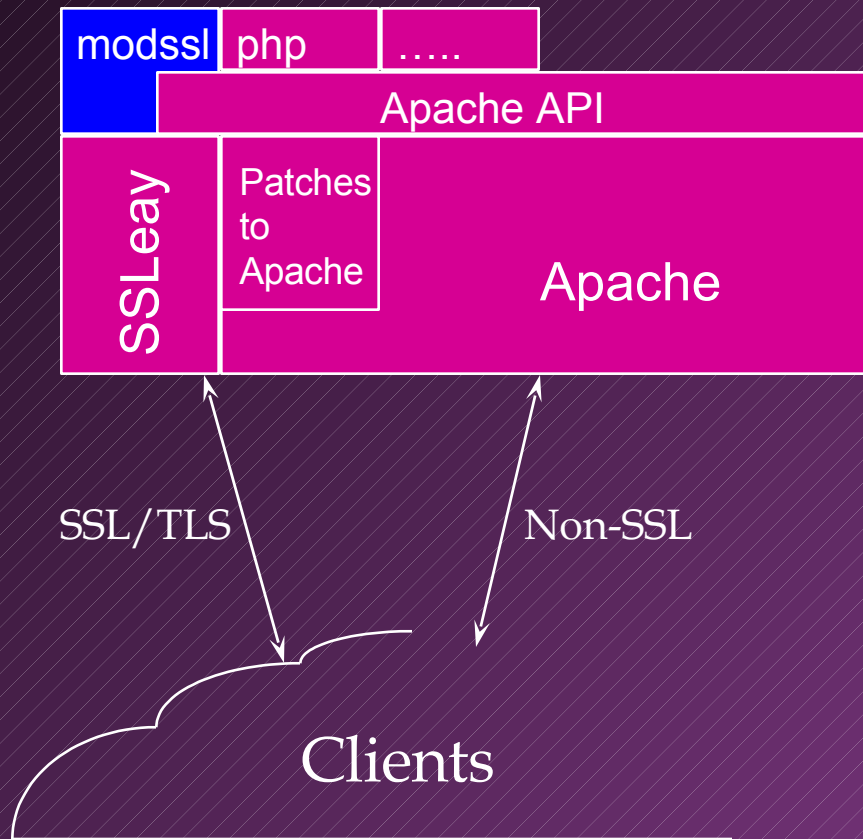


Stronghold Architecture





Stronghold Architecture





Alternatives

- ◆ Free (but restricted in US)
 - ◆ Apache-SSL
 - ◆ mod_ssl
- ◆ Commercial (but US and Canada only)
 - ◆ Raven
 - ◆ RedHat Secure Server



Why Stronghold?

C2 supports open source

- ◆ C2 has Core Apache developers
- ◆ Builds on proven technologies
- ◆ Stronghold ships with (most) source
- ◆ “modssl” will move to source
- ◆ C2 publishes Apache Week
- ◆ C2 organised this conference



Why Stronghold?

C2 has security expertise

- ◆ C2 only does security
- ◆ C2 added TLS to SSLeay
- ◆ Stronghold was first server with TLS
- ◆ Advanced digital ID access control
- ◆ Memory based “session cache”
- ◆ Supports hardware accelerators



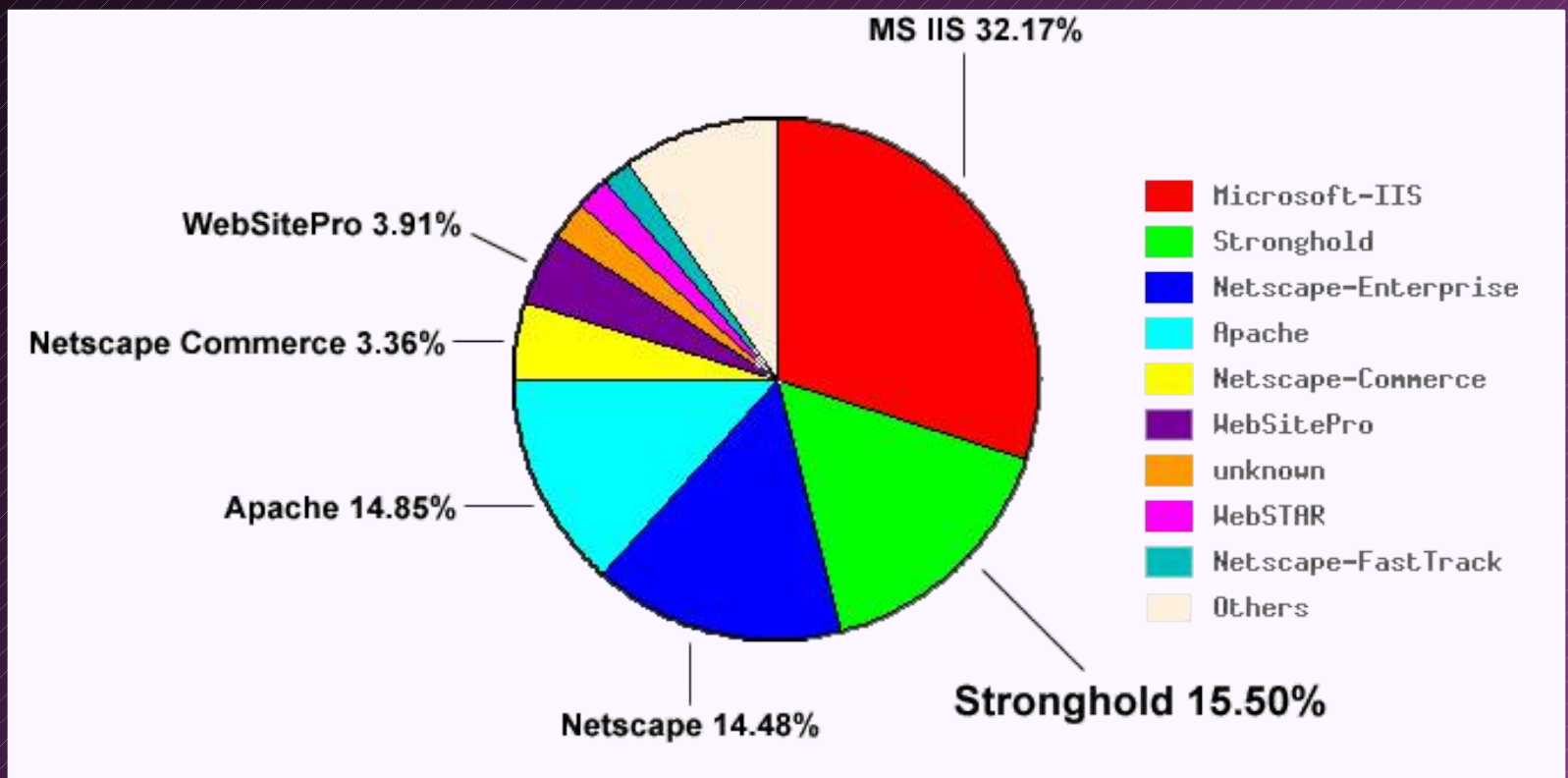
Why Stronghold?

Proven product and support

- ◆ Available World-wide
- ◆ Easy to install
- ◆ Commercial quality support
- ◆ Extensive printed documentation
- ◆ Significant market share (15%)



Secure Server Market Share



Source: Netcraft Secure Server Survey Sep 1998
<http://www.netcraft.com/>



Strong Encryption Market Share

	North America	Elsewhere
Stronghold	3398	430
Microsoft-IIS	2808	65
Apache	2035	1620
Netscape-Enterprise	1823	76
Netscape-Commerce	386	4
WebSitePro	356	0
WebSTAR	321	13

Source: Netcraft Secure Server Survey Sep 1998
<http://www.netcraft.com/>



Apache Week

- ◆ Free on email and the web
- ◆ Running since February 1996
- ◆ Covers Apache developments for non-expert audience
- ◆ Over 8,000 on the email list

www.apacheweek.com



Future Directions

- ◆ Perl with mod_perl
- ◆ PHP3
- ◆ Java with mod_jserv
- ◆ Dynamic loading of modules
- ◆ Open source modssl
- ◆ FrontPage support
- ◆ Open source configuration manager
- ◆ More bundled products



C2Net

US & Canada: www.c2.net

Elsewhere: www.int.c2.net

