



# Web Browser Comparison: Internet Explorer vs. Firefox

- »iDEFENSE Intelligence Operations
- »Sept. 29, 2005

## » About iDEFENSE

## » Internet Explorer vs. Firefox

- Background, Functionality and User Base Information
  - Microsoft Internet Explorer, Mozilla Firefox
  - Release Timeline and Market Share Trends
- Key Functionalities
  - IE, Firefox
- Security Overview
  - Number of Vulnerabilities
  - Patching Methodology and Statistics
- Lab Tests
- The Future
  - Microsoft Internet Explorer
  - Mozilla Firefox

## » Recommendations

# iDEFENSE Company Background

- » The Leading Security Intelligence Firm
- » Industry-Leading Services Offerings
  - Intelligence is all iDEFENSE does
- » Marquee Customer and Partner Base
  - Government, financial services, retail, telecom and others
- » Experienced Intelligence Teams
  - iDEFENSE Labs
  - Vulnerability Aggregation Team (VAT)
  - Malicious Code (Malcode) Team
  - Threat Intel Team
- » In Business Since 1998
- » Purchased by VeriSign in July 2005

## Daily / Hourly Research Deliverables

- » **Comprehensive Vulnerability Feed**
  - Most comprehensive, timely, technical feed in the industry
- » **iDEFENSE Exclusive Vulnerabilities**
  - 200 contributors around the globe
  - Released to vendor and iDEFENSE customers only
  - More than 90 iDEFENSE Exclusive vulnerabilities in the first half of 2005 alone
- » **Malicious Code Research and Reporting**

## Weekly / Semi-Monthly Research deliverables

### » Weekly Threat Report

- Weekly compilation of worldwide threats
- Critical Infrastructure, State of the Hack, Cyber Crime, Terrorism and Homeland Security, Global Threat

### » iDEFENSE Topical Research Papers (25/year)

- Examples:
  - Security of Enterprise Web-Based E-Mail Interfaces
  - Security Comparisons: Internet Explorer vs. Firefox
  - Phishing and Pharming: A Comparison
  - Mitigating the Threat from Keyloggers

### » Focused Threat Intelligence Reporting

- Topics specific to individual customers

# Background, Functionality and User Base

## » Microsoft Internet Explorer

- Surpassed Netscape in popularity in the mid-1990s.
- Heavily integrated with Windows
- Familiarity
- Maintains the largest market share

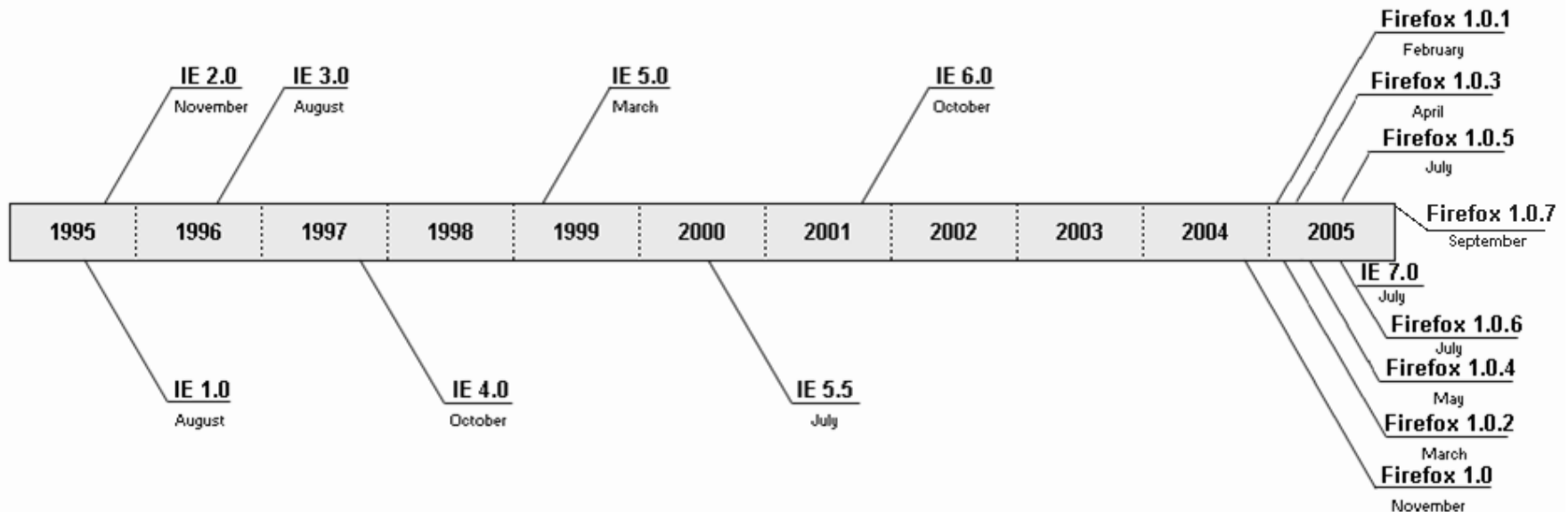
## » Mozilla Firefox

- Project branched off from the original Mozilla browser
- Extensible and open-source
- Browsing Simplicity
- Pop-up Blocking
- Gaining in market share

# Timeline

## » Release Timeline

- IE was released in 1995, but only security updates & service pack releases since 2001
- Firefox was released in late 2004, and is still fairly new to the market



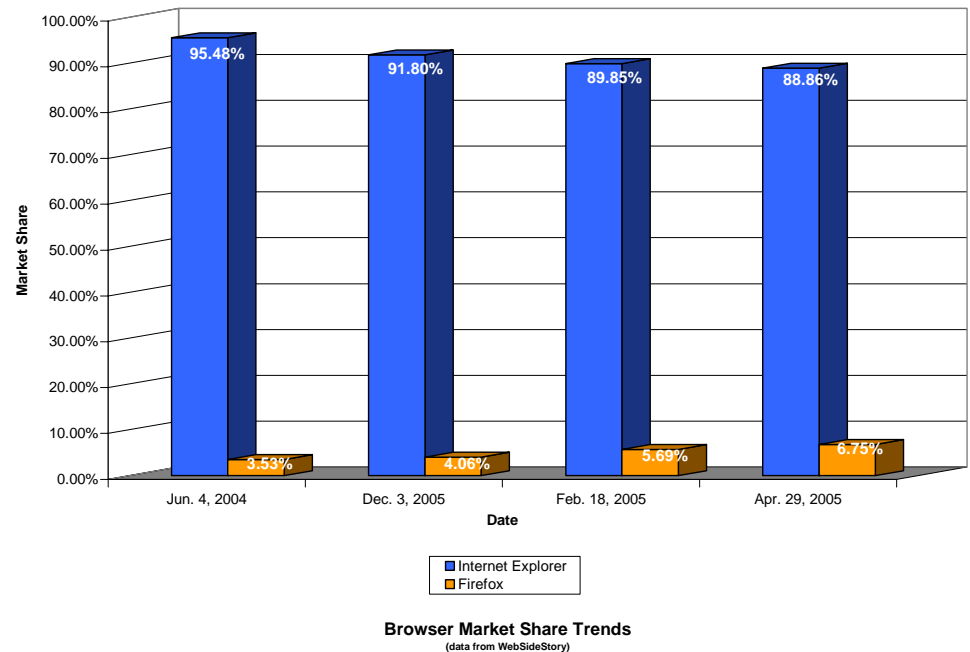
# Market Share

## » Internet Explorer

- Maintains largest market share
- Availability

## » Firefox

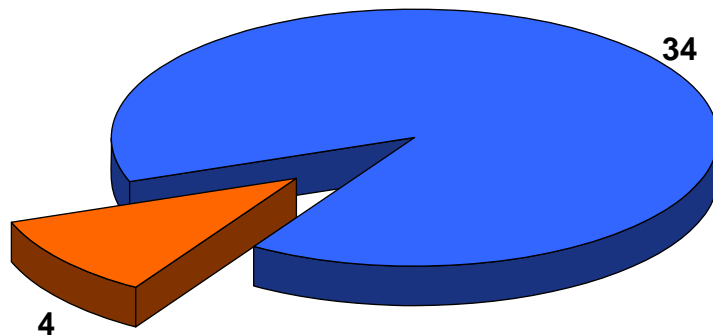
- Gaining market share
- Fairly new



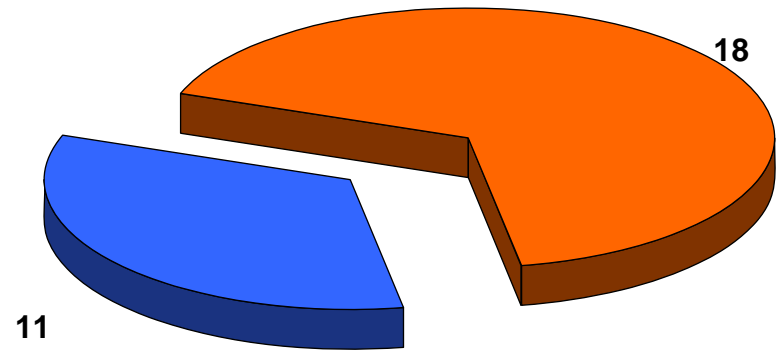
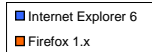


## » Total Vulnerabilities

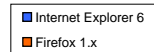
- Microsoft Internet Explorer
- Mozilla Firefox
- Trends
- Could be misleading



Total Number of Vulnerabilities (2004)

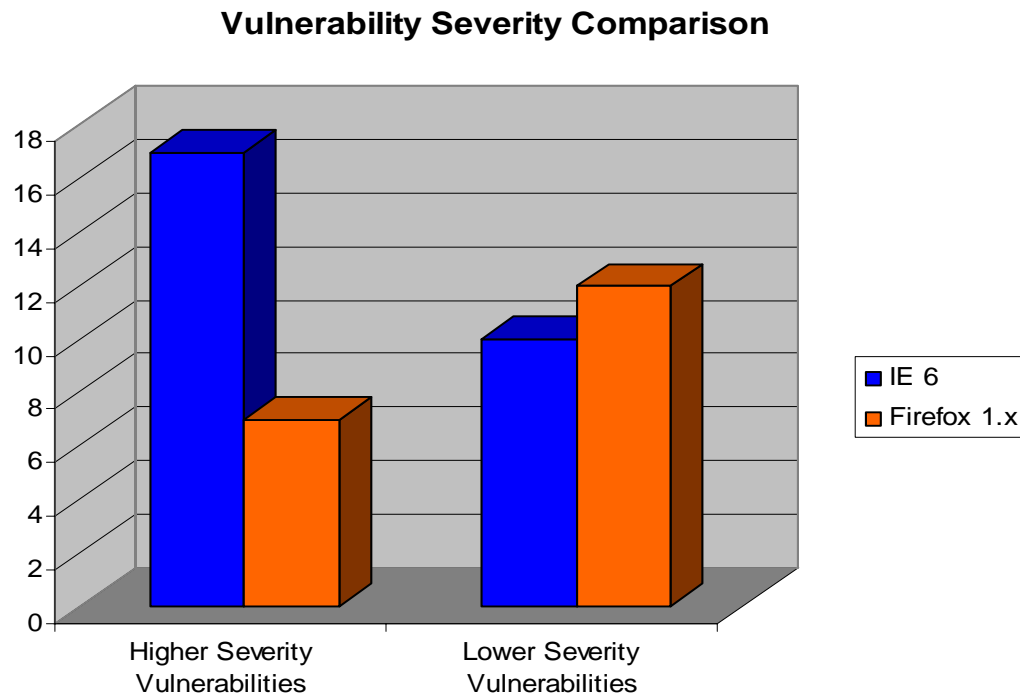


Total Number of Vulnerabilities (2005)



## » Total Vulnerabilities

- Vulnerability Severity
- Higher Severity vs. Lower Severity



- » 2003: Massive Increase in Trojans Targeting IE
- » Numerous High Profile Exploits of IE
  - IIS/Scob Incident
  - Adware / Spyware attacks
- » Firefox Mozilla
  - Only one malicious code to date, Borotob.F Trojan

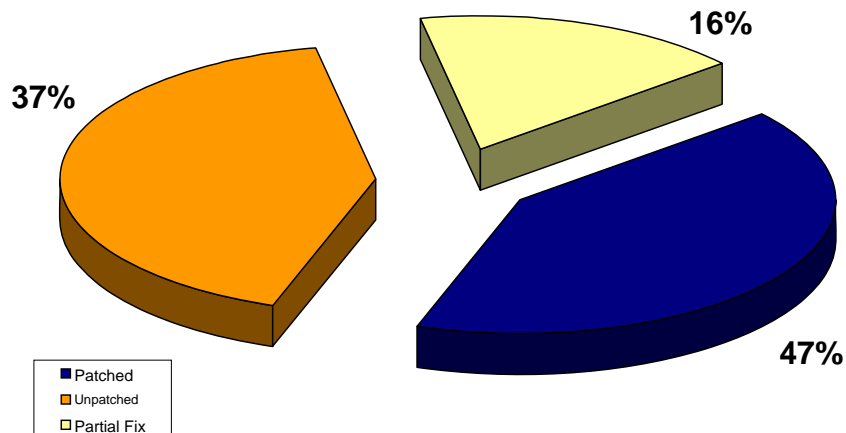
## » Patch Methodology

- IE – Automatic updates and patch executables
- Firefox – Update feature with new releases

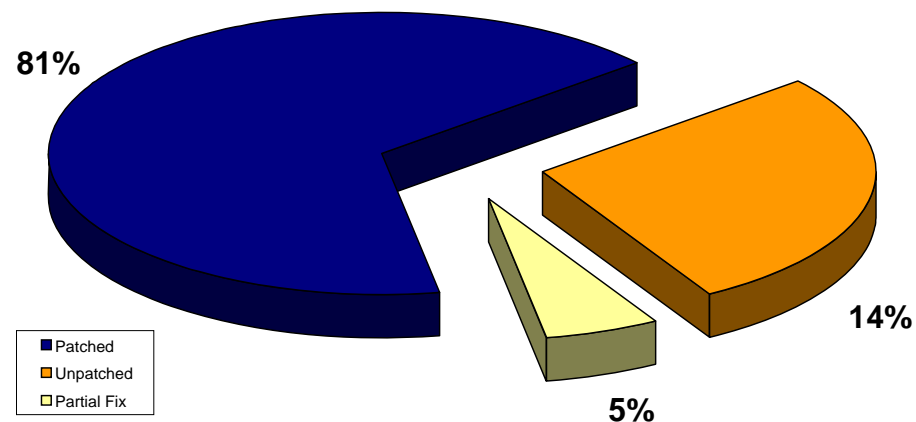
## » Patch Statistics

- IE – Time to patch and patch status
- Mozilla Firefox – Time to patch and patch status

Internet Explorer Patch Statistics (2004-September 2005)

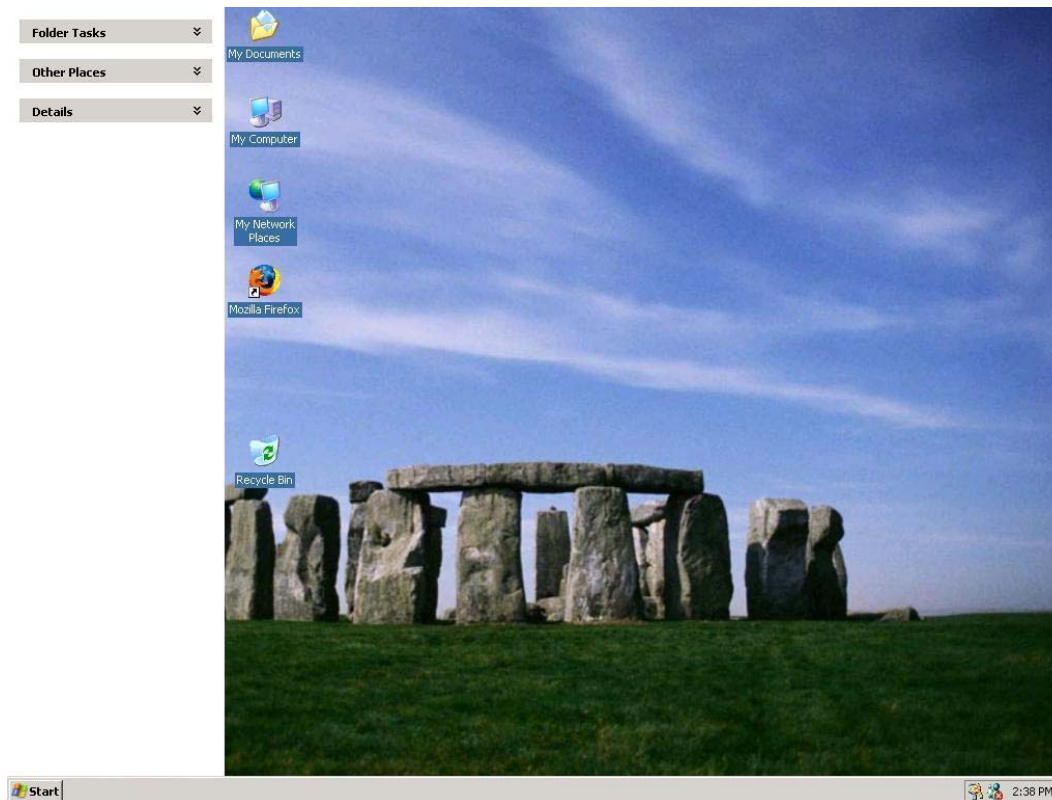


Firefox Patch Statistics (2004-September 2005)



## » Purpose of Experiment

- What's the impact on Windows when IE is removed?
- Explanation of methodology



## » Results

- “Add/Remove Windows Components” will not fully remove IE
- Programs affected
- Explanation of reliance on removed Dynamic Linked Libraries (DLL)
- Results of restoration of some DLLs

## » Conclusion

- Importance of Internet Explorer to key functionality

- » **Internet Explorer 7.0**
  - Notable features
    - Enhanced security
  - Beta release - Summer of 2005
  - Support for Windows 2000?
  
- » **Mozilla Firefox 1.1**
  - Availability
  - Features
  - Bug reporting
  
- » **Netscape 8.0**
  - New competitor
  - Features
  - Integration of IE and Firefox engines

## » Interoperability

- Microsoft support for Windows 2000 and Internet Explorer 6
- Firefox's deliberate lack of ActiveX support
- Firefox's strict adherence to W3C markup (page rendering) standards

## » Security

- Microsoft Internet Explorer 7
  - Prevention of phishing and other fraud scams
  - More secure coding practices
- Mozilla Firefox
  - Market share increase will result in more research into Firefox's code
    - Vulnerabilities
    - Malicious Code





# Q & A