Malware Without Borders
Multi-Party Response

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Content

- Trend of Malware and Potentially Unwanted Software becoming more regional
- MSRT and Windows Defender telemetry collection methods
- Trends demonstrated by normalized infection rates
- The threat landscape in the selected countries
- Breakdown by OS versions
- Example of malware “without borders”
- What can we do about it?
- Q&A

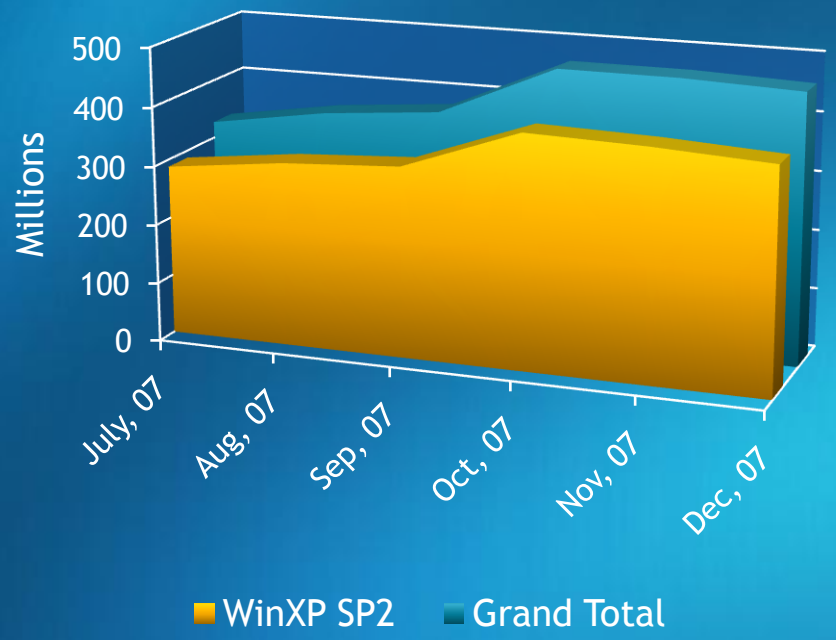
Attacks are becoming more regional

- Years ago, we saw major outbreaks of self-replicating worms
  - ➔ They infected hosts regardless of language or location
- These days attacks rely more often on social engineering
  - ➔ Spread and effectiveness depend upon language and culture

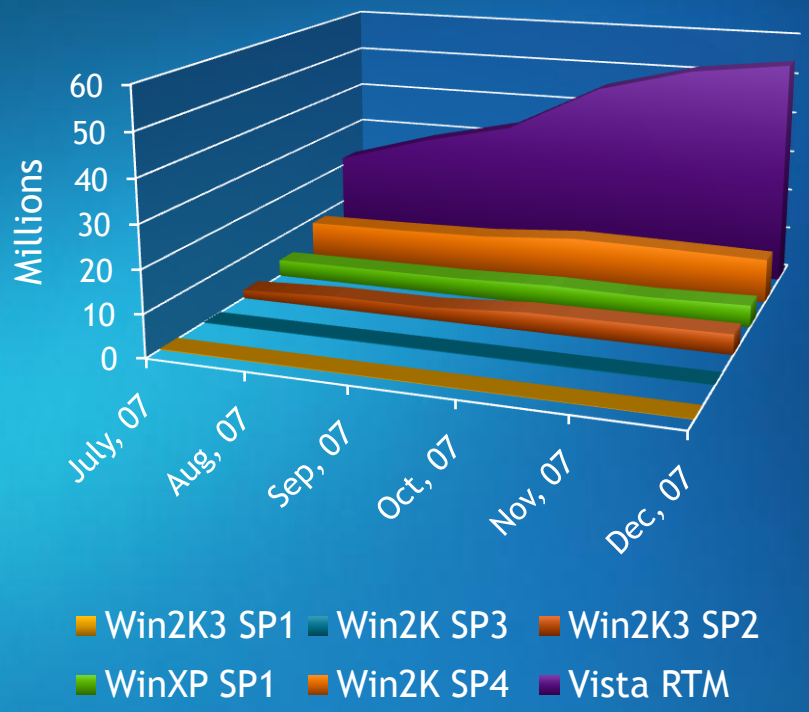
MSRT Executions

- Malicious Software Removal Tool
- Shipped every month with Microsoft security updates

Monthly MSRT Executions —Grand Total and Windows XP SP2

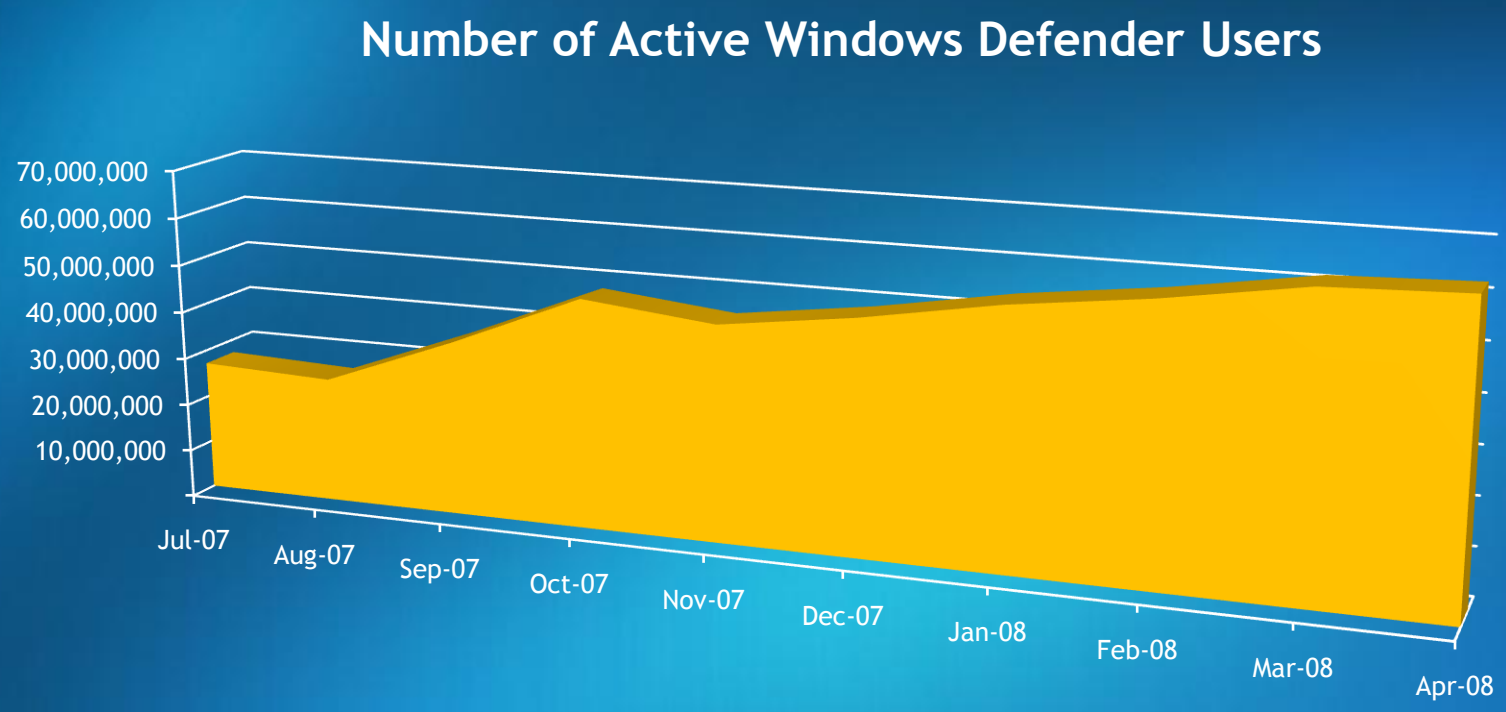


Monthly MSRT Executions—Other Operating Systems

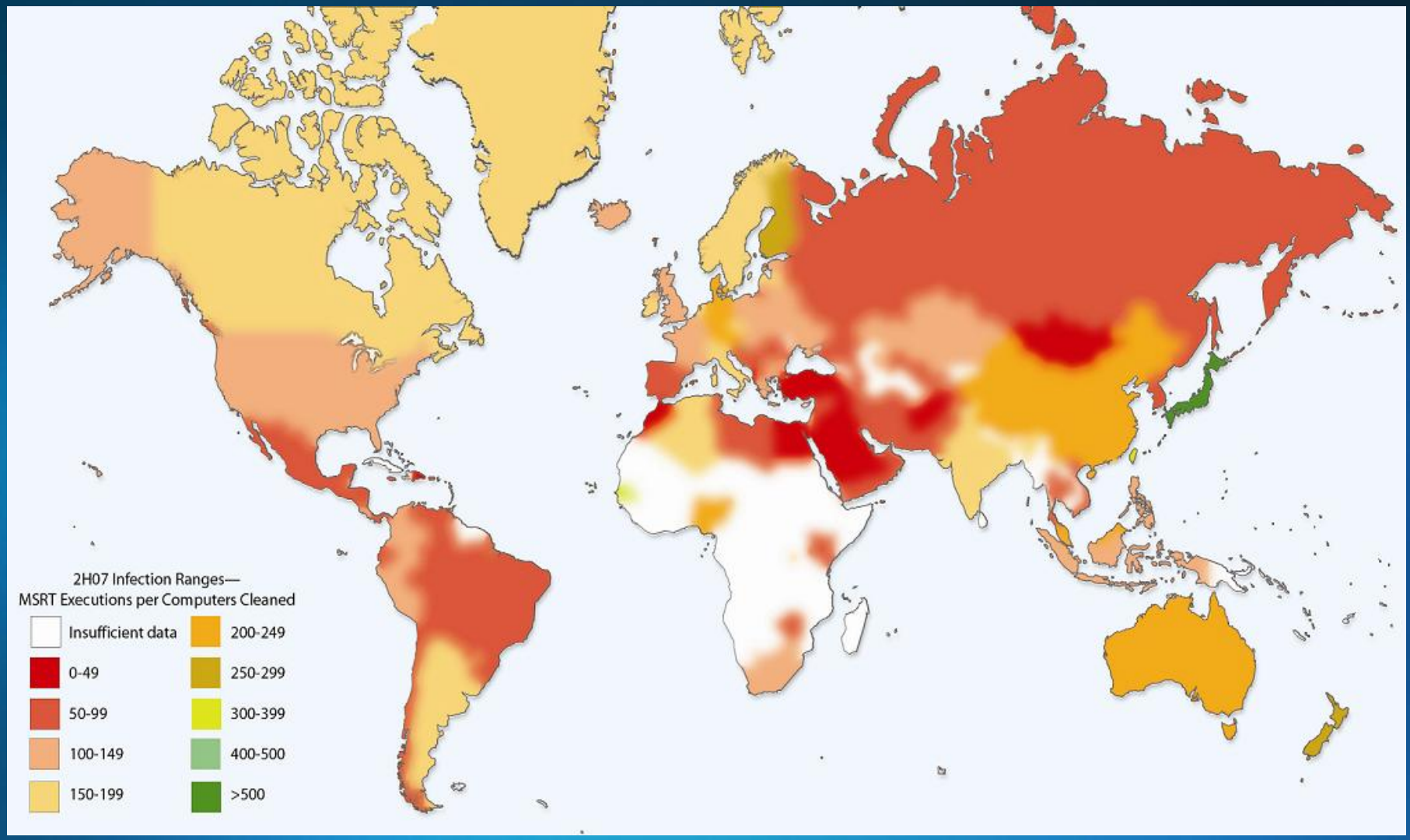


Number of Active Windows Defender Users

- About 75% of users opt in to send reports

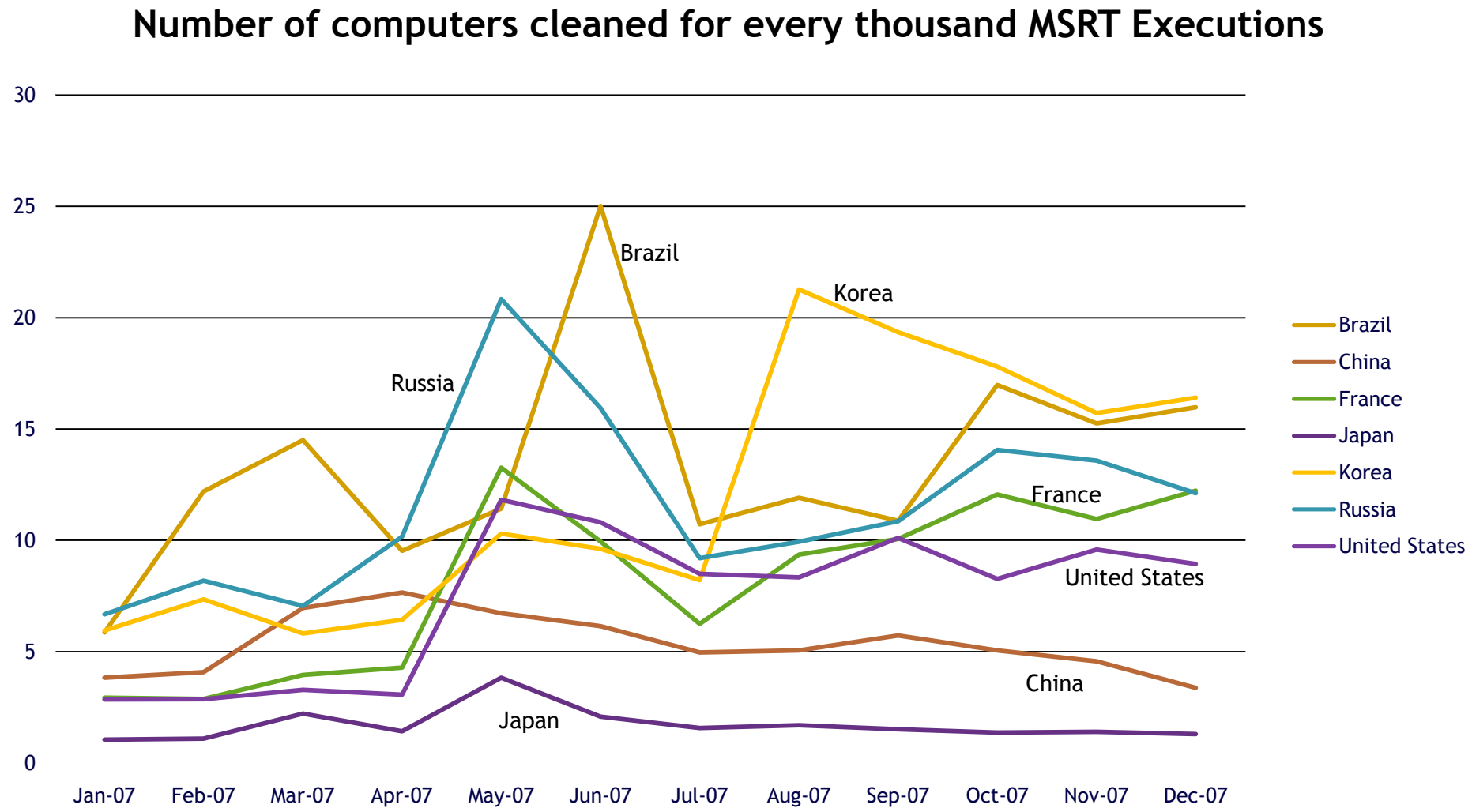


Infection Rates Using MSRT Data (2H07)



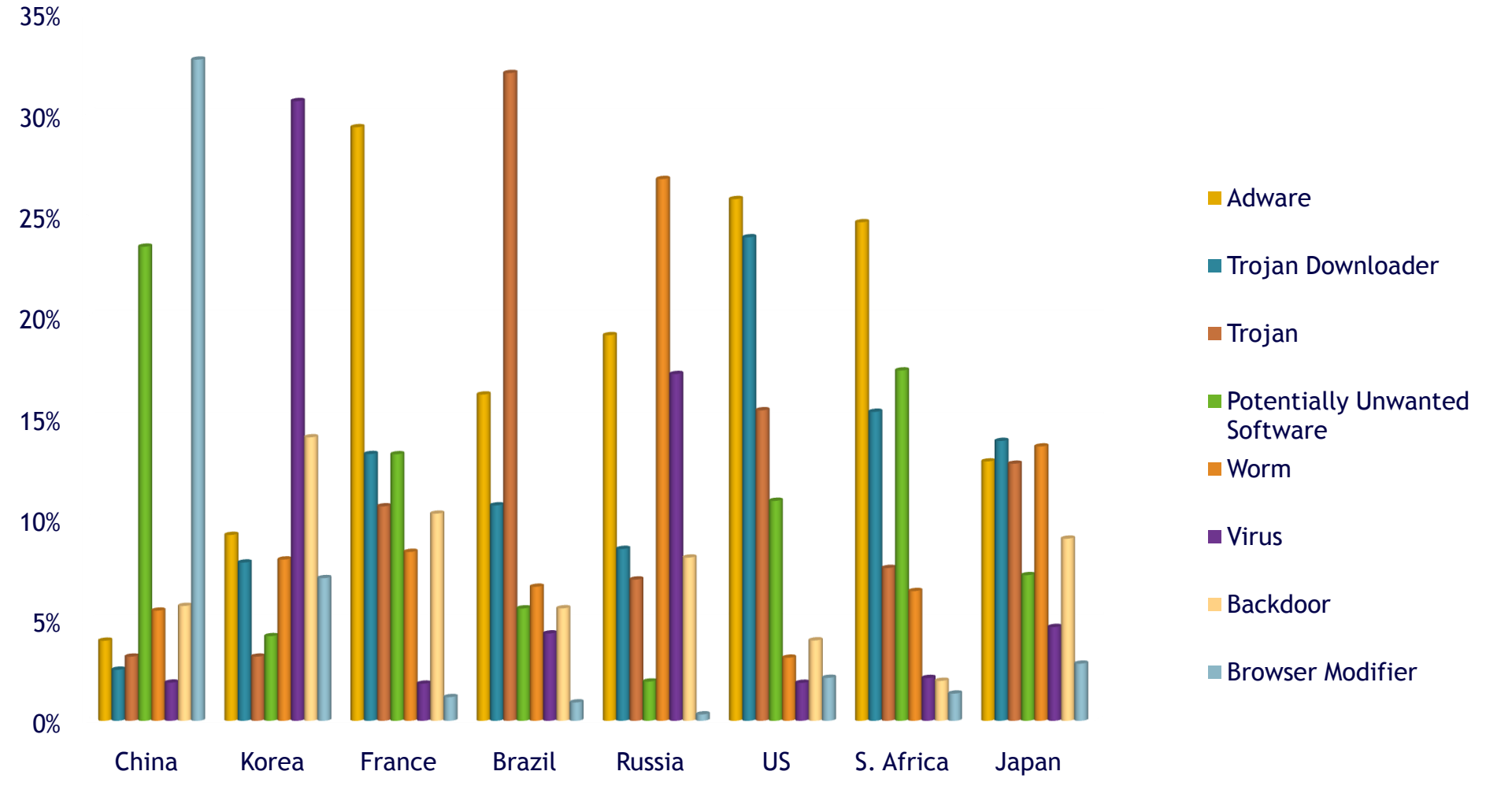
Infection Rates per Country/Region

- On average, developing countries exhibit more infections than developed countries



Non-uniform Distribution of Malware and Potentially Unwated software

- Showing the top 8 out of 24 categories (2H07)



Top Detections

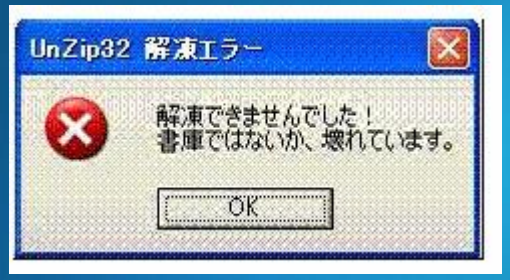
- China
  - Spyware: CnsMin
  - Browser Modifier: Baidu
  - Browser Modifier: CNNIC
- Korea
  - Virus: Virut
  - Spyware: RewardNetwork
  - Backdoor: Rbot
  - Virus: Parite
  - Virus: Jeefo
- Japan
  - Spyware: CnsMin
  - Trojan Downloader: Zlob
  - Worm: Antinny
- South Africa
  - Trojan Downloader: Zlob
  - PUS: Starware
  - Adware: WhenU
- France
  - Trojan Downloader: Zlob
  - Adware: Slagent
  - Adware: Hotbar
- Brazil
  - Trojan and PWS: Banker
  - Trojan Downloader: Zlob
  - Adware: WhenU
- Russia
  - Adware: WhenU
  - Virus: Jeefo
  - Worm: Rjump
- US:
  - Trojan Downloader: Zlob
  - Trojan Downloader: Renos
  - Adware: Hotbar

Example 1: BrowserModifier Win32/CNNIC

- Enables Chinese keyword searching in IE
- Sometimes installs without user consent
- Uses kernel mode driver to protect its files and registry settings
- Self-updates

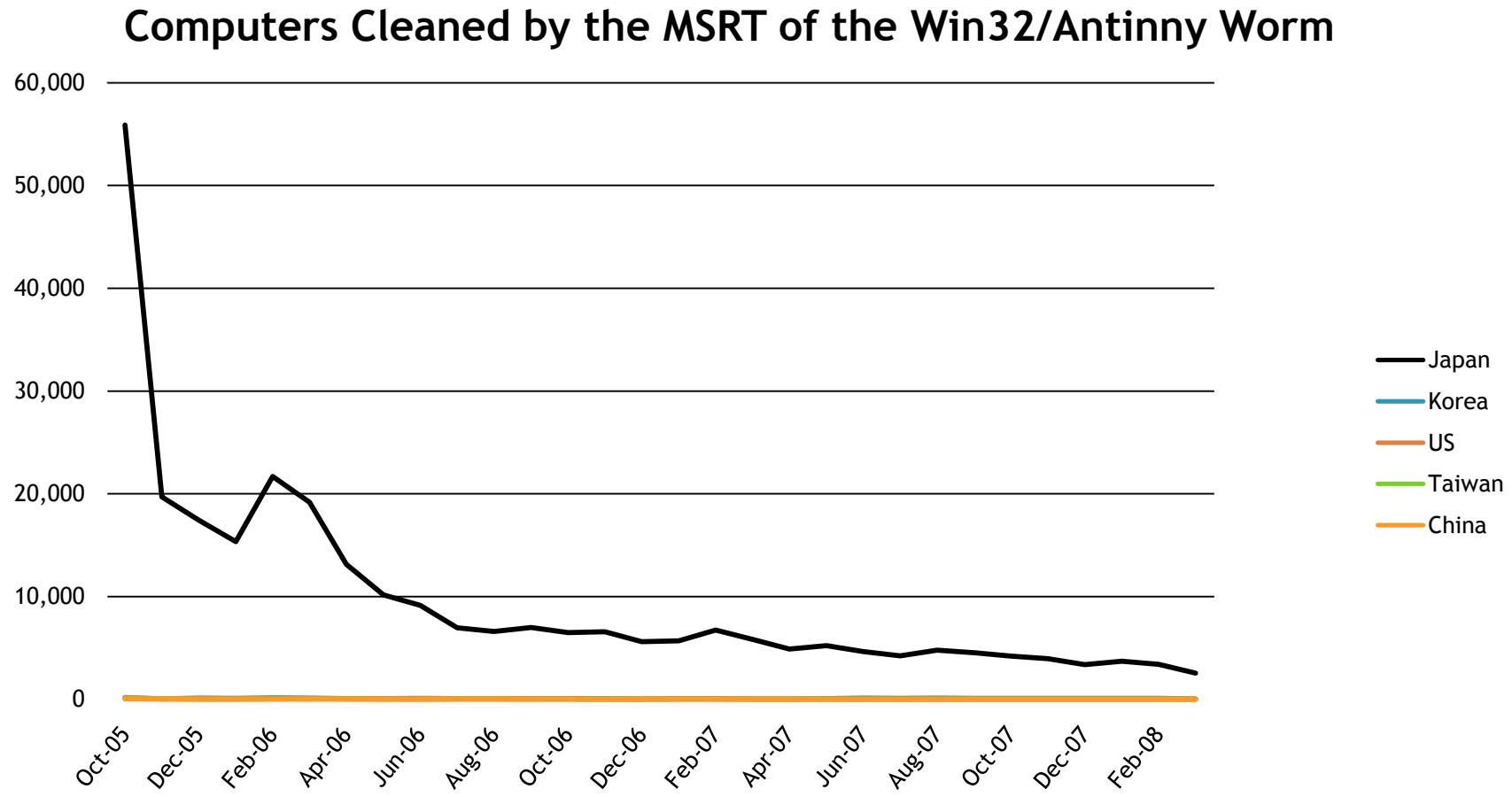
Example 2: Worm: Win32/Antinny

- Spreads using the Winny Peer-to-peer file sharing application
- Copies itself to the Winny upload folder with a deceptive filename
- Targets Japanese-speaking populations
- Uses Japanese for its messages and displays additional graphics
- May copy other personal files to the shared folders



Example #2: Win32/Antinny

- 98.4% of detections occurred in Japan
- The rest: Korea, US, Taiwan, China & others



Example 3: Win32/Banker and Win32/Bancos

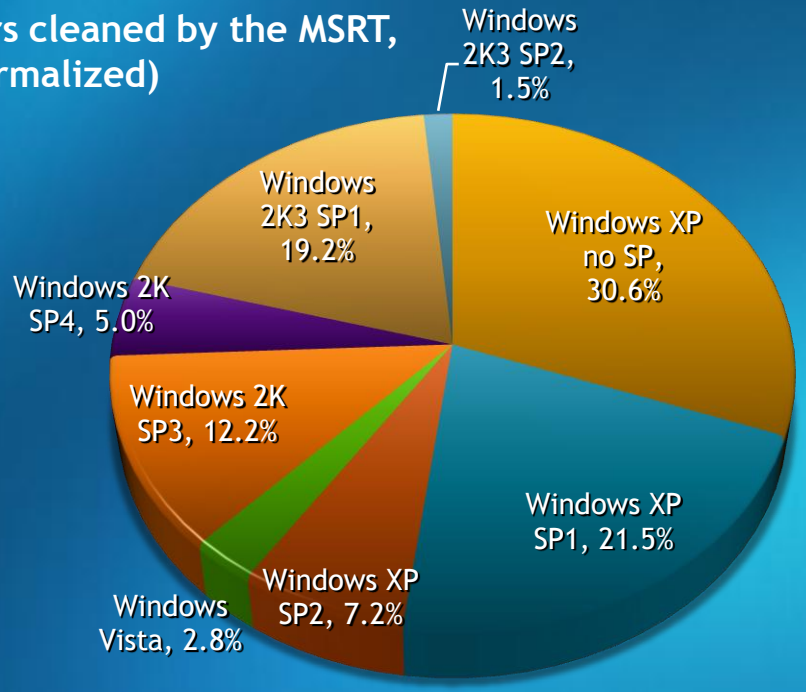
- Family of data-stealing trojans that capture banking credentials
- Mostly target customers of Brazilian banks
- Over 11,000 samples in 2H07, many of them use Portuguese

Country / Region	% Detections
Brazil	70.5%
Portugal	9.0%
Spain	7.8%
US	5.9%
France	1.5%
Italy	0.9%
UK	1.1%
Mexico	0.7%

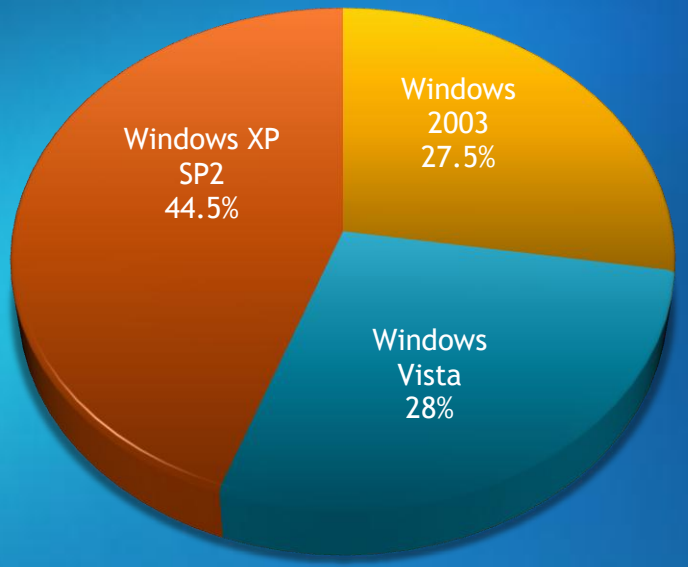
OS Breakdown

- 60% less malware and PUS detected on Vista compared to Windows XP SP2
- The higher the Service Pack level installed, the lower the rate of infection
- Server versions of Windows typically display lower infection rates than client versions

Computers cleaned by the MSRT, 2H07 (Normalized)

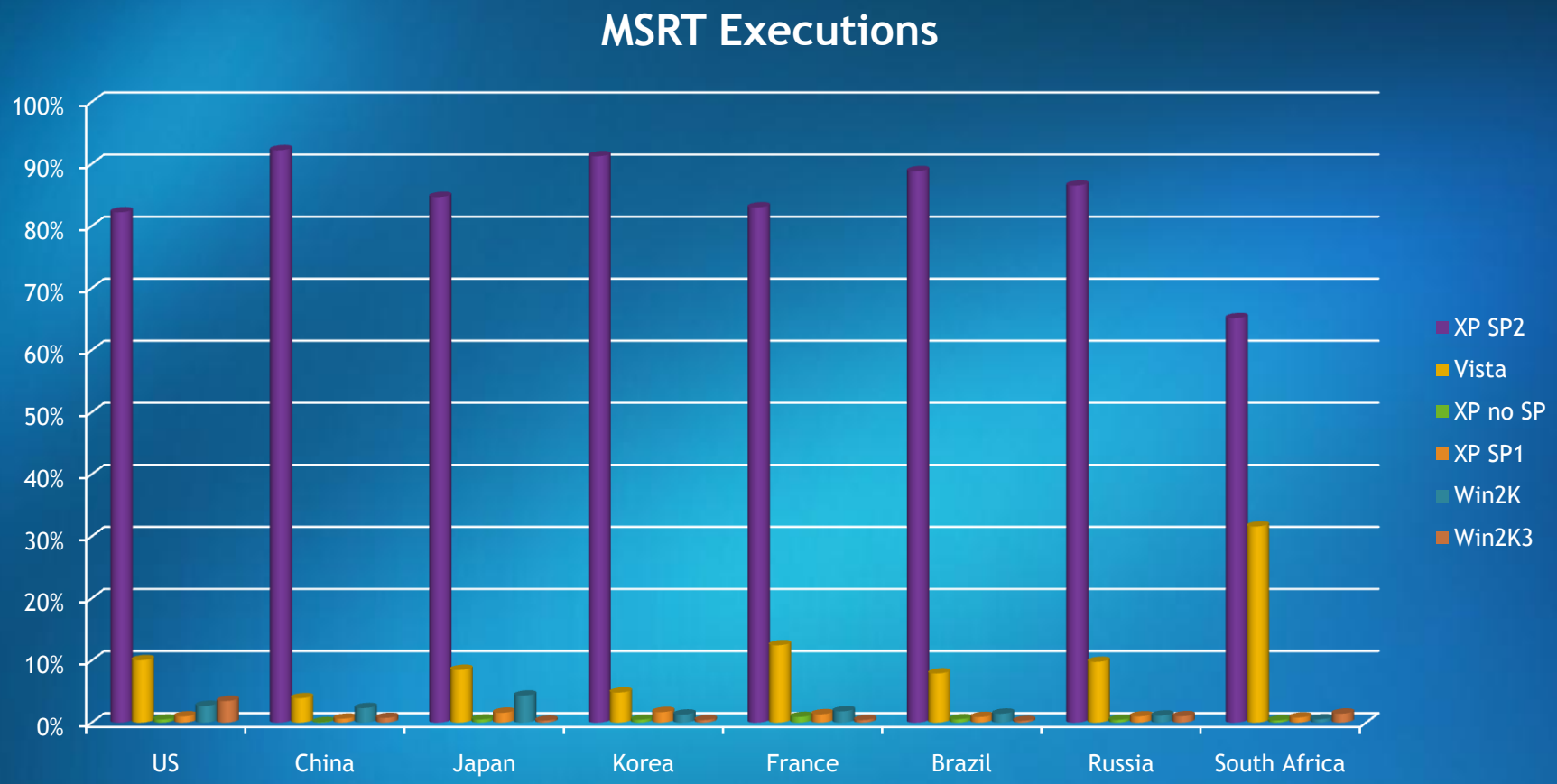


Computers cleaned by Windows Defender, 2H07 (Normalized)



Uneven OS Deployment in Different Regions

- Reflects on the prevalence of malware or potentially unwanted software regionally



Other Malware "Without Borders"

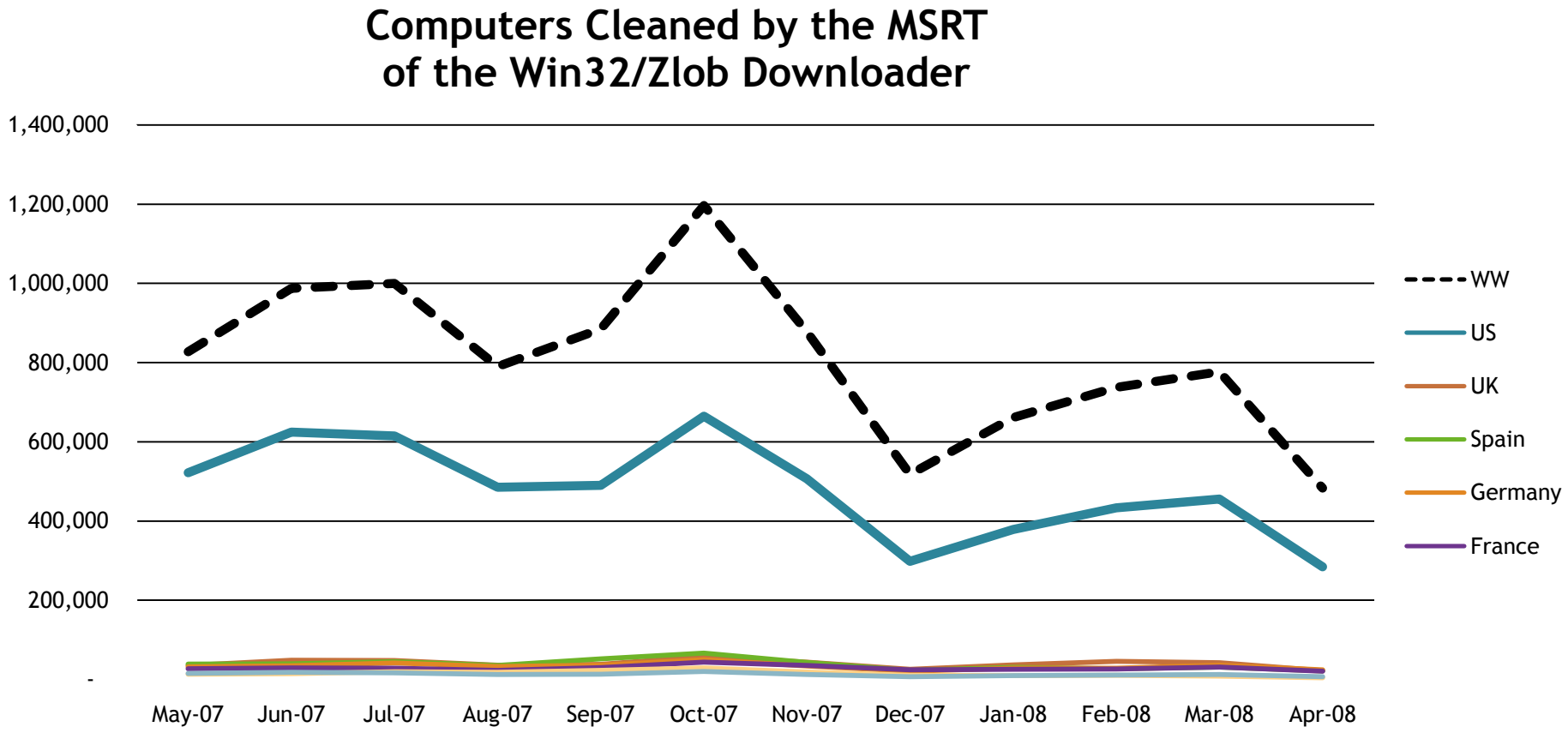
- There are still some threats that are spread across many different regions
- Mostly malware that may be distributed in multiple ways
- Either shows no UI or uses English

Example: Malware "Without Borders"
Trojan Downloader: Win32/Zlob

- Major distribution methods:
  - Fake codec files
  - Rogue antispyware application
  - Malicious ad banners
- Telemetry:
  - Detected over 17.5 million times in 2H07
  - Detected in over 240 locales

Example: Malicious Downloader Win32/Zlob

- Even though detected almost anywhere, it is by far more prevalent in the US



So Many Threats Are Regional – What Can We do About it?...

- Expand the collaboration between industry and national response teams
- National CERTs can lead here by:
  - Identifying regional threats
  - Working with the industry to address them
    - Collecting and submitting samples
    - Sharing specific regional impact detail with vendors
  - Working with law enforcement to facilitate cases against attackers
- Recently announced program: SCPcert

What Can We do?... – Cont.

- Driving user education
  - Apparent correlation between broad national outreach and reduction in infection rate
    - Finland
    - Japan
    - Australia
- Encouraging the ISV community to adopt secure development practices

Links

- Microsoft Security Intelligence Reports
  - http://microsoft.com/sir
- Microsoft Malware Protection Center
  - http://www.microsoft.com/security/portal/
- Windows Malicious Software Removal Tool
  - http://www.microsoft.com/malwareremove
- Windows Defender
  - http://www.microsoft.com/windowsdefender

Questions?

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