Securing Your Web World

Trend Micro Email Encryption (TMEE)
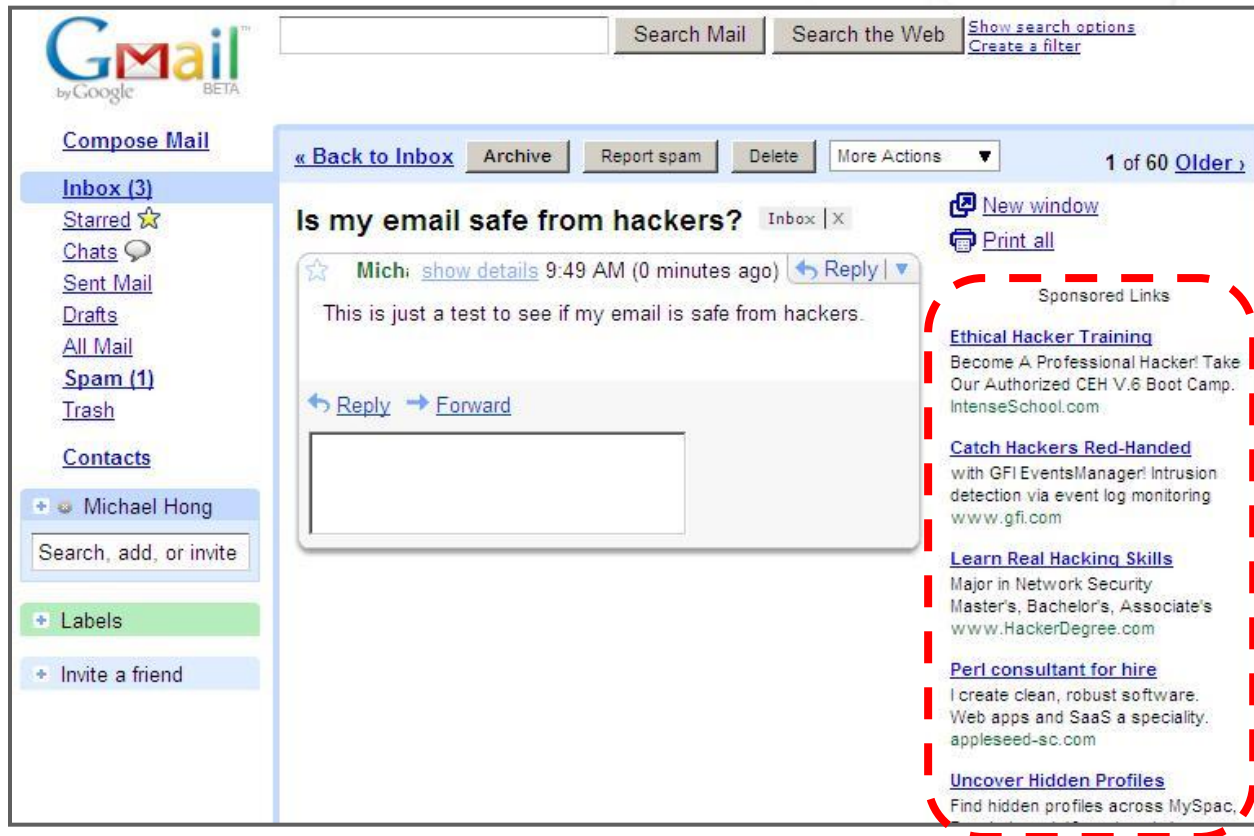
Delivering Secure Email

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Trend Micro Baltics & Finland
October 2009

Example #1

- True or false: Email is inherently insecure.
  – Answer: Absolutely, positively true
  – Anyone here uses Gmail? Guess how they decide which Sponsored Links to show you?

Example #2

- Documents like merger & acquisition plans, financial reports, sales figures, customer details, employee details, marketing plans, patents, contracts are examples of what?

  – Answer: Types of information that are sent by email

  – What about your email? Anything that you don't want the world to know?

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Election '08 📶 ADD TIME NEWS

INSIDE: Main | The Page | Swampland | Real Clear Politics | White House F

VIRAL THING
Sarah Palin's E-Mail Hacked

By M.J. STEPHEY   Wednesday, Sep. 17, 2008

Republican vice-presidential candidate Sarah Palin speaks at a campaign rally on Sept.13 in Nevada
Max Whittaker / Getty Images

🖨 Print   ✉ Email   ⊞ Share   📄 Reprints   ↺ Related

The cryptic Internet posse known for its attacks on Scientology may have found a new target in Republican vice-presidential nominee Sarah Palin. Several self-proclaimed members of Anonymous, a loosely organized group associated with the message board 4Chan, apparently breached the Alaska governor's personal Yahoo! account *(gov.palin@yahoo.com)* late Tuesday night.

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Example #3

- [CERT-FI Annual Review 2008 (http://www.cert.fi)](http://www.cert.fi)

- "There has been a lot of discussion on the confidentiality of communications in context with the preparations for the amendment to the Act on Protection of Privacy in Electronic Communications. At the beginning of 2009, the Swedish National Defence Radio Establishment (FRA) was given the right to perform signal intelligence for communication transmitted in fixed networks via Sweden. The majority of the Finnish internet traffic to other countries is transmitted via Sweden. Signal intelligence may be targeted at unencrypted communication, in particular."

Companies Need Email Encryption

- Ensures confidential or private information can only be read by the sender & recipient

  - Health & medical history
  - Social security numbers
  - Attorney-client privilege
  - Credit card information
  - Financial reporting

  - Intellectual property
  - Trade secrets
  - Employee records
  - Personal finances
  - M&A activity

- Benefits:

  - Reduce the risk of an email breach & its associated costs
  - Compliance: It's the law for many companies

EMAIL IS INHERENTLY INSECURE, ENCRYPTION MAKES IT SECURE

Email Encryption: It's The Law

- Sarbanes Oxley Act
- Gramm Leach Bliley Act
- Health Insurance Portability and Accountability Act
- California Database Breach Notification Act
- Nevada Statute
- Massachusetts Statute
- Payment Card Industry (PCI) Data Security Standard*
  - Technically, this is not a law; but its affect on the industry is similar

READ OUR NEW PUBLICATION ON EMAIL CONFIDENTIALITY & THE LAW

Trend Micro Email Encryption

- Take advantage of the latest cryptographic technology
  - Overcomes the limitations with the old technology

An abbreviated history of email encryption

- Encryption is easy

- Securely exchanging passwords is hard
  - Example: Zip a file with a password, then send the zipfile & the password together in the same email.

- Solution: Asymmetric encryption
  - One key (or password) to encrypt, and another key to decrypt
  - AKA: Public key infrastructure or PKI

- PKI Limitations:
  - Recipients must preregister
- Requires on-premise key server & it must be publically accessible

Trend Micro Email Encryption

- **Identity-Based Encryption (IBE) overcomes the limitations of PKI**
  - **Where your email address becomes the key to encryption**

- Universal Reach
  - Send encrypted email to anyone, at anytime, without preregistration
  - Encrypted email is as easy to manage as regular email; smooth integration with existing business processes.
  - Increases end-user adoption & encourages compliant behavior

- Trend Micro In The Cloud Encryption Key Management
  - Key management as a service; eliminates the overhead associated with on-premise key servers
  - Rapid deployment time, lower infrastructure costs
  - Reduces security risk by eliminating holes in your firewall

FOR A COMPLETE LIST OF FEATURES & BENEFITS, SEE YOUR CALL-TO-ACTION
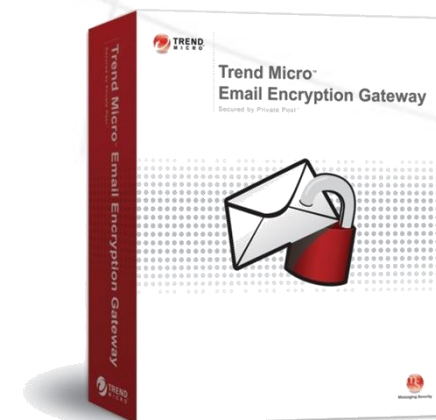
Trend Micro Email Encryption

Client

- Outlook Plug-in
- Send encrypted email to anyone
- Recipients decrypt with Client or web browser

Hosted

- Policy-based email encryption/decryption
- IMHS Advanced integration

Gateway

- Policy-based email encryption/decryption
- Integrates with on-premise content filtering, IMSS/IMSVA

A COMPLETE EMAIL ENCRYPTION PRODUCT LINE THAT MEETS TODAY'S PRIVACY REQUIREMENTS

Trend Micro Email Encryption Client Overview

- Identity-Based Encryption encrypts and decrypts email messages and attachments
  - Anybody with email address can receive encrypted email
  - Requires no recipient pre-registration
- Software plug-in supports popular email clients including:
  - Outlook
  - Outlook Express
  - Web browsers (zero download reader reads encrypted emails)
- Encrypted content pushed directly from sender to recipient(s) like any other email
- Interoperates with other Trend Micro encryption offerings

Feature	Benefit
•Client software for maximum security	•Eliminates vulnerability of email backups being used to view messages •Only sender and recipient(s) view email
•Encrypts/decrypts email messages	•Secure communications from sender to recipient
•Plug-in supports popular email clients	•Flexible email client support

Encryption for Power Users provides end-to-end confidentiality.

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Trend Micro Email Encryption Client Overview

Trend Micro™ Email Encryption

Hosted Central Trust Authority

Internet

Email Encryption Client

Email Encryption Client
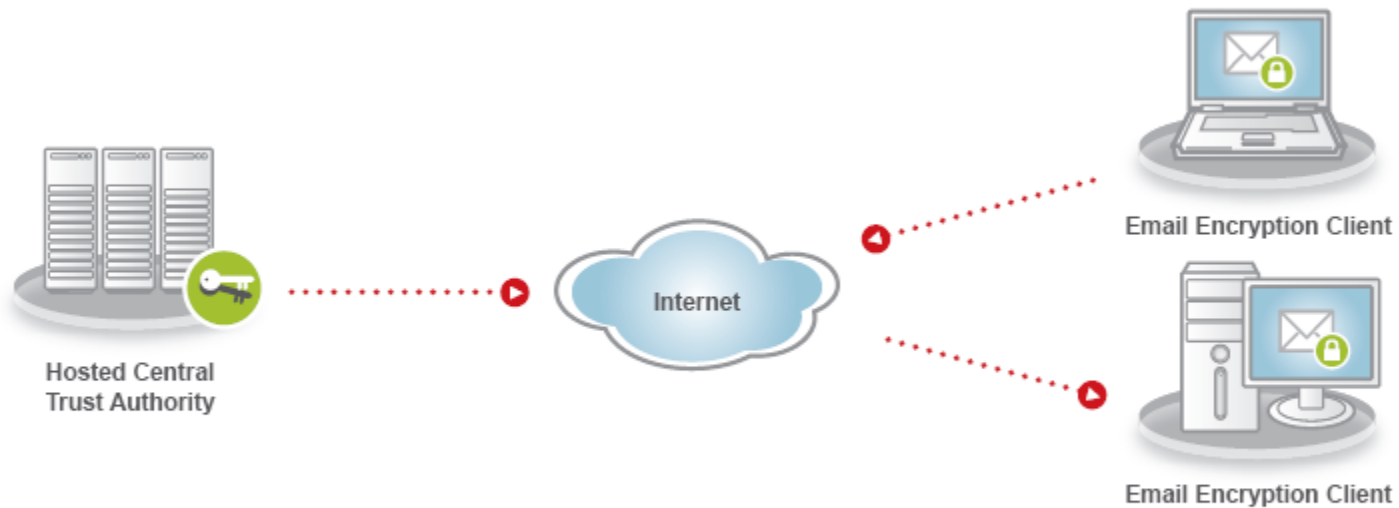
Trend Micro Email Encryption uses identity-based encryption and in-the-cloud key management to deliver end-to-end email data protection

Trend Micro Email Encryption Client - Sending

Trend Micro Email Encryption Client - Receiving

Meeting on Thursday - Message (HTML)

File   Edit   View   Insert   Format   Tools   Actions   Help

Reply | Reply to All | Forward | | | | | |

Show Envelope   Signature   View Message Source

From: Veli-Pekka Kusmin (TS-NO)   Sent: ma 18.8.2008 10:08
To: Harri Kaikkonen (SAL-NO)
Cc:
Subject: Meeting on Thursday

Attachments: Encrypted_Message.htm (34 KB)

Hello Harri,

Please remember the meeting on Thursday.

Best regards,
V-P

Email Encryption Client

Email Encryption Client use tip:

Opening the Encrypted_Message.htm file will decrypt it for you in your web browser. You may find it more convenient to simply 'open' the message in Outlook (rather than viewing it in the reading pane).

This will automatically decrypt the message for you and offer licensed users the chance to reply or forward.

☐ Please don't warn me again   OK

TREND MICRO
Securing Your Web World

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Trend Micro Email Encryption Zero Download Reader
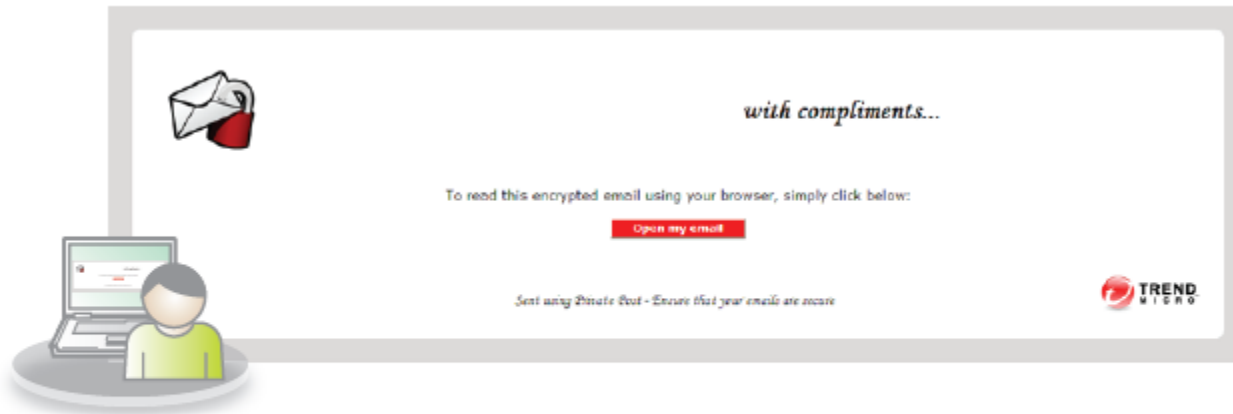
Recipient Experience: Encrypted email is received in a sealed envelope. Recipients can download their own copy of Trend Micro Email Encryption Client or use their web browser to read and reply without the need to install any software.

Trend Micro Email Encryption Gateway Overview

- Identity-Based Encryption encrypts and decrypts email messages and attachments at the gateway

- Interoperates with gateway content security, antivirus, and DLP solutions

- Policy manager enables encryption and decryption based on administrator-determined policies
  – Email addresses, keywords, etc.

- Flexible deployment in-line or off-line with other SMTP gateway solutions
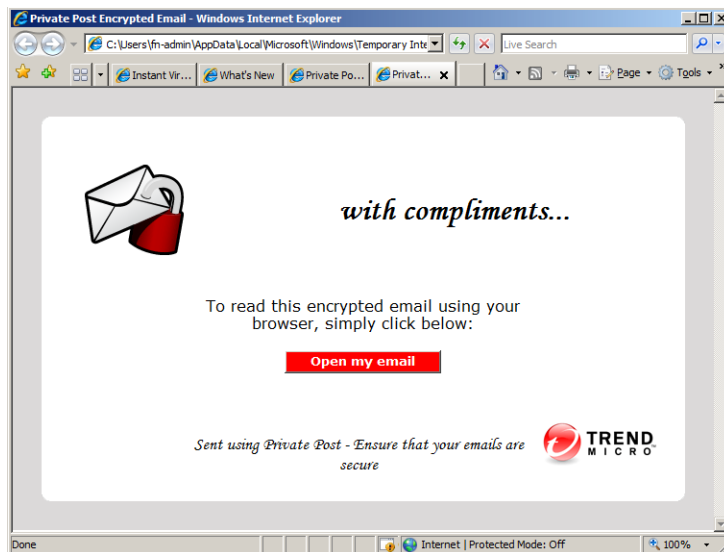
- Uses Software Virtual Appliance form factor

- Interoperates with Trend Micro Email Encryption Client

Gateway encryption enables email policy compliance.

Feature	Benefit
•Policy-driven gateway email encryption	•Enables regulatory compliance and privacy
•Interoperability with content security	•Avoids encrypted email as spam/virus attack vector •Enables application of content security policies to encrypted emails
•Policy manager	•Enables policy-driven encryption without requiring gateway content security solution
•Virtual Appliance form factor	•Minimizes cost of ownership •Optimizes resource utilization •Enables flexible failover configurations

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Trend Micro Email Encryption Gateway Overview

Trend Micro™ Email Encryption Gateway

Internet

Messaging Security
Gateway

Trend Micro
Email Encryption Gateway
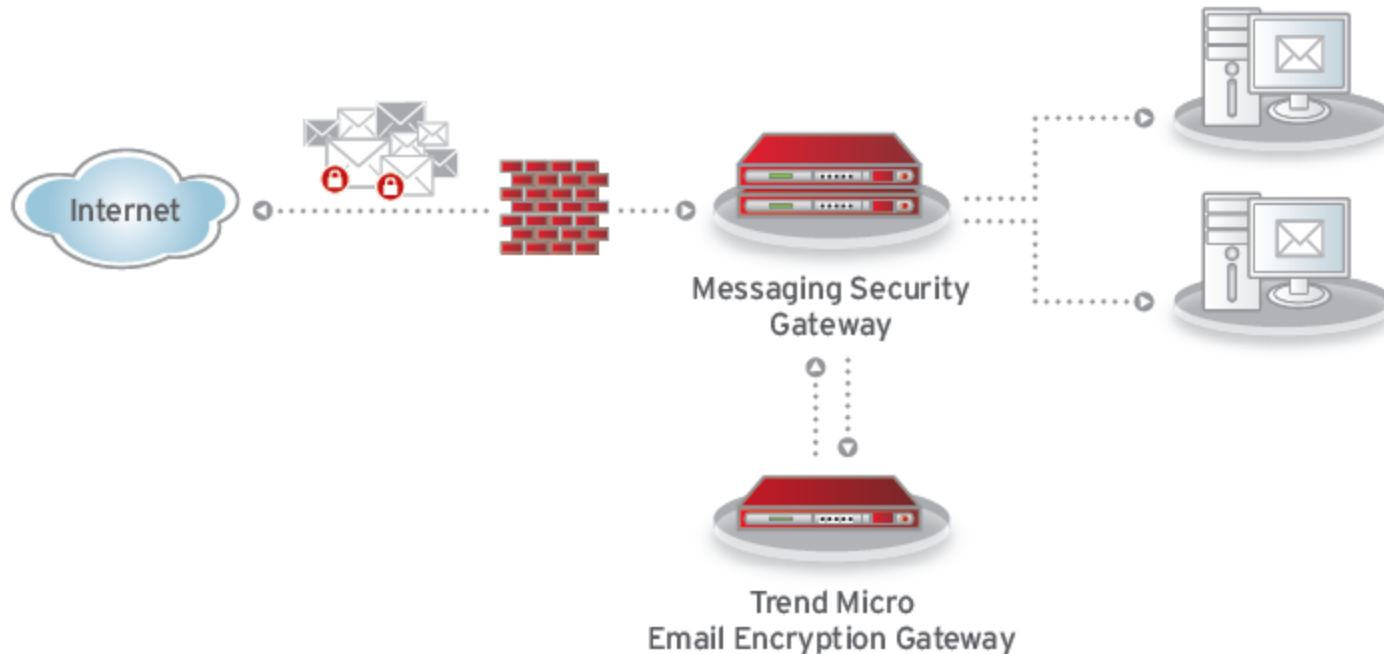
Trend Micro™ Email Encryption Gateway uses identity-based encryption and in-the-cloud key management to deliver policy-driven email encryption.

Trend Micro Email Encryption Gateway uses Virtual Appliance form factor

TREND MICRO

Trend Micro Email Encryption Gateway - GUI

Email Encryption Gateway

Email Encryption Gateway

????? -------Help---------

- System Status
- Configurations
- View Log Files
- **Configure Policies**
- Manage Domains
- Administration

Secured by
Private Post™

Email Encryption Gateway - Policies

**Policies** ❓ 　　　　　　　　　　　　　New Policy　Save

Encrypt messages to *@radientvision.com, using the TrendMicroEnvelope envelope,
Encrypt messages to external recipients, using the TrendMicroEnvelope envelope, where the email contains credit card information ''
Encrypt messages to external recipients, using the TrendMicroEnvelope envelope, where the sender email address is 'stephen.howard@ramidesolutions.com' and the sender email address is 'lara.hilton@ramidesolutions.com' and the sender email address is 'anthony.davis@ramidesolutions.com'
Don't decrypt messages to stephen.howard@ramidesolutions.com, lara.hilton@ramidesolutions.com, anthony.davis@ramidesolutions.com
Encrypt messages to external recipients, using the TrendMicroEnvelope envelope, where the subject line contains the text 'classified' and the subject line contains the text 'private' and the subject line contains the text 'confidential'
Encrypt messages to external recipients, using the TrendMicroEnvelope envelope, where the message body contains the text 'internal information' and the message body contains the text 'internal only' and the message body contains the text 'information is classified' and the message body contains the text 'information is confidential'
Encrypt messages to external recipients, using the TrendMicroEnvelope envelope, where the recipient include the email address 'ralph.peterson@reuters.com' and the recipient include the email address 'dianna.david@informationweek.com' and the recipient include the email address 'michelle.richards@irs.gov'
Don't encrypt messages to internal recipients

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Trend Micro Email Encryption for IMHS Advanced

Benefits of a Hosted Service

- Keeps email threats completely off the network

- Frees IT staff for other projects

- Preserves bandwidth, storage, and other costly resources

- Decreases on-site hardware and software

- Optimizes protection with updates and tuning by Trend Micro

- Provides a choice of service levels to meet your management needs

- Reduces infrastructure, costs, and administration

Trend Micro Data Centers
- Two service levels available
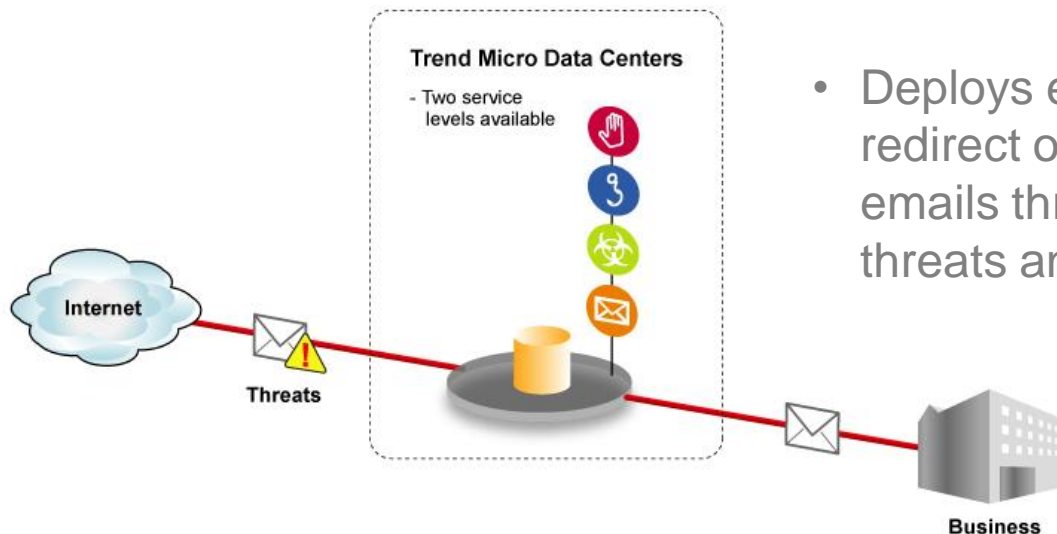
- Deploys easily with a simple redirect of the MX record, routing emails through the service to block threats and deliver good mail

Internet

Threats

Business

Trend Micro Hosted Email Security

ANTI-SPAM   ANTIVIRUS   ANTI-SPYWARE   ANTI-PHISHING

Email Reputation
Stops up to 90% of all email threats

Threat Scanning
Blocks remaining email threats

Content Filtering
Filtered based on company rules

Internet

Business
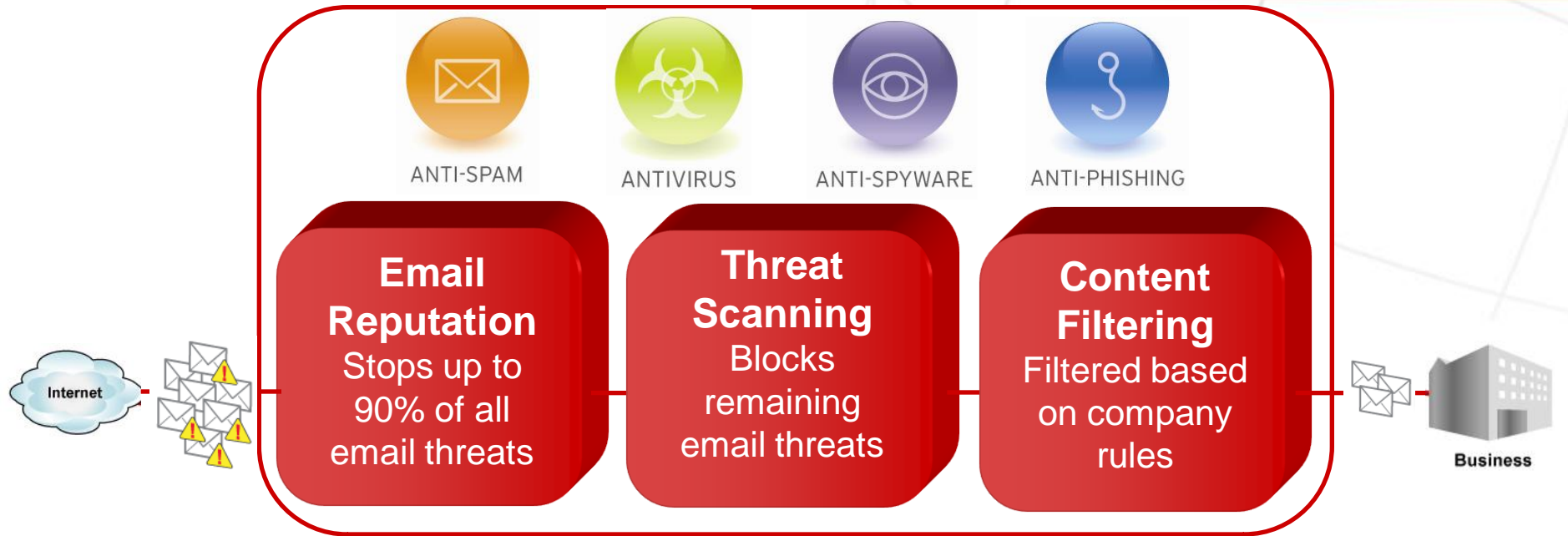
- #1 in reputation filtering catch rate[1]
- Stops most threats based on sender
- Blocks threats from zombies and botnets

- #1 in anti-spam effectiveness[1]
- #1 in gateway antivirus market share for 6 years[2]
- Targeted defenses against spyware and phishing

- Advanced service provides flexible content filtering
- For both inbound and outbound
- Prevents data loss and enforces compliance

[1] Source: Opus One, *Results of Anti-Spam Solution Testing*. February 2007. tp://www.opus1.com/www/whitepapers/antispamfeb2007.pdf

[2] Source: IDC, *Worldwide Antivirus 2006–2010 Forecast Update and 2005 Vendor Analysis*, Doc #204715, Dec 2006

TREND MICRO

Trend Micro Hosted Email Security

Industry-Leading Service Level Agreement

- 100% Availability

Percentage Service Availability per Calendar Month	Percentage Credit of Monthly Charge
<100% but ≥ 99.99% (4.38 minutes)	20%
< 99.99% but ≥ 99.9% (43.8 minutes)	40%
< 99.9% but ≥ 99.0%	60%
< 99.0% but ≥ 98.5%	80%
< 98.5% but ≥ 98.0%	100%

- 95% or better spam blocking

- No more than 0.0004% false positives

- No more than two minutes Email delivery latency

- Zero Email-based virus infection

- Technical support is available 24x7 via email or phone

- Disaster Recovery – Emails are queued for up to 5 days if needed

- Email Privacy – No human intervention

http://emea.trendmicro.com/emea/products/enterprise/interscan-messaging-hosted-security/index.html

Trend Micro Hosted Email Security

SERVICE LEVELS	Standard	Advanced
Inbound email and attachment filtering	✓	✓
Outbound email and attachment filtering		✓
Streamlined management	✓	
Granular access and control with flexible content filtering		✓

Customers choose the service level that best suits their security strategy

- **Standard -** Streamlined management for complete security with minimal administration

- **Advanced -** Granular access and control with content filtering and policy management to enforce compliance and prevent data leakage

- **Both offer**
  – Comprehensive security with anti-spam, antivirus, anti-spyware, and anti-phishing
  – A single Web-based console with directory file import (LDIF and CSV), company-wide approved sender capabilities, and other administrative options
  – End-User Quarantine with spam digests and approved sender capabilities for easy end-user spam management
  – Extensive insight into the system with message tracking and detailed reports

Trend Micro Email Encryption for IMHS Advanced

- Identity-Based Encryption encrypts email messages and attachments "in the cloud"

- IMHS Advanced rule engine enables custom policies to encrypt emails

- Gateway-to-recipient message security

  - IMHS in conjunction with opportunistic Transport Layer Security (TLS) provides maximum email security outside the company gateway

Email Encryption for InterScan Messaging Hosted Security

Feature	Benefit
•Policy-driven "in the cloud" email encryption	•Enables regulatory compliance and privacy
•Identity-Based Encryption	•Any recipient with a valid email address can read message without pre-registering
•Powerful rule engine	•Enables flexible encryption policies based on business requirements
•Hosted encryption	•Avoids investment in hardware and maintenance

Hosted encryption enables email policy compliance "in the cloud".

Trend Micro Email Encryption for IMHS Advanced

Example Configuration

Email Encryption for
InterScan Messaging
Hosted Security

Transport
Layer Security

InterScan Messaging
Hosted Security

In-the-cloud
Key Management
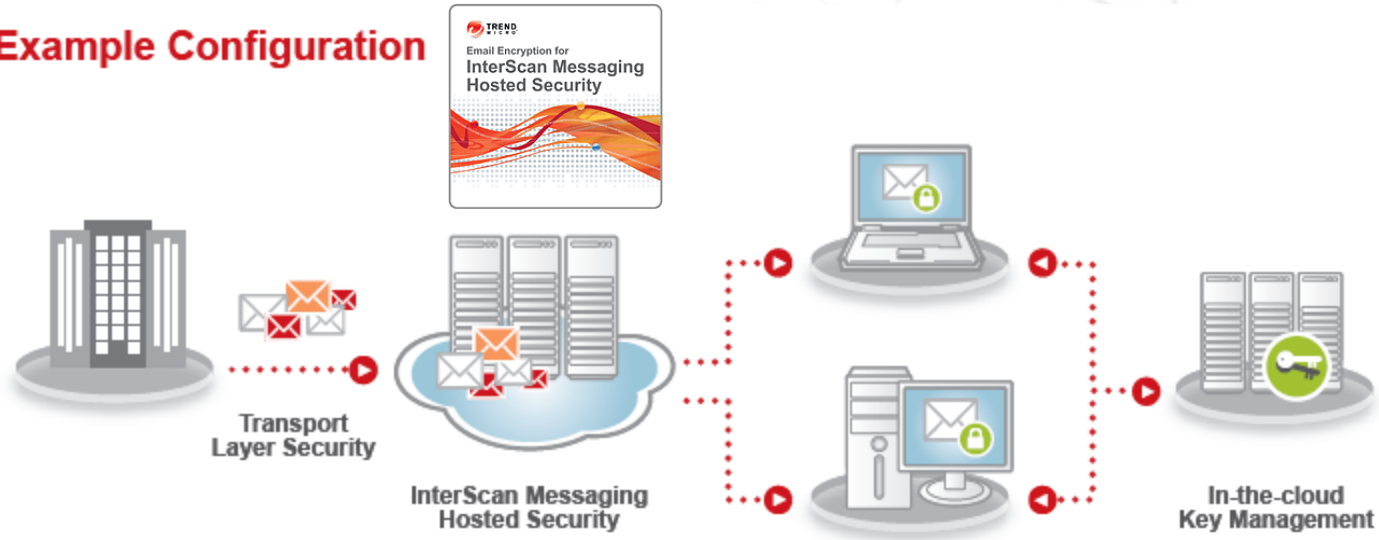
Trend Micro Email Encryption uses InterScan Messaging Hosted Security content filtering rules and in-the-cloud key management to easily and automatically deliver email data protection.

Trend Micro Email Encryption for IMHS - GUI

InterScan Messaging Hosted Security

Powered By **TREND** MICRO   Logged on as **administrator** | Log Off   ---------Help--------- ▼

Policy

Report		
Policy		
Approved Senders		
▸ Quarantines		
▸ Logs		
▸ Administration		

Policy for: All my groups ▼
         All rules ▼   OK   15 per page ▼

1-6/6

Rules	Action	Order	Modified	Status
imhs: Virus	Delete	1	8/7/08	✔
imhs: High-risk attachment	Delete	2	8/7/08	✘
imhs: Exceeding msg size or # of recipients	Delete	3	8/7/08	✔
imhs: Spam or Phish	Delete	4	8/19/08	✔
imhs: Newsletter or spam-like	Tag Subject	5	8/7/08	✔
imhs: Password protected	Stamp	6	5/20/08	✔

1-6/6

If email encryption is enabled there will be a new rule
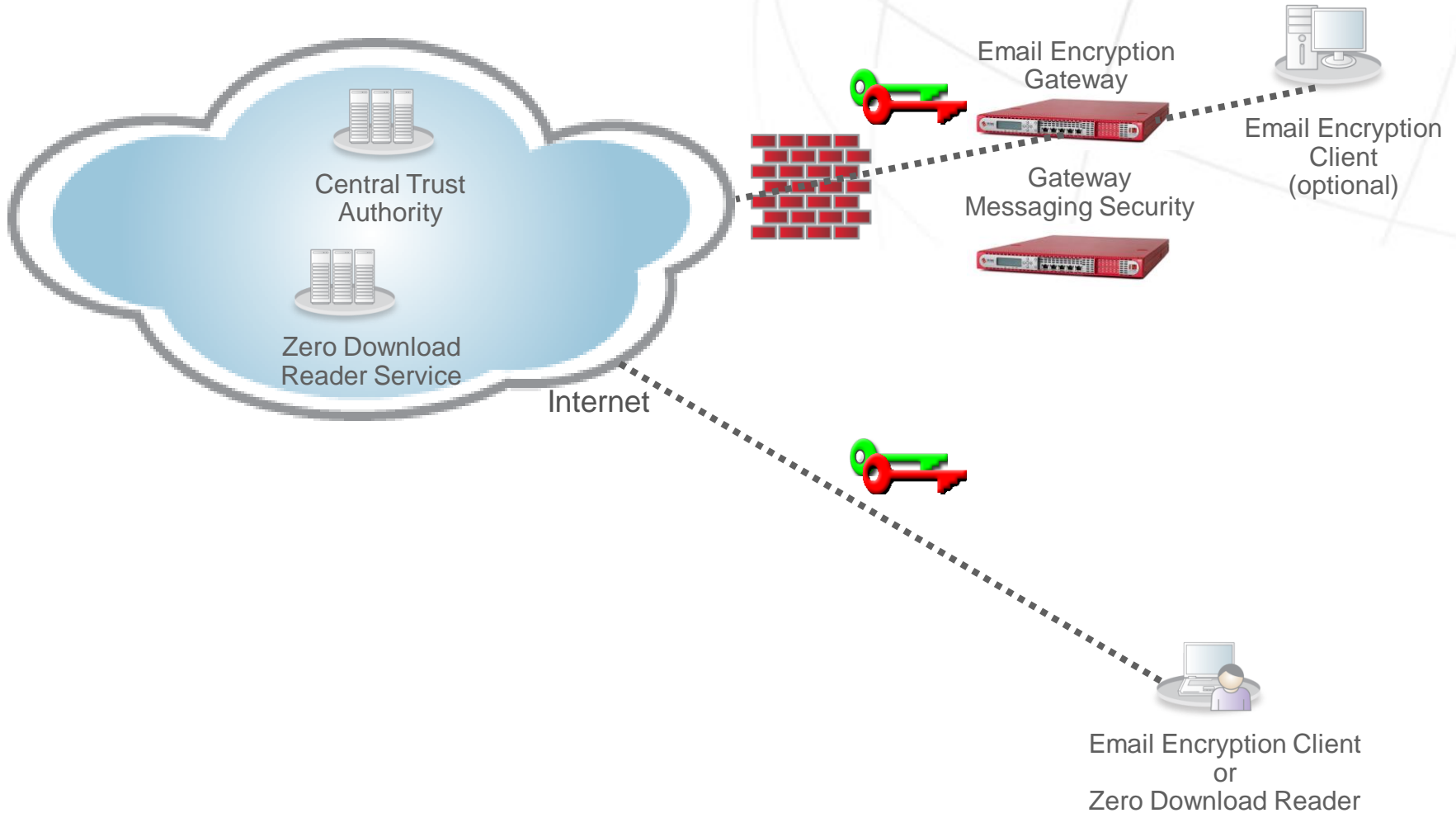
Trend Micro Key Server Infrastructure

- Location
  - Centrally located, housed in nuclear bunkers
  - Trend Micro handles keys not data (Similar to Verisign + SSL certs)
- Security
  - Multiple layers of protection
  - 3 layers of firewalls from independent vendors
  - Strong physical access controls
  - Tightly managed update & patching schedule
  - Keys and data are separated during the encryption process. Trend Micro never sees the data
- Redundancy
  - 100% redundancy including power, cooling, bandwidth, servers and networking
  - 100% historical up time
- Key Backup
  - Automated key back up
  - Stand-by facilities available
  - Stand-by can be up & running within 60 minutes

In-the-cloud
Key Management

Benefit: "in the cloud" key server improves Total Cost of Ownership, avoids infrastructure costs, and reduces administrative burdens.

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Trend Micro Email Encryption Overview: On-Premises Gateway Solution

Central Trust Authority

Zero Download Reader Service

Internet

Email Encryption Gateway

Gateway Messaging Security

Email Encryption Client (optional)

Email Encryption Client
or
Zero Download Reader

Trend Micro Email Encryption Overview: Hosted Solution using IMHS

Central Trust Authority

InterScan Messaging Hosted Security Advanced

Zero Download Reader Service

Transport Layer Security (TLS)

Email Encryption Client (optional)

Internet

Email Encryption Client
or
Zero Download Reader
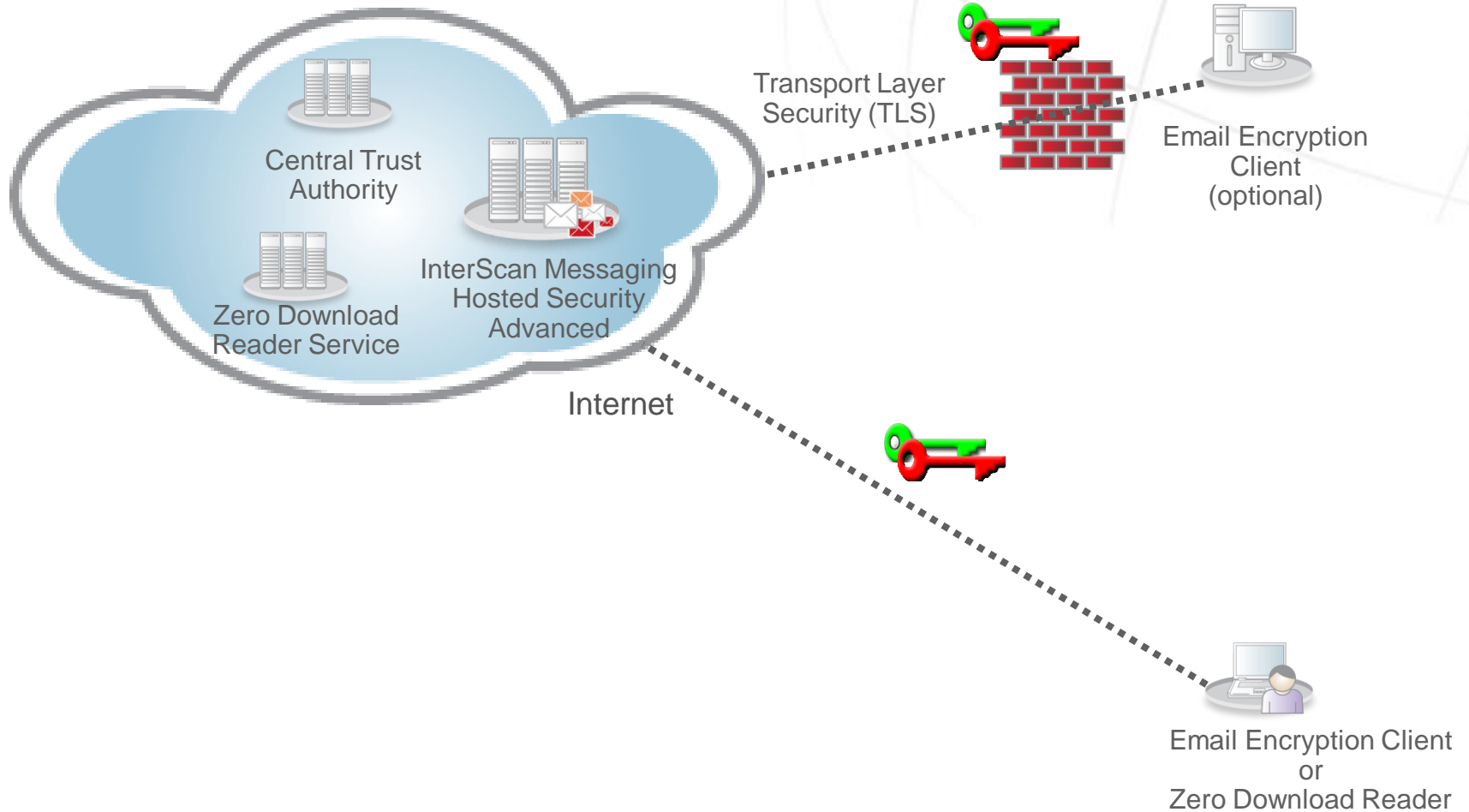
Trend Micro Email Encryption Features & Benefits

Feature	Benefit
Encrypts/decrypts email messages	Secure communications for compliance and to build trust
Customer-defined policies at the gateway or "in the cloud"	Helps ensure regulatory compliance
100% Coverage – anyone with an email address can receive encrypted email	Simplicity avoids burdensome pre-registration and minimizes support burden
"In the cloud" key server	Manages keys for encryption/decryption without burdensome management Avoids infrastructure costs
Administrator web management console	Minimizes support costs, maximizes productivity
Encrypted emails read with optional client software supporting popular email clients or via web browser	Flexible email client support that does not require pre-installation of software
Optional client software enables desktop-to-desktop encryption	Avoids possible compromise at email archive or via snooping at ISP
Standards-based security offering AES256-bit encryption and compliance with proposed IEEE standard for Identity-based cryptography	Maximum security and investment protection

TREND MICRO

Why Trend Micro Email Encryption

- **Compliance** - enables compliance with privacy regulations for email communications
- **Privacy** –enables you to increase the sense of trust with partners and customers
- **Simple Deployment** – Identity-Based Encryption is simple to install, use and administer
- **Cost-effective** – Trend Micro Email Encryption avoids the costs and complexity of Public Key Infrastructure (PKI) technology through the user of Identity-Based Encryption
- **100% Coverage** – Can send secure email to anyone with an email address

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MICRO

Trend Micro Email Encryption

- Trend Micro™ Email Encryption efficiently secures email sent to anyone with an email address. It enables organizations to deliver information securely and helps comply with regulations.

- Trend Micro's Private Post™ technology, developed by cryptographers at the University of Bristol, uses identity-based encryption (IBE) to address the limitations of earlier Public Key Infrastructure (PKI) technology, eliminating burdensome pre-registration and certificate management and reducing deployment costs.

- Trend Micro™ Email Encryption Client is a software plug-in for popular email clients that deploys without modifying existing business processes, and integrates seamlessly with the existing email infrastructure pushing encrypted content just like any other email.

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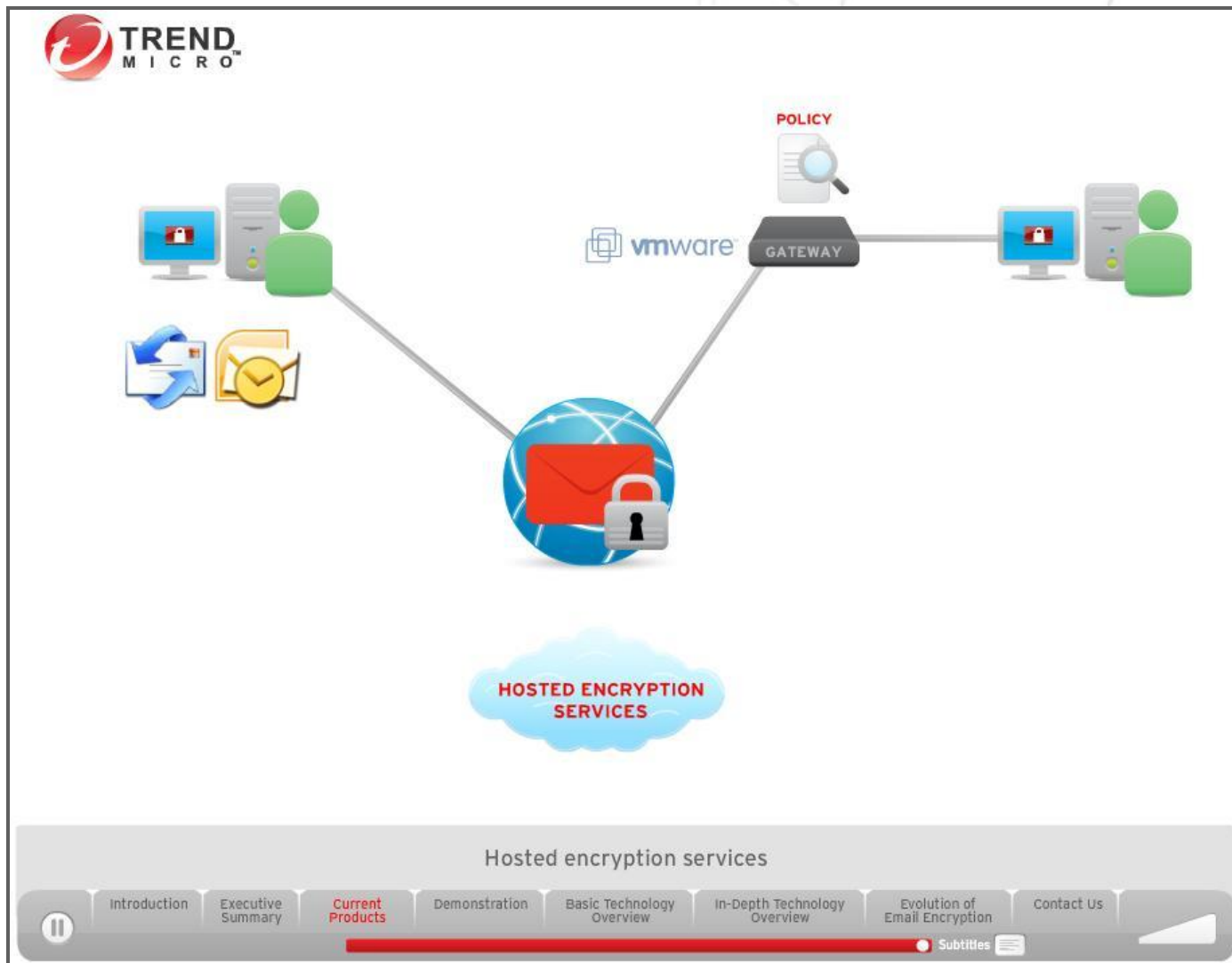
Trend Micro Email Encryption

Trend Micro | Securing Your Web World

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