

# Establishing End to End Trust

Creating a more trustworthy Internet

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# The Internet Revolution

## Beneficial change

- Social: Enabling a global village
- Economic: Easier, faster, cheaper commerce
- Political: Freer exchange of ideas

## Undesirable change

- Loss of data subject control over information
- Rise in identity theft
- Targeted attacks against businesses & governments
- Increases in other types of online and tech-facilitated crimes

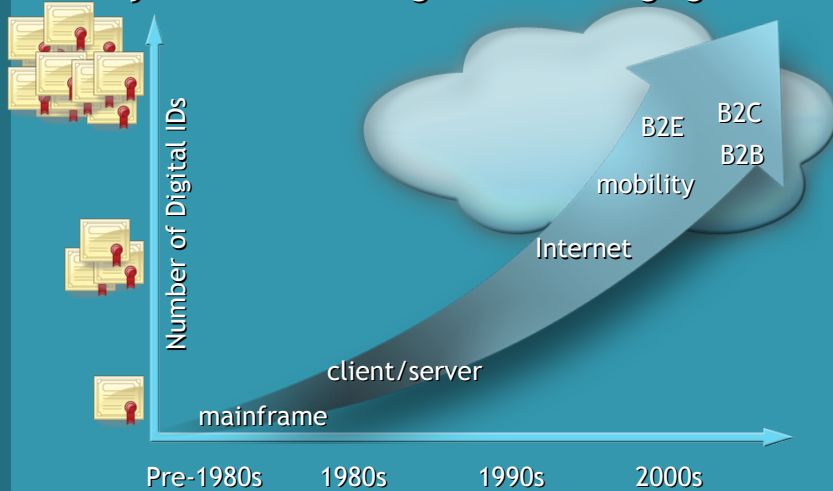
## Now required: End to End Trust

- Users must be empowered to make informed trust decisions (including accepting the risks of anonymity)
- Strong identity claims and reputation must be available to enhance security, privacy, and trust
- Better accountability must be created to deter crime and facilitate responses

# Threat Trends

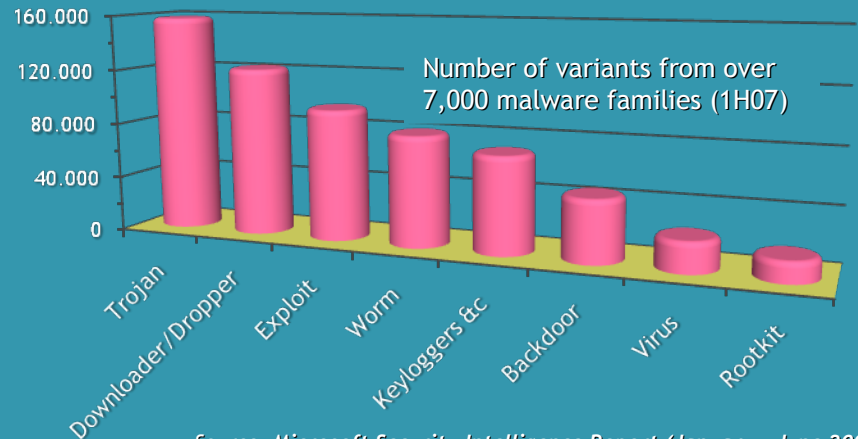
## Exponential Growth of IDs

*Identity and access management challenging*



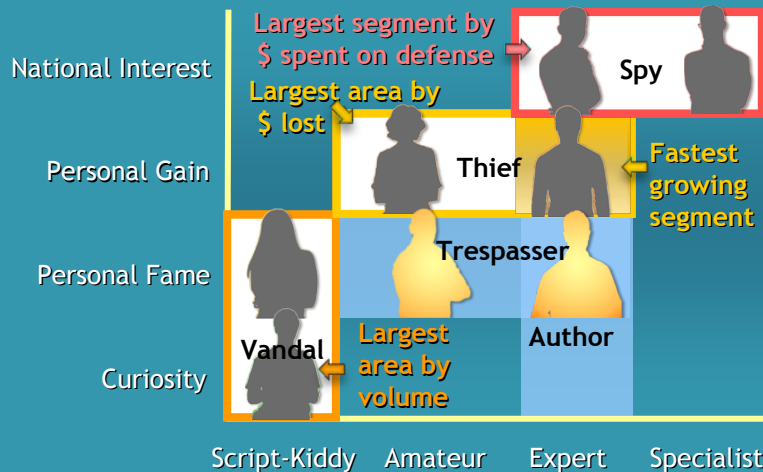
## Increasingly Sophisticated Malware

*Anti-malware alone is not sufficient*



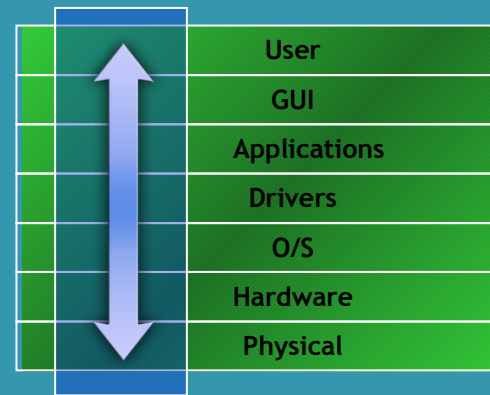
Source: Microsoft Security Intelligence Report (January - June 2007)

## Crime On The Rise



## Attacks Getting More Sophisticated

*Traditional defenses are inadequate*



Examples

- Spyware
- Rootkits
- Application attacks
- Phishing/Social engineering

# Microsoft's Commitment to TwC

## Trustworthy Computing

### Security

- Secure against attacks
- Protects confidentiality, integrity & availability of data & systems
- Manageable

### Privacy

- Protects from unwanted communication
- Controls for informational privacy
- Products, online services adhere to fair information principles

### Reliability

- Dependable, Available
- Predictable, consistent responsive service
- Maintainable
- Resilient, works despite changes
- Recoverable, easily restored
- Proven, ready

### Business Practices

- Commitment to customer-centric Interoperability
- Recognized industry leader, world-class partner
- Open, transparent

- Launched in January 2002
- A Microsoft company-wide mandate

# Security And Privacy Progress



## SDL and SD3

- Security Development Lifecycle process
  - Engineered for security
  - Design threat modeling
- SD3:
  - Secure by Design
  - Secure by Default
  - Secure In Deployment
- Automated patching and update services



## Defense in Depth

- Malware Example
  - Consumer Education
  - Laws
  - Firewalls
  - Antivirus Products
  - Antispyware Products
  - Malicious Software Removal Tool
  - Memory Management (ASLR)
  - Law Enforcement



## Threat Mitigation

- Microsoft Security Response Center (MSRC)
- Microsoft Malware Protection Center (MMPC)
- Windows Live OneCare and Forefront Client Security, powered by the Microsoft Malware Protection Center
- SPAM (Sender ID, Phishing Filters)
- Network Access Protection (NAP/NAC)

# Building a Trusted Stack

Core Security Components

Identity Claims  
Authentication  
Authorization  
Access Control Mechanisms  
Audit

“I+4A”

Trusted Stack

Trusted Data

Trusted People

Trusted Software

Trusted Hardware

Secure Foundation

Integrated Protection

*SDL and SD3*

*Defense in Depth*

*Threat Mitigation*

# Benefits

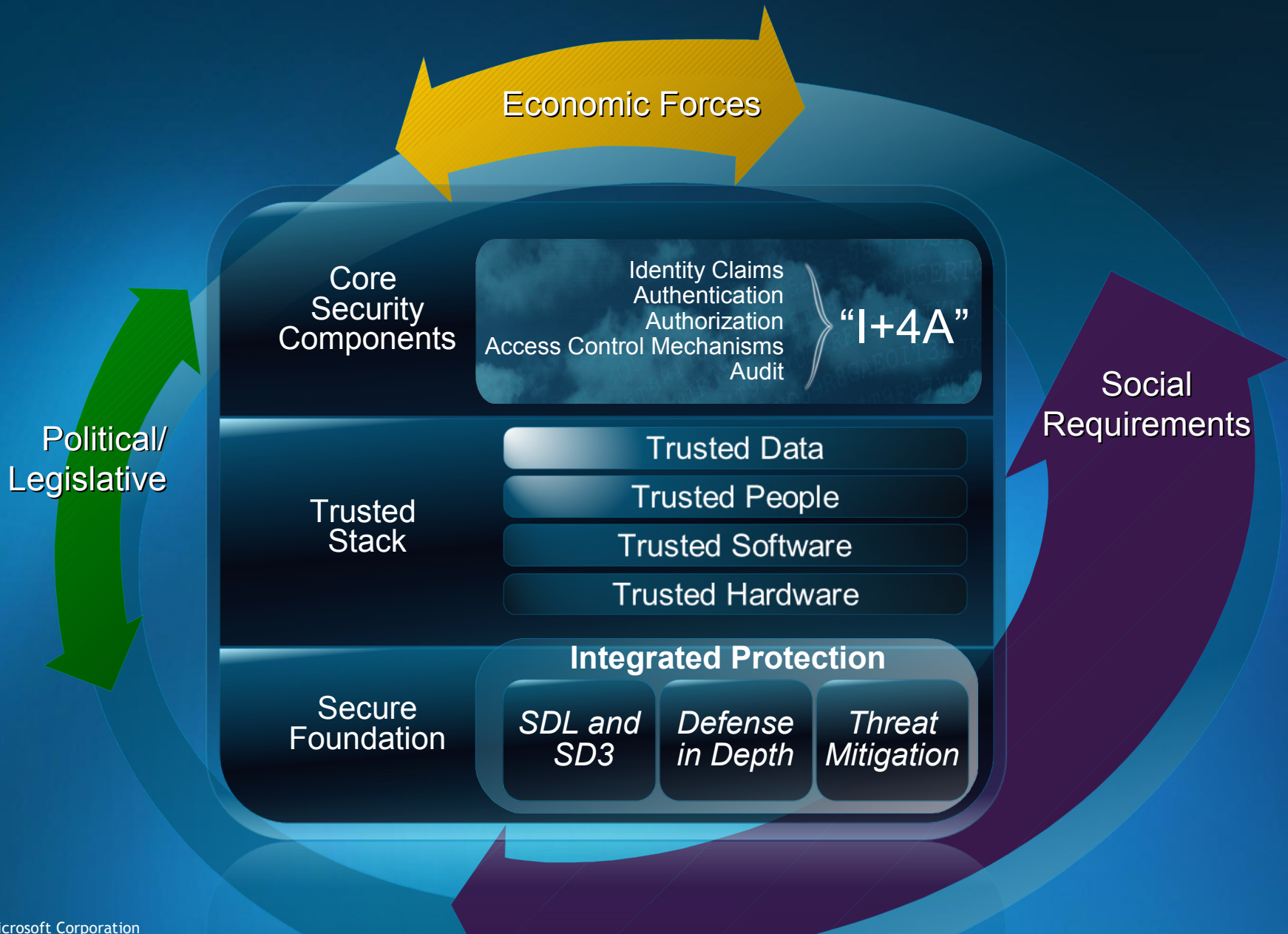
- Reduce types and severity of threats (e.g., de-value PII and reduce ID Theft)
- Create accountability for online crime
- Enable greater, safer personal Internet usage
- Enter new markets, expand Internet presence, and collaborate with partners and customers while reducing costs and risks
- Improve public safety and national security efforts, including disaster response (e.g., priority routing)

# Building Alignment

- Successful end-to-end trust needs solutions aligned with
  - Societal values
  - Market forces
  - Regulatory environment
- These ideas, raised by many before, have not been implemented, in part because of misalignment
- We must come together to change the status quo, and find ways to address international barriers to implementation



# End To End Trust



# Next Steps

[www.microsoft.com/endtoendtrust](http://www.microsoft.com/endtoendtrust)

We need a broad dialogue on

- Technology Innovations
- Economic Forces
- Political Standards
- Social Change

Microsoft  
Security

## End to End Trust

### Creating a More Trusted Internet

By Scott Charney, Senior VP Trustworthy Computing

It is not an overstatement to say that the Internet has transformed the way we live. Social networking represents the new town square; blogging has turned citizens into journalists; and e-commerce sites have spurred global competition in the marketplace. But with people of all ages flocking online, and with the proliferation of high-profile, targeted attacks on individual or organizational information, assets and identities, more and more people consider the lack of security and privacy on the Internet to be at an unacceptable level.

**End to End Quick Poll**

Do you think that security and privacy on the Internet are good enough?

Yes  
 No

Do you think there is a potential solution to curb cybercrime in the next 10-20 years?

Yes  
 No

Is it possible to increase security on the Internet without undermining social values, such as anonymity and privacy?

Yes  
 No

**Join the Discussion:**

- Join the dialogue. Go to Microsoft's End to End Trust forum, and let your voice be heard.
- Read Scott's brief Statement of Purpose
- Read the whitepaper

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