

# DRM: Clear and Present Danger

Hironobu SUZUKI  
Free Software Initiative of Japan

*That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature, when she made them, like fire, expansible over all space, without lessening their density at any point, and like the air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation.*

*Thomas Jefferson (1743 - 1826)  
the third President of the United States*

# Copyright and Patent

- The Copyright and Patent Clause (1790)
  - Thomas Jefferson
- Pro-patent Policy (1980s)
  - Intelligent property
    - Kilby's patent #275 targeted Japanese industry
- The Digital Millennium Copyright Act (1998)
  - Background of DRM
  - Japan Copyright Act Sec 120 2-1 (H11)
    - Japanese version of DMCA Sec 103

# DMCA

- Title I: WIPO Copyright and Performances and Phonograms Treaties Implementation Act
- Title II: Online Copyright Infringement Liability Limitation Act
- Title III: Computer Maintenance Competition Assurance Act
- Title IV: Miscellaneous Provisions
- Title V: Vessel Hull Design Protection Act

# Sec 103

- SEC. 103. COPYRIGHT PROTECTION SYSTEMS AND COPYRIGHT MANAGEMENT INFORMATION.
  - `1201. Circumvention of copyright protection systems.
  - `1202. Integrity of copyright management information.

*Japan Copyright Act Sec 120 2-1 (H11)*

# That ideas should freely spread from one to another

- If you modify a program and/or a data file that is protected by DRM thing, you have some risk of arrest or lawsuit
- That ideas couldn't freely spread from one to another... if it is DRM thing

A true story in 2001... *see next slide*

# USENIX Security Conference 2001

- the "SDMI Public Challenge" in September 2000
- Felten's paper
  - *Reading Between the Lines: Lessons from the SDMI Challenge*. Scott A. Craver, Min Wu, Bede Liu, Adam Stubblefield, Ben Swartzlander, Dan W. Wallach, Drew Dean, and Edward W. Felten. Proc. of 10th USENIX Security Symposium, August 2001.
- RIAA and SDMI
  - the Recording Industry Association of America (RIAA) and the Secure Digital Music Initiative (SDMI) Foundation

10<sup>TH</sup> USENIX  
SECURITY SYMPOSIUM

August 13-17, 2001 • Washington, D.C.

**Salons II/III/IV**  
Wednesday, August 15, 2001

- 8:45 am-10:30 am**      **Opening Remarks, Awards, and Keynote**  
*Keynote Address: Web-Enabled Gadgets: Can We Trust Them?*  
*Richard M. Smith, CTO of the Privacy Foundation*
- 6:00 pm-6:30 pm**      **Reading Between the Lines:  
Lessons from the SDMI Challenge**  
*Scott A. Craver, Min Wu, and Bode Liu, Princeton University;*  
*Adam Stubblefield, Ben Swartzlander, and Dan S. Wallach,*  
*Rice University; Drew Dean; and Edward W. Felten, Princeton*  
*University*
- 6:30 pm-7:30 pm**      **Panel Discussion on SDMI/DMCA**  
*Moderator: Dan Wallach, Rice University*  
*Panelists: Edward W. Felten, Princeton University;*  
*Cindy Cohn, EFF; and Peter Jaszi, American University*





# Digital Restriction Management

- A perspective of Digital Data Control
  - Music / DVD
    - Apple, Sony, etc.
      - As seen on TV?
  - **Trusted Computing**
    - **An executable file is a digital data**
      - **NOT ONLY INSTALLATION BUT ALSO EXECUTION**
    - **Program runs with restricted digital data files**

# Disputed Issues about TC

- Users can't change software
- Users don't control information they receive
- Users don't control their data
- Loss of Internet anonymity

**GPLv2 has never been mentioning about data files that are generated by programs**

# If it would be sophisticated

- Beyond privilege approach
  - Remote attestation
    - You can't control your own computer
- Beyond application packages
  - Key technologies are ready in kernel
    - MAC capability, File system with ACL, Cryptographic kernel modules, etc.
- Kerckhoffs' principle #2
  - With GPLv2 licensed programs
    - It must not be required to be secret, and it must be able to fall into the hands of the enemy without inconvenience

# DRM = TECH + LAW

- Digital **Rights** Management?
  - Whose rights?
- Restriction?
  - Potentially, it takes your rights over under your system without your agreement

# Digital Gianism

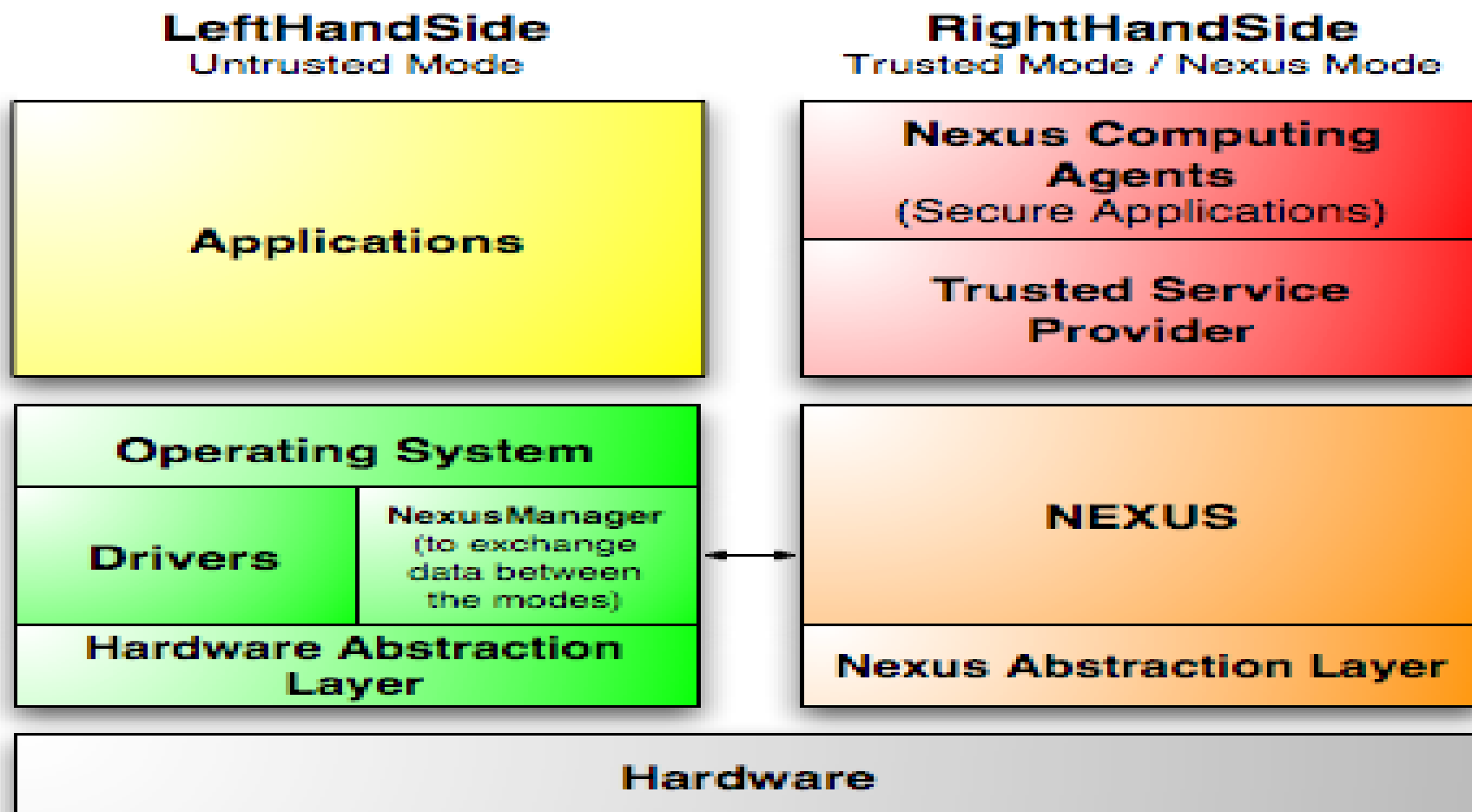
- SONY BMG's Rootkit
  - aka. XCP, Digital Rights Management System
  - Computers have been infected by SONY BMG Rootkit
    - It is estimated by Internet expert Dan Kaminsky that XCP is in use on more than 500,000 networks.

*Your stuffs are my stuffs but my stuffs are only my stuffs*

Takeshi “GIAN” GOHDA

# TC has a real name

- NGSCB – Next-Generation Security Computing Based



# Conclusions

- The Copyright Law has been expanded and abused so far
  - Against Thomas Jefferson's concepts
- DMCA is so bad and DRM is an evil concept
  - DMCA sneaks your back
  - DRM leads Digital Gianism
- Any digital files on your computer can't be controlled by your intention
  - It could be done with GPLv2 licensed software



*When the Nazis came for the communists,  
I remained silent;  
I was not a communist.*

*When they locked up the social democrats,  
I remained silent;  
I was not a social democrat.*

*When they came for the trade unionists,  
I did not speak out;  
I was not a trade unionist.*

*When they came for me,  
there was no one left to speak out.*

Martin Niemöller (1892-1984)