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sense **and** simplicity

Patents Licensing and Elliptic Curve Cryptography

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Outline

- Inventions from the past
- US patent rules
- The RSA patent
- ECC patents
- Practical Licensing

Greek Fire



Greek Fire

- Invented around 670 Common Era
- Flammable liquid
 - Burned on top of water
 - Water makes it burn more
- Decisive in naval warfare in the first and second century
 - Critical in the battle for Constantinople
- Presumed to be some mixture of naphtha, quicklime, sulfur and niter
- Nobody knows how to make this mixture

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Damascus Steel



Damascus Steel

- Ultra strong/sharp swords
- Mythological reputation
 - Cut a silk scarf
 - Cut other swords
 - Cut rocks
- Process of manufacture is unknown
- It is possible to create similar swords today
 - Japanese samurai swords
 - Modern specialists

US Patent Law

- Part of US constitution
- Patent Act passed in 1790
 - Initiated by Thomas Jefferson a notable inventor
- Any Process, Machine, Manufacture or Composition
 - Anything under the sun created by man
- Tradeoff
 - Must completely reveal your idea
 - Monopoly for 20 years from the date of filing at the US PTO
- Worldwide under the Paris Convention

The RSA patent

- RSA – invented by Rivest, Shamir, Adelman
 - Earlier by Clifford Cocks, but he kept it secret
- Paper published in August 1977
- Patented in 1983 U.S. Patent 4,405,829
- Merged into a patent “pool”
 - U.S. Patent 4,200,770; Hellman, Diffie, Merkle
- Most large institutions in the US take a license making the RSA Inc. wealthy and promoting public key cryptography worldwide
 - RSA contests
 - Padding methods
 - Hardware platforms

Elliptic Curve Cryptography

- Many patent held by Certicom – various inventors
- Certicom is a successful enterprise, recently acquired by Research in Motion
- License to patents purchased by the US National Security Agency
- Promotion and development of Elliptic Curve Cryptography worldwide
- Licensing available

Patent Fears

- Patent owner will not want to license
- Patent owner will not be reasonable

Practical Licensing

- Patent licensing grows the market and leads to revenue
 - Patent owners will want to license patent
- Patent litigation takes about 3 years and about 3 - 5 million dollars for each side
 - More if you are the larger player
 - Can be appealed and last even longer
 - Patents can be invalidated
- The litigation often ends with an all or nothing result
- Enormous reason to settle dispute or to license technology
 - “fight to the death” is not a good financial choice
- Get your own patents

Conclusion

- Patents are the current legal tradeoff of ideas for a limited monopoly
- Licensing is usually possible and reasonable
- Greek Fire – Byzantine Empire

