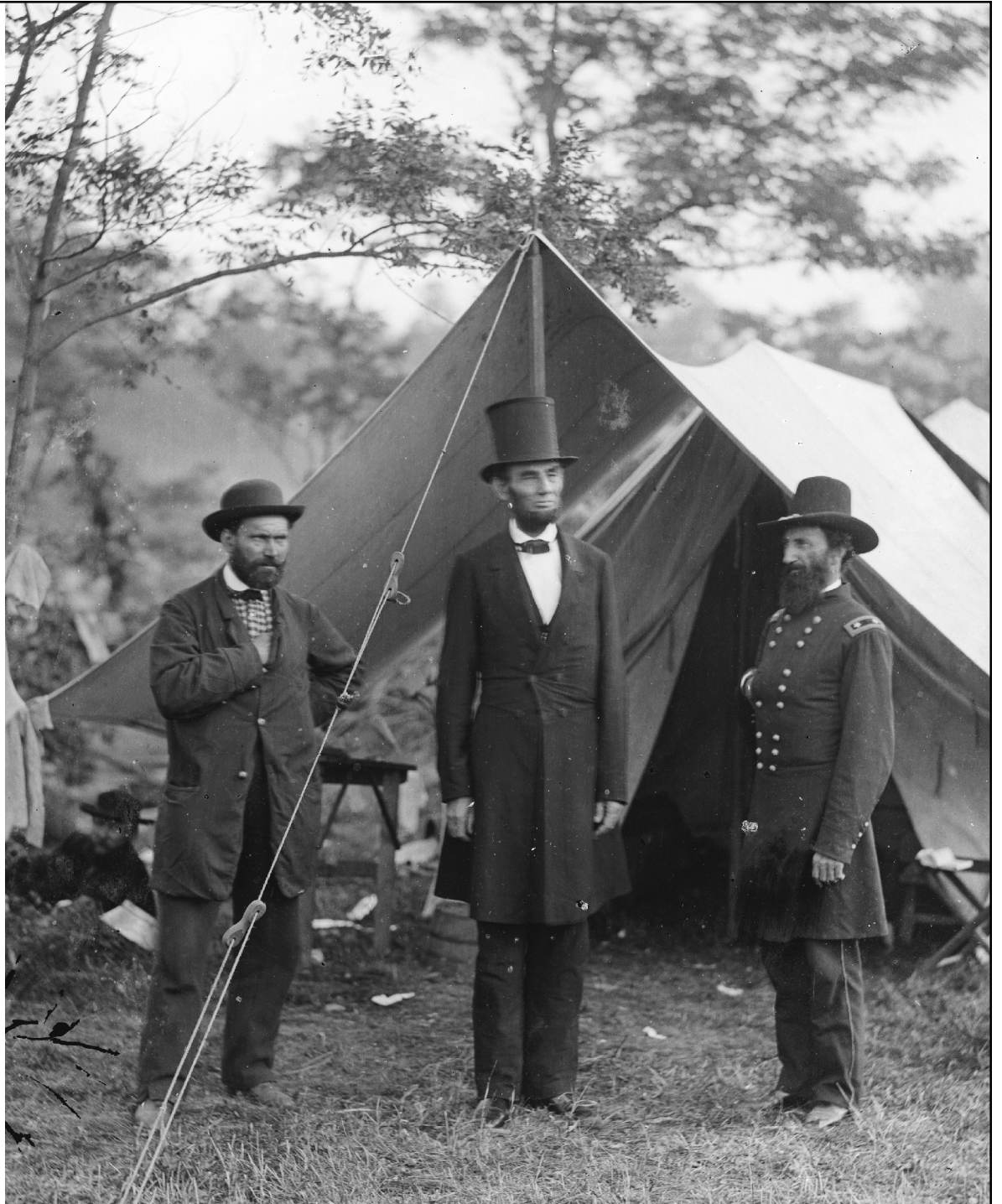


# Black Hat

Rod Beckstrom  
Director



**NCSC**

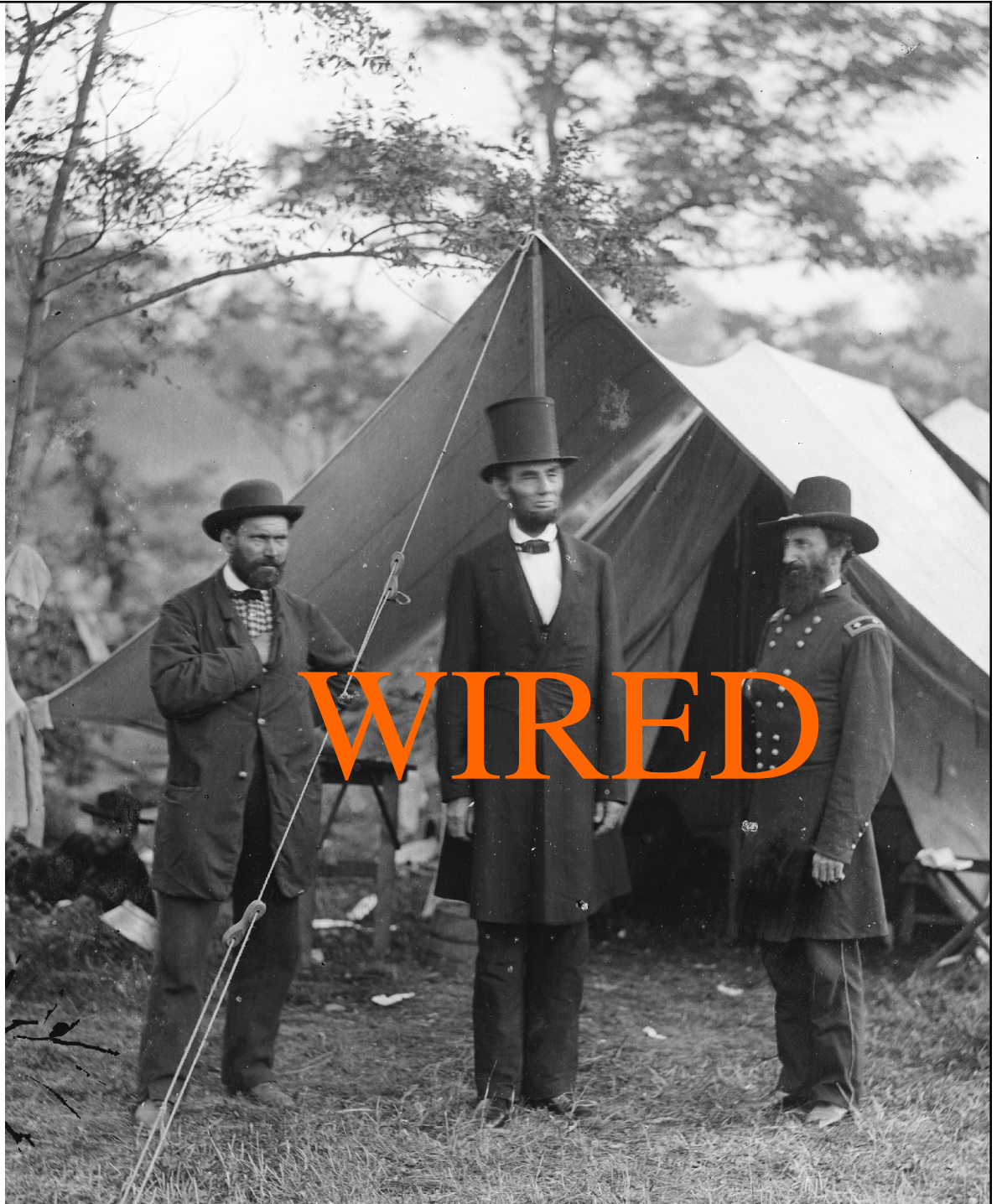


# Black Hat

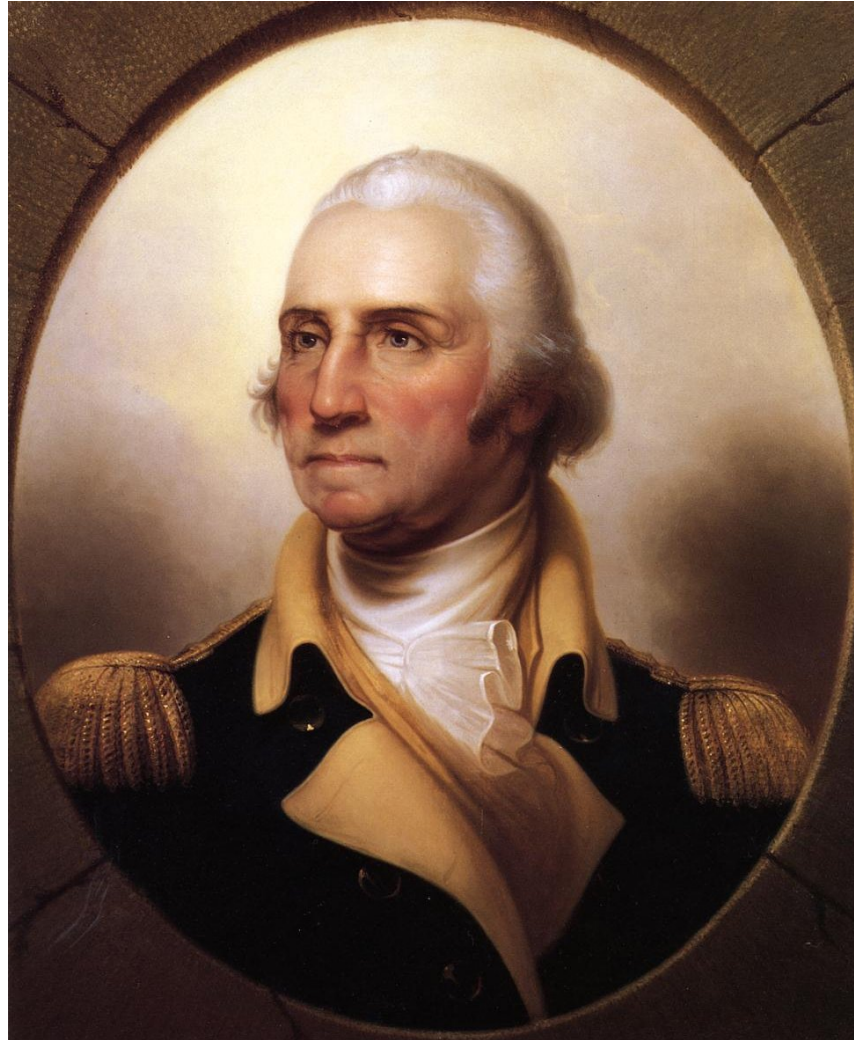
Rod Beckstrom  
Director



# NCSC







NCSC

# *Insider threats and hackers...*



NCSC

*Who reengineered  
the system?*



NCSC

*A great challenge today*

*Let's work together to  
Create something new*

*Where do we want to go  
with this system?*

*What is the  
end state we seek?*

*Slight problem...*

*We don't know the rules*



*Physics of networking?*  
*Economics of networks?*  
*Economics of security?*  
*Risk management?*

# Economics of Security

# Economics of Security

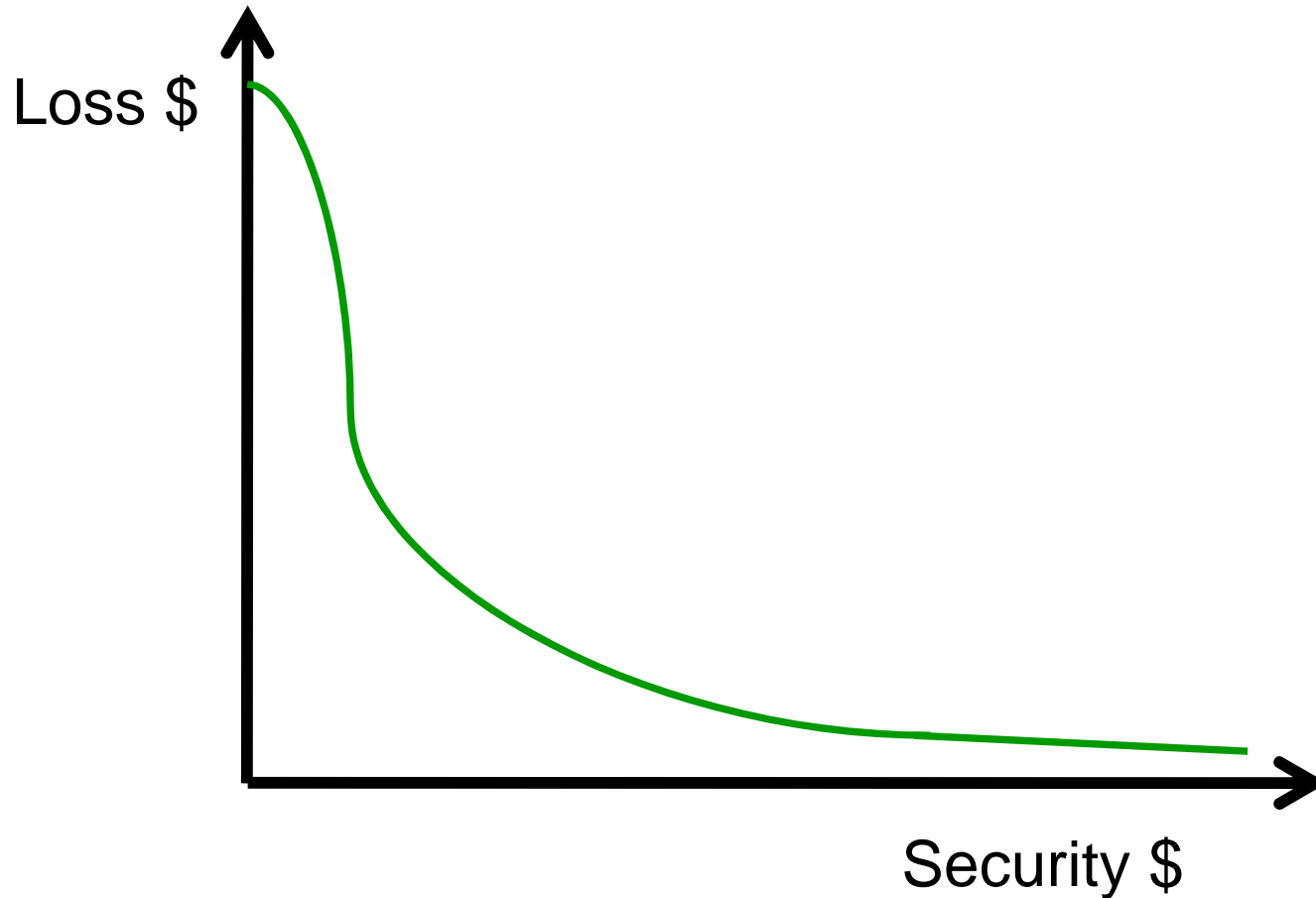
MINIMIZE  $C = S + L$

where  $C =$  total cost

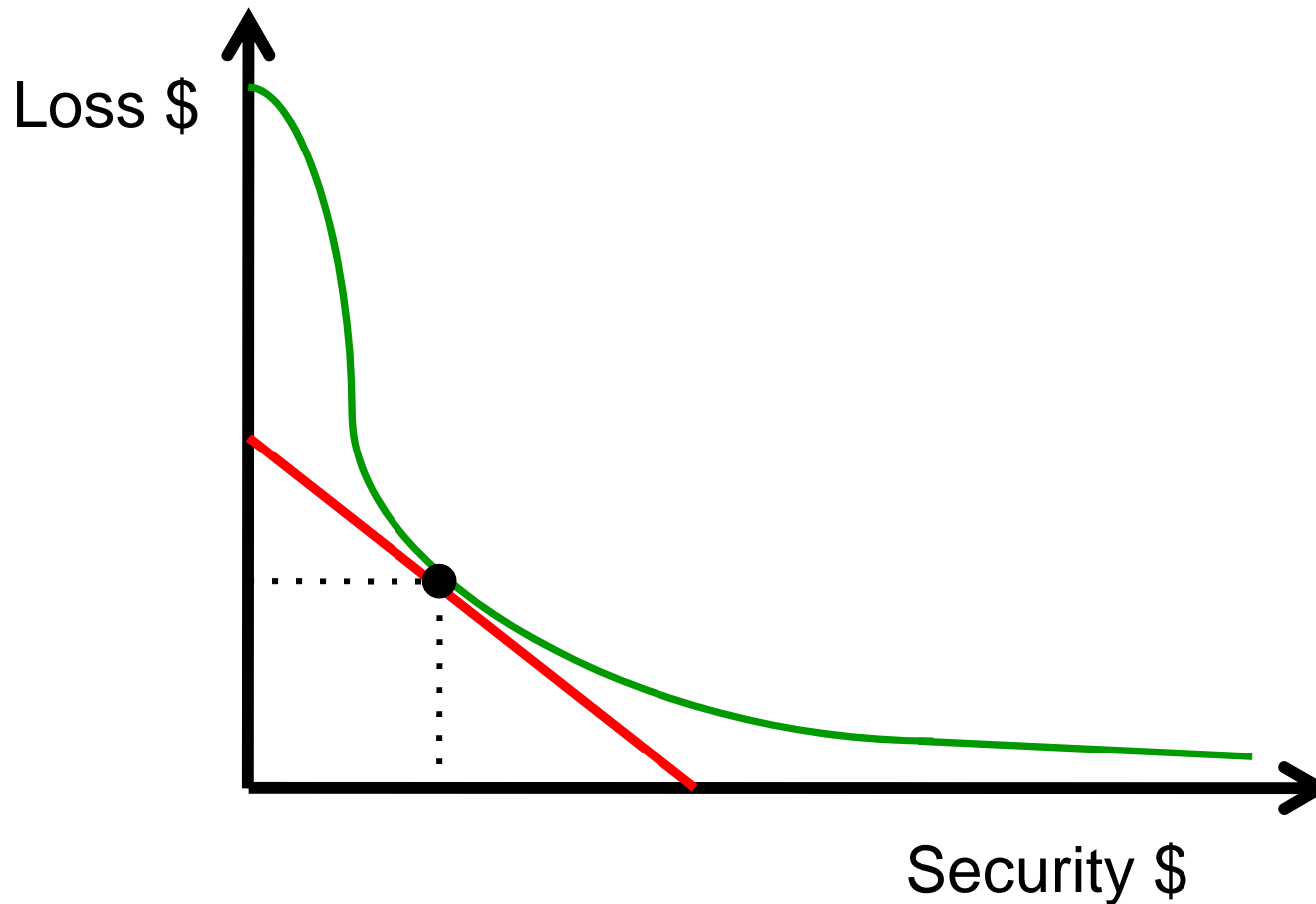
$S =$  cost of security

$L =$  expected cost of loss

# Economics of Security



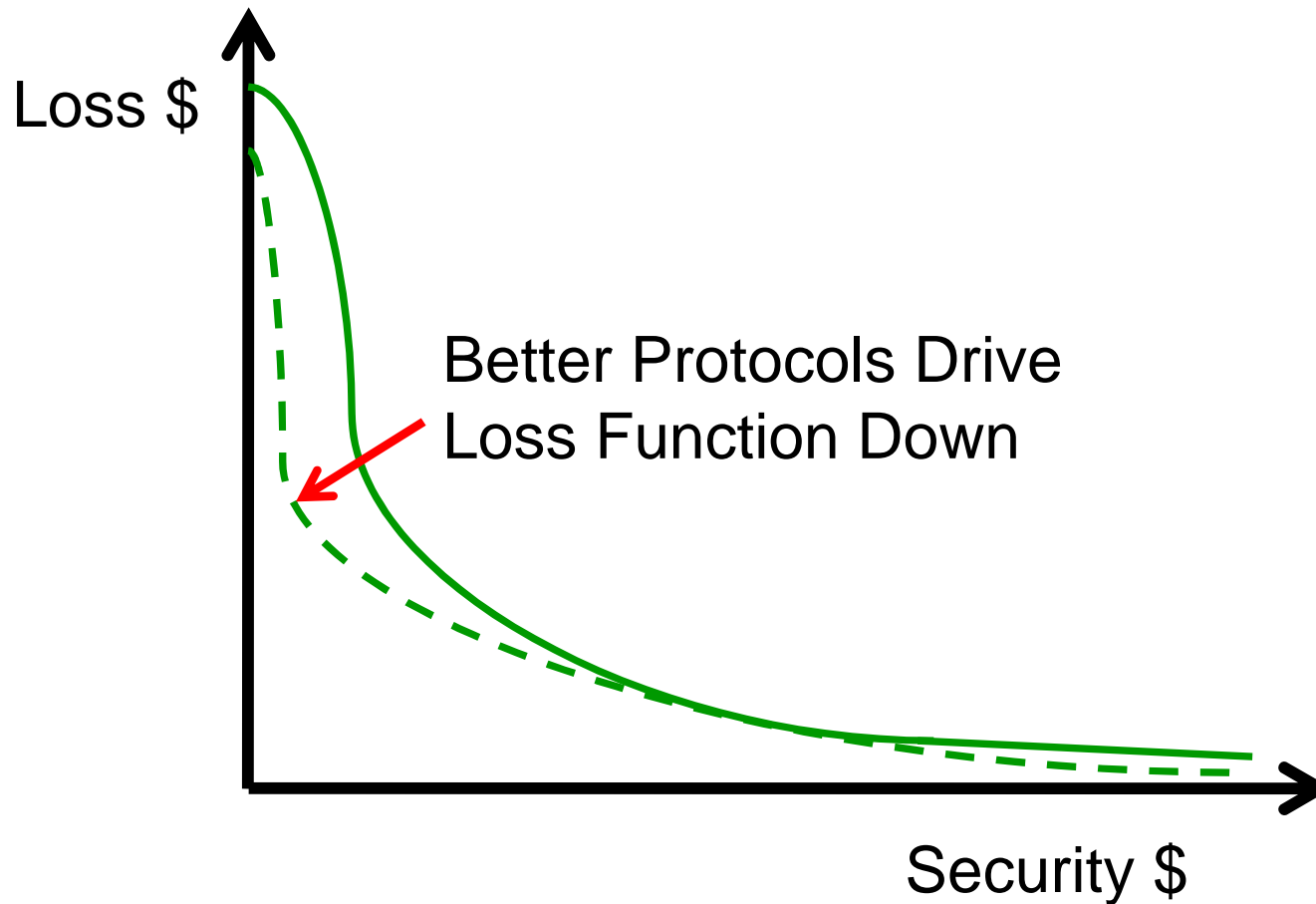
# Economics of Security



# Economics of Protocols

*IPV6, BGP, DNS, SMS/IP,  
POTS ...*

# Economics of Protocols



# Economics of Privacy

*Privacy/Security/Convenience*

# New Cyber Frontiers

*Cyber democracy*

*Cyber governance*

*Cyber quarantines*

*Cyber justice*

*Cyber diplomacy*

# The Prisoners Dilemma





# The Prisoners Dilemma

		Player B	
		Cooperate	Defect
Player A	Cooperate	W/W	L/W
	Defect	W/L	L/L

# The Prisoners Dilemma

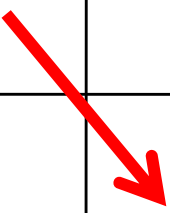
Player B

		Player B	
		Cooperate	Defect
Player A	Cooperate	W/W 	L/W
	Defect	 W/L	L/L

# The Prisoners Dilemma

Player B

		Player B	
		Cooperate	Defect
Player A	Cooperate	W/W	L/W
	Defect	W/L	L/L



# Iterated Prisoners Dilemma

Player B

		Player B	
		Cooperate	Defect
Player A	Cooperate	W/W	L/W
	Defect	W/L	L/L

**200 X**

# Iterated Prisoners Dilemma

Player B

		Player B	
		Cooperate	Defect
Player A	Cooperate	W/W	L/W
	Defect	W/L	L/L

***200 X***

# Iterated Prisoners Dilemma

		Player B	
		Cooperate	Defect
Player A	Cooperate	W/W	L/W
	Defect	W/L	L/L

***200 X***

*E Pluribus Unum*

# Summary

*Constitutional code*

*New cyber rules*

*New economics*

*New protocols*

*Develop cyber diplomacy...*

*Global collaboration...*



*Where do we wish to plant our flag in cyberspace?*