



Computer Science Meets Foreign Policy

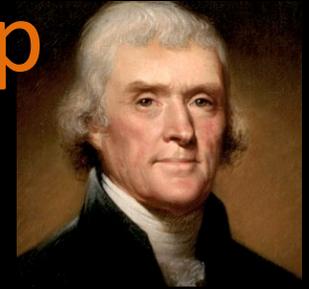


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Jefferson Science Fellowship

National Academies



- Science and engineering advisors for the State Dept and USAID
 - 1-yr fellowships for tenured professors
 - Requires a security clearance
 - ~13 fellows per year; this year, only USAID (7)
- Salary/benefits paid by home university
 - Variety of arrangements
 - Living allowance (per diem), small travel budget
- My cohort
 - 3 CS, 1 chemist, 2 earth science, 1 physicist, 1 botanist, 2 engineers, 2 MDs, 1 veterinarian

sites.nationalacademies.org/pga/jefferson

The Process

- Applications and institutional MOU due Oct. 31
 - Essay and briefing memo
 - Letters of recommendation
- Interviews and decision in December
 - Ability to communicate succinctly and politely
 - Can you explain your ideas to non-scientists?
- Placement week in February
- Term: August to August
- Security clearances are an issue

Why me?

- 2 years overdue for sabbatical
 - Didn't want to start a company or visit a university
- Obligation to participate
 - CS issues colliding with society and policy
 - Technical expertise in DC dominated by military and intelligence mind set
- The research case
 - Modeling large-scale cybersecurity interventions

My year at State

2013-2014



- Communication and Information Policy office
 - Multi-lateral fora: ITU, ICANN, OECD, etc.
 - Internet governance
 - Bilateral meetings with other countries
 - CFIUS processes, satellites
- Coordinator for cyber Issues (S/CCI)
 - Confidence building measures for cyberspace

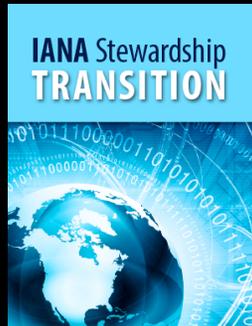
Issues of the Day



- Who should control the Internet?
 - IANA transition
 - US strategy for intl. negotiations (ITU, OECD, etc.)
- Privacy and surveillance
 - Data localization
 - The Podesta Report
- Cyberwarfare and economic espionage
 - Zero-day exploits
 - Norms in cyberspace, attribution
- Spam and the global south

Internet Assigned Numbers Authority

Transitioning the IANA Functions



3/14/2014 "U.S. to cede its oversight of addresses on Internet" *NY Times*

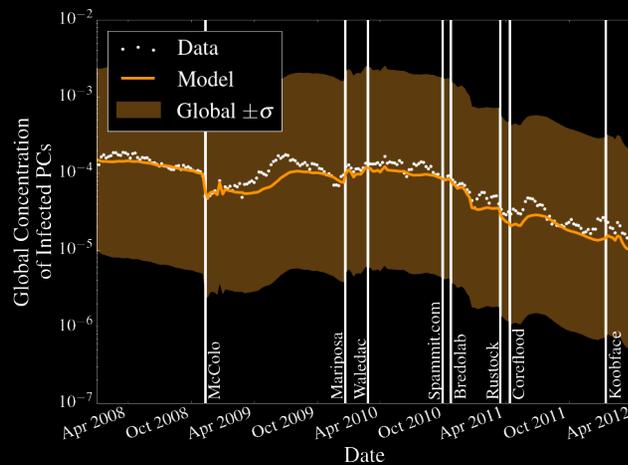
4/2/2014: U.S. House Hearing on Internet Stability and IANA

5/23/2014: DOTCOM ACT passed by House

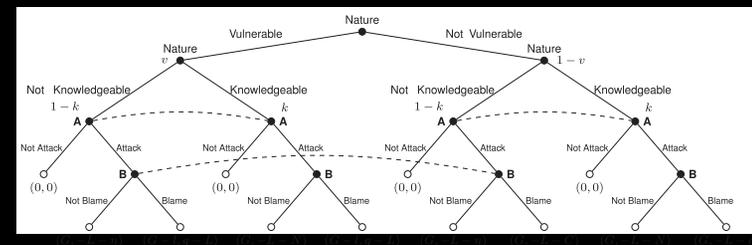
- U.S. asked ICANN to convene global stakeholders to develop a consensus-based proposal for transition
 - 6 months of preparation leading up to the announcement
- Interagency task force to establish criteria for successful proposal
 - Support and enhance multistakeholder model
 - Maintain security, stability, resiliency of DNS
 - Meet needs of global customers/partners of IANA
 - Maintain the openness of the Internet
 - Accountability

Research Outcomes

- Spam and botnet takedowns (*ACSAC, 2015*)
- Attribution of cyber attacks (*PNAS, 2017*)
- Data breaches (*WEIS, 2015*)
- Censorship and Internet architecture



The Blame Game



B is confident and $G > l$	A is not worried and B is not confident	B is confident and $G > l$	A is not worried and B is not confident
B is confident and $G < l$	A is worried and B not confident		A is worried and B is not confident
$N > c$	$N < c$	B is confident	B is not confident

Attack, Blame	Attack, No Blame	No Attack
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Reflections

- DC is very different from NM
 - Having a cohort helped, visiting NSF helped
 - State ‘is not a technical agency’
 - Workflow is different; no version control
- Being on the front lines is exciting
- Continuity is important: Forrest, Martinosi, Suba



“It has been said that democracy is the worst form of government except all the others that have been tried.”

Winston Churchill



Observations

- Science advisor not policy maker
 - CIP respected my expertise and time
 - State 'is not a technical agency'
- Orientation programs: AAAS, JSF, FSI
- The people
 - think differently, dedicated to public service
- The Interagency
- Stream-based workflow
 - No version control
- The IT situation
- High turnover---many iterated games