IT policy under Clinton–Gore

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Why was IT a priority?

- Large and growing share of GDP
technology as engine of growth
- Increased productivity of IT–using industries
- Dramatic improvements in price:performance and functionality
- Social benefits
- Personal interest of VP Gore
Overall goals

- Maintain America’s leadership position
- Ensure that more Americans participate in Information Age, avoid “digital divide”
- Maximize contribution of IT to other national goals (e.g. learning, health)
- Manage risks and potential downsides (e.g. erosion of privacy)

Some of key policy documents

- NII Agenda for Action (1993)
- GII Agenda for Cooperation (1994)
- NII Advisory Council (1996)
- E-Commerce report (1997)
- PITAC report (1998)
- Okinawa Charter on global information society (2000)
1. R&D policy

- 1993–1995: HPCC begins to expand to include NII–related topics
- 1996: Clinton and Gore unveil Next Generation Internet initiative
- 2000: Nanotechnology

1. R&D policy (cont’d)

- Long-term IT research (software, high–end computing, networking, HCI & IM, high–confidence systems)
- IT infrastructure for science and engineering (terascale computing)
- Ethical, legal, and social implications of Information Revolution, IT workforce
1. R&D policy (cont’d)
- Trillion-node network, pervasive computing
- Computers capable of quadrillion calculations/second
- Bio–info–micro
- More dependable, reliable software
- Information discovery in an exabyte world

2. Telecom policy
- Allocate spectrum for new wireless services
- Telecom Act of 1996
  - Require ILECs to open up local network (co-location, unbundling)
  - Allow ILECs into long distance once they open up local market
  - Competition: lower prices, more choice, faster deployment of broadband
2. Telecom policy – outcomes

- CLECs have 16 million access lines (8 percent of market) up from < 1 percent of market in 1996
- CLECs have invested $56 billion in new voice and data networks since 1997, but shakeout occurring
- ILEC investment up 50 percent since 1996
- Broadband available in 70% of nation’s zip codes but still taking too long

3. E-commerce policy

- Principles:
  - Private sector should lead
  - Government should avoid undue restrictions
  - When intervention is needed, aim should be to create predictable legal environment
  - Gov’t should recognize unique qualities of Internet
  - E-commerce should be facilitated on a global basis
3. E-commerce policy (cont’d)

Accomplishments

- Buy-in from major trading partners on framework
- Internet Tax Freedom Act
- Duty-free zone in cyberspace
- Digital signature legislation
- DNS privatization
- Promotion of ADR

4. Educational technology

4 goals of ed tech initiative

- Connect every classroom to Internet
- Increase access to modern, multimedia computers
- Provide professional development for teachers to use technology effectively
- Encourage development of high-quality content and educational software
4. Educational technology (cont’d)

Potential payoffs

- Strengthen school–home connection
- Make teaching a less isolated profession
- Give students access to resources they wouldn’t have otherwise
- Allow students to engage in “learning by doing” (e.g. simulation)
- Technological and information literacy

Accomplishments

- Total federal spending on ed tech increased from $23 million to $3 billion
- Classroom connectivity increased from 3 percent in 1994 to 63 percent in 1999
- Launched initiative to train all new teachers to use technology effectively
5. Digital divide – premises

- Access to IT and skills important to full participation in America’s economic, social and political life
- IT could either help bring Americans together or further polarize our society along income, education, race, geography, disability
- Access to Internet should be as universal as the telephone

5. Digital divide – accomplishments

- Created national network of community technology centers
- Increased support for innovative applications of IT for low-income communities (TOP program)
- Made IT more accessible for people with disabilities (e.g. WAI, SALT)
- Served as catalyst for private sector efforts
- Expanded support for broadband connectivity in rural communities
6. E–government

- Make government information available, at cost of dissemination
- Move towards transactions as well
- Organize information around users, not org chart of federal government
- Creation of FirstGov portal
- Linkages with research community

7. Other IT applications

- E–democracy
- E–learning
- Digital libraries
- E–health
- Intelligent transportation
- Geospatial information
- Environmental monitoring
- Community networking
- Crisis management
- Telecommuting
- Law enforcement and public safety
8. Privacy

- Medical records
- Financial records
- Children’s privacy
- Identity theft
- Encouragement of self-regulation for general Internet privacy
- Privacy coordinator at OMB

9. Cybersecurity

- President Clinton signs PDD–63
- Increased R&D on critical infrastructure protection
- Encouraged information-sharing within and between industry sectors
- Cyber-scholarships
- Improve security of federal systems
- Strengthen market forces (audit, insurance, legal)
If I were the Tech Czar ...

- Make IT part of the solution to sustainable development, not the problem
  - Real-time pricing of electricity
  - Low-power (More MIPS/watt)
- Double IT research over next 5 years
  - Long-term, high-risk research
  - More partnerships between research & mission-oriented agencies
  - Ethical, legal, social implications

If I were the Tech Czar ..

- Give every agency the following responsibility:
  - Train management about technology trends, implications for their mission
  - Publish all new information on the Web (directly produced or supported)
  - Create national conversation around one or more IT applications move towards recommended strategy/agenda
If I were the Tech Czar ...

- Promote expansion of the public domain
  - Minow/Grossman proposal create Trust Fund with spectrum revenues
  - IP “conservancies”
  - Efforts of organizations (e.g. MIT) and fields (physics e-print archive)
  - Out of print but not out of copyright
  - From “hot lists” to “wish lists”

If I were the Tech Czar ...

- Increase funding for learning research
  - Currently 0.1 percent of education expenditures
  - How do we learn?
  - Improve state-of-the-art of educational technology
  - Large scale trials with control groups before “reforms” are implemented
If I were the Tech Czar ...

- Focus “digital divide” efforts on specific outcomes such as:
  - Increase adult literacy by giving everyone access to a “reading tutor”
  - Lower unemployment rate among people with disabilities with accessible IT
  - Use public health information systems to raise childhood immunization rates