

ICT: THE 21ST CENTURY TRANSITIONAL INITIATIVE

<p>Initiative One: ESTABLISH PRESIDENTIAL LEADERSHIP ON ICT</p>
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Mission: “The mission of the Initiative includes three main interdependent goals. Because one of the goals is to digitize government service delivery in as many instances as possible, doing so would leverage ICT to improve the performance of government services and to further the reach of existing efforts to address major societal challenges like health care, housing, and education. The second goal is to add or enhance an ICT layer in the internal workings of every government agency that would make it a priority to use ICT in places that have relied on paper technology in the past. This layer would help to ensure that the digitization of government services is performed in an optimal way that is accessible by all. The third goal is to connect to the broadband network the last 20-30% of the population who are currently not connected due to availability or willingness, so that they will be able to access the new, digitized government services.”

Recommendation A-1. Issue an Executive Order exerting presidential leadership to:

1. Place authority and accountability in a cabinet-level executive: Chief Technology Officer (CTO), who is also Deputy Director of OMB

“...the powers should be vested in the Deputy Director of the Office of Management and Budget (OMB), because of already-vested power over the various departments’ budgets.”

2. Mandate an ICT audit of each cabinet-level department

“The newly minted Chief Technology Officer (CTO), no matter what the title will be, should begin by mandating an ICT audit of each Cabinet-level department and other major agencies, such as the FCC and SEC, to be completed within 100 days of each department’s new leader taking office. The audit should bear in mind the goal of having an “ICT layer” in place in each department. The audit should first explore and define current processes and use of ICT within the department. Second, it should create an inventory of opportunities to add the ICT layer. Third, it should prioritize those opportunities in terms of cost-effectiveness. With the audit of each agency complete, the CTO should convene a high-level interdepartmental working group whose task is to coordinate implementation by identifying possible opportunities for interdepartmental standardization and cooperation in developing the new systems.”

3. Inventory all government spectrum and increase the amount of spectrum available for a variety of uses

- a. Improve spectrum information and planning (inventory all spectrum, develop new 10 year spectrum plan)
- b. Free up government spectrum (implement OMB Circular A11, have a secondary auction on selected government spectrum)
- c. Free up digital broadcast television spectrum for other uses

“One of the first ICT acts of the next Administration should be to appoint an expert to conduct a thorough inventory of all government spectrum: its allocating agency, its designated use, its past and projected future use patterns, its potential value at auction, etc. This information should be gathered into a single, publicly available document.”

“Once the inventory has been taken, a strategy should be put in place to work toward a more efficient model for determining the way the spectrum should be used.”

4. Promote effective coordination of agencies with ICT responsibilities—NTIA, OSTP, DOJ, etc.

“Similar to the way that the internal ICT layers of all the Cabinet agencies should be coordinated through the office of the CTO, the efforts of agencies with external ICT regulatory responsibilities should be coordinated within the Executive Branch.”

“The CTO’s office should also set about generating standards and templates for ICT work across departmental lines.”

5. Effective coordination with business, state/local government, scientific communities (Brain Trust)

“The creation of a council body similar to President Eisenhower’s “Brain Trust”... should be made up of stakeholders from outside the federal government in the various ICT issues, pulling together the best minds from the small business community, large industry, state and local governments, academia, and non-profit entities. Such a council would be able to provide guidance from many learned perspectives outside the insular world of the capitol, ensuring that the policymakers receive input from those who will use, own, operate, and invest in, and depend on the implemented ICT initiatives. Currently, there is a nominatively similar body, the President’s Council of Advisers on Science and Technology (PCAST), but in recent years the PCAST’s focus has narrowed considerably. Roundtable participants envision a broader scope of expertise and interests.”

6. Build public support for ICT solutions and opportunities

7. Pursue national interoperability for public safety first responders

“ICT [should] be employed to give all emergency personnel the ability to interoperate their communications systems with policies in place to limit such communications to the gravest of emergencies.”

**Initiative Two:
ECONOMIC STIMULUS AND ICT INFRASTRUCTURE (TELECOM
PLAN)**

Mission: The mission of the Initiative is to use ICT infrastructure programs as a critical component of economic stimulus.

Recommendation B-1. Increase broadband adoption in the following ways:

1. Improve information about broadband adoption (i.e. FCC broadband mapping, bring back broadband use questions on US Census.

“Some [data collection] efforts are already being undertaken by states, private interests, and non-profit organizations. These data would not only help identify communities with the greatest unmet demand for connections, but would also assist in the efficiency of eventually establishing those connections. In particular, these data would make possible a cost-analysis to determine a beginning figure for the price of making up the 20-30% gap and completing the national network, making a broadband connection available to every American that would choose to obtain one.”

“If we can make a push to educate this segment of the population about getting medical information online, then they have an incentive to adopt the network. Also, they won’t have to take the bus three times a week to go get a blood test at the clinic. That’s how you get a 65-year-old with a fixed income who lives in subsidized housing to adopt.”

2. Transfer Universal Service Funds from voice support to broadband support (create more targeted, efficient mechanisms)

“There are several suggestions as to how to repurpose the USF in that way. One such plan is to establish a parallel entity to the existing USF, so that there are two funds. USF “A,” which is the current fund, starts the process with its current balance over \$7 billion, purposed in its current manner. USF “B,” which is the new fund to be dedicated to universalizing broadband access, begins with a zero balance. Every year, however, a significant sum is transferred from “A” to “B,” gradually changing the nation’s ICT funding focus from existing to future networks. One suggested sum was \$1 billion per annum, making it a changeover process which would be completed within the next two Presidential terms.”

3. Subsidize device and/or service bundles to low income persons

“...subsidize the device used to get online (possibly a personal computer, possibly a wireless device or some other machine) instead of the monthly service fee. Past experience with telephone subsidies indicates that this is the wise way to approach the problem.”

4. Target funds to unserved areas

5. Target funds to key facilities (to serve as anchor tenant for broadband upgrade)

“The priorities are unserved areas and key facilities that require especially large amounts of bandwidth, namely local hospitals and governments.”

6. Target funds for backhaul access (create program in which communities or BSP providers can apply for grants or loans to build our “middle mile” backhaul networks).

Recommendation B-2. Increase spending on ICT-related basic research and development

1. Survey basic research related to ICT

2. Increase or refocus budgets of DARPA, NSF, NIST, National Labs

3. Focus work of a national lab on ICT

“The two main ways to encourage research and development of new technologies are through direct laboratory investment, and through creating an economically competitive atmosphere that will drive corporate investment in fundamental research.”

Other Related Steps:

1. Implement further studies (US Government Programs and Expenditures, international practices, Right Of Way best practices, etc.)

2. Remove legal and regulatory roadblocks

3. Remove right of way roadblocks

**Initiative Three:
ICT, ENERGY AND THE ENVIRONMENT**

Mission: The mission of the Initiative is to use ICT to serve a double bottom line where possible. Energy efficiency and environmental stewardship are prime examples.

“Participants believe that the most significant environmental challenge today is to reduce worldwide greenhouse gas (GHG) emissions to avoid the most serious effects of climate change. There is a scientific consensus that the first tool in reducing GHG emissions is more efficient use of the energy we produce today. Because of its special ability to maximize supply-line efficiency through instantaneous information availability at all points in the network, the ICT sector has unique opportunities to assist in reducing GHG output and increasing overall energy efficiency.”

Recommendation C-1. Improve efficient energy use and carbon impact within the ICT sector

- Improve energy efficiency of ICT equipment
- Improve disposal and recycling of used equipment

Policy Recommendations:

1. Offer more information to consumers and businesses about energy consumption and GHG impact of equipment

“Department of Energy should promulgate standards for disclosure of the energy consumption and the carbon footprint over the lifetime of ICT devices. Also, the Federal Trade Commission should take a role in enforcing accuracy and transparency of consumer disclosure.”

2. Develop a national strategy of moral suasion to leverage corporate responsibility within ICT sector

“This effort to transition to new devices should serve as a cornerstone of the public face of The Initiative, as it would be an ideal opportunity to run public service announcements (PSA’s) encouraging adoption of the new technology.”

3. U.S. should offer tax and other incentives to use clean energy

4. Government should be a leader in purchase of energy efficient ICT devices

5. Congress should assign a price to carbon emissions

“This last point is imperative: Progress in this and other sectors relies heavily on internalizing the costs of GHGs for both people and companies.”

Recommendation C-2. Use ICT to improve efficiency and consumption in other sectors

- In the residential sector, consumers should know how much energy they are using
- ICT has central role in “Smart Grid” architecture and operation

Policy Recommendations:

1. Bring the internet economy to the electric power grid—open interoperability, linking Smart Homes to the Smart Grid

“It is fundamental economic theory that information is provided if there is a demand for it. Just as high gas prices and the threat of global warming raised the demand for the Prius’s fuel economy readout, high electrical and heating bills can raise a demand for in-home energy-use feedback on the time-differentiated pricing of electrical current, the economical use of which could reduce the peak load on the electrical grid. ICT has a central role in the architecture and operation of such a “Smart Grid” which can make that feedback possible. Essentially, the “Smart Grid” is an electrical grid like we have now, but with embedded ICT technology that tracks power use and communicates that data to both the utility and consumer in real-time.”

“The government would also need to embrace interoperability standards by way of encouraging a market for energy management devices designed for the consumer-premises. Such standards would be similar to the energy ratings currently mandated for refrigerators, which have been very successful in driving the sales of more efficient devices.”

2. Establish a mechanism for assigning a price to carbon emissions

“Outside of the home, several participants recommend that a mechanism be adopted to assign a price to GHG emissions, and that similar Smart Grid technology be used to deliver a pricing signal for both energy and GHG. That mechanism may be a cap-and-trade system, or a tax, or some other, revenue neutral idea, but the debate must not end in stalemate and inaction. Assigning a price to GHG is necessary.”

3. Create a clearinghouse for best practices for local governments on energy management and ICT

4. Promote standards for communications among “smart appliances,” and incentivize their deployment

“Along similar lines, the group recommends that the government use procurement at both the federal and local (granted through the new ICT clearinghouse) levels as a tool to boost the demand side of the market for “smart” and efficient appliances and equipment.”

Recommendation C-3. Promote efficiencies that derive from a pervasive, ubiquitous broadband platform

“The third major area in which ICT can contribute to efficiency in dealing with the energy/climate crises is in the potential of ubiquitous broadband deployment. Such a situation will trigger fundamental economic changes, resulting in increased productivity with associated lessened intensity of energy use and GHG emissions.”

“The consumer benefit from a broadband world may be small at first; the bigger issue is how firms will change the ways they produce, sell, and deliver goods throughout the lifecycle. Because these will be such disruptive technologies, it requires the careful study of this query: Should public and tax policy favor purchases using more energy efficient purchase and delivery channels?”

Recommendation C-4. Improve governmental and regulatory approaches

- FCC, state and local regulators should include impacts on energy use and climate change in the public interest analysis of their policy decisions.
- Government must be a leader by using ICT channels to deliver its services