the NSC deem to be more threatening. Compounding the rhetoric of control and management is the clear understanding among the parties that there is no ideal solution to the problem. The solutions they offer all are expensive and have the potential to undermine the deregulating telecommunications market. As powerful and single-minded as these men are, they understand that control of the situation is not within their grasp nor will it ever likely to be and they must accede to a compromise that cedes control to the telecommunications carriers.

### Diffusion of Innovation

This case addresses the rare question of how does a government diffuse a classified technology into the private sector while maintaining secrecy. The body of the case constitutes the planning stage of telecommunications security.[142] As will be discussed, the federal government in this period is the pre-eminent developer and user of cryptographic technology in the world. It chooses not to advertise this capability for national security reasons and strategic advantage. This advantage is threatened by the advent of Soviet eavesdropping because the private sector upon which the government relies upon to transport information needs elements of their highly secret encryption technology to protect US telecommunications.

The Ford Administration considered a variety of choices and also considered both political and economic factors in their decision making process. Their concern over these factors led them to construct a program that would meet their needs while inviting the telecommunications industry to meet with and receive technological expertise from the secretive National Security Agency (NSA). Had AT&T still retained its telecommunications monopoly, the outcome might have been different as the government would have had considerable negotiating power with a single

company. With deregulation and its attendant public scrutiny, the Ford administration took a less confrontational approach.

### White House Administration

This case also presents a very unusual case of the exertion of presidential power. The White House purposely acted to centrally control their work and keep it out of the public eye and therefore deemed that neither congress nor the FCC could be involved. The avoidance of public notice in national security matters was a crucial factor in the policy debate.[143]

Ford centralized his authority on this issue and avoided politicization. This appears to be a different kind of interaction effect than Rudalevige refers to in his work.[144] Politicization and centralization are not substitutions nor are they applied simultaneously. The issues addressed are too sensitive for politicization to overcome.

The case also addresses Krause's ideas regarding presidential coordination. Credible commitment was the central driving theme of Ford's policy effort with its urgent national security component. Telecommunications security policy strictly limited vertical and horizontal coordination to those few organizations that were required to participate due to their responsibility or expertise. Even conferring with the telecommunications companies was a debated issue until the administration understood that it would be necessary.[145]

### Surveillance Studies

This case starkly lays out the difference between adversarial and custodial surveillance. The work of the Domestic Council Committee on the Right to Privacy (DCCRP) is one of the first comprehensive evaluations of the effects of data exchange upon the public. The DCCRP was chaired by both Ford under Nixon and Rockefeller under Ford. This experience exposed both men to concerns about the impact of new data systems might have upon individual privacy. Both men worked to strengthen individual privacy by attempting to limit the impact of this kind of custodial surveillance.

At the same time, neither man shied away from the hard decisions required by the knowledge of Soviet eavesdropping. Their knowledge about the potential power of custodial surveillance in fact informed and strengthened their fears about the potential impact of Soviet surveillance. The Ford Administration was unwilling to inform the public about this because of public mistrust in the government caused by the Watergate scandal and congressional investigations into the illegal activities of the intelligence community. To their minds, their actions to protect US telecommunications networks were a response to the adversarial surveillance conducted by the Soviets. No records indicating policymakers considered the telecommunications security program as anything but a defense against Soviet adversarial surveillance appear to be available. Moreover, the content of the documents indicate that the administration was strictly focused on defense and at no time was there a sense that this might be turned into any kind of intelligence gathering system.

Another key component to the case from the surveillance studies literature is the key role played by the National Security Agency. During the Ford Administration, it existence was denied by the

federal government. Since the beginning of the Cold War, the NSA had been charged to protect US communications and intercepting foreign signals. Interception involved the use of a range of techniques from exotic satellites to simple bribery of foreign embassy officials. Decrypting those communications and encrypting US communications involved some of the top mathematicians in the United States and acres of the most expensive and powerful computers in existence. The NSA therefore was the most advanced center for cryptographic studies in the world. When the Ford Administration consulted the NSA and advocated for their involvement, it was with this understanding. Even AT&T, a technology juggernaut in its own right through its renowned Bell Labs was not comparable.[146]

## Dramatis Personae

President Gerald Ford

Gerald Ford received a BA in economics and political science and served in World War II. He was a member of the US House of Representatives from 1949 to 1973 and served on the powerful appropriations committee. President Nixon appointed him as Vice President following Spiro Agnew's resignation in December 1973 following his guilty plea to charges of tax evasion. Eight months later he was sworn in as President following the Watergate Scandal and Nixon's resignation

Vice President Nelson Rockefeller

Nelson Rockefeller served as governor of New York between 1958 and 1973. In 1974 Gerald Ford nominated him as Vice President served in office until 1977. He had a wide range of governmental, business, and philanthropic interests and the first Rockefeller to enter politics.

National Security Council (NSC)

Owing to the abrupt transition between presidencies, the NSC remained stable between the Nixon and Ford Administrations. The changes wrought by Nixon and Kissinger to make the NSC into an advisory and policy implementation body remained. Ford's NSC was led by Brent Scowcoft.

National Security Agency (NSA)

The NSA was the preeminent collector of signals and communications intelligence. It was responsible for securing government communications and devised encryption schemes. Although it was part of the Department of Defense, its existence was denied by the federal government.

Domestic Council Committee on the Right of Privacy (DCCRP)

The DCCRP was created by President Nixon in 1974 to examine how the federal government collected, used, and stored information about citizens and employees. It was chaired by Vice President Ford who would later pass the role onto Vice President Rockefeller.

Telecommunications Carriers

The US telecommunications market during the period in this case was mostly monopolized by AT&T. While local telephone service was still a monopoly, The Federal Communications Commission ruled that new carriers such as Microwave Communications Inc (MCI) could provide long distance service. The federal government was the largest consumer of telecommunications services and AT&T anticipated that these upstart carriers would begin

challenging its dominance. In 1974, Department of Justice began an eight year anti-trust action against AT&T.

Soviet Union

The United States was still in the midst of the Cold War with the Soviet Union during the time frame of this case. While Ford was continuing Nixon's policies of détente, espionage was (and is) an ongoing activity between the superpowers.

## Source Material

The source material for this case comes from open materials available at the Ford Presidential library and the Rockefeller Archive. Given the sensitivity of the topic, it comes as a surprise that these materials are declassified. This case also indirectly employs one classified document, NSDM 338, which I reconstructed from other materials. Such uncertainty always accompanies work such as this and the role of the researcher in such situations is to minimize it. An example of this is my search for the NSA's testimony to the Rockefeller Commission. While I was able to establish a date, time, and the identity of the witnesses, I also discovered that the Commission intentionally took no notes from the briefing.[147]

The case follows a parallel structure first exploring the more public work of the DCCRP beginning during the Nixon Administration, briefly looking at the relevant work of the Rockefeller Commission and then concluding with the secret work of the NSC during the Ford Administration. It ends on Ford's last full day in office and shows how the White House's

information and information security policies aligned and fused, though unbeknownst to all but a handful of senior policy makers.

## Prelude: The Domestic Council Committee on the Right of Privacy

President Nixon formed the Domestic Council Committee on the Right of Privacy (DCCRP) in 1974 and assigned Vice President Ford as chairman. Nixon formed this committee based on growing public fears of "Big Brother" style information control and management. In his 1974 State of the Union address, Nixon described this effort: "Modern information systems, data banks, credit records, mailing list abuses, electronic snooping, the collection of personal data for one purpose that may be used for another---all these have left millions of Americans deeply concerned by the privacy they cherish." He went on to promise that he would "establish a new set of standards that respect the legitimate need of society, but that also recognize personal privacy as a cardinal principle of American liberty."[148]

These brief sentences convey the thinking of Nixon's assistant for Domestic Affairs Kenneth Cole. In a January 1974 memo, Cole suggested to Nixon that individuals own their own personal information and that the business of society is conducted smoothly when this privacy is protected. New communications and computer technologies had greatly improved information sharing but also made information protection more difficult. He advocated that government should define and protect privacy in the face of technological change. In this articulation of privacy, Cole specifically limited the notion of individual privacy by asserting that it did not provide protection from overriding government responsibilities in areas such as criminal intelligence and national security.[149]

Cole organized his thinking about privacy into broad categories with associated problems and principles. Cole's operationalization of privacy resembles that of modern "opt-in" privacy standards that are in force in the European Union.

**Table 4: Nixonian Privacy Issues January 1974**

| Functional Category | Problems | Principles |
|---|---|---|
| Collection of information | Legality and relevance<br>Technology<br>Pervasiveness | Individual right to discover information collection<br>Individual requirements<br>SSNs |
| Storage of Information | Security<br>Facilities | Security for personal data<br>Access and ability to correct personal data<br>Shared vs. dedicated government data systems |
| Use and dissemination of information | Misuse<br>Organizational | Individual knowledge of use<br>Individual ability to stop the use of information<br>Organizational responsibility |

The initial meeting of the DCCRP occurred in February 1974. President Nixon and Vice President Ford conveyed Cole's privacy framework to the assembled membership including the secretaries of the Treasury, Defense, Commerce, Labor, Health, Education and Welfare, the Attorney General, and the directors of the Office of Management and Budget (OMB), Office of Telecommunications Policy (OTP), Office of Consumer Affairs, and the Domestic Council (DC). Nixon and Cole had invited these organizations to the table because of their intensive capturing, analysis and storage of personal information. Despite the authority of these individuals, Nixon made clear that privacy policy was a "very political and sensitive area" and

policy would be crafted by committee discussion and not by the staff.[150] As in other areas of the Nixon White House, the President and his advisors maintained tight control over policy.

The DCCRP's draft action plan of March 1974 identified three objectives: to organize and staff the DCCRP, to begin short range plans that could be accomplished within four months within the executive branch, and to examine long range plans that would take longer than four months. The action plan outlined goals and projects reflected Cole's privacy issues which he had previously articulated to Nixon. Short term projects included restricting the use of social security numbers, and protecting statistical data, IRS taxpayer data, Federal civilian data, uniformed military personnel data, and federal contractor and grantee data. Long term projects included developing state and local statutes, strengthening the Fair Credit Reporting Act, and implementing a code of fair information practice for the private sector.[151] The broad membership of the DCCRP was a reflection of the ambition and scope of these projects and the pervasiveness of government data use.

By July 1974, the DCCRP under Ford's leadership had examined a variety of initiatives and had decided to go ahead with the implementation of proposals in fourteen areas.

**Table 5: DCCRP Proposed Privacy Initiatives July 1974**

| | |
|---|---|
| Federal Data Processing and Data Systems Procurement | Develop and promulgate privacy guidelines |
| Computer System and Network Security | Development of security standards |
| Consumer Transactions | Consumer privacy rights |
| Cable Television Systems | Prohibit cable systems from collecting |

| | |
|---|---|
| | user data |
| Federal Mail Lists | Individual right to avoid federal mailing lists |
| IRS Taxpayer Data | Securing IRS data |
| Notice of Rights of Data Subjects | Informing consumers of the ramifications of providing information to the government |
| Electronic Funds Transfer Systems | Consumer privacy in electronic funds transfers |
| Individual Access to Federal Records | Right of individual to personal information collected by the government |
| Military Surveillance of Political Activities | Protect individuals from military surveillance of their political and personal activities |
| Federal Employees' Rights | Protect the information of federal employees |
| Parent/Student Access to Education Records | Protection of academic records |
| Individuals' Financial Records Maintained by banks | Protect individual privacy at financial institutions from government intrusion |
| Fair Credit Reporting Act | Protection of individual commercial records |

These initiatives placed the weight of law and protection on the side of the individual citizen. The cable television system initiative would make it illegal for system operators to collect or

disseminate data from subscribers without their express permission. Likewise, fair credit reporting protections were much stronger, requiring the credit agency to notify individuals whenever any negative event was going to be applied to their credit history and allowing time for them to dispute it. Consumers would also have to be informed whenever they were subject to a credit report and credit agencies had to obtain their approval to issue any such report. The initiatives proposed by the DCCRP were strongly consumer-centric and made the individual the final arbiter of their personal information.[152]

Ford pronounced this program of initiatives met with Nixon's goal of actionable items in a short period of time. Ford adjourned the DCCRP with the intention of reconvening in September. In the meantime, he instructed the DCCRP to begin implementation of these initiatives across the government. He further ordered that the DCCRP should monitor executive and legislative activities that might impact privacy and continue to coordinate with state and municipal officials. Finally, he also announced that the National Science Foundation's Office of Science and Technology Policy had agreed to take responsibility for long range privacy projects.[153]

The unfolding Watergate scandal followed by President Nixon's resignation in August 1974 left many initiatives in stasis as attention and resources were first focused on the potential impeachment and then the reconstitution of the White House under President Ford. Ford, now President continued to make personal privacy a priority and did not neglect the DCCRP. Shortly after assuming the Presidency, Ford directed that the DCCRP be temporarily put under the direction of the Domestic Council until a new Vice President was sworn in whereupon the he

would take up direction of the DCCRP. Nelson Rockefeller was appointed by Ford to the role of Vice President and approved by the Senate in December 1974.[154]

Before Rockefeller could be sworn in, the task of the DCCRP was growing explosively. By October 1974, the DCCRP had identified had seven additional initiatives to begin work on.[155] This explosion of new privacy issues may have in part contributed to Rockefeller's attitude upon taking over leadership of the DCCRP. January 1975, Rockefeller suggested that Ford make add a privacy section to his State of the Union address and that the DCCRP be renamed the Domestic Council Committee on Privacy and Information Policy. While the first suggestion was adopted, the second was problematic for the White House. By expanding the purview of the DCCRP, the White House believed that the expanded entity would create turf battles between executive agencies which each had their own vision of information policy.[156] The DCCRP pursued an alternative option to begin examining the whole concept of information policy.

The DCCRP continued making progress on privacy issues throughout 1975. Ongoing conversations between Rockefeller and the DCCRP led them to the conclusion that the Federal government lacked a conceptual framework for information as well as any mechanism to coordinate any kind of policy on the subject.[157] To examine the idea more critically, the DCCRP convened a Roundtable on Privacy and Information Policy in September 1975 to examine the expanding sphere of issues interlinked with privacy and information policy. In December 1975, Rockefeller once again brought the DCCRP's concerns about information policy to Ford's attention. In the memo, Rockefeller noted that the Federal Government's information policy was created piecemeal by many different agencies. He asserted that the United States was moving

towards a post-industrial information-based society and that it was essential that the Federal Government begin to develop analytical frameworks and a unified information policy. This time he asked Ford to discuss information policy in his State of the Union Address. But unlike in the previous year, he sought the reconstitution of the DCCRP as the Committee on Privacy and Information Policy (CPIP).[158]

Ford responded again by including an information policy section in the State of the Union Address. He did not authorize the reconstitution of the DCCRP. Rather, he directed the DCCRP and Rockefeller at its head to produce a report on information policy consisting of: a list of information policy issues relevant to federal policymakers; a status report on the ongoing information policy studies occurring across the government, and policy recommendations based upon this information. The DCCRP was further instructed to work closely with all federal agencies that had responsibilities formulating information policy. This report was to be completed and presented to the president by September 1, 1976.[159]

In September 1976, the DCCRP under Nelson Rockefeller's leadership issued its National Information Policy Report. President Ford had instructed the DCCRP in the previous March to examine information policy issues facing the federal government, report on the progress of existing investigations within the government and make recommendations on how the government should organize itself to make and implement information policy.[160] The report recommended that the US pursue a unified and coordinated National Information Policy by establishing an Office of Information Policy (OIP) in the executive office of the President. It also recommended the creation of a Council of Information Policy comprised of senior agency

representatives and led by the director of the OIP and an Advisory Committee drawing upon expertise in the private sector to assist the OIP in its duties. The Report made these recommendations having identified "information policy" as an exceedingly broad topic that demanded a wide range of perspectives. [161]

Despite the breadth and complexity of "information policy", the authors made seven parting suggestions for the future work of the proposed OIP:

- Encourage open and equal information access for all
- Protection of personal information and protection of individual rights to safeguard that information
- Encourage systems that create and distribute knowledge
- Appropriately regulate the power available to the government through the use of information systems
- Encourage efficient information systems
- Support private sector competition in information technologies to strengthen innovation
- Make rules that embody stability in spite of technological change to encourage private sector technology adoption

The OIP would not come into being but the model would be influential in the simultaneous debate going on in the NSC over telecommunications security. The proposed OIP was very similar to the entity suggested by the NSC to make telecommunications security policy in structure, membership, and resources. Similarly, the policy suggestions made by the report resemble many of the NSC's telecommunications security concerns on issues such as encouraging technological innovation, public access, and private sector competition.[162]

In September 1976, Rockefeller presented an action memo based upon the DCCRP's recommendations. The first item was the creation of an OIP to begin implementation of the report's recommendations. Rockefeller felt that this was best accomplished either within the OTP or as a temporary adjunct of the OTP. Ford assented to the latter. Second, the DCCRP was not funded for the 1977 fiscal year and its work on privacy issues was ongoing. Rockefeller suggested and Ford agreed that the DCCRP's responsibilities and portfolio be temporarily handed over to the OTP until such time as an OIP was existent.[163]

### The Rockefeller Commission

While Vice President Rockefeller was leading the DCCRP forward on privacy and information policy, he was also leading the Rockefeller Commission's investigation of the CIA. As chairman of the Commission on CIA Activities within the United States also known as the Rockefeller Commission, he became aware of the threat posed by Soviet surveillance as the commission gathered information. The commission's original mandate stemmed from President Ford's January 1975 order to examine whether the CIA had violated the privacy of US citizens and had participated in the assassination of foreign leaders in the aftermath of the Watergate scandal. While the report focused on these questions, testimony from CIA, NSA, and FBI representatives provided the commission with the unsettling knowledge that Soviet Union was eavesdropping on U.S. telecommunications networks. The U.S.S.R. was also capable of evaluating these calls and culling data from them through the use of computers. In June 1975, the Commission asserted in its final report that the protection of individual liberties and rights was of primary concern to the government and any organization infringing these rights must be held accountable. At the same

time, the commission acknowledged the necessity of national intelligence regulated by the government and noted that it was essential for public safety. Public safety and personal liberty were mutually supportive and essential qualities of American society.[164]

The Rockefeller report examined in detail a wide variety of the CIA's surveillance activities that violated individual rights. Surveillance of telegraphy, mail, electronic surveillance and wiretapping were all activities undertaken by the CIA within the US against US citizens in spite of the CIA's charter which mandated that its activities be conducted outside the US. During their six month existence, Rockefeller and the commission acquired an understanding of electronic surveillance and became more aware of the vulnerability of US telecommunications networks.[165]

It was not easy for the Commission to obtain information on foreign surveillance activities within the U.S. On April 7 1974, the commission heard testimony from the representatives of the NSA including its director, Lt. General Lew Allen regarding Soviet signals intelligence efforts directed against the United States. The testimony was so sensitive that that their presentation was not recorded.[166] As of April 29, 1975, neither the FBI nor the CIA could offer contributions "suitable" for publication.[167] The President's Foreign Intelligence Advisory Board (PFIAB) commented on the U.S. domestic counter intelligence problem by noting that there were an ever increasing number of Soviet agents within the U.S. The PFIAB went on to note that Soviet efforts were not limited to HUMINT (human intelligence) but also SIGINT (signals intelligence) which collected through various technical means and then analyzed by computer.[168]

The issue of size and technical means were a hotly debated topic between the NSC and the Rockefeller Commission. The initial draft identified Soviet intelligence manpower at 2,000,000. Further consultation with the intelligence community reduced that to 1,000,000 and then 500,000 as the committee wanted to have a defensible number so as not to undermine the reports credibility. General Brent Scowcroft, Ford's National Security Advisor, and Secretary of State Henry Kissinger successfully argued that the wording of the final report avoid mentioning computers and microwave communications.[169]

Following the release of the report, the deputy director of the OTP John Eger issued a cautionary memo regarding the report's disclosure of Soviet telephone espionage and suggesting that the OTP, NSC, and DCCRP form an interagency group to examine the issue. Ford and Rockefeller agreed but limited the DCCRP's participation to its chairman, Rockefeller.[170] Days later, the memo was withdrawn without having been seen by the president by General White House Counsel Thomas Keller. James Connor, Ford's staff secretary informed the OTP that the NSC was responsible for the situation. Connor further told the OTP that it should stay out of this policy area unless asked by the NSC.[171] The White House was intent on keeping soviet espionage, computers, microwave transmitters, and telephone espionage out of the public eye even as the DCCRP was moving to consider information policy, and for good reason.

## Out of the Public Eye: The NSC and DUCK PINS

Since the fateful information policy discussion between Cole and Nixon, the White House asserted that national security concerns superseded the protections afforded by personal privacy. Protecting citizens' personal information from the US government and private industry was

secondary to protecting such information from the Cold War threat of Soviet eavesdropping and capture of personal information. The NSC feared that the Soviets would use personal information to suborn U.S citizens to act as agents as was discovered by the Rockefeller Commission. Following Ford's inauguration in August 1974, the NSC informed the President that the nation's telecommunications systems were insecure and that the Soviet Union was intercepting US telecommunications. Telecommunications security would preoccupy the Ford Administration throughout its three year existence, issuing four NSDMs on the topic.

**Table 6: Ford Telecommunications Timeline 1974-1977**

| Date | Event |
|---|---|
| 8/9/74 | Gerald Ford takes office |
| 8/15/74 | NSDM 266 Improved Security of Telecommunications |
| 5/23/75 | NSDM 296 Improved Communication Security |
| 9/1/76 | NSDM 338 Further Improvements in Telecommunications Security |
| 1/18/77 | NSDM 346 Security of US Telecommunications |
| 1/20/77 | Gerald Ford leaves office |

President Ford issued National Security Decision Memorandum 266 on 15 August 1974 instructing James Schlesinger, Secretary of Defense that "immediate defensive steps be taken" to combat the potential for Soviet interception of wireless communications in the Washington DC area i.e. satellite and microwave signals. NSDM 266 placed the Department of Defense (DoD) and the Office of Telecommunications Policy (OTP) in charge of this effort which in the short term would move threatened US government communications to traditional wireline connections and in the long term would either develop secure wireless communications or expand wired

connectivity. In addition, Ford informed the State Department, Office of Management and Budget, and Central Intelligence Agency of this plan.[172]

The DoD's short term plan to secure US telecommunications in the Washington DC area was code-named DUCK PINS. This plan involved transferring sensitive government telecommunications traffic to wireline networks. DUCK PINS immediately began to ruffle feathers. Since 1974, the Federal Communications commission had been deregulating AT&T's long distance telephone monopoly to allow new companies such as MCI to compete. Relatively inexpensive microwave towers and satellites enabled MCI and other AT&T competitors to provide telecommunications services but NSDM 266 pronounced them vulnerable to Soviet eavesdropping. Since only AT&T had a large, secure and costly wireline infrastructure, it was the immediate beneficiary of DUCK PINS as it was the only carrier that could immediately offer the wireline services demanded by NSDM 266.[173]

The situation was also problematic for the General Services Administration (GSA) was in the process of bidding out government telecommunications circuits between Washington DC and New York City in November 1974. The NSC understood that AT&T's competitors would submit competitive bids to wrest lucrative government business away from AT&T. The competitors' networks would be based upon insecure microwave architecture and would fail to meet the new requirements for secure governmental communications in NSDM 266. The GSA could not award them contracts, but could not tell them why. The GSA either had to delay or cancel the procurement or reallocate telecommunications service to eliminate the initial

requirement. DUCK PINS had the potential to undercut deregulation through the secret adoption of telecommunications security measures and parameters.[174]

In the long term, DUCK PINS was similarly problematic to deregulation. DUCK PINS called for all government and private communications to be protected from interception. Previous to deregulation, this would have been accomplished through discussions between the federal government and AT&T. With deregulation, such discussions would have to take place with all long distance carriers including AT&T. If the government excluded the other carriers from the discussions, the government was would have to explain its actions and publicly reveal the vulnerability of the US telecommunications infrastructure, a politically unacceptable outcome. Alternately, the US government could selectively discuss the situation and work with some telecommunications companies, but this entailed the same risk of favoritism.

One potential solution to this problem was to limit the telecommunications lines that needed to be protected. Among those singled out for protection were the growing data systems of the GSA, Social Security, and Veterans Administration which compiled computerized information on the millions of citizens served by these organizations. The NSC recognized that evaluating data systems and trying to protect Washington DC communications would take time.

The NSC's telecommunications panel worked through these issues throughout the Ford Administration and initiated the Executive Secure Voice Network (ESVN) to secure telephone communications and Protected Radio Modulation (PRM) to protect microwave transmissions. It also began examining cryptography as a long term solution for data protection. This progress

was affirmed in May 1975 by NSDM 296 which acknowledged the ongoing conversion of government microwave links over to cables and enjoined government agencies to continue this process. It also continued to emphasize that the problem of telecommunications security in the US should continue to be kept out of the public eye, in spite of the potential for publicity during the implementation of PRM.[175]

In August 1976, the Telecommunications Panel discussed a point paper examining the government's role in providing cryptographic systems and ensuring their integrity and security. Integrity and security were crucial to protecting US military, diplomatic, economic, and technological interests. Secondarily, the government would implement cryptographic systems to protect US citizens' right to privacy. Conceptually, the NSC asserted that the US government had a "unique" capability in cryptography and that it should take the lead role in developing, testing, and distributing cryptographic systems. The NSA with a budget in excess of $1 billion was responsible for protecting US government communications systems and decoding the signals of foreign governments.[176] The NSC also envisioned that a portion of the crypto key would be kept from the US government through an escrow system to assuage the public's privacy concerns. Finally, the NSC believed that common carriers would be participants in the development and deployment of such systems owing to their expertise in communications networks. The point paper advocated maintaining a complete US government monopoly on cryptographic materials and systems. It provided no evidence that cryptographic systems were to be used in an offensive manner and that the government's participation was due solely to the expertise that resided in such places as the National Security Agency.[177]

Cooperation with the common carriers became an ongoing theme of DUCK PINS. A July 1976 paper made recommendations on the implementation of multichannel radio protection set out clear positions about the interrelationship of government, business, and the public. The paper advocated seeking voluntary cooperation with microwave and satellite carriers noting that imposing a requirement would require public disclosure of the threat of interception and take time to navigate the regulatory and judicial issues that would arise. Voluntary cooperation, the paper noted, would require the establishment of standards and well-defined procurement practices. It also emphasized the importance of bringing carriers other than AT&T into the program swiftly to allay competitive concerns that AT&T had an unfair advantage. AT&T had made presentations and been involved in the early planning of DUCK PINS because of its technological and infrastructural advantages.[178]

The paper next recommended that national security rather than individual privacy should be advanced as the main reason for the protection of communications. The report noted that Vice President Rockefeller had already informed the public about the threat in the Rockefeller Commission report. Unfortunately, the public was unimpressed by the US government's efforts to protect privacy and would be skeptical about the new regulatory and legal mechanisms required. By invoking national security concerns, these hurdles could be bypassed or avoided by keeping out of public view.

The paper also proposed that the government create an industry advisory committee to keep all carriers abreast of technology, plans, and policies. The paper further suggested that this advisory committee be formed under the auspices of the executive branch rather than the FCC or an

advisory group so that issues could be raised and discussed in a timely fashion. Here again, the paper warned that if all carriers were not together, it was highly likely that uninvited carriers would perceive government favoritism, complain, and make the program public. The authors did not see giving cryptologic technology to the carriers as a problem. While they recommended that the government supply and maintain all cryptographic materials they also felt that the US government could serve in this role without becoming enmeshed in the operations of carriers' facilities by using sufficiently trained and vetted personnel from the carriers.

### Out of Sight: the NSC and NSDM 338

NSDM 338 "Further Improvements in Telecommunications Security" issued in September 1976 remains classified.[179] However, the Report of the Special Task Group on Telecommunications Organization issued in December 1976 sheds light on the thinking of the Ford administration following the development of DUCK PINS and the content of NSDM 338. NSDM 338 directed the creation of the Special Task Group whose members were drawn from the NSC, OMB, OTP, the Domestic Council and the White House Counsel's Office to examine the implications and ramifications of protecting private sector microwave communications. Specifically, the NSC assigned the Task Group to examine the idea of creating a new government entity or reconfiguring an existing entity to manage the telecommunications security program. NSDM 338 noted that the entity should be evaluated on a range of criteria including its ability to examine telecommunications policy issues, program management, authority and ability to act within the government, funding, manpower, and access to the intelligence community.[180]

Noting that the government had already taken steps to protect critical governmental information, the report went on to say that government had an important role in preserving national communications security as it was the repository for cryptographic expertise and provided the standards and policies that enabled the continuing function of a nationally integrated telephone system. The report emphasized the need for the government to create a "favorable climate for public acceptance of communications security so that it is perceived as a means to increased privacy and not as a threat."

The report suggested two ways for the government to protect communications which echoed the thoughts and concerns of Joyce and Moe in 1975. The government could mandate a program by requiring the cooperation of telecommunications carriers but this would require significant government intervention into the market and likely include difficult and "politically sensitive" decisions about what parts of the private sector to protect. Alternately the government could encourage the private sector to take on this project by providing key parts of research and technology, establishing standards and policy, and educating the industry regarding the importance of secure communications. Both options involved significant financial, regulatory, and legal challenges that required the cooperation of multiple government agencies. Moreover, the cost and effectiveness of the new technologies to protect microwave transmissions were unknown and these initiatives could seriously impact the move towards the deregulation of the common carrier market. All of these issues were to be addressed in a report authored by the OTP.

To implement these plans, the report saw the need for a government entity that could address all of the varied and complex issues. The report noted that to date, these matters had been handled in an ad hoc way by the NSC with assistance from the NSA, DoD and OTP with the Department of Justice contributing to threat assessments. While the NSA would have been a logical choice based upon their signals intelligence expertise, the Task Group deemed the political sensitivity of assigning telecommunications to an intelligence organization unworkable. The Task Group proposed six possible entities: a cabinet committee reporting to the President and supported by a private sector advisory board; a joint government committee in the Office of the Vice President supported by a private sector advisory board; continuation of NSC oversight; assignment to a single cabinet office; formation of a new organization in the Executive branch and reporting to the President; and designation of an existing organization in the Executive branch and reporting to the President. All of these possibilities included pros and cons relating to the criteria laid out in NSDM 338.

The Report concluded with a series of observation and criteria as it did not want to make recommendations to a new administration.

- The Task Group noted that the first three organizational options were better suited for a more passive governmental role while the latter three would support more aggressive government intervention.
- Cooperation with industry was preferable to federal mandates.
- Competition should continue to be encouraged and security programs should be designed with this in mind.

- The organization must be consultative in nature, but have authority to implement decisions.
- The organization must have expert staff to provide support to the decision making process.
- The organization should not be perceived as a military or intelligence arm of the government by the public so that it will receive public support but at the same time needs direct participation and cooperation with the NSA.
- The organization needed input from the private sector, as stakeholders.

With these criteria in mind, the Task Group favored the creation of a cabinet committee or a government committee in the Office of the Vice President. The Task Group felt that the NSC did not have the proper staff for implementation. Designation of a cabinet portfolio or creation of a new executive office would be advisable only if the government proceeded to issue mandates. Finally, they believed that designation of an existing executive branch agency was inadvisable as their fortunes and influence waxed and waned from administration to administration. The Task Group's findings mirrored those of the Privacy Commission's call for an Office of Information Policy and this is unsurprising given that the authors of these reports had significant overlap, including the Vice President and members of both the Domestic Council and the NSC.[181]

### Choosing to Remain out of the Public Eye: Ford and the NSC

In January 1977, Ford received a memorandum from National Security Advisor Brent Scowcroft and Jim Cannon, Assistant for Domestic Affairs and Director of the Domestic Council on the status of DUCK PINS and associated programs. Ford faced the decision of whether to expand protection to all domestic communications or limit it to sensitive government communications

only. Guiding his thoughts were two reports; a damage assessment to US interests prepared by the intelligence community and technical assessment of US capabilities to protect telecommunications.[182] The threat report concluded that US microwave telecommunications were at continuing risk of interception. The technical assessment asserted that there were no insurmountable technical challenges to deployment, while noting that an "evolutionary approach" utilizing a range of technologies would be necessary to adapt and protect the expanding range of telecommunications.

The memo then focused on two key policy questions; whether to protect the private sector and whether to tell the public about the problem. In arguing to protect the private sector, Scowcroft and Cannon stressed that making a decision would emphasize to the incoming Carter administration the importance of the issues at hand. There was also direct evidence that US national interests were being significantly damaged by Soviet eavesdropping. Finally, if the government did not act and US vulnerabilities became known to the public, private sector carriers would implement security in a piecemeal manner that might not be effective. Scowcroft and Cannon also cited two drawbacks of protecting private sector communications. First, such protection might compromise existing US signal intelligence capabilities being used against the Soviets by identifying and addressing the problem. Second, many of the new common carriers were struggling financially and new equipment might be a significant competitive disadvantage.

With respect to the question of informing the public, Scowcroft and Cannon identified a number of advantages. Private organizations, once warned would take independent measures to protect information. Public disclosure would put the Administration's efforts in the "right perspective."

At the time there were a variety of investigations dealing with government invasions of privacy and the public was concerned about the infringement of their civil rights by government, military and intelligence organizations. Identifying the Soviet threat would explain government actions. Public explanation would also assist in the research, development and deployment of security technologies as the private sector would be more disposed to cooperate. Finally, public disclosure would force the incoming Carter Administration to continue to address the issue. The unredacted disadvantages of public disclosure included generating anti-Soviet sentiment and creating a panic leading to a headlong rush for more security than current technology is able to provide. Scowcroft and Cannon went on to discuss implementation and organizational options for the Task Group report.

Other presidential advisors weighed in on this decision. Ed Schmultz and Philip Buchen of the White House Counsel's office emphasized the importance of carefully explaining the program to the public and Congress so as to allay any fears of the military and intelligence communities' access to the public communications network.[183] In the end, President Ford agreed to implement private sector protection but chose not to make the telecommunications situation public. He further authorized the creation of a joint committee comprised of members of the NSC and the Domestic Council and chaired by Vice President Rockefeller to continue to work on telecommunications security issues.

Four days after President Ford signed the memo ordering the protection of private sector telecommunications and concealing the problem from the public, he issued NSDM 346 "Security of US Telecommunications" which was prefaced by an acknowledgement that microwave radio

was insecure and easy to intercept.[184] It went on to relate that Washington DC government microwave communications had been transferred to cables and that government communications in New York and San Francisco were in the process of being moved to cable. Communications links between the government and sensitive government contractors were also being protected. Microwave communications protection equipment was being developed by the DoD and would be tested in Washington DC within the year. The OTP had developed a deployment plan for these systems for these three cities and the rest of the nation. NSDM 346 further announced the formation of a joint committee chaired by the Vice President and tasked it with deciding whether to encourage private sector cooperation by requiring secure communications in government communications, creating standards and working with the common carriers; or to mandate a protection scheme throughout the national network which would have required legislation to implement. NSDM 346 concluded:

In both these alternatives, the government would establish policy, standards, and regulations, would assist the private sector by making government-developed cryptographic technology available for commercial application, and would promote public acceptance of the need for communications security by making the private sector aware of the nature and scope of the threat as well as the commercial availability of government-approved secure communications. Industry would apply bulk protection techniques to the communications networks and would pass the added costs on to users.[185]

NSDM 346 was the distillation of three years of aggressive policy research, technological investigation, and project deployment which concluded that the public should not be informed.

President Ford and his staff, well versed in information issues through their involvement in the DCCRP, Rockefeller Committee and others viewed the protection of US telecommunications networks as one of its highest priorities. NSDM 346 charted a direct course into the future for the continuation of this policy and the ongoing protection of US telecommunication networks while refraining from revealing US vulnerability to the public. The brief comment in the body of the Rockefeller Report is one of the few acknowledgements of the problem.

## Analysis

This case study interweaves three subcases: the DCCRP, the Rockefeller Commission, and the telecommunications security work of the NSC. These cases overlap chronologically and thematically to explain the origins of federal information policy and look at the issue from an open, semi-open, and closed perspective. In all three subcases, the federal government acted in an ad hoc manner to establish committees, commissions, and working groups to deal with pressing issues of information policy and security with varying degrees of success. One common factor that drove all three organizations forward was the initiative provided by President Ford and Vice President Rockefeller. Both men had a deep appreciation for the importance of computers and telecommunications networks born out of their early work on privacy with the DCCRP. This knowledge advanced telecommunications security policy and refocused the DCCRP from the issue of privacy to the broader issue of information policy. The Rockefeller Commission appears to have accidentally stumbled into the threats being addressed by the NSC and revealed them to the public. Only the efforts of National Security Advisor Scowcroft and Secretary of State Kissinger limited the diffusion of knowledge regarding the foreign surveillance threat. Rockefeller cooperated in this by steering the Commission away from this

topic and towards its stated objective of examining CIA misdeeds. Rockefeller also acted as a gatekeeper between the NSC and the DCCRP to coordinate the creation of information policy.

The DCCRP's formation by Nixon to address privacy concerns was momentous. Nixon formed the DCCRP by bringing together representatives from federal agencies that held and analyzed large volumes of personal information. Under Ford and Rockefeller's leadership, many initiatives were completed to secure personal information held by the government. However, the DCCRP's initiatives that called upon the private sector to voluntarily protect personal information such as credit and medical histories went unheeded. The DCCRP was able to support Congress in the passing of the landmark Privacy Act of 1974, but the DCCRP's greatest successes on the issue of privacy were within the federal government and within participating agencies.

Throughout 1975 and especially in the latter half of the year, the DCCRP's orientation changed from privacy to focus on information policy. This was in part due to the ongoing work and research of the DCCRP. However, it also coincides with the publication of the Rockefeller Commission Report and the implementation of DUCK PINS. The DCCRP's efforts to formulate privacy policy were strongly influenced by Rockefeller's activities in all three efforts.

The revelations contained in the Rockefeller Commission regarding telecommunications security were little more than a footnote but prompted some of the most heated discussions over content within the White House. It seems clear from the documentary record that the Commission examined domestic counterintelligence efforts for the sake of completeness. The Commission

was taken aback by the revelations of the NSA and the PFIAB regarding Soviet surveillance efforts and did not resist Scowcroft and Kissinger's efforts to play down the information in the final report. This may also mark the point at which Rockefeller became aware of the work of the NSC on telecommunications security which was top secret and highly compartmentalized. When Ford issued NSDM 266, Rockefeller was not yet Vice President. By June 1975, when both NSDM 296 and Rockefeller Commission report emerge, Rockefeller was communicating about telecommunications security policy with the NSC but was not on the distribution list for NSDM 296. The speed with which the DCCRP changed its focus to investigate information policy and the subsequent inclusion and mention of Rockefeller in NSC telecommunications security documents indicate that Rockefeller may have also been taken by surprise. President Ford's support for Rockefeller's plan to change the DCCRP's focus to information policy indicates that Ford and Rockefeller were sharing information from the second half of 1975.

The NSC's response to the telecommunications security problem was direct and swift. President Ford issued NSDM 266 almost immediately upon taking office and pressed the NSC with a flurry of subsequent NSDMs. Ford had been concerned about personal privacy since chairing the DCCRP under Nixon. Ford perceived Soviet surveillance to be a grave threat. The NSC acted in concert with few agencies to bring DUCK PINS to fruition. It included the NSA because the protection of federal communications was one of the NSA's prime missions and because the NSA had unique expertise in the field. The NSC also involved the DoD as it was the NSA's parent organization. The DoD also contained the Defense Communications Agency which had experience developing, deploying and maintaining secure communications networks. The OTP was involved almost by default. By charter federal telecommunications policy was the OTP's

responsibility, but almost from the entity's creation during the Nixon Administration it struggled to establish itself, fighting numerous turf battles with the Departments of Commerce and Defense as well as the FCC. Even though the White House had created it, the OTP rarely enjoyed presidential support for its policies and initiatives and it would be abolished by the Carter Administration.

The NSC's interactions with civilian agencies were even more authoritative. It all but ordered the GSA to comply with new telecommunications security requirements. The NSC and the President were extremely wary of Congress and the FCC for fear that any information provided to them would swiftly become headline news. In the post-Watergate environment with multiple investigations like the Rockefeller Commission occurring, Ford and the NSC were acutely aware that the public trust in the federal government was at historic lows. The public would be alarmed to learn that U.S. telecommunications systems were vulnerable to interception by the Soviets and by extension the federal government. They believed that the public would refuse to accept assigning the White House's most secret intelligence agency to protect the vulnerable public phone calls.

The origin of information policy in the federal government centers on President Ford and Vice President Rockefeller. Both men learned about the breadth of personal information held by the federal government through their chairmanship of the DCCRP. Presidential succession and the Rockefeller Commission exposed them to the national security implications of this situation. One reason why they were successful in pushing forward their information policy agenda was their similar vision and the lack of any opposition. Nixon created the DCCRP and Ford created the

Rockefeller Commission and both were responsible to the President. While their work and findings were read by Congress and the public, it was consumed by the White House. The DCCRP, the Rockefeller Commission, and the NSC were beholden to the President and designed to him.

The lack of external oversight over Ford and Rockefeller with respect to information policy and security is startling but unsurprising. The policies they advanced all regulated the actions of the executive branch which they oversaw and were generally quite successful. Indeed, problems emerged when policy moved beyond the executive branch such as the lack of private cooperation with the DCCRP and DUCK PIN's regulatory challenges. Internal squabbles such as OTP's turf struggles were quickly and easily dealt with.

## Conclusions

In the course of exploring telecommunications security, Ford and Rockefeller made a number of key determinations about the relationship between government, industry, and the public with respect to privacy and national security. First, national security trumped privacy. Policymakers were very concerned about the legal, regulatory, and political problems associated with informing the public of the vulnerability of U.S. telecommunications networks. They decided that the breadth of privacy and impact of technology was too poorly understood by the public, unlike the government which had actively been coming to terms with the fusion of computers and telecommunications technologies. Individual privacy was secondary to telecommunications security and information policy. Second, it was imperative that the federal government develop a sound, cogent information policy. The U.S. economy was moving towards an information-based

economy and society and the government needed to begin considering relevant policies. Third, the NSA was in a unique position to lead telecommunications security projects because of its virtual monopoly on the development and deployment of cryptographic systems. During the 1970's, this was clearly true.[186] The federal government and specifically the NSA had expertise and technology that was unparalleled. Finally, the NSC needed to involve common carriers to insure the success of protecting US telecommunications. This conclusion posed significant challenges to policymakers because of the deregulation of the industry and the infrastructural security of AT&T's wireline infrastructure. Because of the urgent nature of US telecommunications security, the NSC had to approach AT&T initially. The NSC also realized that the changing nature of the industry would require them to approach other carriers and reassure them that AT&T's prior interaction with the government was not due to favoritism, but because of AT&T's dominant technological and architectural position.

This new research invites a wide range of questions. How did the Carter Administration view the telecommunications security problem? The Ford Administration had set in motion a range of telecommunications and information policy plans and gave responsibility for their completion to the Carter Administration. A preliminary analysis of the records indicates that the Carter Administration was concerned by the situation and accepted many of the premises of the Ford Administration but modified or ignored others. Ford had designated the scorned OTP as heir to telecommunications security and information policy but the Carter Administration abolished the OTP. How did this alter the path of federal policy? Is the NTIA, the OTP's successor agency the dual heir to the telecommunications security management entity described by Ford Administration documents and the Office of Information Policy? It meets many of the key

criteria laid out in their policy research. With respect to privacy, how did the federal government employ the rhetoric of privacy to secure US telecommunications? Initial federal privacy policy focused on securing the massive amount of information held by the government on the public. The work of the DCCRP and the NSC approached information security from different directions. The DCCRP was concerned with possible government misuse of information while the NSC sought to eliminate foreign acquisition of such information. Limiting disclosure and mandating data encryption protects privacy but more importantly for policy makers in the Ford Administration, limits access to potentially damaging information about the nation and its citizens. My research into the Ford Administration's telecommunications security and information policy offers new insights into the origins of U.S. information policy. It provides new examples of the relationship between common carriers and the federal government in which cooperation is encouraged and demanded by the federal government without the oversight or knowledge of the FCC. What of the FCC? The FCC is largely absent from the documentary record and when mentioned is viewed as more of an impediment. The FCC was concerned with regulating broadcast and common carriers. Nonetheless, the Ford Administration was keen to maintain a level playing field in the common carrier market despite the deployment of new technology and regulations. Finally, the ongoing role of technology is one worthy of further examination. What role if any did telecommunications security have in the adoption of fiber optics and digital switches? Both technologies increased the difficulty and cost of eavesdropping and may have been deemed useful to telecommunications security policy makers. Encryption technology has also been a bone of contention with the clipper chip debate and the emergence of PGP in the 1990's.

The DCCRP initial goal of insuring the privacy of citizens in an information age quickly expanded into a full-fledged examination of information policy. As Rockefeller became aware of not just the necessity of protecting federally held data from not only the federal government but also from foreign governments, privacy necessarily expanded. By the end of the Ford Administration, policymakers agreed that a single entity needed to be created empowered to create, implement, and manage information policy. The unswerving commitment of Ford and Rockefeller to the creation of information policy drove this agenda forward, informed by research bodies like the DCCRP and the Rockefeller Commission.

Telecommunications security and information policy continue to be an issue to the present day. Since 9/11, the federal government has focused on the new threat of terrorism made more virulent through their use of information and communications technologies. This situation is similar to the threat faced by the Ford Administration in August 1974. President Ford and Vice President Rockefeller were thoroughly familiar with privacy and telecommunications security issues through their work leading the DCCRP and the Rockefeller Commission. To them, the Soviet eavesdropping threat and the openness and vulnerability of the US telecommunications network was an urgent problem. The Ford Administration first secured governmental communications through a combination of privacy advocacy and technology adoption within the federal government. Then it began to work with the common carriers to expand security to include the private sector. All of these efforts were performed without addressing the telecommunications security issue to the public. Indeed, the public was purposely kept out of the loop for fear of the political and economic chaos that might ensue from a general panic caused by such revelations. Privacy was the public cover story for telecommunications security in an era

where the public mistrusted the federal government and especially the military and intelligence communities in the wake of the Watergate scandal, the Vietnam War, and CIA activities in the US. The Ford administration believed that despite public distrust it had to take urgent, decisive action to secure US telecommunications from the threat of Soviet eavesdropping.

# Chapter IV: Computer Adoption and Information Policy During the Carter Administration 1977-1981

## Introduction

In 1976, Jimmy Carter entered the White House following a politically tumultuous eight years of Republican scandal and reconciliation under Presidents Nixon and Ford. Carter, a former governor of Georgia was an outsider to both Washington DC and the Federal government unlike his predecessors. President Carter brought with him a White House staff unfamiliar with the federal bureaucracy. The Carter Administration, suspicious of the DC establishment, sought to modernize and streamline the federal government as then Governor Carter had done in Georgia, especially in the face of a looming economic recession.

The Carter Administration's inexperience with the federal bureaucracy and suspicion of DC undermined its efforts to adopt computers for the domestic council and reorganize its information policy. Carter White House officials expended inordinate time, political capital, and money arguing about the Domestic Council's needs while trying to purchase hardware and software. The resultant disagreement blurred the Domestic Council's computerization goals and raised the specter of political embarrassment for the White House, leading to a reorganization of implementation responsibilities within the White House.

During the reorganization of the Office of Telecommunications Policy, White House officials utterly unfamiliar with interagency politics, failed to consult the Department of Defense (DoD) and the Department of Commerce (DoC) which strongly impeded the White House's efforts to

transform the Office of Telecommunications Policy into the National Telecommunications and Information Administration, creating an entity responsible for federal information policy.

The Carter Administration faced a variety of problems but overcame them in a piecemeal fashion with the expenditure of valuable resources. Organizationally, the White House's lack of an established bureaucracy with the exception of the secretariat of the National Security Council left the incoming Carter Administration bereft of institution knowledge as it took power after eight years of democratic rule. The Carter Administration found itself with little institutional memory and few administrative resources, resulting in its reinvention or rediscovery of previously known concepts and policies. This is particularly evident during the reorganization of the OTP as White House staffers repeatedly failed to understand the necessity of consulting stakeholders such as the DoD, DoC, and Congress.

Exacerbating these problems, President Carter did not strongly support his designated leaders on computer adoption and information policy nor did he clearly define their roles and responsibilities. This led to conflict between senior officials within the White House. President Carter saw computers and information policy as tools to increase the efficiency of the federal government. Richard Hardin who Carter appointed to examine computer usage within the White House and later would be the first director of the Office of Administration (OA) shared this vision with Carter as he had led the modernization of Georgia's information systems. Hardin's background with consulting firm Arthur Anderson was reflected in his work, producing reports and strategic vision papers for the White House. This work style was unsuited for the federal environment with multiple powerful stakeholders, accountability measures, and significant

resource constraints. It also failed to account for the needs of users, resulting in a backlash within the Domestic Council.

The Carter Administration was also a victim of its dynamic technological environment. In the late 1970's, computers became a widely adopted business technology as inexpensive mini-computers and hobbyist microcomputers began to replace mainframe computers. But commercial technology adoption in business was a top-down process with little input from actual users. Computer programmers, operators, and engineers acted as intermediaries between computers and information seekers. Mini-computers and microcomputers began to blur this line. Hardin's proposals sought to hit a moving technological target and would cost resources that the White House simply didn't have.

The Carter White House's experience with information policy and computers was filled with by policy missteps, administrative turf battles, and awkward adoption. By 1980, the Carter Administration had remarkably little to show for its efforts. The administration finally agreed to the need for information policy and had assigned it to a new agency the National Telecommunications and Information Administration (NTIA) after a bruising administrative fight to abolish its predecessor, the Office of Telecommunications Policy (OTP). Hardin had created the OA which deployed over forty applications to serve the needs of the Domestic Council (DC) but with little indication of the cost savings or improved efficiency that were the original goal of the project.

This case study of computer adoption and information policy in the Carter White House illustrates the changing nature and views of computer technology by the officials swept into power after Carter's victory over President Ford in the 1976 elections. These officials sought to reinvent the White House and improve the efficiency of the federal government through the liberal application of computer technology and forward thinking policy. While taking credit for important new entities such as the OA and the NTIA, the Carter Administration paid a high price. Carter's White House staff consistently underestimated the power of the departmental bureaucracies within the executive branch and other entities. They were alternately oblivious to or dismissive of earlier innovations, leading them to reinvent policy. Finally, Carter officials were plagued by a lack of communication leading to missed opportunities to reach consensus, growing resentment between officials, and ultimately impeding technology adoption.

This case study consists of two specific sub-cases that illustrate these themes. The first case examines the abolition of the OTP and creation of the NTIA, showing how the Carter Administration struggled to implement long prepared policy in the face of bureaucratic obstacles. The second case explores the adoption of computers by the Domestic Council and the creation of the OA, explaining how the administration succeeded in spite of its lack of communication and failure to recognize existing stakeholders within the government. These cases epitomize both the Carter administration's misplaced technological vision and administrative myopia.

The Carter Administration stumbled through computer adoption and information policy. Multiple organizations and individuals vied for control and power over change in an ad hoc manner. Administration officials frequently were at odds with each other and other executive

branch agencies. These officials also attempted to implement change from the top down with mixed results. While they created significant institutional changes including the creation of the NTIA and the OA, their high resource cost diminished their achievements.

## History of Computing

The computer technology environment in the late 1970's was very dynamic. Mainframes, mini-computers and micro-computers all existed side by side, with mainframes still dominating the market. Mini-computers with their lower cost structure were beginning to edge out mainframes in some markets and micro-computers were slowly extending beyond the hobbyist market. Mainframes and micro-computers dominated government needs.[187]

Similarly, the software market was changing. A variety of applications for mainframes and even mini-computers were widely available including text processing. Applications for the newer micro-computers were not as readily available owing to their more recent arrival.[188] Networking was also in its infancy. The Internet had progressed beyond its experimental stages and was linking academic and government networks.[189] Xerox was just unveiling Ethernet technology. Moreover, innovation was accelerating in all of these technological areas.

The convergence of these networking and computing technologies had significant ramifications for Richard Neustadt's reorganization of the OTP. He sought to expand the purview of its successor agency to include information policy, which had already been a major concern of the preceding Ford administration.

Richard Harden, the initial head of the computerization of the Domestic Council was eager to make the White house a shining example of the newest technologies available. He wanted to make White House information available to anyone who could take a seat at a terminal. He was interested in the Xerox ALTO system, one of the first micro-computer systems which employed then exotic technologies such as Ethernet and laser printers. This system was untested and cutting edge. He also sought and had limited Internet and e-mail accounts made available to him and his staff after speaking with DARPA.

Both men, in crafting their policies and strategies identified the ongoing technological change occurring within the computer industry and sought to incorporate it into their plans and policies. The cases will indicate that despite these intentions, their execution failed in a variety of ways leading to almost pyrrhic success.

### Science and Technology Studies

While aware of the technological innovations happening around them, both Neustadt and Harden failed to appreciate the social context into which they were attempting to introduce change. Both men did not take into account their interaction with the established bureaucracy of the federal government. They also failed to take into account, users' needs, desires and fears. In an environment in which they were attempting to introduce significant socio-technical change, these oversights would unsurprisingly cripple their efforts. They failed to appreciate how their technological and policy initiatives were situated within their environment.[190]

Hardin and Neustadt pursued their policy initiatives under the aegis of the domestic policy staff. Nonetheless, their efforts were hindered by Cold War security concerns. Harden's desire to adopt the ALTO and make the White House a shining example to technological innovation was crushed by the Secret Service's considered opinion that the cost of shielding the system from eavesdropping would be prohibitive. Neustadt's policy initiatives all but ignored the well developed information policy being pursued by the Carter Administration's National Security Council. These men were outside of the rhetoric of Edwards' closed world but nevertheless their efforts came into conflict with the realities of the Cold War. The deflected their efforts but did not defeat them. Harden's user friendly vision of networked information systems was at odds with the closed rhetoric of the Cold War. Neustadt's reorganization of the OTP continued in spite of the work of the NSC and the objections of the DoD.[191]

Finally, the documentary record does not convey the impression that either man was a systems expert even when considering the system as the federal bureaucracy. Neither man emerged out of the systems management field that Hughes identifies as such a strong advantage. In fact, both men demonstrate a remarkable degree of ineptitude in dealing with the federal bureaucracy even after discovering problems. If we extend Hughes's definition to include bureaucratic expertise, these men lacked it; further undermining their chances for a successful outcome.[192]

### Diffusion of Innovation

In the case of domestic council information automation, one can clearly identify Harden as an innovator. He is seeking to obtain the latest technology for the White House and is willing to spare no expense. This unfortunately ignores the fact that the White house is unwilling and

functionally incapable of adopting an unproven technology. This tendency is strengthened by the general reluctance if not outright hostility of the staff to Harden's proposals. Their lack of respect for him undermines his potential standing as a technological evangelist within the organization.[193]

The waters are further muddied by Harden's awkward process of organizational innovation. He did not interact with users or evaluate existing processes to determine how they might be transferred over to computer; rather he asserted, based on his experience and industry best practices that certain computers and software would increase efficiency. In his striving to bring about efficiency, he did not take effectiveness into consideration.[194]

### White House Administration

President Carter's role in these cases is remote. Both Harden and Neustadt worked for Carter prior to his election but the amount of direct supervision each received was negligible. If these cases are representative, it seems clear that Carter favored politicization over centralization, at least on these issues. At the same the lack of direction can be seen as a major hindrance to the efforts of both men.[195]

At the same time, both cases struggled under the weight of avoiding negative publicity. Neustadt's travails with Congress and the executive branch threatened to be an embarrassment to the President. Similarly, Harden's arguments over computerization were a point of contention and required the intervention of the Office of Legal Council to mediate. The potential of the embarrassment factor precluded both situations from worsening.[196]

Most importantly neither Harden nor Neustadt demonstrated any semblance of coordination. Both men were unable to vertically coordinate within the White House or horizontally coordinate with other branches of the executive branch or Congress. They were also unable to maintain credible commitment by sacrificing the overall goal of institutional efficiency in favor local or personal goals. Neustadt, by the end of OTP reorganization just wanted to conclude the process without angering any other stakeholders while Harden, frustrated by his resource constraints was ready to move along to new challenges having handed "successfully" founded the Office of Administration. [197]

## Surveillance Studies

The Federal government and the White House in particular have always been concerned by the potential threat of foreign eavesdropping. In the case of the computerization of the Domestic Council, the Secret Service intervened to assert that the ALTO system was in sufficiently shielded and emanated electromagnetic signals that could be used to reconstruct information on computer screens, conveyed by cables, or output from printers.

The Federal government had taken steps from the early Cold War to protect its telecommunications and electronics from eavesdropping by creating TEMPEST standards. TEMPEST was a standard for shielding electronics to conceal their emanations. In the 1970's, sensitive communications equipment that would carry classified information was built with TEMPEST already embedded. Retrofitting to the standard was prohibitively expensive, especially for a Carter administration seeking to minimize costs.[198]

## Dramatis Personae

Richard Harden

Richard Harden was the first director of the Office of Administration. An organizational consultant from Georgia, Harden had worked as Commissioner of Human Resources under then Governor Carter in Georgia, introducing that state's bureaucracy to information automation. In Georgia, Harden had impressed Carter with his organizing acumen acquired in part through his early work with Arthur Anderson and with his work as Commissioner and on Carter's presidential campaign.[199]

Richard Neustadt

Rick Neustadt served in the Carter White House as assistant director of the Domestic Policy Staff. Prior to this, he served on Carter's 1976 presidential campaign as an advisor. Neustadt was given the responsibility of reorganizing the Office of Telecommunications Policy by the director of the domestic policy staff, Stu Eizenstat.

Office of Telecommunications Policy (OTP)

In 1968, President Johnson formed the President's Task Force on Telecommunications Policy headed by Undersecretary of State Walt Rostow. The Rostow Report noted that there was little or no coordination within the federal government on telecommunications policy and called for the formation of an entity reporting to the president that would advise on and manage federal telecommunications policy. Johnson left the creation of the OTP to his successor Nixon who created it in 1970 by executive order under the leadership of Clay Whitehead.

The OTP was charged with managing federal telecommunications and computer policy. It also provided advice to the President and the rest of the federal government on telecommunications and computer issues. During the Ford Administration it assisted the NSC with developing telecommunications policy. The OTP was disbanded in 1978 by President Carter.

National Telecommunications and Information Administration (NTIA)

The NTIA was created in 1978 by President Carter as a successor agency to the OTP. Located within the Department of Commerce, it is responsible for evaluating communication and information technologies for the White House and the federal government. It also generates and promulgates related policy advice to the executive branch.

Office of Administration (OA)

The Office of Administration was created in 1977 by President Carter within the Executive Office of the President (EOP). It was and continues to be responsible for maintaining information and records within the White House outside the domain of the national Security Council, which manages its own records. The OA was initially proposed by Richard Hardin who envisioned the OA as the central White House data processing and information management.

## Source Material

The cases are based upon original research conducted at the Jimmy Carter Presidential Library. Many of the records come from the personal files of the primary actors within these cases, augmented by relevant peripheral accounts.

## Reinventing the Wheel: The Case of the OTP and the NTIA

The Office of Telecommunications Policy since its creation by the Nixon Administration had been a lightening rod of criticism. Almost from its inception, various agencies, most notably the DoD and the DoC had called for its abolishment. Despite its existence as an entity within the Executive Office of the President (EOP), the Nixon and Ford Administrations had frequently been at odds with it.

From its inception, the OTP struggled to assert authority. Executive agencies including the General Services Administration (GSA), Office of Management and Budget (OMB), DoD, and DoC vied with the OTP to maintain their autonomy on telecommunications matters. The GSA was responsible for acquiring telecommunications goods and services for the federal government. The OMB had previously set many policies regarding computer and telecommunications usage and acquisition, both of which were covered by the OTP's charter. The DoD's Defense Communications Agency (DCA) was in charge of all communications for the DoD. Finally, the DoC maintained a telecommunications policy organization that provided research support to the rest of the federal government. In theory, the OTP was partially responsible for these efforts; in practice, none of these agencies were willing to concede any of

their responsibilities. In short, the OTP struggled to assume responsibilities that were already shouldered.

The OTP's competitors were not limited to the executive branch. The OTP frequently sent out research findings to the Federal Communications Commission (FCC) on overlapping issues such as broadcasting and satellite regulation. Within the White House, the OTP had offered to assist the NSC in its information automation project citing its authority over federal computing. The NSC declined.

The OTP's task in asserting its authority was made more difficult by the Nixon administration's hostility to the organization. The OTP and Whitehead frequently released findings and press releases without consultation that put the Nixon administration in a difficult or embarrassing position. Notably, the OTP released policy suggestions on public broadcasting that while in line with the Nixon administration's general hostility to the mass media, made the OTP a lightning rod for criticism from the public. The OTP also released policy pronouncements and advanced policy initiatives such as its open skies initiative on satellites without consulting or coordinating with other agencies. Nixon's displeasure was evidenced by the complete absence of interaction between Whitehead and Nixon.

Following President Nixon's resignation and President Ford's accession, it was little surprise that the new administration was interested in abolishing the OTP. The OTP however did not go quietly and mustered Congressional support to its continued existence. It also continued to fight running budget battles with the DoC on telecommunications research, eventually resolving into

an uneasy partnership across a range of shared research responsibilities. As noted in the previous chapter, the Ford Administration was deeply involved in the effort to secure US telecommunications networks and the OTP had become involved in the research and planning of this effort. The OTP's role in this effort is difficult to discern but based upon the documentary evidence, the Ford Administration believed that the OTP was an innocuous organization to lead such an effort and moreover already had mandated responsibilities in this area. By the end of the Ford Administration, the OTP had managed to demonstrate institutional resilience in the face of efforts to abolish it.

"Is this what the Thrill of power is all about?"

-Neustadt to Eizenstat[200]

### The Carter Administration

Even before taking office, the Carter Administration had decided to abolish the OTP. Richard Neustadt authored a briefing book for the Carter-Mondale transition team in which he recounted the OTP's troubled history. Neustadt deemed the organization to be largely a failure due to its poor leadership and the constant interdepartmental struggles between it and the DoC's Office of Telecommunications which sometimes had to be settled in cabinet chambers.[201]

The dissolution of the OTP and the subsequent creation of the NTIA might have been a foregone conclusion, but the process was anything but easy. Initially, Neustadt suggested that the new entity which would eventually be named the NTIA, absorb the DoC's Office of

Telecommunications and the OTP. He further recommended that the OMB should retain authority to manage communications procurement with the assistance of the new NTIA as the OMB had only three employees detailed to the task. Neustadt suggested that the DoC manage budgetary and manpower requirements for the new organization in the midst of the transition.[202]

By August 1977, Neustadt was still struggling with the implementation of a new executive order (EO) abolishing the OTP and reorganizing telecommunications policy. In particular there were five key areas that needed to be addressed by the new EO: international communications policy, the role of the domestic policy staff, spectrum management, governmental communications, and information policy. International communication policy was at issue because the Department of State (DoS) considered it within their purview. The OTP and the DoS had suffered from unclear boundaries and poor communications. Neustadt asked DoS for their views on resolving this issue. Stu Eizenstat told Neustadt that the Domestic Policy staff did not want any responsibilities with respect to information policy including national security issues and that all of these responsibilities should be ceded to the DoC. Neustadt suggested that spectrum management should also be handled by DoC with OMB functioning as an appeals body to resolve disputes. Neustadt suggested that the new EO should delegate responsibility for government communications to the OMB. This was a delicate matter as OMB, as previously mentioned, maintained only three staff members to oversee a $10 billion budget across the federal government. Neustadt asserted that government policy impacted public policy so OMB's decisions needed to be supported by DoC. Finally, Neustadt asserted that information policy be added to the new entities area of responsibility as the reorganization staff that he had overseen had come to the conclusion that technological advances were swiftly merging information and

telecommunications. OTP had previous assumed some of this responsibility but it had not been specifically identified in their charter.[203]

Even the name of the new entity in the DoC elicited significant debate. The idea of a National Telecommunications Administration was initially proposed by Senator Hollings in July 1977.[204] The addition of "information" in the NTIA was at Neustadt's suggestion, reflecting his view of the inseparability of telecommunications and information policy. While DoC supported this change, OMB resisted. Neustadt believed that their resistance was based upon OMB's concern that the congressional Government Affairs Committees would demand an additional report to expand the authority of the DoC. Neustadt concluded that this issue could be resolved through favorable leadership in the DoC and cooperation from the DoS and OMB and blamed much of the turf battles on the previous leadership of the OTP which had asserted its authority in an "overly aggressive" manner.[205]

"Administration" was another potential sticking point in the new entity's name. The Carter White House was seeking to shrink government and the creation of a new administration was a potential political problem. On the other hand, Neustadt believed using "administration" would be a gesture of goodwill towards South Caroline Senator Hollings, though potentially offending Representative Brooks.[206]

### Information Policy Challenges

Even after Neustadt resolved the naming issues and the executive order was in its final drafting stages, the fledgling NTIA was facing a complex of minefield of issues and turf battles. The new

NTIA faced the legacy of the OTP's attempts to craft federal telecommunications policy and the battles that had been fought in the previous eight years. NTIA also had to coordinate across almost every important agency within the executive branch, many of whom were not in the practice of conferring with other agencies on telecommunications matters. Furthermore, the OTP's transition also moved the focus for federal policy from the EOP to the DoC and invoked further turf turmoil. In the end, Neustadt identified the DoD, DoC, DoS, GSA, OMB, National Science Foundation (NSF), and Health, Education, and Welfare (HEW) as stakeholding agencies with interests in procurement, international policy, common carrier policy, spectrum management, and research. Neustadt was also concerned that realignment could upset relations with key congressmen including Representative Brooks. To mitigate these challenges, Neustadt proposed the creation of a working group in the White House with representatives of all of the stakeholding agencies to discuss issues, exchange information, and try to resolve disputes.[207] Neustadt as assistant director of the Domestic policy staff was at the center of the Carter Administration's efforts to develop a comprehensive information policy. In October 1977, he identified 13 key issues that would be included under the information policy rubric.

**Table 7: Carter Administration Information Policy Issues October 1977**

| Issue | Responding Agency |
|---|---|
| The future of the US Postal Service | DoC/Domestic Policy Staff (DPS)/OMB |
| Regulation of the Communications Common Carrier Industry | DoC/DPS |
| Regulation of the broadcast and cable industries | DoC/DPS |
| Home Computers and communications | DoC/DPS |
| Government purchase and management of | Presidential Review Memorandum (PRM) |

| Issue | Responding Agency |
|---|---|
| telecommunications systems | |
| Government purchase and management of data processing systems | PRM |
| Privacy | PRM |
| Distribution of government-held information | PRM |
| Spectrum planning | DoC/DPS |
| Public telecommunications | DoC/DPS |
| International information flows | |
| Electronic funds transfers | Independent Commission |
| Advertising | |

This laundry list of information policy issues illustrates a fundamental misunderstanding of the role of the White House in the policy making process and demonstrates a marked refusal to acknowledge or ignorance of the work in these areas by previous administrations. Issues in the list relating to public telecommunications and broadcast networks were the domain of the FCC. All of the issues relating to privacy had been comprehensively explored by Ford's privacy commission resulting in part in the Privacy Act of 1974. Federal government acquisitions were already managed and controlled by the DoD, OMB, and the GSA. Congress had also weighed in on this issue with the Brooks Act of 1965 which sought to economize federal computer acquisitions.[208]

Stu Eizenstat, executive policy director of the Domestic Policy staff was not impressed with Neustadt's suggestion. "Information policy" was simply too broad, amorphous and involved too many stakeholders for executive action to make meaningful gains except in certain cases such as privacy. Eizenstat also believed that examining information policy would provide an opportunity for all of the relevant stakeholders to begin offering suggestions and input on any issue under the rubric. Neustadt affirmed that the decision to make the DoC the lead agency on the issue of communications was good, though he harbored reservations about the process leading to the decision. Neustadt also voiced frustration with the culture of the Carter White House, which was at odds with its effort to streamline and add efficiency to the government.[209]

Eizenstat was already unwillingly involved in the NTIA's issues even prior to its formation. In December 1977, he wrote to the OMB on behalf of the NTIA. The OMB had slashed the DoC's budget numbers for the NTIA which Eizenstat explained would hamstring the organization's ability to perform its duties and advise on policy. He noted that the OTP had suffered from similar problems which had hamstrung its efforts to fulfill its responsibilities. On behalf of the Domestic Policy Council, Eizenstat requested that the funding be restored noting that they were relatively small amounts of money that would have dramatic effects, especially for a new bureaucratic entity that was just beginning its work.[210]

Neustadt advised the fledgling NTIA that the Carter Administration would be seeking advice on a seven issues during 1978: public broadcasting, revision of the Communications Act, US position and policy for the World Radio Conference, privacy, Soviet interception of the telephone system, postal issues including electronic funds transfer and e-mail, and enhancement of rural communications.[211] All of these issues, with the exception of the World Radio

Conference policy papers had been addressed by research conducted by the Ford Administration. Neustadt noted that the DoC was already deeply involved in the Soviet telephone surveillance issue.

By March 1978, the definition of terms and responsibilities of the new organization and the new EO were still unresolved. Neustadt in a warning letter to Eizenstat explained that Congress had reinterpreted the plan, dramatically shifting its meaning. The original intent was to transfer most of the OTP's responsibilities to the DoC with a few functions remaining with the EOP. Representative Brooks had amended the plan to instead make OMB responsible for policy while the NTIA would be responsible for research and engineering. Hollings, Brooks senatorial counterpart held to the original intent of the plan and the committees found themselves at loggerheads. Neustadt opined that Brooks's reinterpretation was based largely on the fact that Brooks had oversight over OMB as Chair of the Government Affairs committee but no influence over DoC and did not want to lose authority over federal telecommunications systems.[212]

Neustadt if anything understated the scope of the problem to Eizenstat. Mary Jo Manning, Senator Hollings's aide on the Senate Communications Subcommittee communicated to Neustadt that the Senator felt that the most recent draft was illegal as it deviated from the original proposal in scope and furthermore believed that the Administration broke its word to the Senate when broaching the topic of the abolishment of the OTP of which Hollings had been a strong supporter. While Neustadt believed that these arguments might not win the day, he was convinced that Hollings could hold highly embarrassing hearings "on the foul-ups in our first

Reorganization Plan."[213] At the same time, Neustadt was concerned about angering Brooks in the House of Representatives.

Neustadt then learned that in the previous October the DoS, DoD, and GSA had not been consulted about the plan and were strenuously objecting to the original draft EO. Neustadt informed Eizenstat that he had worked to address their concerns. He then had to deal with the struggle between the EO, OMB, Hollings and Brooks which had not been resolved. Neustadt warned Eizenstat that the President might have to get involved and make a decision on the competing plans of detailing the balance of authority and responsibility between OMB and NTIA with Brooks supporting OMB's primacy and Hollings supporting DoC.[214]

Neustadt suggested some modifications in the language of the EO to appease Hollings and not ruffle Brooks by restoring the intent and language of the EO to favor DoC rather than the OMB. He also suggested that a presidential statement emphasizing the role that the DoC would have on telecommunications policy coupled with some outreach efforts to show good faith to both Hollings and Brooks.[215]

By June 1979, Neustadt was still tracking information policy issues but the initiative had shifted to the Congress. Neustadt sought the advice of staff members on a range of bills moving through congress dealing with information policy including amendments to the Freedom of Information Act, Copyright amendments, and a report reorganizing government automatic data processing (ADP). He also sought additional issues of interest and suggestions and clarifications regarding the already identified issues.[216] Neustadt found that the ongoing management of information policy issues to be challenging.[217]

## Information Policy and National Security

In the midst of the hard fought battle over the reorganization of the OTP into the NTIA, Neustadt and his staff had all but ignored the national security elements of information policy. Previously, the Ford Administration had also examined information policy and inextricably linked public policy and national security policy. The available documents of the Carter Administration do not reflect this understanding. Rather, Neustadt seems to have completely excluded national security concerns from information policy and making the information policy concerns of Carter's NSC difficult to communicate if not articulate.

From the beginning of the Carter Administration, the NSC had been forced to address the issue of Soviet Surveillance of US telecommunications networks. In Presidential Directive NSC-24 dated November 1977, National Security Advisor Zbigniew Brzezinski conveyed Carter's decision based upon the policies inherited from Ford and addition study conducted by the NSC. Carter had decided to mandate that classified information relating to national defense and foreign relations would be only transmitted via secure channels. Other government information that might be useful to a foreign power should be "protected." The private sector should be warned about the threat to sensitive information should be encouraged to take appropriate measures. Carter also encouraged the FCC and the common carriers to protect their networks from foreign surveillance through policy and legislation if necessary.[218]

To accomplish these ends, Carter first directed that the government brief private sector telecommunications carriers and key government contractors, convey to them with information

about the eavesdropping threat, and provide technology with which to develop countermeasures. The Secretary of Defense was to take personal charge of this program with respect to government contractors holding classified materials. US government personnel were to be given additional security training to cope with the threat. Carter directed the government to continue research and development into technical countermeasures to foreign surveillance including the secure wire line program DUCKPINS and the adoption of Executive Secure Voice Network (ESVN) for voice communications.[219]

To support this, Carter authorized the NSC's Special Coordination Committee (SCC) to create a special Subcommittee on Telecommunications Protection (STP). The STP was chaired by the director of the Office of Science and Technology Policy (OSTP) with support for the DoC. Membership included DoS, DoD, CIA, NSA, Treasury, Justice, Transportation, energy and NSC staff. The STP would manage day to day operations and file annual progress reports with the NSC. The Secretaries of Defense and Commerce were singled out for special roles under this regime. NSC-24 named the Secretary of Defense Executive Agent for communications security to protect government-derived classified information and unclassified national security related information. The directive named the Secretary of Commerce Executive Agent for communications protection for all non-national security related unclassified information and for the commercial and private sectors, assisting them to increase their level of communications protection and privacy. Individual agencies were responsible for their own communications security and emanations practices. Funding and legalities for these programs was to be handled by the OMB and the Attorney General. The directive also rescinded the four National Security Decision Memorandums issued by the Ford Administration in favor of NSC-24.[220]

NSC-24 laid down the foundation for federal information security policy. It defined areas of responsibility and divided them between the DoD and the DoC. The directive does not mention any involvement by the OTP or what would become the NTIA; although it is likely that the as the DoC's primary telecommunications policy research organization, it would be tasked with many of these responsibilities. There is some evidence that Neustadt was aware of this decision as he was on the directive's distribution list.[221] Neustadt was aware that the OTP had significant national security responsibilities. In fact, the OTP was actively involved in the crafting of NSC-24. William Thaler, acting head of the OTP also was also head of the NSC's subcommittee for drafting NSC-24.[222]

## Epilogue

In September 1977, before the OTP reorganization was finally resolved, C.L. Haslam, General Counsel for the DoC wrote to Stu Eizenstat to deliver a post-mortem on the reorganization process. Haslam noted a series of problems with the process and made recommendations for corrective action.

- Haslam noted that the actual reorganization plan was poorly worded and vague leading to arguments between DoC, OMB and Congressional interests over meaning.
- Congressional interactions were haphazard and did not consistently involve the DoC. Haslam asserted that congressional feedback to the DoC was frequently inconsistent with understandings to which the DoC had previously agreed.
- The reorganization plan did not clearly identify the reorganizational responsibilities of either OMB or DoC leaving both agencies how to proceed.

- The federal government was inadequately resourcing the new NTIA. Haslam felt that the OTP was effectively being dismantled and its responsibilities forced upon the NTIA.
- These problems may have been enhanced by OMB's role as drafter of the plan and functional agency involved in the plan set up a conflict of interest.

The result of these problems led to problems in defining the authority of the new agency and congressional negotiation issues. It also diminished the perceived authority of the NTIA in the eyes of Congress and the rest of the federal government, especially with representative Brooks seeking to minimize DoC's authority and influence.[223]

Haslam suggested that future reorganizational plans should be drafted clearly and terms well defined. Congressional relations should be emphasized to create a sense of involvement among stakeholders. Clear arbiters should be designated to resolve issues that arise in reorganization. Temporary budgets and staffing should be extended to cover the responsibilities of merged organizations to avoid overwhelming them. Stakeholders should be sensitive to OMB's involvement especially when OMB is also impacted by their own policy.[224]

Neustadt commented on this letter to Eizenstadt asserting that Haslam's critiques were misplaced and believed that it was simply an attempt by the DoC to expand its influence. Neustadt told Eizenstat that the reorganization matter was already settled, even though the reorganization would not be resolved for some months. Neustadt also told Eizenstat that he had already drafted a reply and saw "no reason for you to get into this." Eizenstat was not so sanguine. Writing on the memo, he asked Neustadt if Haslam's description of events was correct.[225] More pointedly, Eizenstat added to Neustadt's perfunctory note to Haslam:

> "C.L.: Your memo is first rate! I frankly wish I could get more involved in these plans before they are sent up. My role was extremely secondary and the only issue which you raised which really came to my attention directly was the Brooks amendment. I was informed a satisfactory arrangement had been reached. I hope your advice will be followed in the future. Thanks for your thoughts. Stu"[226]

Neustadt's leadership in the reorganization of the OTP into the NTIA weakened the new NTIA with stakeholders in the White House, the federal bureaucracy, and Congress. The NTIA's ongoing role in national security matters was not discussed with stakeholders outside the NSC until after NSC-24 and only then in the context of the DoC's function as an Executive Agent.

The debate and process of OTP reorganization was continuously hampered by a fundamental lack of understanding by Neustadt and his staff with respect to advancing agendas in the federal government. Information policy as a topic still had importance, but had lost the champions it had during the previous administration where both President Ford and Vice President Rockefeller were directly involved in the crafting and shaping of information policy. Neustadt proved to be a weak advocate for what had been an important policy initiative and in the process diminished the Carter Administration's efficacy on information policy issues.

This process also directly detracted from the business of making information policy. The course of these negotiations occupied the attention of the OTP and Office of Telecommunications. Ongoing projects slowed down as morale sank among employees in both agencies as fears of budget and staff cuts filtered through them. Only in areas such as national security where powerful agencies such as the NSC drove policy forward was there progress.

## Harden: Architect of the Office of Administration

At the same time that Neustadt was struggling to reorganize the OTP, Richard Harden, Carter's special assistant for budget and organization began wrestling with the challenge of automating information for domestic policymakers in the White House.

Harden was a vocal evangelist within the Carter White House for information and would spearhead the creation of the Office of Administration. Like Neustadt, however, his vision was undercut by his inexperience with the federal bureaucracy and the broad array of stakeholders involved in decision making. Harden also demonstrated a breathtaking disregard for the needs of technology users impeding technology adoption and hindering the development of the OA.

As early as May 1977, the idea for an Office of Data processing services had emerged from the Oval Office. President Carter in his February 2 1977 address had called for the reduction in White House Staff. Senior officials Noel Sterritt and Hugh Carter saw that information automation was an "essential" method of shouldering the increased workload following staff cuts.[227]

Harden was aware of the work that had occurred in the previous two administrations with respect to information automation in the NSC. In an interview with an official of the NSC Secretariat in June 1977, Harden learned of the basic functions of the information automation system including its document routing system, computer indexing system, and hardware configuration. A number of key points and understandings emerged from this ninety minute interview. First, while the NSC had a larger staff than the Domestic Policy Council (DPC), the DPC received information

from more sources and would likely require a more substantial staff to handle the expected information flow. The NSC system was complicated but flexible and developed over many years. The NSC had also enforced its procedures to make them routine. Finally, the DPC had yet to define its role in the reorganization process or support systems. Nonetheless it had still generated many documents that would need to be organized.[228]

These findings raised a series of questions in the minds of Harden's staff about the applicability of the NSC systems. To begin, the DPC's administrative needs were still undefined and problems with the NSC had not been explored. What level of staffing would be needed to maintain the larger system required to meet the DPC's needs? The whole issue of secrecy and confidentiality with respect to freedom of information requests would have to be addressed. Finally, would the DPC want old materials entered into the system?[229]

Harden addressed the question of the computing needs of the White House to the OMB in June 1977. Writing to the OMB he suggested that the topic of data processing support be reviewed in a study to evaluate existing EOP applications and taking three to six months. This was to be followed by a second study to evaluate hardware requirements.[230] In a companion memo to Hugh Carter President Carter's Special Assistant for Administration, Harden proposed splitting the reorganizational responsibilities with Carter along technological lines with Harden retaining the information technology portfolio.[231]

Harden and his staff completed the data processing study in August 1977 and identified twenty systems using twenty-six different terminals to access information. Information handling

frequently had a literal meaning as documents were hand carried from building to building. The absence of word processing capabilities and graphics capabilities meant that heavily revised documents could go through up to 40 retypings. With respect to existing data processing systems, the report noted that the lack of equipment standardization in the EOP would put and increasingly heavy burden on future administrations. The report identified the two most crucial challenges to the EOP was information handling at the organizational unit level and communication between organizational units and the outside world.[232]

The remainder of the report was a catalog of existing EOP systems. Harden's staff gathered information from senior level staff in EOP units such as the NSC, Records Office and the Presidential Personnel Office. Each entry described: a particular software system; its purpose; the hardware utilized; and a brief history. The description does not account for personnel required to operate the system, associated costs, or amount of data handled.[233] The composition of a June 1977 report was similar but briefer, focusing only applications, department, hardware and a contact point.[234]

In a memo to President Carter in September 1977, Harden wrote that the new central administrative unit on which he was working was coming along well. This entity would handle a number of administrative needs of the White House including payroll, maintaining a library, supplies, and White House orientation. The new entity also included a data processing advisory committee and data processing applications group. Harden anticipated that there would be accompanying staffing cuts as the unit finished establishing itself. President Carter personally approved of the progress.[235]

In December 1977, President Carter issued an Executive Order creating the Office of Administration. Its responsibilities were the same as those proposed by Harden who President Carter named its first director.[236]

### Office of Administration: Early Organization

It was not until April of 1978 that Harden and his staff began to finally write a comprehensive EOP Data Processing plan. The plan consisted of six parts: an introduction, user requirements, coordination with external systems, security requirements, equipment requirements, and software requirements. In discussing with his assistant Carl Calo, Harden betrays an alarming degree of detachment and lack of understanding. "User requirements" consist of the types of services needed by users rather than anything related to training employees to use the system. Harden acknowledged that he lacked answers to many security questions and assumed that the NSC computer system would require some kind of additional security. In making this assertion Harden presumes that the OA will be given authority over the NSC computer system which was unlikely to have occurred in any circumstance. He also told Calo that he was depending on him for his expertise in the hardware and applications sections. There is no discussion of timeframe or budget.[237]

In the April 1978 proposal describes a complex computer system for the White House. The introduction describes Harden's process. The OA received input from industry experts and representatives from EOP agencies. Then, they matched the needs described by the experts to the equipment offerings of thirty vendors. Following that, Harden asked for additional input from White House officials and industry authorities. The result was a robust computer network

including processors, storage, terminals, e-mail, access to external information systems such as the New York Time and Congress, and internet access. Software offerings included word processing, project management, filing, microfiche management for users running the gamut the president to file clerks. In addition, special purpose systems for particular agencies e.g. budgeting software for OMB were anticipated. The proposal asserted that each such application would be developed and delivered "within 2-3 weeks." [238]

The proposal also asserted that the new system would connect to a wide range of external information sources through terminals throughout the White House. Another part of the communications capabilities of the system was an email (messaging) system with the capability of mass distribution. The proposal did not address the cost for acquisition of these capabilities.[239]

The hardware requirements of the system were formidable. The proposal called for terminal-based workstations, a mini-computer, printers of various specifications including page, letter-quality, and micrographic. A communications processor for e-mail handling and networking, a host computer to manage databases, and early Internet routers were also included.[240]

Harden envisioned that the security requirements of the new system could be adjusted to the usage of individual terminals and systems. The proposal acknowledged that highly secure systems were expensive requiring shielding, security clearance checks, and secure spaces for the equipment. To address this, the proposal suggested that stand alone secure terminals could selectively be attached and detached from the network depending on the usage. In addition, the system would maintain a complete record of individual user's file access.[241]

The problems of Harden's proposal were laid bare by the Presidential Reorganization Project (PRP) which was responsible for oversight of Carter's ongoing reforms and government reorganization. In a memo shortly after Harden and Calo's April presentation, the PRP found that the proposal lacked perspective which made the strength of the proposal difficult if not impossible to assess as it focused on creating a new system without addressing the migration from older systems which the PRP suggested was 95% of the actual task. Moreover, the proposal's forward focus begged as many questions about what information was not presented as was presented as it did not address the 95% of the existing systems. Second, the hardware requirements were apparently unrelated to the size and scope of actual needs. Finally, as presented the proposal acknowledged that the project would be difficult, time-consuming, and laborious. But again, the proposal did not address the migration issues which would dramatically increase the costs and risks. The PRP concluded that as presented, the project presented an unacceptable level of risk and that the it was likely that Harden and his team would need additional time and research to examine the migration issue which, in the opinion of the PRP had not yet been conducted. [242]

### How the ALTO Almost Came to the White House

In December 1977 Richard Harden visited the legendary Xerox PARC research center to look at a new computer system that Xerox was trying to market. The ALTO system was a cutting edge system whose component technologies including the desktop PC, Ethernet, the mouse, and laser printers would find their way to other companies such as Apple and 3Com which would lead the personal computer boom of the 1980's and 1990's. Harden was impressed by the technology and

asked Xerox to draw up a system based on his specifications. The system would have the information sharing, printing, and word processing.[243] Sample systems were delivered to the White House in March 1978.[244]

The system apparently worked well except that it failed its security review. The Secret Service was very concerned about the interception of electromagnetic emissions for electronic equipment as they feared that Soviet eavesdroppers would gain access to sensitive information. For that reason, sensitive electronics were protected by TEMPEST shielding which insulated the devices and dampened their emissions. The Secret Service conducted two separate tests at Xerox PARC and the White House on the laser printer and Ethernet technology and reported that they radiated emissions that would jeopardize the security of information processed on the system. They estimated that insulation for the system would cost approximately $20,000 per room for materials plus construction costs.[245]

### The Mini-Computer Flap of April 1978

Such criticism did not slow down Harden who followed up with Hugh Carter about a potential hardware acquisition based upon the proposal with a few modifications. Harden sought to lease an Interdata computer to which the terminals would be connected. Harden had already moved forward by engaging the GSA to acquire hardware and software.[246]

Hugh Carter however had other ideas. Working with the White House Communications Office (WHCA) which was part of the Defense Communications Agency (DCA), he was able to arrange for the acquisition of a HP 3000 mini-computer to serve the interim computing needs. To

Carter's mind, this had a variety of advantages. By working through the WHCA, the White House was able to invoke Defense that enabled a streamlined acquisitions process with less over sight and taking less time enabling the system to be installed in May 1978.[247]

The reasons for this acquisition run deeper, however. Val Giannini, one of Hugh Carter's assistant explained that the OA had not been able to and would not be equipped to provide internal ADP support until December of 1978. Furthermore, the cost of the commercial acquisition of hardware and software suggested by the OA far exceeded the available White House office budget. Giannini noted that such services could be obtained through the WHCS "for a fraction of the cost." Giannini was also reluctant to open the White House to external commercial vendors and potentially give them access to White House information.[248]

To add insult to injury, The system that the OA had been seeking to obtain already had documented operating issues. The hardware had been tested by the Navy which resulted in the discovery of "serious service issues." The OA's choice of software was also dubious as the package recommended by the OA had not yet been tested and was not commercially available.[249]

Finally, Giannini confessed that the White House office lacked of confidence in the OA's capabilities and management. As would be noted in the Lipshutz correspondence, Giannini stated that accounting reports had not yet been produced, personnel papers were filled with errors, and messenger service was so poor that one agency was forced to hire its own messenger.[250]

Harden responded to these critiques in a confidential memo by warning Carter that Giannini's actions might have dramatic negative effects. The non-competitive nature of the acquisition would anger GSA and the Brooks committee which oversaw such acquisitions. Harden was concerned that the new computer would not meet the specifications he had laid out previously. Harden went on to point out that such a non-competitive acquisition was at cross purposes of on-going studies into competitive bid processes for ADP in the federal government and President Carter's own inclinations. Harden explained that he wanted the acquisition approach to match that which was going to be recommended in the study to the President. Finally, he wanted the possible embarrassment of acquiring expensive duplicative hardware.[251]

Carter was not so sanguine and also was concerned by Harden's unilateral actions. In a May 15 memo, Carter wrote to harden to clarify the relationship between their offices. Carter asserted his office's primacy in handling all data processing services for the White House. To that end all conversations between harden's staff and potential users needed to include a representative from Carter's office. Carter's office was also the directing authority for the development and management of applications. Carter was also concerned that Harden's newly leased computers would be used and would have sufficient applications for their employment. Harden concurred with Carter, only requesting a list of applications sought.[252]

This was only a lull in the ongoing struggle between the two men. Three months later the conflict reignited and attracted the attention of White House counsel Robert Lipschutz. Carter raised three issues with Lipschutz. Initially, the most recent dispute between Harden and Carter arose over a legal decision arising out of the OA's responsibility with respect to freedom

information requests. In essence, for White House documents to receive protection as presidential records they had to be kept and retained by White House personnel and the OA did not qualify, resulting in a potential vulnerability to Freedom of Information Act (FOIA) requests. Ownership and control of information was at the core of the issue.[253]

Giannini shot back a week later with comments on Harden and the OA's information system proposal after being asked by harden to comment. First, Giannini acknowledged his role in the creation of the plan but noted that it was minimal. He suggested that the OA ADP document was more properly a concept paper rather than an implementable plan. The plan did not assess its own cost but Giannini estimated that, as written the plan would take "tens of millions of dollars." The plan did not identify the funding source for the system. In addition, there was no indication of research regarding whether the suggested applications were cost-effective.[254]

Giannini had other concerns. He believed that the system would take many years to implement and some interim plan needed to be implemented in the short term. He also cited the plans total neglect of human engineering. The plan did not examine human processes and habits and how employees would react to the new technology. Giannini advocated for a study to examine user issues to enable training and examine existing processes.[255]

Further reflection brought further critiques. After Hugh Carter described the system requirements of the interim computer, Giannini concluded that the new system would be overwhelmed in six months. Carl Calo, Harden's assistant had responded that additional capacity could be obtained from the OMB computer. This networking capability however was predicated on the acquisition

of new software expected to be available in September 1978. As Giannini put it "Is it sound to predicate the viability and legality of White House computer capability on a small private software company's planned delivery schedule?"[256]

The situation culminated in June 1978 with Giannini and colleague Ralph Peck offering Hugh Carter an ADP management plan for the White House. The plan called for the adoption of twenty systems by December 1979 and standardizing existing system. The plan was focused on improved effectiveness, productivity and cost and personnel savings. The outline plan is notable for the almost total absence of the OA.[257]

Carter had other unresolved issues with Harden. In a confidential memo to Lipshutz he notes that OA is supposed to provide administrative support *on request*. Instead, the OA under Harden had been installing unrequested software on White House systems without consultation or notification in violation of the OA establishment order and the agreement reached by Harden and Carter months earlier. Carter also had issues with the general performance of the OA in providing administrative when requested. In such areas as payroll, purchasing, personnel, document duplication, courier service, press relations, and accounting the OA was failing to provide the needed level of support creating addition work for White House staff and creating potential embarrassment for the White House and the Carter Administration. Carter asked for Lipshutz's assistance in resolving the outstanding issues.[258]

Harden also contacted Lipschutz about Carter. Harden complained that redoing systems and turning them over to Carter's people was a waste of time when his staff had new applications to

develop and deploy. Harden asserted that several systems affected by the legal finding needed to impact a number of agencies which did not have FOIA exemptions and the records would be open anyway. Harden also noted that he had tried to get Carter's staff in deployment but that they had been unresponsive whereupon Harden's staff completed the project. Finally, Harden believed that his interpretation of the order creating the OA was correct and was willing to bring it before his old friend President Carter to resolve the issue. Harden asked Lipschutz to draw up papers more specifically defining the OA's role relative to the White House.[259]

Lipschutz responded by drawing up a document that defined all White House documents as White House property. The OA might process, duplicate, file or maintain such information but they retained no ownership rights over the information nor could they disseminate without permission from the White House Office.[260]

Carter's distrust of Harden continued though. Carter began examining the needs of the information and data needs of the White House staff anew and issued a report in October 1978. In the introduction, the new report explicitly stated that it was based upon the "needs" (quotes in original source) identified by the Office of Administration's report of the previous year. To augment their findings, the authors of the report interviewed senior White House Staff and conducted an additional 50 interviews with staff members at other levels in the White House. Carter's analysis found that the senior staff mainly needed a system that facilitated coordination, planning, communication, and action tracking. The report unequivocally asserted that advanced management techniques such as computer-based simulations were untried and untested. In the

words of the report: "Directly stated, the White House is no place to test the state-of-the-art in management science technology."[261]

The report dismissed the idea of providing senior policy staff with access to automated data bases. Citing "insurmountable technical problems which preclude extensive accessing of departmental and agency data bases", the report suggested that it would be too challenging to make this information available over a broad range of terminals using different software. The report drew attention to some of the main problems associated with increased of automated data processing (ADP) in the White House. Namely, senior staff harbored deep skepticism about the systems coupled with distrust of ADP systems based on earlier negative experiences. The report indirectly attacked Harden's direction of the OA: "This means that those responsible for implementing ADP systems must be prepared to do more than just design the system and give it to the user."[262]

The report suggested that the first step towards effective ADP implementation was the development of a manual system to handle existing records, but noted that a vast amount of information needed to be captured and documented about existing processes. The report planned that such a project could be completed by the end of the year and be available on a limited basis with computer support during 1979.[263]

One overarching issue that the report noted and which came out in the interviews was that President Carter's decision not to have a chief-of-staff in his administration led to confusion in decision making throughout the White House. As a direct result of this decision, White House

senior staff needed to approach President Carter with day-to-day issues for resolution leading the President to spend time on minutiae rather than important issues of the day; the strife between Harden and Hugh Carter being one example. Many interview comments provided in the report's appendix underscored this feeling among White House Staff.[264]

Harden had clear ideas about the OA's role and data processing mission as well as its focus on serving the Carter's needs. In a draft memo from November 1978, Harden addressed President Carter and asked him how much data processing support he wanted. Harden mistakenly noted that previously, the EOP received only minimal data processing support on technical issues rather than acting as a management tool.[3] Harden then spends the remaining five pages describing various systems that could be implemented.[265]

Harden advocated the creation of a series of data bases organizing files: Congress, administration officials, public opinion, state and local officials, leading experts, political supporters, interest groups, schedules, issues, projects, legislation status, and evaluation indications. Harden noted that this was a lot of information, but went on to say that much of this information was already in the White House. The primary problems in Harden's mind were the creation of a terminal that could access this information and an interface that allowed easy access by administration officials. Harden noted that he had already approached the Defense Advanced Research Projects Agency (DARPA) and the National Bureau of Standards (NBS) for assistance. Harden believed that the terminal issue would be resolved within a few months but conceded the interface issue required significant additional work.[266]

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[3] This was not true of the Nixon Administration in which the EOP received considerable support from the NSC's computer system. This is also true of the Ford Administration, but to a lesser extent. See Chapter 2.

Harden continued by identifying important advantages for the adoption of such a system. First, Harden noted that the adoption of such technology would put the White House at the forefront of modern business management technology and would lead the rest of the federal government by example. Next, such a system would assist in evaluating personnel by identifying productive individuals suitable for promotion. Finally, the system would enable the swift aggregation of information in time sensitive circumstances. Harden concluded by acknowledging the need for system security. The security needs of the system would directly affect the selection of hardware and govern who would have access.[267]

Conspicuously absent from Harden's memo is any mention of research conducted to actually determine the needs of users. Harden clearly identifies himself as the main arbiter on the categories of information that Carter and his staff might require. His plan also did not address the issues of cost and time required to put the system into operation.

The ongoing struggles over the White House information systems did not make it into the status reports issued by the OA. In its year-end report for 1978, Harden reported to President Carter than consistent progress was being made in all of its areas of responsibility: financial management, administrative services, personnel management, information services, and information management. The President commented that the progress was very good and that he anticipated seeing addition cost and personnel services in the White House budget in the years to come.[268] Nonetheless these problems continued into 1979.[269]

By 1980, it was clear that Hugh Carter's faction had won the battle over information management services. The annual report for the White House written by his office provided

detailed information about software implementation in five areas: policy support, scheduling systems, records and files applications, administrative applications, and text processing capabilities totaling forty-five applications of which four were under development and six were planned for development.[270]

By contrast, the OA's report of the same year "Toward an Information Efficient Executive Office of The President" was a forward-looking document. Asserting early that government expenditures on information technology will exceed $1 trillion in 1985, it argued that a comprehensive system for acquiring and using information efficiently was crucial. The paper identified studies previously conducted by the OA and studies it anticipated in the future in five areas: analysis of needs, structured knowledge base development, support services, and information processing systems. It also included chapters on implementation scheduling and cost. Both chapters are characteristic of the OA under Harden. The implementation schedule stretched out over 1980 and only addressed a fraction of the proposed research projects. The budget was itemized into personnel, equipment and contract services with projections of substantial increases in all areas.[271]

## Analysis

The Carter Administration's efforts to manage computer adoption and information policy were beset with problems internal and external. Time and again, the narrative illuminates how policy policymakers, in the absence of strong backing attempted to promulgate and implement technological policy within the EOP while oblivious to the demands and concerns of other

entities. In both cases, even though senior administration officials blessed the efforts of policy makers, they provided little actual support or authority. Senior officials and policy makers were not unified in their project goals leading to confusion and drift in the implementation. Finally, there is no evidence of any cooperation or influence between the two cases. Both projects appear to have been isolated from one another in spite of the fact that they might have had significant influence on each other.

In the case of the OTP, Eisenstadt designated Neustadt and his staff to handle the reorganization of the OTP. Neustadt moved the entity to DoC and named it the NTIA with a minimum of consultation. This resulted in the sharp exchanges between the White House and the host of agencies involved in information policy including long powerful executive departments such as the DoD and DoC, EOP entities like the OMB and Congress. The government had widely acknowledged that information policy was widely distributed across the federal government. While the initial impetus to reorganize the OTP had emerged during the Carter team's transition, the actual planning of the reorganization invited little comment and the implementation rested in the hands of Neustadt and his staff. The reorganization had little precedent but Neustadt tried to craft policy in the absence of precedent or organization knowledge. In short, Eizenstat gave Neustadt responsibility without significant oversight or guidance. Functioning in a vacuum while conceptualizing such an endeavor proved to be fraught with pitfalls and institutional danger for Neustadt.

Harden faced a similar situation when President Carter appointed him with the directive of increasing the cost efficiency of White House operations. Harden sought to begin planning and

implementing a wide ranging computerization of the White House, taking as his model some of the latest technology of the day. In so doing, he ran square into Hugh Carter's area of authority. To make matters worse, Harden's plans did not relate in any meaningful way to the environment into which he was trying to introduce the technology or its new users. Cost, personnel, and time were all resources that he gave short shrift to in his analyses. These deficits undermined his plans, especially with Hugh Carter, leading to the need for mediation from the White House Counsel's office between White House Staff members.

In both cases, Eizenstadt and President Carter gave Neustadt and Harden general instructions to advance their plans. Their superiors did not give any thought to how these men would go about achieving their goals. Neustadt and Harden did not integrate their approaches into the existing federal bureaucracy and as a result encountered strong resistance to their plans. The teams assembled by Neustadt and Harden lacked clear direction and authority. Both men received only weak support from within the White House. Eizenstat and President Carter provided little in the way of guidance or experience in dealing with the issues these efforts faced. The processes adopted by these two projects were largely insular and poorly defined their goals and stakeholders. The reorganization of the OTP and the concept of "information policy" would be a relevant issue to a variety of agencies, departments and entities. Neustadt advanced policy he had devised during the reorganization process without consulting these stakeholders. The problems associated with this eventually led to various parties calling the matter to Eizenstat's attention who was understandably dismayed. Neustadt also had to contend with agencies that were unwilling to cooperate with each other in the fight over departmental turf. All too frequently, the

record shows that Neustadt made decisions without consulting any stakeholders and spent large amounts of time and effort repairing relationships damaged by his unconsultative leadership.

Neither Neustadt nor Harden and their respective teams worked well with the rest of the federal bureaucracy. Neustadt's efforts to reorganize the OTP initially ignored a host of federal departments, important White House entities, and Congress. Their efforts to consult with many of these agencies only came as an afterthought. Moreover, Neustadt's superior Eizenstat was unaware of this pervasive problem until the issues had reached crisis levels. The reorganization of the OTP had been sought by the Ford Administration and the OTP itself was regarded with distaste by the Nixon Administration which created it. Both previous administrations recognized however that the reorganization would require significant amounts of political capital because of the breadth and scope of the OTP's potential influence and neither administration was willing to make the investment. The Neustadt team only a belatedly recognized this truth.

Neustadt's discussion of information policy pointedly avoided national security issues in spite of the fact that information policy had been a central focus of the previous Ford administration. It is unclear due to an absence of relevant documentation whether this was by choice or accident. It is clear that he was aware of the important role that information policy had in a national security context and the paradoxically leading role that the OTP had in that discussion. While the reorganization was accomplished by the end of the Carter Administration, it proved to be a drain on resources to the administration and an unnecessary point of contention among the stakeholders.

The reasons for the ambivalent results of these efforts stem from deficits in a variety of areas including decision making structures and processes, organizational culture, and base-line capabilities and resources. Harden and the OA also had to interact with a variety of agencies, mostly within the EOP, but these relations were if anything more contentious. Harden consulted with senior people in the White House and with external industry experts. The actual technology users were not involved in the early discussions. Harden also paid little attention to the NSC system or the process by which it came into existence during Nixon and Ford Administrations. Harden also coordinated poorly with the White House Office in the person of Hugh Carter. Their interactions were interactions were contentious and required the intervention of the White House Counsel to moderate. In the end, Harden's efforts on data services in the OA became little more than an executive consulting exercise recommending future systems that would increase White House information efficiency while Carter's efforts resulted in technology adoption that increased effectiveness and existed within the personnel and fiscal constraints of the White House.

In Harden's case, the situation is if anything, more authoritarian. Harden, an experienced management consultant who had previously worked for Jimmy Carter in Georgia sought to replicate his efforts on a grander scale. He seized on a vision of what would be recognized twenty years on as a de facto norm, inspired in part by the glimpse of the future provided by the ALTO system. He then methodically went about creating it. In the process, he ignored the limited capabilities of the newly organized OA. He did not take note of issues relating to budget, personnel, acquisitions, and security that were fundamentally relevant to his agenda. Indeed the ALTO episode illustrates how cost and security considerations defeated his technological vision.

In the course of researching ADP in the White House, he also placed a great emphasis on getting the opinions of senior people in the White House and many outside experts while ignoring low-level staff who in all likelihood would be the actual users of the technology he was advocating. In his vision, however he was seeking in bringing Internet-like information availability to the desk of every White House employee. In a sense, he was trying to create the office environment of 2000 in 1980 while ignoring all of the technological limitations.

The organizational cultures surrounding Neustadt and Harden also contributed to the mediocre results of their efforts. Both men and their teams pursued policy visions that did not directly align with those of their superiors, weakening their positions with respect to other governmental entities. Their non-consultative leadership styles did not advance their agendas. In Harden's case, his experience and reliance on his experience as a consultant may have tangibly weakened the plans and programs he advanced. The time frames, budgets, and approaches he advocated for the White House were unsuitable for the constraints of presidential term.

Perhaps the biggest problem facing both men was the absence of a professional bureaucracy in the White House with the exception of the NSC Secretariat and the attendant institutional memory deficit. Combined with the Carter Administration's distrust of the previous Nixon and Ford Administrations, this left both projects to begin work in a vacuum. With the exception of the NSC secretariat, upon a change of administration a whole new staff took office, frequently with only minimal information about the operations of the White House. Carter's team therefore took office with little knowledge of previous methods of operations and even those were suspect. Neustadt and Harden undertook large complex projects to change a process that they knew little

about. Moreover, they also discounted the significant research on information policy done by the Ford Administration and the institutional expertise resident in the NSC regarding technology adoption.

The absence of an institutional memory served Neustadt and Harden poorly in that they were poorly equipped to understand the fierceness of the turf battles they would encounter. Had they understood the degree of involvement and consultation required they might have structured their efforts differently. This also contributed to the problems both men encountered in effectively assessing the resources available to them in their efforts to make policy. From the documentary record, both men relied upon themselves and a staff of a few individuals to make and implement policy. This may have contributed to their tightly focused vision with respect to their efforts. This was exacerbated by the Carter Administration's demand to streamline the White House staff. This likely impacted Neustadt more significantly as the lack of personnel narrowed communications channels and left fewer staff to function as liaisons.

Their efforts also suffered for lack of budgetary resources, especially Harden. Once he began to float the cost of his information management system, it quickly became apparent to other White House stakeholders that his ideas and plans were untenable. Indeed, Hugh Carter eventually, called upon the resources of the White House Communications Agency with its coffers filled by the DoD to assist in the computerization of the White House.

Time was also in short supply for both efforts. It took both projects almost two years to begin to see results. Even with this progress, by the end of the Carter Administration neither project had

emerged unscathed or on schedule. Copious amounts of time were used by Neustadt to assuage angry stakeholders and Harden to argue with Carter over information technology plans leading to delayed implementation.

Congress proved to be an impediment to both efforts. Representative Brooks' chairmanship on the House Governmental Affairs Committee and the Brooks Act regulating computer acquisition by the federal government meant that their efforts were beholden to him by choosing not to work under the umbrella of national security. Department stakeholders also had congressional allies who spoke up in their defense.

Neither Neustadt nor Harden seemed to acknowledge the amount of resources at their command. These management issues hamstrung their ability to apply resources to the task at hand. In the documentary record, Harden appears to be wholly unconcerned regarding the financial cost of the systems he advocated. Both men seem to have believed that they exercised a significant if not predominant amount of control over the issues they stewarded. This view is not supported by the evidence, the degree of opposition they faced, or the eventual results of their efforts.

Finally, both efforts were embroiled in a variety of legal problems. In both cases the charters for the NTIA and the OA were subject to interpretation. Unhappy stakeholders raised these issues frequently in negotiations and Neustadt and harden spent a considerable amount of time defending their own positions. Furthermore, they made their defenses without the support of their superiors; they were defending on their own and frequently overmatched when facing the power of Congress, the OMB or the DoC.

These results of these two efforts are uncertain. The NTIA came into being and continues to the present day as the central authority on federal information policy as an unassuming part of the DoC. The Office of Administration also still exists as the institutional bureaucracy that supports the functions of the White House. Its role as a keeper of records and vulnerability to FOIA requests has been on display in recent lawsuits targeting the Bush Administration.

At the time of their creation during the Carter Administration, their respective reputations were unremarkable and long term survival was an issue. Since then both entities have served important purposes. The NTIA continues to manage federal information policy. While the DoC had oversight authority over the operation of the world wide web, the NTIA is the organization within the DoC that actually advises and keeps tabs on the Internet authority ICANN. The NTIA manages federal frequency management and conducts research on new technologies, providing valuable non-partisan expertise to the FCC and the DoC.

The OA continues to provide essential services to the EOP. It is an important records repository for the White House and still manages its administrative affairs. It has also become an entity similar to the NSC secretariat that has an institutional memory and is able to provide support to the White House in the form of institutional memory and systems that exist during political transitions. This is perhaps the OA's most valuable contribution to the modern White House.

The costs of these achievements have largely been forgotten; relegated to the history of a presidency with a reputation for disorganization. During the Carter Administration, they

generated additional headaches and taxed existing overworked staff members, contributing to the very inefficiency that the Carter Administration sought to minimize by their creation.

# Chapter V: Reflection and Synthesis

## Introduction

The cases presented by this research are remarkable for a variety of reasons. The inner workings of any presidential administration are often difficult to reveal without the assistance of people actually working within the specific administration. Modern presidential libraries are increasing careful about the records they released into the public domain as evidenced by the extended time frames required to open records for research. The author experienced this issue in dealing with many presidential libraries with estimated review times ranging from one to five years.

The American Presidency is a topic that has increasingly attracted public and academic scrutiny. Recent administrations have refused to divulge their deliberative process to maintain their impartiality and protect their process. Reporters, activists, and the public have all sought to reveal the hidden processes that occur within. The events of 9/11 muted much of this inquiry in situations involving national security. Years later and following revelations of hidden scandals, openness is in vogue.

This is especially true in the area of information policy. The Obama administration has made cybersecurity and governmental openness a priority along with modernizing the federal government's information infrastructure. At the same time, the government has not been forthcoming about the ways in which it surveils the Internet and telecommunications networks

nor has it commented about the cooperative role of telecommunications companies in ongoing surveillance.

The four cases presented in this research clearly illuminate the challenges faced by presidential administrations in dealing with the forward march of technology and ever-changing information policy. They show that previous administrations, even at the beginning of the computer era in the White House faced many of the same questions and challenges facing the White House today. The relevance of these cases is direct and indisputable.

So, why hasn't someone brought these cases to light earlier? If we accept the relevance of these cases to the federal government and the White House, what factors have led researchers away from them? The answers to this question vary from discipline to discipline. Within the history of computing, government computer usage is a topic that focuses upon a couple of well known examples.[272] Outside of well known case such as the Internet and Whirlwind, the everyday computerization of the government is not a focus of research despite the central role played by the federal government.[273] Science and technology studies have a similar issue but in their defense, the scope of their inquiry is far broader. Nonetheless, it would seem that if one wanted to explore US policy in this area, one of the first places might look would be at the top of an organization.

The literature of the diffusion of innovation takes the scope argument of science and technology studies. Diffusion studies can be found in some form in almost every academic discipline in both the arts and the sciences.[274] Academics in this area have an immense amount of material from which to fashion case studies. On the other end of the spectrum, the White House administration

studies is a fledgling branch of presidential studies, itself a small area. They also suffer from a problem of abundance, though relative to their smaller numbers.

Scholars of surveillance contend with yet another problem; that of the purloined letter. It is something of an occupational hazard to constantly believe that reputable research in surveillance studies requires one to be something of a private detective, ferreting out closely held, confidential, or even secret information. Seeking information in an open straightforward manner without recourse to a Freedom of Information Act (FOIA) request is just not cricket. This is especially true of scholars examining governmental surveillance.[275] I was surprised by the records that I found.

The second problem that all scholars in this area must negotiate carefully is the perception that they are in fact conspiracy theorists. The adage "it's not paranoia if someone is actually out to get you" comes to mind. I feel the need to preface presentations of portions of this work that it is meticulously researched with publicly available sources and is not the ramblings of an unstable scholar.

The final overall problem with the material in these cases is that it does not neatly fit exclusively into any one of these areas. While some of these areas overlap, others do not. Absent intersection, non-overlapping disciplines do not communicate well or inform each other. In so doing, they would relate a plainer narrative, lacking the nuance that multiple analytical frameworks provide.

## Putting It All Together

This project presents four interrelated historical cases describing early events in the history of White House computer adoption and its formulation of information policy. These cases are differentiated topically and chronologically. Crucially, they are also differentiated by administration and goal.

**Table 8: Case Comparison Matrix**

| **Administration** | Nixon/Ford | Carter |
|---|---|---|
| **Political Party** | Republican | Democrat |
| **Area** | National Security | Domestic Policy |
| **Goal** | Effectiveness | Efficiency |
| **Computer Adoption** | NSC Computer Adoption | DC Computer Adoption |
| **Information Policy** | Telecommunications Security | OTP Reorganization |

While the political leanings of the administrations do not seem to be important, the knowledge gap created by the transition was crucial. The Nixon Ford transition was from a functional point of view more like a second term. The complete staff changes that characterize the shift between Ford and Carter are simply not present between Nixon and Ford. This was certainly due to the unexpected nature of Nixon's resignation. As these cases indicated, the White House at this time lacked institutional memory outside the NSC secretariat which resulted in stronger and more successful initiatives from the Nixon/Ford case that the Carter cases.

A second cross-sectional point is that the Nixon/Ford initiatives were both guided by urgent national security concerns led by Kissinger, Haldeman, Ford, and Rockefeller. These men saw these programs as key pieces of US cold war strategy and necessities if the US was to effectively hold off and triumph over the threat of communism. The Carter initiatives, while conducted with his blessing, were not driven by him or senior domestic policy makers in the Carter administration. They were guided by the pressing domestic policy need to slim down the government and save money. They lacked the imperative of fighting the cold war.

A final cross sectional difference is the different the different institutional approaches to effectiveness and efficiency. Joyce, Ford and Rockefeller were concerned that the systems and policies they put in place would address the challenges set before them by the cold war. To do that, they addressed the broader needs of users and the private sector. Harden and Neustadt sought to improve the efficiency of the systems they were charged to put in place. They were concerned cost and time savings: the results of the process. In their efforts, they ignored or did not consult stakeholders repeatedly. In the end, Joyce, Ford, and Rockefeller created efficiency by focusing on effectiveness while Harden and Neustadt focused on efficiency to the exclusion of effectiveness and received only questionable improvements in efficiency.

These cross-sectional themes also run through the disciplinary analyses:

### History of Computing

With apologies to Richard Harden, the presidential administrations of the 1970's were not trying to keep up with the rapid technological changes in the computer industry, like businesses across

the country were. Computer hardware, software, and networking technologies were changing drastically. Government is unlike business in that it exists in a mostly non-competitive environment. The same competitive pressure that drove the airlines to develop and adopt the SABRE system did not exist.[276]

Government did have external competition however. The Soviet threat was still very real and national security concerns were a priority. The deep involvement and concern of senior policy makers during the Nixon and Ford Administrations is evidence of this. However, the closed world rhetoric asserted by Edwards did not seem to resonate into the national security deliberations of the Nixon and Ford administrations. In fact, they were resigned to an open world, settling for influence having lost hope of control. RAND's proposal was fully in line with the idea of the closed world but was dismissed by Joyce after the NSC secretariat all but refused to go along with it. Joyce and the NSC secretariat recognized that the torrent of information flowing into the NSC could not be controlled; only managed.[277]

The NSC came to a similar conclusion in considering the problem of telecommunications security. The task of protecting the nation's telecommunications traffic from eavesdropping was a vast task complicated by telecommunications deregulation and the public policy implications. The problem was simply too large to control and so the Ford administration settled for making it manageable.

White House computer adoption would be inextricably linked not to Harden's vision of the ALTO and the paperless office, but Joyce's effective office that responded to the needs of users.

Moreover, Joyce recognized the importance of reliability and the resource constraints of the White House. Harden's approach was similar to that of RAND. Both sought to make the White House technological example for the rest of the government, though for differing reasons. Both also were unaware of the resource constraints that the White House imposed. RAND understood things in the context of working for the Department of Defense with large budgets and long timelines. Harden was a technological innovator who believed that the newest technologies would be perfect for the White House, even if they were expensive and unproven.

Cold war concerns did not dominate the Carter administration's policy initiatives, but did make crucial interventions. The Secret Service's report on the insecurity of the ALTO doomed the ill-fated but influential system. Similarly, Neustadt's failure to incorporate the concerns of the Department of Defense into his reorganization of the OTP increased the difficulties he and his staff encountered during the process.

The cold war had a major impact on the development of computers and information policy. Its effects were not uniform. These cases provide examples of high level computer and information policy where the closed world rhetoric was rebuffed by pragmatic realism. The threat of the Soviet Union was no less real, but the resources and conditions of the White House dictated that control was impossible. Manageability was an acceptable substitute.

## Science and Technology Studies

As technological evangelists, Charles Joyce and Richard Harden could not have been more different. Joyce had graduated from MIT and then gone to work for the Department of Defense

before Kissinger called upon him. Harden was a business technology consultant with experience in state government. Joyce carefully studied and worked with the human, financial, institutional and technological resources at his disposal while Harden looked outside of the White House for inspiration and direction. Their effectiveness reflected their appreciation of the position. Joyce efforts were welcomed, early, and under budget. Harden's responsibilities were assigned elsewhere as he focused on running the office of Administration.

Joyce and Harden had fundamentally different views of how to accomplish their tasks. Joyce was a classically trained Hughesian systems manager while Harden's only large scale experience in technology stemmed from his work with the government of the state of Georgia.[278] Harden was ill-equipped to navigate the bureaucracy of the federal government while Joyce was able to co-opt the federal government to provide monetary and technological resources outside the abilities of the White House.

Similarly, the differing policy approaches of President Ford and Neustadt are stark. For all of the urgency facing President Ford, he directed the NSC to take careful stock of the situation and examined the impact of telecommunications on a wide range of actors including the federal government, the private sector and the public. Neustadt's approach was to begin reorganizing before understanding how the OTP was tied into the executive branch and Congress. The results were entirely predictable. Technologies develop and exist within a social context. Joyce, Ford, and Rockefeller were cautiously aware of this. Neustadt and Harden ignored it at their peril and cost.[279]

These cases provide ample evidence for the powerful impact that users have upon the adoption of technological systems. In all four cases, users were highly influential in the decision to adopt or reject technological change, sometimes in spite of their leadership. The Nixon and Ford cases also provide evidence for the impact of technology adoption upon policy formulation.

## Diffusion of Innovation

While Harden might be identified as an innovator and Joyce as an early adopter, the users that these men were trying to coax into adopting computers were mostly late adopters or laggards. This did not reflect upon their actual technological aptitude. Joyce noted that many users were eager after their introduction to computers.[280] Rather this is characteristic of their understanding of computers as large numerical processing engines. Textual processing was a new technology with which they had little contact.[281] Despite their reluctance Joyce was successful in persuading them to use the new technology. Rodgers notes that a key attribute of successful technology evangelists is the respect of their peers and users. The evidence clearly indicates that users respected Joyce but scoffed at Harden.[282] Harden's experience was presaged by RAND's failure to persuade Joyce and the NSC secretariat eight years earlier.

The inter-relationship between the various cases presents interesting evidence for different kinds of institution diffusion of technology. At the beginning of the Nixon administration the NSC was unfamiliar with computers except as presented by various DoD reports that may have crossed their desks. By the beginning of the Ford administration, the NSC was using computers to manage daily information flows. National security policy makers had visceral experience of the capabilities of computers. When the Ford administration confronted the threat of Soviet

eavesdropping which was enabled by computer technology, no one in the NSC doubted the threat and they were only too aware of the volume and kind of sensitive information that flowed through government information networks. This experience intensified the urgency of the threat and led President Ford to become one of the most influential individuals in the history of information policy.

The Carter cases almost the exact opposite situation. Computer adoption and information policy were crafted simultaneously and with dubious results. Neither Harden nor Neustadt were aware of each others' activities. Moreover, neither man seemed willing to learn anything from the Nixon/Ford experience. Domestic council policy staff members unacquainted with computers were trying to devise information policy leading to the botched reorganization of the OTP.

These cases provide strong support for the idea that policy makers should have experience with the technologies they are seeking to address. Successful policy emerges from policy makers with first- hand knowledge of the technology in question. These cases also illustrate the challenges to diffusion that can arise from institutional boundaries and prejudices. Whether it was a change in party, administration or simply an argument between the domestic policy and national security policy staffs, these administrative divides clearly inhibited if not prevented diffusion from happening within the White House during the 1970's.

The arc of these cases also show the effectiveness of path dependency in shaping White house technology decisions. The computer systems adopted during the Nixon administration were still in use during the Carter administration. The NSC's information management systems proved to meet the Domestic Council's computing needs while avoiding the huge cost of a new and

possibly incompatible system. Similarly, Ford's telecommunications security policy laid the foundation for future policy. By identifying the NSA as the encryption technology provider and standard setter to US telephone companies, the Ford administration established the NSA as the primary government agent to interact with public companies on telecommunications security technology and policy. The Carter administration had little choice but to endorse Ford's policy initiative as the cost of failure to national security was too high to be borne. This research identifies the existence and effectiveness of path dependence within the federal government.

### White House Administration

This research project provides supporting evidence for many theories advanced by presidential administration scholars. The Nixon/Ford cases and Carter cases provide striking contrast in approach between administrations. Coordination, the impact of public relations and centralization are all supported by this work. This research also makes the case that for a consistent bureaucracy within the White House to maintain continuity and institutional knowledge.

Coordination was employed extensively by Joyce and Ford. Both men reached out to other federal agencies and drew upon the White House's own capabilities. They also maintained credible commitment to their goals. This was certainly made easier because of the national security imperatives involved; but not exclusively so. By contrast, Harden and Neustadt failed at almost every opportunity to establish vertical or horizontal coordination. Furthermore, their commitment to institutional goals wavered and changed as they were forced to coordinate by their superiors.[283]

Public relations are another important thread that runs through all of these cases, though in a negative sense. Nixon and Joyce were sensitive to negative public reaction to the cost of a new computer and potential privacy issues. Ford and Rockefeller crafted US telecommunications security policy to expressly avoid anticipated negative public reaction. Both Neustadt and Harden were forced by their superiors to change policy lest their internal arguments become public and become an embarrassment to the Carter administration. Neustadt and especially Harden considered that a successful project might lead to positive public reaction initially but this idea was buried after both projects bogged down in administrative trench warfare.[284]

This research also illuminates the impact of centralization and the perils of politicization in a technical area. The Nixon and Ford cases show very strong interest by Kissinger, Haldeman, Ford, and Rockefeller leading to strongly centralized authority and decision making by Joyce and within the NSC. Kissinger selected Joyce for his ability not for his political loyalty. Conversely, the Carter initiatives received minimal attention from senior officials. While President Carter believed Harden to be an expert in his field, both Neustadt and Harden had worked on the Carter campaign and were politically reliable. These cases suggest that centralization has positive outcome benefits in technical settings while politicization is at least less effective if not a detriment.

This research also opens up new inquiry into the impact of a change of administration. Despite leading the federal bureaucracy, the White House's of the 1970's had remarkably few employees retained between administrations, diminishing institutional knowledge, impeding diffusion of

experience, and leaving new officials to flail about as they tried to get their bearings. These administrative handoffs might be crucial points of examination in the study of presidential administrations.

## Surveillance Studies

The project makes a theoretical contribution to the field of surveillance studies by identifying and differentiating the concepts of adversarial and custodial surveillance by showing that senior policy makers beginning in the Nixon administration identified these as separate areas. These concepts were defined by senior policy makers who specifically differentiated protecting the privacy of citizens between foreign governments and the federal government and the private sector. This division was further delineated during the Ford administration as it sought to simultaneously craft policy to address both types while keeping adversarial surveillance out of the public eye. The Ford administration also consciously divided federal policy along these lines by keeping adversarial surveillance policy within the NSC and placing custodial surveillance regulation within the hands of the OTP and the Department of Commerce.

This division of effort was brought out during Neustadt's reorganization of the OTP as both Defense and Commerce fought over responsibilities with each other and Congress. This was problematic the secrecy associated with adversarial surveillance efforts and contributed to the problems facing Neustadt. Harden's case demonstrates that surveillance issues have very real policy implications in sensitive environments. The cost of protecting the ALTO system effectively doomed its deployment in the White House despite harden's enthusiasm.

The Ford case stands out in particular by identifying a number of historical milestones with far reaching policy ramifications. The Ford administration identified the NSA as a necessary stakeholder in future discussions related to adversarial surveillance due to its unique cryptographic expertise. It asserted that the NSC, NSA and telecommunications carriers should cooperate outside of public view to meet federal information security needs to avoid negative public opinion. It established the partnership between Commerce and Defense as the leaders of policy relating to custodial and adversarial surveillance and established that they should cooperate in areas of overlapping responsibility. Finally, it shows that that the OTP was far more involved in both aspects of surveillance policy than previously thought, adding additional and hidden layers of complexity to Neustadt's task of reorganizing the OTP into the NTIA.

## Implications for Current Presidential Policy

This hybrid research is both historical and policy driven. If it is to be successful, it should be able to provide explanations for current policy decisions. Here are a number of policy issues that have been reported on in the press over the last few years.

### "Staff Finds White House in the Technological Dark Ages"[285]

In 2009, President Barrack Obama took office having run a campaign that utilized modern information and communication technologies to an unprecedented degree. The Obama Administration was quite surprised to find the White House was equipped with outdated software, limited e-mail access, no instant messaging, and intermittent telephone service. Staffers understood the challenges but were resigned to the slow pace of the transition because that is the way things work at the White House. Staffers were unable to blog, set up web sites, or begin

changing the technological orientation of the White House. They should have known. President Bush was not technologically adept.

This situation was completely in line with the findings of this research. It is likely that the six year old software new Obama staffers found on their computers were the last remnants of the last technologically savvy administration; the Clinton Administration. But the incoming administration is unlikely to accept the status quo.

The Obama administration's relative youth and technological adroitness likely places many if not all of them with technology adopters who might be categorized as innovators or early adopters. Unlike the earlier efforts of Joyce and Harden, the new technological leaders would not need to persuade staffers to adopt new technologies. Rather, it is likely that the new Chief Technology Officer will need to rein in scattershot technology adoption processes and impose a degree of order and standardization.

In this respect, the Obama administration is similar to the Ford administration. The highest leaders and advisors within the organization are well aware of the power of new information and communication technologies and fully support their innovative adoption and utilization. The resource constraints that bound Joyce and Harden do not exist. The cost of computer hardware, software and networking technology are a fraction of what they were in the 1970's and the power of today's systems dwarfs that of the mainframes or even the ALTO. The Obama administration is fundamentally changing how the White House uses ICTs.

**"Bush Moves to Shield Telecommunications Firms"**[286]

Following the events of 9/11, the Bush administration in an effort to protect the United States from future attack may have instructed the NSA to monitor Internet traffic with the cooperation of US telecommunications carriers including Verizon and AT&T. The conditional nature of the previous sentence is based upon the fact the government has not divulged the existence of such a program in spite of the presence of whistleblowers. This has prompted a variety of lawsuits charging the federal government and telecommunications companies with violating individual privacy rights. While the federal government has a degree of immunity stemming from the secrecy of the activities, telecommunications companies do not necessarily enjoy the same protection and President George W. Bush sought to extend them protection. These cases are ongoing.

Keeping the Ford case in mind, this whole situation is perfectly reasonable from the government's point of view and from this project's definition of adversarial and custodial surveillance. The tangible threat posed by terrorists using the Internet is similar to the threat of Soviet eavesdropping faced by the Ford administration, made all the more visceral by the events of September 11, 2001. Nixon, Ford, and Carter all ascribed to the differentiation and to the idea that national security trumped privacy. Adversarial surveillance issues override custodial surveillance concerns. The legal challenge is that the plaintiffs seeking to protect privacy and the government seeking to protect its citizens are arguing their points askew. Privacy as defined by a succession of administrations is not monolithic and inviolable. It is malleable and recedes in the face of national security concerns.

It is also unsurprising that the NSA and telecommunications companies are working with one another. As the telecommunications security case points out, this was exactly the kind consultative relationship originally envisioned by the Ford administration, repositioned to address a new threat. This cooperation has been going on for decades.[287]

Finally, the Bush administration's position on this issue is also one of direct historical continuity. Prior to his election as Vice President, Richard Cheney served as President Ford's chief of staff. Similarly, Presidents Ford and Bush both appointed Donald Rumsfeld as their Secretary of Defense. Both men were deeply involved in the policy discussions of the Ford administration and may have applied similar reasoning and precedent to keep the cooperation of the NSA and telecommunications companies out of the public eye.

### "Obama Says He Will Name National Cybersecurity Advisor"[288]

Cybersecurity and the possible threat posed by terrorists or foreign powers to disrupt or attack the United States have been a growing concern of the government since the George W. Bush administration. President Obama has created a high level government position to take charge of strategy. Moreover the Department of Defense has dramatically increased its spending and attention to cybersecurity and is building a cyberwarfare corps. The Obama administration is still debating what organization will lead these initiatives: the Department of Homeland Security or the NSA. Civil libertarians are already voicing strong objections to the NSA.

In the end however, the NSA is likely to be the lead agency, officially or unofficially and for the same reasons that the Ford administration brought them into the telecommunications security

debate. As the largest organization responsible for collecting communications and signals intelligence, the NSA has likely been hacking foreign computer networks for years.[289] Their expertise and knowledge is unsurpassed, even by the rest of the Department of Defense.

If cyberwarfare constitutes active measures, internet governance is the issue at the heart of passive measures. The code of the Internet defines the artificial medium.[290] The Internet is operated by ICANN, an international corporation supervised by the Department of Commerce with advice from the NTIA. While the Internet and the World Wide Web are US inventions, much of the rest of the world sees ICANN as a puppet of US policy.[291]

The historical cases presented in this work offer some support for that opinion. The OTP has historically acted as the public face for telecommunications security and conducted research on behalf of the Department of Defense. It is likely, that the NTIA as its successor agency conducts itself similarly. As the Obama administration develops serious cybersecurity policy it is unlikely to relinquish any level of control over the Internet, even oversight.

### "Obama to soon get secure BlackBerry"[292]

President Obama is a fan of communications technology especially his BlackBerry. Unfortunately for him, BlackBerry devices are not secure enough to handle the top secret information that might be directed to the President and were not certified by the NSA. But the President was insistent and the NSA developed a secure version use by him and top administration officials.

As these cases have demonstrated, security issues are a constant fact in any White House technology decision. The ability to negotiate security related challenges depends upon the resources one is able to muster to overcome them. President Obama probably gave the NSA little choice. Joyce avoided security issues in part by choosing a proven secure Department of Defense system. Ford harnessed security to his aims. Neustadt was impeded by security issues while Harden was defeated by them.

### The Primacy of Security

The narratives of the computer adoption efforts and information policy initiatives of the Nixon, Ford, and Carter administrations are oddly synchronous with the more recent efforts of the second Bush administration and the Obama administration despite the three intervening decades separating them. Both sets of administrations found themselves facing implacable enemies (Communism and terrorism) which directly threatened the United States. In the 1970's, the White House made policy based upon perceived national security imperatives. Similarly in the 2000's, the White House has swiftly reacted to the suddenly looming threat of terrorism by subordinating policy to perceived national security requirements. Then as now, the perceptions are likely to have been inaccurate. The Ford administration based its estimate of Soviet eavesdropping capabilities upon known US capabilities, discounting the fact that US computer technology was at least five years ahead of that of the Soviet Union and crafted policy that impacted the private sector while avoiding Congressional oversight. Similarly, the "bodyguard of lies" employed by the second Bush and Obama administrations to cloak their anti-terrorism activities likely overpowers the intelligence gathering and analysis capabilities of terrorist organizations, but also impedes the functioning of a democratic state. In a state of external threat, the primacy of national security concerns is assured. However, the relationship between the

strength and nature of the threat and the White House's reaction to it seem to correlate geometrically leading to over reactive policies that threaten civil society.

## Sequels Anyone?

The research presented in this body of work is but a scratch on the surface of the available material. In the process of collecting archival research, I collected over 25,000 photographs of documents that I considered "interesting." I have pending Freedom of Information Act requests that are unsurveyed. Within the scope of this projects timeframe there are many additional cases, relating to the White House's interaction with computer and information policy. Even as this document is being written, new research, fruit of five year old FOIA requests are being made available at the Reagan Library. The first four thousand pages of documents related to communications technology have just been released with further materials to come. This line of research is possesses an abundance of riches, archivally speaking.

The richness of the material covered in this project points in new many new directions of research and a multitude of questions. The institutional history of the OTP and the NTIA is one promising story. This project indicates that the OTP played a substantial role in both public and secret US telecommunications policy and begs questions about what other roles and projects did it undertake. How does this legacy influence the present day activities of the NTIA?

The visceral experience of using computers had an impact upon US policy makers in the Ford administration. What other areas were affected by their experience? Preliminary research

indicates that US high tech trade policy was also shaped by policy makers' appreciation for the capabilities of computers. This story also needs to be mapped out and explored.

Computer adoption and information policy did not stop with Carter. Subsequent administrations wrestled with these problems with varying degrees of success. How did the foundations laid down in the 1970's influence policy in the 1980's?These are simply constructed questions. But all of them expand explosively when we consider employing a multidisciplinary framework to examine them. This project appropriated five different literatures and in the case of surveillance studies combined the literature on signals intelligence with the general literature on surveillance. This was my deliberate choice. There were a number of addition literatures which could have expanded the complexity of the multidisciplinary framework further such as sociology or the history of foreign relations. As it is, some of the cited literatures such as that of the diffusion of innovation are immense and become topically specialized.

## Approaching Multidisciplinary Research

This project therefore offers a multidisciplinary research method to approach topics which border a variety of literature. By creating multiple analytical frameworks and applying them simultaneously, the resulting findings are strengthened by an interaction effect. For example, the influence of users on technology in this project was addressed primarily by the literature of science and technology studies and diffusion of innovation. But the presidential administration studies literature was also relevant and germane in looking at how a president exerts influence.

Moreover, in the absence of that literature the framework is not as compelling or informative. The research suffers for its absence.

Multidisciplinary research like this projects have their own shortcomings. By covering so many frameworks there is always the potential to superficially invoke a literature. Multidisciplinary research also poses a challenge to the author as conveying many different interrelated nuances is not an easy task and risks confusing the reader.

Researchers must also be true to the mode of primary research they employ. This project is, at its heart a historical project employing historical documents and oral history. All of the challenges and flaws of this method are still present in the final project, augmented by those of the multidisciplinary analysis.

## Denouement

The scenes depicted in the cases of this project shed light about the present. The White Houses of the 1970's struggled to adopt computers and conceptualize information policy. During the Nixon administration, Charles Joyce helped the NSC navigate the torrents of information flowing to it and which threatened to overwhelm it. Mustering the resources of the executive branch, he and his team deployed a system that the NSC secretariat welcomed after dispatching a competing vision of information automation brought by RAND and which would have likely led to failure. Joyce smoothly negotiated administrative hurdles and inadvertently benefitted from pockets of early adopters within the Nixon White House.

In the mid 1970's, President Ford and Vice President Rockefeller came face to face with the threat of Soviet eavesdropping. Both men had discovered in the course of their federal service the magnitude of the threat as both had chaired efforts to craft federal privacy policy. In the aftermath of the Nixon scandal, Ford was unwilling to bring this information to the public or to tell the public that the secretive NSA would be leading the effort to protect US telecommunications in cooperation with US telecommunications companies. To move protection efforts forward, he and the NSC chose not to inform Congress or the FCC of their actions.

During the Carter administration, Richard Neustadt tried to reorganize the much maligned OTP and improve the efficiency of the government. He had a plan to implement this policy but tried to move it forward without consulting the numerous congressional and executive stakeholders involved. His plan also all but ignored the previous work done during the previous administration on information policy. He revised his plan numerous times to appease the angry stakeholders and avoid embarrassing the Carter administration. At the end of the day, Neustadt emerged bruised and battered with the NTIA. Efficiency succumbed to simple resolution.

Simultaneously in another part of the Carter White House, Richard Harden had a vision to bring computers to the masses of the domestic policy staff. Like Neustadt, he did not consult the stakeholders and users within the White House nor did he consult with NSC about their earlier, successful computer adoption. The domestic policy staff viewed his plan with healthy skepticism which became after realizing that Harden was oblivious to his resource constraints. Harden's

efforts were even less well received than Neustadt's. Though he formed the Office of Administration, he was stripped of his responsibility for domestic policy staff computing.

These scenes offer insight and lessons for present day information and communication technology use and policy. They resonate strongly with the activities of both the Bush and Obama administrations. The events of 9/11 imposed a cold war mentality upon the Bush administration and reminding Ford administration veterans Vice President Cheney and Secretary of Defense Rumsfeld of their actions during the Ford administration. This has directly led to the current challenges facing the Obama administration with respect to Internet governance and security.

The Nixon and Carter administration cases reveal the right and wrong ways to adopt technology and develop information policy. Joyce leveraged every resource at his disposal and commandeered unallocated resources while listening to the needs of users and successfully deployed an NSC computer system. Harden all but ignored his resource constraints and users. He lost his responsibility for deploying computers for the use of the domestic policy staff. Neustadt also failed to coordinate with the internal and external stakeholders involved in his information policy initiatives resulting in a less than desirable outcome.

The current Obama White House operates under few of the constraints that bound their predecessors of the 1970's. The White House is filled with staff eager to adopt and adapt new technologies. The administration encourages the use of technology as it was one of the forces that propelled Barack Obama's candidacy to success in the democratic primary and the general

election. Unlike the 1970's, today's information and communication technologies are powerful, interoperable and inexpensive. The new CTO will not have to persuade users to expand their technology usage but rather constrain it to established standards. In the case of the White House, the one omnipresent unchanging technological constraint is security and it binds everyone from the lowest staff member to the President and everything from NSC's computers to the President's BlackBerry.

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Winkler, J. (2008). *Nexus.* Cambridge: Harvard University Press.

# Curriculum Vitae

John Laprise

Mount Clemens, MI

## EDUCATION

**Northwestern University**, Evanston, IL.

*Doctor of Philosophy Candidate in Media, Technology, and Society, Anticipated December 2009.*

Dissertation: White House Computer Adoption and Information Policy 1969-1979

Advisors: Professors James Schwoch, Ph.D. Shane Greenstein, Ph.D., Miriam White, and Richard Morris, JD.

**King's College-London**, London, UK.

*Master of Arts*, War Studies, June 1993.

**American University in Cairo**, Cairo, Egypt.

*Certificate in Arabic Language*, June 1992.

**Miami University**, Oxford, OH.

*Bachelor of Arts*, History and Religion, May 1991.

*Bachelor of* Philosophy in Interdisciplinary Studies, May 1991.

## PROFESSIONAL RESEARCH EXPERIENCE

**Research Coordinator**, Office of Institutional Research, Harper Community College 11/02-9/03, Palatine, IL.

- Interviewed and coordinated communications with project stakeholders.
- Authored institution's comprehensive open source environmental scans.
- Analyzed effectiveness of existing programs.
- Judged new program proposals for viability.

**Research Analyst**, New Paradigm Resources Group7/00-2/02, Chicago, IL.

- Researched the telecommunications industry through interviews and open source materials.
- Executed competitive intelligence projects for Fortune 500 clients.
- Evaluated the effectiveness of new and emerging technologies.

- Trained colleagues in competitive intelligence best practices.
- Presented findings to executive management.

**Research Analyst**, Kirk Tyson International11/99-6/00, Schaumburg, IL.

- Conducted competitive intelligence projects through open source and primary research.
- Designed research projects for Fortune 500 clients.
- Delivered findings to stakeholders.

## ACADEMIC RESEARCH EXPERIENCE

**Graduate Research Assistant**, Kellogg Graduate School of Management, Northwestern University 6/04-9/04, Evanston, IL.

- Analyzed telecommunications common carriers.
- Proposed taxonomy for classifying companies.
- Evaluated and coded carrier data.

## TEACHING EXPERIENCE

**Instructional Competencies**

- *Teaching*
  - Helped students understand course materials and concepts.
  - Advised students on research strategies and projects.
  - Conducted weekly seminar sessions and lectures.
  - Coached students on project presentations.
  - Coordinated guest speakers.
- *Technology*
  - Supervised instructional technology capture of lectures.
  - Managed instructional media presentations.
  - Designed and managed course website.
- *Assessment*
  - Evaluated oral student projects and presentations.
  - Graded written student exams and assignments.
  - Designed student assignments and exams.

**Instructor,** Northwestern University, 4/08-6/08, Evanston, IL.

- COMS 394 *Junior Seminar: Intelligence through the Ages,* Spring 2008.

**Teaching Assistant**, Northwestern University, 9/04-6/06, Evanston, IL.

- COMS 377 *Marketing Popular Culture: Rhetoric of Television Comedy*, Spring 2005.
- COMS 201 *Research Methods in Communications Studies* Fall 2004 and Fall 2005.
- COMS 322 *Rhetoric of the American Presidency: Nixon* Winter 2005.

- COMS 372 *Mass Media and Campaign Strategies* Winter 2004.
- COMS 373 *Mass Media and American Society* Spring 2004.
- COMS 383 *Satellites*, Winter 2005.

**Competitive Intelligence Trainer**, New Paradigm Resources Group, 7/00-2/02, Chicago, IL

- Instructed individuals and small groups in basic and advanced open source research techniques.
- Taught basic and advanced interviewing research techniques to individuals and small groups.
- Provided on-going coaching and feedback.

## HONORS AND AWARDS

**Presidential Management Fellowship Finalist**, 2009, Office of Personnel Management.

**Jacob K. Javits Fellowship**, 2005-2009, US Department of Education.

**International Graduate Student Conference on the Cold War Travel Grant**, UCSB, 2008, Santa Barbara, CA.

**Grant-in-Aid**, 2008, Rockefeller Archive Center, Sleepy Hollow, NY.

**Grant-in-Aid,** 2008, Hagley Museum and Library, Wilmington, DE.

**Conference Travel Grant,** Society for the History of Technology, 2006, Las Vegas, NV.

**Dissertation Research Grant**, Northwestern University, 2006, Evanston, IL.

**STS (R)evolutions Conference Travel Grant**, Virginia Tech, 2005, Blacksburg, VA.

**WebShop,** University of Maryland-College Park, 2004, College Park, MD.

## PUBLICATIONS

"Kissinger's Information Automation Project: Early White House Computer Adoption 1969-72," IEEE Annals of the History of Computing, *Under Revision.*

"Listening in on DC: Soviet Eavesdropping and the Origins of US Privacy Policy." Technology and Culture. *Under Revision.*

*Contributor.* Military Communications From Ancient Times to the 21st Century, Christopher Sterling, ed. ABC-CLIO. Santa Barbara, CA .2007.

"Cyberwarfare Seen Through a Mariner's Spyglass." Technology and Society, 2006.

"A State of Constant War: Policy Implications of Data Literacy." Proceedings of the International

Conference on Information Warfare, 2006.

"Cyberwarfare Seen Through a Mariner's Spyglass." Proceedings of the International Symposium on Technology and Society, 2005.

"The New Torchbearers," Telephony, 2001,(With Edrick Harris) .

## PRESENTATIONS

"Telecommunications Security during Deregulation: NSTAC and US Telecommunications Security Policy 1968-1995", Telecommunications Policy Research Conference, Washington, DC, 2008.

"Tales of Urgency and Desperation: The Cold War's Influence on White House ICT Adoption 1968-80", International Graduate Student Conference on the Cold War, UCSB, Santa Barbara, CA, 2008.

"Kissinger's Information Automation Project: Early White House Computer Adoption 1969-72," Society for the History of Technology 2007 Annual Conference, Washington, DC, 2007.

"Listening in on DC: Soviet Eavesdropping and the Origins of US Privacy Policy," Telecommunications Policy Research Conference, Washington, DC, 2007.

"From Barcodes to RFIDs: Consumer and Commercial Responses to Individual Identification Technologies," Society for the History of Technology 2006 Annual Conference, Las Vegas NV, 2006. (With Jason Gallo).

"From Barcodes to RFIDs: Consumer and Commercial Responses to Individual Identification Technologies," International Communications Association 2006 Annual Conference, Dresden, Germany, 2006. (With Jason Gallo).

"Understanding the Origins of US Internet Policy," International Communications Association pre-Conference on Internet Governance, Kurort Rathen, Germany, 2006.

"Narrative Structure in Gaming", Northwestern University, Evanston, IL. 2006.

"The Technological Foundations of US Information Warfare Policy," Northwestern University, Evanston, IL, 2006.

"A State of Constant War: Policy Implications of Data Illiteracy," International Conference on Information Warfare, University of Maryland-Eastern Shore, MD, 2006.

"Introduction to Internet Research," North Park University Chicago, IL, 2006.

"Peering into the Ether: The Development of US Information Warfare Policy 1970-2005," Culture and Society Workshop, Northwestern University, Evanston, I, 2005.

"Cyberwarfare Seen Through a Mariner's Spyglass," International Symposium on Technology and Society (IEEE), Los Angeles, CA, 2005.

"Charting a Course through Uncertain Waters: Applying Maritime Principles to Cyberwarfare,"

International Communications Association 2005 Annual Conference, New York, NY, 2005.

"Information Security: Remembering the Human Element," STS (R)evolutions, Virginia Tech, Blacksburg, VA, 2005.

"Phreaking and Hacking: Theories and Praxis of Network Defense," Graduate Student Conference Northwestern University, Evanston, IL, 2005.

Communications and Transportation Roundtable, Association of Internet Researchers, Brighton, UK, 2004.

"From Ambivalence to Desire: An Examination of the Consumer Adoption of Telephony," Graduate Student Colloquium, Northwestern University, Evanston, IL, 2004.

## PROFESSIONAL MEMBERSHIPS

Institute of Electrical and Electronic Engineers, 2003-Present.

International Communications Association, 2003-Present.

National Communications Association, 2003-Present.

Society for the History of Technology, 2003-Present.

Association of Internet Researchers, 2003-Present.

The Internet Society, 2003-Present.