

Telework and the U.S. Federal Government: At the Tipping Point

How the Federal Government is One Step Ahead in Adoption of Unified Communications for Distributed Workers

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August 2008

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Executive Summary

Faster than the corporate sector, governmental entities were among the earliest adopters of the concept of Telework – and the technologies necessary to support it. Since the early 1990's government has led the way, and it has not been unusual to see initiatives designed to address the need for flexible work plans, and reduce travel expenses, urban congestion, and infrastructure and real estate costs at the federal, state, and local levels. This decade, which has been marked by 9/11 and Hurricane Katrina, has seen momentum build towards Telework as the imperative of continuity of operations planning (COOP) is appreciated more than ever before. The timing of a number of factors, however – new leadership mandates, the needs of workers and community, and the availability of enabling technologies – is contributing to an almost perfect storm of conditions that we believe is beginning to drive rapid adoption in both governmental and corporate workplaces.

The traditional definition of Telework emphasized its potential for travel and transportation savings: *any form of substitution of information technologies (such as telecommunications and/or computers) for normal work-related travel*. Wainhouse Research believes this definition has evolved forward to include benefits that go far beyond traditional travel and transportation savings: *the substitution of information technologies for normal work-related travel and its use to bridge the gap between distributed workers, their work, and each other*.

Considering the myriad branches, functions, and purposes of government – and its impact on all walks of life – Telework is only now beginning to work its way more deeply into governmental agencies.

At the United States federal level, more than 110,000 employees out of 1.8 million workers (6.12%) officially teleworked in 2006, according to the United States Office of Personnel Management.¹ The Department of Defense was the leader in total numbers, followed by NASA, Commerce, Health and Human Services, Treasury, and Agriculture. Wainhouse Research believes this number has grown in 2007 and 2008 as a result of at least five major drivers:

1. The rampant rise of fuel and energy costs, which, in 2008, have become burdensome to governmental agencies and their employees no less than they have to the corporate and consumer sectors
2. Human capital issues, such as the need to exhibit new flexibility around work/life balance in order to retain an aging workforce by making career extension attractive and to attract new workers (vs. alternative opportunities in the private sector). Connected to this is increased mobility, which results from changing technology and tools that enable knowledge workers to work whenever and wherever they need to.
3. Continuity of Operations planning and Pandemic Influenza planning are now on the radar screens of many agencies. At least 42% of federal agencies had fully integrated Telework into emergency planning as of the end of 2007.
4. New legislative leadership, as evidenced by H.R. 4106: Telework Improvements Act of 2008, a bill that passed the U.S. House in June 2008. This bill is meant to require the head of each executive agency to establish Telework policies, make Teleworking available to any employee who might be eligible, and appoint a Telework Managing Officer.

¹ US OPM, The Status of Telework in the Federal Government, 2007 Report, p. 5

5. Heightened awareness of global warming and the need to understand one's carbon footprint, based on new scientific data on the impact of carbon emissions.

Several key benefits are now widely understood to be good reasons to adopt Telework programs and supporting technologies:

- Improved morale
- Recruitment/retention of human capital – in the midst of highly competitive hiring practices
- Transportation cost reduction
- Greater overall productivity for both organization and Teleworker
- Support for leave
- Reduced “brick and mortar” / real estate investments and wasted office space

The above list of benefits was cited in the OPM's 2007 survey (in this rank order), but other benefits exist as well:

- Reduced operating / maintenance costs
- Greater flexibility / adaptability for facilities
- Reduced energy usage / carbon footprint
- COOP and improved responsiveness and ability to deal with crisis situations (continuity of operations and disaster recovery)

Some believe that the biggest barriers to Telework have to do with office coverage – the ability to ensure a sufficient in-office presence to manage onsite-based activities. Surely, for public-facing organizations this can be a major concern. And there are other obstacles to be overcome: change management, organizational culture, and management resistance.

One additional frequently cited barrier to Telework adoption is IT security – the ability to secure individuals appropriately off-site and ensure that classified data remains classified. Fortunately, a number of new – or newly converged – technologies that come under the umbrella term unified communications (UC) are now available, just in time to provide a legitimate alternative to governmental agencies and their security concerns. And as discussed in this paper, security appears to be less of a concern than in the past – as those responsible for Telework programs come to understand that reliable ways to ensure security exist. Thus we now believe that, for the first time, Telework is transitioning in federal government into being mainstreamed as a fully accepted practice.

To implement Telework requires a core set of technologies, including high-speed Internet access and secure access to an applications suite that includes e-mail and team workspaces, Instant Messaging (IM) and Voice over IP (VoIP) or business line phone (preferably integrated with the organization's PBX), and web / desktop video conferencing. Properly implemented, Telework can transform a governmental agency, helping it meet its organizational mission, become more nimble and responsive to its constituencies, save taxpayer dollars, achieve greater productivity, provide greater work/life balance for employees, and achieve greater employee retention.

A standard set of tools, the core of which may well be comprised of the computing tools already issued to information workers, should be selected and deployed for teleworkers. Standardizing on tools encourages teams to be self supporting, and can reduce the need for 24x7 support staff – which, if needed, is available via IM. Successful Telework programs pay attention to the details – going beyond a standard home office deployment package (minimally consisting of laptop, a standard software distribution with all applications, phone or VoIP soft phone, and high-speed network access) to include whatever is deemed necessary to empower information workers. Other useful items include a USB headset, webcam, and in some cases, a high-quality USB speakerphone.

In this paper we discuss the business and social issues that make Telework increasingly attractive to federal agencies today, the ways in which Telework is entering the DNA of government workflow and solving major issues, the tools necessary to enable the teleworker and other distributed workers, and practical issues to consider from a policy and programmatic perspective.

Introduction: The Telework Inflection Point – “Now Tipped into Reality in Government”

Long touted as an alternative work style that could address a myriad of social and business constraints, the concept of Telework struggled in its early years to gain acceptance. Some organizations implemented Telework initiatives beginning in the late 1980's and early 90's as part of flexible work plans for their knowledge workers, and as ways of dealing with traffic, business continuity, or shortages in office space. Faster than the corporate sector, governmental entities were among the earliest adopters of the concept of Telework – and the technologies necessary to support it. Since the early 1990's government has led the way, and it has not been unusual to see initiatives designed to address the need for flexible work plans, and reduce travel expenses, urban congestion, and infrastructure and real estate costs at the federal, state, and local levels. This decade, which has been marked by 9/11 and Hurricane Katrina, has seen momentum build towards Telework as the imperative of continuity of operations planning (COOP) is appreciated more than ever before. The timing of a number of factors, however – (technological, environmental, and economic) – is contributing to an almost perfect storm of conditions that will drive rapid adoption of Telework in the U.S. government.

Governmental agencies face many issues similar to those experienced in the private sector: change management, cultural hurdles, security concerns, and mid-management or even occasional employee resistance. For every early governmental adopter, there are many that have stayed away from formal Telework programs. For some it was because their culture did not accommodate the idea of loosening management control over knowledge workers; for others it was viewed as an optional social experiment to placate workers; and for others, it was because the technologies necessary to work from a remote location effectively and create truly communal work teams simply did not yet exist.

Today these attitudes are beginning to feel like ancient history – disappearing in the footsteps of the concepts of the time sheet, 9 to 5 workday, and lifetime employment – as rapid workplace change as well as evolving societal attitudes towards work/life balance is changing how agencies treat their employees. Younger workers now expect these technologies, and many agencies are wrestling with how to attract “Generation Y” into the workforce. With a turnover of over 5% annually, the U.S. federal government must find ways to attract competent, talented new employees. Telework – in a variety of incarnations (distributed workers, office hoteling, Telework Centers) can help address crucial workers.

It is worth noting that the adoption of Telework is well underway in the private sector. Fortune Magazine recently found that 82 out of the 100 Best Companies to work for provide telecommuting opportunities today, compared with only 18 in 1998.² While many of the drivers for adoption are similar, Federal agencies are uniquely positioned to lead the way because of the advanced nature of many programs – and what has been learned over the past decade about how to build a successful program.

Methodology

This white paper is based on primary research (interviews with selected governmental agencies and private sector organizations to discuss best practices) combined with secondary research. Those interviewed from government include representatives of the US Patent and Trade Office, Treasury

² FORTUNE's “100 Best Companies to Work For”®, 2007

Inspector General for Tax Administration (TIGTA), General Services Administration, and NASA. We combine this research with our own understanding of the unified communications technologies necessary to enable Telework. In this paper, we discuss the business issues that make Telework increasingly attractive to federal agencies today, the ways in which Telework is entering the DNA of agencies and solving major issues, the tools necessary to enable the teleworker, and practical things to consider from a policy and programmatic perspective. We also describe three agencies and how they are benefiting from Telework today.

Defining Telework

Definitions of Telework vary, but one that gained early currency states that Telework consists of *any form of substitution of information technologies (such as telecommunications and/or computers) for normal work-related travel; moving the work to the workers instead of moving the workers to work.*³ Wainhouse Research has found that, while once adequate, this definition is now in need of expanding. Once in place, the use of information technologies used to support travel replacement catalyzes interaction between workers in distributed organizations that otherwise could not have occurred, even if travel was an option. This results in benefits that are realized beyond the replacement of work-related travel/commuting time. Thus WR proposes that *Telework is the substitution of information technologies for normal work-related travel and its use to bridge the gap between distributed workers, their work, and each other.* The fact remains, however, that while Telework itself is a rapidly accepted practice, it has linkage to the simple concept of mobility as well. Other types of workers – often mobile – utilize many of the same technologies as teleworkers.

Four major types of Teleworkers exist, adding to the complexity of discussing teleworking. These are 1) The classic definition, those knowledge workers who formally and programmatically – or on an ad hoc basis – work from home part- or full-time; 2) physical world workers not traditionally thought of as knowledge workers, e.g. deskless workers (retail shops, construction); 3) geographically dispersed teams using these information technologies to collaborate together, and 4) purely mobile workers, e.g. law enforcement, first responders, and delivery and service employees. Teleworkers in Federal government typically come from the first, third, and fourth groups of workers.

Sizing Telework in the Government

Sizing Telework in the U.S. federal government is far easier to do than for the private sector, thanks to data from OPM and the depth of the Telework “movement” in government. Based on the most recent OPM report, more than 110,000 employees out of 1.8 million workers (6.12%) officially teleworked in 2006 – more than double the 53,000 who teleworked back in 2001 when the OPM first began to track Telework.⁴ The Department of Defense was the leader in total numbers, followed by NASA, Commerce, Health and Human Services, Treasury, and Agriculture.

These numbers tell only part of the story, however. In a separate CDW-G survey of 823 Federal employees and IT professionals, 56% of those surveyed indicated that their agencies provide IT support for Teleworkers, and 68% state that their agencies have written policies in place governing teleworking

³ www.jala.com

⁴ US OPM, The Status of Telework in the Federal Government, 2007 Report, p. 5

employees.⁵ This suggests to us that there is a large gap between the number of organizations that *would like to enable Telework*, and the numbers of Federal employees actually taking advantage of the opportunity – a gap that will shrink over time.

Operational Issues Facing 21st Century Government

Anyone who keeps up the shifting business and governmental landscape is aware that the productivity gains of the past 30 or so years have been the result of a few singular factors: the ability for organizations to drive productivity relentlessly through intelligent adoption of technology; new tools for knowledge workers, and new methods of procurement.

Federal agencies operate under their own unique set of constraints, ranging from unique purchase cycles to complex procurement rules, and from ongoing budgetary constraints to issues of employee attrition and retention. Agencies go through their own cycles of growth and reduction, often at a pace that does not mirror the cycles of the private sector. Most of all, they operate under the most stringent of security and record keeping guidelines, methods and practices that frequently are far more demanding than those found in the private sector.

At the same time, the brick-and-mortar concerns of federal agencies mirror those faced by the private sector: how to build buildings and place workers together, how to handle distributed and mobile workers; how to plan for growth or deflation. Where governmental agencies are concentrated, e.g., Washington, DC, the beltway, and suburban Virginia, as well as certain other major metropolitan areas with high concentrations of regional offices, a special awareness exists that aggregating employees into centralized facilities is no longer an efficient method of operating, and of the impact that status-quo has on the community at large in terms of infrastructure requirements, congestion, and emissions.

One reason for this is that government – contrary to misconceptions among the general public – can be relentlessly efficient and effective at creating policy. This is one of the reasons so much has been learned about how to build a Telework program, as we discuss later in this paper. But agencies face a steady stream of challenges, from the constant need to reinvent themselves to achieve new bureaucratic efficiencies to intelligently plan for tomorrow's workforce.

Many agencies are distributed as never before, and teams are likely to be highly distributed across the country or across the globe, making them better positioned to understand their regions or constituencies and better able to fulfill the agency's mission. In the business world as well as for government, outsourcing had its origins as a means of cutting costs. But this business movement itself led to something else – wide appreciation of fully dispersed work teams that now are required to team, partner, and collaborate almost around the clock. As a result, teams are as likely to be geographically dispersed as they are to be multifunctional.

Wainhouse Research believes that five major drivers underpin the need for Telework in the Federal Government. These drivers are:

- Transportation, real estate, and other costs – This set of issues concerns the increasing costs of commuting to/from and working in a central facility. The costs of commuting via automobile

⁵ 2008 CDW-G Telework Report

consist of initial purchase, maintenance, and fuel costs; investing in roads and highways; and providing a place to park at the facility. Alternatively, commuting via public transportation requires substantial investment in public infrastructure plus ongoing per-ride costs. The rampant rise of fuel and energy costs in 2008 has become no less burdensome to governmental agencies and their employees than it has to the corporate and consumer sectors.

- Human capital issues – Due to aging, the turnover of the Federal workforce is reaching a potential milestone as nearly 300,000 Federal employees are scheduled to retire between 2007 and 2010.⁶ Telework provides two opportunities that can help mitigate the issue: the potential to make career extension attractive by providing new work/life flexibility to existing employees, thus encouraging them to postpone retirement, and the ability to attract new workers from the private sector by offering a flexible lifestyle.
- Continuity of Operations Planning – The need to prepare for unexpected emergency conditions to keep all workers fully functional and contributing to the organization. Continuity of Operations planning and Pandemic Influenza planning are now on the radar screens of many agencies. At least 42% of federal agencies had fully integrated Telework into emergency planning as of the end of 2007.⁷
- New legislative leadership – H.R. 4106, the Telework Improvements Act of 2008, which passed the U.S. House in June 2008, requires the head of each executive agency to establish Telework policies, make Teleworking available to any employee who might be eligible, and appoint a Telework Managing Officer.
- Carbon reduction and global warming – The heightened awareness to control emissions and the need to understand one's carbon footprint has gained credence based on new scientific data. Telework offers an opportunity to substantially reduce the environmental impact of transport systems and commuter traffic on congested highways, as well as the impact of real estate that otherwise could have been avoided.

Transportation and Real Estate

Those we interviewed expressed a combination of real-world awareness of their agency's respective missions and roles within Federal government, and the need for their own and other agencies to take a hand in responsible citizenship and responsible use of taxpayer funds. Office space and parking availability are top concerns for many Federal agencies.

With employees dispersed across campuses and around the country and world – and constantly on the move – federal agencies must grapple with the logistics surrounding how to office them, provision them with appropriate technologies, and enable them to work together well. Estimates for providing office space for the typical knowledge worker run as high as \$10,000 or more annually, and relocation costs (for moving employees)

Telework at the agency can help us recruit and retain top talent and provide our employees the flexibility they need to attain work-life balance, while supporting Agency goals.

– Danette Campbell, Senior Advisor Telework, Office of the CAO, US Patent and Trademark Office

⁶ US OPM, Analysis of Federal Employee Retirement Data, March 2008

⁷ US OPM, The Status of Telework in the Federal Government, 2007 Report, p. 11

have been estimated to run as high as \$100,000.⁸ The highly inflationary costs of energy are only one reason for the concern – but are the most visible because they affect agency budgets. It's as if there's been a one-two-three punch to federal agencies in the past few years, starting with terrorism and the burden it placed on federal government, followed by an emerging awareness and acceptance of global warming and the need to understand one's carbon footprint, followed lastly by more recent rampant fuel and energy costs. Those costs – climbing every day – are not expected to return to their previous levels. Thus agencies are under increasing pressure to get them under control. The agencies we interviewed not only have Telework initiatives and/or programs, but also are looking at other ways of improving productivity and reducing costs. A few either have begun some type of 'green' initiative, or know that they will need to over time. Depending on geography under discussion, typically Telework leaders, facilities, human capital managers, and IT organizations are beginning to try to understand their carbon footprint. It is not unusual for even small agencies to wrestle with the costs of energy, and turn to environmental auditors, consultants, architects, and contractors to help them become more energy efficient.

Human Capital

Meanwhile, a major workplace issue for 21st century government is twofold: 1) balancing work/life effectiveness to 2) address the challenge of attracting new and retaining existing talent. With technology, globalization, and changing social demographics, the demarcations between work and life are now blurred. Knowledge workers now not only take work home, but also are asked to stay connected (or available) at all hours of the day. This is all while dual-worker families and single parents wrestle with *getting everything done*. A full 50% of federal employees in one survey indicated that the ability to Telework would influence their decision to stay in their job or select a new one.⁹

The challenge of managing work requirements – which at times can seem incessant – can take a toll on both mental productivity and quality of life. Telework is a double-edged sword, requiring intelligent application and a careful, thought-out approach (as we discuss later in this paper). It can solve problems – and create new ones – which based on our interviews, can easily be handled through policy and the right mix of technologies.

Continuity of Operations Planning

Continuity of Operations Planning (COOP) has received ongoing, ever increasing attention in the wake of 9/11 and Hurricane Katrina. The need for COOP is paramount for virtually every agency – not just those involved in security and law enforcement matters – because unexpected emergency conditions can hinder workers from being fully functional and contributing to the organization. Pandemics are a more recent concern, because like terrorist acts and acts of nature, they can arise with very short notice and drastically restrict movement in communities. Those involved in COOP typically state that the important thing is to be prepared in case of operations issues – and having knowledge workers dealing with the stress of change, possible threats, and restricted movement is the *last* event during which an agency wants its workers to have to adapt to new technologies.

⁸ The Telework Coalition, www.telcoa.org/id33.htm

⁹ 2008 CDW-G Telework Report

H.R. 4106

New legislative leadership – H.R. 4106, the Telework Improvements Act of 2008, which passed the U.S. House in June 2008, requires the head of each executive agency to establish Telework policies, make Teleworking available to any employee who might be eligible, and appoint a Telework Managing Officer. Under current law, executive branch agencies are required to establish policies for employees to participate in Telework programs to the maximum extent possible without diminishing employees' performance. This act pushes the envelope by directing agencies to elevate the roles of those who lead Telework initiatives.

The importance of this legislation cannot be overstated, as some of the reasoning is precisely that it would support COOP in the event of a security threat. It is expected to increase costs minimally across affected agencies in the short term – primarily through notifications and administrative costs. But it puts Telework front and center in every agency – and should lead to greater awareness and more frequent and successful Telework programs. HR 4106 is very similar to S.1000, a 2007 Senate initiative that also deals with Telework while applying the law to legislative as well as executive agencies. H.R. 4106 is expected to pass later in 2008.

Carbon Reduction

Though carbon reduction is related to transportation – the imperative to address carbon emissions is a relatively new one for federal agencies. While they have been dealing with transportation issues for years, carbon reduction impacts facilities managers as much as agency budgets and individual worker behavior. Telework offers an opportunity to substantially reduce the environmental impact of transport systems and commuter traffic on congested highways, as well as the impact of acquiring and building on real estate that otherwise could have been avoided. The issue of carbon reduction is emerging only at this time but along with escalating gas prices, is rising on the radar screen of many agency directors.

The Impact of Telework on Agency Process

Telework today is solving major issues across the board for the U.S. Federal government. The impact of legislation and comments made in the interviews conducted by WR are proof indeed that, very quietly, organizational DNA is evolving to accept and embrace the concept of Telework. As stated earlier, Telework has gone from being a “new age” concept with vague, soft benefits such as “I get to work from home and dress casually” to an accepted concept with better understood, clearly realized personal benefits such as “I get more work done and save money by not commuting; I get to pick up my children from school and I give the hour back by interacting and working later with a colleague or project.” Some middle managers sometimes question the value of Telework because their particular workplace culture has not evolved to accept that people do what it takes to get the job done – they feel they must manage by observation. Telework may require a slightly different set of management techniques, but fortunately, the tools and best practices exist to make it a manageable, effective practice. This section discusses the benefits of Telework.

The benefits of Telework can be found at the agency level, at the employee level, and at the community level. Specific agency and employee benefits, which overall contribute to increased productivity, lower costs, and higher employee satisfaction, include:

- Reduced “brick and mortar” real estate investments, with a corresponding reduction in energy, operational, and maintenance costs; and in the organization’s carbon footprint.
- Greater ability to attract and retain talent. This allows for the ability to accommodate change-in-life situations or geographic displacement to retain employee talent.
- Ability to deal with crisis situations (business continuity / disaster recovery).
- Begins the process (if a new program) of preparing for H.R. 4106 and other likely pending legislation.
- Ability to optimize individual schedules outside of the traditional 8-hour workday to accommodate distributed workforces (off-hour meetings, 24/7 coverage, etc).
- Acceptance of management by objectives, not by time clock.
- Transformation into a 24 x 7 culture, leading to improved agility and enhanced continuity of operations.
- Improved responsiveness by working issues after traditional business hours and improving communications between staff.
- Less downtime due to inclement weather, traffic congestion / road construction, and sick days.
- Elimination of commuting time and reduction in wear-and-tear travel.
- Permitting employees to set their own schedules so they can optimize their work/life balance by managing priorities, becoming more productive.

We want them to be able to do their work anytime, know how to work from home. It will potentially pay off [in continuity of operations].
 – *Telework Matters Office, GSA*

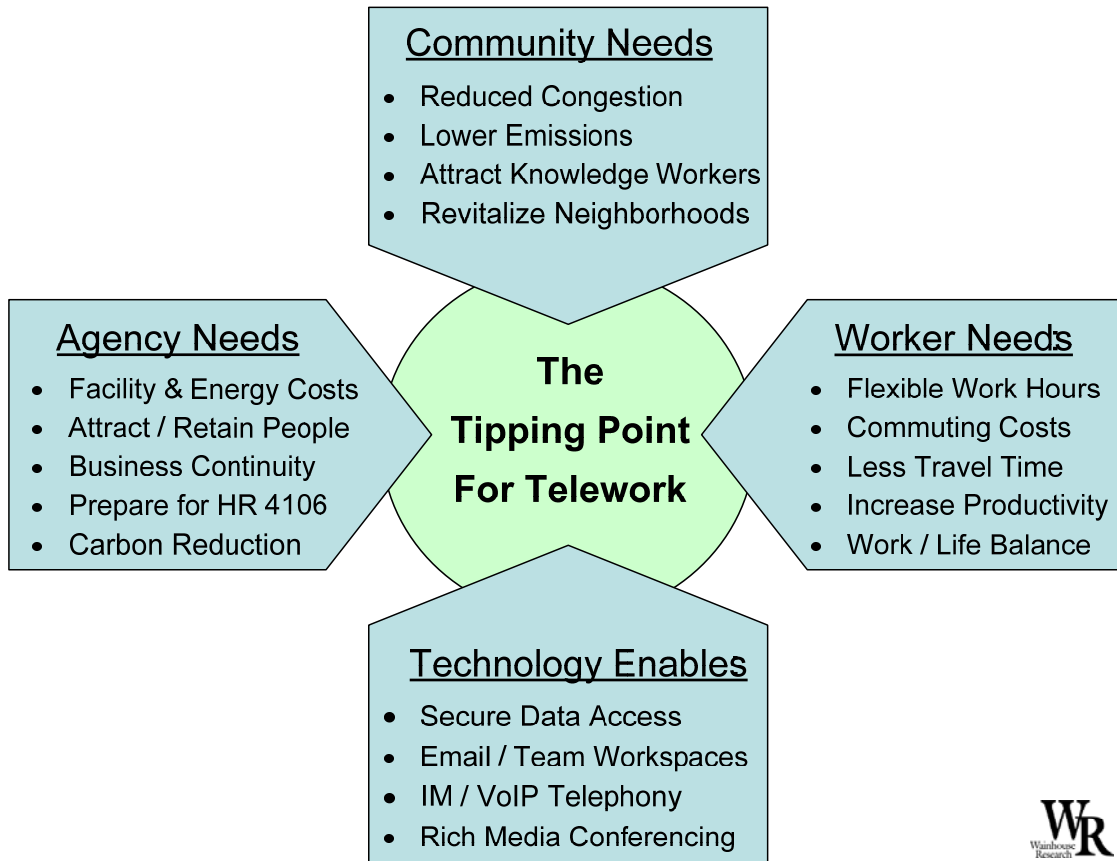


Figure 1 - The Tipping Point for Telework

Some of the results affect the local community as much or more than the specific enterprise:

- Reduced transportation requirements and infrastructure investment / maintenance
- Less traffic congestion, pollution, and gas emissions
- Stimulation of the economy within suburbs and rural communities through telecommuting capabilities – and the concomitant ability to attract knowledge workers
- Neighborhood revitalization

One human resource consultant estimates that employers on average lose \$789 in payroll per employee per year because of emergency time off. That means employers with as few as 20 employees lose nearly \$16,000 per year, while large employers with more than 2,000 workers suffer losses in excess of \$1.5 million. And those figures don't take into account the cost of lost productivity or the overtime pay needed to pay others to pick up the slack.¹⁰ Federal agencies are no less vulnerable to the expenses induced by emergency employee time off than are private sector employers.

¹⁰ The Telework Coalition, www.telcoa.org/id33.htm

The blend of community, business, and worker needs – combined with the availability of the enabling technologies – has resulted in a perfect storm for Telework adoption. This perfect storm is leading more and more agencies to formally adopt Telework programs – thereby introducing Telework into the organizational DNA. Figure 2 shows the benefits of Telework to the major constituent groups we have been discussing, and how they are intersecting with the today’s enabling technologies to create the ideal environment for mainstreaming of the concept of Telework in Federal government.

Entering the Organizational DNA

Telework as a strategic initiative requires buy-in from the entire agency upper management, and that buy-in will be an increasing factor in future adoption. With many changes occurring in the labor market – and a potential shortage of skills with baby boomers leaving the workforce – younger workers with different expectations of professional fulfillment will need to be accommodated, and Telework is one of many ways of doing so.

About 300,000 federal employees are expected to retire by 2010 – and finding replacements for them will require nimble, flexible government. Yet the case can be made that Telework will drive career extension – as older workers may wish to relocate but retain their jobs. Meanwhile it is clear that a younger generation of employees expect technological bells and whistles and flexible work conditions.

Telework is not a siloed initiative, but in fact one that touches many functional areas across an organization. Thus Telework leaders must work with other champions or stakeholders – including, but not limited to, agency executives, managers, facilities managers, Human Capital managers, and IT organizations – to help Telework find its greatest set of applications across the organization.

The Bottom Line to the Agency

The impact of Telework, like DNA, is occurring at a microscopic level, and, while not always easy to track in piecemeal increments, the overall results can be profound. We hear from teleworking agencies that the impact can be seen in organizational momentum. Costs are reduced; resources are made available more quickly; decisions are made more rapidly; services to the public are delivered more quickly; employees are enthusiastic, responsive, and energized.

Policy will vary from agency to agency. One of the benefits of the various technologies available to enable Telework is that they can be customized to address divergent needs based on agency, management, and

Employees see it as a major benefit of federal government work. Having various work schedules, the flexibility of being able to Telework, in a metro area like DC where people have two-hour commutes: it really helps with personal life. We see this in Human Capital, it's one of the first things mentioned in interviews, and puts our organization at the top of the recruit's list.– Jennifer Donnan, Director, Human Capital and Support Services, Treasury Inspector General for Tax Administration (TIGTA)

We lead [other agencies] by example: Telecommuting at the GSA went from 10% to 20% last year, and will be 30% by the end of 2008. Our goal is 50% by 2010. Adoption has been faster and not as difficult as we thought, in part due to the top down directive.
– Telework Matters Office, GSA

worker needs. The following section consists of a discussion of how to enable Telework, with a focus on the communications tools and policies necessary to make it a successful, measurable, programmatic effort. This is followed by sections on policy as well as three case studies of successful teleworking agencies.

Enabling Telework

Technology

The technologies to enable the remote and/or distributed team worker have evolved dramatically in the past decade. While the state-of-the-art work-at-home experience in the early to mid 1990's consisted of two phone lines – one for a dial-up modem – and a PC used to access e-mail and run productivity applications, today's remote worker has access to virtually all of the PC- and server-based tools they use in the office, and new technologies that encourage and facilitate collaboration at-a-distance. Based on the 2008 CDW-G Telework Report, about 67% of agencies provide teleworking equipment – and another 14% provide equipment approved by the agency.¹¹

The essential tools for Telework in terms of technologies are as follows:

1. Secure, high-speed Internet access to an agency's information and key applications. There are three facets to this requirement: a) bandwidth to the Internet, usually in the form of a cable or higher-end DSL connection, b) data security, through the encryption algorithms found in applications (such as Microsoft Exchange 2007) or VPN connections, and c) the ability to give the remote worker transparent access to the same resources –such as email, file sharing, and workflow applications – that they use in their office facility. Often this can be provided through virtualization and thin client technologies as well.
2. A business line phone, preferably with a logical connection to the organization's PBX so that it can operate transparently as the worker's office extension. In some interviews conducted for this project we found it very interesting that the phone is *not* the #1 technology requirement; perhaps this is because there is no replacement for a secure data connection while the phone can be replaced by a cell phone or the home phone line if necessary. Some organizations use PC-based VoIP soft phones, which allow them to access their organization's phone system via a headset connected to their PC over an Internet connection. This realizes a number of advantages: a) no need for the organization to pay for an additional phone line, b) phone conversations are encrypted via the application (or, if not, a VPN connection), and c) PC soft phones can be integrated with other PC-based communication tools.
3. Access to web conferencing to participate in meetings and collaborate on documents, presentations, and other visual ideas with colleagues as well as people outside of the organization. In only a few short years, web conferencing has proven to be effective as the virtual equivalent of going into someone's office and looking over their shoulder at their PC screen – with added capabilities including application sharing, white boarding, enhanced management tools, the ability to distribute meeting materials, the ability to record and playback sessions, and more.

¹¹ 2008 CDW-G Telework Report

4. Access to Instant Messaging to keep in tight contact with teams and colleagues. Having proven its value in the consumer space, Instant Messaging has quickly become adopted by business users who need to form teams that are independent of geographic locations. Presence, which is the ability to see if someone is online and available, has become the virtual equivalent of being in your office with the door open – and which has become an essential tool when working remotely. Presence also becomes invaluable as the work day adapts to a global economy – it actually becomes advantageous to not work a continuous 8-hour work day but instead have some hours early in the morning or at night that can coincide with team members in other continents. Presence is the vehicle that makes interaction when any two (or more) people are available possible.

The remaining enabling technologies identified in our interviews include audio conferencing, access to a document repository (such as Microsoft SharePoint server), and videoconferencing. Other technologies considered valuable and identified in a Harris Interactive Omnibus Study of Fortune 1000 executives conducted for Microsoft (but not specifically asked in our interviews) include voice mail (which may decline in volume over time) and faxes (which apparently will remain a highly used business tool for the foreseeable future).

Security is a priority to federal agencies, and at this point more than one third (36%) of agencies have separate IT security policies or guidelines related to Telework. Yet fewer agencies now respond that security is a barrier, reflecting a trend that is likely to continue as policies and guidance – and technologies – help to mitigate risk.

The general assumption held by many is that security can be fairly easily monitored when the work day is spent in a physical facility ... or can it? An interesting paradox is that as the Internet age has come upon us, so has the security of physical facilities been challenged by attempts at unauthorized access to email, phone conversations, and server-based data. The reality is that security is only as good as the authentication systems, firewalls, and voice/data encryption that have been deployed along the entire information path. If these systems are implemented at the server level – and they should be – then working remotely should not significantly increase security risk. While VPN access is one option that can be used to encrypt voice and data traffic, encryption can be integrated into each remote application itself (email, VoIP, web conferencing, IM / Presence) as an easier-to-implement alternative that is effective without the added complexity of a VPN connection. Authentication – the assurance that the person who logs into a system is who they say they are – becomes a larger issue, but several capabilities work to mitigate the risk. A “single sign-on” system works to ensure uniform authentication across applications – including unlocking data on a laptop PC – and can log any unusual activity. Inexpensive biometric devices are becoming available that require a fingerprint to login. Even Presence can act as a safeguard if someone notes a colleague is online when they shouldn't be – and can determine if the person is who they say they are with a quick IM.

The technology is there and available; you don't need a multi-billion dollar piece of equipment to desktop videoconference, which I believe over time will become ubiquitous for Telework. – Scott Howell, Retirement and Benefits Program Manager, Office of Human Capital Management, NASA

A standard set of tools, the core of which may well be comprised of the computing tools already issued to information workers, should be selected and deployed for teleworkers. Standardizing on tools encourages

teams to be self supporting, and can reduce the need for 24x7 support staff – which, when needed, is available via IM. Successful Telework programs pay attention to the details – going beyond a standard home office deployment package (minimally consisting of laptop, a standard software distribution with all applications, phone or VoIP soft phone, and high-speed network access) to include whatever is deemed necessary to empower information workers. Other useful items include a USB headset, webcam, and in some cases, a high-quality USB speakerphone. One organization we encountered even issues high quality, ergonomic office chairs as part of its package.

Microsoft's Unified Communications Suite for Telework

Microsoft offers a full suite of software products complemented with conferencing services to enable geographically distributed teams, mobile workers and teleworkers to communicate and collaborate in the context they prefer. The suite is designed as an integrated offering that is designed to seamlessly augment Microsoft products that already may be deployed, and provide all of the unique needs required to work effectively from anywhere at anytime.

- *Secure access to email* – Microsoft Outlook 2007 and Microsoft Exchange Server 2007 provide end-to-end encryption – server to client – thus eliminating the hassle and expense of supporting and configuring a VPN. To guard against data loss, Exchange can maintain a complete copy of each user's email messages on the server, and automatically manage the synchronization of email between different PCs (office, laptop, home, etc). For reading email on-the-go, Exchange includes Outlook Web Access for secure access to email via any PC with a web browser and Internet connection.
- *Business-quality VoIP telephony with integrated IM and Presence* – Microsoft Office Communication Server (OCS) provides two key capabilities for the remote worker. Using Voice over IP technology, OCS effectively replaces and/or extends the worker's office phone through the use of a headset connected to the PC and a software-based phone application. All voice traffic is encrypted and securely sent via the same Internet connection used for data access. The operation of the phone, including sending and receiving phone calls, is exactly the same as if in the office. OCS additionally provides Instant Messaging and Presence, which is the lifeline of the remote worker. Presence, which is pervasive across all Microsoft applications, indicates when the worker is available to collaborate with colleagues; Instant Messaging not only includes text-based chat, but can be escalated with a click of the mouse to add voice, video, and desktop sharing.
- *Web and videoconferencing* – Microsoft Office Live Meeting enables collaboration with colleagues, customers, and partners in real time, between either individuals or large groups. Dedicated features are specifically designed for giving presentations, collaborating on a whiteboard, and editing documents. Videoconferencing with a conference room of colleagues using Live Meeting and Microsoft Roundtable allows Teleworkers to see everyone a 360° view of in the room – adding a richer context for communicating and exchanging ideas.
- *Team Workspace and Document Repository* – Microsoft Office SharePoint Server manages an organization's content and enables team collaboration. Documents can be securely accessed by any team member for remote editing, and document-based workflow applications can be designed to increase organizational efficiency.

A key aspect to Microsoft's UC Suite is integration, which provides benefits on many levels. For example, the remote worker can see the Presence availability of the author of the document they are reviewing while working in Microsoft Office and can start a collaboration session directly from within the application. IT administrators

benefit from the single sign-on provided by Microsoft Windows Server Active Directory, which authenticates users across all applications and which includes the ability to automatically create Microsoft Office Live Meeting accounts. The integration between Microsoft UC components delivers to many organizations benefits that are greater than the sum of the parts.

Policy and Programs

Telework is a change – a big change – for an agency. To be successful, it requires a rigorous set of policies and procedures to be implemented, and a conscious mindset change by agency, manager, and worker. While the worker may dream about new unmonitored freedoms, the reality is work is work and must be completed no matter where it occurs (and as our later examples demonstrate, many Teleworkers find themselves working more than a standard work day). Thus it has become standard procedure for a formal Teleworker to have an agreement in place concerning Telework

Sufficient resources exist within the Federal government (www.telework.gov and [GSA's Telework support](#)) to enable any agency to learn what it needs to be successful. Based on the interviews we conducted – and our background secondary research, one factor rings clear: a Telework program can only be successful (from the perspective of organic, steady growth) if it has advocacy support from the agency's top levels. If for no other reason, it is crucial that all aspects of data security and records management that might be impacted by Telework be considered. And advocacy from the top of an agency is the single best way to drive the cultural change necessary to enable managers to manage and workers to Telework. The organization's culture *must* regard virtual meetings with the same level of acceptance as physical meetings across all levels of the organization.

This cultural change in an agency means the Teleworker must be trusted to get work done. This includes maintaining a full work day (though hours can be flexible), and the discipline to be productive during those times. The worker should establish a quiet workspace – preferably a dedicated home office – and equip the room accordingly. Families must respect work hours as if the employee is not at home. When the employee travels to a hoteling center, he or she should expect that they will no longer own a physical workspace of their own – but instead enjoy a space that has been re-designed and optimized for the task at hand: individual work, group interaction, meetings, or casual conversations.

The agency needs to accept that management by objectives is no longer an optional program, it is essential because demonstrated worker output replaces hours punched in on a time clock. Presence technologies, however, help to demonstrate that a worker is spending time engaged in their work and maintaining working hours such that they are available for interaction.

Telework should not be considered as the exclusive way to work. Face time and physical meetings remain tremendously important in building relationships and culture. To that end, Human Capital and support services groups in agencies that embrace Telework must make a special effort to foster occasional group meetings and activities that keep workers engaged as employees, consider requiring a set number of days that employees must visit a facility (as described in the three uses cases which follow), or require their attendance at regularly scheduled virtual meetings (web, audio and video conference) to keep them connected and feeling part of a community. (Encouraging social events is not

uncommon, either.) At the end of the day, keeping the Teleworker engaged in the social connections provided by the organizational culture – whether they are experienced in the office or virtually through the use of advanced technologies – can become a key element in keeping the employee happy, engaged, and able to implement strong boundaries between workday at home, and personal life.

Government Telework Today: Three Use Cases

Those interviewed by Wainhouse Research are clearly enthusiastic about the benefits of Telework, and the following three scenarios represent some of the most compelling discussions about Telework today and tomorrow. Each of these scenarios is based on a real-world example of Telework today, offering perspective on best practices that can be applied to ensure successful new and improved programs. These best practices, in fact, are as applicable at the state and local government as they are at the Federal level.

Case 1: United States Patent & Trademark Office

The United States Patent & Trademark Office (USPTO) is considered by some to be the poster child for Telework in the Federal government. This 9,000 employee agency within the Department of Commerce is responsible for processing patent and trademark applications, and disseminating patent and trademark information. The agency recognizes that the nature of patent and trademark work lends itself to employee telecommuting and hoteling. As a result, since 1998 the agency has “pushed the envelope” to develop programs and policies to support Telework. Now, approximately 53% of positions at the USPTO are eligible for Telework and approximately 85% of those eligible indeed are teleworking.

In fact, over 1,000 patent examiners work from home 4 days per week,¹² and the USPTO’s Patent Hoteling program will enable USPTO to hire 7,200 new patent examiners over the next six years. At the same time, 85% of the agency’s trademark examining attorneys also Telework. The agency gets the benefit of a viable plan for COOP in the event of pandemics of other disasters. And most important, the agency can add over 1,000 examiners a year without securing additional real estate or parking facilities.

One reason for the agency’s success is its focus on adding new knowledge workers, many of whom appreciate the ability to Telework almost as a standard benefit, and its understanding that Telework is a strategic initiative that requires mandate and support from the top. Another, more telling reason, is twofold: its emphasis on pilots and on training. Pilots allow the agency to generate the metrics necessary to understand what is working and what is not, and compare between programs. Performance management is crucial, with clearly defined performance guidelines for 80 hour bi-weekly periods. Training – both non-IT and IT-based – can consist of a few days to up to two weeks.

The fact that we can hire over 1,000 examiners a year without adding real estate or parking facilities reinforces that Telework is a substantive business strategy for the agency.

– Danette Campbell, Senior Advisor Telework, Office of the CAO, US Patent and Trademark Office

¹² Examiners are required to travel to the office once a week.

Finally, USPTO offers a standard suite of equipment for hotelers – dual monitors, laptop, docking station, webcam, and router – all part of its enterprise remote access package, which includes multiple levels of security. From a software perspective, Teleworkers have access to virtual network technology to maintain data security, web conferencing, softphones, Instant Messaging, and email. Hotelers use this mix of hardware and software to work from home. When a hotelier comes into the office, they bring their laptop and have access to hoteling suites scattered across the campus, where the ratio consists of 10 *Teleworking* employees per suite. Even with the suites the USPTO is saving on real estate expenses.

Based on recent surveys, supervisory patent examiners report a large increase in the morale of those examiners who are hoteling. In addition, approximately 64% of Patent hotelers surveyed strongly agreed that participation in the hoteling program would impact their willingness to extend their years of service at the agency.

Case 2: Treasury Inspector General for Tax Administration (TIGTA)

Like USPTO, TIGTA – the Treasury department responsible for oversight of the IRS – has a workforce comprised primarily of knowledge workers. Of its staff of 729, a full 85% Telework; of those Teleworkers, more than one third (37%) Telework 3 days or more per week. The agency first piloted Telework in 2000, rolling out fully in 2001. And though a relatively smaller agency, TIGTA shows a full \$1 million savings annually in saved real estate expenses since 2001. At the same time, TIGTA also has seen an increase in the numbers of completed audit and investigation reports. The actual ratio of audits to investigators has risen as investigators have found themselves more efficient and productive.

The agency provides webcam-enabled laptops and covers part of the costs of working at home, e.g., DSL and cable modems. TIGTA uses a hoteling formula of 3:1 hoteling offices to Teleworkers. Employees use hoteling software to reserve desk or office space as needed, reserving online and knowing beforehand of space availability.

From a programmatic perspective, TIGTA has a formal request process, and approval is based on project needs and manager approval. The agency also focuses intensely on improving management skills for managing remote staff, teaching both soft communication skills (attributes for listening in voice only conversations) and the technical skills necessary to use Teleworking technologies. With strict guidelines on personal use of government technology, the agency has mandatory security requirements and follows OPM guidelines for security.

Employees see it as a major benefit of working for the agency and federal government in general, as many have two-hour commutes in the metro DC area. TIGTA notes that Telework makes a difference in hiring younger Gen Y employees and its ability to handle succession planning.

Case 3: NASA

Of the National Aeronautics and Space Administration's 18,000 or so employees, about 1,000 are teleworking – about 6% of its workforce. This is a combination of what it calls core Teleworkers (those

My entire staff is all over the country. It has become a standard way of doing business now. We teach the importance of one-to-one vs. face-to-face communications.
– Jennifer Donnan, Director, Human Capital and Support Services, Treasury Inspector General for Tax Administration (TIGTA)

teleworking more than one day a week) and ad hoc Teleworkers (those for whom Telework is more episodic, based on life or work circumstances). At NASA, as long as job performance, job requirements, or security concerns permit it, everyone is deemed eligible to Telework.

Like other agencies, NASA has been using Telework as a recruitment tool, particularly in recruiting younger workers. But the agency finds other benefits in hard dollars and productivity. For example, those who receive metro transit subsidies for using mass transit use those subsidies less in the DC area when they Telework, which translates into as much as \$105 a month per employee in savings, depending on amount of Telework taking place. From a productivity perspective, many employees who avoid two- or three-hour commutes often put more time into their day because they have saved many wasted hours of commuting.

NASA provides the standard government-issue laptop and VPN capabilities, and uses email and audio conferencing regularly for Teleworkers. The agency is moving towards more elaborate security approaches, such as card readers on top of password protection, and sees security policy as an important element of strengthening its Telework program.

For NASA to drive Telework further into the organization, it intends to make its programs more directional – which we’ve observed as an important element in creating successful Telework programs elsewhere. In many respects at NASA, as elsewhere, Telework is a “work in progress” that will only strengthen over time.

Closing Thoughts

The combination of economic conditions, government leadership and mandate, and technology advancements is swiftly moving Telework to the mainstream. To implement Telework requires a core set of technologies, including high-speed Internet access, secure application access including e-mail and team workspaces, Instant Messaging (IM) and VoIP or business line phone (preferably with a connection to the organization’s PBX), access to web conferencing, and rich media tools such as videoconferencing. Properly implemented, Telework can enter an agency’s DNA and alter that DNA in many positive ways, leading to improved morale, greater ability to achieve its mission, increased productivity, greater work/life balance for employees, and greater employee retention.

Productivity levels are much higher, there’s less distraction, and more time to actually work vs. commuting. From a morale perspective, people are very happy not to have to make the trek into work. It’s also very beneficial to the agency to have a plan in place for continuity of operations.

– Scott Howell, Retirement and Benefits Program Manager, Office of Human Capital Management, NASA

About the Authors

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About Wainhouse Research

Wainhouse Research, www.wainhouse.com, is an independent market research firm that focuses on critical issues in the Unified Communications and rich media conferencing fields. The company conducts multi-client and custom research studies, consults with end users on key implementation issues, publishes white papers and market statistics, and delivers public and private seminars as well as speaker presentations at industry group meetings. Wainhouse Research publishes a variety of reports that cover the all aspects of rich media conferencing, and the free newsletter, *The Wainhouse Research Bulletin*.

About Microsoft

Founded in 1975, Microsoft (NASDAQ: MSFT) is the worldwide leader in software, services and solutions that help people and businesses realize their full potential.