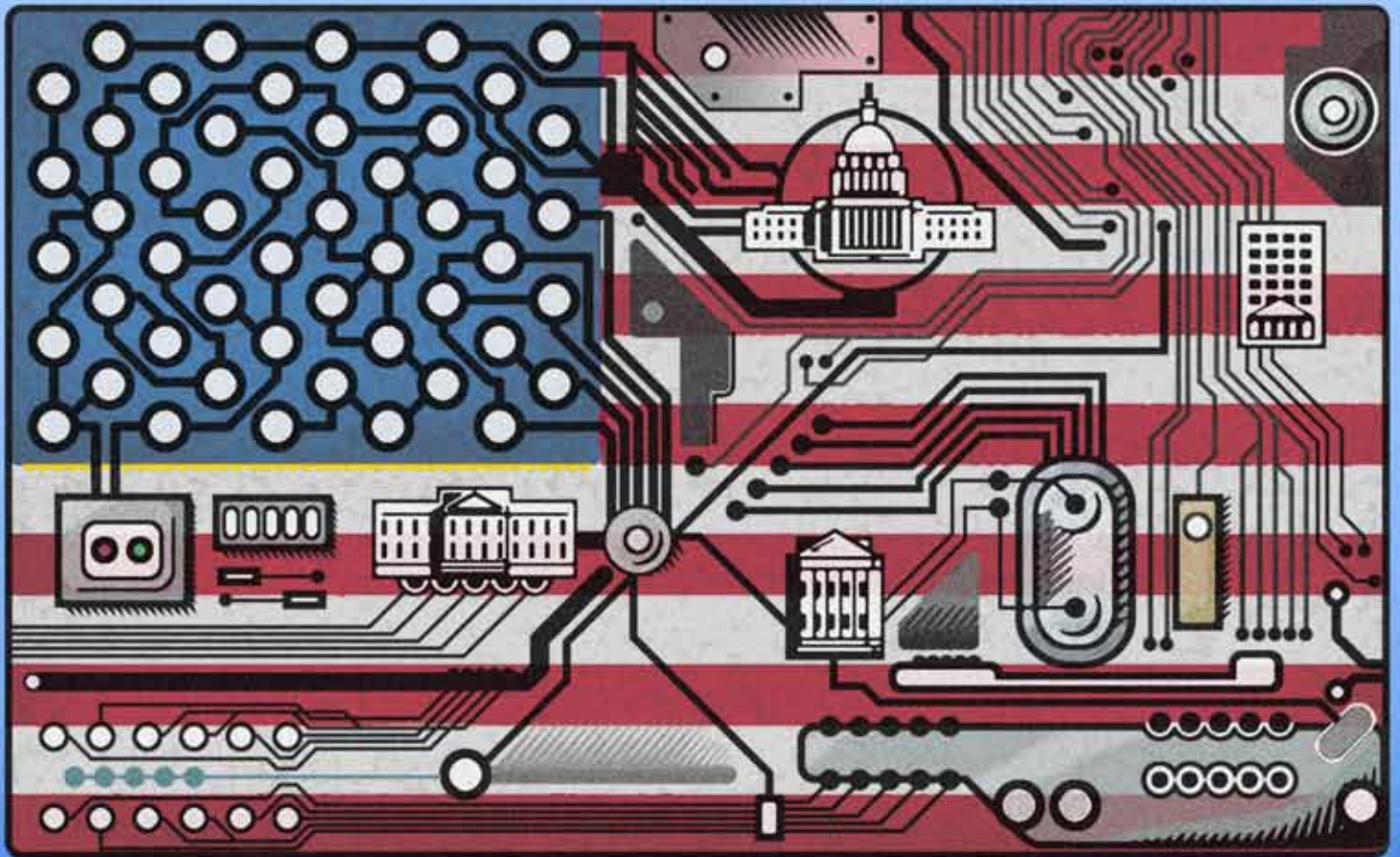


GovCloud: The future of government work

A GovLab idea



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About GovLab

GovLab is a think tank in the Deloitte Federal practice that focuses on innovation in the public sector. It works closely with senior government executives and thought leaders from across the globe. GovLab Fellows conduct research into key issues and emerging ideas shaping the public, private, and non-profit sectors. Through exploration and analysis of the government's most pressing challenges, GovLab seeks to develop innovative yet practical ways in which governments can transform the way they deliver their services and prepare for the challenges ahead.

Executive summary

Today's governments are being asked to solve the problems of the 21st century with a workforce and managerial structure designed for a different era. They continue to address major challenges by creating new, permanent departments and agencies—an unsustainable model in a world of rapidly changing demands fueled by equally rapidly evolving technology.

That world is epitomized by cloud computing. Cloud computing is revolutionizing the way organizations operate, allowing users to access data on demand for minimal cost and without limits. What if governments could do the same with their workforce? Enter GovCloud. GovCloud applies the concepts of cloud computing to how governments organize their workforce, mirroring the very traits that make cloud computing so compelling:

- **Shared resources:** Cloud applications reside on shared hardware accessible by many users. In GovCloud, cloud workers reside in a central talent pool accessible by many agencies.
- **Cost effective:** Cloud computing reduces the amount of overall hardware required, which can reduce maintenance costs and costs of associated personnel. Similarly, GovCloud could reduce the burden on each individual agency to maintain and manage a large workforce.
- **Dynamically scalable:** Co-locating software on shared hardware allows processing power to be quickly shifted from low-need to high-need programs, without going through acquisition cycles to purchase

additional hardware. By pooling workers in a government-wide cloud, resources can be quickly shifted from low-need to high-need programs and agencies, without requiring individual agencies to hire new workers or stand up new organizations.

With GovCloud, a cadre of government-wide workers could help small, mission-focused agencies adapt to evolving circumstances. It would leverage recent changes in work, workers, workplaces, processes, and technologies and capitalize on evolving workforce trends and expectations. It would be a collaborative, teaming environment that supports shared services, workplace flexibility, and scalable, on-demand capabilities.

GovCloud's effectiveness depends on first breaking up the current structure of the government. Agencies would need to be thin and hyper mission-focused. Shared services would have to be set up to handle back-office support functions. A government-wide cloud of workers would need to be created to support agencies and shared services. This would require evaluating where existing roles fall within the new model. Finally, GovCloud would require a bold leader or organization to take the first steps to move toward the cloud.

GovCloud is not for everyone. It requires rethinking about some traditional workforce practices and may necessitate some changes to current human resource norms. However, by building on concepts that have been effective in the private sector and elsewhere, a cloud workforce can help governments achieve the agility they need to meet tomorrow's challenges.

Introduction

Wind back the clock to 1971. Jane, a freshly minted college graduate, joins the government as a clerk. Jane's work consists largely of entering information into databases and creating reports, which requires her to spend the better part of her work day seated at a terminal near a mainframe computer that fills an entire room. Jane and her colleagues are expected to be at their desks from 9 a.m. to 5 p.m., five days a week. Jane is grateful to have a steady 9-to-5 job, and plans to spend her entire career with her agency.

Flash forward 40 years and meet Jane's grandson, Ian. He carries a slim tablet wherever he goes, which has more computing power than the mainframe with which Jane worked. Ian is constantly tethered to the Internet and works 24/7, from wherever he is. Ian expects to switch from project to project and office to office as his career develops and his interests evolve. If he feels he has reached the limit of his ability to learn or grow in one role, he will look elsewhere for a new opportunity. What if the government could give Ian the opportunities and experiences he seeks?

The GovCloud concept proposed in this paper would restructure government workforces in a way that takes advantage of the talents and preferences of workers like Ian, who are entering the workforce today. The model is based on a large body of research, from interviews with public and private sector experts to best practices from innovative organizations both public and private.

This report details trends in work and technology that offer significant opportunities for improving the efficiency and effectiveness of the government workforce. It lays out the GovCloud model, explaining how governments could be organized to take advantage of its flexibility. It examines how work would

“This is the first generation of people that work, play, think, and learn differently than their parents... They are the first generation to not be afraid of technology. It's like the air to them.”

— Don Tapscott, author of *Grown Up Digital*

be performed in the new model and discusses potential changes to government HR programs to support GovCloud. Other sections provide resources for executives, including a tool to help determine cloud eligibility, steps they can take to pilot the cloud concept, and future scenarios illustrating the cloud in action.

The GovCloud model represents a dramatic departure from the status quo. It is bound to be greeted with some skepticism. Without such innovation, however, governments will be left to confront the challenges of tomorrow with the workforce structure of yesterday. The details of the GovCloud model are open for debate. The purpose of this paper is to jump-start that debate.

How we work today— and tomorrow

“We should ask ourselves whether we’re truly satisfied with the status quo. Are our workday lives so fulfilling, and our organizations so boundlessly capable, that it’s now pointless to long for something better?”

— Gary Hamel, author of *The Future of Management*

Forty years ago, more than half of employed American adults worked in either blue-collar or clerical jobs. Today, less than 40 percent work in these same categories, and the share continues to shrink.¹ Jobs requiring routine or manual tasks are disappearing, while those requiring complex communication skills and expert thinking are becoming the norm.² Increasingly, employers seek workers capable of creative and knowledge-based work.

The next generation of creative knowledge workers has already entered the job market.

These “Millennials” came of age in a rapidly and radically changing world. They are the first true digital “natives.” They have grown up with instant access to information through technology. As such, Millennials have considerably different expectations for the kind of work they do and the information they use. The pursuit for variety in work has led Millennials to cite simply “needing a change” as their top reason for switching jobs.³

Advances in technology have also changed the actual ways in which people perform work. The ability to crowdsource tasks is one example of this change. Since its founding in 2001, volunteers have produced and contributed to over 19 million articles in 281 languages on Wikipedia.⁴ Built around this concept, a burgeoning industry is developing around “microtasking,” dividing work up into small tasks that can be farmed out to workers. Amazon’s Mechanical Turk, rolled out in 2005, allows users to post tasks to a platform where registered workers can accept and complete them for a small fee. When this paper was written, more than 195,000 tasks were available on Mechanical Turk.⁵

Such technologies may offer suitable possibilities for the public sector. Microtask, a Finnish cloud labor company, maintains Digitalkoot, a program that helps the Finnish National Library convert its image archives into digital text and correct existing errors. It does so with volunteered labor; participants simply play a game in which they are shown the image of a word and then must type it out to help a cartoon character cross a bridge. In doing so, they are turning scanned images into searchable text, greatly improving the search

accuracy of old manuscripts.⁶ At present, more than 100,000 people have completed over 6 million microtasks associated with this project.⁷

As the pace of computing power and machine learning increases, professors Frank Levy and Richard Murnane contend that more tasks will move from human to computer processing.⁸ Skeptics need look no further than IBM’s Watson, a computer that can answer questions posed in natural language. In February 2011, Watson defeated two all-time champions of the quiz show *Jeopardy!* This was not solely a publicity stunt; IBM hopes to sell Watson to hospitals and call centers to help them answer questions from the public.⁹

Around the globe, more and more governments are looking to increase telework among employees. In 2010, the U.S. government passed legislation calling for more telework opportunities for government employees. Likewise, the Australian government, in order to attract and retain information and communications technology workers, instituted a teleworking policy in 2009 requiring agencies to implement flexible work plans.¹⁰ Other countries, including Norway and Germany, are also focusing on flexible work arrangements to improve public sector recruiting.¹¹ In Canada, the government has an official telework policy that recognizes “changes are occurring in the public service workforce with

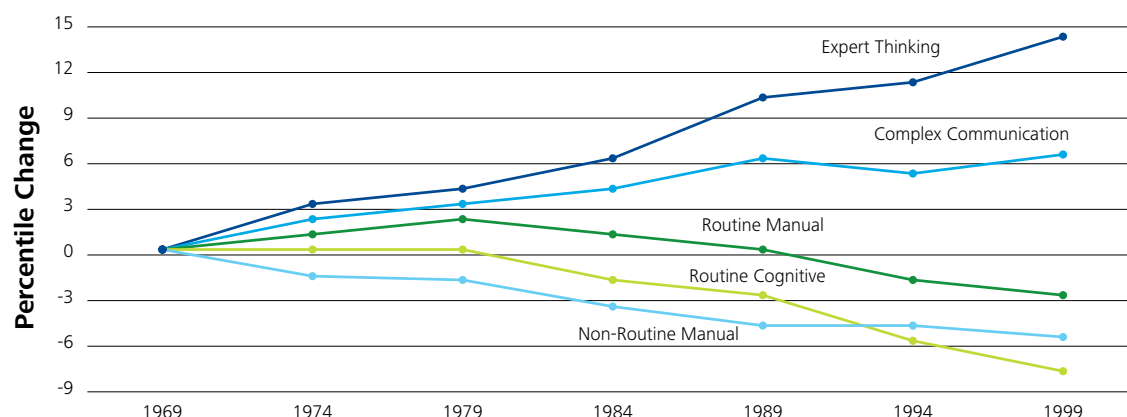
Cloud definitions

Cloud computing: “Internet-based computing, whereby shared resources, software, and information are provided to computers and other devices on-demand, like electricity.”
— Amazon

Crowdsourcing: “Neologistic compound of crowd and outsourcing for the act of taking tasks traditionally performed by an employee or contractor, and outsourcing them to a group of people or community, through an “open call” to a large group of people (a crowd) asking for contributions.”
— Wikipedia

GovCloud: “A new model for government based on team collaboration, whereby workforce resources can be surged to provide services to government agencies on-demand.”
— GovLab

Figure 1: Trends in routine and non-routine tasks in the U.S. 1960–2002¹³



Source: Frank Levy and Richard J. Murnane, *The New Division of Labor: How Computers are Creating the Next Job Market*, (Princeton: Princeton University Press, 2004), p. 50.

a shift towards more knowledge workers,” and “encourages departments to implement telework arrangements.”¹²

These are all powerful steps in the right direction for employees whose natural work rhythms are not locked into “9 to 5.” Some companies have taken telework one step further. British Telecom is pushing the concept of “agile working” through its Workstyle Project, where employees decide what work arrangements best suit them—rather than a rigid definition by location and hours. BT Workstyle is one of the largest flexible working projects in Europe, with over 11,000 home-based workers. BT has found that its “home-enabled” employees are, on average, 20 percent more productive than their office-based colleagues.¹⁴

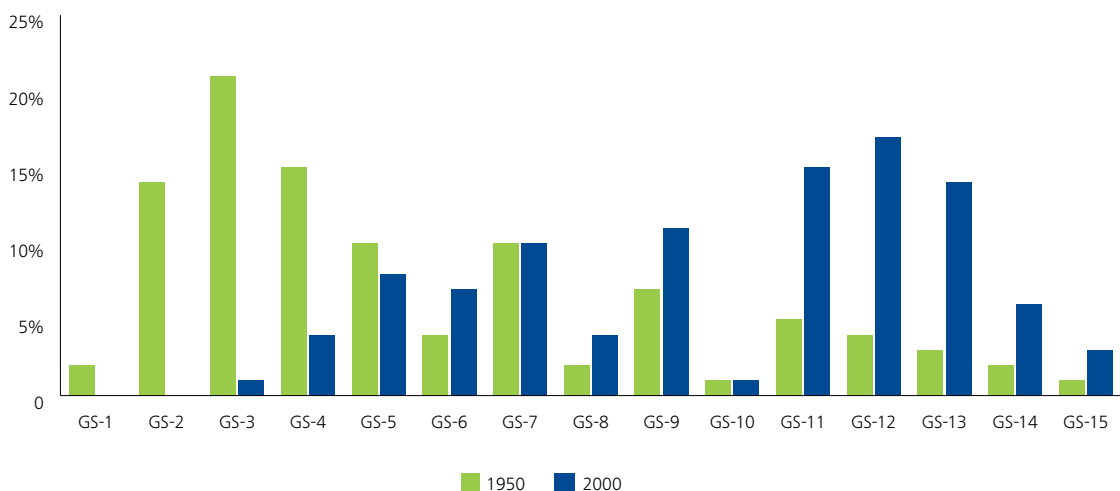
Similarly, U.S. electronics retailer Best Buy experimented with a “Results Only Work Environment” (ROWE). In a ROWE, what matters is not whether employees are in their office, but rather that they complete their work and achieve measurable outcomes. In a ROWE, salaried employees must put in as much time as is actually needed to do their work—no more, no less.

The decline in routine and manual tasks and the rise of new ways of working is not isolated

to the private sector. In 1950, the U.S. federal workforce largely comprised clerks performing repetitive tasks. About 62 percent performed these tasks, while only 11 percent performed more “white-collar” work. By 2000, those relationships were reversed. Fifteen percent performed repetitive tasks, compared to 56 percent in the white-collar categories.¹⁶ Similarly, in 1944, the number of workers in the UK civil service considered “industrial” totaled 505,000. By 2003, this number fell to 18,200, with “non-industrial” workers reaching 538,000 in 2004.¹⁷ And in Canada, in 2006, knowledge-based workers represented 58 percent of federal workers in the Core Public Administration, up from 41 percent 11 years earlier.¹⁸

The swelling ranks of “non-industrial” government workers indicate a shift in public sector jobs toward creative, collaborative, and complex work. The workforce *structure*, however, designed for clerks of the last century, remains largely the same. With limited flexibility to distribute resources, governments often address change by creating new agencies and programs. This can be seen following major events like the outbreaks of the Avian flu and SARs in the past decade, 9/11, and the financial crisis of 2008.

Figure 2: The changing U.S. federal workforce 1950–2000¹⁵



Source: United States Office of Personnel Management, *A Fresh Start for Federal Pay: A Case for Modernization* (April 2002), p. 5. <http://www.opm.gov/strategiccomp/whtpaper.pdf>

Computing	Cloud characteristics	People
Cloud applications reside on shared hardware, accessible by many users.	Shared resources	Cloud workers reside in a central talent pool, accessible by many agencies.
Reducing the amount of overall hardware can reduce the cost of maintenance and associated personnel.	More cost effective (efficiency)	A government-wide cloud of workers could reduce the burden on each individual agency of maintaining and managing a large workforce.
Hardware is partitioned to allow for specific applications. This space is reclaimed once the application is no longer needed.	Virtualized	Cloud workers can be assigned to specific agencies to complete tasks/projects and then return to the central talent pool once the work is complete.
Access to data or applications in the cloud requires constant network connectivity.	Dependent on network connection	In order to access cloud resources, agencies must be part of the GovCloud system.
Co-locating software on hardware allows processing power to be quickly shifted from low-need to high-need programs without going through acquisition cycles to purchase additional hardware.	Dynamically scalable (more quickly shift resources)	By pooling workers in a government-wide cloud, resources can be quickly shifted from low-need to high-need programs and agencies, without requiring individual agencies to hire new workers or stand up new departments.
Rather than maintaining separate hardware for each user, cloud providers use centralized hardware.	Lower maintenance costs	Rather than each agency staffing and managing each anticipated business need, workers exist in a central cloud and are managed by a central HR function.

Given increasing budgetary pressures and burgeoning national debts, the conventional model of creating new agencies or permanent structures in response to new challenges is unsustainable. This is exacerbated by our inability to accurately predict future needs and trends. Consider a 1968 *Business Week* article proclaiming that “the Japanese auto industry isn’t likely to carve out a big share of the market for itself,” or the president of Digital Equipment Corporation, who in 1977 said, “[t]here is no reason anyone would want a computer in their home.”¹⁹

The world is full of experts who attempt to predict the future—and fail.²⁰

Instead of endeavoring to predict the future, governments can choose to create a flexible workforce that can *quickly adapt* to future work requirements. To accomplish this, the government can learn from a game-changing concept in the technology world: cloud computing.

Major organizations and small startups alike increase their flexibility by sharing

storage space, information, and resources in a “cloud,” allowing them to quickly scale resources up and down as needed. Why not apply the cloud model to people? The creation of a government-wide human cloud could provide significant benefits, including:

- The ability to apply resources when and where they are needed
- Increased knowledge flow across agencies and a new focus on broad, government-wide missions
- A reduction in the number of permanent programs
- Fewer structures that stifle creativity and interfere with the adoption of new technologies and innovations

A cloud-based government workforce or “GovCloud” could include workers who perform a range of creative, problem-focused work. Rather than being slotted into any single government agency, cloud workers would be true *government-wide* employees.

Breaking up bureaucracies

This section outlines the organizational structure of the GovCloud model, which rests on three main pillars: a cloud of government workers, thin executive agencies, and shared services.

The cloud

Most government workforce models tend to constrain workers by isolating them in separate agencies.

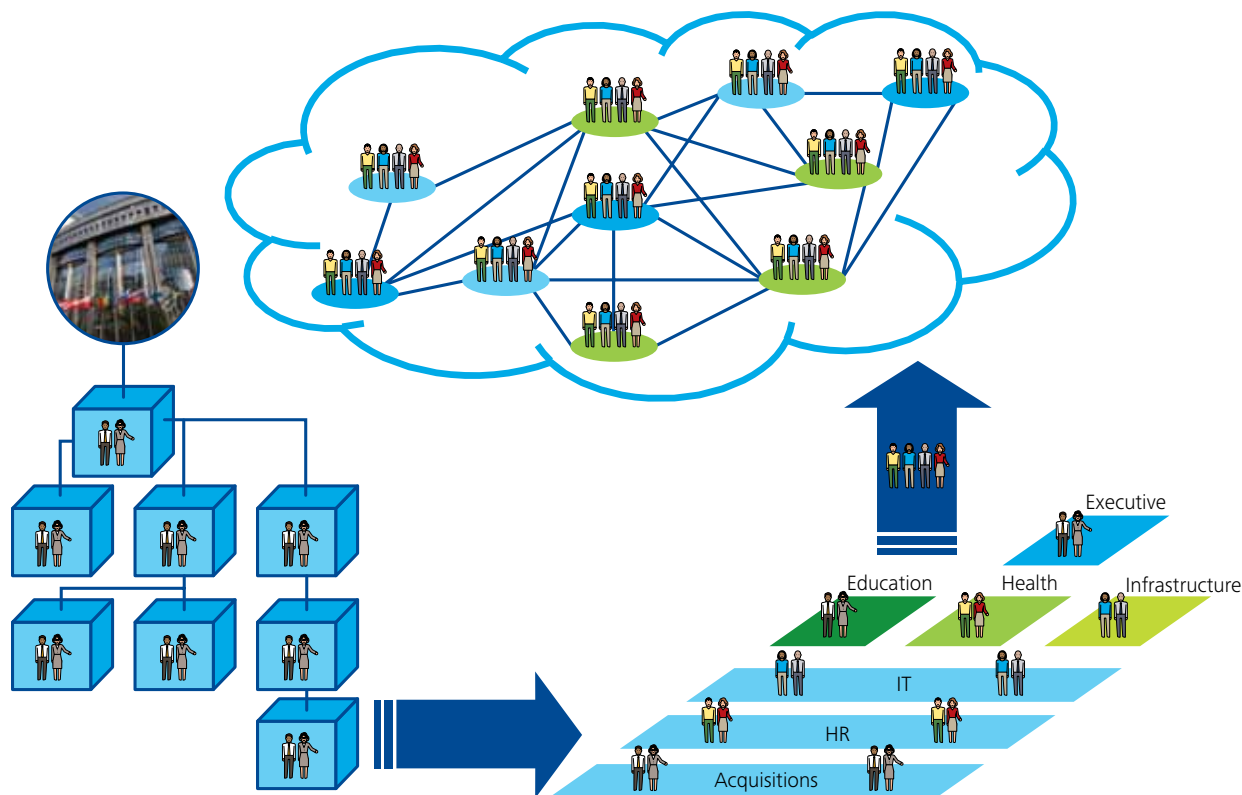
Consider the 2001 outbreak of foot-and-mouth disease in the United Kingdom and the subsequent slaughter of more than 6 million pigs, sheep, and cattle. The problem of an impacted food supply is complicated. In most countries, multiple agencies focus on agriculture, food production, and public health. In the United Kingdom, the army and even tourism ministries were impacted by the outbreak as agencies became overwhelmed by the number of animals in need of disposal and by the cordoning off of tourist areas to prevent the spread of the disease. Yet the structure of government agencies often confines employees to work in information silos, creating inherent operational inefficiencies. In a cloud workforce model, experts in each area could be pulled together to support remedies and propose coordinated corrective measures.

The GovCloud model could become a new pillar of government, comprising permanent employees who undertake a wide variety of creative, problem-focused work. As needed, the GovCloud model could also take advantage of those outside government, including citizens looking for extra part-time work, full-time contractors, and individual consultants.

“I want someone saying: ‘Did you know that the Ministry of Justice is doing that, or could you piggy-back on what the communities department is doing, or had you thought about doing it in this way?’ You’ve got to get away from thinking about centralized command and control.”

— Dame Helen Ghosh, Permanent Secretary, UK Home Office²¹

The FedCloud model



Cloud workers would vary in background and expertise but would exhibit traits of “free-agent” workers—self-sufficient, self-motivated employees who exhibit a strong loyalty to teams, colleagues, and clients. Daniel Pink, author of *Drive: The Surprising Truth About What Motivates Us*, argues that 33 million Americans—one-quarter of the workforce—already operate as free agents.²²

According to the white paper, “Lessons of the Great Recession,” from Swiss staffing company Adecco, contingent workers—those who chose non-traditional employment arrangements²³—are expected to eventually make up about 25 percent of the global workforce.²⁴ These more autonomous workers, according to Pink, are better suited to 21st-century work, and are more productive—even without traditional monetary incentives.²⁵

Benefits of the cloud

The fluid nature of the cloud can provide significant benefits:

- **Knowledge exchange:** Avoids “trapping” knowledge within any single agency. The fluidity of the cloud allows for the quick connection of knowledge with the people who need it.
- **Adaptability:** Allows the government to concentrate resources where needed. The cloud would make federal work more adaptable and focused on cross-cutting outcomes.
- **Collaboration:** Encourages collaboration, whether in person or virtually, through the expanded use of video conferencing, collaborative tools, and electronic communication.

GovCloud: Problem-focused	
Types of work	Highly collaborative work such as policy creation, analyzing information, and reporting on data results
Types of roles	<ul style="list-style-type: none"> • Program managers • Economists • Performance experts • Public health specialists

Thin agencies: Mission-focused	
Types of work	<ul style="list-style-type: none"> • Work requiring deep agency knowledge and collaboration • Specialized scientific and medical work that may require a physical work location • Face-to-face delivery of services or “frontline” work
Types of roles	<ul style="list-style-type: none"> • Agency directors • Inspectors • Correction officers • Passport office workers

Shared services: Support-focused	
Types of work	Traditional back-office support functions such as administration and technology support, facilities and logistics, and some HR functions
Types of roles	<ul style="list-style-type: none"> • Human resource technicians • Accounting technicians • Administrative officers

- **Focus resources:** Teams can be formed quickly and dissolved when their work is concluded, reducing the likelihood of government structures continuing to operate after they are no longer needed.²⁶

The nature of the cloud—teams forming and dissolving as their tasks require—encourages workers to focus on *specific project outcomes* rather than ongoing operations.

Benefits of thin agencies

Thin agency structures could lead to:

- Simplified mission accountability and responsibility
- A greater focus on mission outcomes rather than on back-office management

Benefits of shared services

Greater use of shared services could allow the federal government to:

- Reduce redundant back-office structures
- Consolidate real estate obligations and data centers
- Create a government-wide support structure capable of supporting the GovCloud

The need to support some ongoing missions will remain, of course. These missions will be carried out by thin agencies.

Under the cloud concept, federal agencies would remain focused on specific missions and ongoing oversight. These agencies, however, would become “thinner” as many of their knowledge workers transfer into the cloud. Thin agencies could also create opportunities to streamline organizations with overlapping missions.

Employees working in thin agencies could fall into two main categories:

- **Mission specialists:** These are subject matter experts who possess knowledge central to the mission of the agency or tied to one geographic location. Examples include agency executives, policy experts, and others with knowledge that is closely aligned with the mission of a specific agency (e.g., foresters, tax code specialists). Mission specialists also could enter the cloud, based on the specific needs of other agencies.
- **Frontline workers:** These are employees who represent the “face” of government to

citizens—law enforcement officers, investigators, regulators, entitlement providers, etc.—and who interact with citizens on a regular basis. As the nature of frontline work typically does not lend itself to the cloud, these employees would still align with individual agencies.

GovCloud could change the highest levels of public sector workers as we know them today. The Senior Executive Service in the United States, Permanent Secretaries and Directors General in the United Kingdom and Australia—all such senior officials could rotate between agencies, shared services, and the cloud, which would reflect the original intent behind many of these high-level offices: giving executives a breadth of experience in roles across government to help develop shared values and a broad perspective. An important benefit of rotation would be the ability to tap into cloud networks to assemble high-performing teams.

To further focus agencies on specific missions, many of their back-office support functions could be pulled into government-wide shared service arrangements.

The use of shared services in government has come and gone in waves—usually dictated by fiscal necessity. Most countries in Europe, as part of their e-government strategies, have placed increased focus of late on developing shared services, whether through an executive agency or a CIO, as well as working with EU coordination activities. And while the decentralized governments of some EU countries—such as Germany—make shared services more difficult, these countries are using states and agencies to pilot innovative approaches.²⁷

Other efforts around the world include the U.S e-Government Act of 2002, which examined how technology could be used to cut costs and improve services. More recently, the New Zealand government appointed an advisory group in May 2011 to explore public sector reform to improve services and provide

Shared Services Canada

In August 2011, the government of Canada announced the launch of Shared Services Canada, a program that seeks to streamline and identify savings in information technology. Among its first targets is something as mundane as email. But with more than 100 different email systems being used by government employees, the potential savings and boost to efficiency could be significant. Not only do these incompatible systems cost money by requiring individual departments to negotiate and maintain separate licenses and technical support, it also makes it difficult for government employees to communicate with one another and with the public. And with no single standard, ensuring the security of information transmitted over email becomes more challenging. Shared Services Canada will move the government to one email system as well as consolidate data centers and networks—ultimately looking for anticipated savings of between CA\$100 million and CA\$200 million annually.²⁸

better value. In their report, “Better Public Services,” the advisory group recommended the use of shared services to improve effectiveness in a variety of government settings, including policy advice and real estate.²⁹ Following up on this, three New Zealand agencies—the Department of the Prime Minister, the State Services Commission, and the Treasury—announced in December 2011 that they would share such corporate functions as human resources and information technology.³⁰ And though shared services in Western Australia were shut down, other projects in South Australia are moving ahead and already showing savings.³¹

While the idea of using shared services is not a novel one, it is central to the GovCloud model. The GovCloud model envisions building upon effective practices and those shared

services already in operation to deliver services like human resources, information technology, finance, and acquisitions government-wide. Workers in these shared services would include subject matter experts in areas like human resources and information technology, as well as generalists, who support routine business functions.

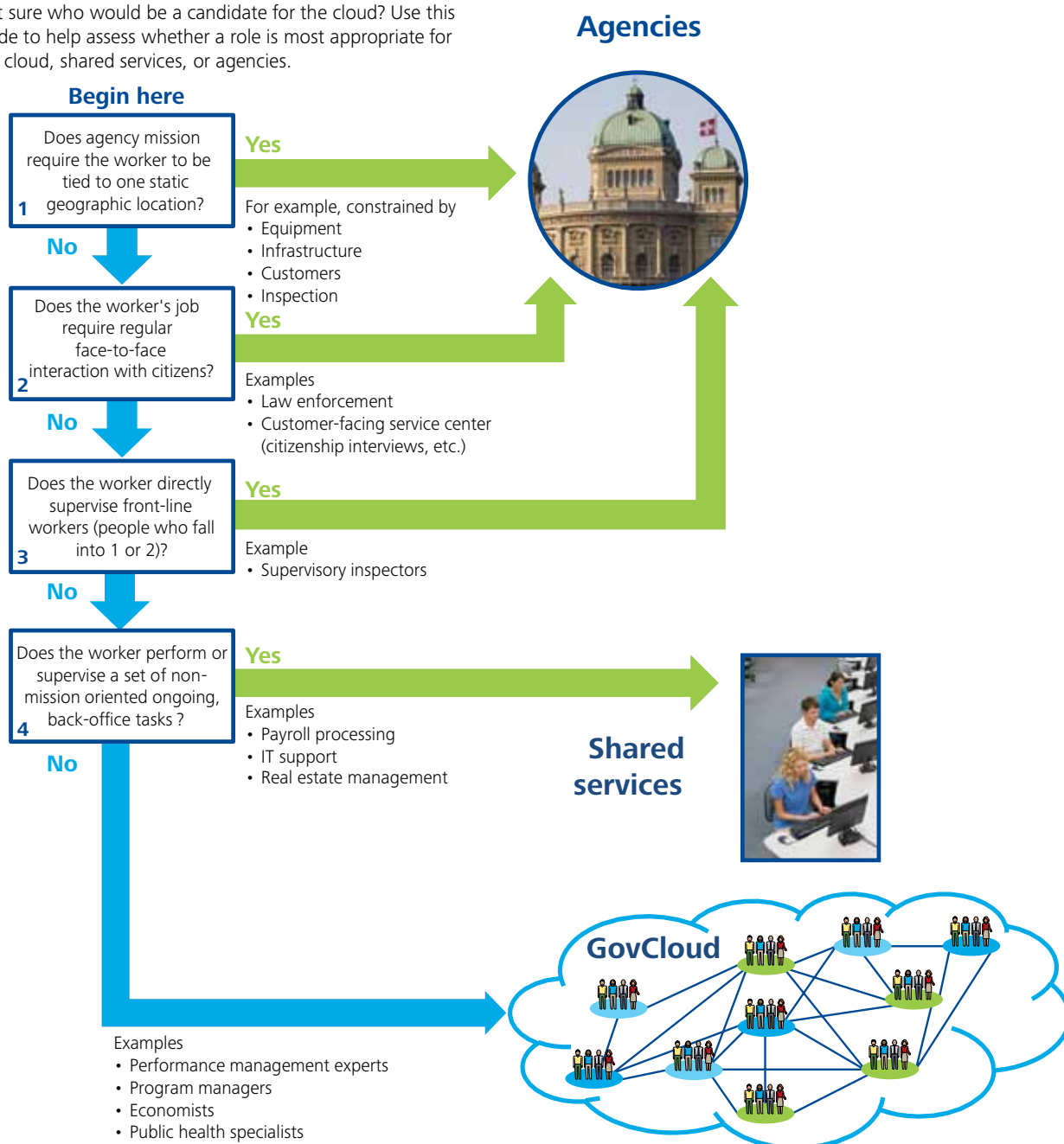
The potential for shared services continues to grow. As seen with IBM’s Watson and Microtask’s Digitalkoot, new technologies provide an opportunity to accelerate the automated delivery of basic services. Some agencies already have begun capitalizing on these trends. For example, NASA has moved its shared service center website to a secure government cloud, facilitating greater employee self-service and helping to reduce demand on finite call center resources.³²

Who belongs in the cloud?

This decision tool is designed to help leaders determine which employees are appropriate for each of the three structures in the GovCloud model—the cloud, thin agencies, and shared services.

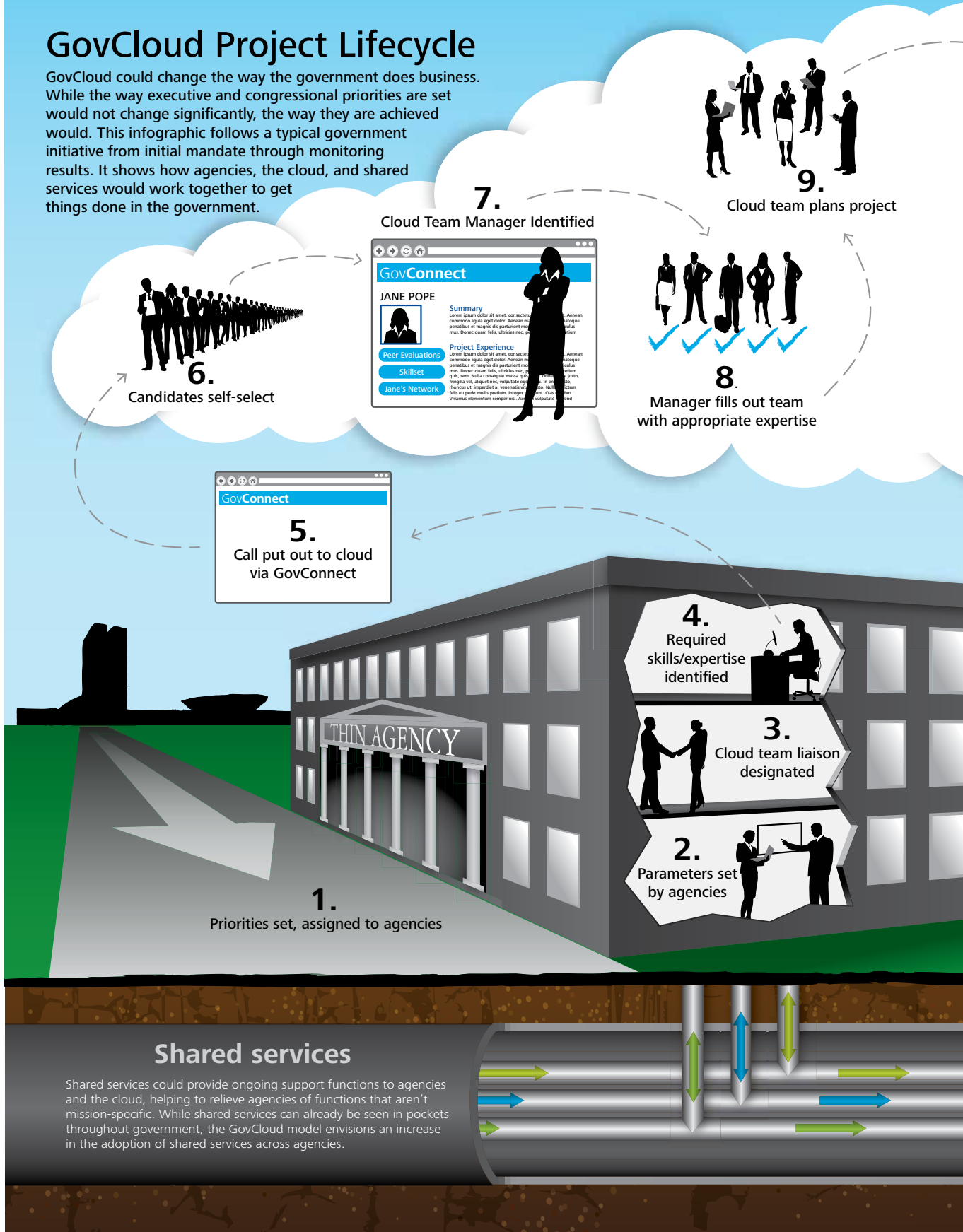
To the cloud...

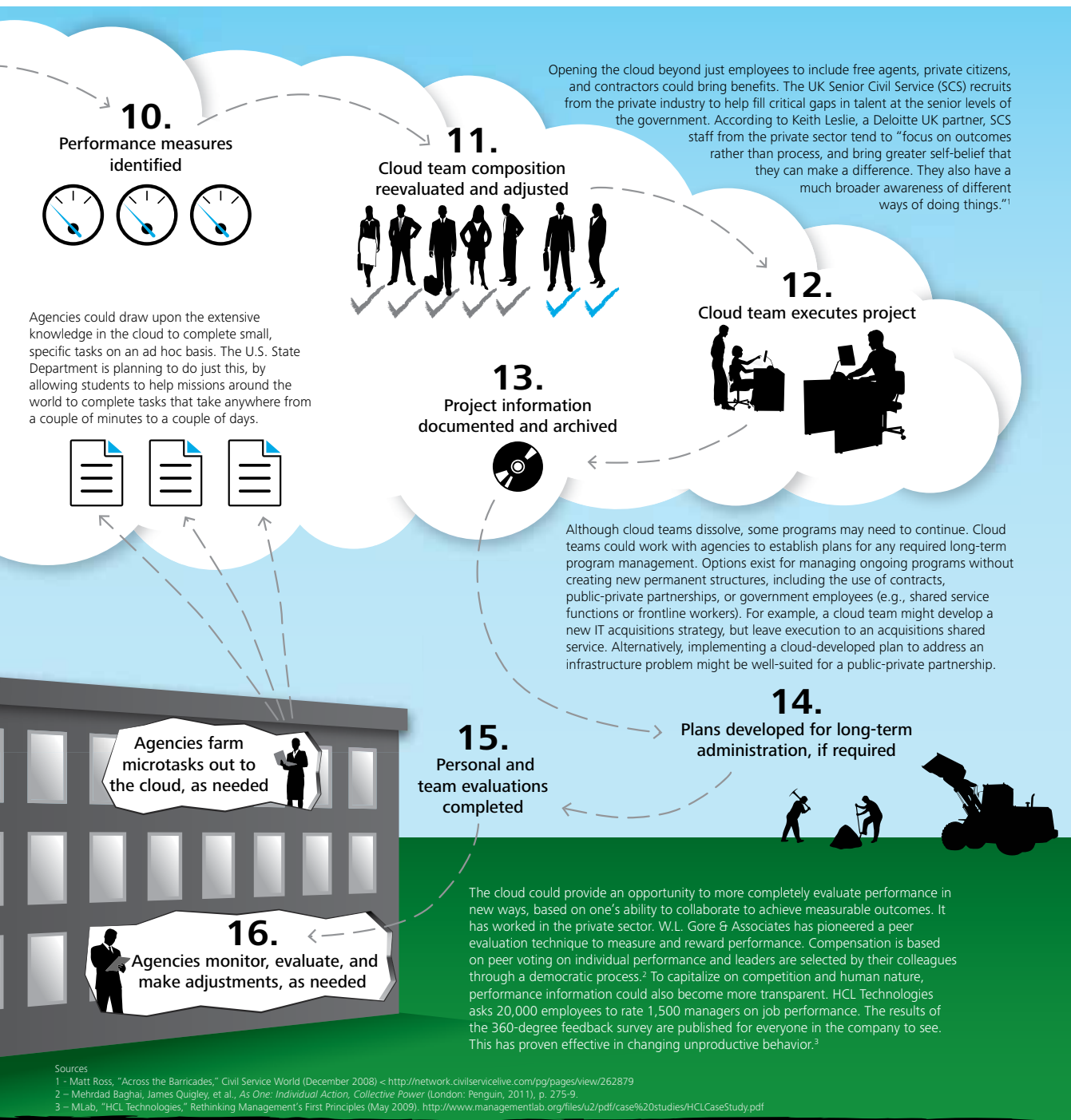
Not sure who would be a candidate for the cloud? Use this guide to help assess whether a role is most appropriate for the cloud, shared services, or agencies.



GovCloud Project Lifecycle

GovCloud could change the way the government does business. While the way executive and congressional priorities are set would not change significantly, the way they are achieved would. This infographic follows a typical government initiative from initial mandate through monitoring results. It shows how agencies, the cloud, and shared services would work together to get things done in the government.





IT SUPPORT
PAYROLL PROCESSING
BENEFITS ADMINISTRATION

Reinventing HR

Managing employees in the cloud will require governments to reinvent human resource management. Individual and team performance evaluations, career development, pay structures, and benefits and pensions would need to change to support GovCloud. This section examines possibilities for HR reinvention, including performance management, career development, workplace flexibility, and benefits.

Performance and career management

Employees working in the cloud would require an alternative to determine pay and career advancement. The government could take its cues from the gaming world and evaluate cloud workers with a point system.

An HR management system that incorporates the accumulation of experience points

“The manager as we know it will disappear— to be replaced by a new sort of business operative whose expertise is assembling the right people for particular projects.”

— Daniel Pink, author of *Free-Agent Nation*³³

Why experience points (XP)?

- **Rewards team players:** Creates incentives not only to perform well as an individual but also to be a valuable collaborative team member and to continue one’s personal development
- **Manages performance:** Allows governments to shift focus from time in grade to a more holistic performance management scheme
- **Fits work style:** Capitalizes on the work style of Millennials, who value performance over tenure
- **Creates right incentives:** Takes advantage of “gamification” concepts to incentivize desired behaviors
- **Lets workers own their careers:** Allows workers to take personal ownership over the management of their careers, including their professional development and work-life integration

(XP) through effective work on cloud projects, training, education, and professional certifications could replace the tenure-centric models for cloud employees.

As employees accumulate XP, they could “level up” and take on additional responsibilities in future projects. Workers in the cloud could earn XP in four ways:

- **Education and training:** Employees earn XP based on advanced degrees, continuing education courses, and professional certification.
- **Social capital:** Employees could earn XP with high social capital scores based on their participation in GovCloud collaboration and networking.
- **Leadership:** taking on additional leadership responsibilities in cloud teams could raise individual XP scores.

Breaking down silos: DEFRA

After some high-profile incidents—slow responses to outbreaks of foot-and-mouth disease, flooding that may have been preventable, and a farming subsidy system that seemed to result in more chaos than aid—the UK Department for Environment, Food and Rural Affairs (DEFRA) was looking to reinvent itself. In 2006, the department launched DEFRA Renew. One of its key goals was to bring the department’s policymaking closer to actual delivery to create more responsive processes.

Organized, mainly by policy, with fixed teams, DEFRA had been unable to redeploy resources as needed in response to a crisis. As part of DEFRA Renew, a new operating model was implemented that used flexible resourcing where staff were assigned to specific projects for fixed periods. This allowed management to measure and build the required capabilities and competencies needed and to allocate resources efficiently to improve overall service quality. New roles were also created to support sustainable staff development and resource management in the new model.

To create buy-in for such a fundamental culture shift within the department, a facilitative approach to decision-making was employed. Change management programs and mentoring were extended to all levels of the department, including leadership. New mechanisms—such as approval panels for resources and the use of business cases—also worked to push changes among staff and promote collaborative behavior.

DEFRA Renew was widely recognized as a key enabler in the department meeting required efficiency improvement targets set by the UK government. DEFRA moved to a more project-based approach, with fewer staff in core teams. According to Dame Helen Ghosh, former Permanent Secretary of DEFRA, they could be more responsive now that “the management board won’t be made up of director generals with individual policy silos.”³⁴

- **Projects:** Projects in the cloud could be worth a certain number of XP, based on their scope and complexity and team performance. Project managers could award additional XP based on employee level, individual performance, and peer evaluation.

Just as XP could be gained through learning new skills, it could be lost in the following three ways:

- **Failure to apply skills:** Workers could earn XP for training, but lose these points if they do not use the resulting skills on projects.
- **Down time:** One would expect some cloud employees to be between projects at any given time, and indeed this provides the capacity to surge when demands require. That said, employees who spend too much time away from project work could lose XP.
- **Poor project performance:** Employees who receive less-than-satisfactory ratings on individual performance reviews, peer evaluations, or team performance could lose XP.

Salary and benefits

Any serious discussion about creating a new class of government employees requires a fresh look at employee benefits and compensation. For example, XP could be used to help determine workers’ salaries, but additional research into alternative pension and benefit programs is needed. While any discussion on compensation could be contentious, a healthy debate among stakeholders from across the government should be welcomed.

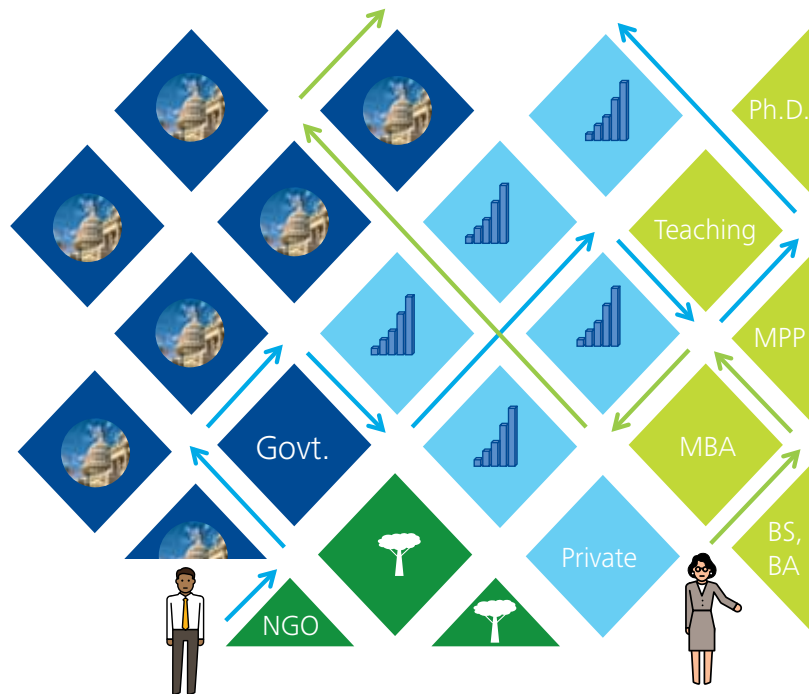
Career paths

As new roles emerge in the cloud, so too could new career paths. Career emphasis could move away from time served in a particular pay grade and toward milestones that are meaningful for employee development.

Each worker may have different career aspirations. For instance, not all workers aspire to management; some may seek to master a particular subject area instead. Career advancement in the cloud would not equate to moving up a ladder, but rather moving along a lattice.

Here’s how the lattice could work for Ian, who we met in the introduction.

Lattice GovCloud Model



“Think of the lattice as a jungle gym. The best opportunities to broaden your experience may be lateral or even down. Look every which way and swing to opportunities.”

— Pattie Sellers, *Fortune* editor at large

- **The early years:** A few years after being hired into the human resources shared service straight out of school, Ian has been exposed to a wide variety of agencies. Through these interactions, he realizes he has become passionate about the field of social work.
- **Seeking a change:** Ian decides to leave federal service and pursue a master’s degree in social work, and then take a job at his state’s social services agency. After a few years, Ian accepts a position as director of a mid-sized non-profit.
- **Returning to GovCloud:** After years of running the non-profit, Ian begins thinking about government service again. He decides to join GovCloud by working just a few hours a week. After working part-time on projects that require social work experience, Ian decides to return full-time. To more effectively manage social programs, Ian seeks out all the performance measurement training he can find.
- **Finding a niche:** Ian becomes well versed in performance measurement, first for social programs, but he quickly learns how

to apply those concepts elsewhere. When his social work experience isn't needed, he can also lend performance measurement knowledge from the cloud.

- **Winding down:** As he nears retirement, Ian wants to help train the next generation of social workers by teaching one course per semester at a local university. However, he is able to remain connected to GovCloud and spend one or two days a week working with social programs and measuring the performance of other projects.

Cathleen Benko and Molly Anderson, the authors of *The Corporate Lattice*, argue that the corporate ladder is giving way to a lattice that accommodates flatter, more networked organizations; improves the integration of career and life; focuses on competencies rather than tenure; and helps increase workforce loyalty.³⁵ The lattice metaphor allows employees to choose many ways to “get ahead.”

Learning

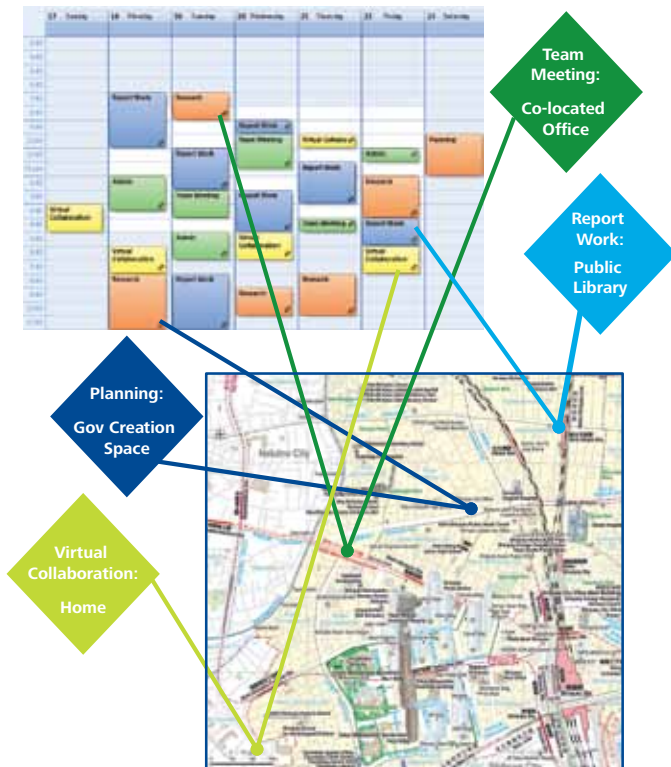
It is unlikely that all workers will thrive in the new GovCloud environment right out of the gate. As such, it would be important to assess a worker's readiness before placing her in GovCloud and providing training on core competencies critical to cloud success. There could also be opportunities to start workers, especially those at earlier stages of a career, within an agency or shared service to build up expertise in some area before “graduating to the cloud.” Once in the cloud, new workers could be paired with mentors, who are more experienced, to help navigate the cloud experience itself.

There should be an emphasis on continuous learning in the cloud. It would be important for cloud workers to continue to refine their skills, develop additional expertise, and adapt to new ways of working. Not only could continuous learning affect workers' career mobility by increasing the depth and breadth of their skills, but it could also impact their salary and level by increasing their XP.

Learning and development in the cloud could take on many themes of “next learning.” Next learning focuses on creating personalized learning experiences that leverage the latest technologies and collaborative communities to deliver education and learning programs that build knowledge bases and promote learning as a focus and passion, not just a checkbox in a career.³⁶

To broaden cloud worker skills and the ability to handle multiple tasks and work on a variety of projects, cloud learning could include the following principles:³⁷

- **Video:** The use of video learning could bring an in-person feel to trainings for cloud workers. Further, it could allow for more meaningful mentor relationships, even over long distances. This is an important component of a highly virtual workplace.
- **Social and collaborative learning:** Use the wisdom of the cloud (and beyond) to create a collaborative learning environment.
- **Learning projects:** In an environment where cloud workers are completing micro-tasks or participating in projects, design training to reflect this, helping to hone collaboration and other skills that will be important in the cloud.
- **Learning and leading in a distributed workplace:** Workers who ascend to positions of leadership will need more than the traditional essentials of leadership to get them there. They will need to learn how to motivate and manage employees in a distributed environment, which requires an emphasis on communication, accountability, trust, and performance.
- **Building knowledge bases and connectivity for learning:** Elective knowledge management will be critical in the Gov Cloud environment. This is just as important for training as for project information. Make knowledge gained in one area available elsewhere by tagging and promoting content for others to see. This can complement social learning by allowing



users to bookmark or promote effective learning channels.

Workplace flexibility

In the cloud, careers and expertise will be built in new ways and work will be something we *do*, rather than a place we *go to*. As such, the cloud will give workers more control over their schedules and workloads. By creating a flexible workplace, governments could shed a significant amount of physical infrastructure and create shared workspaces. Many buildings could be converted into co-located spaces; teams could use collaboration spaces or videoconferencing centers.

Some workers might rarely set foot in a government building, instead conducting cloud tasks at home and interacting with project teams virtually. With advancing communications and mobile technology, distance no longer hinders collaboration. It no longer matters whether all workers are at an office between 9 a.m. and 5 p.m.; what matters is whether project teams produce results and whether everyone contributes.

A more flexible workplace could also take advantage of resources governments might not otherwise have access to. Some retiring workers may not want to quit working altogether, and a flexible model could be an enticing way to keep their expertise on retainer. Alternatively, the model could take advantage of would-be government employees unwilling to relocate or unable to work a regular schedule. By increasing flexibility, governments could increase their available resource pool, allowing agencies to access the skills and knowledge they need, when they need it. For an example of how a retiree could interact with the cloud, see Appendix C: National Security Case Study.

U.S. State Department pilots the cloud

Don't think governments will ever take to the cloud? At the U.S. Department of State, the idea could soon be a reality. The Office of eDiplomacy is preparing to pilot a cloud component to its e-internship model for American students as part of the Virtual Student Foreign Service (VSFS), beginning this year. The VSFS currently offers e-internships to U.S. university students of multiple month duration. By using a new micro-volunteering platform, State Department offices and embassies around the world will be able to create non-classified tasks that take anywhere from a couple of minutes to a couple of days to complete. Each task will be tagged by region and/or issue and will automatically populate the profiles of students who have indicated those interests. Students can then select the tasks that interest them the most or that fit into their schedule.

To see that the most pressing work is performed first, offices and embassies will be able to prioritize their tasks, so critical items appear at the top of the queue. Imagine a small embassy preparing for a high-profile, multilateral meeting. The preparations for such an event could be daunting for a small staff. The power of the cloud could augment an individual embassy's capacity to prepare for a major event and ensure that related items are performed ahead of those that are less critical.

While there are plenty of incentives for participating in the VSFS micro-volunteering platform—from an impressive line on a student's resume to the chance to make a difference by working on topics of interest—thought is being put into how to creatively incent high performance. One idea is to simply invoke students' competitive spirit. Competition could be encouraged by a monthly leader board, which results in bragging rights and, potentially, even a low-cost, but high-impact reward. Transparency is also key to competition: with ratings available to State Department staff and other cloud interns and the ability to make short thank you notes from embassies publicly available, interns would be keen to make a good impression.

The potential applications of this type of program are significant. Imagine if offices throughout the State Department could tap into the language and cultural expertise of the thousands of foreign national staff members around the globe. Providing a platform for those employees to contribute even a small amount of time to discreet tasks that require their expertise could unlock a world of knowledge.³⁸

Taking the first steps

Creating the GovCloud model will require bold leadership and the ideas and initiatives of entrepreneurial executives. While a GovCloud model may be years in the making, agencies can begin adopting cloud concepts today.

- **Build collaboration spaces:** Make interoffice collaboration easier. Create physical spaces in your office where employees can casually spend time sharing information across departments. Provide employees with several hours per week to devote to collaborative efforts with other areas of the agency that interest them.
- **Rotate your people:** Embrace the Millennials' aptitude for change. Create a rotational program that allows staff members to work across departments and specialties. As your organization realizes the value of a broader perspective, you can pursue rotation among agencies or even secondments (rotations between the non-profit, private, and public sectors).
- **Start a volunteer cloud:** Plant the seeds for the cloud by allowing workers to seek tasks beyond their current responsibilities. Start by providing a platform for managers to post issues or problems they need help in solving. Allow employees to help with projects or tasks that interest them. This will allow them to expand their networks, build new skills, and chase their passions.
- **Pilot a GovCloud:** Only experience will bring people to understand the power of the cloud. A few agencies could bring the cloud to life by moving resources to a pilot cloud workforce. This would allow them to document lessons learned and determine the viability of the cloud on a wider scale. Use the GovCloud decision tree to help determine who could thrive in the cloud.



One step toward the cloud: Secondments and temporary project teams

The Ontario Public Service (OPS) has significant experience with building as-needed project teams to support specific, high-priority projects using staff brought in from other departments for short-term secondments. What allows this to work is a flexible HR framework that supports and facilitates staff secondments as developmental opportunities. The HR framework contributes to a culture that recognizes and rewards the experience secondees gain in these high-profile work assignments. OPS employees are generally eager to participate in these projects and are typically rewarded throughout their careers for the skills they acquire.³⁹

Implementing GovCloud





The GovCloud concept is designed to be versatile as well as applicable to a wide range of entities. Depending on your organization, government executives wishing to employ GovCloud may choose to apply the concept first to a unit, before expanding to other branches or divisions, entire agencies, or the whole of government.

Often, GovCloud principles are most effectively implemented as part of a larger reform program within a particular agency—as with the UK Department for Environment, Food and Rural Affairs’ Renew program, as described

earlier in this report. On a smaller scale, the UK Cabinet Office used flexible resourcing (FR) in its Economic Reform Group (ERG), with a staff of about 400, as part of its cost-reduction plans. Using a simple database that it had developed and a strong program of communications, FR is now used and embraced by all core ERG employees, with strong, clear ownership from the top—another key implementation factor. Says Ian Watmore, the UK Cabinet Office’s former permanent secretary, FR means “we are able to deploy people much more quickly to priority projects.”⁴⁰

Figure 3 outlines how GovCloud can apply to a variety of organizations.

Figure 3: An illustrative continuum for applying the GovCloud concept to public sector organizations

	 Unit or Group	 Branch or Division	 Agency, Department, or Ministry	 Whole-of-Government
Behavioral requirements	<ul style="list-style-type: none"> • Collaboration and information sharing within the team • Resource manager understands team priorities • Staff are bought into the process and committed to working across the team 	<ul style="list-style-type: none"> • Massive culture shift • Employee focus on breadth of experience and opportunities for challenge • Managers seek staff with the right capability rather than “perfect fit” 	<ul style="list-style-type: none"> • Employee affinity rests with the op center rather than the team • Managers seek staff with the right capability rather than “perfect fit” 	<ul style="list-style-type: none"> • Smaller cultural shift • Less loss of affinity, with staff having greater association to horizontal • Staff focus on breath of opportunities alongside functional expertise • Commitment to departmental priorities
Challenges	<ul style="list-style-type: none"> • Limited benefits • Potential for managers to staff preferred individuals repetitively 	<ul style="list-style-type: none"> • Financial reconciliation of budgets • Potential for managers to staff preferred individuals • Reliance on consistent calibre and quality of staff 	<ul style="list-style-type: none"> • Financial reconciliation of budgets • Breadth of knowledge/skills • Behavior and culture change • Reliance on consistent calibre and quality of staff 	<ul style="list-style-type: none"> • Financial reconciliation of budgets • Potential for managers to staff preferred people and/or people remain in the same team for a long time • Breadth of knowledge/skills
Enablers	<ul style="list-style-type: none"> • Management information reports about employee availability and deployments • HR policies and job description 	<ul style="list-style-type: none"> • Management information reports about employee availability and deployments • HR policies and job description • Financial processes 	<ul style="list-style-type: none"> • Management information reports about employee availability and deployments • HR policies and job description • Financial processes 	<ul style="list-style-type: none"> • Management information reports about employee availability and deployments • Overarching recruitment and performance evaluation system • HR policies, job description, and benefits • Financial processes

The road ahead

Most government workforces haven't undergone a broad restructuring in decades. In that time, the world has been transformed by computers, the Internet, and mobile communications.

To respond to a variety of challenges, governments have created scores of new organizations. However, in today's world of budget cuts and increased fiscal scrutiny, the constant creation of new, permanent structures is not sustainable.

The GovCloud model could offer a new way to use government resources. A cloud of government-wide workers could coalesce into project-based teams to solve problems and separate when their work is done. This could allow governments to concentrate resources when and where they are needed. By using this model in conjunction with thinner agencies and shared services, governments can reduce back-office redundancies and let agencies focus on their core missions.

This model capitalizes on the work preferences of Millennials—the future government workforce—who value career growth over job security or compensation.⁴¹ The GovCloud model allows employees to gain a variety of experiences in a shorter amount of time and to self-select their career direction.

To support GovCloud, governments could establish the processes by which cloud teams would form, work, and dissolve. New ways to evaluate performance and help workers gain skills and build careers should be considered. Today's employee classification system stresses job descriptions and time in service; this could be transformed with an XP model that emphasizes the individual's ownership of his or her career.

The GovCloud model will undoubtedly be controversial. Many stakeholders, from governing bodies to public employee unions, must weigh in to shape the future government workforce. The transition to a cloud model will not happen overnight or maybe even in the next five years, but the conversation starts today.



Appendix A:

Public awareness campaign

The problem

A new study in a leading medical journal reports that more than 30 percent of a certain country's children aged 8 to 11 are medically obese. The implications of this trend for government agencies that support health and welfare, the life expectancy of the general population, and the overall economy are severe. The country's prime minister announces that the central government will work to reduce the childhood obesity rate to the international benchmark of 10 percent within 10 years, calling upon the ministry of health to achieve this goal using its discretionary budget. A "10 Years to 10 Percent" campaign is born.

GovCloud solution

The minister of health selects one of his key advisors, Jane, a board-certified pediatrician and child psychologist, to coordinate the campaign. Jane sets out to find a team of cloud workers through GovConnect that will carry the project from planning through performance measurement. The project will require a diverse team of 50 cloud members, including project management staff who will liaise with the central government's shared services.

Healthcare management	Recreation
Nutrition	School transportation
Primary education	Marketing
Childhood psychology	Performance management
Urban planning	Economics/statistics
Food and beverage industry knowledge	State social services
Agriculture	

Sub-teams form around major project outcomes, with their membership self-selected by participants based on their interests and expertise. Teams begin to plan and create the

programs and activities needed to execute the campaign. For example, the marketing team develops an online contest to gather ideas for persuasive ways to push nutritional information to the general public. The physical activity team devises a grant program to encourage schools to allow for 1.5 hours of physical activity daily. To execute both these programs, workers with expertise in developing grant programs and establishing contest models are pulled in from the cloud to help as needed.

Two years later, the "10 Years to 10 Percent" team has evolved, and several cloud workers have moved in and out of the project. Knowledge managers have conducted exit interviews with cloud workers to capture and retain their knowledge and archive project documentation.

A group of statisticians pulled from the cloud work with universities to develop a program to measure the obesity rate and other nutrition-related data points in 8–11 year olds. After two years of collecting data, obesity statistics are promising. The new campaign is working, with rates declining to around 13 percent. Statisticians predict that the obesity rate will dip below 10 percent by the targeted deadline.

GovCloud results

The "10 Years to 10 Percent" project is on the road to success. The cloud team begins to disband; the knowledge manager archives materials on GovConnect. Team members assess each other's performance using the GovConnect rating tool. Jane and her sub-team managers complete the final performance evaluation of their teams and XP points are awarded to each team member based on their roles and performance.

Appendix B:

Infrastructure case study

The problem

During a busy afternoon commute in a major European city, a natural gas pipeline explodes, with catastrophic consequences. Several buildings collapse, casualties are significant, and the city is plunged into chaos. Led by the province's elected leaders, the central government promptly begins hearings to determine the cause.

Investigators report that the explosion was caused by a combination of a known design flaw, coupled with poor maintenance. The government appropriates €500 million for the inspection and repair of natural gas pipelines on a priority basis over the course of two years.

GovCloud solution

The department dedicated to energy and resources quickly appoints Jean, a former head safety officer of a major regional gas company, as project liaison for the department. Jean works with the minister's chief of staff and department subject-matter specialists to define parameters for the project, including budget, scope and timeframe. He quickly posts positions requiring the following skills and experience on GovConnect:

Infrastructure security	Economics/statistics
Gas safety	Scheduling
Energy regulation	Pipeline operations
Engineering	Federal/state inspection
Risk analysis	Pipefitting
Budgeting	Team management

As the team coalesces, Maria, the knowledge manager, begins research. To support her work, Maria assigns several search tasks to the

cloud. Workers respond to specific requests for relevant documentation and information, helping team leaders create a project plan to include inspections, job prioritization, and repairs.

As the inspections progress, results are sent back to the project team, which begins prioritizing pipelines for repair, based on criteria defined in the project plan. The team composition again changes to reflect the new tasks of this phase.

As results are prioritized, program management team members begin working with shared services to execute required repairs through the most expeditious and cost-effective means available (pipeline operators and new contracts, among others). Legal professionals, regulators, acquisition specialists, and engineers from the cloud work together to confirm the repairs are made in accordance with applicable regulations and codes, while scheduling, budgeting, and acquisition professionals from the cloud and shared services work to see that the repairs are made on time and within budget.

GovCloud results

As repairs are made and the volume of work decreases, the team shrinks and workers return to the cloud. As she has at each stage of the project, Maria conducts exit interviews with each team member to capture historical knowledge; decisions, documents, and other resources are documented in the knowledge management system. Jean completes an evaluation for each team member and asks members to rate their peers as well as his managerial ability before leaving.

Appendix C:

National security case study

The problem

Increased demand from large developing nations, as well as a major drought, has driven up the global price of commodities, including corn, wheat, rice, and oil. The poorest countries are hardest hit by rising inflation in the price of staple foods and basic goods.

The high price of food and a prolonged depression of local job sectors have stoked unrest in many countries across Northern Africa, the Middle East, and Central Asia. Rising civil discontent turns to mass protests in several countries and many unstable governments enforce martial law to regain control of their streets. The deepening regional economic crisis and social unrest create a fertile recruiting environment for terrorist organizations that have taken root in these countries.

GovCloud solution

The growing volume of communications among terrorist cells eventually exceeds the capacity of analysts in a country with a major intelligence community. Intelligence leaders activate the Secure Watch Analysis Program (SWAP), a portal built into GovConnect that allows any member of the federal cloud with an appropriate level of security clearance to participate in analyzing incoming intelligence cables. Through SWAP, cleared cloud workers can contribute to intelligence-related data analysis and collection tasks.

Sara, a Middle East specialist and 35-year veteran of the intelligence community, is retired but her clearance remains active. She applies for the job of team manager to help on a part-time basis. Edgar and Tim, two clearance-holding customs and border protection agents working in frontline stations at an international airport, offer to log into SWAP for five hours each week.

The pair's primary responsibility on SWAP is to review a queue of documents and indicate whether information should be elevated for immediate action, further reviewed by an intelligence agency, or logged as not representing actionable intelligence. Their decisions are spot-checked by other analysts and managers.

Six weeks into the crisis, Edgar notices something in an intelligence report that grabs his attention. He believes he has seen a cell phone number listed in the translated text before. Using SWAP's built-in analysis tools, Edgar searches past cables and other incoming data streams for possible hits on the phone number or other related information. Using SWAP's built-in instant messaging, microblogging, and file collaboration programs, Edgar begins sharing his findings with SWAP's other users.

Within two days, a team of 15 SWAP volunteers from across the country have uncovered a web of links between the cell phone owner and wanted terrorist leaders across Northern Africa and the Middle East. The connections trigger an alert on Sara's team dashboard. Within hours, Sara's team collects solid evidence indicating that the cell phone's owner plans to bomb a train station in a foreign country. Intelligence community leaders deliver Sara's analysis to that country's security forces for action.

GovCloud results

Tim and Edgar receive recognition from the intelligence community for their contributions and return to their customs and border protection responsibilities full-time. Before leaving the team, Sara completes project evaluations for its members and works with the new team manager to facilitate a smooth transition. She once again "retires," knowing that she will return to duty if her country needs her.

Appendix D:

Arguments against GovCloud

As stated at the outset, the GovCloud model represents a dramatic departure from the status quo. It is bound to be greeted with some skepticism. However, the ideas presented here are based on concepts that are gaining acceptance and have worked, in some shape, at other organizations. To advance the discussion, responses to some of the most common objections to GovCloud follow.

“But working remotely is a security risk.” Virtual cloud team members could be accessing sensitive information from their homes or—even worse—local coffee shops. This poses a major security risk.

Virtual workers could pose some challenges for highly sensitive projects. However, there are ways that some of these concerns could be mitigated:

- If access rights were centrally granted and managed through the cloud, the government could maintain greater control and accountability over who accesses which information.
- If highly sensitive information were available only to those who have access to it via dummy tablets, a situation could be avoided where sensitive documents are downloaded and stored on personal computers.
- Secure locations already exist around the country and could be augmented at a shared federal facility to accommodate those employees who must open highly classified documents.

“But this would require the entire structure of the civil service to change...” Creating a cloud workforce would require a different civil service than the one we know today. Everything from position descriptions to established work levels would have to change.

Most civil service structures were set up long before computers were introduced into the workplace. As times have changed, so have the way we work and the problems we face. We shouldn't limit our options in facing the challenges and opportunities of tomorrow by wedding ourselves to the structures of yesterday. In the GovCloud model, some roles would still require clearly defined position descriptions and more linear development paths. More substantial changes would be required for cloud workers, to improve their ability to work, learn, and develop.

“But shared services haven't caught on in government to date. This won't be any different...”

The use of shared services in government has come and gone in waves. As adoption has often been tied to fiscal necessity, the current economic environment presents an opportunity. Momentum could be built upon recent initiatives. This momentum could be structurally reinforced as well. As the cloud and shared services are stood up, agencies could be incentivized to use those resources and relieve themselves of the burdens associated with salary, benefits, and back-office functions. This would allow ministries to spend less effort on administration and allow them to concentrate on executing their core missions.

“But this would not work for national security workers...” National security apparatus is governed by a complex web of regulations and security measures. It would be unfeasible to substantially change the way they work.

While major hurdles would exist in attempting to implement the vision laid out here within the national security community, cloud support could enhance the intelligence and security system.

“But law enforcement officers and soldiers could not be cloud workers...” Front-line workers need to be in specific physical locations. They could not be part of a cloud workforce.

There is no one-size-fits-all solution. The purpose of the GovCloud model is to make government workforces as flexible and adaptive as possible. While it might not make sense for front-line workers to break from the traditional work models they currently operate in, pieces of the concept could help attract, retain, and enable them. If a flexible workforce is able to more efficiently adapt and surge to meet evolving needs, it could more effectively support front-line workers in performing their jobs.

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