The Evolving Role of IT for Government Agencies

A Google for Work Collection

Google for Work

Mobility and the cloud rank as the most disruptive technologies in the workplace today. They also represent the evolving role of the government CIO as IT becomes a strategic partner in the quest to make public services more efficient, attract and retain top talent and engage the next generation.

In this Google for Work collection, we harness the collective experience of Google CIO Ben Fried and Google Director of Security for Google Apps for Work Eran Feigenbaum, along with other industry and government pacesetters. Together, they discuss two topics that are on the mind of every technologist concerned with transforming government:

Cloud computing, open data and mobile technology. The way we work changed forever once people brought the personal tools and devices they love into the workplace. How can governments embrace new opportunities to use public funds more efficiently, respond more quickly and transform the way citizens and public servants engage with each other?

Busting cloud security myths. Security is top-of-mind for IT government leaders, and for good reason. Securing even the most sensitive data is becoming easier and more cost effective, and Google is at the forefront of that innovation. This collection includes the straight-up security answers you're looking for.

Read on to learn about the evolving role of the government CIO and how IT is becoming an agent of transformation, not only for business, but also for local, regional and national governments worldwide.

The Google for Work team

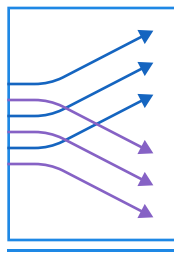Ready to talk with a member of the Google for Work team? Contact us now or email us at gov-solutions@google.com.

Table of Contents

The evolving role of the CIO

Chat with Ben Fried, Google CIO

When Google CIO Ben Fried talks about his job, he gets fairly animated. "I've been in IT 30-something years," he said at Atmosphere Live. "I can't remember a time when there was so much change happening at such a rapid pace in so many parts of the technology landscape. Mobile, data, the cloud — these and ten other technologies are all moving at incredible speed."

WATCH THE INTERVIEW WITH BEN FRIED »

What should every CIO understand about today's IT?

The pace of change for IT is driven by employee demand for consumer technologies, combined with the opportunities they present for business transformation. Fried makes the point that we can't rely on the old change management cycles. Skilled tech support people, who understand how to roll out new technology at the speed the tech industry delivers it, are incredibly important. If you can't move at the pace of change, after all, you'll always lag behind.

While some CIOs may still fear the intrusion of personal devices and cloud apps into the workplace, Fried sees it dif-ferently. Technology advancements in the consumer space, he says, offer infrastructure and development platforms that give business transformation a major head start, so it can happen at a much lower cost. Now, "We don't have to write the checks that pay for the R&D and the innovation that's creating these technologies," says Fried.

Rather than trying to master every aspect of IT, Fried encourages CIOs to focus on solutions that can really make a difference for their businesses — creating customized, enter-prise-ready software that builds on consumer technologies.

Transforming

66 Most of your people use the cloud already. You can help them end the confusion caused by using an enterprise tool set that's completely divergent from the personal tools they know and love."

WATCH THE VIDEO

Ben Fried
CIO, GOOGLE

Here's a Google example:

A couple of years ago, Fried noticed the company was spending a lot of money on outsourced videoconferencing systems, but they owned all the technology in-house — so he asked Google engineers to build an in-house system. The new system was so successful internally that customers who visited began asking about it, and Chromebox for meetings was born.

> ❝ If you'd told me before I took this job that I'd be presiding over 9,000 in-house videoconferencing systems," says Fried, "I would have said, 'What? That's the CIO's job?' But actually, it's an amazing source of innovation for us, and a real point of pride for the company."

What are the big challenges for CIOs?

In this period of history, the pace of change continues to increase. "Two guys in a bedroom can build an app that will be used by a million people the next day," says Fried. "That's incredibly fast."

Keeping up with that pace requires being open to cloud computing. For IT leaders still hesitant to make the shift, Fried makes two points. "First, it's not as hard as you may think," he says. "Most of your people use the cloud already. You can help them end the confusion caused by using an enterprise tool set that's completely divergent from the personal tools they know and love."

The second point? "In the end it'll make your company better," Fried says. "Moving problems to the cloud means mov-

ing them out of your mind … it lets you deliver way more in the areas that are much more important for your business than these problems that can be solved in the cloud." For Fried, that means more time to think about "differentiating Google, making Google a great place to work and making Googlers the most productive people in the world."

That's how Google defines innovation, but each business is different. To create a culture that supports innovation and get a handle on your evolving CIO role, says Fried, you have to decide what it means with your team, and move forward from there.

To hear more of Ben Fried's thoughts on business transformation and mobility, watch his interview at Atmosphere Live.

Collaborating when it counts: How Colorado weathered the storm

There's sound reasoning behind the old adage, "Hope for the best. Prepare for the worst." We can't always prevent crises, and we certainly can't control the weather. But through collaboration, planning for the unexpected and having tools in place to move quickly when emergencies happen, we can minimize costs and casualties.

When massive flooding struck Colorado last fall, water covered the entire front range, causing more than $3.3 billion in property damage and $556 million in economic loss. More than 18,000 people were evacuated and more than 16,000 homes were damaged, with at least 1,850 of them completely destroyed. According to NBC's Denver affiliate 9NEWS,[1] the disaster affected 17 counties. Those residents — and their concerned families — needed reliable information fast.

So Brandon Williams, director of IT for the State of Colorado, and his team were handed a tall order: build a comprehensive, easily updatable disaster-assistance website capable of helping citizens find the safest route out of flooded areas, locate shelter and connect with loved ones. The kicker: It needed to launch immediately.

To build Colorado United, Williams and his team got a little help from Google.

> 66 What's extraordinary is that we did this in less than 24 hours, at little cost and — for the first time — integrated real-time feeds of emergency-management information from local, state and federal agencies …
>
> The bottom line is that we did what all of us want to do: be agile and responsive. And we did it all with Google tools."

— Brandon Williams

IT Director, State of Colorado

During natural disasters or other emergency situations, organizations need collaboration tools that let them prepare and respond quickly, even when IT infrastructure requirements can be difficult to predict. This is when the cloud becomes critical to an organization.

Cloud-based tools can provide government agencies and businesses with a reliable platform to create, share and publish their own information at scale — all within the security of Google's infrastructure. The result: Organizations can generate comprehensive maps, apps and websites that sustain IT outages and inform stakeholders on demand.

That's why Williams' team used Google Sites to build the infrastructure for Colorado United and Google Maps to host and serve the location data.
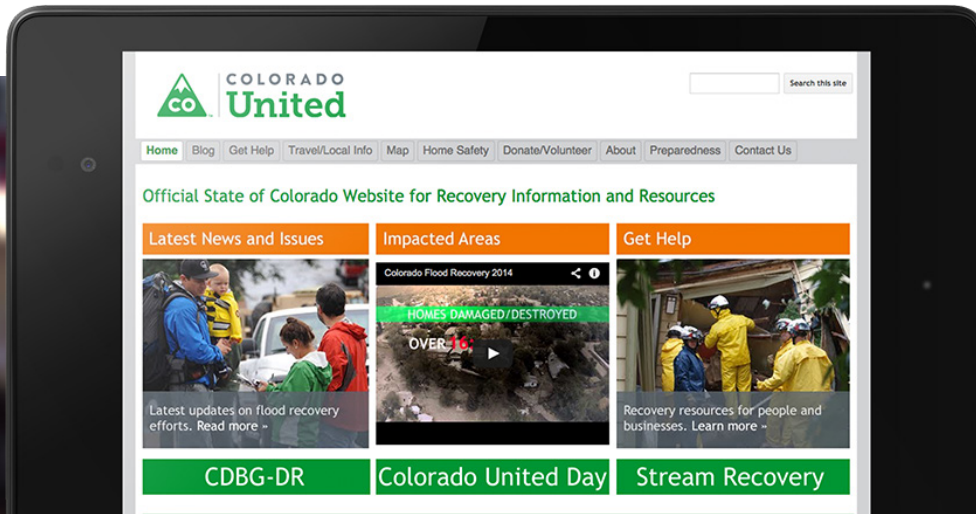
Collaborating on the fly

The State of Colorado didn't have time to build the robust, informative, real-time website its citizens needed from scratch. But since the organization had already built and paid for the code to create another Google cloud-powered site — Tobacco Free Colorado — Williams' team was able to launch Colorado United using the same template, at no additional cost.

66 Instead of the traditional model of outsourcing website development, where the partner owns the site and you're locked into maintenance fees, we now own the code, can develop our content and have a set of tools that are easy to use, especially for non-technical people.

As a result, our agencies are starting to embrace the idea that they can build on each other's efforts and get the systems they want. Today, we have more than 405 [State of Colorado] sites — internal and external — that have been built using Google Sites."

— Brandon Williams

IT Director, State of Colorado

Mobilizing the troops

Colorado United quickly became the go-to source not only for citizens deal-ing with the flood, but also for the media and first responders who needed to coordinate their efforts.

To collaborate during the crisis, state officials also used Google Hangouts to share screens, edit documents and get things done quickly. The organization still uses Hangouts to host question-and-answer sessions between citizens and public health experts, and to deliver technical training to people at their desks, rather than forcing them to drive for hours to a training site.

Williams says the success of Colorado United has changed his organiza-tion's culture to one that demands new technology instead of resisting it.

"Our work with Google has given us a litmus test that we apply to all new technologies ... We want to know: Can it help us work together more effi-ciently? ... This is what gets us excited, because in government, we're at our most productive when we have more time to serve people like you. Our work with Google has made us more productive and cost-efficient, and is transforming our culture into one where we're really getting the best out of technology for the people we serve." — Brandon Williams

To learn more, watch our interview with Williams at Google's Atmosphere Live event. Plus, discover how to Prepare, Respond & Recover with Google Maps for Work.
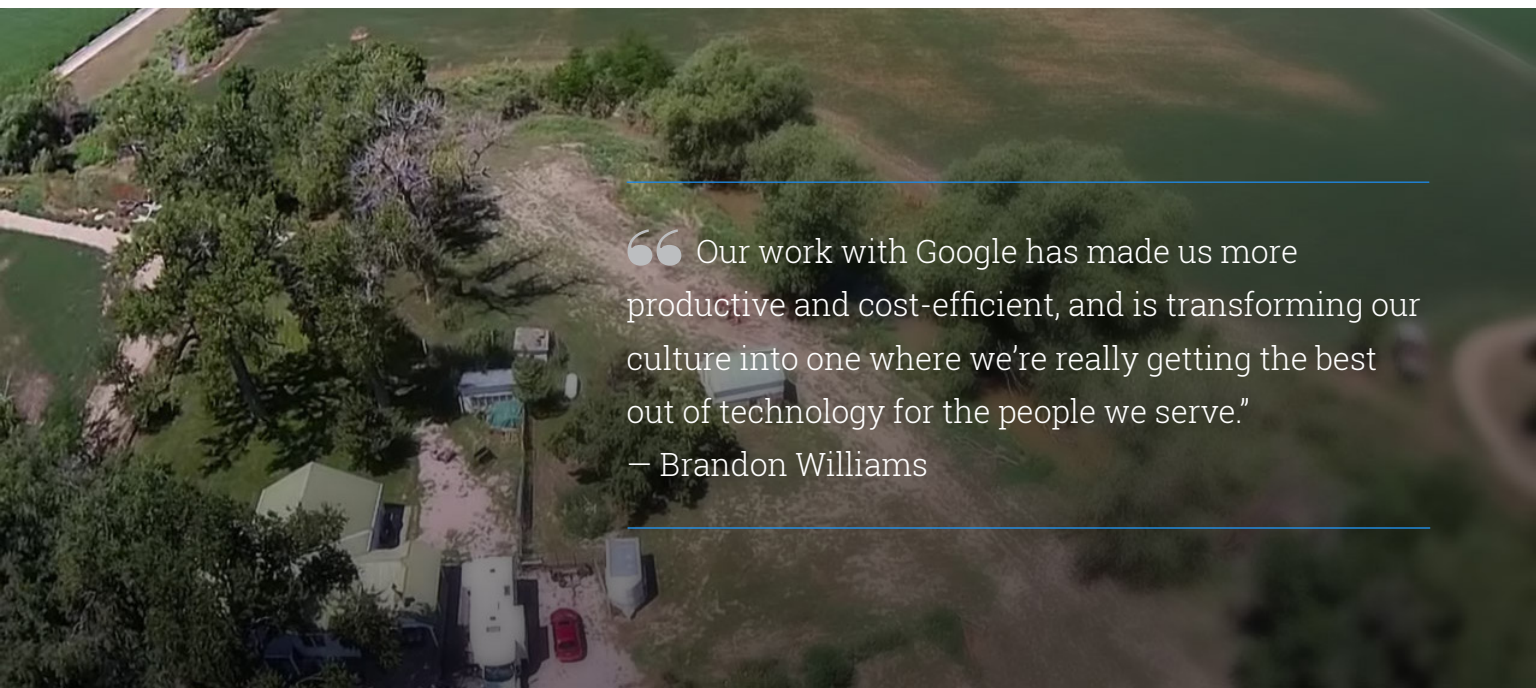
WATCH THE INTERVIEW WITH BRANDON WILLIAMS »

66 Our work with Google has made us more productive and cost-efficient, and is transforming our culture into one where we're really getting the best out of technology for the people we serve."
— Brandon Williams

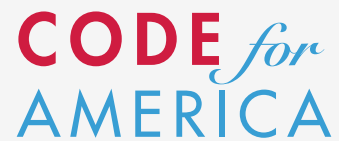# Citizen coders make government work better for everyone.

In a recent talk at [Google Think Cloud event](#), Code for America founder Jennifer Pahlka shares how she has overseen major shifts in U.S. government IT procurement policies and a rash of government-focused start-up companies. There's even a new venture capital fund focused solely on the government space.

The most remarkable shift in government IT, however, is not about technology. It's about collaboration, and the people getting involved.

Today, a growing army of coders, designers and government staff are creating and sharing inexpensive public services solutions using cloud and mobile technologies. Their work often bypasses legacy government IT systems, and seems less about individual achievement and more about a shared passion for helping governments "be better at their technology," in a favorite Pahlka phrase.

For example, in Long Beach, California, Code for America fellows are working on an app that helps city departments collaborate to reduce calls from "super-utilizer" addresses, which account for 52% of emergency medical calls. The app shows promise after a short pilot program, and the team is justifiably proud. But if you ask them whose idea it was to build it, you get a slightly unconventional answer.

"It wasn't our job to swoop in and tell Long Beach what it needed to do," says web developer and strategist, Rhys Fureigh. Before lifting a finger to write
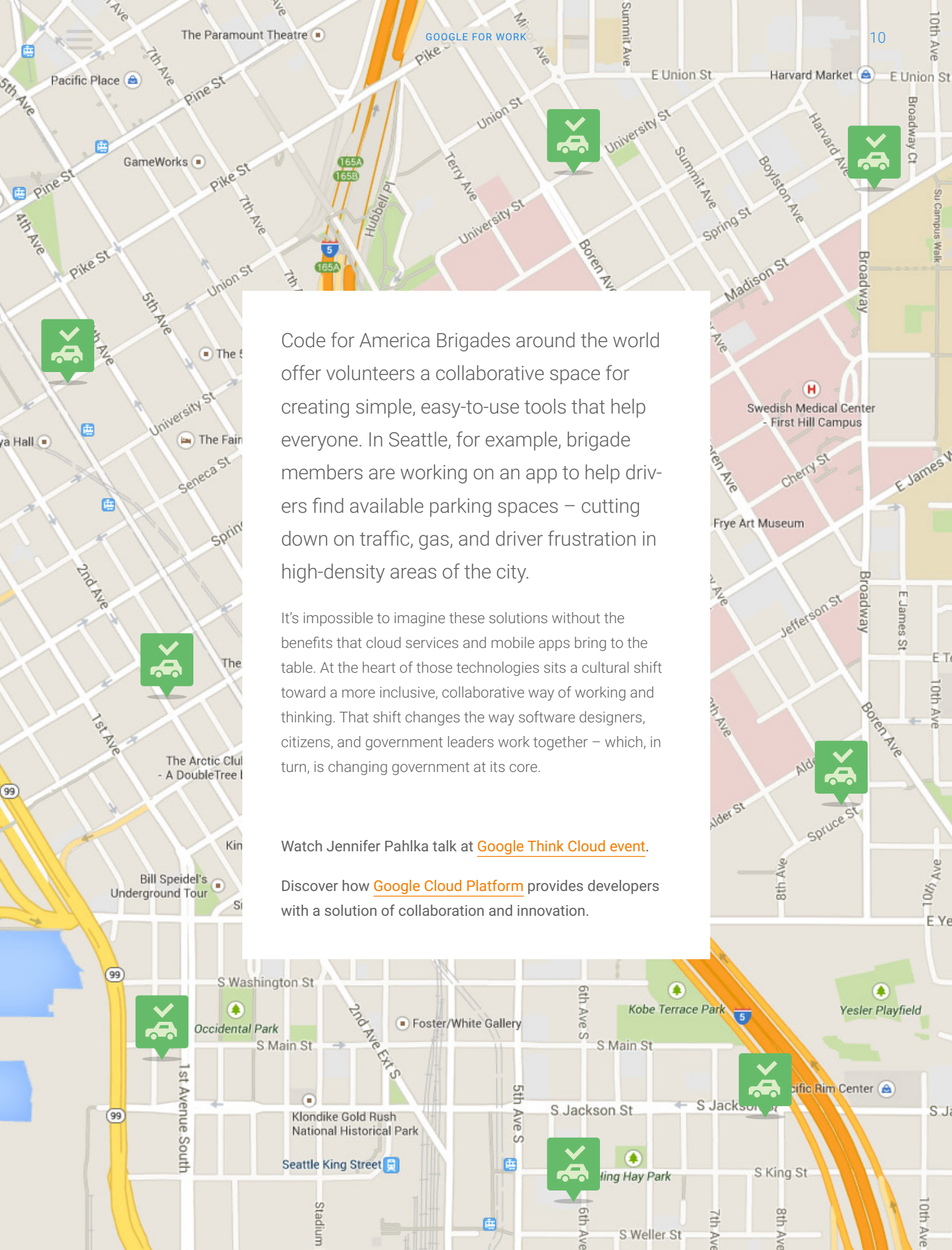
CODE _for_ AMERICA

WATCH JENNIFER PAHLKA'S TALK AT THE GOOGLE THINK CLOUD EVENT »

code, the team spent weeks talking to city staff members, visiting hospitals and fire departments, and riding with police.

Becki Ames, the former mayor's chief of staff, credits "dynamic leadership within the fire department" with the original idea. "Technology is only a piece of this," she says. "People have to ultimately be the drivers."

But this movement isn't just about government rock stars and technologists taking time away from corporate work. Civic-minded people everywhere are coming together to "use their hands," in another favorite Pahlka phrase.

Code for America Brigades around the world offer volunteers a collaborative space for creating simple, easy-to-use tools that help everyone. In Seattle, for example, brigade members are working on an app to help drivers find available parking spaces – cutting down on traffic, gas, and driver frustration in high-density areas of the city.

It's impossible to imagine these solutions without the benefits that cloud services and mobile apps bring to the table. At the heart of those technologies sits a cultural shift toward a more inclusive, collaborative way of working and thinking. That shift changes the way software designers, citizens, and government leaders work together – which, in turn, is changing government at its core.

Watch Jennifer Pahlka talk at Google Think Cloud event.

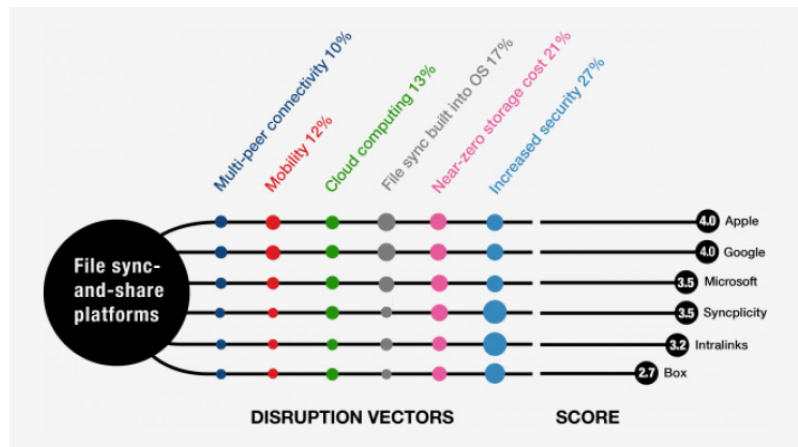Discover how Google Cloud Platform provides developers with a solution of collaboration and innovation.

Hot trend: File sharing for the enterprise

File sharing through sync-and-share platforms is a huge business today, with more than a billion people uploading and sharing files of all kinds. According to Gigaom Research analysts, circumstances vary — from individuals uploading personal documents for remote access to "enormous corporate document-management solutions serving thousands of workers involved in critical enterprise processes."

You may know Google Drive as a consumer technology that allows you to store Google Docs, Sheets and Slides to share with others or to access from other devices. But Drive is much more than that — it's a secure place where distributed work teams can collaborate.

" The size of the market … is a testament to how critical this functionality is in a world where users have multiple devices and where sharing files has become the central aspect of a new computing paradigm." — Gigaom Research

GIGAOM RESEARCH

Multi-peer connectivity 10%
Mobility 12%
Cloud computing 13%
File sync built into OS 17%
Near-zero storage cost 21%
Increased security 27%

File sync-and-share platforms

4.0 Apple
4.0 Google
3.5 Microsoft
3.5 Syncplicity
3.2 Intralinks
2.7 Box

DISRUPTION VECTORS   **SCORE**

Today, companies from around the world — including Crate & Barrel, Seagate, Tory Burch, HP and Jaguar Land Rover — rely on Drive to help them innovate, share knowledge and exploit the competitive edge that comes with speed of execution.

Business customers need flexibility and security, so Google continues to make upgrades that reflect those needs. With today's Google Drive, you can preview over 40 different file types on your mobile device without any additional software. As a result, adoption of Google Drive is exploding — up 50 million users between June and October 2014, to a total of 240 million users.

At just $10 per user, per month, Google Drive for Work takes things even further — including the ability to share huge files, up to five terabytes. How big is 5TB? That's the amount of data the U.S. Library of Congress stores every month.
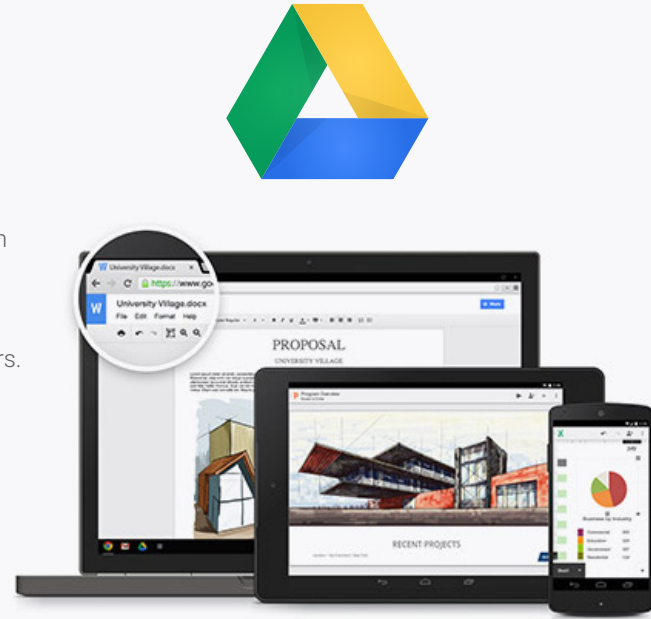
Google has invested significantly in security features that make Google Drive for Work a platform that even the most privacy-sensitive companies can feel good about:

- **Fine-grained sharing controls** let administrators customize Drive and determine who can see files, and who can edit or sync them.

- **A new audit view reveals file activity:** anyone moving, deleting or sharing files within or outside the company.

- **Automatic file encryption** occurs the moment you press the "upload" button and persists in transit from your device to Google servers, between Google data centers and also while data is at rest on Google servers.

- **Built-in archiving and e-discovery** with Google Apps Vault allows you to retain, archive, search and export email, chats and any type of file stored in Drive so you can meet compliance requirements.

- **Enterprise-grade security** and compliance certifications include a SSAE 16 / ISAE 3402 Type II, SOC 2-audit, ISO 27001 certification, adherence to the Safe Harbor Privacy Principles, and support of industry-specific requirements like HIPAA.

Flexible, secure and enterprise-ready file sharing is here. Learn more about Google Drive for Work or subscribe to our YouTube Channel to discover new tricks and tips on how to use Google Apps and Drive.

> 66 As the threats in the external environment change, Google is at the forefront of preventing, responding and anticipating."
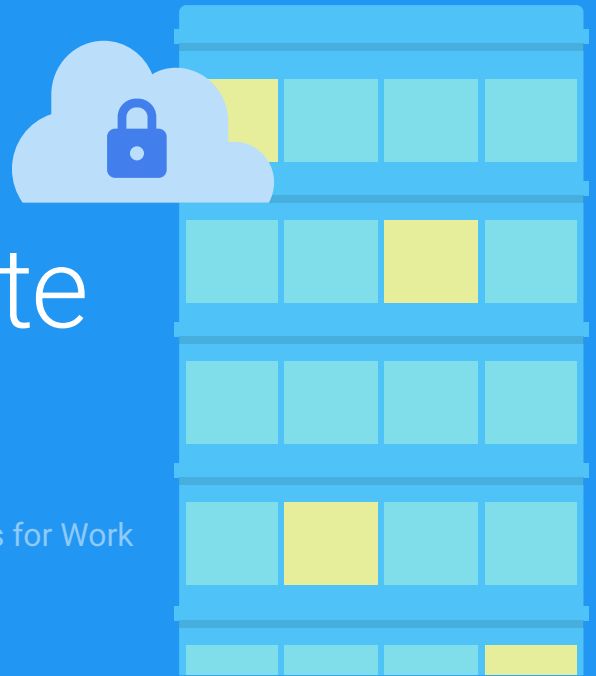
— Todd Pierce
CIO, Genentech

Genentech
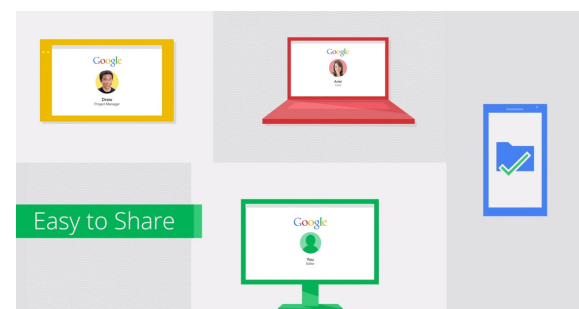
ALL YOUR WORK, SAFE, AVAILABLE EVERYWHERE AND EASY TO SHARE

Securing corporate data in the cloud

Eran Feigenbaum is Director of Security for Google Apps for Work and shares how Google keeps corporate data secure

You can work safer in the cloud

Our world has changed. We used to have better technology at work than at home, but today, most of us have better tools at home than we do at work. Today's CIOs face this tension between their users' desire for freedom and their organizations' need for more security. But the cloud offers a solution. A good cloud provider lets you access your data from anywhere on any device in a secure manner.

Traditional environments cannot cope with the new speed, and this will expose you to new threats. In the cloud, we get security feedback instantly and can refine our protection in real time. Updates and security fixes are installed automatically, eliminating patches, scheduled downtime and server configuration.

Ultimately, the cloud is about providing you with technology so you don't have to build it yourself, and providing you expertise so you don't have to develop it yourself. And that's how we approach security. At Google, more than 450 security engineers, including some of the world's foremost experts, work around the clock to keep your data safe. Providing security has always been a balancing act between what is needed and what you can afford. We let you add more security in a way you can afford.

> As the threats in the external environment change, Google is at the forefront of preventing, responding and anticipating. That's one of the great things about partnering with Google: you have some of the best minds in the world working on those problems."

— Todd Pierce
CIO, Genentech

Google's cloud secures your data

Google has control over the entire technology stack, starting with the data encrypted on the hard drive in our data center all the way to the operating system of the device you hold in your palm. We even have our own transoceanic fiber network connecting data centers around the world, which improves security and reliability.

Not only is our security built into how we store and communicate the data, but really, security is at every level of our system. We have built a series of defenses in the depth of our systems to create a maze for the intruder — advanced safeguards like 2-step verification, encryption and specialized servers to protect your data at every level.

As a business customer, you only pay for the services used, but you benefit from Google's entire security infrastructure and security experience. Because of our size and position we are faced with the most unique threats, from sharks attacking our undersea cables to governments trying to access our systems. We learn every day from these threats, and have built a unique expertise. We even engage the security research community to test our systems with a Vulnerability Reward Program and an Open Source Patch Reward Program.

> " By going Google, we gained reliability and security compared to our prior configuration, which required extensive upkeep, upgrades and patches."

– Bill Oates
CIO, City of Boston

City of **Boston**

LEARN MORE ABOUT GOOGLE'S VULNERABILITY REWARD PROGRAM »

Advanced safeguards like 2-step verification, encryption and specialized servers to protect your data at every level.

You can count on Google to protect your privacy

Google Apps for Work and Google Apps have a different approach to advertising. Google does not collect or use Google Apps for Work data for advertising purposes, and there are no ads in Google Apps. We are not scanning any of your Gmail, Docs, Slides or Sheets — or any data processes — on the Geo or Google Cloud platform for advertising.

Beyond protecting your data with the best technology, we do everything that we can to protect your data from third-party requests. If for some reason a third-party wants to access your data, our policy is to notify you so you can determine how to respond. We scrutinize all requests to make sure they are valid, and offer no access to customer data without valid legal process or customer consent. When the law prevented us from being completely transparent, we challenged it. We recently won a case against FISC (Foreign Intelligence Surveillance Court), which was unlawfully preventing us and other technology providers from sharing the number of requests we were receiving for access to customer data.

> In any case, because it's your data, you should know what happens with it.

In any case, because it's your data, you should know what happens with it. We have been the first ones to publish the list of third-party requests we receive to inform the public about all requests by government agencies for user data.

We're fighting for users from both sides. First, our systems are already among the most secure in the world — and our security experts are continually creating ways to make them even stronger. Second, we are pushing back against any unfair government requests for user data, and we are very active in helping reform these government surveillance processes.

> 66 Google's technology makes it very easy to do things in a secure way, so our people do things in more secure ways."
>
> – Damon Rees
> CIO, Woolworths

Learn more about the Google approach.