

## Security. Scale. Innovation.

With a mission to organize the world's information and make it accessible and useful, Google has had to build things differently. The scale and innovation required to perform these tasks has led to advancements in technology that are available for customers and partners to leverage through Google Cloud Platform (GCP).

GCP provides government agencies a secure, scalable, and innovative cloud environment to help transform the way you deliver solutions to your employees and constituents. Together, we can help solve your toughest problems. With Google Cloud, our infrastructure is your infrastructure. Our tools are your tools. And our innovations are your innovations. Our open source commitment provides enormous opportunities for hybrid, multi-cloud and On Premises implementations.

## Secure.

Security is often a deciding factor when choosing a public cloud provider. At Google, security is of the utmost importance. We work tirelessly to protect your data—whether it is traveling over the Internet, moving within Google's infrastructure, or stored on our servers. Through innovative approaches to hardware trust mechanisms, encryption, analytics and ODay research, Google Cloud helps protect your resources.

### Community focused security research:

In 2017, [Google Project Zero](#) identified Spectre and Meltdown hardware vulnerabilities that impacted all major cloud vendors. Google reported and worked with the community to address the vulnerability and Google Cloud was the only major cloud provider that was able to patch with no customer impact.

### Encrypted by default:

Google Cloud provides [encryption at rest](#) and [in transit](#) by default. Bring your own keys, use ours - it's your choice.



### Trusted:

Your trust is pivotal when moving to the cloud. We [provide clear guidance](#) on how your data is protected, how we operate our cloud, and we audit and [provide access to logs](#) to validate justifications for any access by support or engineering personnel to your content.

### Robust compliance:

Google Cloud maintains a robust [compliance program](#), including the following authorizations: [FedRAMP Moderate](#), SRG Impact Level 2, SRG Impact Level 4 Mission Authority To Operate (ATO), ISO 27001, [NIST 800-53](#), [NIST 800-171](#), HIPAA, SOX, PCI, FIPS 140-2. We maintain 49 unique services, globally, within our [FedRAMP compliance program](#).

### Hardware protection:

[Titan](#), Google's purpose-built chip to establish hardware root of trust for machines on cloud infrastructure. This helps provide Shielded VMs which leverage advanced platform security capabilities such as secure and measured boot, a virtual trusted platform module (vTPM), UEFI firmware, and integrity monitoring.

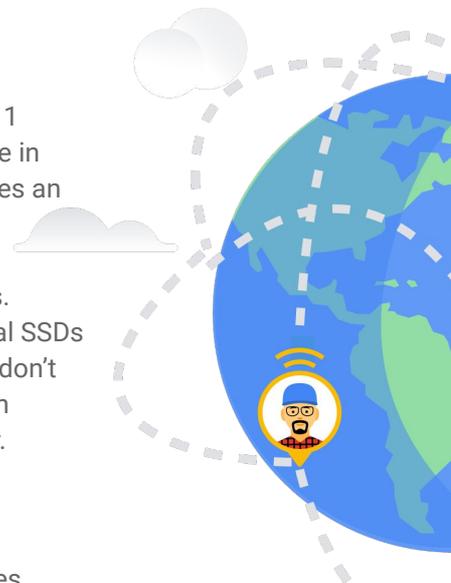
## Scale.

Google has always been a cloud company. With 8 services each with over 1 Billion users we have had to build things differently. The investments made in networking and infrastructure as well as data processing techniques creates an enormous opportunity for you to leverage for your own organization.

Google Compute Engine instances have average boot times of 35 seconds. Coldline delivers millisecond data availability for archive restore. Our Local SSDs offer 680,000 IOPS of sustained read performance – some other systems don't reach half of that. BigQuery can scan up to 35 billion rows, 20 TB of data, in seconds. When evaluating a cloud provider, price and performance matter.

### Global network:

Building Google Cloud on top of a [global petabit per second network](#) creates opportunity to scale and grow, and also eases continuity planning. With VPCs providing global reach, you can easily configure, manage and scale operations.



"Over the last 18 years, we built the world's largest network, which by **some accounts delivers 25-30%** of all internet traffic"

**Urs Hölzle,**  
SVP Technical Infrastructure



YouTube ingests  
over **400 hours of  
video - per minute**

### Over 100 points of presence:

With [134 Network Edge locations](#), your users and customers can get to resources and GCP Services faster with less latency using our [Premium Tier network](#)

### Containers build scale:

Google has been running [our services within containers](#) since early 2000's. We start and manage over 2 Billion containers a week. Our investment in container technology and management (Kubernetes, Istio) enable you to achieve more. It also enables rapid scaling and economic returns that enable us to be a [cloud price to performance leader](#).

## Innovation.

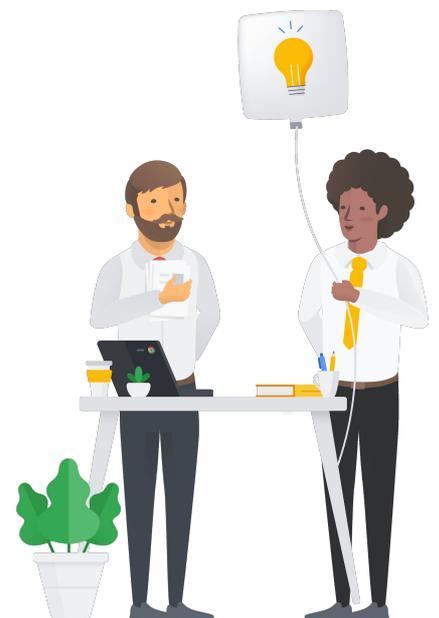
Innovation has been pivotal in Google's growth and success. Without it, the underlying technology and infrastructure would not support the type of user and data growth Google has seen over the last 20 years. This innovation has led to whole industries focused around Google's technology, which in many cases has been Open Sourced and provided in a community focused way allowing government agencies to implement on premises.

### Big Data:

Google has been a leader in driving innovation around Big Data - examples include the [white paper on MapReduce](#) and [Google File System](#) which spawned the creation of Apache Hadoop, or the [introduction of BigTable](#), which became the Apache HBase project. Google Cloud is a leader in [Forrester Wave for Cloud Data Warehouse](#), [Cloud Insights PaaS](#) and 4 other cloud technology analyses. Providing your agency many options for real time or batch processing across multiple types of data.

### Storage:

By providing a consistent storage plane, Google provides robust options for storing and managing data at some of the lowest cost points in the industry. [Hot, cool, and archive data](#) benefit from the same storage APIs and similar real-time response times. This gives you the flexibility to write once, and enjoy cost advantages as your data ages or use case changes.



## Containers:

Google's research and innovation has led to many advances around containerized solutions. [Google Kubernetes Engine \(GKE\)](#) provides a managed PaaS Kubernetes services from the group that released Kubernetes to the Apache Open Source community. As the [leading contributor](#), our commitment and contribution to Open Source and Kubernetes is unparalleled - which means GKE will deliver a first class container orchestration experience on GCP.

## Artificial Intelligence:

Organizing the world's data to make it useful and accessible, requires a lot of research and innovation around understanding the data and finding new meanings within it. Google's investment in Big Data and [AI](#) has enabled [self driving cars](#), [deep space exploration](#), object and facial detection as well as Speech and language analysis and understanding. [TensorFlow](#) is an open-source machine learning framework developed by researchers and engineers at Google that enables a lot of this deeper understanding, and Google Cloud is innovating to provide new ways to leverage AI through [AutoML](#) - which helps develop and train new model that are important to your mission. We also provide cloud based [TensorFlow Processing Units](#) (TPUs) to speed up the machine learning process and provide an incredible 11.5 petaflops of computational power in a single cluster.

“Google Cloud Platform gives us **access to much more compute power** than we had in the past, so we can do so much more than we used to. Back then, we worked on projects. **Now the whole world is our playground.**”

*Laurent Gabet,  
Optical R&D Manager, Airbus*



Google Cloud provides a unique opportunity for you to leverage truly open technologies. As Government agencies look to enable their organization - the ability to leverage Open Source technologies in a secure, scalable and innovative cloud will provide a best in class cloud experience while providing the flexibility to run in a hybrid or multi-cloud environment.

## Learn more:

<https://cloud.google.com/solutions/government/>