

Google Cloud Platform

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План встречи

- Начало работы с GCP, обзор сервисов
- Сети
- Инфраструктура, виртуальные машины
- Примеры и основные сценарии
- Сколько это стоит
- Чем может помочь Softline как Premier Partner



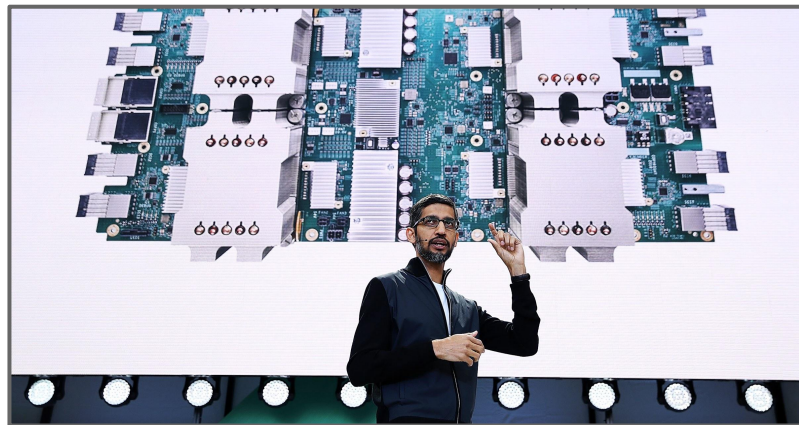
An aerial night photograph of a large industrial facility, likely a data center, situated on a riverbank. The facility consists of several large, interconnected white buildings with flat roofs, some of which have glass facades. The buildings are illuminated from within, and some have external lighting. A river flows through the middle ground, reflecting the ambient light. In the background, there are rolling hills and mountains under a dark, cloudy sky. The overall scene is a mix of industrial and natural elements.

Последние 20 лет Google строит самую быструю и мощную облачную инфраструктуру на планете.

Что было...

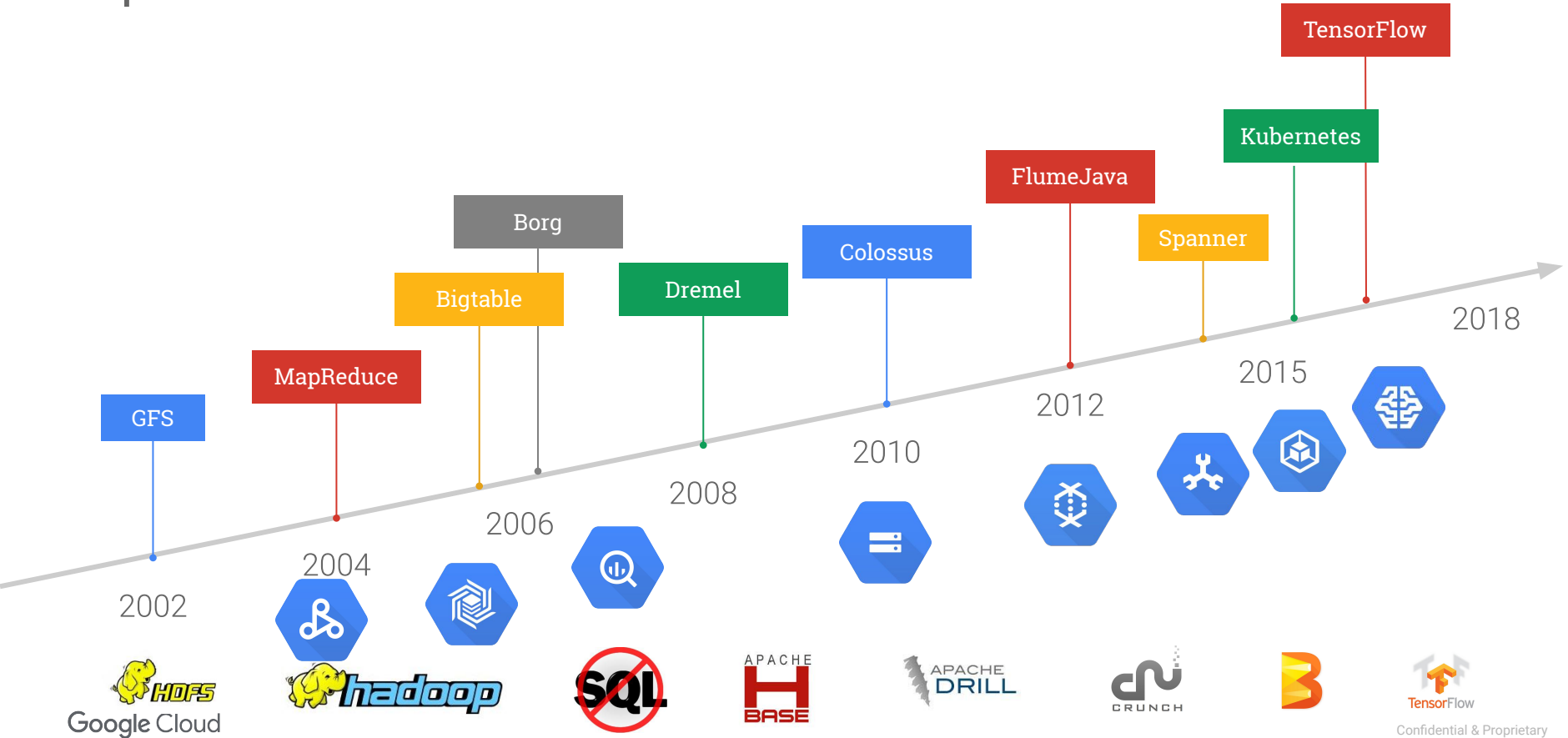


...что построено и будет



1 миллиард уникальных пользователей в день

Open Innovation at our Core

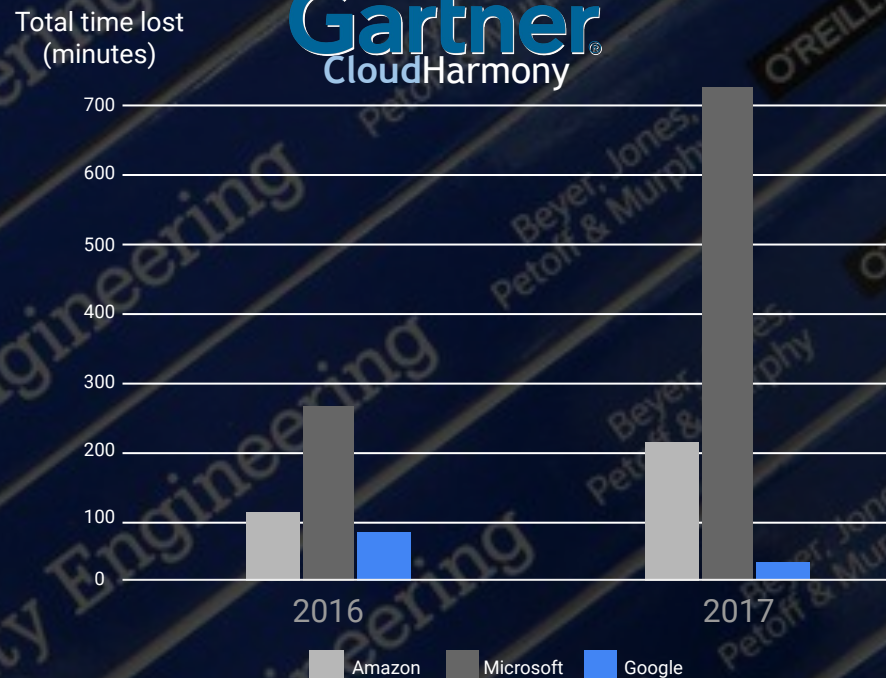


Comparison of major cloud providers

By Kevin McLaughlin and Mike Sullivan
Mar. 07, 2017 7:02 AM PST

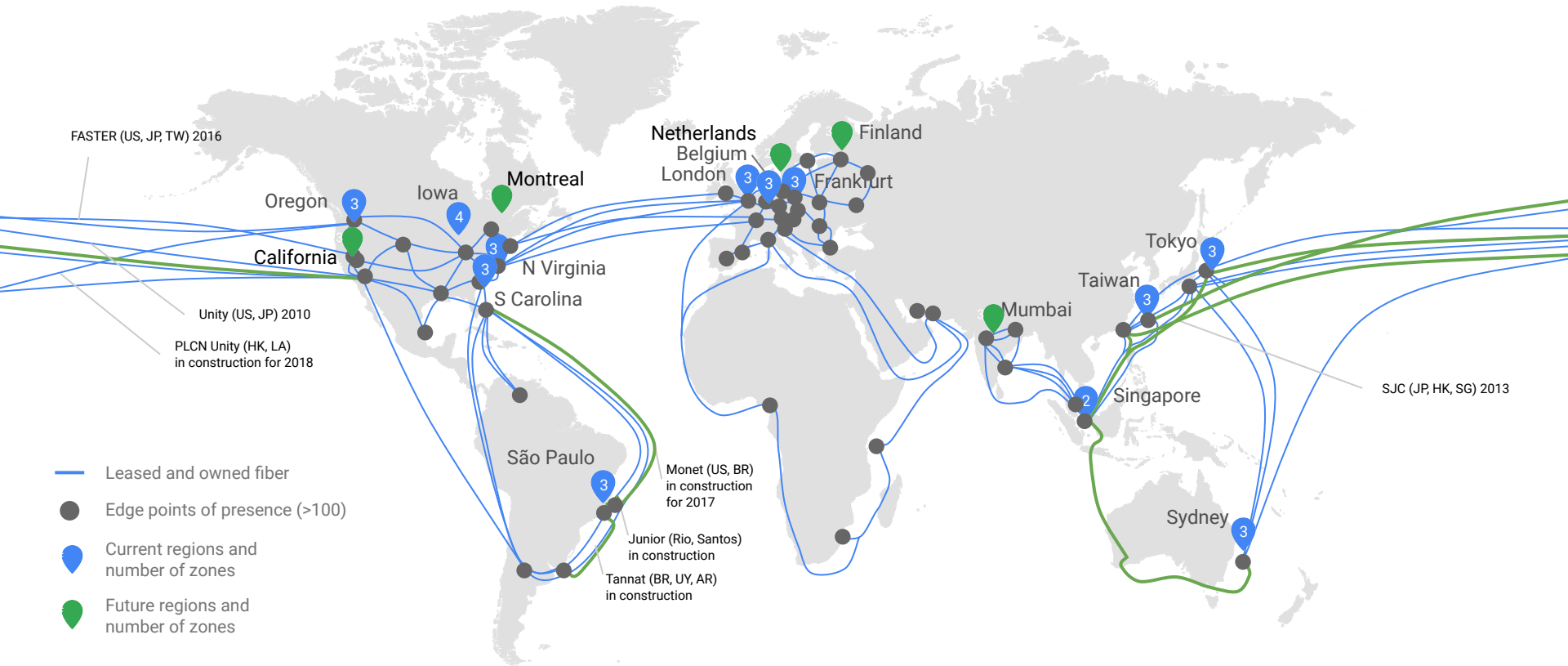
Cloud Outages

Gartner
CloudHarmony



Source: Cloud Harmony

World Class Network Infrastructure



Что такое **Google Cloud Platform**?

Google Cloud Platform (GCP) - это набор коммерческих облачных сервисов, основанных на разработках и опыте **Google** в эксплуатации широко известных продуктов и сервисов



Google Cloud Platform сегодня

Compute



Compute Engine



App Engine



Container Engine



Container Registry



Cloud Functions

Storage and Databases



Cloud Storage



Cloud Bigtable



Cloud Datastore



Cloud SQL



Cloud Spanner



Persistent Disk

Networking



Virtual Private Cloud



Cloud Load Balancing



Cloud CDN



Cloud Router



External IP



Cloud Interconnect



Cloud DNS



Networking



VPN

Big Data



BigQuery



Cloud Dataflow



Cloud Dataproc



Cloud Datalab



Cloud Pub/Sub



Genomics

Machine Learning



Cloud Machine Learning



Cloud Vision API



Cloud Speech API



Cloud Natural Language API



Cloud Translation API



Cloud Jobs API

Identity & Security



Cloud IAM



Cloud Resource Manager



Cloud Security Scanner



Key Management Service



Firewall



BeyondCorp



Data Loss Prevention



Identity-Aware Proxy



Security Key Enforcement

Google Cloud Platform сегодня

Compute



Compute Engine



App Engine



Container Engine



Container Registry



Cloud Functions

Storage and Databases



Cloud Storage



Cloud Bigtable



Cloud Datastore



Cloud SQL



Cloud Spanner



Persistent Disk

Networking



Virtual Private Cloud



Cloud Load Balancing



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BigQuery



Cloud Dataflow



Cloud Dataproc



Cloud Datalab



Cloud Pub/Sub



Genomics

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Cloud Machine Learning



Cloud Vision API



Cloud Speech API



Cloud Natural Language API



Cloud Translation API



Cloud Jobs API

Identity & Security



Cloud IAM



Cloud Resource Manager



Cloud Security Scanner



Key Management Service



Firewall



BeyondCorp



Data Loss Prevention



Identity-Aware Proxy



Security Key Enforcement

Cloud Computing Patterns

On & Off



- On & off workloads (e.g. batch job)
- Over provisioned capacity is wasted

Growing Fast



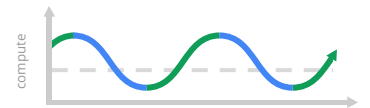
- Successful services needs to grow/scale
- Keeping up with growth is a big IT challenge

Unpredictable Bursting



- Unexpected/unplanned peak in demand
- Sudden spike impacts performance

Predictable Bursting













- Services with micro seasonality trends
- Peaks due to periodic increased demand result in wasted capacity

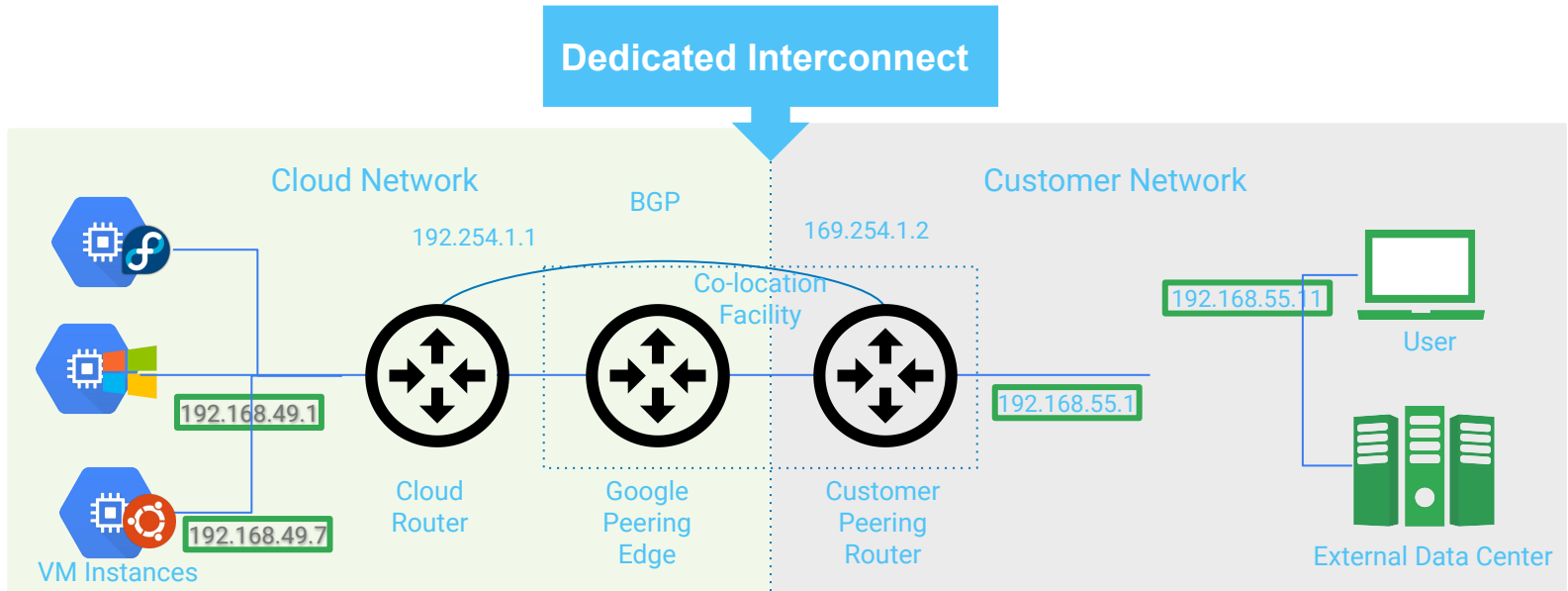
Premium

Standard

Google Cloud Networking Services

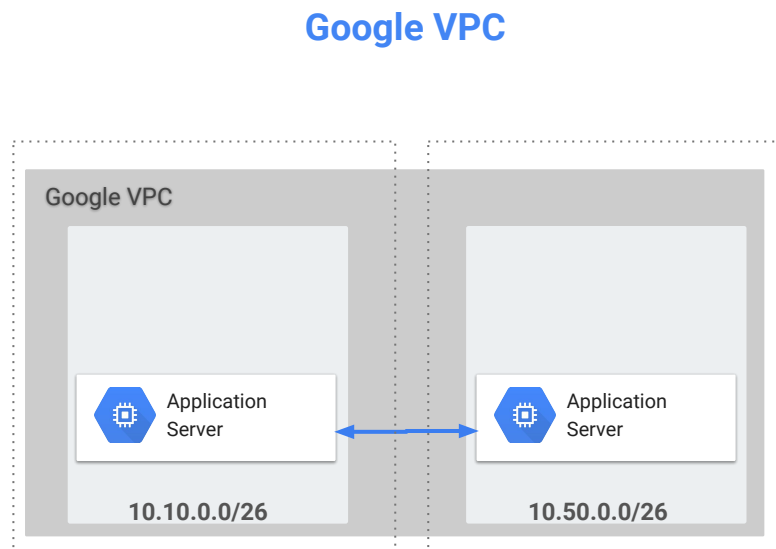
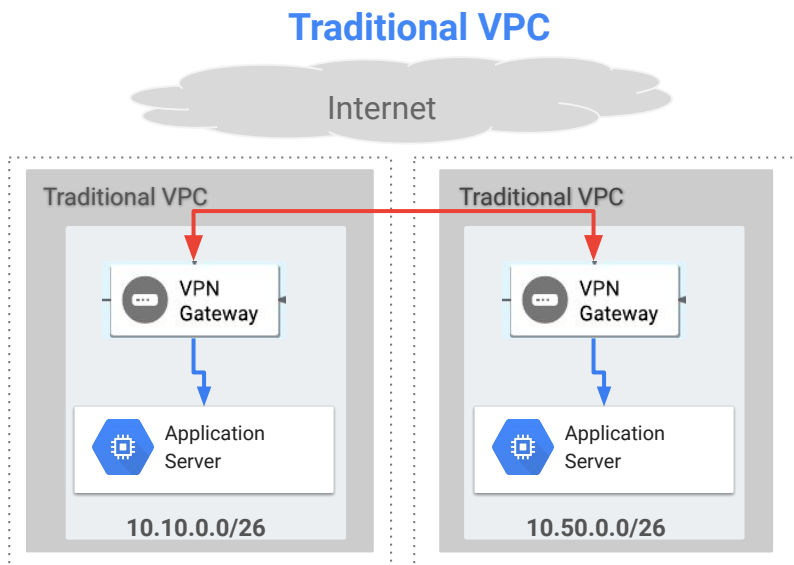
-  External IP addresses — Allocate your own public IP Address
-  Firewall rules — Allow or Deny traffic to and from your instances
-  Routes — Route your traffic where you want
-  Load balancing — Public & Private load balancer services
-  Cloud DNS — High available , high performance Google DNS service
-  VPN — IPsec VPN , connect securely to your VPC from any location
-  Cloud Routers — Enable BGP between your VPC and your on premise facilities
-  VPC network peering — Peer VPCs from your own or other account to build flexible & sophisticated topologies
-  Cloud CDN
-  Shared VPC network (XPN)

RFC1918 what? Dedicated Interconnect allows on-premise IPs to connect to cloud IPs privately (the red ones)



Google VPC Global Reach

- Connect automatically workloads across any regions
- Access any region by interconnecting through a single location, through Google's backbone network



Compute



Cloud Functions

Serverless платформа для event-based микросервисов



App Engine (GAE)

PaaS решение от Google - готовые к использованию runtimes для Python, Java, PHP, Go и других языков.



Google Kubernetes Engine (GKE)

SaaS (Container-as-a-Service) - оркестрация задач в Docker контейнерах



Compute Engine (GCE)

IaaS: “Классические” виртуальные машины с глобальной балансировкой нагрузки

Computing continuum



Compute Engine



Kubernetes Engine



App Engine



Cloud Functions



IaaS

Raw compute
Granular control

Container clusters

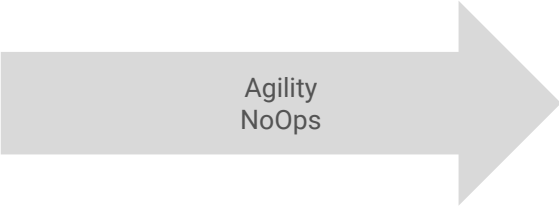
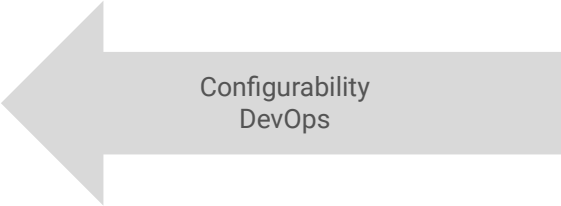
Data center as computer
Declarative management

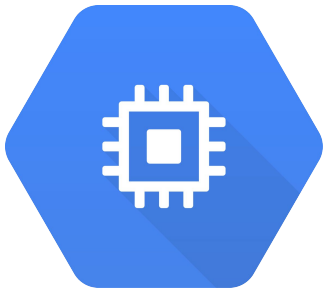
PaaS

Preset run-times
Focus on app logic

Functions

Event-driven and
serverless programming





Compute Engine

Виртуальные машины
с лидирующей в отрасли
ценой /
производительностью

[Link](#)



Быстрое и простое выделение ресурсов



(Really) Оплата только за то, что вы используете



**Высокопроизводительные виртуальные машины с
возможностью выбора платформы CPU и GPU**



Preemptible Instances со скидкой до 80%



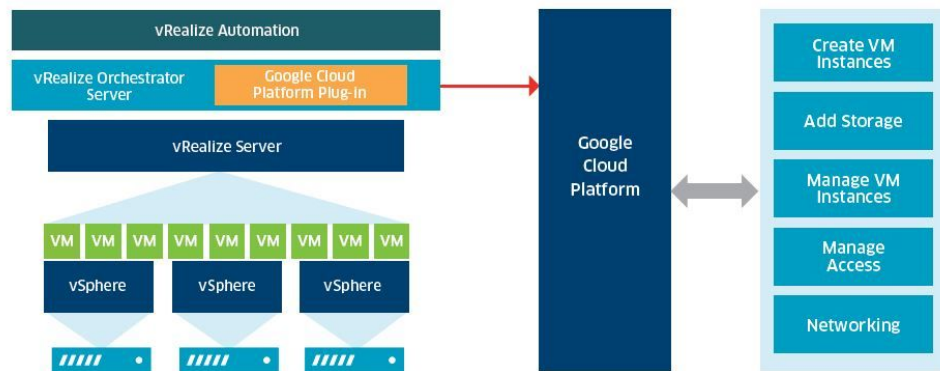
Безопасность уровня Google

VMware



Теперь в консоли VMware vRealize Orchestrator можно заказать ресурсы в Google Cloud Platform

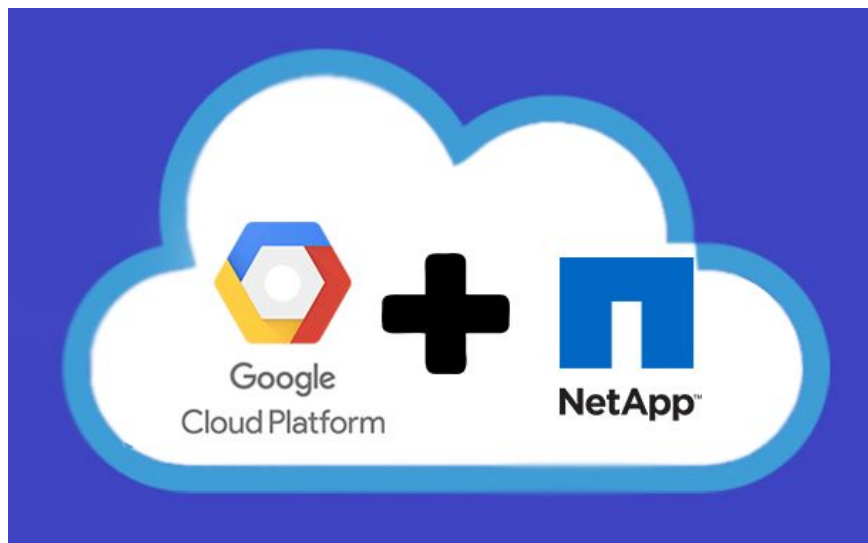
We've announced a new plug-in for VMware vRealize Orchestrator so that customers can use GCP alongside their on-premise VMware environment. This new plug-in lets users create vRealize Automation blueprints, which allow for end-user self-service catalogs, initiating Day 2 operations on Compute Engine VMs, reclaiming provisioned resources and more. And it lets customers keep their existing governance and approval processes, making consumption of cloud resources more secure and trackable. You can read more [on the GCP blog](#).



New NetApp Cloud Volumes for GCP

Расширяем файловую систему в облако Google

One challenge that companies face in moving workloads to the cloud is access to high-performance, scalable, and shared file-systems that many applications need. Last week, NetApp announced new capabilities designed to help customers access these systems, including a new SMB protocol service to enable Windows and UNIX-based applications to be built and deployed on GCP, and expanded availability of NetApp Cloud Volumes for GCP, so the service will be available to even more customers.





Cloud Functions

Serverless платформа для event-based микросервисов



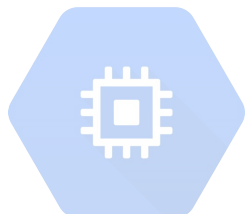
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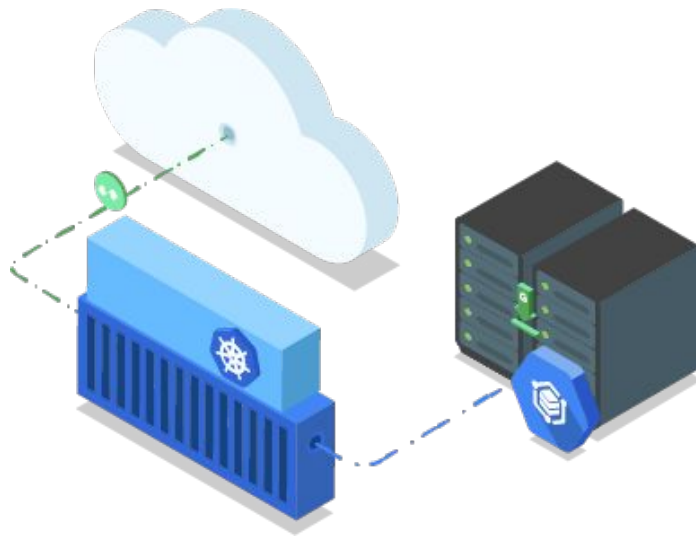


Compute Engine (GCE)

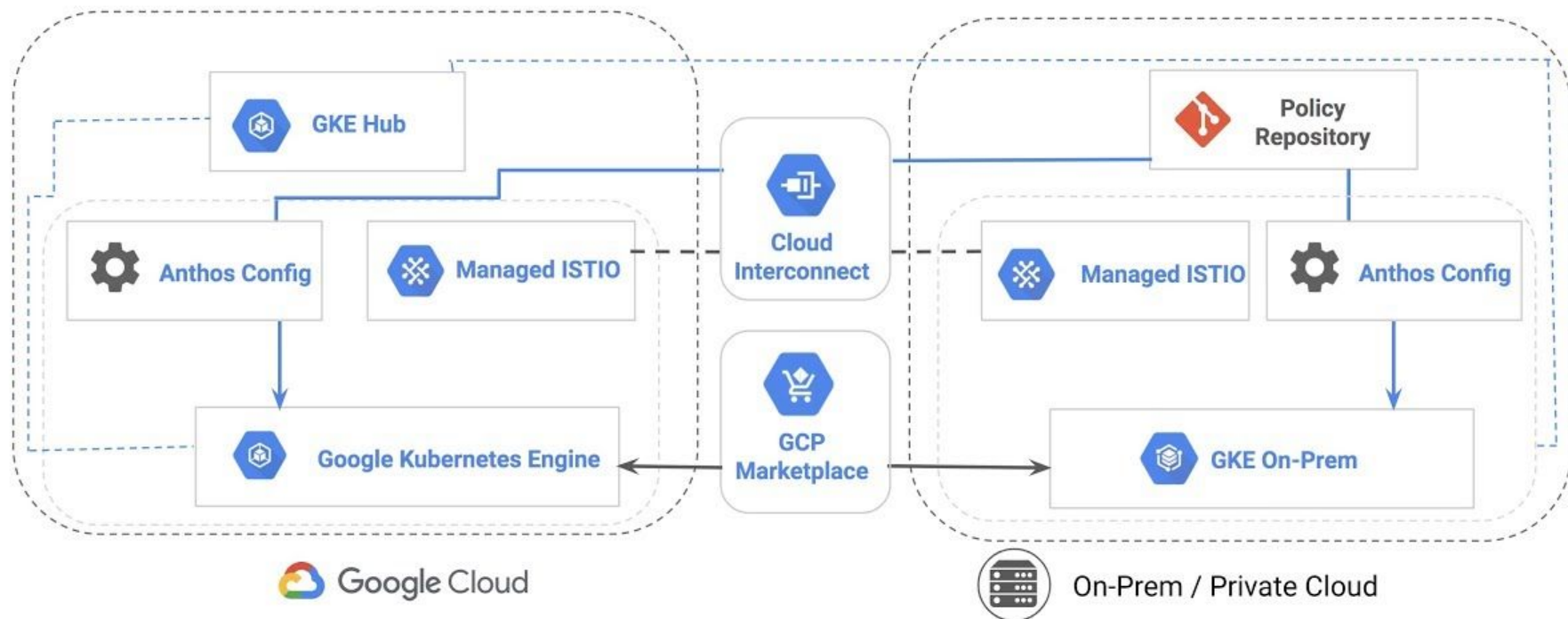
IaaS: “Классические” виртуальные машины с глобальной балансировкой нагрузки

Kubernetes on Prem

гвоздь программы — [Kubernetes GKE On-Prem](#) с мультикластерным управлением (coming soon to alpha), который позволяет реализовать настоящую гибридную архитектуру. Например, при пиковых нагрузках Kubernetes из датацентра прозрачно масштабируется в Google Cloud.



Anthos - Architecture - Components



Хранение

Fully Managed Storage & Database Services

Object



Cloud Storage

Binary or object data

Images, Media serving, backups

Key-value



App Engine Memcache

Web/mobile applications, gaming

Game state, user sessions

Non-relational



Cloud Datastore

Hierarchical, mobile, web

User profiles, Game State



Cloud Bigtable

Heavy read + write, events

AdTech, Financial, IoT

Relational



Cloud SQL

Web frameworks

CMS, eCommerce



Cloud Spanner

RDBMS+scale, HA, HTAP

Transactions, Ad/Fin/MarTech

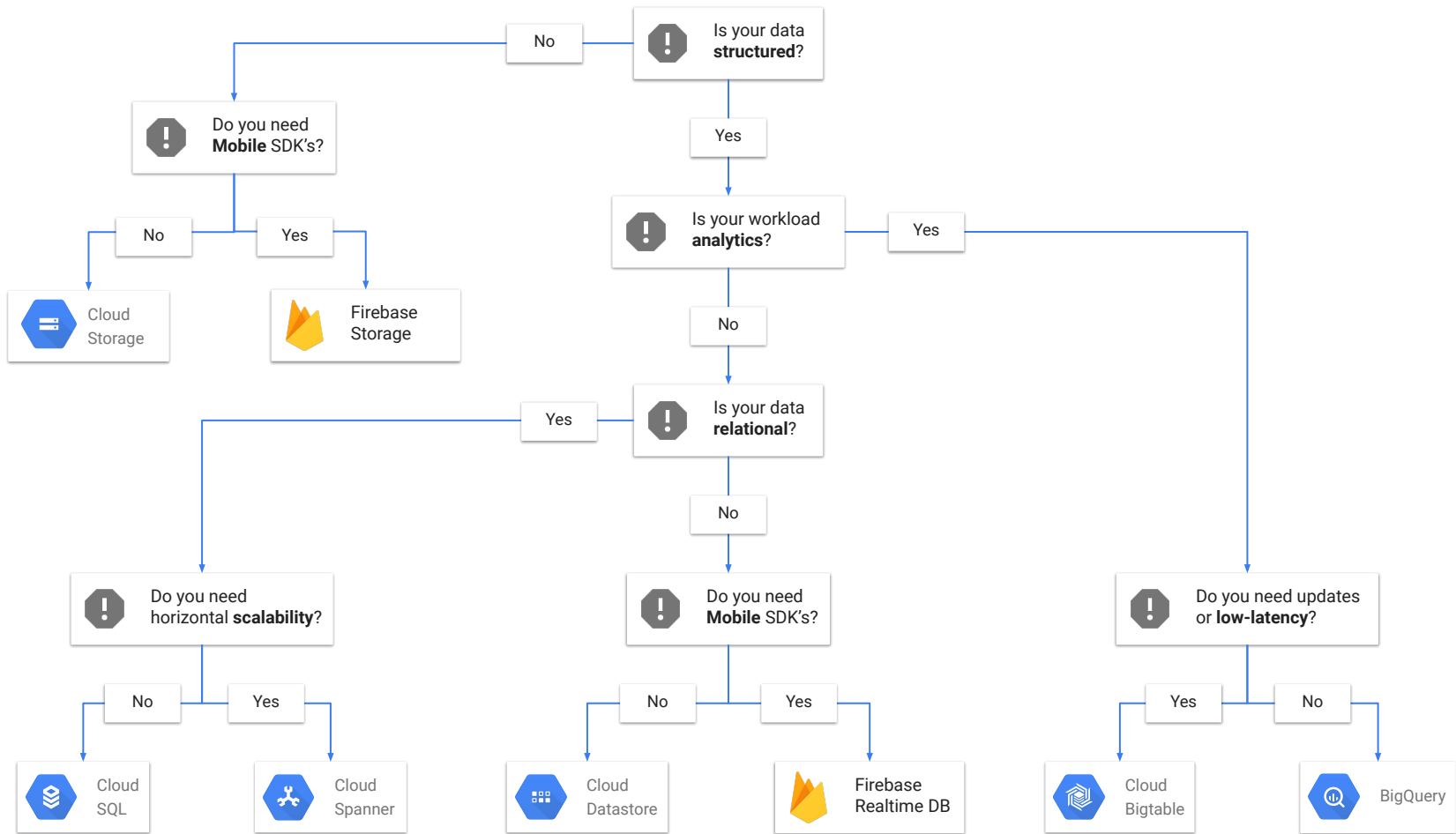
Warehouse



BigQuery

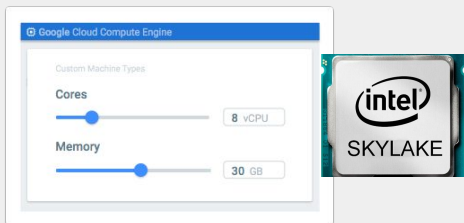
Enterprise Data Warehouse

Analytics, Dashboards

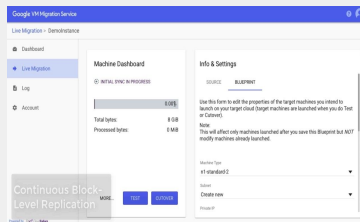


Отличия и экономика

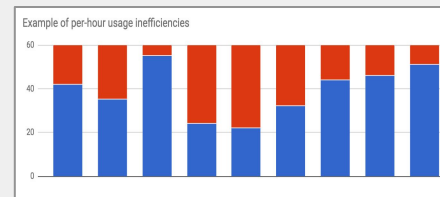
Custom VMs



VM Migration Service



Per Second Billing



Live Migration

On host maintenance

When Compute Engine performs periodic infrastructure maintenance it can migrate your VM instances to other hardware without downtime

Migrate VM instance (recommended)

160 vCPU - 4 TB and growing!!



GPU



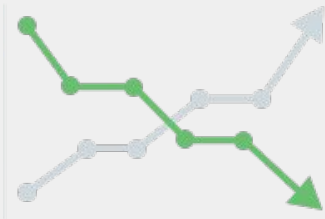
TPU



Rightsizing Recommendations

Name	Zone	Machine type	Recommendation
instance-4	europa-west1-c	8 vCPUs, 30 GB	Save \$154 / mo
instance-10	europa-west1-c	4 vCPUs, 26 GB	Save \$102 / mo
instance-2	europa-west1-c	4 vCPUs, 15 GB	Save \$77 / mo
instance-11	europa-west1-c	1 vCPU, 0.6 GB	Increase perf.
instance-12	asia-east1-a	1 vCPU, 0.6 GB	Increase perf.
instance-9	europa-west1-c	1 vCPU, 3.75 GB	Save \$17 / mo

Committed & Sustained Use



Preemptible VMs



Другой провайдер

-24%

Скидка на
продолжительное
использование

-21%

Разница базовой
цены

-15%

Custom
machine types



До
60%
снижения
расходов

Скидка на предоплаченное использование

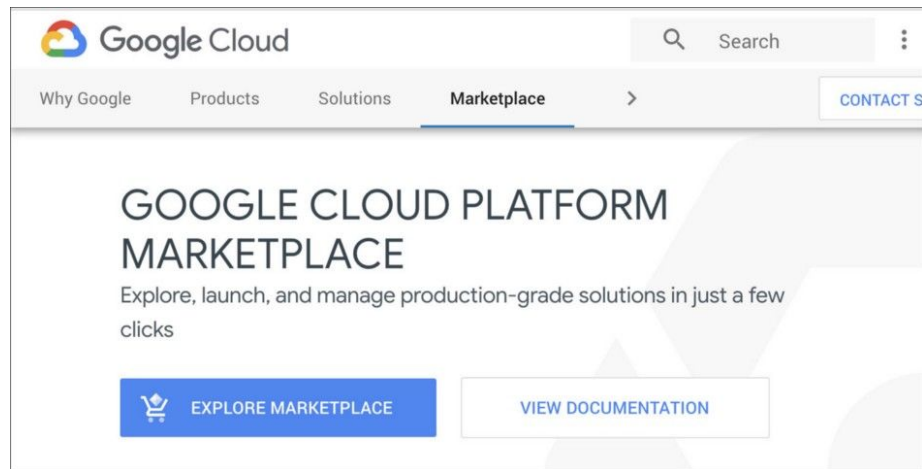
Возможность заказать динамический пул vCPU и RAM на срок 1 или 3 года



Примеры и архитектуры?

GCP Marketplace

В июле компания Google запустила магазин приложений [GCP Marketplace](#) в котором можно легко найти нужное партнерское решение буквально в два клика развернуть его в консоли. Биллинг находится на стороне Google, и клиенты будут получать единый счет - как за сервисы GCP, так и за сторонние решения. В Marketplace уже появились готовые [контейнерные приложения](#).



“3-2-1” BackUp rule



Создавать 3 копии
данных
(1 основная,
2 резервных)



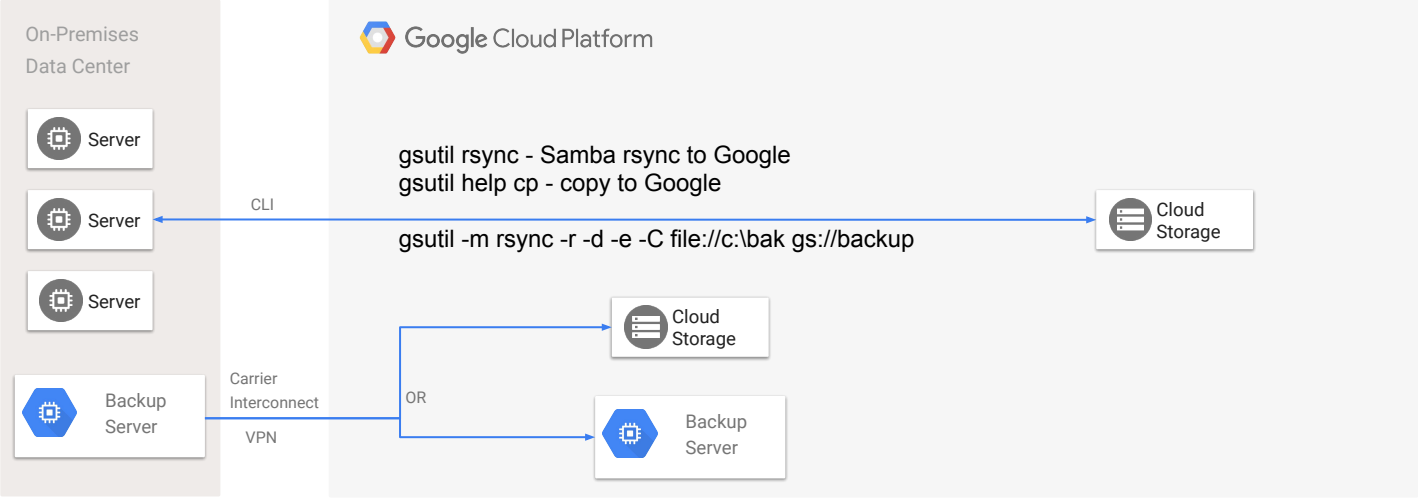
Хранить копии минимум
на двух различных
носителях
(локальный диск, сетевой
диск, NAS, лента и пр.)



Хранить одну копию за
периметром

Backup and Archive > Backup

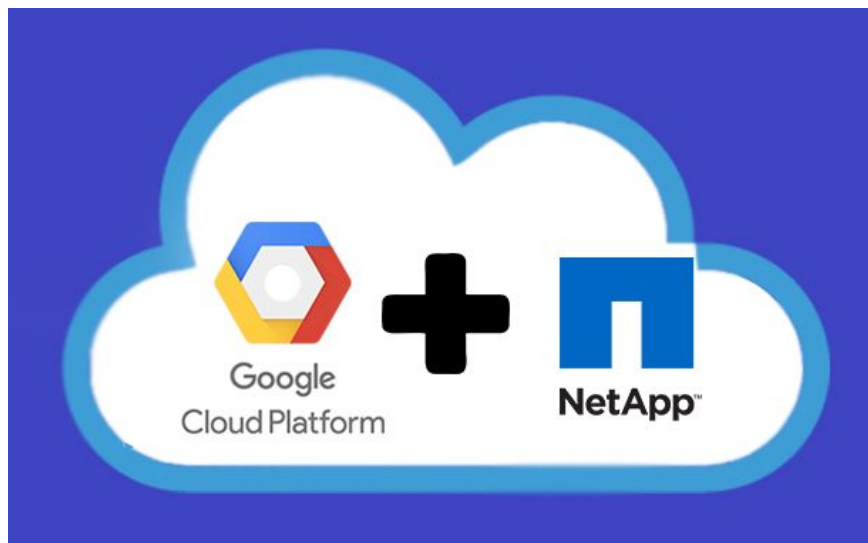
Architecture: Backup and Archive > Backup



New NetApp Cloud Volumes for GCP

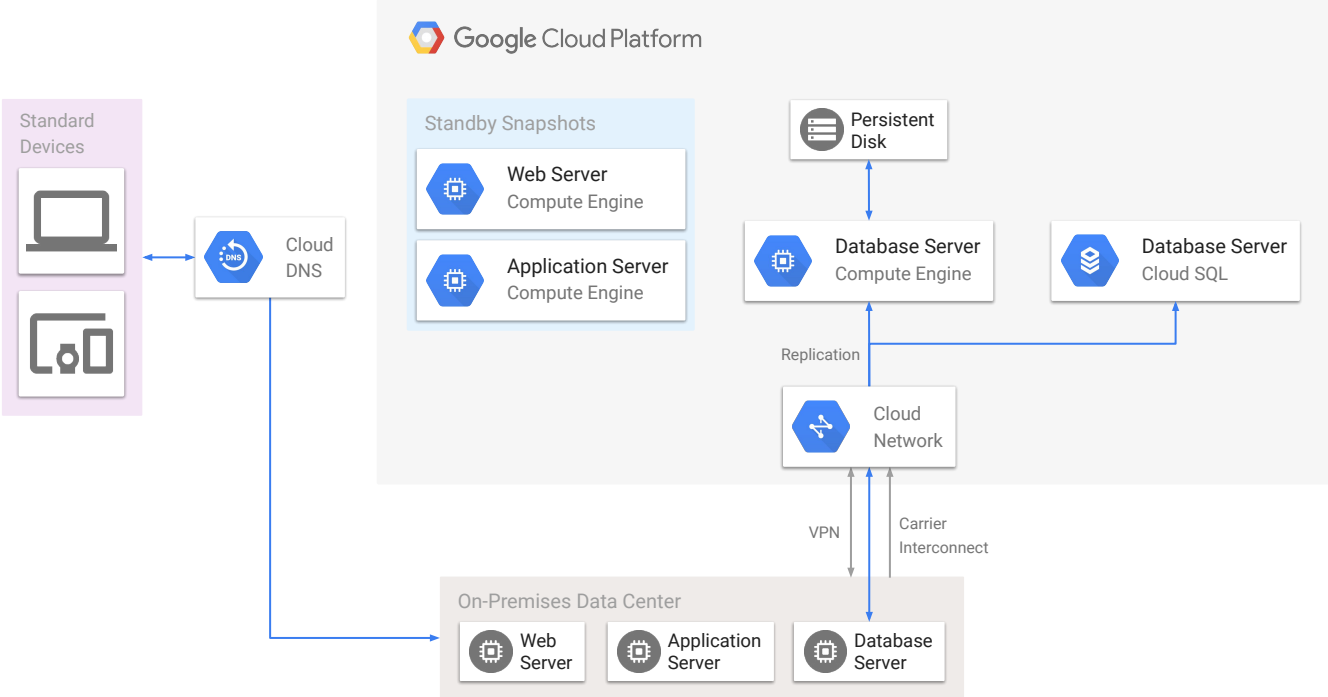
Расширяем файловую систему в облако Google

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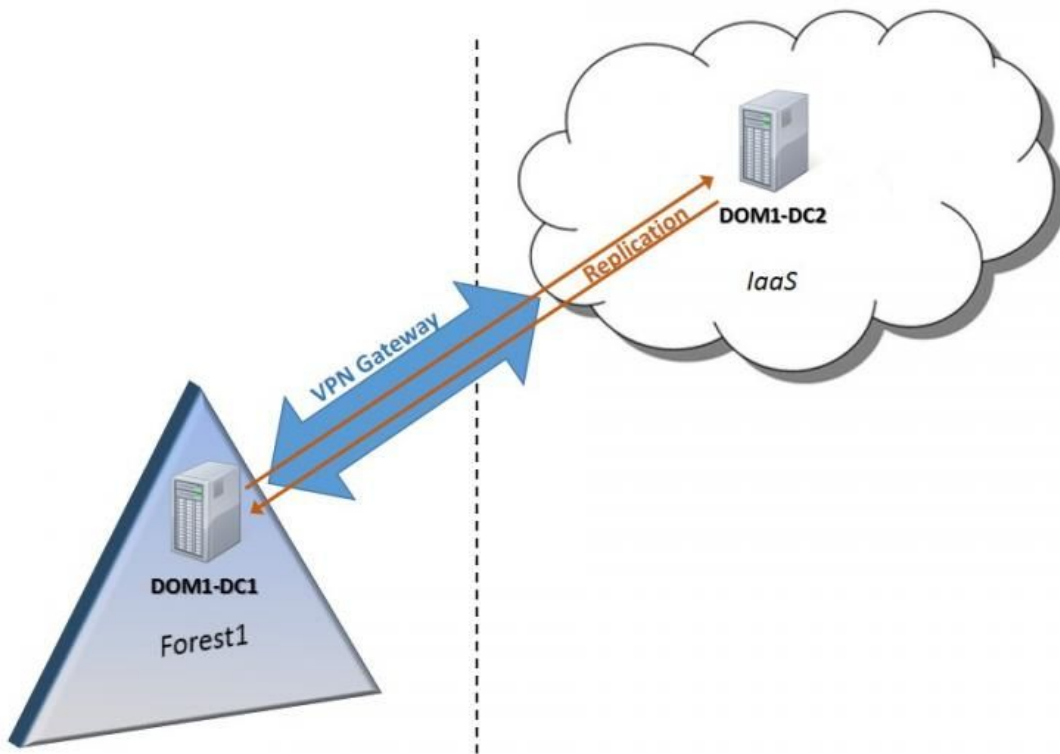
Backup and Archive > Disaster Recovery with Application Replication

Architecture: Backup and Archive > Disaster Recovery with Application Replication

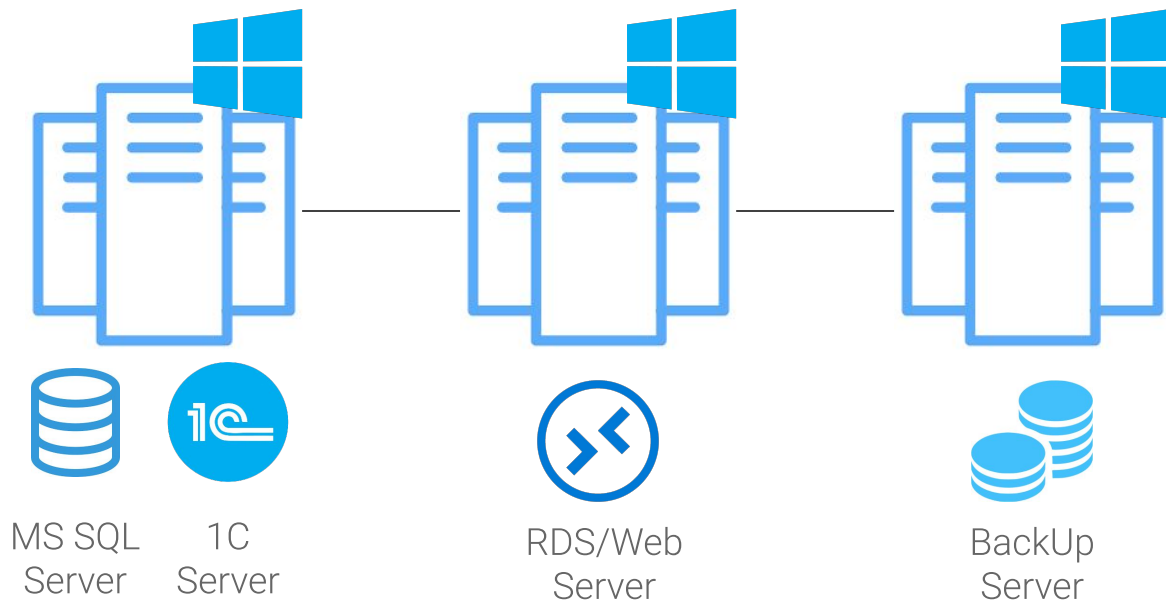


AD in cloud

- Поддерживаемый сценарий
- Простая настройка
- Минимум затрат
- Независимость от “земли”
- Авторизация пользователей в Cloud
- Полноценный сайт AD



Compute Engine - Windows, MS SQL, 1C



- Высокая скорость работы
- Shared Memory для MS SQL и 1C
- Любая архитектура
- Snapshot`ы готовой машины для развертывания в случае аварии
- Backup Server на случай серьезного сбоя с любыми параметрами и ПО

Compute Engine - SAP (HANA and BUSINESS APPS)

- SAP NetWeaver Application Server ABAP/Java
- All SAP Business Suite software based on SAP NetWeaver Application Server ABAP/Java, Including:
 - SAP S/4 HANA
 - SAP BW/4HANA
 - SAP Business Suite
 - SAP NetWeaver Business Warehouse



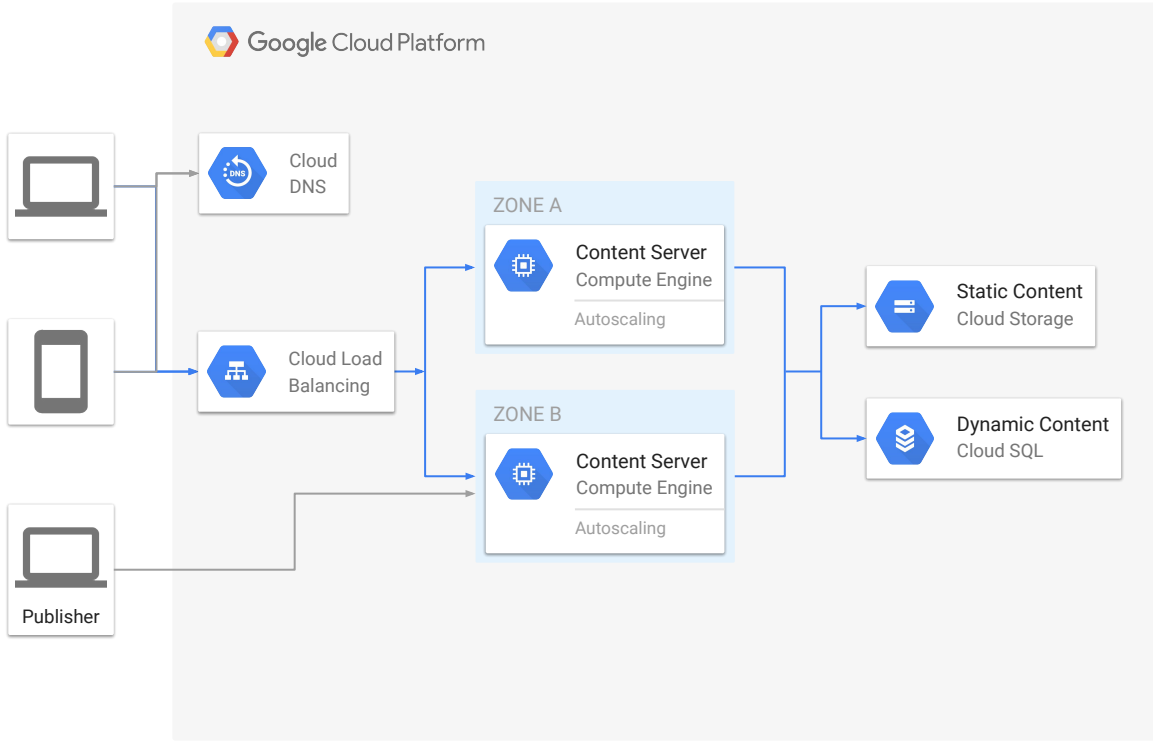
Compute Engine - Bitrix, сайты, порталы



- Быстрый запуск
- Простая миграция
- Мощные машины и СУБД
- Балансировка и масштабирование
- Работа в нескольких регионах

General > Content Management

Architecture: General > Content Management



Compute Engine - Microsoft SQL, VS/TFS, Dynamics



- Быстрый запуск
- Простая миграция
- Мощные машины и СУБД
- Балансировка и масштабирование
- Работа в нескольких регионах

3CX Server Manager ▶ Extensions View

Manage Add View Settings Support

System Status
Ports/Trunks
Extensions View
System Extensions
3CX Clients
Services
IP Blacklist
Phones
Extensions
Webmeeting
SIP Trunks
PSTN Gateways
Inbound Rules
Outbound Rules
Digital Receptionist
Ring Groups
Call Queues
Bridges
Fax

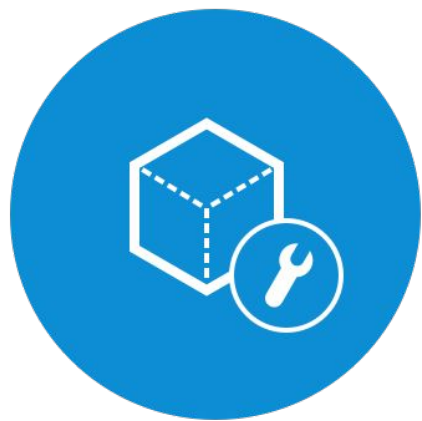
Disconnect Call Search Help

Status	Extension	User Status	DND	Queues	Name	IN/OUT
Registered (idle)	100	Out Of Office	OFF	OUT	Gareth James	
Connected	101	Available	OFF	IN	Home MT E	
Registered (idle)	102	Available	OFF	IN	Maria John	
Not Registered	103	Available	OFF	IN	Nick iHome	
Not Registered	104	Available	OFF	IN	Jonas Fung	
Registered (idle)	105	Available	OFF	OUT		
Registered (idle)	106	Available	OFF	OUT		
Connected	107	Available	OFF	OUT		
Not Registered	108	Available	OFF	OUT		
Registered (idle)	109	Available	OFF	OUT		
Not Registered	110	Available	OFF	OUT		
Registered (idle)	111	Available	OFF	OUT		
Registered (idle)	112	Available	OFF	OUT		
Registered (idle)	113	Available	OFF	IN	Kurt Seiger	
Not Registered	114	Available	OFF	IN	Monique Ferrara	
Not Registered	115	Available	OFF	IN	Samantha Hunt	

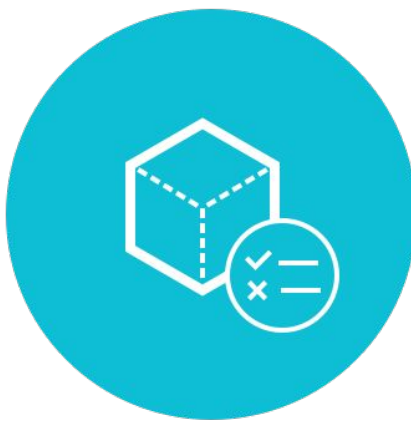
3CX mobile app interface on a smartphone and tablet.

<https://www.3cx.com/docs/hosted-pbx-google-cloud/>
<https://pbxexpress.3cx.com/>

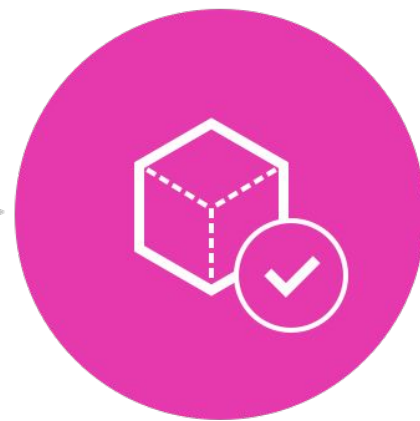
Google Cloud Platform - для любых задач



Development



Testing/QA



Production

Применение

- *Расширение и гибкость инфраструктуры*
- *Резервирование нагрузок, копирование*
- *Хостинг приложений*
- *Машинное обучение и искусственный интеллект*
- *Обработка больших данных*
- *Корпоративные чат-боты*
- *API менеджмент (Apigee)*
- *API Google*
- *...*

Протестировать

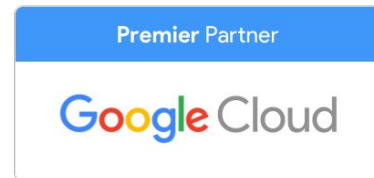
<https://goo.gl/iSW6EC> - 300\$ на 12 мес
<https://goo.gl/pNPzrI> - 200\$ Softline bonus

Есть проект? Поддержим!!!

Roman.Gayan@softlinegroup.com

Google@softline.ru

Чем мы можем помочь?



- Безналичная оплата с НДС для организаций, полный комплект документов
- Подключение инженеров Google к проекту
- Техническая поддержка и консалтинг
- Помощь при миграции и запуске решений
- Возможность интеграции решений с другими ЦОД



Google Cloud

По вопросам подключения обращайтесь по телефону

Телефон 8-800-232-0023

Отдел решений Google

Роман Гаян

roman.gayan@softline.com

google@softline.ru



<https://goo.gl/iSW6EC> - 300\$

<https://goo.gl/pNPzrl> - 200\$

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