# VidyoCloud Platform Architecture

# What Is VidyoCloud?

VidyoCloud is a global, real-time video interaction platform with enterprise-grade video quality, healthcare-grade privacy, and patented video-routing technology. Users experience true conversational video with crystal clarity even on personal devices such as mobile phones and tablets. VidyoCloud is powered by a worldwide footprint of data centers that provide high availability, low-latency routing, and geographic redundancy, all managed by Vidyo's expert staff.

VidyoCloud is the foundation of all Vidyo services. It provides the core video interaction capabilities that are used across all Vidyo services:

**VidyoConnect™**

is a meeting solution for team collaboration that speeds global alignment across your enterprise, allowing for better-informed decisions, faster responses, and deeper trust.

**VidyoEngage™**

is a turnkey video-based engagement solution that powers interactions with customers or patients. It can be implemented on websites, kiosks, and apps, and includes engagement features such as skills-based routing,

**vidyo.io™**

is a communications platform-as-a-service (CPaaS) offering that provides video APIs and SDKs, related development tools, and services for the creation of customized, video-enabled applications and devices.

**VidyoCloud™**

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People should be able to communicate clearly without technology getting in the way. We wanted to build a service that worked so well, people forgot they were using it. When speaking face-to-face, it should not matter that they are not in the same location. To achieve this, we focused on the following set of guiding principles to build VidyoCloud:

## Resilience

Unfortunately, the internet is not perfect. We designed VidyoCloud to deliver optimal video quality even when the network quality is low. We accomplish this with dynamic video adaptation, regional routing with redundancy, and proactive monitoring.

## Security

Video can be used to communicate sensitive information such as patient information, trade secrets, financial plans, etc. People expect to be able to communicate confidentially, and we agree. We secure VidyoCloud with strong process and technology.

## Scalability

People need to meet when they want, with whomever they want. They do not want to worry about how they get connected or how many people are joining. VidyoCloud is designed for massive scalability to ensure the service is available when you want to use it. We also make it easy to grow as your needs increase.

## Quality

Video communication dramatically improves the engagement of people while in a call, but only if the video is free from errors. VidyoCloud is built to maximize the quality of experience for users to ensure they are receiving the highest quality video possible throughout the call.

# Architected for Agility

The VidyoCloud platform leverages third-party infrastructure service providers to deliver high-quality cloud-based communications. The infrastructure components of VidyoCloud are software-based server applications designed to be modular and portable. This gives Vidyo the agility to rapidly respond to demand and regional needs by choosing the hosting provider that best meets our strict requirements for performance.

# Powered by Google Cloud Platform

Vidyo leverages Google Cloud Platform (GCP) to host the components that make up VidyoCloud. GCP gives VidyoCloud global reach, with access to over a dozen data centers with 100 peering connections. VidyoCloud has been designed to route calls to the nearest data center for best performance. VidyoCloud's geolocation technology combined with GCP support for anycast IP dramatically improves the quality of experience for users. Users connect to the server nearest to their location via the GCP network through one of GCP's more than 100 peering points. Users experience a high-quality conversation regardless of their location.

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# Global Coverage



VidyoCloud is a globally distributed, real-time video interaction network. Users experience unmatched video quality with data centers located on four continents and over 100 points of presence. VidyoCloud automatically routes calls to the nearest data center in order to optimize the video quality experience.

## Dedicated Regional Cloud



VidyoCloud is designed to deliver service on a global basis. However, some organizations look for cloud infrastructure for a specific region. That is why VidyoCloud is also available via European Union-only cloud. With this regional VidyoCloud infrastructure, organizations can choose to have their video interactions hosted in data centers exclusively within the EU. This can be important for organizations that are required to keep their cloud services contained within the borders of the EU.

The European Union dedicated cloud is located in the Frankfurt and Amsterdam data centers. Organizations that choose to leverage the dedicated regional cloud within the EU will benefit from a high-quality, secure connection and unmatched video user experience.

 Data centers on four continents, covering 46 zones in 15 regions

 Over 100 globally distributed points of presence on 4 continents

 A global network with hundreds of thousands of miles of fiber optic cable

## Hybrid Cloud Deployments

VidyoCloud dynamic routing between regions is a great way to optimize traffic and reduce latency. This capability is also available for on-premises deployments, with local software-based infrastructure to take advantage of VidyoCloud hybrid support. This provides localization of traffic to the local network. Video traffic will only traverse to the public internet when needed to accomodate connections with participants outside the local network. Hybrid deployments can be used to reduce WAN bandwidth, improve video quality, and provide secure traversal through local firewalls.

# High-Quality Communications

Delivering real-time video communications reliably over the public internet is difficult. Traditional real-time video communications require consistent network performance to provide usable video. With no guarantees of network performance over the public internet, video performance can fall apart when the network starts to fluctuate. To combat this, Vidyo's patented technology dynamically adapts and adjusts the video to continuously optimize the video quality. When the connections are good, users can experience up to 4K video quality. When the network is not good they still experience a high-quality, consistent video call.

Vidyo's dynamic adaptation technology enables reliable, consistent communications even over inconsistent networks. The result is unparalleled quality and reliability, especially on mobile.
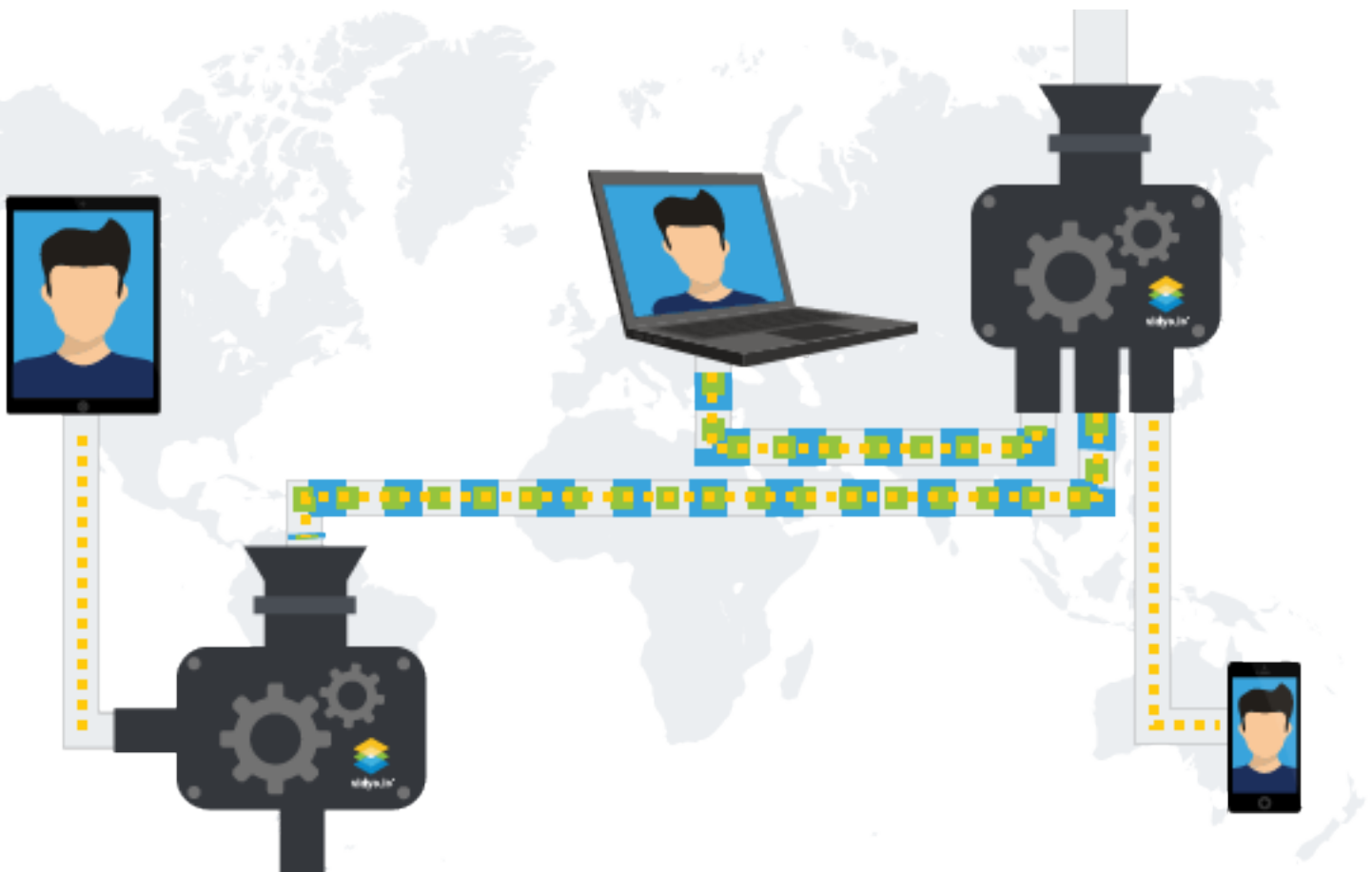


The VidyoCloud platform leverages our global network of data centers by routing connections to the nearest data center for best performance. This provides localized connectivity and low-latency connections for a better user experience. When video conversations span multiple regions, connections between regions are routed from data center to data center across high-capacity, low-latency backbones. Users will experience high quality and reliable communication whether they are communicating across town or across a continent.

# Device Agnostic

Video communication is only effective if you can reach the people you want to connect with. Part of the equation is the network coverage and accessibility to high-quality communications. Equally important is the ability to communicate on a device that is convenient to the participant.

With VidyoCloud users can interact with each other on a broad set of specialized video conferencing systems as well as personal devices. Traditional video-conferencing room systems are supported, including Vidyo-branded systems and third-party standards-based video systems. However, people are not always in a boardroom or huddle room equipped with a video conferencing system. For this reason, VidyoCloud also supports desktop computers, mobile devices, and web browsers, making it possible for people to join a video call from virtually any available device.

## Reach people on VidyoCloud from any device

iOS            macOS        SIP    H.323    PSTN

# Reliable Communications by Design

VidyoCloud runs on infrastructure platform providers that provide virtualized environments to host VidyoCloud server components. In virtual environments, server components are made more reliable by decoupling the software from the underlying hardware. Thus any hardware failures can be handled quickly by simply migrating from one environment to another. Additionally, with live migration capabilities, maintenance can be handled without causing service interruption.

*VidyoCloud*™

### delivers up to
# 99.95%
### availability.

Vidyo does not solely rely on the underlying virtual environment to provide high reliability for VidyoCloud. The architecture itself was designed to provide a number of redundancies for reliable operations. Server components running in a single data center are clustered together, providing redundancy and scalability. Additionally, VidyoCloud provides regional redundancy to handle any data center outages that might occur. If the nearest data center is not available to a endpoint connecting into a call, the endpoint is routed to another suitable data center to make the connection.

These capabilities combine to allow VidyoCloud to provide a consistently available platform for video communications. This is critical for applications such as telehealth, video banking, or corporate communications. VidyoCloud is truly an enterprise-grade platform, delivering up to 99.95% availability.

## Open and Transparent

At Vidyo, we believe in the value of trust. We tirelessly work to deliver a service that is a pleasure to use as well as reliable. We strive for continuous uptime, but when that doesn't happen we want to be up-front about any service interruptions. That is why we provide a VidyoCloud status dashboard that anyone can access for the latest operational status of Vidyo's services.

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# Secure Communications

VidyoCloud is used to power communications by organizations in the most security-conscious industries, including healthcare and financial services. Numerous security safeguards include strong encryption such as TLS and SRTP using up to AES 256-bit encryption.

> To learn more about VidyoCloud security, please see the product-specific security white papers:
>
> - VidyoConnect: Secure enterprise meeting solution for team collaboration
>
> - Vidyo.io: Secure Embedded Video Communications
>
> - Google Cloud Platform Security White Paper

# Compliance and Certification

At Vidyo we take cloud operations very seriously and have diligently worked to provide a cloud service you can trust. VidyoCloud is maintained and operated with strict controls and processes to ensure the data security, privacy, and reliability you expect in an enterprise-grade video communications platform.

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|---|---|
| AICPA SOC | The SOC 2 report provides third-party assurance that the design of VidyoCloud and our internal processes and controls meet the strict audit requirements set forth by the American Institute of Certified Public Accountants (AICPA) standards for security, availability, confidentiality, and privacy. The SOC 2 report is the de facto assurance standard for cloud service providers. |
| HIPAA | The Health Insurance Portability and Accountability Act (HIPAA) provides standards to protect the confidentiality, integrity, and availability of protected health information and provides guidance for an acceptable level of protection for PHI. VidyoCloud operates with necessary safeguards to permit its use in HIPAA-compliant cases. |
| GDPR | The General Data Protection Regulation (GDPR) is an EU law on data protection and privacy for all individuals within the European Union. Vidyo is committed to user privacy and supporting the GDPR regulation. |

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