

# Teradici Cloud Access Software Deployment Quickstart

For access to the full Teradici product documentation visit [Teradici Support](#).

## Introduction

Teradici Cloud Access Software (CAS) enables enterprises to easily deliver Windows and Linux desktops and applications from public or private clouds, with the highest user experience and security, and total cloud independence.

## Who Should Read This Guide?

This guide provides information for system administrators who are looking to implement, install, and develop Teradici Cloud Access Software. This guide provides you with information you can use to better understand:

- The PCoIP protocol and technology.
- The information needed to get a POC deployment up and running:
  - Documentation relating to the Cloud Access Software architecture.
  - Documentation on the main components that comprise Cloud Access Software.
  - System requirements for preparing your system depending on your environment and platform.
  - Information on how to install both a PCoIP Agent, PCoIP Client and Cloud Access Connector.
  - Deployment checklist and troubleshooting knowledge base articles relating to Cloud Access Manager.
- How to get support from Teradici experts.

## What is PCoIP® Technology?

PCoIP is a display protocol that encodes a complete desktop or workload, which is then displayed through a PCoIP client device over a standard IP network. PCoIP technology uses advanced display compression to provide remote computing solutions such as remote physical workstations, GPU-enabled virtual workstations, or standard virtual desktops as a progressive alternative to a local deployment model. It also supports many of the devices available to physical machines, including keyboard, mouse, USB devices, tablets, multiple monitors, printers, audio devices, as well as custom options.

The PCoIP protocol ensures ultra-secure remote connectivity between a remote computer and a broad range of client devices including stateless Zero Clients, software clients and mobile clients. Display images are compressed and transmitted as a stream of encrypted pixels, ensuring corporate IP remains secured within the enterprise data center.

The PCoIP protocol offers unrivaled performance in terms of user interactivity, frame rate and image quality, especially when used in conjunction with Zero Clients which virtually eliminate client-related latency. PCoIP also features a 'build-to-lossless' capability which ensures lossless reproduction of the original display image at the PCoIP client endpoint. Lossless reproduction is critical particularly in instances such as medical diagnostics, geospatial analysis, and media production, where the image itself contains important visual information. PCoIP protocol uses the User Datagram Protocol (UDP) which is much better suited for streaming media and real time display situations than TCP-based alternatives, especially over high latency networks.

## Key Benefits of PCoIP Technology

The following features and benefits are key aspects of PCoIP technology:

- **Host Rendering:** Pixel-level processing means corporate intellectual property remains secured within the cloud or enterprise data center.
- **Image Decomposition and Optimized Multi-codec:** Highest image quality with efficient build-to-lossless and optimized bandwidth.
- **Dynamic Network Adaptation:** Automatically delivers the best possible user experience under changing network conditions.

- **Encrypted Pixel Transmission:** AES-256 Encrypted pixels ensures ultra-secure connections to PCoIP endpoints.
- **True Multicloud Solutions - End to End:** Deploy Windows or Linux on public, private or hybrid cloud infrastructure, including Amazon Web Services (AWS), Microsoft Azure, Google Cloud, VMware ESXi or Red Hat KVM. Additionally PCoIP is integrated in Amazon Workspaces and VMware Horizon.

## Who Uses PCoIP Technology?

Teradici PCoIP technology is used in a wide range of industries, including government, education, financial services, healthcare, oil and gas, automotive, media and entertainment, architecture, engineering and construction, manufacturing, and design. For information on specific industry applications, check out the [case studies](#) featured on the Teradici website.

## PCoIP Ultra

PCoIP Ultra offers the latest protocol enhancements from Teradici. PCoIP Ultra is optimized for truly lossless support with bit-exact color accuracy and preservation of content detail at the highest frame rates.

PCoIP Ultra is disabled by default. To enable it, see [Enabling PCoIP Ultra](#).

## CPU and GPU Optimizations

PCoIP Ultra protocol enhancements propels our industry-recognized performance into the future of remote computing, with faster, more interactive experience for users of remote workstations working with high-resolution content.

The CPU and GPU optimizations offered by PCoIP Ultra protocol enhancements are targeted at desktops and workflows where high performance and interactivity are required. This section provides video playback benchmarks to help you plan your PCoIP Ultra deployment.

PCoIP Ultra offers the choice between CPU and GPU optimizations. The CPU optimization mode targets up to dual 4K/UHD display resolutions, leveraging the CPU's AVX2 instruction set to provide efficient content encoding at very high color accuracy, including the option for Build-to-Lossless image quality. The GPU optimization modes targets up to dual 2560x1600 display

resolutions, leveraging the NVIDIA NVENC hardware encoder if present, which provides CPU relief for applications such as interactive rendering where CPU clock cycles may be premium. PCoIP Policies can be used to configure NVENC for either YUV 4:4:4 or YUV 4:2:0 chroma sub-sampling schemes.

## PCoIP Ultra Options

The following table outlines the CPU and GPU optimizations that work with specific system requirements:

| Requirement   | CPU Optimizations - AVX2 RGB 4:4:4 | GPU Optimizations - NVENC YUV 4:4:4 | GPU Optimizations - NVENC YUV 4:2:0 |
|---|------------------------------------|-------------------------------------|-------------------------------------|
| Highest Image Quality Desktop (Up to 25x16 at 60 fps or 4K/UHD @ 30 fps)                | X                                  |                                     |                                     |
| CPU Relief e.g. VFX Render Applications (Up to 25x16 at 60 fps, 4K/UHD not recommended) |                                    | X                                   |                                     |
| Bandwidth Preservation (e.g. constrained WAN)   |                                    |                                     | X                                   |
| Highest frame rate from a low-cost thin client  |                                    |                                     | X                                   |

## Requirements

To take advantage of PCoIP Ultra, you need to meet these requirements:

- A PCoIP Agent (any type) 19.05.0 or later.
- A PCoIP Software Client for Windows, macOS or Linux, 19.05.0 or later.
- The CPUs on both the agent and the client machines must support the AVX2 instruction set.

## Enabling PCoIP Ultra

To enable PCoIP Ultra features on Windows, see [here](#).

To enable PCoIP Ultra features on Linux, see [here](#).

# CAS Manager

CAS Manager enables highly-scalable and cost-effective Cloud Access Software deployments by managing cloud compute costs and brokering PColP connections to remote Windows or Linux workstations. The CAS Manager solution is comprised of two main components:

- CAS Manager Service
- CAS Connector

The CAS Manager service is a service offered by Teradici to manage CAS Manager deployments. The CAS Connector is the portion of the CAS Manager solution that resides in the customer environment.

The CAS Manager Admin Console enables you to create deployments, connectors and remote workstations all within a single console and from a single interface. You can track all these components from the interface of the console, as well as monitor and manage all aspects of your deployment infrastructure. You can access support, release notes and get service status information from the console also.

For more information on the CAS Manager, CAS Connector and the CAS Manager Admin Console, see [here](#).

# Documentation

The following documents are the core documents relating to Cloud Access Software:

- [Cloud Access Architecture Guide](#)
- [Session Planning Guide](#)

Cloud Access Software is comprised of a number of components. These components require specific configuration depending on the platform and system you intend on using. The following section breaks down the documents associated with these different components.

## PCoIP Agents

PCoIP Agents capture and deliver the host machine's output to PCoIP clients.

- [Standard Agent for Windows](#)
- [Standard Agent for Linux](#)
- [Graphics Agent for Windows](#)
- [Graphics Agent for Linux](#)

## PCoIP Clients

PCoIP Clients enable you or your users to securely connect to a remote workstation.

- [Software Client for Windows](#)
- [Software Client for macOS](#)
- [Software Client for Linux](#)

# CAS Manager

PCoIP CAS Manager enables highly-scalable Cloud Access Software deployments by managing cloud compute costs and brokering PCoIP connections.

- [CAS Manager](#)
- [CAS Manager as a Service](#)

For information on SDKs, Licensing, PCoIP Zero Clients, PCoIP Management Console and custom broker components, see the [Teradici Support](#) site.



# System Requirements

Before you can install PCoIP Agents, PCoIP Clients or a PCoIP CAS Connector as part of CAS Manager, you need to ensure you have met the system requirements and have carried out the prerequisite work for these components to work. This section points to the system requirements and prerequisite information for these individual components.

## System Requirements for PCoIP Agents

- [PCoIP Standard Agent for Windows](#)
- [PCoIP Standard Agent for Linux](#)
- [PCoIP Graphics Agent for Windows](#)
- [PCoIP Graphics Agent for Linux](#)

## System Requirements for PCoIP Clients

- [PCoIP Software Client for Windows](#)
- [PCoIP Software Client for macOS](#)
- [PCoIP Software Client for Linux](#)

## System Requirements and Prerequisites for CAS Manager

- [CAS Connector - System Requirements](#)

For information on SDKs, Licensing, PCoIP Zero Clients, PCoIP Management Console and custom broker components, see the [Teradici Support](#) site.

# Teradici Solution Builder

The Teradici Solution Builder enables prospective and existing users and customers to quickly see which combinations of infrastructure, operating systems, and peripherals are supported by Teradici.

The interactive site enables you to select the components you wish to use by breaking them up into three areas:

- Physical or virtual host environment
- Management and firmware management
- User environment

As you select the applicable components for your use case, non-compatible components will disappear and you will be left with a view of which Teradici components you can use for your use case. Feel free to try this tool out here: <https://solution-builder.teradici.com/>



## Solution Builder Updates

Please note that the Teradici Solution Builder attempts to stay up to date with the latest version's of Teradici's technology, but may not be 100% accurate depending on new releases and advancements or developments with other 3<sup>rd</sup> party components. Please feel free to reach out Teradici [sales](#) or [support](#) with specific questions relating to Teradici's suite of products.

# Installation

The following section outlines the installation steps for installing PCoIP Clients, PCoIP Agents and the PCoIP CAS Connector.

## Installing PCoIP Agents

- [PCoIP Standard Agent for Windows - Installation](#)
- [PCoIP Graphics Agent for Windows - Installation](#)
- [PCoIP Standard Agent for Linux - Installation](#)
- [PCoIP Graphics Agent for Linux - Installation](#)

## Installing PCoIP Clients

- [PCoIP Software Client for Windows - Installation](#)
- [PCoIP Software Client for macOS - Installation](#)
- [PCoIP Software Client for Linux - Installation](#)

## Installing CAS Manager

- [CAS Manager](#)
- [CAS Manager as a Service](#)

For information on installing mobile clients, SDKs, PCoIP Zero Clients, PCoIP Management Console and custom broker components, see the [Teradici Support](#) site.

# Setting up a Proof Of Concept Deployment - Cloud Access Software

The following section outlines the steps involved in setting up a proof of concept (POC) Cloud Access Software deployment.

## Basic POC only

This information gives a simplistic overview of the components and steps involved in setting up a POC of Cloud Access Software. Teradici recommends reading the relevant documentation to understand the different system requirements and pre-requisites that are applicable to your deployment environment and scenario. For information on the latest Cloud Access Software components, see the [Cloud Access Software documentation](#).

1. Procure a compatible host. For information on host availability with PCoIP Agents, see:

- [Supported host instance types - Windows Graphics Agent](#)
- [Supported host instance types - Windows Standard Agent](#)
- [Supported host instance types - Linux Graphics Agent](#)
- [Supported host instance types - Linux Standard Agent](#)

For information on our partner marketplace images, see:

- [Cloud Access Software - AWS](#)
- [Cloud Access Software - Google Cloud Platform](#)
- [Cloud Access Software - Microsoft Azure](#)

2. Download and install a PCoIP Agent and PCoIP Client Software. For information on downloading these components, see [here](#).

3. License your host. For information on licensing with PCoIP, see [PCoIP License Server](#).

4. Establish a PCoIP connection.

5. Once you have these components installed and connected you can look at optimizing your performance. For information on optimizing your session performance, see the [PCoIP Session Planning Guide](#).

6. You can expand your deployment by using a connection manager. For information on Teradici's PCoIP Connection Manager and Security Gateway, see [PCoIP Connection Manager and Security Gateway](#). For deployment management and deployment provisioning, see [PCoIP Cloud Access Manager](#).
7. To get support and technical assistance you need to register on the [Teradici support portal](#). To submit a technical support request you must purchase an [All Access subscription](#).

# Setting up a CAS Manager Deployment

Detailed Deployment Steps for Cloud Access Software are described in respective Windows and Linux Administration Guides for Graphics and Standard PColP Agents respectively. Instructions for using CAS Manager with an on-premises deployment are detailed in the [CAS Manager Administration Guide](#).

CAS Manager enables highly-scalable and cost-effective Cloud Access Software deployments by managing cloud compute costs and brokering PColP connections to remote workstations. The high-level deployment process is as follows:

1. Procure Cloud Access Software licenses.
2. Install the necessary GPU drivers (if required depending on need).
3. Install the appropriate Cloud Access Software Agent and activate the Cloud Access Software license during installation.
4. Install Cloud Access Software on your host device and activate licenses.
5. Setup and verify the CAS Connector, see [Setting up the CAS Connector Server](#) and [Verifying the CAS Connector Server](#).
6. Download the CAS Connector component files from Teradici, see [Downloading the CAS Connector](#).
7. Obtain a CAS Connector token, see [Obtaining a CAS Connector Token](#).
8. Install the CAS Connector, see [Installing the CAS Connector](#).
9. Connect to the CAS Manager Admin Console to manage your remote workstations and deployments, see [Connecting to the CAS Manager Admin Console](#).

## CAS Manager Deployment Scripts

Teradici has an open github repository that contains a collection of scripts that simplify the setup, installation and usage of CAS Manager. This repository enables users to set-up the necessary cloud resource (networking, firewalls, NAT gateway, storage buckets, etc), as well as Domain Controllers, CAS Connectors and remote workstations from scratch to produce a working

environment for testing and evaluation purposes. For information on how to access this repo, see [CAS Manager Deployment Scripts](#).

# Getting Support

To get support and technical assistance you need to register on the [Teradici support portal](#). To submit a technical support request you must purchase an [All Access subscription](#).

## The Teradici Community Forum

The PCoIP Community Forum enables users to have conversations with other IT professionals to learn how they resolved issues, find answers to common questions, have peer group discussions on various topics, and access the Teradici PCoIP Technical Support Service team. Teradici staff are heavily involved in the forums.

To visit the Teradici community, go to <https://communities.teradici.com>.