



# Allot Private Cloud Traffic Intelligence

Assuring Enterprise's business resilience and reputation on private cloud

## Data Center transformation

Organizations use Data Centers for their digital operations, providing the foundation for storing, processing, and distributing data and applications. As their name implies, Data Centers are specialized facilities designed to house and manage computer systems, servers, networking equipment, storage devices, and other critical IT infrastructure components. It serves as the nerve center of an organization. Data centers are crucial in supporting the digital services and applications that have become integral to modern businesses and societies.

They enable organizations to store vast amounts of data, process complex computations, and deliver a wide range of services to users around the clock. These services can include websites, applications, communication platforms, cloud-based services, and more. The centralized nature of data centers allows for efficient management, monitoring, and optimization of IT resources.

As technology advanced, the concept of virtualization emerged as a game-changer. Virtualization allowed multiple virtual machines (VMs) to run on a single physical server, drastically improving resource utilization and flexibility. This marked the transition from traditional physical servers to a more efficient and scalable model.

## Shift to Private Cloud

With the proliferation of virtualization and the increasing demand for agile IT infrastructure, the idea of private clouds took center stage. Private clouds are built upon the principles of virtualization, introducing automation, self-service provisioning, and resource scalability. This shift allowed organizations to create dynamic and responsive environments tailored to their specific needs within their own data centers.

## The Private Cloud Trend

A private cloud provides computing services offered over the internet (cloud computing) and is dedicated to a single organization. It delivers similar advantages to the public cloud, including scalability and self-service but through a dedicated deployment - the computing resources such as servers, storage, and networking are exclusively used by that organization, offering greater control, security, and customization than public cloud services.

Private clouds have been adopted by a wide array of businesses across all verticals for many reasons - from security and control to ease of use and predictable billing. Another vital factor that positively contributes to private cloud adoption is the effective utilization of IT staff. An organization's most valuable resource is its workforce. Allowing IT personnel to dedicate more time to high-value tasks rather than infrastructure management can enhance productivity and lower IT operational costs.

## How does a private cloud function?

A private cloud is a dedicated computing setup for a single organization, ensuring no resource sharing with others. It can be established using existing on-premises infrastructure or new resources from the organization or a third party. Yet, a private cloud provides organizations with some significant cloud computing capabilities, also available in the public cloud. These include, among others:



**Virtualization:** Enables organizations to create and manage virtual instances of computing resources (such as virtual machines) on physical hardware.



**High Availability and Redundancy:** Ensure high availability and redundancy through load balancing, failover mechanisms, and data replication.



**Scalability:** Easy scaling of resources to accommodate changing demands, whether it's adding more virtual machines or allocating additional storage.



**API Access:** Application Programming Interfaces (APIs) enable users to interact with and manage cloud resources programmatically, allowing for integration with other tools and systems.



**Self-Service Provisioning:** Users can often provision resources on-demand without direct intervention from IT administrators.



**Monitoring and Management:** Tools for monitoring resource usage, performance, and infrastructure health.



**Resource Pooling:** Computing resources like CPU, memory, and storage are pooled, allowing efficient allocation among various workloads.



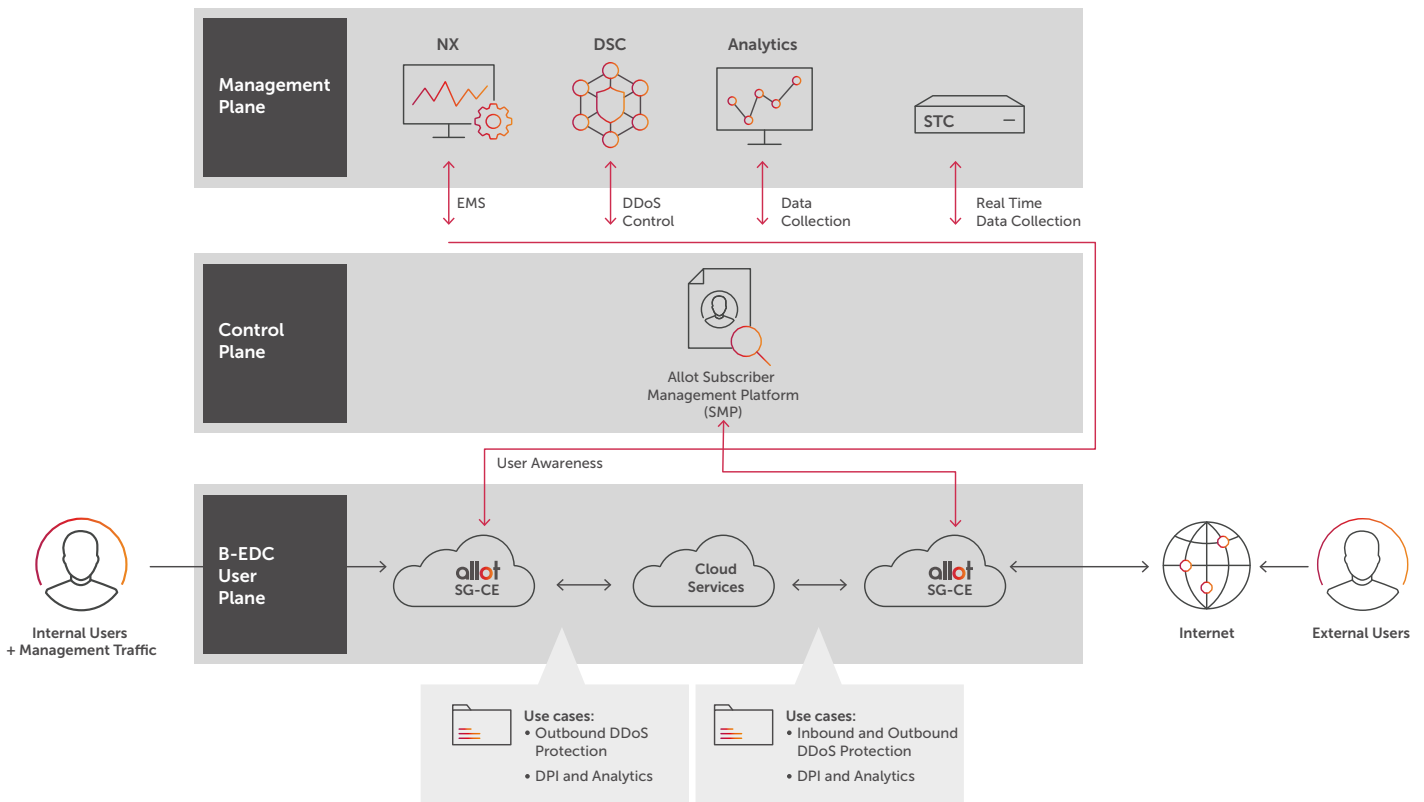
**Data Storage and Backup:** Storage solutions, including options for data backup, replication, and recovery.

# The Allot Private Cloud Traffic Intelligence Solution

## Solution Overview

The Allot Private Cloud Traffic Intelligence (APCTI) solution enables organizations to seamlessly migrate and implement their IT infrastructure and applications in various private cloud environments. Deployed inline within the private cloud network, APCTI offers detailed insights into active applications and user requests. It assures the Quality of Experience (QoE) for enterprise services and offers robust DDoS mitigation powered by Allot Network Behavior Anomaly Detection (NBAD) capabilities that mitigate, within seconds, both minor and major attacks threatening the private cloud. Furthermore, APCTI minimizes the need to provision extra compute resources like virtual firewalls, WAFs, and servers to handle the surge in connections during an attack.

Consequently, APCTI guarantees business resilience, saves OPEX, and protects the organization's reputation.



Allot Private Cloud Traffic Intelligence Deployment

## Allot Private Cloud Traffic Intelligence Deployment

Deployed within the private cloud network, the APCTI solution integrates cloud computing capabilities and comprises the following components:

		Role	SW Delivery	Solution area
User Plane DPI & Protection Components	Service Gateway Containerized Edition (SGCE)	<b>User Plane</b> <ul style="list-style-type: none"> <li>Policy Enforcement point for QoE.</li> <li>DDoS Sensor for inline detection and mitigation.</li> <li>Real-time and Statistical Data generator.</li> </ul>	CNF	User Plane protection DPI & Analytics
	NX Centralized Management	<b>Management Plane</b> Manages all Allot components (NMS) Policy Creation and Alarm Notifications	CNF	User Plane protection DPI & Analytics
	DDoS Secure Controller (DSC) - Optional	<b>Management Plane</b> Manages the DDoS Sensors	CNF	User Plane protection
	Short-Long-Term Collector (STC) – Optional	<b>Management Plane</b> Short-Term Collector	CNF	User Plane Statistics Collector
	Subscriber Management Platform (SMP)- Optional	<b>Control Plane</b> Subscriber Management integrates with SMF/PCF	CNF	User Plane protection DPI & Analytics
Analytics	Data Mediator (DM) - Optional	<b>Management Plane</b> Statistics Collection/Aggregation	CNF	DPI & Analytics
	ClearSee -BI – Optional	<b>Management Plane</b> ClearSee – Business Intelligence (Analytics)	VNF	DPI & Analytics
	ClearSee-DWH - Optional	<b>Management Plane</b> ClearSee – Data Warehouse	VNF	DPI & Analytics