

# Cloudera Data Platform Private Cloud Base on Dell EMC Infrastructure

Data management and multi-function analytics for  
on-premises IT environments

Leverage a hybrid data platform that encompasses the entire data lifecycle to power a wide variety of use cases, driving greater business efficiencies and serving customers better.

Cloudera Data Platform (CDP) Private Cloud is a next-generation, hybrid data platform with cloud-native, self-service analytic experiences bringing the speed, scale, and economics of the public cloud to your data center. CDP Private Cloud enables organizations with on-premises deployments to deliver powerful data analytics and machine learning in minutes to teams everywhere.

CDP Private Cloud Base is the unification of Cloudera Distribution for Apache® Hadoop® (CDH) and Hortonworks® Data Platform® (HDP), giving you the best of both worlds. This new software combines the best technologies from Cloudera and Hortonworks, with new features and enhancements across the stack, to form a hybrid data platform that encompasses the entire data lifecycle. This unified distribution is a scalable and customizable platform where you can securely run many types of data analytics workloads.

CDP Private Cloud Base is a stand-alone data analytics platform. But it also supports a hybrid or multicluster solution, where compute tasks can be separated from data storage, and where data can be accessed from remote clusters. In this case, the CDP Private Cloud Base cluster is deployed alongside CDP Private Cloud Data Services, a separate computing cluster running on Kubernetes® such as Red Hat® OpenShift Container Platform which is deployed with along with CDP Private Cloud Base.

Key differences from a traditional big data stack include:

- Elastic analytics running on a containerized compute cloud
- Highly scalable object storage separated from the compute layer
- A secure and governed data lake that combines data across the enterprise, and
- Consistent management services across all clouds, enabling hybrid cloud.

When paired with industry-leading Dell EMC infrastructure, the potential use cases that can be addressed through this full-featured data platform are nearly limitless. A few that we've seen our customers successfully implement include: Customer 360 analytics, retail inventory and sales analysis, manufacturing operational analysis, eCommerce fraud prevention, network security intelligence, data warehouse consolidation and discount pricing optimization.

## Resources

- Get engineering-validated designs and performance testing information is available on the [InfoHub](#)
- Tap into Dell Technologies worldwide [Customer Solution Centers](#)

## Learn more

- [Design guide](#)
- [Whitepaper](#)
- [Visit the InfoHub](#)
- [delltechnologies.com/analytics](https://delltechnologies.com/analytics)
- [CDP Private Cloud](#)

## Engineering-Validated Design

CDP Private Cloud Base uses the latest Dell EMC PowerEdge servers and PowerSwitch networking that can easily connect to or expand existing Hadoop environments. Design guide configurations are designed to give options for supporting CDP Private Cloud Base tested on Dell EMC infrastructure.

### Components with multiple sizing options

Master nodes	Worker nodes	Switches	Software
PowerEdge R650	PowerEdge R750 PowerScale Isilon H5600	<ul style="list-style-type: none"><li>• PowerSwitch S3100-ON management</li><li>• PowerSwitch S5248F-ON leaf</li><li>• PowerSwitch Z9243F-ON spine</li></ul>	Red Hat Enterprise Linux with Cloudera Data Platform including Cloudera Private Cloud Base and Cloudera Manager

## Cloudera Private Cloud Data Services on Dell EMC infrastructure

Adding [CDP Private Cloud Data Services](#) to CDP Private Cloud Base brings cloud-native, self-service analytic experiences to your private data center. Users can rapidly provision and deploy analytics services — such as data warehouse, machine learning, and traditional workloads — through the management console, and easily scale them up or down as required.

## Summary

With the objective of reducing time to value and deployment risk, the engineering-validated and scalable reference architecture offers design guidance for data analytics infrastructure managers and architects to run CDP Private Cloud Base on optimized yet flexible configurations of Dell EMC hardware infrastructure.

Powered by Cloudera Data Platform, organizations can efficiently extract insights from data and make better business decisions. With the plethora of use cases that can be enabled, such as customer 360 analytics, manufacturing operational analysis, eCommerce fraud prevention, and more.

## Dell Technologies and Cloudera

Dell Technologies and Cloudera have been collaborating for more than a decade to provide customers with guidance on optimal hardware to streamline the design, planning, and configuration of their Cloudera deployments. The CDP Private Cloud Base on Dell EMC infrastructure architecture is based on the collective experience of both companies in deploying and running enterprise production environments.

You don't have to go it alone. [Dell Technologies Services](#) — ranging from consulting and education to deployment and support — are available when and where you need them.

