

Cisco Stealthwatch

Data Store Hardware Deployment Overview 7.3.2



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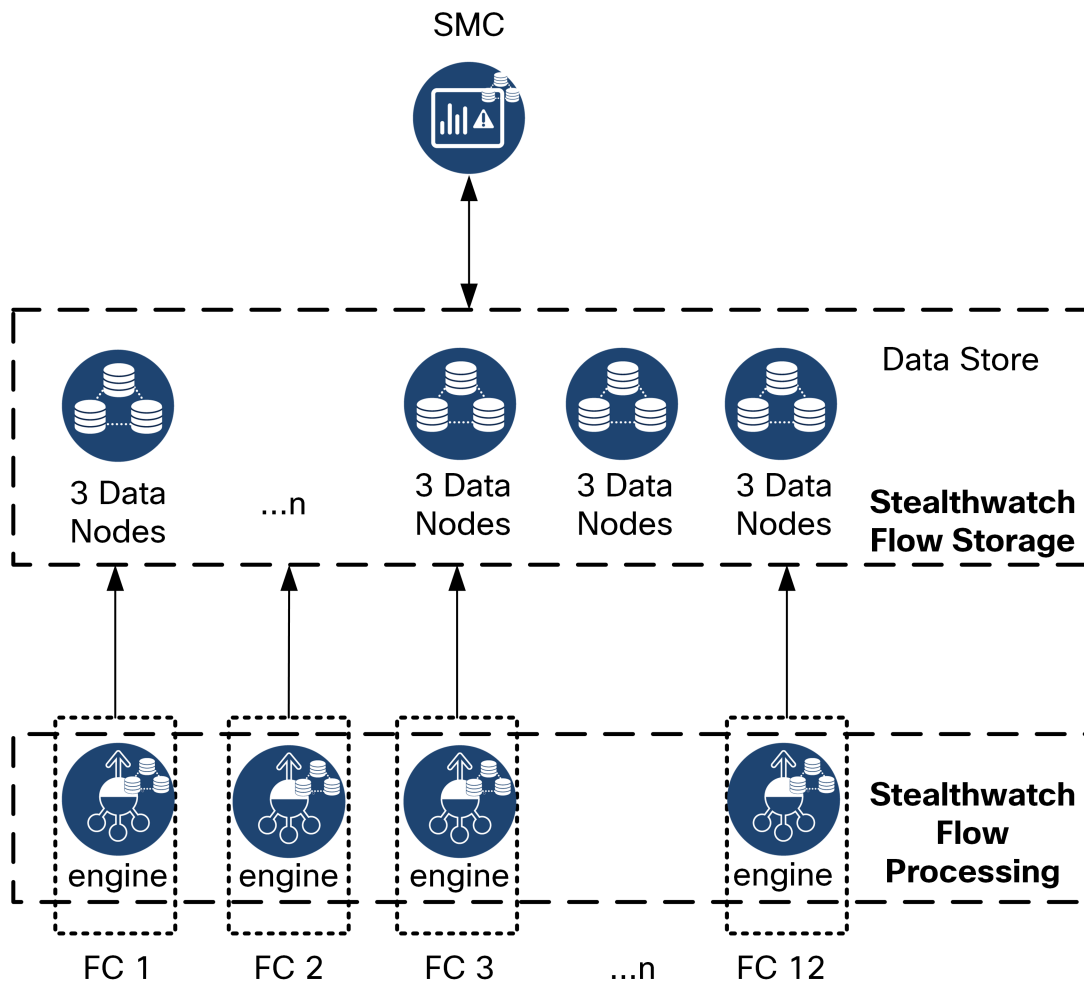
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Getting Started with the Stealthwatch Data Store

Introduction

The Stealthwatch Data Store provides a central repository to store your network's telemetry, collected by your Stealthwatch Flow Collectors. The Data Store is comprised of a cluster of Data Nodes, each containing a portion of your data, and a backup of a separate Data Node's data. Because all of your data is in one centralized database, as opposed to spread across multiple Flow Collectors, your Stealthwatch Management Console can retrieve query results from the Data Store more quickly than if it queried all of your Flow Collectors separately. The Data Store cluster provides improved fault tolerance, improved query response, and quicker graph and chart population.


In a Stealthwatch deployment with a Data Store, the Data Store cluster sits between your SMC and Flow Collectors. One or more Flow Collectors ingests and deduplicates flows, performs analysis, and reports data and results directly to the Data Store, distributing it roughly equally to all of the Data Nodes. The Data Store facilitates data storage, keeps all of your traffic in that centralized location as opposed to spread across multiple Flow Collectors, and offers greater storage capacity than multiple Flow Collectors. See the following diagram for an example.



Reference Documentation

The following table describes relevant reference documentation for Data Store deployment, and use:

Document	Description
Stealthwatch Release Notes	Review the Stealthwatch Release Notes to understand the latest information about the current Data Store release, including last-minute information.
Stealthwatch Hardware and Software Version Support Matrix	Review the Stealthwatch Hardware and Software Version Support Matrix to understand the SMC and Flow Collector appliance models that you can use with a Data Store.

Stealthwatch Appliance Specification Sheets	Review the Stealthwatch Appliance Specification Sheets to understand the physical layout and capabilities of these appliances.
Stealthwatch Smart Licensing Guide	Review the Stealthwatch Smart Licensing Guide to understand how to license your Stealthwatch deployment and appliances.
Stealthwatch Data Store Hardware Deployment and Configuration Guide	Review the Stealthwatch Data Store Hardware Deployment and Configuration Guide to understand how to deploy and configure your Stealthwatch deployment with a Data Store.
Stealthwatch x2xx Hardware (with Data Store) Appliance Installation Guide	Review the Stealthwatch x2xx Hardware (with Data Store) Appliance Installation Guide to understand how to deploy and configure your Stealthwatch appliances, including the SMC and Flow Collectors.
Stealthwatch System Configuration Guide	Review the Stealthwatch System Configuration Guide to understand how to configure your Stealthwatch appliances after you deploy them and perform initial setup. <div data-bbox="553 1104 1417 1262" style="border: 1px solid #00a0e3; padding: 10px; margin-top: 10px;"> <p> This guide applies to all Stealthwatch appliances, regardless of whether you deployed a Data Store with your Stealthwatch deployment.</p> </div>

Data Store Hardware Performance and Sizing



You cannot deploy virtual appliances with a hardware Data Store, nor can you deploy hardware appliances with a virtual Data Store. You cannot deploy a blended environment, with some Flow Collectors configured for use with the Data Store, and other Flow Collectors configured for use without a Data Store.

The following tables provides Data Store performance estimates, and best practices for deploying a sufficient number of Data Nodes to your environment to handle your traffic. These numbers are generated in our test environments using average customer data. There are several factors that may affect your specific performance, such as number of hosts, average size of flows, and more. While we do our best to represent the data as

fairly and accurately as possible, your environment may experience different limits. See the [specification sheets](#) for in-depth information about the hardware appliances.



Contact Cisco Professional Services for assistance with estimating your traffic and sizing a sufficient number of Data Nodes.

The following table provides recommendations for a standard enterprise traffic profile (most customers):

Flows per second (FPS)	Number of FC 4210s	Number of DS 6200s/90 Days Storage	Number of DS 6200s/ 180 Days Storage	Number of DS 6200s/ 360 Days Storage
250,000	1	1	1	2
500,000	1	1	2	4
1,000,000	2	2	4	8
2,000,000	4	4	8	-
3,000,000	6	6	12	-

The following table provides recommendations for a service provider traffic profile:

Flows per second (FPS)	Number of FC 4210s	Number of DS 6200s/90 Days Storage	Number of DS 6200s/ 180 Days Storage	Number of DS 6200s/ 360 Days Storage
250,000	1	1	1	2
500,000	2	1	2	4
1,000,000	4	2	4	8
2,000,000	8	4	8	-
3,000,000	12	6	12	-

See the [Stealthwatch Hardware and Software Version Support Matrix](#) for more information.

Stealthwatch Data Store Hardware Prerequisites

The following table describes hardware prerequisites for your Data Store deployment:

Hardware Component	Supported Capacity
Data Store	<ul style="list-style-type: none"> • Minimum of 3 Data Nodes (DS 6200) • Additional sets of 3 Data Nodes to expand the Data Store
Stealthwatch Management Console	<ul style="list-style-type: none"> • Minimum of 1 Stealthwatch Management Console
Flow Collector	<ul style="list-style-type: none"> • Minimum of 1 Flow Collector

The Data Store supports Flow Sensors and UDP Directors in v7.3.1 or v7.3.2. You are not required to deploy either with a Data Store. If you add an appliance to your cluster, make sure your appliances all have the same version installed.

Note that you must obtain a Flow Rate (FPS) Smart License for your overall Stealthwatch deployment.



Do not update the appliance BIOS, as it may cause issues with appliance functionality.

Stealthwatch Data Store Networking and Switching Considerations

The following table describes networking and switching prerequisites and considerations for your Data Store deployment:

Network Consideration	Description
Necessary Credentials	<p>For each Data Node, Stealthwatch Management Console, and Flow Collector:</p> <ul style="list-style-type: none"> • Configured during initial System Configuration: <code>root</code>, <code>sysadmin</code> • Configured using Appliance Setup Tool: <code>admin</code>

	Configured during Data Store initialization: <code>dbadmin</code> , <code>readonlyuser</code>
Inter-Data Node Communications	<ul style="list-style-type: none"> Establish a recommended round-trip time (RTT) latency of under 200 microseconds between and among Data Nodes Keep clock skew at 1 second or lower between and among your Data Nodes. Establish a recommended throughput of 6.4 Gbps or greater (10 Gbps full duplex switched connection) between and among your Data Nodes.
Data Node Hardware Power	<ul style="list-style-type: none"> If a hardware Data Node loses power unexpectedly, the data can be corrupted. Use both power supplies on separate circuits from uninterruptible power supplies. When you initialize the Data Store cluster, alternate Data Node configuration based on the power supplies that each Data Node uses. This can optimize fault tolerance by minimizing the number of Data Nodes that go down if power is lost.
Data Node Switching	<ul style="list-style-type: none"> Data Nodes require their own Layer 2 VLAN to allow inter-Data Node communication. Hardware Data Nodes can be connected to a shared or dedicated 10G switch. Cisco recommends that hardware Data Nodes be connected to 2 switches to help ensure constant connectivity during switch outages and upgrades. Due to the low latency required for inter-Data Node communication, Cisco recommends a redundant pair of switches, where the 2 switches are interconnected and carry the Layer 2 VLAN across both switches.
Stealthwatch Appliance Communications	<ul style="list-style-type: none"> SSH and SSH root access required for SMC, Data Nodes, and Flow Collectors, and configured from the SMC SMC and Flow Collectors must be able to reach all Data Nodes Data Nodes must be able to reach SMC, all Flow Collectors, and each Data Node

See the [Data Store Hardware Deployment and Configuration Guide](#) for more information on communications ports.

Data Store Installation Next Steps

After you review this guide:

- Review the [Stealthwatch Release Notes](#) for more information on the current Stealthwatch Enterprise version.
- Review the [Data Store Hardware Deployment and Configuration Guide](#) for more information on deploying the Data Store.

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