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Cross-Cloud Data Fabric

ECFS (Elastifile Cloud File System) 3.0.X
Dedicated Storage Mode (DSM)

Hardware Requirements Guide

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1. Introduction

1.1 Document Scope

This guide describes the hardware requirements , including a list of tested hardware, for ECFS (Elastifile Cloud File System) 3.0.X systems based on Dedicated Storage Mode (DSM).

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2. Hardware Requirements

2.1 General

Ensure that your hardware is compatible with the latest Red Hat Hardware Compatibility List.

2.2 Network

2.2.1 Switch

> ECFS's Data Network expects a 10GbE connection. In addition, we highly recommend a dedicated VLAN with MTU 9000 (jumbo) frame support for its internode data communication. ECFS uses the VLAN to isolate its internal IP scheme.

The network switch should meet the following port configuration requirements:

- Minimum 10GbE full duplex; 25/40/100GbE also supported

- MTU=9000 - highly recommended

- Dedicated VLAN (trunk or access mode) - highly recommended

> 📄 ECFS requires using two 10GBe switches minimum (one switch for each ECFS network).

2.2.2 NICs

NICs used in the ECFS networks should meet the following requirements:

- 2 x 10GbE for the data network

- 10GbE minimum for the client network

- SR-IOV must be off for DSM

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2.3 Storage

2.3.1 Storage Devices

- Up to 12 devices per Dedicated Storage node

- Maximum device size: 4TB

- Minimum data center grade devices:

  - NVMe SSD

  - SATA SSD

2.3.2 Disk Controllers

No RAID Controller is needed.

> If the Disk Controller has a RAID controller, disable it and configure the controller to operate in JBOD mode.

2.4 Host Resources

2.4.1 EMS Hardware Requirements

> The EMS can be installed as a physical server or a virtual server on VMware or KVM.
>
> If installing on a virtual server using VMware, use VMware Paravirtual SCSI controllers.

Each EMS requires the following resources:

- CPU:

  - Intel-based, 4th generation and higher

  - 4 virtual or physical cores minimum

- RAM: 8GB minimum

- SSD: 100GB minimum

2.4.2 Controller Hardware Requirements

Each ECFS controller requires:

- CPU:

  - Intel-based, 4th generation and higher, dual-socket

  - 6 cores minimum per CPU

  - Up to 16 cores per CPU (ECFS uses up to 20 cores, the kernel uses spare cores)

  - Hyperthreading disabled.

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- RAM: 96GB to 256GB RAM (DDR4 or higher).

- SSD: Boot device with minimum 128GB, 3.2 DWPD, or 256GB with 1.6 DWPD.

2.4.3 Replication Agent Hardware Requirements (optional)

> The replication agent can be installed as a physical server or a virtual server on VMware or KVM.
>
> If installing on a virtual server using VMware, use VMware Paravirtual SCSI controllers.

Each replication agent requires:

- CPU:

    - Intel-based, 4th generation and higher

    - 4 virtual or physical cores minimum.

    - Supports up to 4 concurrent bidirectional replications. Number of CPUs can be increased to support more concurrent replications.

    - Hyperthreading: Supported

- RAM: 16GB RAM minimum (should be increased if CPU count increases). Recommended: 4GB per CPU core

- SSD: Boot device with minimum 38GB.

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