

This reference architecture document provides guidance for SoDA deployments. Included is the reference architecture for SoDA controllers and guidance on the specs for agents. For specific use cases please work with the SoDA team on specifics for your solution.

SoDA Controller

- The SoDA controller requires 1TB of storage (**on the primary partition**) which is based on the number of files you have. For example, a SoDA job that moves/copies/synchs 1 million files requires 500MB of storage. If you were to configure a policy to run once per day, this would be 182 GB/year.
- 100 million files or scanning hourly should consider more storage on their controller node, please contact the SoDA team for details.
- The tables below outline the recommended architecture for servers and VM's, and include cloud templates that can be used.

SoDA Controller					
SoDA Controller VM		SoDA Controller Server		Controller Cloud Template	
ESXi	6.5 or above	CPU (AMD)	AMD EPYC 7402P 2.80GHz, 24C/48T	AWS	t3.2xlarge
CPU	8vCPU	CPU (Intel)	Intel Xeon Gold 633YR 24C/48T, 2.40 GHz	Azure	1 D4 v2
Storage	1 TB (single partition)	Memory	64 GB	GCP	e2-standard-8
Memory	32 GiB	Hard Drives	2 x 3.84TB SSD SATA (1+1)	*extend primary partition to 1TB	

SoDA Agents

- An agent can run on almost any architecture to enable data movement including laptops, servers, VM's, and other platforms. The performance of the data movement is dependent on the number of cores available to the agent. The more cores you have available the faster the agent will perform.
- For typical deployments we recommend 16 cores for an agent. If you are moving large numbers of files more cores will increase performance.
- For agent nodes doing data movement to and from the cloud or an object store, using a processor that has integrated SHA extensions will give approximately 30% increase in performance. For a list of processors, click on the links below.

https://en.wikipedia.org/wiki/Intel_SHA_extensions

[https://en.wikipedia.org/wiki/Ice_Lake_\(microprocessor\)](https://en.wikipedia.org/wiki/Ice_Lake_(microprocessor))

https://en.wikipedia.org/wiki/Zen_3

Below is a table referencing a 16 core platform for VM's, Servers, and the cloud templates, including the supported operating systems.

SoDA Agent					
SoDA Agent VM		SoDA Agent Server		Agent Cloud Template	
ESXi	6.5 or above	CPU (AMD)	AMD EPYC 7713P 2.0GHz, 64C/128T	AWS	C5.4xlarge
CPU	16Core running Intel Icelake or Zen3	CPU (Intel)	Intel Xeon Platinum 8380 40C/80T, 2.3GHz	Azure	F16s v2
Storage	200 GB	Memory	32GB	GCP	C2-standard-16
Memory	8 GB	Hard Drives	2 x 480GB SSD SATA (1+1)		

Agent OS Support Matrix

Linux	Linux kernel version 2.6.23 (RHEL/Centos 6) or later
Windows	Windows 10 and later & Server 2016 and later
MacOS	10.12 Sierra or later