Caringo Swarm

Swarm Server Appliances

Highlights

- **Flexible deployment:** Start with only one server, scale out as required
- **Multi-protocol:** Support S3, Swarm HTTP, SMB and NFS
- **Optimize durability or footprint:** Select any mix of replication and erasure coding
- **Hassle free for admins:** Robust web-based management of content and tenants
- **Feature rich for end-users:** Built-in content management, search, delivery and secure sharing

Caringo Swarm Server Appliances contain all the hardware and software you need to keep content protected, online, searchable and web-accessible—secure within your network. With the industry's most flexible object storage deployment options, Swarm Appliances let you start with just one server and scale out at any time based on your business requirements.

Limitlessly Scalable, S3-Enabled Private Cloud

The Swarm Server Appliance line is comprised of the Single Server Appliance (SSA), m1000 Management Server, and the s3000 and hd5000 Storage Servers. The minimum configuration is the SSA which includes all software (together with search and services) on Virtual Machines (VMs) in a 1u chassis with 168TB of raw capacity. The SSA is ideal for small-to-medium workloads and remote offices.

For enhanced performance, increased capacity and higher density, deploy the s3000 (168TB in 1u) or the hd5000 (840TB in 4u) in a cluster of three or more servers. Bare metal deployment, Swarm services and search are managed by the m1000 management server or can be run on VMs in your virtual environment. Scale to billions of files, hundreds of petabytes and support millions of tenants, domains and buckets.

Built-In Content Management, Search & Delivery

Administrators and end users can use the web-based content portal to view the content they have stored, upload new content and modify metadata. Elasticsearch is integrated and ad hoc queries can be run from the content portal. Since the native interface for Swarm is based on HTTP, content can be shared via URL internally or externally. Permissions can be modified and access revoked at any time ensuring content is secure.

Integrated Multi-Protocol, Multi-Tenant Management and Authentication

Multi-protocol access includes S3, Swarm HTTP, NFS and SMB in a single namespace. Swarm also works with any application, device or service that supports the S3 protocol via token-based authentication. Integration into existing enterprise identity management systems is enabled via LDAP, Active Directory or Linux PAM authentication. Administrators can easily manage tenants, buckets, quotas, metering and integration into identity management solutions via a web-based portal, or programmatically via an API for seamless integration into 3rd-party subscriber and billing management solutions. Administrators also have the option to enable end-user self-servicing.

Enterprise Data Durability and Support

Swarm's Elastic Content Protection combines automated management of replication and erasure coding with continuous integrity checks and fast volume recovery. All nodes participate in recovery which gets faster as the cluster grows. Use any mix of replication or erasure coding configuration to achieve your required data availability and storage capacity utilization. Security features including WORM, auditable content hashing, encryption and versioning are standard. System status can be monitored via the web-based management console or SNMP and all system status information can be imported into Prometheus and Grafana for visualization. All Swarm Servers include 3 years of Maintenance and Support (including access to all software upgrades) and a 3-year hardware warranty.

car:ngo

Specifications

	SSA & s3000 Storage Server	hd5000 High-Density Storage Server	m1000 Management Server
Capacity & Connectivity			
Capacity Raw (14TB HDDs)	168TB (12 drives)	840TB (60 drives)	
Useable Capacity (Erasure coding [EC] config)	114TB (EC: 5:2)	665TB (EC: 10:2)	
SATA SSD	**SSA:** 7.68TB (2 drives)*		3.84TB (4 drives)
NVMe SSD			256GB (1 drive)
Memory	192GB	768GB	192GB
Network	10GBase-T ports (x2)	10GBase-T ports (x4)	10GBase-T ports (x4)
Software			
Software	Caringo Swarm 11 including core object store, content portal, management portal, Elasticsearch **SSA:** VMware ESXi		
System Monitoring & Analytics	Web-based, REST APIs with support for SNMP, Prometheus, Grafana and Kibana for system status visualization		
Security	Data encryption in flight SSL/TLS using AES-256, Data encryption at rest (AES-256)		
Data protection	Replication and Erasure Coding (EC) in any mix and configuration, EC configuration is based on number of nodes available in a cluster		
Upgrades	Rolling		
Characteristics			
Performance	**SSA**: 370MB/s write, 890 MB/s read **Swarm Servers:** up to 35GB/s S3 read, 12.5GB/s S3 write, 349 MB/s single instance NFS read, 392 MB/s single instance NFS write		
Data durability	**SSA:** 10 nines (99.99999999%)** **Swarm Servers:** 13 to 25 nines (99.9999999999999999999999%)*		
Software			
Protocols	Swarm HTTP, S3, NFSv4, SMB		
File System Integration	Caringo Drive provides a macOS or Windows Mount (licensed separately)		
Tiering	FileFly installs on Windows Server and tiers from a Windows Server or NetApp Filer to Swarm, Amazon AWS, Google Cloud or Microsoft Azure (licensed separately)		
Physical Size			
Rack Dimensions (in/mm)	1RU	4RU	1RU
Width (in/mm)	17.6" / 437mm	17.6" / 437mm	17.2" / 437mm
Height (in/mm)	1.7" / 43mm	7" / 178mm	1.7" / 43mm
Depth (in/mm)	37.4" / 597mm	30.2" / 767mm	23.5" / 597mm
Weight (lbs/kg)	80 lbs. / 36.2kg	180 lbs. / 81.6kg	50 lbs. / 22.6kg
Power			
Power Supply	800W Redundant Power Supplies with PMBus	2000W Redundant Power Supplies with PMBus	1U 700/750W Hot Swap Redundant Power Supply
Output Type	Gold Finger	25 Pairs Gold Finger Connector	Backplanes (Gold Finger)
Certification	80 Plus Platinum	80 Plus Titanium	80 Plus Gold
Environmental			
Cooling	6X Counter-rotating PWM Fans	5X Hot-swap Rear Exhaust PWM Fans	4X Counter-rotating PWM Fans
Temp. range- operating (F/C)	50°F to 95°F / 10°C to 35°C	50°F to 95°F / 10°C to 35°C	41°F to 95°F / 5°C to 35°C
Temp. range- non-operating (F/C)	-40°F to 140°F / -40°C to 60°C	-40°F to 140°F / -40°C to 60°C	-40°F to 158°F / -40°C to 70°C
Operating humidity	8% to 90% (non-condensing)	8% to 90% (non-condensing)	8% to 90% (non-condensing)

* SSA Includes SSDs and a single RAID card/HBA for running Swarm services and search
* nines durability is variable and dependent on data protection method and deployed nodes

For More Information

www.caringo.com • 512.782.4490 • info@caringo.com