allhua
TECHNOLOGY

DHI-CSS7124S-ER
24-HDD Cloud Storage Node

· Intel IvyBridge processor
· Asymmetric distributed clustering architecture
· Built-in dedicated cloud storage opearating system
· 24 HDDs, SATA/SAS, hot-swap
· Device-level fault tolerance
· Load balancing based on HDD capacity and performance
· Modular & Cableless design
· Redundant power supply

System Overview

Dahua standard cloud storage featuring an asymmetric distributed architecture that is composed of metada server and storage nodes, is specially designed for massive unstructured data storage. It delivers unparalled performance and linear scalability, and is able to provide a fundamental platform for further data mining.

Dahua standard cloud storage is ideal for a wide range of big data scenarios such as public safety, manufacturing institutions and VSaaS market, where massive data with diversity types needs to be stored and managed.

Features

Modular design
Key modules including HDD carrier, fans and power are modular designed, featuring hot-swap, redundancy configuration, perfect system cooling, and system stability.

M+N device-level fault tolerance
Achieve device-level fault tolerance by adopting state-of-the-art erasure coding technology. The data from each video channel will be segmented into several pieces and saved into different storage nodes. In the event of a certain storage node failure, data can still be read completely to ensure business continuity.

Outstanding read/write performance
Full concurrent access over multiple storage nodes. The read/write speed is up to 4GB/s in bandwidth from a single client.

Linear scalability of capacity and performance
Flexible expansion from 2 to 160 storage nodes. The seamless expansion technology enables to add storage nodes without interrupting business continuity. Newly-added nodes can be online within seconds with no need for manual work of data migration or RAID configuration.

Innovative management with intelligent automation
User-friendly system maintenance interface, making essential management work more effective. Real-time display of system health status including capacity, network flow and workload. One-click fault detection and set recovery priority for important data files.

Open convergence
Provide a set of open interfaces including ONVIF, NFS, CIFS, HDFS API, RESTful API for integration and interoperability with diversity 3rd party VMS and web applications.

Easy4ip cloud integration
Deep integration with Dahua Easy4ip to provide video surveillance service where a customer pays on a yearly, quarterly, or monthly basis for the ability to view live preview and recorded video which is saved on the cloud, and the video is used for self-monitoring surveillance and business applications.

ONVIF

Technical Specifications

Hardware

System Architecture	Asymmetric distributed architecture
Number of nodes	2 to 160
Form Factor	4U rack server
Processor	Inter IvyBridge 4 cores
Data Disk Type	2.5-inch/3.5-inch SATA and SAS enterprise HDD 1TB/2TB/3TB/4TB/6TB
Number of Disks	24
Storage Network type	4 x 1 GE, load balancing
Other interfaces	1 x USB3.0, 1 x eSATA, 2 x SAS, 1 x RS232, 1 x RS485, 1 x 1GE management interface

System Architecture

Cluster Architecture	Distributed objective storage architecture
Distributed Storage	Erasure coding technology, data is segmented and saved in multiple storage nodes
Data Protection Level	Dynamic N+M mode: 1+1, 4+1, 8+2, 12+3, 16+4, data is still usable after M storage nodes fail

File System

File System	Dahua EFS distributed file system
Data Type	Video, image and document
File-level Access	Global namespace, flle can be accessed by 3rd party application directly
Load Balancing	Load balancing based on capacity and performance of each node
Data Recovery	Valid data recovery instead of entire disk recovery

Scalability

Storage Expansion	Scale-out technology, online expansion, with less than 60 seconds for expansion of a single node
Quota Management	Data quota management based on users, user groups and directories, allocation of capacity on demand

Performance Index

Read/write Performance	Sequence read/write: 4 GB/s
	80% read, 20% write: 3.5GB/s
	20% read, 80% write: 3.5GB/s
	50% read, 50% write: 4GB/s
Data Recovery Speed	2 TB/h
Stream Processing Performance	Number of video channel: 2000/node
	Storage bandwidth: 700Mbps/node
	Fowarding bandwidth: 700Mbps/node

System Management

Initialization	One-click system initialization
Condition Monitoring	Real time health status monitoring including processor usage, memory usage, disk capacity, etc.
Alert By Email	Alarm notification of system exception by email
Disk replacement	batch replacement of bad disks, avoiding the work for immediate replacement once a single disk fails

Interface

Open Interface	POSIX, RESTful API, NFS/CIFS protocol, Dahua SDK

Electrical

Power Supply	AC100 ~240V, 47~63Hz, Redundant power, Hot-swappable
Power Consumption	<400W (include HDD)

Environmental

Operating Conditions	-0°C ~ +40°C / Less than 80% RH
Strorage Conditions	-20°C ~ +70°C / Less than 90% RH
Ingress Protection	N/A
Vandal Resistance	N/A

Construction

Rack support	19-inch rack-mounted
Dimensions	494mmx483mmx175mm
Weight	27Kg

Certification

CE	EN 55032, EN55024, EN50130-4, EN61000-3, IEC61000-4
FCC	Part 15 Subpart B and ICES 003 Issue6

Ordering Information

Type	Part Number	Description
Cloud storage node	DHI-CSS7124S-ER	24-HDD cloud storage node

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