T-CHIP TECHNOLOGY
Cluster Server R1
ARM Cluster Server
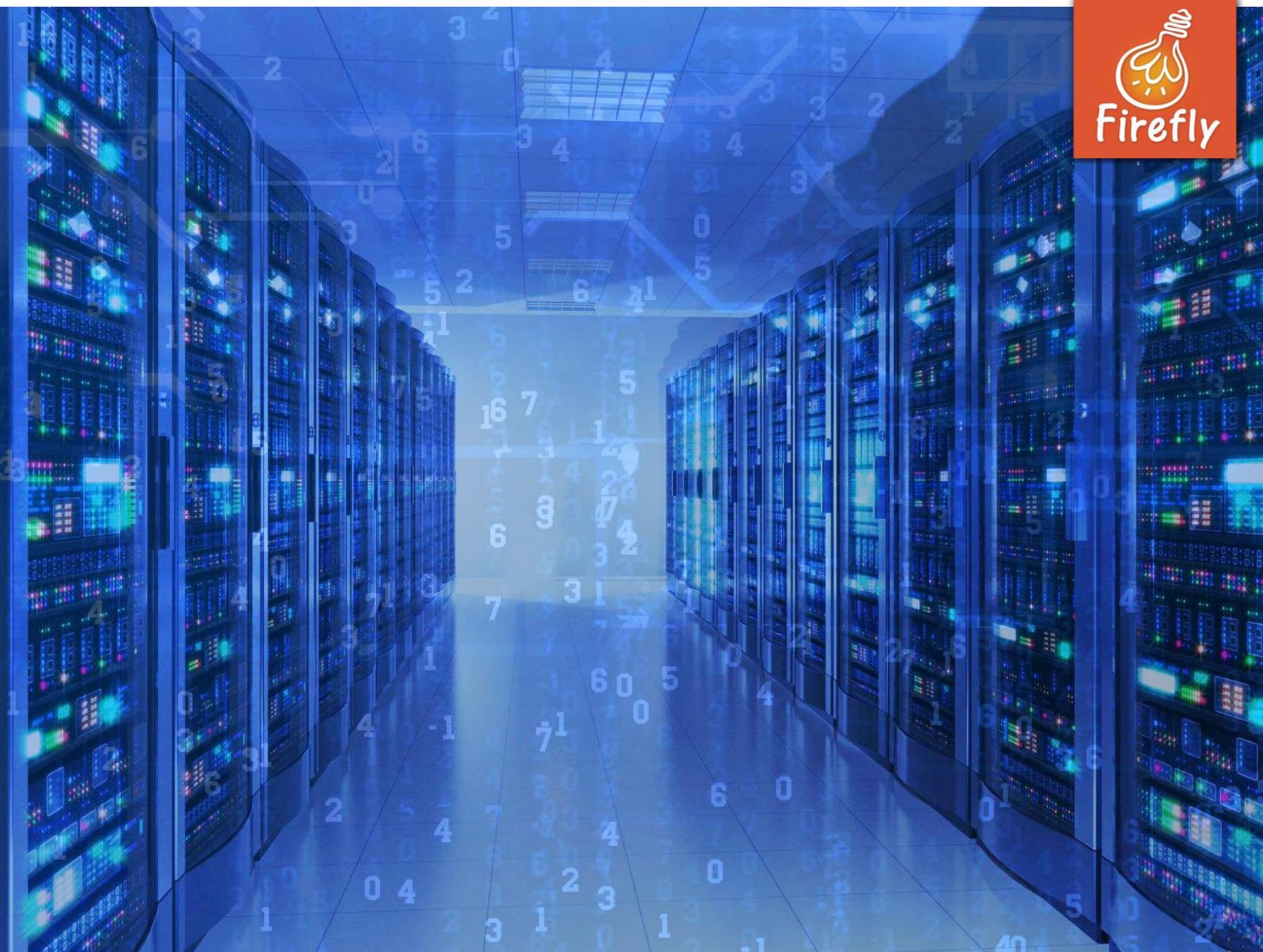
Contents

Cluster Server R1

As a standard 1U rack-mounted server based on ARM architecture, it builds a multi-core AI acceleration cluster platform by means of multi-core board combination, has super computing power, and provides standard hardware and software interfaces, supporting Docker, suitable for edge computing, cloud gaming, virtual desktop and other scenarios.
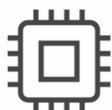
CPU
up to 11pcs RK3399 six-core 64-bit core board, with 1.8GHz processor performance of up to 66 cores.

AI Super Computing Power
JD4 core boards with NPU are optional, with computing power up to 2.8 Tops, which can be combined into an AI cluster server

Flexible Configuration
Support up to 11 core boards with different performance and configuration for cluster operation

Supporting Multiple OS
Supporting to run Android and Linux operating systems, with stable and reliable operation.

BMC management system
Supporting BMC management system, which can manage the running status of the server locally and remotely, supports a visual console interface

Diversified Interfaces
It has extension interfaces, such as Gigabit Ethernet x4, HDMI2.0, USB2.0 x2, type-C, and can extend to a 3.5-inch hard disk (hot-plug), supporting 4G-LTE function.

Standard 1U Rack-mounted Server
Equipped with a standard 1U rack-mounted server case, which has a galvanized panel with black frosted surface of solid structure

Highly efficient heat dissipation
built-in multiple heat dissipation fans of 10000 RPM, which enables highly efficient heat dissipation for long-time stable operation.

1. Multi-core Processors，Flexible Configuration

Supporting up to 11pcs RK3399 six-core 64-bit core board, with 1.8GHz processor performance of up to 66 cores.Supporting complete series of Firefly JD4 core boards. You can choose 1 ~ 11 different quantity, performance and configuration of the core boards for cluster computing, to meet the needs of more application scenarios.

2. Super Computing Power

JD4 core boards with NPU (AI accelerator) are optional, with computing power up to 2.8 Tops, which can be combined into an AI cluster server with super high computing power.


算力 2.8Tops

3. Supporting Multiple OS

Supporting to run Android and Linux operating systems, with stable and reliable operation.

4. Integrated BMC management system

Supporting BMC(Baseboard Management Controller) management system, which can manage the running status of the server locally and remotely, supports a visual console interface, and enables easy configuration management, hardware management and troubleshooting of the server.
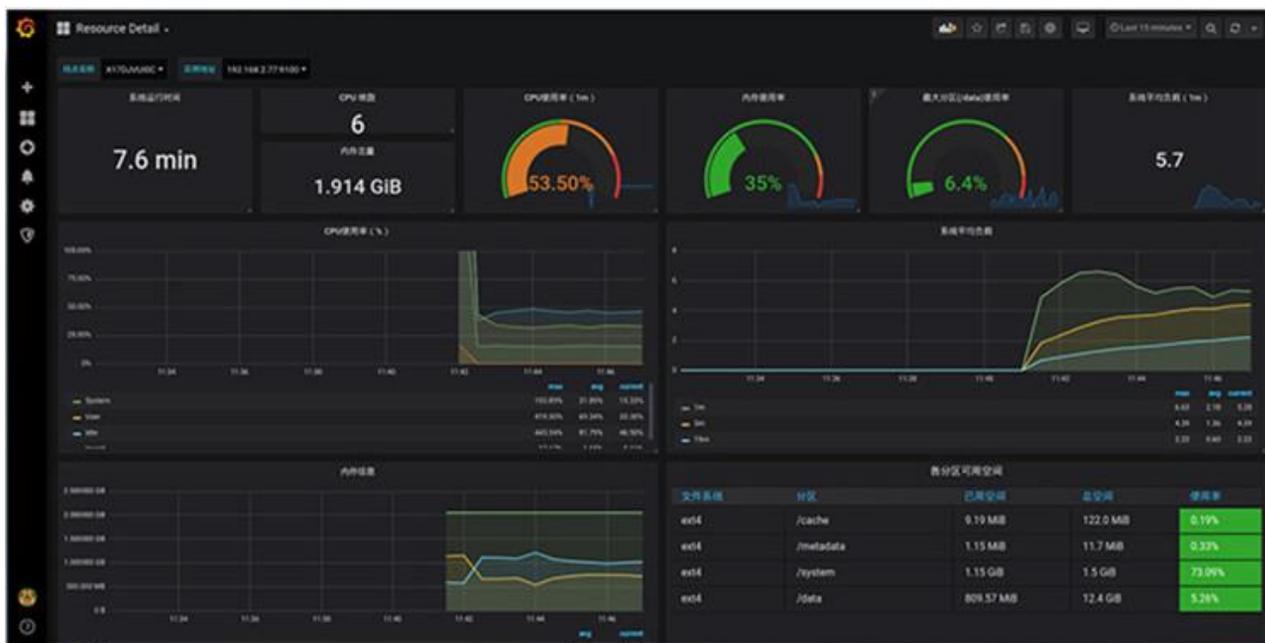
5. Standard 1U Rack-mounted Server

Equipped with a standard 1U rack-mounted server case, which has a galvanized panel with black frosted surface of solid structure, built-in multiple heat dissipation fans of 10000 RPM, which enables highly efficient heat dissipation for long-time stable operation.

6. Multi-channel video codec

Its distributed cloud architecture supports access to multi-channel cameras. As each core board can encode and decode 10 channels simultaneously, it enables a maximum of more than 100 channels. It supports H265/H264, MPEG-1/2/4 and other video protocols for unified monitoring, management and storage of video footage, enabling a diversified layout.

7. Virtual Desktop

It adopts desktop virtualization technology to provide multiple cloud desktops for centralized data management to ensure data security, and build an intelligent information operation environment, suitable for enterprise offices, research and development centers, cloud classrooms for learning, hospital outpatient services and other scenarios.
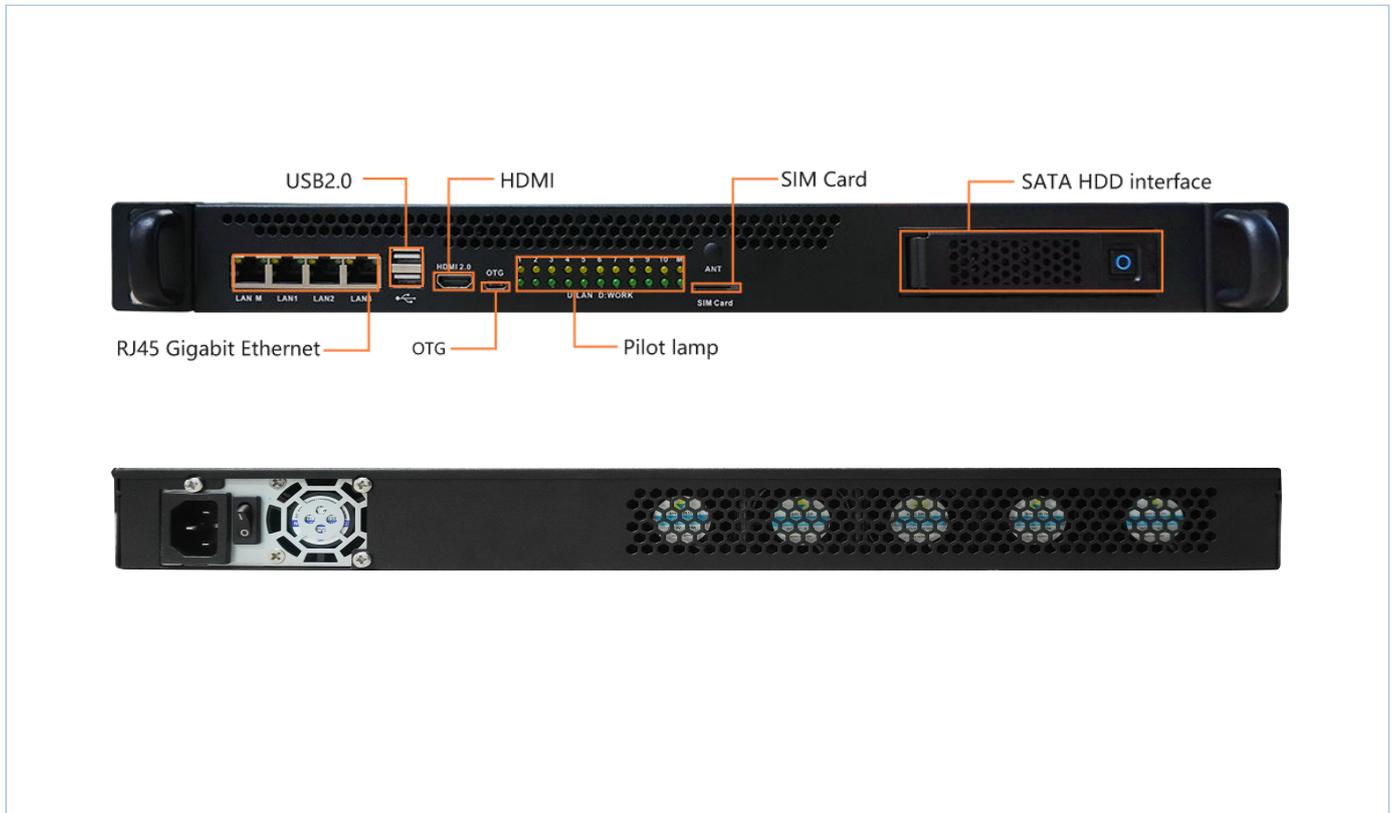

8. Application

It is widely applied in cloud computing, cloud gaming, multiple applications (multiple network broadcasts, multiple mobile games), multi-channel video encoding and decoding, cloud storage, block chain, virtual desktop and other scenarios.

Technical parameter

Type	1U rack-mounted cluster server
Architecture	ARM architecture
Number	Supporting up to 11pcs core boards(A total of 66 cores)
Core board	**RK3399 (AI) core board:** • Six-core 64-bit(Dual-core A72+ Quad-core A53) processor with frequency up to 1.8GHz • Integrated Mali-T860 MP4 graphics processor GPU, support 4K/1080P H.265/H.264 video hardware encoding and decoding • On-board NPU with up to 2.8 Tops of computing power (optional) **RK3328 core board:** • Quad-core 64-bit A53 processor with frequency up to 1.5GHz • Integrated Mali-450 MP2 graphics processor GPU, support 4K/1080P H.265/H.264 video hardware encoding and decoding **RK1808 (AI) core board:** • Dual-core 64-bit A35 processor with frequency up to 1.6GHz • Integrated NPU with up to 3.0 Tops of computing power
RAM	DDR3/LPDDR3/ LPDDR4, Each core board can be optionally equipped with 1GB/2GB/4GB (*Memory version can refer to the actual configuration of the core board)
Storage	eMMC built-in memory, each core board can choose 8GB/16GB/32GB/64GB/128GB 3.5-inch hard disk can be configured with 1 SATA / SSD hard disk (support hot plug)
Network	With four 1GE Gigabit RJ45 network ports (One main core board network port and three ordinary network ports) 4G/LTE/5G network(optional)
Video	HDMI 2.0, up to 4K@60Hz(Main core board display)
USB	2 个 USB2.0 HOST 1 个 Type-C(For core board debugging)
Indicator light	11 network status indicators(Yellow) 11 working status indicators(Green)
Fan	5 high-speed cooling fans
Power	300W AC power(Input: 100V AC ~ 240V AC)
BMC	Integrated BMC management system, providing web-based management interface
OS	Support Android, Linux operating system
Operating Temperature	0ºC - 50ºC (32ºF - 122ºF)
Size	Standard 1U rack-mounted server : 490mm x 390mm x 44.4mm
Weight	Server host : 5.8kg Package : 7.2kg

Size

USB2.0   HDMI   SIM Card   SATA HDD interface

RJ45 Gigabit Ethernet   OTG   Pilot lamp

44.4mm

390mm

490mm

Company introduction

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T-Chip focuses on the development, design, production and sales of open source intelligent hardware, AI, IoT, digital audio products. Meanwhile it provides an integral solution for intelligent hardware and software products. T-Chip is the IDH (Independent Design Company) officially authorized by Fuzhou Rockchip, and is also a strategic partner of Fuzhou RockChip. It has been working closely with Rockchip for more than 10 years.

The open source brand "Firefly" has an open source community and an online store on the Internet. It has more than 200,000 users and more than 5,000 corporate users, speeding up the research and development process for many technology entrepreneurs and start-ups, and providing professional technical services.

T-CHIP TECHNOLOGY

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