



OpenAtom openEuler Use Cases

(Featured 2025)

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About OpenAtom openEuler



OpenAtom openEuler (also known as openEuler) is an open source operating system project incubated by the OpenAtom Foundation. It is engineered to power the core scenarios of modern digital infrastructure: server, cloud computing, edge computing, and embedded systems. openEuler provides comprehensive support for diverse computing architectures, including Arm, x86, RISC-V, LoongArch, PowerPC, and SW-64.

Since its inception, the openEuler project has established significant momentum, securing widespread adoption across the industry and fostering dynamic growth within its ecosystem and the global community.

Industry-wide adoption: Over 20 leading vendors have released commercial distributions based on openEuler, driving over 10 million deployments worldwide. openEuler has become a trusted platform across key sectors, including finance, carrier, energy, Internet, and public services.

Thriving ecosystem: Guided by a philosophy of "co-building, co-governance, and co-sharing," the openEuler community has grown to over 2,000 organization members. Key contributors and strategic partners include global technology leaders such as Intel and Arm.

Global collaboration: openEuler actively collaborates with international organizations, such as the Linux Foundation, to cultivate a robust open source ecosystem. As of now, more than 40 international projects offer native support for openEuler.

Supply chain security: openEuler prioritizes software supply chain security. In 2024, it became the first open source community certified for ISO/IEC 18974, showcasing its commitment to security.

Looking ahead, openEuler is dedicated to building a full-stack, open source AI framework. This initiative will accelerate the AI democratization and establish a powerful, intelligent digital foundation for the future.

openEuler Community Releases and Commercial Distributions

Community releases

Long-term support (LTS)	openEuler 20.03 LTS openEuler 22.03 LTS openEuler 24.03 LTS
Innovation releases	openEuler 20.09/21.03/21.09/22.09/23.03/23.09/24.09/25.03

Certified commercial distributions (sorted by certification time)

Partner	Distribution
xFusion Digital Technologies Co., Ltd.	FusionOS 22
UnionTech Software Technology Co., Ltd.	UOS V20 for Servers (1050e)
Hunan Kylinsec Technology Co., Ltd.	Kylinsec OS V3 (openEuler)
SUSE	SUSE Euler Linux 2.0
Jiangsu HopeRun Software Co., Ltd.	HopeEdge V1.0 HopeStage V1.0
Nanjing Fiberhome Starrisky Co., Ltd.	fitstarriskyos 22.06
Beijing Linx Software Co., Ltd.	linxos 6.0.99
China Telecom Cloud Technology Co., Ltd.	CTyunOS
TurboLinux Inc.	TurboLinux Enterprise Server 16
Kylin Software Co., Ltd.	Kylin Advanced Server OS V10
Shenzhen Archforce Technology Co., Ltd.	ArchforceEuler 22.09
Huawei Technologies Co., Ltd.	EulerOS V2.0
iSoftStone Information Technology (Group) Co., Ltd.	ISSEL 22 LTS
China Southern Power Grid Technology Co., Ltd.	pegaspegasus server v1.0
DBAPPSecurity Ltd.	dasos e2.1.0
China Mobile (Suzhou) Software Technology Co., Ltd	BC-Linux for Euler 21.10
iSOFT Infrastructure Software Co. Ltd.	iSoft Server OS V5.1
Eversec Technology Co.,Ltd.	EversecOS 20.03
Powerleader Computer System Co., Ltd.	RedderStar V1.0
China Unicom Digital Technology Co., Ltd.	CULinux
Guangdong ZTE NewStart Technology Co.,Ltd	NewStartOS Server V6.02

For more information, visit <https://www.openeuler.org/en/download/>.



Large-Scale OS Application Practice at Bank of China

Background

The Bank of China (BOC) has been driving IT innovation across its IT infrastructure since 2020. Central to this effort is the large-scale deployment of Kylin OS. Since 2020, BOC has deployed over 100,000 sets of Kylin OS within its internal network, which represents more than 70% of the bank's total internal network. Kylin OS supports a wide range of platforms, including Huawei IaaS, Tencent PaaS, Tencent big data, and MPP databases. It underpins critical service systems such as OA, email, mobile banking, card services, unified data platforms, and enterprise-grade data governance. Kylin OS has delivered stable performance across BOC's production environment for four years.

Solution

- » Based on the TOGAF design, a practical approach has been developed for the BOC. This approach covers the full lifecycle from architecture planning and governance to implementation and validation.
- » A five-layer architecture system has been established, encompassing infrastructure, foundational platforms, distributed DevOps, application platforms, and application services. Guided by the principles of platformization, service orientation, and standardization, the solution centers on a six-layer, nine-platform application architecture. This design integrates the data, technical, and security architectures to support critical goals, including application decoupling, infrastructure cloud migration, information security and risk control, and data-driven insights. Furthermore, this catalog-based approach enables that foundational technology capabilities are shared and reusable across the BOC.
- » OS compatibility has been enhanced to support mainstream chip architectures, including Kunpeng, Hygon, and Intel. The system runs core databases such as TDSQL for MySQL and GBase, substantially strengthening overall platform support capabilities.
- » Governance is underpinned by four strategic pillars: (1) standardized pipelines that align closely with service architecture and cover the full lifecycle; (2) a sustainable architecture governance mechanism embedded across implementation stages; (3) a unified framework for managing enterprise-wide IT standards, thereby establishing a consistent technical specification system for the BOC; (4) proprietary IT asset management tools to enable resource sharing, maximize asset utilization, and provide a comprehensive view of the IT asset landscape.

Benefits

As one of China's largest commercial banks, the BOC maintains a leading position in financial sector digital transformation. By building an enterprise-grade technology platform, the BOC has significantly accelerated innovation while achieving critical service outcomes: reduced development complexity and costs, improved network speed and system performance, and effectively supported service growth. The platform spans development, O&M, operations, and more aspects, and is underpinned by a full-lifecycle governance framework. This transformation has fostered digital talent and strengthened the bank's organizational capabilities. Aligning its commitment to innovation with stringent cybersecurity and informatization strategies, the platform provides a valuable reference model for digital transformation across the financial sector.

Partner

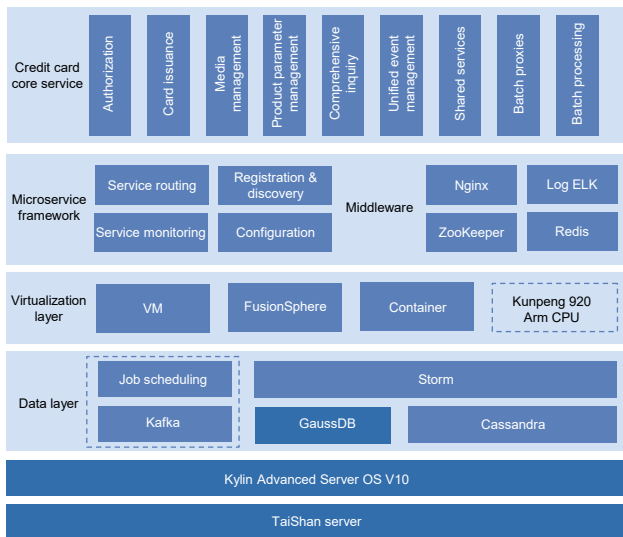


China Construction Bank Distributed Credit Card Core System

Background

As a leading global financial institution, China Construction Bank (CCB) operates one of the world's largest credit card businesses. The core system faces immense performance and reliability demands to manage a massive, diverse customer base and processing over 100 million daily transactions with a peak throughput exceeding 6,000 TPS. The bank's legacy infrastructure, while stable, presented significant challenges for digital transformation to achieve true elastic scalability, enhance operational security, and enable agile, high-speed service.

Solution



- » CCB migrated its core system from a legacy Red Hat/x86/Oracle stack to a modern, open-standards architecture. The new foundation is built on TaiShan (Arm-based) servers, the GaussDB distributed database, and Kylin Advanced Server OS V10.
- » Through deep optimization and adaptation based on Kylin Advanced Server OS V10, a distributed core credit card business system was built. The project completed data migration from the legacy mainframe to the distributed architecture and achieved operation across Arm and x86 heterogeneous platforms, supporting an agile, microservices-based application framework, and a distributed data processing platform for large-scale data workloads.

Benefits

- » Core system modernization: Upgrades CCB's existing core credit card system, leveraging TaiShan servers and the Kylin Advanced Server OS V10.
- » High-value operational efficiency: Provides significant advantages, including lower costs, rapid response to business demands, high scalability, strong processing efficiency, and robust fault tolerance.
- » Built-in multi-layered security: Provides a comprehensive defense system based on the Kylin Advanced Server OS V10 security framework, offering protection from the kernel and service layers up to the application layer.

Partner



Industrial Bank Core Business System Modernization

Background

Industrial Bank (CIB) embarked on a core system modernization initiative to ensure long-term security and operational independence. The goal was to migrate a critical business application to a next-generation platform that could reliably meet the stringent enterprise requirements of a core banking system across performance, security, and functional completeness.

Solution

Application	Core service system of Industrial Bank
Middleware	TongTech
Database	Dameng
OS	Kylin Advanced Server OS V10
Virtualization platform	FusionCompute
Server	Kunpeng

Benefits

- » Full-stack support for core banking: The solution provides a secure, innovative, and fully integrated technology stack capable of running a mission-critical, enterprise-grade core business system.
- » High security & broad compatibility: Leveraging the Kylin Advanced Server OS V10, the platform ensures high security. It offers comprehensive compatibility with mainstream virtualization platforms, middleware, and databases, which simplifies integration and helps reduce the costs associated with data security implementation.

Partner



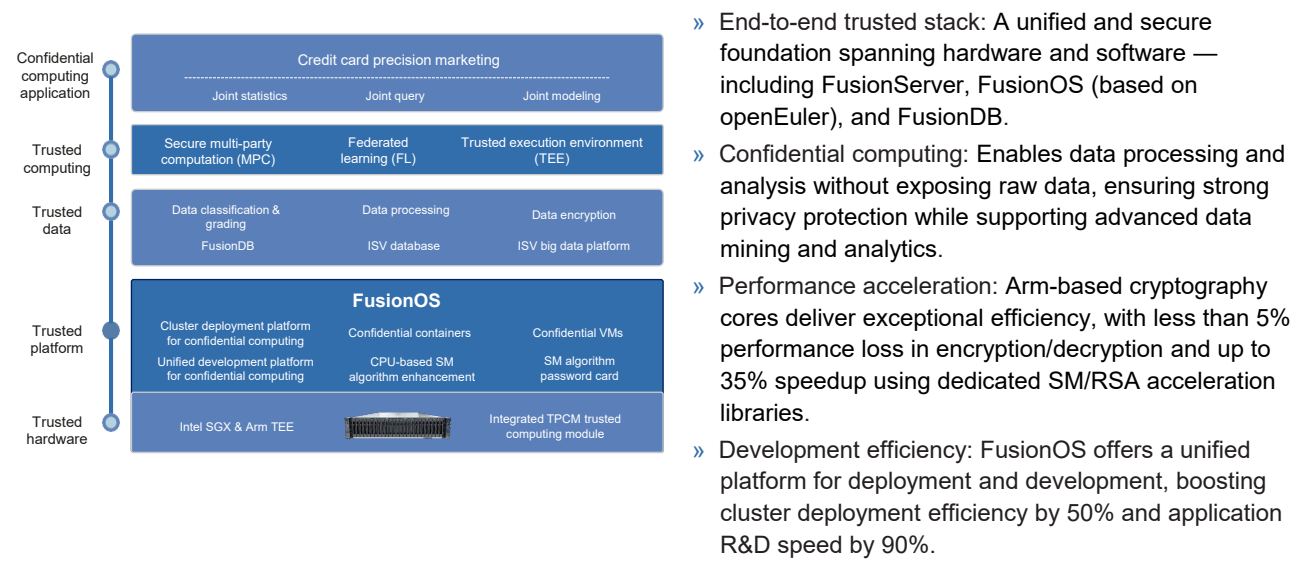


Industrial Bank Smart Finance Confidential Computing Platform

Background

Industrial Bank (CIB) sought a breakthrough in precision marketing for its credit card operations, aiming to significantly enhance customer acquisition efficiency while strictly protecting user data privacy. To achieve this, CIB entered into a strategic joint innovation partnership with xFusion and Xiamen University. The primary goal was to create a smart finance confidential computing platform to accelerate the commercial application of advanced financial technology research into the core business, establishing a full-stack, hardware-software collaborative, and end-to-end trusted confidential computing solution.

Solution



Benefits

- » Precision marketing results: The platform empowers CIB's credit card marketing, driving rapid and efficient customer acquisition—particularly among high-net-worth clients. Card issuance success reaches 90%, outperforming industry averages by 44% for online application channels.
- » Optimized customer portfolio: Leveraging an end-to-end trusted confidential computing platform, CIB enhances data security and utilization. Accurate user profiling enables significant optimization of the customer base, increasing the share of high-quality clients.

Partner





Chuangpuyun Edge Computing Cloud Platform

Background

Chuangpuyun provides a robust edge cloud computing platform designed for demanding workloads in 5G applications, including graph computing, AI, high-performance computing, and industrial internet. As the company's business rapidly expanded, its legacy OSs—CentOS and Ubuntu—faced growing challenges due to the limited long-term reliability, maintainability, and scalability.

Solution

Phase 1

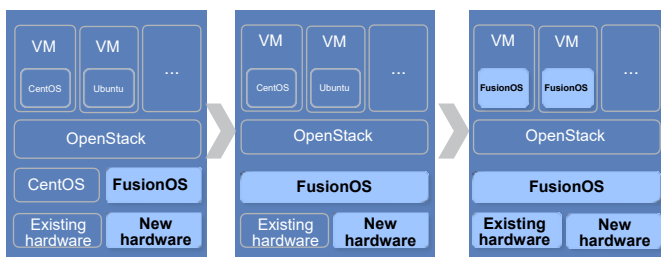
New hardware deployed with FusionOS, achieving enhanced performance and operational efficiency through joint optimization and innovation.

Phase 2

Replaced the legacy OS with FusionOS, fully migrating and replacing all core virtualization components.

Phase 3

Gradual migration of all end-customer services to the new platform.



xFusion provided Chuangpuyun with a customized, future-ready infrastructure solution built on FusionOS. Key supports included:

- » Customized server and OS optimized for Chuangpuyun's performance and reliability needs
- » Deep hardware-software collaboration to improve platform stability, O&M capability, and performance
- » E2E migration platform for efficient and secure migration of operating systems and services

Benefits

- » 5,000+ servers successfully migrated to FusionOS, ensuring a secure, reliable transition from legacy systems
- » Enhanced reliability and manageability, enabling Chuangpuyun to deliver a more stable, easy-to-maintain, and higher-performing platform for its customers
- » Doubled O&M efficiency, with streamlined deployment and out-of-the-box readiness
- » 15% performance improvement through continuous joint optimization of software and hardware

Partner

 **FUSION**

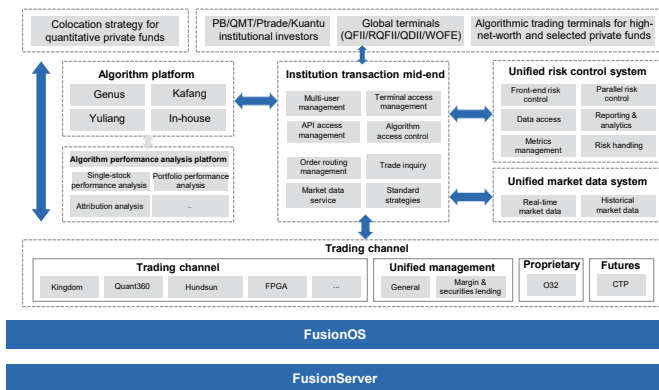


Shenwan Hongyuan Quantitative Trading Platform

Background

Shenwan Hongyuan is undergoing a rapid phase of digital transformation, seeking to enhance business stability and competitiveness through new investment strategies such as high-frequency trading (HFT). HFT relies heavily on programmatic execution, where ultra-low latency and consistent network performance are essential. A new operating system capable of meeting these demands was therefore required.

Solution



- » Built a next-generation quantitative and high-frequency trading platform based on xFusion FusionServer and FusionOS.
- » Implemented hardware-software co-optimization across multiple layers, including CPU affinity and load optimization, inter-core interrupt optimization, compute resource tuning, and network performance optimization.

Benefits

- » The new system provides 25% lower upstream transaction latency and significantly improved stability, strengthening Shenwan Hongyuan's competitiveness in the securities industry.
- » This project demonstrated the potential of open source infrastructure optimization for core trading systems, setting a reliable example for digital innovation across the financial sector.

Partner





CZB's Financial Management System

Background

To strengthen the security and efficiency of its information systems, China Zheshang Bank (CZB) upgraded its financial management platform on a new operating system, expected to support the integration of Yonyou NC Cloud, Dameng database, and Yonyou middleware, forming a fully integrated and secure financial management architecture and delivering stable performance and higher service efficiency.

Solution

System	Yonyou NC Cloud	
Software stack	Dameng	Yonyou/NGINX
OS	Kylin Advanced Server OS V10	
Public cloud	Huawei Cloud	
Chip	Kunpeng	

- » Server: Hongxin
- » Products: Kylin Advanced Server OS V10 + Dameng database + Yonyou middleware & NC Cloud
- » Scale: 10 server OSs
- » Core capabilities: Seamless service system integration, automated reconciliation, dynamic configuration, and intelligent report generation

Benefits

Through this modernization project, CZB enhanced the functionality and user experience of its financial system, reducing manual workloads and accelerating the digital transformation of its finance department. The solution enabled integrated ledger and reporting, closer alignment between business and finance, and greater automation, providing a clear example of how modern financial management practices can be implemented in large enterprises.

Partner

KYLINSOFT
麒麟软件



CZB's Blockchain Service Platform

Background

To provide more secure and efficient blockchain-based services for enterprise customers, CZB needed to upgrade its existing blockchain service platform. The upgraded platform was expected to offer blockchain deployment and data notarization services, built on general-purpose smart contracts and tailored to real-world business needs. Customers connect to the platform via standard APIs to upload data onto the blockchain, query and verify information, and leverage blockchain's immutability and traceability to ensure trusted storage and validation of critical financial data.

Solution

System	Proprietary blockchain platform		
Software stack	MySQL	Redis	NGINX
OS	Kylin Advanced Server OS V10		
Public cloud	Huawei Cloud		
Chip architecture	Kunpeng		

- » Server: Tongfang (Kunpeng-based)
- » Products: Kylin Advanced Server OS V10 + MySQL + middleware (Redis and NGINX) + proprietary blockchain platform
- » Core capabilities:
 - Integrated with asset management, reimbursement, and IoT platforms.
 - Provided a trusted blockchain foundation for secure data access and notarization of key financial information.
 - Enabled real-time on-chain storage of corporate transactions, operational data, and movable-asset pledges.

Benefits

The new blockchain service platform enables CZB to integrate with multiple internal systems, providing a unified and secure interface for data onboarding and validation.

It allows financial institutions to access real-time, accurate information on enterprise customers' production, operations, and asset pledging activities, giving them a deeper understanding of actual business conditions.

The new service platform also improves risk assessment accuracy, reduces operational and compliance costs, and helps establish a trusted digital ecosystem for supply chain and industrial finance, fostering healthier collaboration between banks and enterprises.

Partner



Tianhong Fund Service System

Background

As the financial industry advances toward digital transformation and sustainable growth, institutions face increasing demands for system security, efficiency, and integration across diverse application scenarios—including office automation (OA), financial devices, general business systems, and core trading systems.

Tianhong Fund, a member of Alibaba Group, initiated the first phase of its modernization project to upgrade its OA and email systems, aiming to enhance operational security and efficiency while ensuring cloud compatibility.

Solution

System	E-mail & OA systems
OS	Kylin Advanced Server OS V10
Server	Hygon
Public cloud	Alibaba Cloud
Chip architecture	x86

- » OS: Kylin Advanced Server OS V10
- » Ecosystem: Alibaba Cloud
- » Core capabilities:
 - Multi-strategy access control
 - Kernel-level security enforcement (KYSEC)
 - Strong compatibility with Alibaba Cloud ecosystem
- » Implementation: E-mail & OA systems

Benefits

After project implementation, the Kylin Advanced Server OS V10 provided comprehensive support for Tianhong Fund's service systems. Meanwhile, the OS smoothly replaced Windows and enabled security innovations in CRS and other terminal services.

Partner





Bank of Tianjin's Next-Gen Core Banking System

Background

The Bank of Tianjin initiated a digital transformation to modernize its core banking systems and strengthen IT infrastructure. The bank required a reliable and flexible system capable of supporting increasing transaction volumes, enhanced security standards, and real-time data processing. The new operating environment also needed to remain compatible with existing middleware, databases, and enterprise applications, while integrating seamlessly with the bank's Haiou Cloud platform to enable future scalability and innovation.

To meet these requirements, the bank adopted Kylin Advanced Server OS V10 as the foundation for its next-gen core banking platform, replacing legacy CentOS environments to deliver a secure, high-performance, and scalable OS for core banking workloads.

Solution

Application	Unified report platform File exchange platform Digital workstation for retail RMs Architecture management platform Centralized log management system OA system Email system CRS UCR			
General software	Kylin HA cluster software	Kylin security management software	OceanBase	Rising Antivirus
OS	Kylin Advanced Server Operating System V10 Kylin desktop OS V10 Kylin embedded OS for financial equipment V10			
Cloud platform	Alibaba Cloud 3.16			
Desktop PC	Great Wall Centerm			
Server	Inspur Sugon			
Chip architecture	Hygon Phytium x86			

The Bank of Tianjin deployed Kylin Advanced Server OS V10 as the core operating environment for its upgraded systems. The implementation focused on ensuring smooth migration, strong compatibility, and stable performance across all key workloads.

- » Verified compatibility with existing databases, middleware, and core banking components.
- » Conducted performance validation on eight key systems before full deployment.
- » Designed an upgrade plan aligned with the Haiou Cloud platform for smooth migration and minimal disruption.

Through this modernization initiative, Kylin Advanced Server OS V10 provided the reliable, secure, and high-performing foundation required to power the bank's next-generation digital services.

Benefits

- » High availability and dual-layer security: By combining Kylin Advanced Server OS V10 with high-availability cluster software, the Bank of Tianjin established a robust and resilient platform supporting its migration from legacy systems. The solution has operated steadily since deployment, ensuring uninterrupted financial services and strong data protection.
- » Secure, stable, and efficient operations: With built-in multi-layer security and enterprise-grade performance optimization, Kylin OS provides a trusted environment that meets the stringent standards of the financial industry while enabling efficient daily operations.
- » Comprehensive upgrade across scenarios: From servers to desktops and financial terminals, the Kylin OS product family delivers a unified and secure foundation for innovation across the bank's IT ecosystem—supporting continuous modernization and sustainable business growth.

Partner

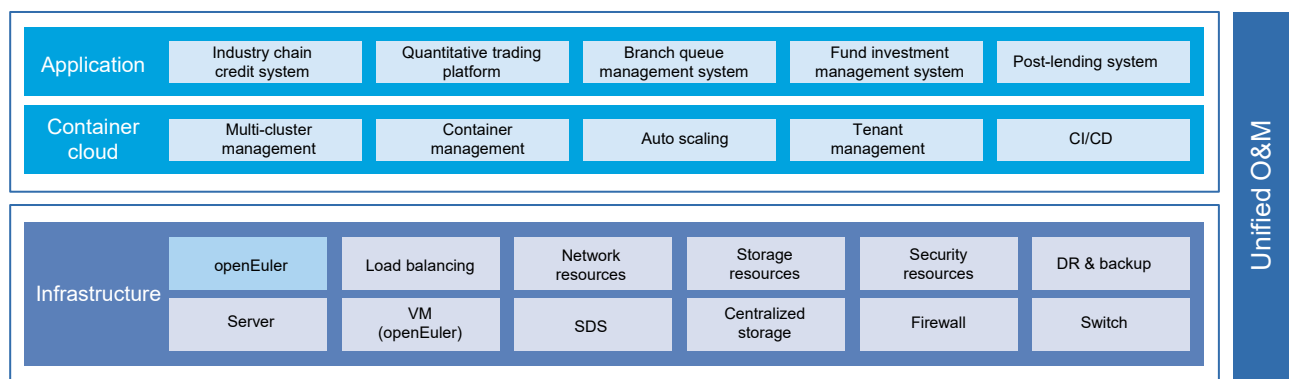


Bank of Hangzhou's IT Infrastructure Upgrade for Higher Performance and Agility

Background

With the rapid growth of the digital economy and the ongoing digital transformation of the financial industry, the Bank of Hangzhou faced increasingly complex business demands and technical challenges. To enhance system security and stability while reducing O&M costs, the bank launched a comprehensive modernization of its IT infrastructure based on openEuler.

Solution



- » Delivered a fully integrated cloud-native platform that reduces the workload for development and operations teams while improving efficiency.
- » Enabled flexible scaling, smooth upgrades, and agile iteration through native cloud technologies.
- » Handled service surges efficiently via dynamic resource scaling.
- » Achieved automated O&M through an intuitive interface—managing container lifecycles, routing, networking, monitoring, and alerts with minimal manual intervention.

Benefits

- » Improved data security and isolation: Multi-tenant architecture ensures secure data isolation and consistent service reliability.
- » Higher performance and scalability: Migration to the full-stack cloud platform increases core business throughput by 15% and improves system scalability by 40%.
- » Automated, standardized operations: Achieves automated O&M through simple operations, offering capabilities for container lifecycle, routing, network, monitoring, logging, and alert management.

Partner





Bank of Changsha's Stable Cross-Platform Operation

Background

As a regional joint-stock commercial bank, the Bank of Changsha continues to provide customers with traditional financial services such as deposits, loans, and payment settlements, while actively expanding into diversified services including foreign exchange, wealth management, credit cards, and online banking. To support its growing business scale and accelerate digital transformation and cloud-native adoption, the bank needed to expand and update its data center OSs.

Challenges

With the rapid evolution of information technology, the bank the following challenges:

- » Expanding business scale required more capable OSs to ensure stable and efficient service delivery.
- » The end of CentOS support introduced significant risks to system stability, security, and business continuity, prompting an urgent need for a secure, sustainable alternative.

Solution

The bank adopted the Kylinsec OS, built on openEuler, to enhance the stability, performance, and security of its digital infrastructure. The system inherited openEuler's proven reliability and security, while being further optimized for the specific needs of the financial industry:

- » Enhanced system performance and reliability through kernel and scheduling algorithm optimization to meet the stringent requirements of banking workloads
- » Strengthened multi-layer security with kernel-level hardening, access control, and data encryption to effectively mitigate diverse security threats
- » Integrated Kylinsec's industry adaptation experience to ensure full compatibility with core banking systems, middleware, and databases.
- » Provided a secure and stable runtime environment across Arm and x86 heterogeneous platforms, ensuring consistent performance and smooth cross-platform operation.

Benefits

- » Rich software ecosystem: Kylinsec OS is compatible with major databases and middleware (including KingbaseES, Dameng, and TongTech), significantly reducing adaptation and migration efforts. This ensures seamless integration and stable operation for more than a hundred core banking systems.
- » Optimized performance: Through advanced I/O optimization and system-level tuning, Kylinsec OS enhances application responsiveness and processing throughput, providing a solid and high-performance foundation for banking services.
- » Enhanced security: By adopting Kylinsec OS, the Bank of Changsha mitigates risks of service disruption and security vulnerabilities, ensuring stable, secure, and continuous operation of its critical financial infrastructure—laying a reliable foundation for future innovation.

Partner



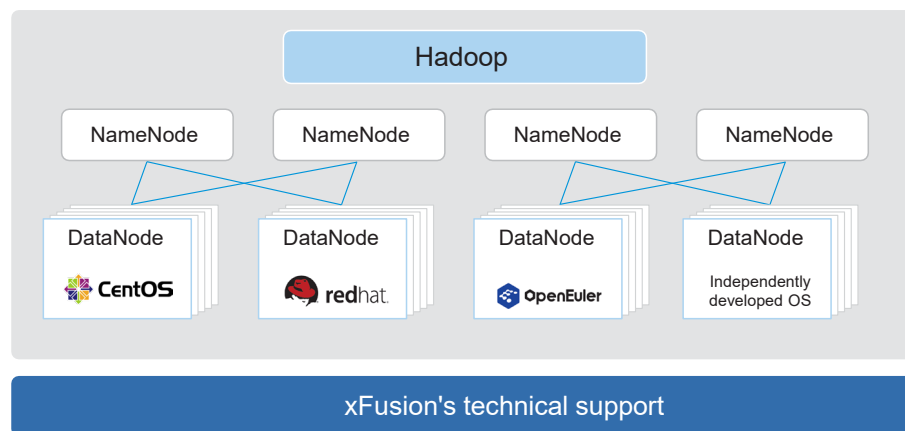
Ping An Bank's Cost-Efficient Offline Big Data Platform

Background

Ping An Bank's offline big data platform supports large-scale data archiving, data-mart batch processing, and report generation. The platform, built on Hadoop, runs thousands of cluster nodes. Originally built on Red Hat and CentOS, the platform was fully migrated to openEuler, with xFusion delivering OS technical services and comprehensive lifecycle support.

Solution

- » End-to-end OS technical support: xFusion delivers comprehensive lifecycle services to ensure platform stability and efficiency.
- » Intelligent operations innovation: xFusion collaborated with Ping An Bank to develop intelligent O&M tools, continuously integrating new community features to keep the platform up-to-date.
- » Enhanced security and resilience: xFusion established an efficient vulnerability-management mechanism to safeguard platform reliability.



Benefits

- » Lower costs and higher efficiency: The combined mode of open source OS and professional services significantly reduces operational costs while improving overall platform performance.
- » 30% increase in O&M efficiency: Intelligent automation tools simplify routine tasks, enabling streamlined O&M.
- » Improved security and stability: Timely vulnerability handling and continuous optimization strengthen data protection and ensure uninterrupted service availability.

Partner





PSBC's Large-Scale Core Banking System

Background

The Postal Savings Bank of China (PSBC) has maintained high efficiency in implementing and migrating its innovative core banking systems. Since the second half of 2023, the bank has deployed over 40,000 instances of Kylin Advanced Server OS V10 across more than 160 service systems, representing roughly 30% of the bank's existing business systems. These include corporate banking, personal banking, credit cards, as well as key systems for office operations, mobile banking, and big data platforms, serving a user base of approximately 800 million.

Solution

Service system	OA	Instant messaging	Security workbench (Leagsoft sandbox)
	In-house browser		In-house management
	Legal management	Reimbursement	Loan management
OS	Kylin Advanced Server Operating System V10		
Server	PC		

- » Unified heterogeneous resource pool: Serving as the core infrastructure foundation, Kylin Advanced Server OS V10 seamlessly integrates multiple cloud platforms and CPU architectures into a unified and flexible heterogeneous resource pool.
- » Multi-service architecture: Leveraging Kylin OS's extensive support and optimization for mainstream cloud platforms and CPUs, the system provides a diversified service architecture that supports the bank's core systems. Services include distributed microservices, distributed middleware, big data services, high-performance databases, and cloud storage.
- » Support for critical service modules: The distributed cloud-based deployment effectively ensures high-performance operation of key corporate banking modules, including corporate deposits, cash management, and bank remittances.

Benefits

The PSBC has leveraged Kylin OS to strengthen its independent R&D capabilities and drive innovation across its core banking systems and IT infrastructure. This initiative has helped the bank build a secure, reliable, and scalable operating environment for critical financial applications, setting a strong example for large financial institutions seeking to modernize their core systems while ensuring operational resilience and service continuity.

Partner



China Unicom Cloud Project

Background

China Unicom Cloud is a multi-chip cloud on top of dual-engine bases. It uses customized multi-architecture chip application adaptation templates for various components, including compute, storage, network, and middleware. It offers diverse IaaS and PaaS products, including cloud servers, cloud disks, bare-metal services, load balancing, and virtual private clouds for information software solutions with high reliability across industries.

Solution

Cloud platform architecture	Industry applications		
	General service	Middleware	Database
	Cloud platform	China Unicom Cloud (IaaS and PaaS)	
	OS	Kylin Advanced Server Operating System V10	Kylin Advanced Server Operating System V10
	Server	Kunpeng	Sugon
	Chip architecture	Arm	x86

China Unicom Cloud is cloud platform architecture. With hybrid deployment of x86, Arm, and OpenPOWER, it supports Kunpeng and Hygon chips as its core hardware infrastructure on which Kylin Linux OS is running. This enables it to seamlessly work with various databases, middleware, and application software.

Benefits

- » Dependency packages supplemented for adapting Kylin Advanced Server V10 to OpenStack Stein
- » Aligned certification between Kylin Advanced Server Operating System V10 and China Unicom Cloud V6.2

Partner





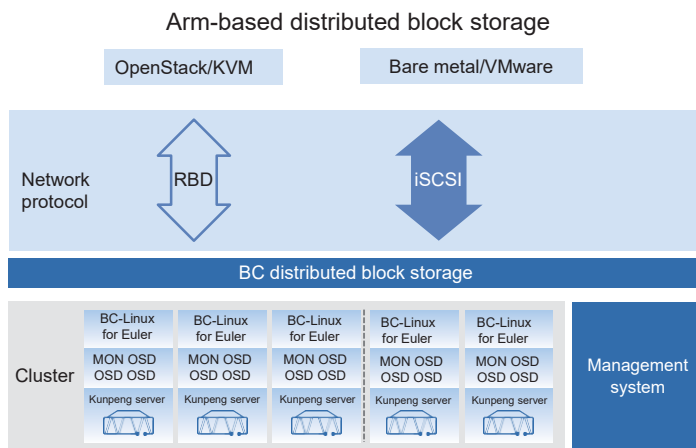
BC-Linux for Euler by China Mobile Cloud

Background

China Mobile Cloud is a robust cloud service built on China Mobile's proprietary Big Cloud architecture. Utilizing cloud computing technologies and an Internet delivery model, the platform provides essential infrastructure resources, platform capabilities, and software applications. As a public cloud platform, China Mobile Cloud leverages technologies like server virtualization, block storage, network security automation, and dynamic resource scheduling. It offers a comprehensive suite of on-demand services, including compute, storage, network, security, big data, and an open cloud marketplace. This allows customers to flexibly scale and pay only for the resources they consume based on application requirements.

BC-Linux is a deeply customized and optimized variant of openEuler, purpose-built for China Mobile Cloud workloads. It introduces advanced features such as hot upgrades for core components, enhanced virtualization and container capabilities, hardened system security, DPDK libraries, and centralized deployment and operations tools. Furthermore, with the integrated Kunpeng Accelerator Engine (KAE), BC-Linux enables full-stack performance optimization through hardware-software collaboration, maximizing the potential of heterogeneous computing power.

Solution



- » The solution leverages openEuler LTS 20.03 SP1 as its OS and TaiShan 200 servers as the computing foundation.
- » In distributed block storage scenarios, the solution deeply optimizes the CPU, memory, and network subsystems for openEuler, fully unleashing the high performance and high concurrency advantages of Kunpeng servers.

Benefits

- » Since 2020, BC-Linux Arm has been deployed at scale on China Mobile Cloud's block storage cluster. It provides robust support for 60 PB (raw capacity) of stored data and has maintained stable operations ever since.
- » Under identical configuration conditions, Kunpeng servers outperform x86 servers in random read/write performance, with random read IOPS increased by 100% and latency reduced by 30%.

Partner





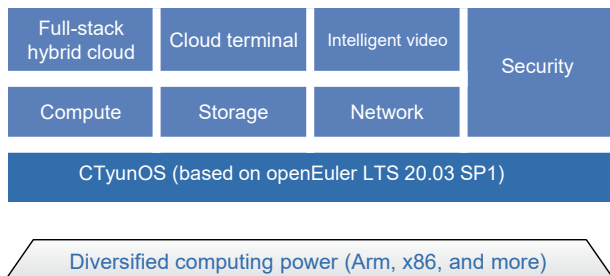
openEuler-based CTyunOS by eSurfing Cloud

Background

eSurfing Cloud, a subsidiary of China Telecom, operates as a technology-focused, platform-based, and service-oriented company. It offers a comprehensive suite of cloud services, including public, private, dedicated, hybrid, edge, and full-stack cloud services. The company boasts three key advantages: cloud-network integration, security and trustworthiness, and solution customization. These services meet the digital transformation needs of enterprises of all sizes. In response to evolving OS trends and internal service requirements, eSurfing Cloud developed its in-house OS, CTyunOS, based on openEuler. This achievement strongly aligns with China Telecom's strategy for cloudification and digital transformation, thereby promoting the growth of the digital economy. CTyunOS is deeply optimized for cloud computing scenarios, with targeted enhancements in core modules like CPU scheduling, memory management, I/O, and process management. This OS features high performance, robust reliability, strong security, and easy scalability, capable of supporting the unified scheduling of heterogeneous computing resources across diverse service scenarios.

Solution

eSurfing Cloud's CTyunOS-based secure & trustworthy cloud platform



- » Utilizes CTyunOS (based on openEuler LTS 20.03 SP1) as the OS and TaiShan 200 and FusionServer 2288 as the computing foundation.
- » Features deep optimization across cloud computing modules such as bare metal, authentication, and computing.
- » Drives efficient operations for China Telecom's public cloud services and all internal IT services (like OA, desktop cloud, media, and CRM).

Benefits

- » Successfully modernized eSurfing Cloud's OS to directly support China Telecom's cloudification and digital transformation strategy, accelerating cloud-network convergence and fostering the digital economy.
- » Completed the comprehensive reconstruction of CTyunOS, achieving targeted optimization of key system modules—including CPU scheduling, memory management, I/O, and process control—tailored for cloud computing workloads.
- » Delivered tangible results through deep optimization, with CTyunOS achieving a 5% overall performance improvement compared to the previous platform after deployment.

Partner





Seamless OS Migration for China Mobile Zhejiang's Core Services

Background

As a leading provincial mobile carrier in China, China Mobile Zhejiang's massive service scale and complex services necessitate highly demanding supporting systems. The company's primary objective was a seamless service system migration. In August 2021, after rigorous adaptation testing of core systems including the customer center and service hall, China Mobile Zhejiang successfully migrated its OS. This success is a major milestone, marking the telecom industry's first deployment of Kylin Advanced Server OS V10 in a carrier's core systems.

Solution

Service system	Service hall system	Customer center system
Container cloud	Mesos cluster	Kubernetes cluster
OS	Kylin Advanced Server OS V10	
Server	x86	Kunpeng
Chip architecture	x86	Arm

- » Server: x86 and Kunpeng
- » OS: Kylin Advanced Server OS V10
- » Container cloud: Mesos cluster and Kubernetes cluster
- » Service system: front-end service hall system and mid-end customer center system
- » IT architecture: microservices, containerization, unified dual-plane operation, and unified service release

Benefits

- » Stable operations: The stability of the migrated systems was immediately verified during the annual campus marketing campaign. A week of rigorous system tracking confirmed that the Kylin Advanced Server OS V10 meets the stringent operational requirements for a carrier's core systems.
- » Pioneering core system replacement: This achievement marks a significant industry first—the initial deployment of Kylin Advanced Server OS V10 within a telecom carrier's core systems.
- » High feasibility for large-scale deployment: The process demonstrates that Kylin Advanced Server OS V10 can run stably in critical carrier scenarios, proving its suitability for rapid, large-scale deployment in the future. This experience provides a valuable reference for applying this OS across more core systems at China Mobile Zhejiang.

Partner



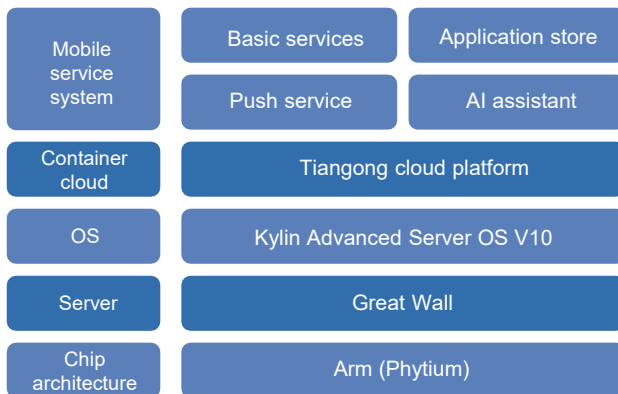


OS Migration for China Unicom's Internal Mobile Service System

Background

China Unicom's internal mobile service system supports the daily mobile applications of over 400,000 employees. Serving this large user base requires extensive application coverage and robust functionality. This innovative upgrade focuses primarily on four critical service modules: the push service, AI assistant, application store, and basic services.

Solution



- » Server: Great Wall (Phytium)
- » OS: Kylin Advanced Server OS V10
- » Container cloud: China Unicom Cloud's Tiangong platform
- » Service system: China Unicom's mobile service system
- » IT architecture: microservices, containerization, and unified service deployment

Benefits

- » The use of a microservice container model for deployment significantly reduces dependencies on host status, satisfying crucial requirements for functionality, usability, and compatibility.
- » This innovative deployment in China Unicom's core service system successfully meets the requirement for highly stable operations and demonstrates the necessary cloud foundation support for core service systems throughout the telecom industry.

Partner



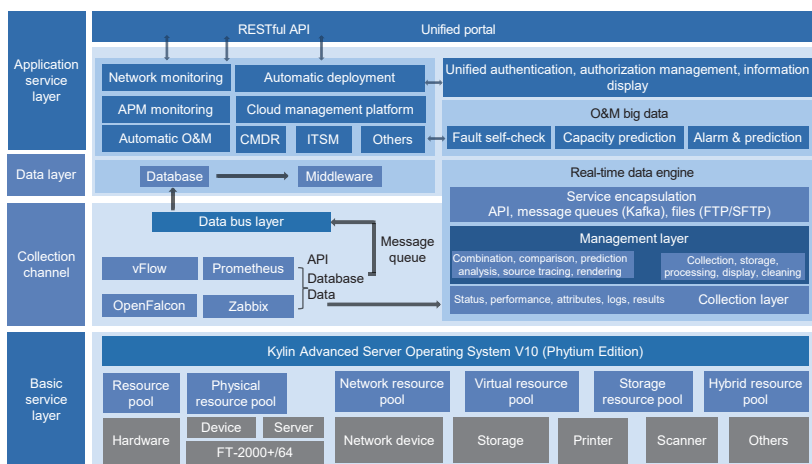


Smooth Migration of China Unicom's Intelligent Operations Platform

Background

China Unicom's intelligent operations platform is an integrated toolchain that covers intelligent monitoring, configuration database management, automatic O&M, IT O&M service management, and O&M big data analysis. Built by China Unicom's Digital Tech (originally known as China Unicom System Integration), it provides full-lifecycle intelligent operations support across China Unicom.

Solution



China Unicom's intelligent operations platform is based on Phytium servers and Kylin Advanced Server Operating System V10. As a mission-critical full-stack infrastructure service layer, it supports various databases, middleware, peripherals, and network storage devices, and uses cloud platforms to ensure resource virtualization.

Benefits

- » High O&M cost-effectiveness due to comprehensive ecosystem (compatibility with and stable running on various innovative environments)
- » Thorough NeoCertify verification for Kylin Advanced Server Operating System V10 (Phytium Edition) and intelligent operations platform V2.0

Partner



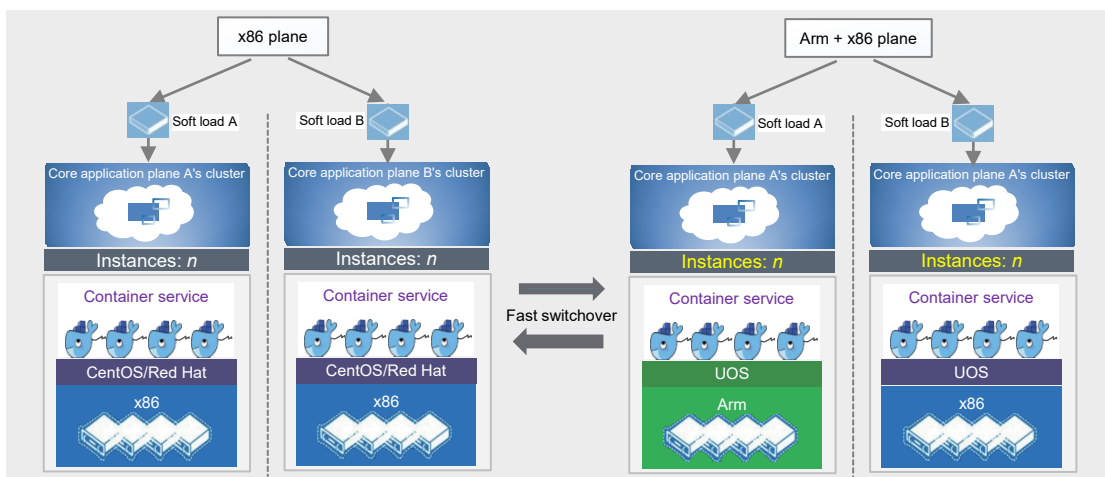


Smooth OS migration for China Mobile Zhejiang's Core Service Systems

Background

China Mobile Zhejiang adapts its online and onsite subscriber service systems to UnionTech OS Server V20 by using existing Mesos and Kubernetes container clusters and servers, with label constraint isolation used for routing service systems to specified clusters. After this OS replacement, the subscriber service systems continue to run stably for core transaction systems. China Mobile Zhejiang has become the first telecom carrier to migrate core IT systems to UnionTech OS Server V20.

Solution



Benefits

- » Seamless replacement from chip servers to OS without code changes to build new clusters for both online and onsite subscriber service systems with Mesos and Kubernetes container clusters
- » Example for the smooth migration of similar frameworks on a large scale without changes to code

Partner





China Unicom Wo Cloud Project

Background

China Unicom Wo Cloud is a secure, reliable cloud platform based on OpenStack and KVM. Featuring cloud-native customization of components from compute, storage, network, and middleware, it provides IaaS and PaaS products, including cloud servers, cloud disks, bare-metal servers, load balancing, and virtual private clouds with high security performance.

Solution

Cloud platform architecture	Industry applications		
	General service	Middleware	Database
	Cloud platform	China Unicom Wo Cloud (IaaS and PaaS)	
	OS	Kylin Advanced Server Operating System V10 (Kunpeng Edition)	Kylin Advanced Server Operating System V10 (Hygon Edition)
	Server	Huawei	Sugon
	Chip architecture	Kunpeng	Hygon

China Unicom Wo Cloud uses open source solutions like OpenStack and Kubernetes on top of Kylin OS and Kunpeng and Hygon chips. It seamlessly works with mainstream databases, middleware, and application software.

Benefits

- » Dependency packages supplemented for adapting Kylin Advanced Server V10 to OpenStack Stein
- » Aligned certification between Kylin Advanced Server Operating System V10 for Kunpeng and Hygon and China Unicom Wo Cloud V6.2

Partner



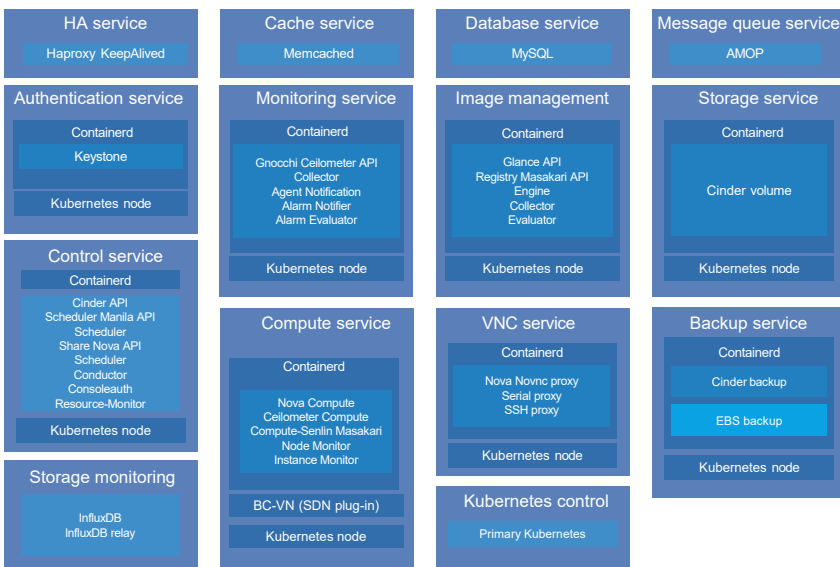
Carrier-Level OS Migration of China Mobile (Suzhou) Software Technology

Background

China Mobile (Suzhou) Software Technology has built a next-gen computing power management system Hunyuan. Using a heterogeneous distributed cloud native architecture, Hunyuan supports three-AZ deployment, multi-vendor chips on one cloud, and zero-loss cloud acceleration with hardware and software integration and virtualization. It flexibly provides tens of millions of cores of computing power in hundreds of specifications with intelligent scheduling in seconds.

Based on Hunyuan, the company has developed cloud host products to provide flexible, reliable, secure, and powerful computing power for public service, healthcare, education, transport, and tourism. It provides Tianyuan Yixing—a migration solution helping these sectors migrate to the cloud and upgrade computing and intelligent services with a high availability and service stability.

Solution



Jointly developed with the openEuler community, the OS migration solution enables BC-Linux, Red Hat Enterprise Linux (RHEL), and CentOS 7 of carrier cloud hosts to be smoothly migrated to BC-Linux for Euler 21.10 with a high efficiency and security. To date, it has migrated over 80,000 sets of OS across China Mobile, setting a new benchmark for CentOS migration. Noteworthy, the tool supports enhanced live VM migration, boosting efficiency by 30% while ensuring a success rate of over 95%.

Benefits

- » End-to-end seamless migration of more than 20,000 cloud hosts in China Mobile (Suzhou) Software Technology
- » Virtualization & live migration for over 30% faster migration, with the VM entry/exit overhead reduced by over 25%



OS Reorientation at CNOOC

Background

In 2021, China National Offshore Oil Corporation (CNOOC) launched a targeted initiative to develop and promote home-grown network and information systems throughout its operational framework. As part of this initiative, CNOOC collaborated with vendors such as KylinSoft to jointly design its innovation strategy and implementation process, establish a technical support framework, and refine through practices. This resulted in an efficient end-to-end innovation system that standardizes project workflows from preliminary research, solution design, testing, verification, implementation, and networking to long-term operations and maintenance.

Solution

Service system	Gas station management system, distributed control system, etc.
Open-source software	Nginx, MySQL, Tomcat, Bison, etc.
Middleware	TongTech, Primeton, etc.
Database	Kingbase, Teradata, etc.
OS	Kylin Advanced Server OSV10
Server	Huawei TaiShan, Inspur CS5260F, etc.
Cloud platform	Huawei Cloud, H3C Cloud, Alibaba Cloud

CNOOC's Kylin Advanced Server OS has been successfully adapted to core infrastructure, including cloud platforms, servers, middleware, and databases as well as CNOOC's service applications and required open-source software to provide a robust operating environment for systems such as gas station management and procurement. Additionally, this OS has been adapted to.

Benefits

By 2024, CNOOC has deployed over 10,000 sets of Kylin Advanced Server OS powered by openEuler, accounting for more than 80% of the group's total installed server OS base. This demonstrates the feasibility of the openEuler route for large-scale, independent innovation in large enterprises.

Partner

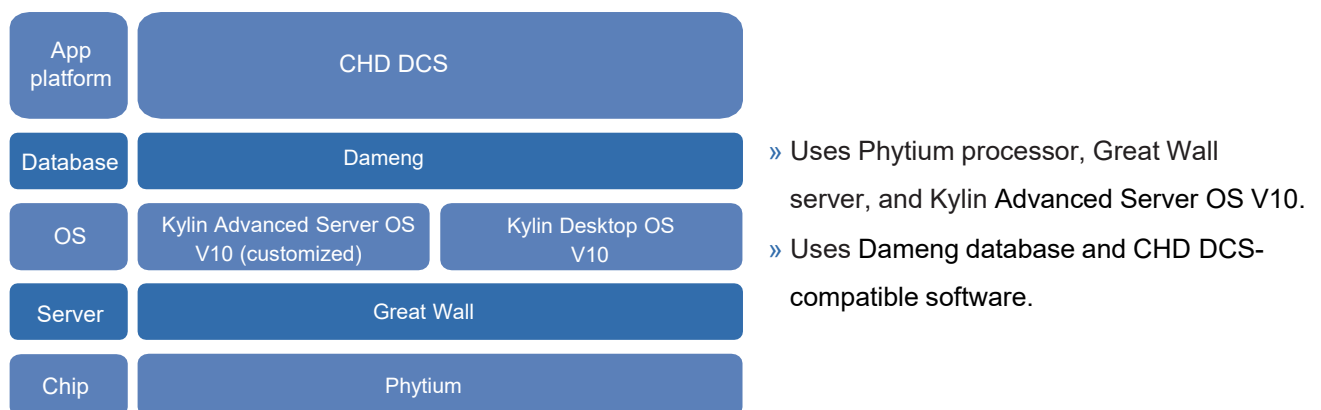


Distributed Control System for CHD Power Plant

Background

China Huadian Corporation (CHD) is transforming industrial control in critical information systems through its next-gen Distributed Control System (DCS). This intelligent DCS is currently serving a CHD power plant.

Solution



Benefits

- » This project stands as a flagship initiative of strategic cooperation across electronics and electrical power sectors.
- » This project sets an industry benchmark for core control systems in managing the complex, data-intensive processes of large-capacity power generation.
- » This project begets Kylin Advanced Server OS V10 (workstation), a standard operating system customized for industrial control of power grids.

Partner





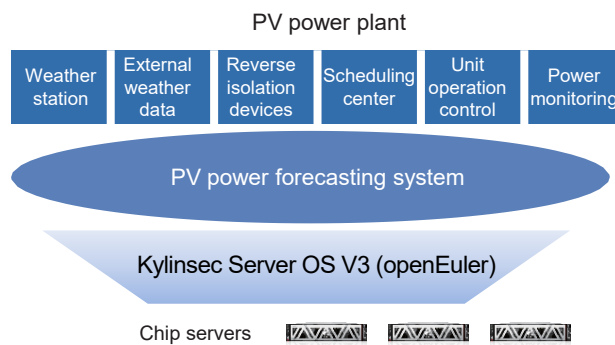
PV Power Forecasting System

Background

PV power forecasting is core to modern solar energy production, enabling grid operators to optimize power generation schedules to minimize excess spinning reserves caused by solar integration and maximize PV online hours, which translates into financial gains for solar energy producers.

At some PV power plants in China, old systems have been overhauled by replacing Linux platforms like CentOS and Red Hat with home-grown OSs for enhanced performance and security. This new PV power forecasting system is now the standard installation for new PV power plants. This extensive rollout proves the viability of substituting all old systems nationwide.

Solution



Benefits

- » The old OSs are replaced with Kylinsec Server OS V3 which is powered by openEuler LTS 20.03 SP1 and runs on Kunpeng servers. This replacement with home-grown alternatives ensures supply chain resilience.
- » The new PV forecasting system enforces robust operational security without super-privileged accounts by implementing the minimal trimming and least-privilege policy, multi-level blocking, and application trustlist.

Partner



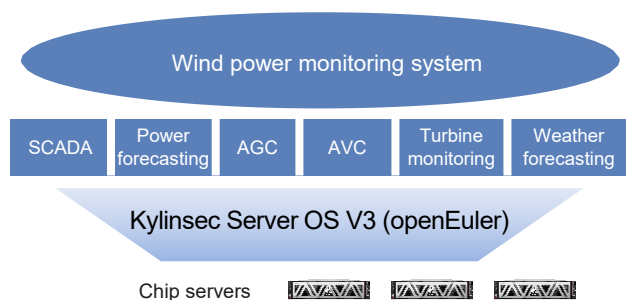


Power Monitoring System for Wind Farms

Background

The power monitoring system is essential for the seamless integration of wind farms into the grid. With the add-on of technologies like computer software and network, automation, remote control, and communication in wind power installations, the power monitoring system efficiently enables precision management of wind farm operations through capabilities spanning from turbine monitoring, power control, automated reporting, data collection and analytics to intelligent health management, weather forecasting, and power prediction. And with Linux systems (like CentOS and Red Hat) replaced by home-grown OSs, the power monitoring system delivers higher levels of security protection.

Solution



- » Kylinsec Server OS V3 powered by openEuler LTS 20.03 SP1 runs on Kunpeng servers.
- » Minimal trimming and least-privilege policy enforce robust security without super-privileged accounts. Multi-level blocking and application trustlist are supported.

Benefits

- » Home-grown OS improves the supply chain resilience and operational security of the power monitoring system.
- » This case offers a good prototype for upgrading power monitoring systems of wind farms.

Partner





SCADA System of CDT for Wind Farms

Background

After four generations of evolution, supervisory control and data acquisition (SCADA) systems have become widely used in power plants and substations, thanks to their robust data capabilities and versatile control features. Yet, these systems face critical risks in supply chain stability of both hardware and software. China Datang Corporation (CDT), in collaboration with industry partners, has championed full-stack in-house innovations concerning core technology for new power plant equipment and service systems. Their goal is to build a secure SCADA system on China's mainstream processors and OSs.

Solution

App platform	SCADA		
Technical support	Database	Middleware	...
OS	Kylin Advanced Server OS V10 (workstation)		
Basic platform	Server	Chip (Kunpeng/x86)	Storage

- » More than 60 sets of server OSs and more than 10 sets of desktop OSs are installed in the intelligent equipment room of the central control center and in devices on new sites.
- » The service system is smoothly ported through bottom-layer security customization, batch adaptation, and optimization of devices and systems related to data access in the central control center.

Benefits

- » This project stands as a flagship initiative of strategic cooperation across electronics and energy sectors.
- » This case sets an industry benchmark of secure, stable, and reliable operations of key SCADA applications in wind farms.

Partner



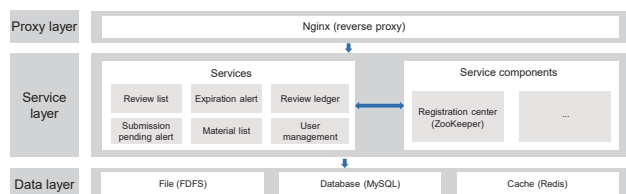


Refined Oil Product Qualification Management Platform

Background

The refined oil product qualification management platform centrally manages certifications, operational systems, and facilities at gas stations, enhancing production safety and efficiency through digital processes. This platform improves the management of refined oil product distribution while strengthening data consolidation and sharing. It exemplifies the successful execution of administrative simplification, power delegation, regulatory optimization, service enhancement, and digital integration.

Solution



- » OS powered by openEuler 22.03 LTS
- » Kunpeng 920 and Intel servers for the foundational computing power
- » Arm64 and x86_64 servers supported after porting and adaptation
- » Porting Advisor with greater compatibility and applicability

Hardware & OS

- Arm: Kunpeng 920
- x86: general-purpose server
- openEuler 22.03 LTS



Porting & deployment

- One-click script deployment for porting
- Arm/x86 centralized deployment
- Quick porting through porting evaluation and source code analysis by Porting Advisor

Benefits

- » Open-source software maintenance workload is slashed by 35. One-click deployment across multiple platforms halves the time taken.
- » Labor input in porting is cut by half and overall performance is boosted by 2%.
- » Deployment after porting does not impact platforms and user services.

Partner





Kylinsec OS Drives Security Upgrade in PV and Wind Power Fields

Background

With the growing demand for home-grown system reliance and security protection of power grid information systems, Kylinsec OS is being widely used in the new energy field in China, particularly in PV power plants and wind farms.

Challenges

Traditional OSs (like CentOS, Red Hat, and Ubuntu) pose security risks and technical support uncertainties to power grid service systems. For example, CentOS has reached the end of service, meaning there will be no future updates. Some vulnerabilities might even jeopardize the stability and security of power services.

Solution

Kylinsec is adapted to wind and PV power forecasting and control configuration programs as well as major database management software (like home-grown Kingbase and Dameng), security software, and webpage browsers. Multi-dimensional subsystem tests show that, Kylinsec OS delivers performance and stability comparable to other mainstream OSs. Based on the Linux 4.19 kernel, Kylinsec OS offers a stable platform for wind and PV power forecasting programs. In addition, Kylinsec provides network security functions (such as probes and security hardening) to support resource monitoring, key process recovery, and file system anomaly monitoring. In terms of ecosystem compatibility, Kylinsec OS supports a wide range of open-source and commercial software, as well as hardware such as graphics cards, network adapters, and sound cards. Kylinsec OS runs securely, being designed in strict accordance with power industry standards concerning governance and security as well as national security standards.

Benefits

Kylinsec OS powered by openEuler protects power grid services from cyber attacks, particularly in new energy power plants. One typical application is the wind and PV power forecasting system deployed at a number of new energy power plants across China to facilitate home-grown system adoption and improve production efficiency.

Partner





Kylinsec OS at Leagsoft for Energy Storage Management

Background

Specializes in the R&D and O&M of energy storage and energy management systems (EMS), Leagsoft delivers efficient, intelligent, and secure solutions for large energy storage stations. With the growing demand for home-grown OS reliance for power service systems, Leagsoft urgently needs a secure, stable, efficient, and cost-controllable OS for its EMS offerings.

Challenges

For the sake of security and controllability, power service systems are increasingly pivoting towards home-grown, independently controlled OSs, which puts specific demands on OS selection and adaptation. On one hand, existing OSs cannot effectively adapt to Leagsoft's new EMS modules, which compromises efficiency and business progress. In addition, given the increasing cybersecurity issues, OSs must provide high levels of security protection, which also complicates system upgrades.

Solution

- « Kylinsec OS is adapted to Leagsoft's EMSs such as those for public grids and commercial or industrial purposes as well as database management systems (like MariaDB 10) and development frameworks (like Qt6). Tests show excellent stability and compatibility with Kylinsec OS, meeting the EMS operational requirements of Leagsoft.
- « Kylinsec OS leverages advanced kernel technologies to optimize performance for energy storage workloads. By refining memory management, boosting file system read/write throughput, and enhancing multithreaded processing, it markedly improves the responsiveness and efficiency of Leagsoft's EMSs. In core EMS performance tests, data processing speeds increased by 15–30%, reducing service handling time and ensuring stable operations during peak, high-concurrency periods.
- « Kylinsec OS implements security measures like mandatory access control, security auditing, and data encryption to safeguard data. Built-in intrusion detection and defense capabilities provide real-time protection against cyber attacks and malware. The platform also delivers regular security updates and vulnerability remediation services to address evolving cybersecurity risks.

Benefits

Leagsoft's EMSs powered by Kylinsec OS are now running stably across multiple plants, helping Leagsoft gain market share and customer trust, expand its business, and strengthen its position in the energy storage sector.

With Kylinsec OS, Leagsoft no longer needs to rely on other costly OSs which always come with high software licensing charges. Enhanced system performance and O&M efficiency have also cut hardware upgrade needs and maintenance labor costs, improving profitability and supporting sustainable growth.

The partnership sets a benchmark for the energy storage industry. The Kylinsec OS-based solution offers a feasible reference for other enterprises to seek safer, more stable, and more efficient growth.

Partner



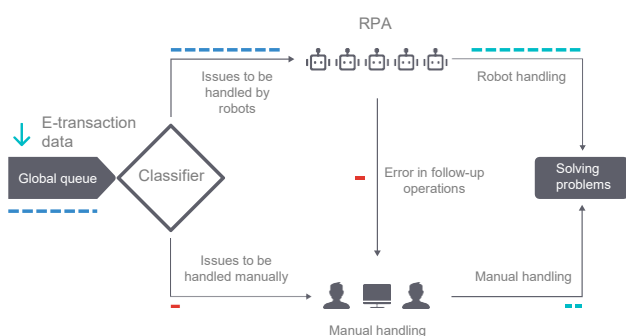


Beijing Jiaotong University Reduces 50% Manpower Using RPA

Background

Beijing Jiaotong University (BJTU) is a renowned university with world-class disciplines. It is committed to advancing a low-carbon economy and building a green campus through digital platforms for energy-saving oversight and education management. In particular, it leverages robotic process automation (RPA) to streamline repetitive tasks, accelerating development and significantly reducing manual workloads.

Solution



- » The system uses the Newlink RPA appliance solution.
- » The Newlink RPA appliance solution combines the power of the Newlink RPA V3.1 appliance system with HuaKun TG servers featuring Kunpeng CPUs. This robust foundation is bolstered by iSoft Taiji Server OS, based on openEuler, delivering a solid computing power foundation.
- » iSoft Taiji Server OS integrates the open source database TiDB and optimizes the entire system to fully unleash the performance of the RPA application system on TG servers.

Benefits

- » The Newlink RPA appliance automates repetitive tasks with speed and accuracy unmatched by humans, enabling 24/7 operations and empowering employees to focus on higher-value work.
- » The digital workforce reduces human labor costs by 50%.
- » The solution establishes a center of excellence (COE) to tackle complicated service logic and operations and provide professional consulting. In addition, the digital workforce effectively minimizes human error risks.

Partner





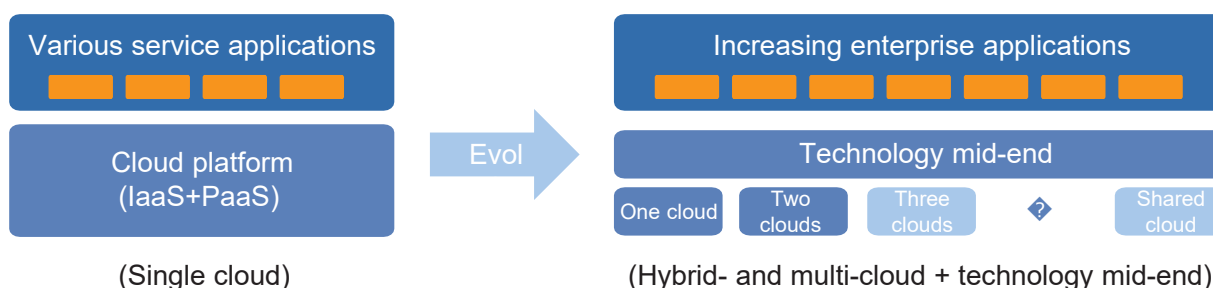
China Post's OA System Migration and Reconstruction

Background

Leveraging existing server hardware, the project uses H3C cloud virtualization to create 200 UOS VMs, paving the way for subsequent service system migration and transformation. With newly purchased NF2180M and Kunpeng S920X00K servers, 263 UOS VM servers are provisioned on the cloud to support OA system migration and reconstruction. In solution design, China Post, based on its existing technical capabilities and support from its in-house team and outsourcing partners, adopts a popular and stable architecture. The CCE container cloud's management/control plane is separated from the service plane. Under a "1+N" model, one management cluster is centrally managing a data center, while multiple service clusters are deployed across different network partitions to meet requirements for security, compliance, and isolation.

Solution

The UnionTech server OS features same-source heterogeneous capabilities, supporting multiple mainstream OpenStack versions. It offers cloud-native, high-availability, and easy-to-maintain components and solutions, along with migration tools to fully migrate existing service data. A dedicated professional services team ensures adaptation and validation of availability, compatibility, and stability across all software and hardware in the production environment.



Benefits

In October 2021, China Post successfully completed adaptation and migration of its cloud platform, OA service system to servers running the UnionTech Server V20. This verified that the Group's core OA system can run smoothly on the UOS.

It was the first pilot among large state-owned groups. By gaining familiarity with innovative UnionTech software and hardware performance, the group accumulated implementation experience and assessed the workload, budget, timeline, and technical roadmap for subsequent reconstruction and migration.

Partner



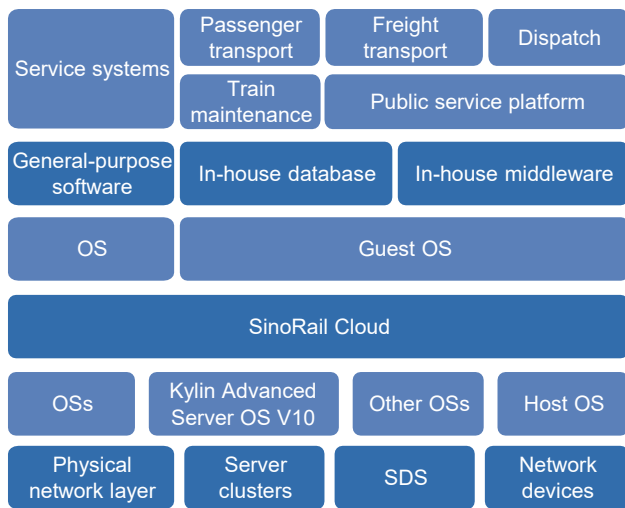


SinoRail Cloud Ensures Stable Railway Operations

Background

SinoRail Cloud carries most of the services and storage capabilities for the railway sector in China. It relies on essential components like infrastructure, OS, middleware, and database, with Kylin Advanced Server OS V10 at its core supporting software-defined storage (SDS).

Solution



- » Underlying hardware: physical devices such as servers, storage devices, and network devices
- » Network planes: management, service, and storage
- » Cloud platform: SinoRail Cloud
- » OS: Kylin Advanced Server OS V10
- » Database: in-house
- » Middleware: in-house
- » Service systems: passenger and freight transport, dispatch, train maintenance, and public service platform

Benefits

As the security foundation for cloud services and SDS, Kylin Advanced Server OS V10 supports industry applications, big data, cloud computing, and SDS systems, driving innovation in SinoRail Cloud as well as the railway sector.

Partner



Changsha Vocational & Technical College Enhances IT Training with Kylinsec Server OS

Background

Changsha Vocational & Technical College runs its academic and administrative systems, including the data mid-end, teaching affairs system, student affairs system, and official website, on a VMware virtualization platform.

These systems ran on CentOS but needed migration to a new OS for continued stability after CentOS reached its end of life. The college chose the Kylinsec Server OS for its high stability and security.

Solution

Application layer	Data mid-end	Teaching affairs system	Student affairs system	Campus network, etc.
Databases	Oracle, MySQL, MongoDB, etc.			
Middleware	Tomcat, Nginx, Docker, OpenSSH, RabbitMQ, Redis, etc.			
OS layer	Kylinsec OS based on openEuler commercial edition			
Virtualization layer	Compute resource pool	Storage resource pool	Network resource pool	
	VMware virtualization platform, Sangfor HCI			
Physical layer	x86 and Hygon servers			

- » Adapt the Kylinsec Server OS to suit the needs of the college's data mid-end, teaching affairs system, student affairs system, and official website.
- » Integrate and optimize the OS based on Sangfor's HCI platform to improve the overall performance and resource utilization of the virtualization environment.
- » Use Kylinsec's migration tool to seamlessly migrate the VMware virtualization platform from CentOS to the Kylinsec Server OS.
- » Prevent external attacks and data leakage through the OS's built-in security mechanisms and protection measures.

Benefits

- » Ensuring stable daily operations for the college, and providing regular system updates and ongoing technical support for O&M.
- » Guaranteeing data security through built-in security mechanisms and protection measures that prevent external attacks and data leakage.
- » Helping the college develop talent and stay competitive.

Partner



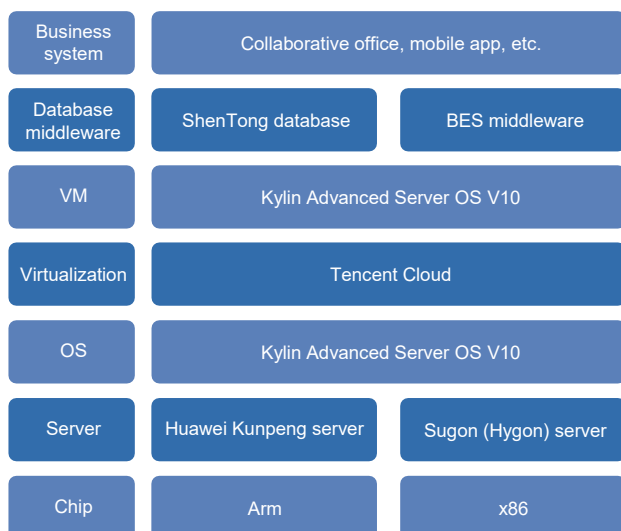


Hunan Tobacco Monopoly Administration Information System

Background

In line with the policies on network device reconstruction, the Hunan Tobacco Monopoly Administration sought to upgrade its business system to achieve greater reliability, stability, and security. The customer required a full-stack upgrade of existing services, covering servers, operating systems, databases, middleware, business applications, personal computers, and office software, without compromising performance.

Solution



The project uses Kylin OS V10 as a security base. To address the needs of nearly 10,000 office terminals at the Administration, Kylinsoft conducted adaptation and optimization with Tencent Cloud, ShenTong database, BES middleware, and Weaver OA. This integration fully meets the customer's functional and performance requirements.

Benefits

- » **Leading performance:** The project leverages Kylin OS V10 as its security base, integrated with Huawei Kunpeng and Hygon servers, ShenTong database, and BES middleware to optimize performance. The new system matches and even surpasses the performance of the original platform in specific applications.
- » **Stable and efficient operation:** Kylin OS has been running for one year without any incidents, fully ensuring the business continuity and data security for the tobacco industry customer.

Partner



China Resources' First Innovative Pilot Project: Full Migration and Adaptation

Background

In this project, China Resources purchased the necessary software and hardware to trial its new proprietary technologies in the current IT system, and set up a full-stack innovation platform to keep service systems running smoothly.

Solution

Service systems	Coremail secure email	YIGO supply chain management system	Mobile office software	<ul style="list-style-type: none"> » Chip: Arm (FT-2000+/64) » Server: UNISYUE » OS: Kylin Advanced Server OS V10 » Cloud platform: CRCloud » Database: MySQL » Service systems: Coremail secure email, YIGO supply chain management system, and mobile office software
Database	MySQL			
OSs	Kylin Advanced Server OS V10 (guest OS)	Other guest OSs		
Cloud platform	CRCloud Kylin Advanced Server OS V10 (host OS)			
Server	UNISYUE			
Chip	Arm (FT-2000+/64)			

Benefits

This pioneering project for China Resources successfully completed the migration and adaptation of its CRCloud, service systems, and applications. It yielded a wealth of new technologies and O&M experience, paving the way for broader use of innovative products like Kylin OS across the company.

Partner





China Tobacco Heilongjiang's Secure Mail System Project

Background

China Tobacco Heilongjiang deployed the NeoKylin ultra-secure email system V6.0 on its servers for sending, receiving, and storing emails on the web or client. The system effectively blocks spam and virus, ensuring security and stability.

Solution

China Tobacco Heilongjiang's secure email system	
Email system	NeoKylin ultra-secure email system
OS	Kylin Advanced Server OS V10
Server	Inspur Yingxin
Chip	Arm (FT-2000+/64)

- » Chip: Arm (FT-2000+/64)
- » Server: Inspur Yingxin
- » OS: Kylin Advanced Server OS V10
- » Service system: China Tobacco Heilongjiang's secure email system

Benefits

- » Benchmark setting: This project marks the first successful deployment and stable operation of a secure email system in Heilongjiang Province, serving over 7,000 users. It provides practical insights for wider adoption in the future.
- » High security and reliability: The NeoKylin ultra-secure email system guarantees email security through proxy-based isolation between the internal and external networks.

Partner



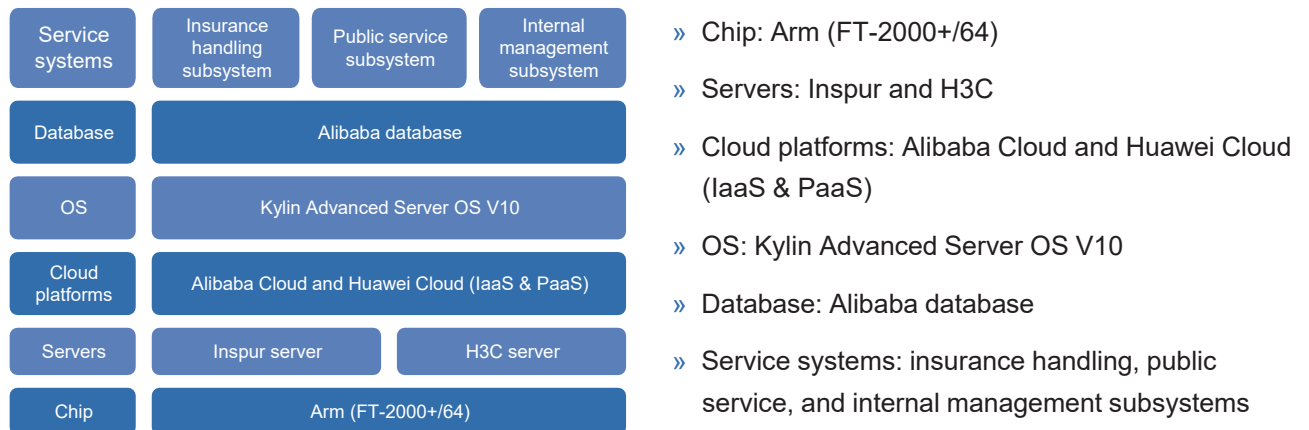


Jiangxi Provincial Medical Insurance Bureau's Cloud Platform Project

Background

Jiangxi Provincial Medical Insurance Bureau purchased 1,000 servers and deployed the Kylin Advanced Server OS V10 for its cloud platforms (Alibaba Cloud and Huawei Cloud) to support foundational software upgrade while maintaining service stability.

Solution



Benefits

The Kylin Advanced Server OS V10 supports the stable running of the bureau's service systems. As a core platform for both industry applications and the foundational software and hardware of big data, cloud computing, and SDS, it facilitates the transformation and adoption of the medical insurance clouds.

Partner





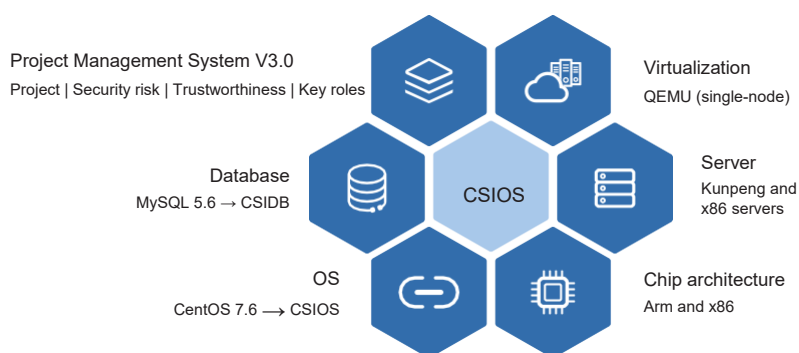
Seamless Project Management System Migration to CSIOS

Background

A leading enterprise group with over 10,000 users required a smooth migration of its large-scale project management system. The new environment needed to:

- » Support a flexible, user-defined system configuration approach.
- » Maintain continuous email and messaging notification services.
- » Provide integrated management for project risk, trustworthiness, key roles, and progress tracking.

Solution



- » Server: Kunpeng (Arm-based) + x86
- » Deployment model: hybrid deployment including physical machines and QEMU-based virtualization to make full use of local hardware resources, combined with CSIDB, Tomcat, and JRE, all optimized for smooth integration on CSIOS
- » Result: This setup ensured seamless migration of the project management, trustworthiness management, key role management, risk management, and messaging services to CSIOS without disrupting ongoing operations.

Benefits

- » High stability and reliability: CSIOS provides a dependable IT infrastructure that ensures maximal security and service management stability.
- » Platform validation: The project successfully validates the CSIOS solution on both Arm and x86, proving its capability as a robust alternative to legacy operating environments.
- » Reusable expertise: The successful adaptation of the project management system on CSIOS provides valuable technical and service experience to ensure faster response and more tailored solutions for future enterprise clients.

Partner



Real2tech Platform Migration to openEuler for 30% Higher Performance

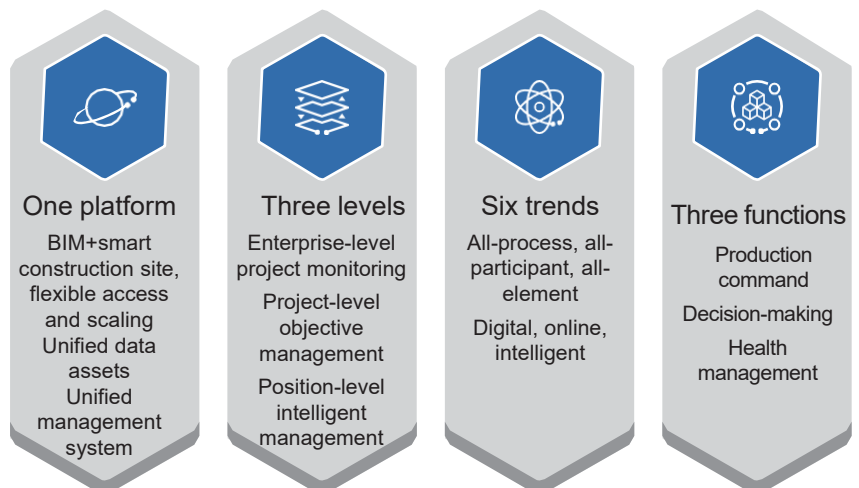
Background

To upgrade the existing smart construction site platform, a comprehensive solution utilizing an "AI Mid-End + Edge Computing" framework has been deployed. This solution enhances the platform's production command and decision-making functions with new health management capabilities. It creates a "Smart Brain for Construction Sites" to effectively support health control and smooth operations.

Solution

Real2tech partnered with Chinasoft International to migrate the smart construction site business system from CentOS to openEuler.

- » Existing Inspur x86 physical servers were retained to run openEuler LTS 20.03 SP3.
- » The MySQL database data was migrated without changing the original applications.
- » The original database was split into two separate ones based on service needs, improving performance by 30%.



Benefits

- » All applications have been seamlessly migrated to the openEuler OS without any code modifications, ensuring full operational continuity.
- » A collaborative process for secure and reliable adaptation has been established for comprehensive upgrades of the smart construction site platform, supporting routine office demands.
- » This successful business system migration provides a critical reference for the customer's system-wide migration and lays a solid foundation for subsequent work.

Partner





Campus Management Platform Migration and Adaptation

Background

The CentOS-based intelligent campus management platform developed by iSoftStone has been commercially applied at more than 20 sites in China. Customers requested a migration of this platform to openEuler.

The migration solution involved 35 software packages, including middleware, databases, and dependency packages. The main service software was compiled using Java and Vue, while other components were mostly open source. A migration evaluation using Kunpeng DevKit suggested recompiling 20 open source components and replacing 6 other components with openEuler's software packages. The remaining items were service software compilation dependencies that did not need adaptation.

Solution

	Architecture	Deployment	Software	OS
Migration method	Intel(R) Xeon(R) x86	Hardware: physical machine Mode: single-node deployment	Open source software: 30+ Service software: 23	CentOS 7.6/7.9
	Kunpeng 920 Arm	Hardware: physical machine Mode: single-node deployment	openEuler: 10+ Service software porting: 23	openEuler 22.03 LTS

- » Based on the customer requirements and overall system survey, the migration solution includes cross-architecture OS migration, service software adaptation, and service data recovery.
- » The OS is openEuler 22.03 LTS, and services are restored from the original x86 system to the new Arm system.

Benefits

- » This solution enables cross-architecture compatibility, eliminates performance bottlenecks, simplifies system maintenance, and reduces maintenance costs.
- » 30% less workload for open source software maintenance, 37% less deployment time, 28% less campus manpower, and 3% higher performance.
- » iSoftStone's openEuler-based intelligent campus management platform won a silver award in 2022 Kunpeng Application Innovation Competition for its optimizations in efficiency, performance, and usability.

Partner



CentOS Replacement for the Hospital E-ticket System

Background

To comply with national mandates for medical e-ticket reforms, the Second Affiliated Hospital of Tianjin University of TCM collaborated with Kylinsoft and Bosssoft to develop an e-ticket system using the open source OS, aiming to strengthen its operations and security.

The hospital's system overhaul aims to achieve several key objectives: diversifying notification and ticket collection channels, achieving fully electronic financial receipts, enabling refined financial management with intelligent internal auditing, and digitizing internal vouchers.

The upgraded platform significantly cuts patient wait times and reduces hospital operating costs, enhancing both management efficiency and service quality. It meets the service operation requirements for stability, security, functionality, and performance.

Solution

Business system	Bosssoft e-ticket system
General software	Oracle database
OS	Kylin Advanced Server OS V10 SP2
Server	Inspur
Chip	Intel CPU

Leveraging the Intel hardware platform with Kylin OS V10 and the Oracle database, this solution completes the adaptation and validation for migrating the Bosssoft e-ticket system from CentOS to a secure platform, ensuring high security, reliability, and performance.

- » Hardware platform: Inspur servers (Intel Xeon x86), hosting three self-service ticket machines
- » OS: Kylin Advanced Server OS V10 SP2
- » Database: Oracle

Benefits

- » Security and stability: The project's migration from CentOS to Kylin Advanced Server OS V10 establishes a security base. Supported by a proprietary, integrated security mechanism, the platform delivers holistic protection for the system and its services. The stable system operation has validated the platform's feasibility and security in hosting the customer's business system.
- » Reference for promotion: The successful deployment of the e-ticket system at the Second Affiliated Hospital of Tianjin University of TCM demonstrates Kylin Advanced Server OS V10 as an effective replacement for the phased-out CentOS. This success proves the solution's viability for large-scale adoption among 90% of Tianjin's top hospitals who currently rely on CentOS-based systems.

Partner





Tianjin Blood Center Business System Reconstruction

Background

The reconstruction objectives were defined in 2022 and executed in 2023, aiming to build truly useful business systems.

Solution

Business system	Blood collection and supply information system, e-ticket system, and payment system
OS	Kylin Advanced Server OS V10
Cloud platform	VMware, Healthcare Cloud
Chip	x86

- » Product type: Kylin Advanced Server OS
- » Product ecosystem: VMware

Benefits

- » System stability and security: Kylin Advanced Server OS provides a viable path for migrating Tianjin Blood Center's systems from CentOS/Red Hat. The successful implementation of this project drives the modernization of the center's core business systems.

Partner



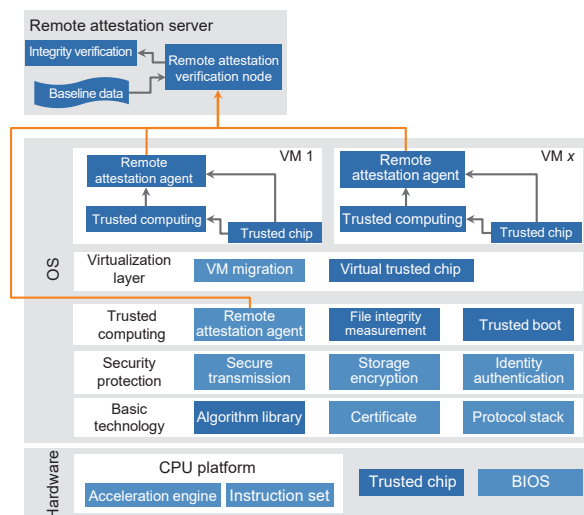


openEuler-based Security and Trustworthiness Technology Exploration and Practice

Background

Due to growing cybersecurity threats, industries are increasingly prioritizing the security of their cloud services and data. This solution integrates trusted computing and commercial cryptographic algorithms into cloud host instances, and employs remote attestation to verify measurements during boot and runtime. By establishing a chain of trust from the underlying chips to key cloud applications, the solution becomes highly suited for banking, securities, insurance, and online finance sectors.

Solution



- » Enables basic security technologies to enhance host security.
- » Integrates trusted computing to enable static and dynamic integrity measurements, extending the chain of trust to cloud hosts.
- » Uses commercial cryptographic algorithms to protect system authenticity, confidentiality, and integrity.
- » Combines trusted computing with commercial cryptographic algorithms to establish a full chain of trust for cloud hosts.

Benefits

- » The solution establishes a chain of trust from the underlying chips to key cloud applications, guaranteeing system integrity from boot to runtime.
- » The solution protects system authenticity, confidentiality, and integrity using commercial cryptographic algorithms.

Partner





High-Security, High-Performance Media Service System on FusionOS

Background

Rage&East is a leading provider of integrated media technology solutions, specializing in audiovisual systems, broadcasting, and multimedia platforms. Rage&East's private media security service system PMSC plays a central role in enabling secure and efficient data exchange across its broadcasting ecosystem. However, with increasing data volumes and cross-network transmission, the company faced with an evolving threat landscape—including sophisticated network viruses and data integrity risks. Rage&East recognized a critical need to fortify the security and significantly boost the data processing capability of its platform.

Solution

Rage&East selected xFusion's FusionOS and FusionServer to power its PMSC system.

- » Scenario-specific performance tuning: Delivering optimized support for video processing, image OCR, Samba copying, and data transmission.
- » Security and reliability reinforcement: Enhancing FusionOS security via security hardening tools. The solution also integrated a monitoring and alerting framework, enabling real-time visibility over 14 key hardware and software metrics.
- » Ecosystem compatibility: Achieving extensive adaptation for key non-linear editing software to ensure seamless integration and stable operations.

Benefits

- » Secure data exchange across various cloud environments with high efficiency and superior reliability
- » Customizable data encryption across multiple private transmission links
- » Support for hot standby, parallel deployment, and load balancing
- » 2x boost in file copy performance, increasing throughput from 450 MB/s to 1,200 MB/s through CIFS kernel-level tuning
- » Independent innovation in core operating systems, setting a benchmark for future replacement of legacy systems

Partner



High-Performance Server OS Implementation for ETC Gantry Systems

Background

Shudao, a major infrastructure operator in China, initiated a large-scale modernization of its highway Electronic Toll Collection (ETC) gantry system as part of its digital transformation strategy. The shift toward a multi-lane free-flow (MLFF) tolling model required a highly reliable, real-time computing platform capable of processing large volumes of vehicle and transaction data from numerous distributed gantries.

This transformation demanded an operating system that could ensure continuous availability, fast response, and seamless interoperability with diverse hardware and software ecosystems deployed across the highway network.

Solution

Application	Graphics recognition subsystem	Toll collection management subsystem	
Support environment	LEF	Container	Road network platform
OS	Kylin Advanced Server OS V10		
Hardware	Arm-based industrial computer		

The new ETC gantry system is built on Kylin Advanced Server OS V10, running on Phytium CPUs. It offers full compatibility with mainstream databases, middleware, and application systems, and ensures seamless operation of key components such as containers, time synchronization, LEF platform, and gantry applications on the industrial computers.

The system utilizes 5.8 GHz dedicated short-range communications to read on-board units (OBU) or CPC cards, facilitating essential functions, such as segment-based tolling, traffic monitoring, and speed analysis.

Benefits

- » Breaking vendor lock-in and enhancing platform agility: The project marked the first successful deployment of a server OS on desktop CPUs for highway toll systems in China. It effectively challenges the long-standing industry dominance of Windows systems, paving the way for cost-effective platform modernization.
- » Driving operational efficiency and sustainable transportation system: This solution enhances highway management efficiency and reduces operational costs, paving the way for smarter, more sustainable transportation infrastructure.

Partner





Smooth Migration from CentOS to Kylinsec OS to Secure Citywide Traffic Operations

Background

Changsha Intelligent Transportation Development Center is responsible for the integrated management and coordination of the city's transit network. Its core functions include real-time traffic monitoring, predictive analysis, public safety alerts, and the critical coordination of various transportation methods.

The center's service systems were previously hosted on virtual servers running on CentOS 7. With the CentOS EOL in June 2024, the systems would no longer receive updates or security patches, exposing them to potential vulnerabilities and service interruptions. To maintain service continuity and strengthen security, the center needed a modern, reliable operating system and a smooth migration path from CentOS.

Solution

Application	Operation detection, evaluation, and analysis	Command and dispatch	
	Information service	Service management	
Database	Oracle MySQL MongoDB ...		
Middleware	Tomcat Nginx Docker OpenSSH RabbitMQ Redis ...		
OS	openEuler-based Kylinsec OS		
Virtualization	Compute pool	Storage pool	Network pool
	e-Government cloud		
Hardware	Kunpeng servers		

- » OS: openEuler-based commercial-grade Kylinsec OS
- » Migration tool: C2K one-click automated migration tool developed by Kylinsec, reducing manual workload and minimizing human error
- » Compatibility testing: Pre-migration compatibility validation to ensure seamless operation of all service applications.
- » End-to-end services: End-to-end migration service—from planning and solution design to PoC validation, implementation, and post-migration support—backed by direct vendor support and continuous maintenance.

Benefits

- » Guaranteed service continuity and security: Upgrading to Kylinsec OS ensured uninterrupted service continuity and eliminated the risks associated with CentOS EOL, providing a secure, stable, and reliable operating environment for critical transportation systems.
- » Validated performance and innovation: The successful deployment of the openEuler-based Kylinsec OS validated the stability of transportation applications on openEuler-based commercial distributions, further driving software innovation and openEuler ecosystem growth.
- » Responsive support: With dedicated local expertise and 24/7 vendor support, Kylinsec delivered rapid response to operational needs, ensuring long-term system security and stability.

Partner



Secure and Scalable Cloud-Native Platform for China Post

Background

Since 2023, China Post recognized the necessity of evolving its server infrastructure to meet increasing demands for stability and next-gen security. The goal was to establish a modern, scalable architecture capable of supporting crucial services across their vast operation, including postal services, e-commerce, and intelligent operations. The initiative required a server operating system that could:

- » Provide a highly secure foundation for critical customer-facing and back-end systems.
- » Offer robust stability for large-scale application deployment, including emerging AI, intelligent customer service, and big data platforms.

Solution

Cloud-native platform	
Application software	EasyStack Cloud Platform
Foundational software	Kubernetes, Docker, Containerd, etc.
OS	Kylin Advanced Server OS V10
Hardware	Arm-based server
Chip	Phytium, Kunpeng, etc.

China Post partnered with KylinSoft to deploy a new core infrastructure utilizing the Kylin Advanced Server OS V10 as the backbone for their cloud-native platform.

The solution focused on an enhanced security architecture to protect the integrity of the platform, featuring:

- » Intrinsic security: The OS employs a highly secure, kernel-to-application security architecture. This inherent design ensures stability and integrity from the core up.
- » Diverse security mechanisms: Proprietary KYSEC kernel-level execution control, security management tools, and mandatory access control, significantly bolstering system defense and preventing unauthorized access and misuse.

This deployment delivers a reliable, compliant, and secure environment for AI-driven computing and large-scale enterprise workloads.

Benefits

China Post achieved a smooth migration of its core service systems to the new cloud-native infrastructure. This success validates the stability, security, and enterprise readiness of technologies built on openEuler in large-scale, mission-critical environments.

Partner

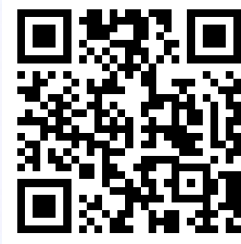




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