



ResearchInChina
www.researchinchina.com

Global and China Automotive Operating System (OS) Industry Report, 2022

Jan.2023

Basic operating system: foreign providers refine and burnish functions; Chinese providers expand software and hardware cooperation.

Internationally, Blackberry's QNX, Linux-based custom operating system, and Android open source project-based operating system are still the three major basic operating systems. In 2022, centering on the benefits of their own products, the three major providers, Blackberry, Intel & Linux Foundation, and Google, play to their strengths, and vigorously expand ecosystem cooperation with OEMs in more aspects: QNX works hard on software and hardware hybrid high-performance computing platforms to facilitate development of "software-defined vehicles"; Intel & Linux Foundation, and Google expanded the cooperation with Chinese and European OEMs, respectively.

In China, Alibaba's AliOS and Huawei's HarmonyOS focusing on autonomous driving and intelligent cockpit, separately, upgrade underlying operating systems ecologically, and join hands with hardware suppliers to create cooperative software-hardware platforms and launch smart mobility system solutions.

The Latest Developments of Major Basic Operating System Providers

Type	Provider	Product	Merits	Latest Development
Foreign	Blackberry	QNX	Good real-time performance, high security, non-interference, easy to operate	Develop middleware and high performance computing platform
	Intel & Linux Foundation	Linux	Open source, high flexibility in custom development, high portability	Attract Asian OEMs to join the alliance
	Google	AAOS	Open source, large-scale ecosystem	Pioneer OS integration with new models of European OEMs
Chinese	Alibaba	AliOS	Large-scale ecosystem	Based on intelligent cockpit, begin to enter intelligent driving, and promote the coordinated development of independent operating system and chip software and hardware
	Huawei	Harmony OS	Technology architecture	Cooperate with OEMs to launch intelligent IVI system integrated solutions

Source: ResearchInChina

General operating system: Chinese providers develop diversified functions and create "system + hardware" ecosystems.

In China, the general operating system is oriented to infotainment and intelligent cockpit, and highlights the abundance of ecological resources, and the diversity of services and applications, meeting the individual needs of users, and building ecosystems. Most Chinese general operating systems are developed on Android. The 10 key Chinese providers in this report start with intelligent scene perception and intelligent cockpit, and team up with hardware suppliers to introduce system solutions of "domestic operating system + domestic chip". They also promote custom development of tools such as SDK and software computing platforms, allowing for secondary development in the fields of intelligent cockpit and autonomous driving, and creating diversified, customized and ecological comprehensive operating system solutions.

Major Providers of General Automotive Operating System Solutions in China (In No Particular Order)

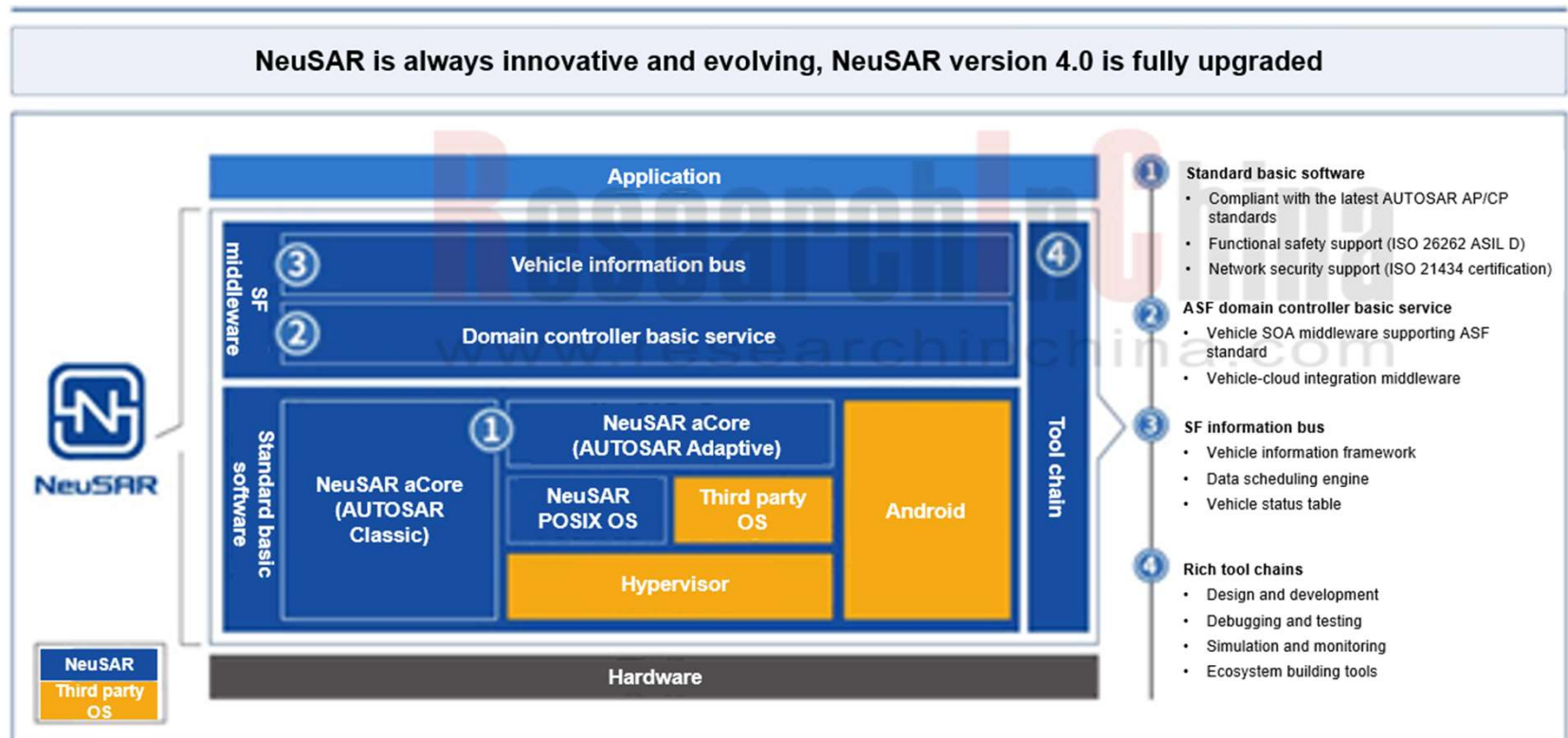
Chinese Products		Highlights
Company	Name	
Neusoft Reach	NeuSAR	Enable the development of new vehicle software applications in the stage of cross-domain integration
Baidu	Duer OS	With artificial intelligence algorithms available
AICC	ICVOS	Rapid application development, platform-based, connected, scalable, automotive-grade
Phoenix Auto Intelligence	TINNOVE OpenOS	Ecosystem-level, multi-solution
ThunderSoft	ThunderAuto Intelligent Connected Vehicle Operating System	-
iSOFT Infrastructure Software	AUTOSARCP + AP Integrated Solution	Oriented to the two scenarios of security domain and high-performance computing domain, the implementation of intelligent connection
ArcherMind Technology	FusionOS	Cross-domain fusion vehicle software computing platform
ZTE	Golden OS	Microkernel, built-in hypervisor, oriented to all scenarios of intelligent connection
RT-Thread	RT-Thread	Built-in hypervisor, real-time operating system
PATEO CONNECT+	Qing OS	All-scenario AI ecosystem services

Source: ResearchInChina

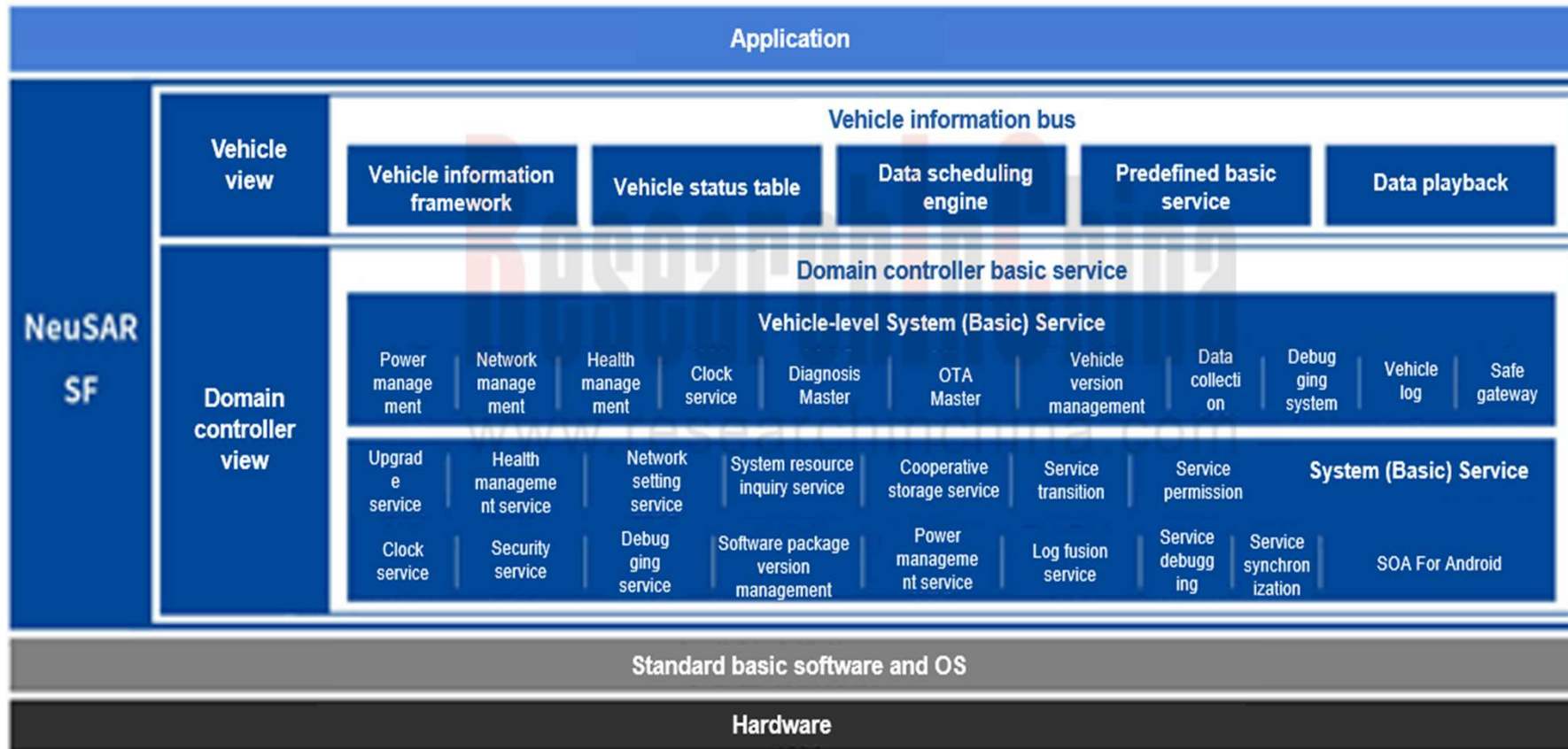
Neusoft NeuSAR

The NeuSAR4.0 upgrades the NeuSAR SF service framework, with advantages in four aspects: the further decoupling of application development software and hardware enables dynamic migration of functions; the more efficient simulation and debugging functions achieves global synchronization of data; the flexible deployment of message channels meets the needs of different application scenarios; the "vehicle" and "cloud" connection allows for the integration of vehicle and cloud services.

A New Automotive Software Architecture --- NeuSar 4.0 Architecture



Neusoft NeuSAR Application



In addition, NeuSAR4.0 has upgraded the NeuSAR DevKit tool chain, covering NeuSAR Creator (IDE-like integrated development tool), NeuSAR Monitor and NeuSAR Simulator, which can realize the entire domain controller development process, and monitor some dynamic resources in the development process, and simulate the third-party devices that need to be used in the development process, respectively.

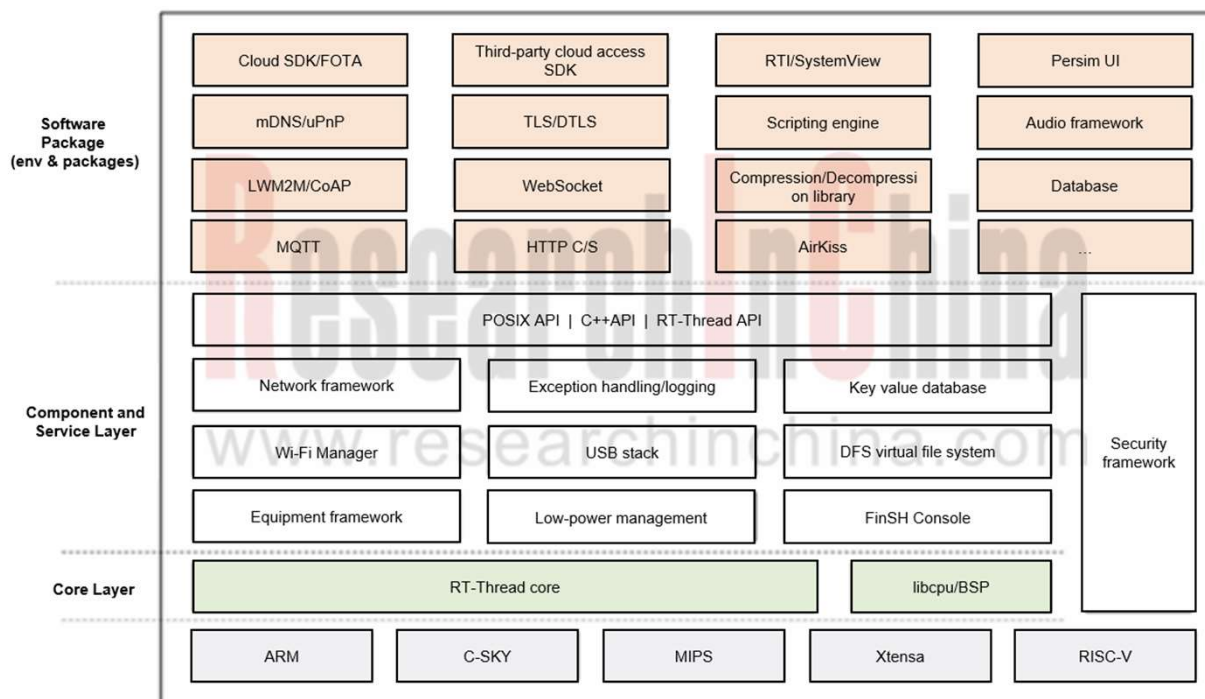
ArcherMind Fusion OS

Based on the cooperation with chip vendors like Qualcomm, Renesas, Nvidia, and NXP, ArcherMind launched a fully self-developed cross-domain integrated vehicle software computing platform FusionOS in 2022. As a general operating system middleware solution, it includes intelligent cockpit domain EX6.0, central control domain Fusion3.0, intelligent driving domain operating system solution FusionAD, and cross-domain fusion software operating system solution.

Fusion SOA software platform that covers the six solutions of middleware layer, service layer, operating system & hardware layer, cloud, tool chain, and service plug-in, provides full-stack SOA technical capabilities with mass production experience. It has been adapted to the latest cockpit platforms of multiple automotive-grade chip vendors like Qualcomm, Renesas and SemiDrive, and supports QNX, Android, Linux and other operating systems. It also provides a fully optimized graphics system, AI Orchestra Engine middleware and the latest voice algorithm engine AM Acoustic Engine.

RT-Thread "Cheng Xuan" Vehicle Fusion Software Platform

In 2022, RT-Thread announced the RT-Thread "Cheng Xuan" Vehicle Fusion Software Platform, an embedded real-time operating system composed of kernel, network, file system, and GUI components. Based on virtualization system vmRT-Thread Hypervisor, Cheng Xuan Vehicle Fusion Software Platform carries the safe real-time system RT-Thread Secure Auto, the microkernel operating system RT-Thread Smart Auto, and Linux or other systems, and can be compatible with multiple system platforms, making it easy to use. It enables information interaction via unified distributed message bus and upper module.



Hypervisor: foreign leading established providers boast much greater first-mover advantages, and Chinese players go all out to catch up

In the global hypervisor market, automotive standard-compliant, mass-produced hypervisor products include Blackberry QNX Hypervisor, Wind River Vxworks, OpenSynergy COQOS, and Linux Foundation's ACRN. In the field of automotive virtual layer in China, there are a growing number of companies independently developing hypervisor, for example, the likes of Banma Zhixing, iSOFT Infrastructure Software, Zlingsmart and ZTE all have technical strength of virtualization, but still lag far behind their foreign peers. The basic hypervisor type is Type-1, and Zlingsmart has realized mass production of its RAITE Hypervisor.

In 2022, foreign hypervisor providers concentrated on fostering partnerships with OEMs in smart mobility scenarios. For example, while maintaining its share in the market, QNX Hypervisor worked to expand application cooperation with such companies as Neta Auto and MarelliTech in driving and cockpit scenarios; OpenSynergy built hypervisor technology cooperation with Qualcomm Snapdragon Automotive Development Platform (ADP) and STMicroelectronics.

Major Chinese and Foreign Hypervisor Providers and Their Products (In No Particular Order)

Provider	Product
Blackberry	QNX Hypervisor
Intel & Linux Foundation	ACRN
OpenSynergy	COQOS
SYSGO	Pike OS
Wind River	Wind River Helix Virtualization Platform
Elektrobit	EB corbos Hypervisor
Harman	Device Virtualization
Virtual Open System	VOSYSmonitor
iSOFT Infrastructure Software	iSOFT Infrastructure Software Hypervisor
Banma Zhixing	AliOS Hypervisor
Zlingsmart	RAITE Hypervisor
ZTE	ZTE Hypervisor (Secure Partition Engine)
China Automotive Innovation Corporation (CAIC)	CAIC Hypervisor

Source: ResearchInChina

IVI mirroring system: build ecosystem barriers, and develop service ecosystems and interactive functions

Apple Carplay, Google Android Auto, Baidu Carlife, and HUAWEI HiCar among others have established influence in IVI mirroring system market. These providers designate IVI mirroring systems for connecting their own brands, so as to pose a brand barrier. New entrants such as Xiaomi and Vivo are also vigorous in the market. Starting with IVI mirroring systems, they build an IoV ecosystem service system, and mainly offer the interactive perception and service connection functions of mirroring systems, which have yet to be used on large scale.

The Latest Developments in IVI Mirroring Systems Inside and Outside China

Type	Provider	Product	Latest Developments
Foreign	Apple	Carplay	Unveiled new CarPlay features at the Worldwide Developers Conference 2022 (WWDC 2022): based on the new iOS 16, enable deep integration with vehicle hardware, connect all in-vehicle screens, and redesign the interactive interface of CarPlay.
	Google	Android Auto	Released the new version 8.6.6250 in December, which improves the Do Not Disturb functionality and supports interface mode switching.
Chinese	Huawei	HUAWEI HiCar	In November, cooperated with Zlingsmart to build a cockpit solution integrated with software and hardware and based on HiCar platform.
	Baidu	Carlife	In February, launched the Samsung Custom Version, adding non-inductive connection methods, e.g., wireless connection and Bluetooth; in December, the Android Version was updated to 8.0.2
	Carbit	EasyConnection	Released version 8.3 in October, realizing non-sensing connection, supporting mobile phone car collaboration and OTA upgrade.
	Vivo	Jovi Incar	Released Jovi inCar 3.0 in November, supporting the phone connection with 1,100 vehicle models, and enhancing collaboration capabilities of service relay, instant transmission and sharing, and hand-cranked stock pictures.
	Xiaomi	CarWith	Released the latest version V1.1.1 in December, which currently conducts close beta tests only in Changan Auchan Z6 and Leapmotor C01.

Source: ResearchInChina

Table of Content (1)

1. Overview of Automotive OS

1.1 Automotive OS Classification

1.1 Three Kinds of Classification

1.1.1 Classification: Real-time and Non-real-time Operating Systems

1.1.2 RTOS (in narrow sense) Suppliers and Product List (1)

1.1.3 RTOS (in narrow sense) Suppliers and Product List (2)

1.1.4 RTOS (in narrow sense) Suppliers and Product List (3)

1.1.5 RTOS (in narrow sense) Suppliers and Product List (4)

1.1.6 Non- RTOS (in narrow sense) Suppliers and Product List (1)

1.1.7 Non- RTOS (in narrow sense) Suppliers and Product List (2)

1.1.8 Automotive Operating System Kernels are Divided into Three Types: Micro Kernel, Macro Kernel, and Hybrid Kernel

1.1.9 Vehicle Control Operating System and In-vehicle Operating System (1)

1.1.10 Vehicle Control Operating System and In-vehicle Operating System (2)

1.1.11 Vehicle Control Operating System and In-vehicle Operating System (3)

1.1.11 Vehicle Control Operating System and In-vehicle Operating System (3)

1.1.12 Automotive Operating System Classification (Narrow sense and Broad sense)

1.1.13 Comparison of Automotive Operating System in narrow sense: QNX/ Linux / Other RTOS

1.1.14 Automotive Operating System Market Size

1.2 Automotive OS Software Architecture

1.2.1 Intelligent Vehicle software architecture includes hypervisor, system cores, middleware, functional software, and application programs

1.2.2 Intelligent Vehicle Software Ecological Framework

1.2.3 Automotive Operating System Working Process: Kernel is the core of automotive software architecture

1.3 Automotive OS Business Model

1.3.1 Business Model Types

1.3.2 Business Models of Major Automotive Operating System Enterprises

1.3.3 Smart Cockpit OS Business Model

1.3.4 Autonomous Driving OS Supplier Business Model

1.3.5 Automotive Operating System Development Trend and Business Model Exploration

1.3.6 Basic Automotive Operating System and Business Model

1.3.7 Automotive RTOS Operating System and Business Model (1)

1.3.7 Automotive RTOS Operating System and Business Model (2)

1.3.8 Automotive Operating System and Business Model (1)

1.3.8 Automotive Operating System and Business Model (2)

1.3.8 Automotive Operating System and Business Model (3)

1.3.8 Automotive Operating System and Business Model (4)

1.4 Basic Auto OS

1.4.1 Profile

1.4.2 Automotive Intelligent Computing Platform Architecture

1.4.3 Automotive Underlying OS Market Share

1.5 Customized Auto OS

1.5.1 Profile of Customized Auto OS

1.5.2 Comparison of Customized Automotive OS

1.5.3 Chip Vendors and Their Partners in Customized Auto OS

1.6 ROM Auto OS

1.7 Auto Mobile Phone Mapping System

Table of Content (2)

1.8 Hypervisor

1.8.1 Profile of Hypervisor

1.8.2 Hypervisor Becomes an Inevitable Choice

1.8.3 Comparison of Main Hypervisors

1.9 Autonomous Driving Hardware Platform and Autonomous Driving OS

1.10 Automotive OS Specifications: OSEK

1.11 Automotive OS Open Organization: GENIVI

1.11.1 Profile of GENIVI

1.11.2 Members of GENIVI

1.11.3 Achievements of GENIVI Alliance

1.11.4 Achievements of GENIVI Alliance: Remote Vehicle Interaction (RVI)

1.11.4 Achievements of GENIVI Alliance: vsomeip

1.11.5 Role of GENIVI: Reduce OEM development workload and save development costs

1.11.6 GENIVI Released VSS3.0

1.12 Automotive OS Open Organization: AUTOSAR

1.12.1 AUTOSAR

1.12.2 Classification

1.12.3 Main Members of AUTOSAR

1.12.4 Classic AutoSAR Architecture

1.12.5 Adaptive AutoSAR Architecture

1.12.6 Comparison of Classic and Adaptive AutoSAR

1.12.7 Integration of Adaptive AutoSAR and ROS

1.12.8 Core of AutoSAR

1.12.8 Organization of AutoSAR China Working Group

1.12.9 Project Case of AutoSAR China Working Group

1.12.10 AUTOSAR Related Software Tool Supplier Business Model (1)

1.12.10 AUTOSAR Related Software Tool Supplier Business Model (2)

1.12.10 AUTOSAR Related Software Tool Supplier Business Model (3)

1.12.10 AUTOSAR Related Software Tool Supplier Business Model (4)

1.12.10 AUTOSAR Related Software Tool Supplier Business Model (5)

1.12.10 AUTOSAR Related Software Tool Supplier Business Model (6)

1.12.10 AUTOSAR Related Software Tool Supplier Business Model (7)

1.12.11 Vector AUTOSAR Solution Business Model

1.12.12 EB AUTOSAR Solution Business Model

1.12.13 Neusoft Reach AUTOSAR Solution Business Model

1.12.14 Business Model of i-Soft Infrastructure Software AUTOSAR Solution

1.12.15 Business Model of Jingwei HiRain AUTOSAR Solution

1.13 Automotive OS Open Organization: Autware Foundation

1.13.1 Profile

1.13.2 Autware

2. Basic Automotive OS and Enterprises

2.1 QNX

2.1.1 Profile

2.1.2 Business

2.1.3 QNX Real-time Operating System (Neutrino RTOS)

2.1.4 QNX Neutrino RTOS Support Platform

2.1.5 QNX Vehicle Application

2.1.6 QNX Cockpit Software Platform Solution

2.1.7 QNX Platform for ADAS

2.1.8 Partners

2.1.9 BlackBerry (QNX) Dynamics in Automotive

Table of Content (3)

2.2 Linux&AGL

- 2.2.1 Profile
- 2.2.2 Architecture
- 2.2.3 Version Updates
- 2.2.4 Version Updates
- 2.2.5 Version Updates
- 2.2.6 Customers
- 2.2.7 Members
- 2.2.8 Dynamics

2.3 Android

- 2.3.1 Introduction to Android & Andriod Auto
- 2.3.2 Android Automotive OS
- 2.3.3 Automotive Users of Android Automotive OS
- 2.3.4 Android 's Automotive Customers
- 2.3.5 Android's Dynamics In Automotive

2.4 AliOS

- 2.4.1 Introduction to AliOS
- 2.4.1 Introduction to AliOS
- 2.4.2 AliOS Three –Stage Strategy
- 2.4.3 AliOS Application Layer
- 2.4.4 AliOS Architecture
- 2.4.5 AliOS Intelligent Cockpit OS
- 2.4.6 Internet Car Solution - Panorama
- 2.4.6 Shared Mobility Solution - Panorama
- 2.4.6 Shared Mobility Solution - Technology System
- 2.4.6 Shared Mobility Services
- 2.4.7 Major Customers

2.4.8 Dynamics in the Automotive Sector

2.5 webOS

- 2.5.1 Development History
- 2.5.2 OSE Components and Development roadmap
- 2.5.3 Integration with AGL
- 2.5.4 Dynamics in the Automotive Sector

2.6 Harmony OS

- 2.6.1 Profile
- 2.6.2 Development History
- 2.6.3 HOS OS and Cockpit OS
- 2.6.4 Cooperation Models between HOS OS and Automakers
- 2.6.5 Huawei HiCar: Positioned as the Second-generation Smartphone Integration System
- 2.6.5 Huawei HiCar: Positioned as the Second-generation Smartphone Integration System
- 2.6.5 Huawei HiCar: Positioned as the Second-generation Smartphone Integration System
- 2.6.6 Landing

2.7 VxWorks

- 2.7.1 Profile
- 2.7.2 WindRiver Products: VxWorks
- 2.7.2 WindRiver Products: WindRiver Linux and Wind River AUTOSAR Adaptive Software Platform
- 2.7.2 WindRiver Products: Helix Virtualization Platform
- 2.7.3 WindRiver VxWorks Microkernel Architecture (1)
- 2.7.3 WindRiver VxWorks Microkernel Architecture (2)

Table of Content (4)

- 2.7.4 Main Partners in the Automotive Sector
- 2.7.5 Wind River's Dynamics in Automotive Sector

- 2.8 Integrity
 - 2.8.1 Profile
 - 2.8.2 Middleware and Platform
 - 2.8.3 Safety
 - 2.8.4 Stability
 - 2.8.5 Green Hills Software Integrity RTOS

- 2.9 Ubuntu
 - 2.9.1 Profile
 - 2.9.2 Historical Versions
 - 2.9.3 Application
 - 2.9.4 Cooperation in the Automotive Sector

- 2.10 ROS
 - 2.10.1 Profile
 - 2.10.2 Introduction to ROS 2.0
 - 2.10.3 ROS2.0 Iteration
 - 2.10.4 ROS 2.0 Architecture
 - 2.10.4 ROS Computing Architecture
 - 2.10.5 Application of ROS in BMW Operating System

- 2.11 Newstart
 - 2.11.1 Introduction
 - 2.11.2 Development History
 - 2.11.3 Cockpit Solution

- 2.11.4 Application Case: Application of ZTE Newstart Embedded OS in Virtual Dashboard

- 2.12 Zephyr project

3. Customized Automotive OS

- 3.1 Baidu DuerOS
 - 3.1.1 DuerOS Profile
 - 3.1.1 Competition with Android, Baidu Apollo to Create an Open Source Self-Driving Development Platform
 - 3.1.1 DuerOS Profile
 - 3.1.2 DuerOS Implementable Features
 - 3.1.2 DuerOS Application Scenarios and Customers
 - 3.1.2 In-Vehicle Solutions
 - 3.1.3 Cooperation Case of DuerOS-Dongfeng AEOLUS WindLink 3.0
 - 3.1.4 Apollo-DuerOS
 - 3.1.5 Apollo-DuerOS Cooperation Case: Chery LION Intelligent Cockpit
 - 3.1.6 Xiaodu In-Car OS 2020
 - 3.1.7 Landing
 - 3.1.8 Cooperation with Chery

- 3.2 Qing OS
 - 3.2.1 Profile
 - 3.2.2 Features
 - 3.2.3 Qing OS Application Case - inkaNet 3.0 System
 - 3.2.3 Cooperation Projects

- 3.3 TINNOVE
 - 3.3.1 Profile
 - 3.3.2 Development History

Table of Content (5)

3.3.3 R&D /Technology and Layout	3.6 AICC
3.3.3 R&D /Technology and Layout - Voice	3.6.1 Profile
3.3.3 R&D /Technology and Layout - Navigation	3.6.2 AICC takes the lead in organizing and promoting the automotive operating system standard
3.3.3 R&D /Technology and Layout -App	3.6.3 ICVOS: ICVOS
3.3.3 R&D /Technology and Layout –Cultural Innovation	3.6.4 ICVOS: Software Architecture
3.3.3 R&D /Technology and Layout --Platform	3.6.4 ICVOS: Development Architecture
3.3.3 R&D /Technology and Layout -Tests	3.6.4 ICVOS: SDK Architecture
3.3.4 Core Technologies and Major Products	3.6.4 ICVOS: Platform-based, connected, scalable
3.3.5 TINNOVE OpenOS	3.6.4 ICVOS: Vehicle-cloud collaboration
3.3.5 TINNOVE 3.0	3.6.4 ICVOS: Basic Information Security Platform
3.3.6 Major Customers and Cases	
3.3.6 Major Customers and Cases – Changan Auto	3.7 VW.OS
3.3.6 Major Customers and Cases – JETOUR	3.7.1 Profile
3.3.7 Products and Technology Roadmap	3.7.2 Development History
3.3.8 Development Strategy and Planning	3.7.3 Overall Layout of VW Software
3.3.9 Other (Awards)	3.7.4 VW.OS Roadmap - Hardware, Software to be Unified
	3.7.5 VW to Increase the Proportion of Self-developed Software to 60% in the Future
3.4 Mushroom OS	
3.4.1 Profile	3.8 Tesla OS
3.4.2 Other Products and Services of Mogu Chelian	3.8.1 Profile
3.4.3 Customers and Partners	3.8.2 Tesla: Cloud Operating System
3.5 Apex.AI	3.9 Nvidia DRIVE OS
3.5.1 Profile	3.9.1 Profile
3.5.2 Dynamics	3.9.2 Drive OS SDK Architecture
3.5.3 Apex.OS Features	
3.5.4 Apex. OS Application Scenarios and Services	3.10 Bosch: Construction of New Operating System Architecture Based on Controller Hardware Product

Table of Content (6)

3.11 Toyota Arene OS

3.11.1 Toyota Arene OS Introduction

3.11.2 Ecological Resources of Toyota Arene OS

3.12 Geely SEA OS

3.12.1 Features

3.13 Xiaomi VELA

3.13.1 Profile

3.13.2 VELA Architecture

3.14 MB OS

3.14.1 Profile

3.14.2 MB OS Cooperation

4. Hypervisor

4.1 Profile

4.1.1 What Is Hypervisor

4.1.2 Hypervisor Comparison

4.1.3 Status Quo of Hypervisor Industry

4.1.4 Application of Smart Cockpit Hypervisors in China

4.1.5 Prospects of Global Automotive Hypervisor Market

4.1.6 Global Hypervisor Suppliers and Their Product Lists (1)

4.1.6 Global Hypervisor Suppliers and Their Product Lists (2)

4.1.6 Global Hypervisor Suppliers and Their Product Lists (3)

4.1.6 Global Hypervisor Suppliers and Their Product Lists (4)

4.1.6 Global Hypervisor Suppliers and Their Product Lists (5)

4.1.6 Global Hypervisor Suppliers and Their Product Lists (6)

4.1.7 Chinese Hypervisor Suppliers and Their Product Lists

4.1.8 Automotive Virtual Machine Management System Business Model

4.1.9 Hypervisor and Business Model (1)

4.1.9 Hypervisor and Business Model (2)

4.1.9 Hypervisor and Business Model (3)

4.1.9 Hypervisor and Business Model (4)

4.2 QNX Hypervisor

4.2.1 Profile

4.2.2 Features

4.2.3 QNX Hypervisor Solution

4.3 ACRN

4.3.1 Profile

4.3.2 Structure

4.4 COQOS Hypervisor

4.4.1 COQOS Hypervisor

4.4.2 COQOS Hypervisor SDK 9.5

4.4.3 Mixed VIRTIO / Non-VIRTIO Architectures

4.4.4 “Next Gen COQOS” Heterogeneous Cores

4.5 PikeOS

4.6 EB Corbos Hypervisor

4.7 Harman Device Virtualization

4.8 VOSYSmonitor

4.9 L4Re

4.10 Xen Project

Table of Content (7)

4.11 ZlingSmart

4.11.1 Profile

4.11.2 ZlingSmart RAITE Hypervisor: System Design

4.11.3 ZlingSmart RAITE Hypervisor: Intelligent Cockpit Solution

4.11.4 "RAITE OS"Micro-kernel OS

5. IVI Mobile Phone Mapping Software

5.1 CarPlay

5.1.1 Apple's Car Development Progress

5.1.2 Apple's Titan Project Management Architecture

5.1.3 Introduction to Carplay

5.1.4 Carplay Split-Screen Display

5.1.5 Carplay Calendar & Carplay Third party APP Language control Right

5.1.6 Automakers Equipped with Carplay

5.2 Android Auto

5.2.1 Profile

5.2.2 Android Auto History

5.2.3 New Features of Android 12: Android Auto driving function will be replaced by Google Assistant driving mode

5.2.4 Software Architecture

5.2.5 Connection

5.3 Carlife

5.3.1 Introduction to Carlife

5.3.2 CarLife+

5.3.3 CarLife+Partial Cooperative OEMs

5.3.4 Technology Architecture Parameters

5.3.4 Development Architecture

5.3.5 Carlife and Samsung Launched Custom Version

5.4 MirrorLink

5.4.1 Introduction

5.4.2 Cooperated Models and Compatible Mobile Phone

5.4.3 MirrorLink Framework

5.5 Hicar

5.5.1 Introduction to Hicar

5.5.2 New Baojun Adopts Hicar

5.5.3 Partners of Hicar

5.6 EasyConnection

5.6.1 Introduction to EasyConnection

5.6.1 Introduction to EasyConnection

5.6.2 Users of EasyConnection

5.6.3 First Installation and Update of Software

5.7 Qing Mobile

5.7.1 Introduction to Qing Mobile

5.7.2 Highlight Features of Qing Mobile

5.7.3 Cooperation Projects

5.8 SSP-Link

5.9 ViVo Jovi incar

5.10 Xiaomi CarWith

Table of Content (8)

6. Automotive OS Solution Enterprises

6.1 Neusoft NeuSAR

6.1.1 Intelligent Connected Vehicle Business Layout

6.1.2 Neusoft Deeply Customizes the System Architecture Based on Android

6.1.3 Introduction to NeuSAR

6.1.4 Dynamics of NeuSAR

6.1.5 Software-defined Computing (SDC) Solution

6.1.6 Core Platform for SDC Business: NeuSAR

6.1.7 Main Products: NeuSAR ACORE

6.1.7 Main Products: NeuSAR CCORE

6.1.8 Software Architecture for SDV

6.1.9 Series Solutions for SDV

6.1.10 Basic Software Product: NeuSAR 3.0

6.1.10 NeuSAR 3.0 (1)

6.1.10 NeuSAR 3.0 (2)

6.2 ThunderSoft

6.2.1 Profile

6.2.1 Profile

6.2.1 Profile

6.2.2 Development Course

6.2.3 OS Service

6.2.4 Product: E-Cockpit Intelligent Connected Cockpit 4.0

6.2.5 OS Program

6.2.6 Middleware OS Layout

6.3 iSoft

6.3.1 Introduction to iSoft

6.3.2 Development Course

6.3.3 New Projects

6.3.4 Product and Service

6.3.5 AUTOSAR CP+AP Integrated Solution

6.3.6 OS Architecture

6.4 ArcherMind Technology

6.4.1 Introduction to ArcherMind Technology

6.4.2 Introduction to UOS

6.4.3 Main Product: UOS Server Edition OS

6.4.3 Main Product: Automotive Electronics Products

6.5 ZTE

6.5.1 ZTE GoldenOS Solution(1):Micro kernel and Macro kernel Technology Architecture

6.5.2 ZTE GoldenOS Solution(2): Intelligent Driving OS Solution

6.5.3 ZTE GoldenOS Solution(3): Intelligent Cockpit OS Solution

6.5.4 ZTE GoldenOS Solution(4): Vehicle Control OS Solution

6.6 RT-Thread

6.6.1 RT-Thread“Chengxuan”In-vehicle Fusion Software Platform

Contact



Beijing Headquarters

TEL: 010-82601561, 82863481


Mobile: 137 1884 5418

Email: report@researchinchina.com

Website:
www.researchinchina.com

WeChat: [zuosiqiche](#)



 [zuosiqiche](#)



Chengdu Branch

TEL: 028-68738514

FAX: 028-86930659