

ADVANTECH

WISE-STACK Private Cloud

Enjoy the Experience of a Public Cloud, with the Confidentiality of a Private Cloud



WISE-PaaS On-Premise Deployment

WISE-STACK is Advantech's private cloud offering with an on-premise deployment method. The fully integrated system offers the complete cloud experience and development toolset. End-to-end security features and a user defined access pathway ensures security and privacy of data and AI models. WISE-STACK is designed and tested to host AIoT applications with high availability, elastic expansion, and high data throughput characteristics. All WISE-PaaS services offer seamless integration with Advantech edge devices. Companies can easily complete their IoT initiatives by combining Advantech's edge computing products with WISE-STACK.

Privacy

Continuous
Operation

Multi-tenancy
Support

Enable IoT
Solution

Easy
Expansion

Cost Effective



Istio



Knative



kubernetes



Micro-
services

Container

Hardware
Resource
Management



IaaS

WISE-STACK Configuration

Controller Node: Controls operation and coordination of services to achieve load balancing and high data throughput. Three controller nodes guarantee high availability for operational continuity, even when a server goes down. Users can perform hot-swap maintenance and ensure the performance of their private cloud.

HCI Node: Hyper-converged node provides high computation power and storage space. The number of HCI nodes is subject to the scale of IoT service.

Analytic Node: WISE-PaaS architecture incorporates Kubernetes - utilizing the power of graphic cards - to shorten the training period for deep learning.

	WISE-STACK 200 Standard	WISE-STACK 300 Advanced	WISE-STACK 600 Professional
	On-premises Data Platform	CPU-based AI with 3D Visualization	GPU Resource Management
Operation Management	•	•	•
2D & 3D Dashboards	2D	•	•
Equipment & Device Management	•	•	•
CPU Based AI Framework Service		•	•
AI Framework Service with GPU Resource Management			•
SKY-8101		(3) Controller Nodes	(3) Controller Nodes
SKY-7221	(3) HCI Nodes	(3) HCI Nodes	(6) HCI Nodes
SKY-6400			(1) Analytic Node



Visualization WISE-PaaS/SaaS Composer WISE-PaaS/Dashboard Low-code dashboards with various panels and 2D/3D rendering	Asset Performance Mgmt. WISE-PaaS/APM Cross-site asset management to accelerate solution building	AI Framework Service WISE-PaaS/AFS AI models training, deployment and life cycle management.
Edge Connectivity WISE-PaaS/WISE.M+ WebAccess/SCADA WISE-PaaS/DeviceOn WISE-PaaS/VideoSense WISE-PaaS/LwM2M EDGE X FOUNDRY Industrial data acquisition and edge devices remote management/ monitoring	IoT Hub Services Reliable message publish/subscribe functions from streaming data gateway	Database Services Complete data infrastructure for SQL, NoSQL, and time series data structures

WISE-STACK 300 Ordering Information

WISE-STACK Advanced Set					
WISE-STACK-300	Hardware	Item	Unit	Detailed item	Specification of each node
		Controller Node	3	Chasis	2U rackmount with 4 hot-swap SAS/SATA slots
				CPU	10 cores at 2.2Ghz and 13.75M cache
				RAM	64G DDR4 ram at 2666MHz
				Storage for OS	512GB SSD (SATAIII and MLC)
				Storage for Log	4TB at 7KRPM (SATAIII)
				Network adaptor	10GbE SFP+ *4
		HCI Node	3	Chasis	2U rackmount with 12 hot-swap
				CPU	10 cores at 2.2Ghz and 13.75M cache
				RAM	256G DDR4 ram at 2666MHz
				Storage for OS	960GB SSD (SATAIII and MLC)
				Storage for Cache	960GB SSD (SATAIII and MLC)
				Storage for user data/application (Ceph)	32TB at 7KRPM (SATAIII)
		Network adaptor	10GbE SFP+ *4		
	PaaS	Item	Unit	Detailed item	Explanation
		WISE-PaaS Services	1	OpenStack (by BigStack)	Hardware management
				Kubernetes	Computing resource management and container orchaestration
				IoT Hub (RabbitMQ)	MQTT/AMQP protocol message queue
				InfluxDB	Time series database
				MongoDB	NoSQL database
				PostgreSQL	SQL database
				WISE-STACK health monitoring dashboard	WISE-STACK infrastructure and operation monitoring dashboard
				Single-sign-on service	Standard and cross-application sign in mechanism
				WISE-PaaS/Dashboard & WISE-PaaS/SaaS Composer	Visualization tool
				Management portal	UI for application space, user account, and application deployment management
				Metering tool	Meter WISE-PaaS/EnSaaS resource usage of each tenant account
				Technical documentation	Documentation for WISE-PaaS/EnSaaS
				WISE-PaaS/APM	Edge device data collection, monitoring, and management configuration tool
				WISE-PaaS/AFS (CPU-based)	AI Framework Service for AI development
Optional Purchases					
HCI Node for Expansion	WISE-STACK-HC10	Unit	Detailed item	Specification	
		1	Chasis	2U rackmount with 12 hot-swap	
			CPU	10 cores at 2.2Ghz and 13.75M cache	
			RAM	256G DDR4 ram at 2666MHz	
			Storage for OS	960GB SSD (SATAIII and MLC)	
			Storage for Cache	960GB SSD (SATAIII and MLC)	
			Storage for user data/application (Ceph)	32TB at 7KRPM (SATAIII)	
			Network adaptor	10GbE SFP+ *4	
Analytic Node	WISE-STACK-AN10-1	1	Chasis	4U rackmount supporting 4 PCIe x16 double-deck FH/FL card, or 8 PCIe single-deck FH/FL card	
			CPU	24 cores at 2.1GHz and 16.5M cache	
			RAM	192G DDR4 ram at 2666MHz	
			Storage for OS	128GB SSD (SATAIII and MLC)	
			Storage for Log	2TB at 7KRPM (SATAIII)	
			Network adaptor	2-port 10GBase-T NIC w Intel X550	
			GPU	4 NVIDIA Tesla P40 cards (8GB PCIe) [Option to change to P100 or V100 cards]	

WISE-STACK 600 Ordering Information

WISE-STACK Professional Set					
WISE-STACK-600	Hardware	Item	Unit	Detailed item	Specification of each node
		Controller Node	3	Chasis	2U rackmount with 4 hot-swap SAS/SATA slots
				CPU	10 cores at 2.2Ghz and 13.75M cache
				RAM	64G DDR4 ram at 2666MHz
				Storage for OS	512GB SSD (SATAIII and MLC)
				Storage for Log	4TB at 7KRPM (SATAIII)
				Network adaptor	10GbE SFP+ *4
		HCI Node	6	Chasis	2U rackmount with 12 hot-swap
				CPU	10 cores at 2.2Ghz and 13.75M cache
				RAM	256G DDR4 ram at 2666MHz
				Storage for OS	960GB SSD (SATAIII and MLC)
				Storage for Cache	960GB SSD (SATAIII and MLC)
				Storage for user data/application (Ceph)	32TB at 7KRPM (SATAIII)
		Analytic Node	1	Network adaptor	10GbE SFP+ *4
				Chasis	4U rackmount supporting 4 PCIe x16 double-deck FH/FL card, or 8 PCIe single-deck FH/FL card
				CPU	24 cores at 2.1Ghz and 16.5M cache
				RAM	192G DDR4 ram at 2666MHz
				Storage for OS	128GB SSD (SATAIII and MLC)
				Storage for Log	2TB at 7KRPM (SATAIII)
				Network adaptor	2-port 10GBase-T NIC w Intel X550
		GPU	4 NVIDIA Tesla P40 cards (8GB PCIe) [Option to change to P100 or V100 cards]		
	PaaS	Item	Unit	Detailed item	Explanation
		WISE-PaaS Services	1	OpenStack (by BigStack)	Hardware management
				Kubernetes	Computing resource management and container orchaestration
				IoT Hub (RabbitMQ)	MQTT/AMQP protocol message queue
				InfluxDB	Time series database
				MongoDB	NoSQL database
				PostgreSQL	SQL database
				WISE-STACK health monitoring dashboard	WISE-STACK infrastructure and operation monitoring dashboard
				Single-sign-on service	Standard and cross-application sign in mechanism
				WISE-PaaS/Dashboard & WISE-PaaS/SaaS Composer	Visualization tool
				Management portal	UI for application space, user account, and application deployment management
				Metering tool	Meter WISE-PaaS/EnSaaS resource usage of each tenant account
				Technical documentation	Documentation for WISE-PaaS/EnSaaS
				WISE-PaaS/APM	Edge device data collection, monitoring, and management configuration tool
				WISE-PaaS/AFS	AI Framework Service with GPU resource management for AI development
Optional Purchases					
HCI Node for Expansion	WISE-STACK-HC10	Unit	Detailed item	Specification	
		1	Chasis	2U rackmount with 12 hot-swap	
			CPU	10 cores at 2.2Ghz and 13.75M cache	
			RAM	256G DDR4 ram at 2666MHz	
			Storage for OS	960GB SSD (SATAIII and MLC)	
			Storage for Cache	960GB SSD (SATAIII and MLC)	
			Storage for user data/application (Ceph)	32TB at 7KRPM (SATAIII)	
Analytic Node	WISE-STACK-AN10-1	1	Network adaptor	10GbE SFP+ *4	
			Chasis	4U rackmount supporting 4 PCIe x16 double-deck FH/FL card, or 8 PCIe single-deck FH/FL card	
			CPU	24 cores at 2.1Ghz and 16.5M cache	
			RAM	192G DDR4 ram at 2666MHz	
			Storage for OS	128GB SSD (SATAIII and MLC)	
			Storage for Log	2TB at 7KRPM (SATAIII)	
			Network adaptor	2-port 10GBase-T NIC w Intel X550	
GPU	4 NVIDIA Tesla P40 cards (8GB PCIe) [Option to change to P100 or V100 cards]				



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