ADVANTECH

Enabling an Intelligent Planet

EI-52 Edge Intelligent System Solution eBook

Factory Automated Management

- Real-time monitoring and wireless communication
- Supports industrial protocol OPC-UA/Modbus/REST
- Data security and recovery services

EI-52 *Edge Intelligent System*

All-in-one Compact High Performance for AIoT Application

Plug & Play System Design

- Easy start-up and configuration for IoT deployment
- 11th Gen Intel® delivers powerful computing with built-in SSD/memory

Edge-to-Cloud Interconnection

- Integrated software architecture and low-code integration
- Sensing data integration and built-in remote management software

AI x 5G Platform Ready

- Compatible AI acceleration model with Intel® Movidius™ Myriad X VPU
- Compatible 5G modules achieve 10 x faster throughput and 100 x traffic capacity

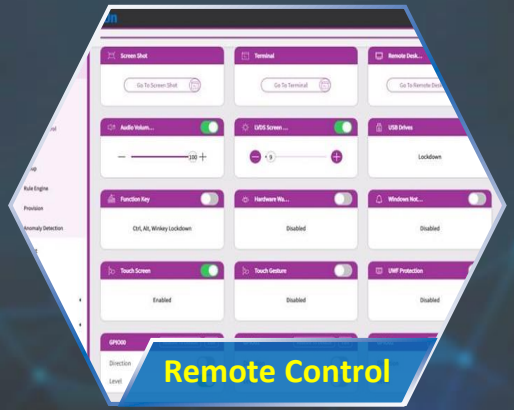
30% Increase in Operational Efficiency

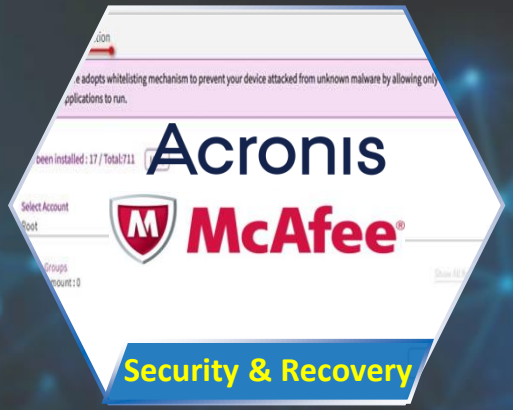
50% Reduction in Maintenance Cost

60% Reduction in Deployment Time

WISE-DeviceOn

Enable Remote Device Management and Improve Efficiency





Highlights

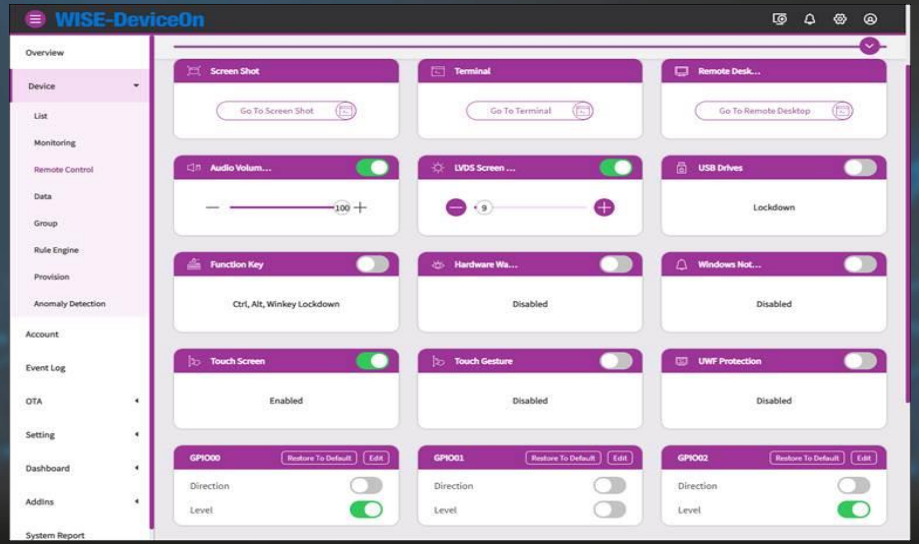
- **Dashboard overview**
- **Real-time status**
- **Device list & health status**
- **Easy-to-Use UI**
- **Remote power management**
- **Windows lockdown**
- **Backup w/o interrupting current tasks**
- **Dynamic scheduling for backup timing**
- Unauthorized applications blocking

Device Secure Control

WISE-DeviceOn

Configure and Control Your Device Easily

- **Remote Power Management**
- **HW Watchdog**
- **Windows Lockdown**
  - Volume Control
  - LVDS Screen Brightness
  - USB Lockdown, Keyboard Lock
  - Touch Screen & Gestures Lock
  - Notification block
  - UWF Protection



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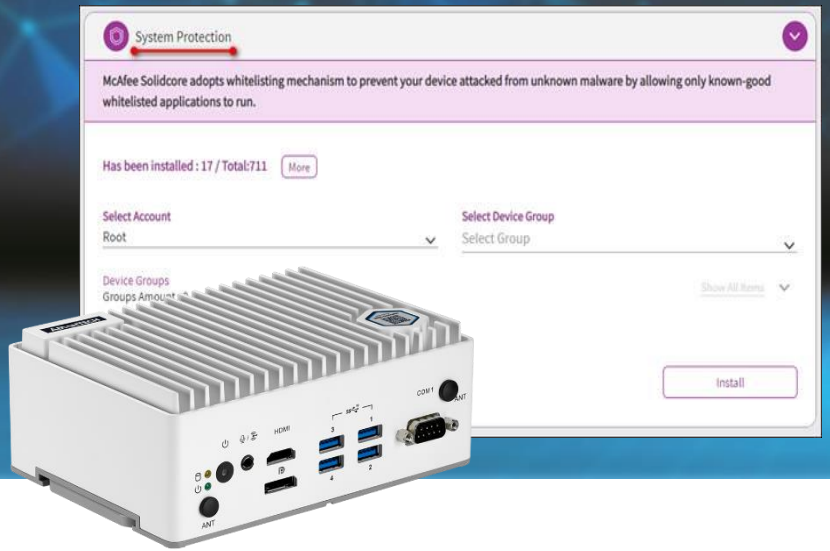
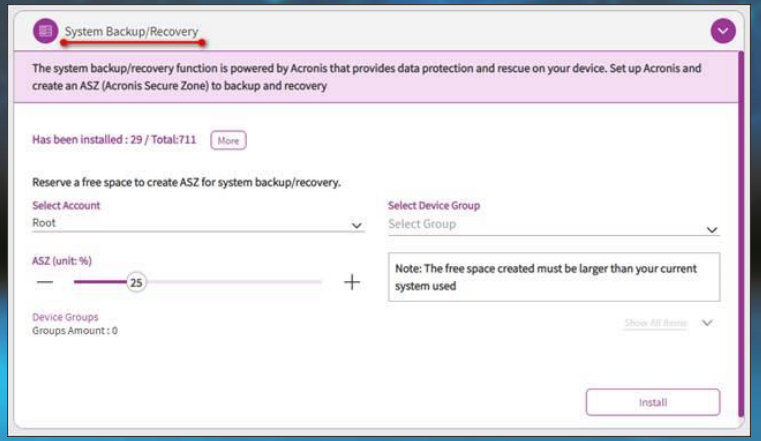
Protection & Recovery

WISE-DeviceOn

- **Powered by Acronis Backup and Recovery technology**
  - Hot backup without interrupting current tasks
  - Regular automated backup with dynamic scheduling



- **Powered by McAfee application control technology**
  - Dynamic whitelisting model to block unauthorized apps
  - No continuous virus definition updating required



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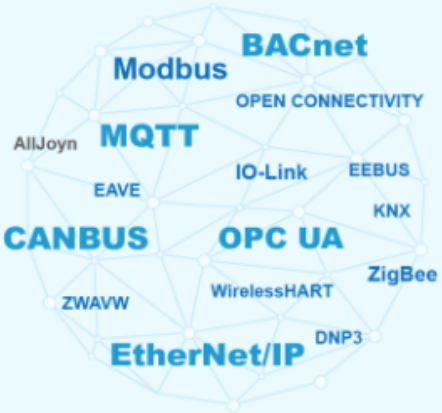
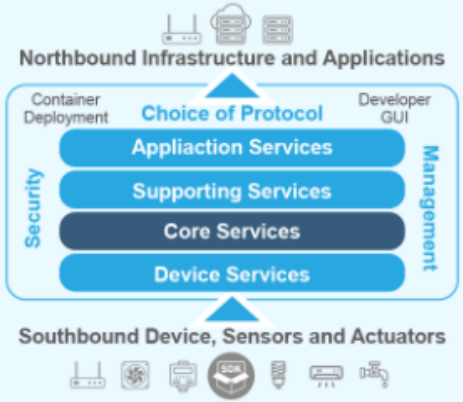
Accelerating Data Acquisition and Application Development

EDGE X FOUNDRY™

IoT Open Software Platform Built-in





Heterogeneous Device Connection

- Supports heterogeneous device connection and communication protocols
- Built-in web UI remote peripheral monitoring
- Open device SDK for easy customization and integration

Application Integration and Data Analytics

- Supports Azure/ AWS/ Alibaba/ WISE-PaaS
- Quickly develop applications by supporting data format standardization and rule engines
- Open app SDK for easy integration

Neutral and Open Platform

- Full AIoT development framework
- Unified open source edge community collaboration (Intel®, DELL, VMWare, Linux Foundation…)
- Cross-platform support (Windows/ Linux OS, x86/ RISC)

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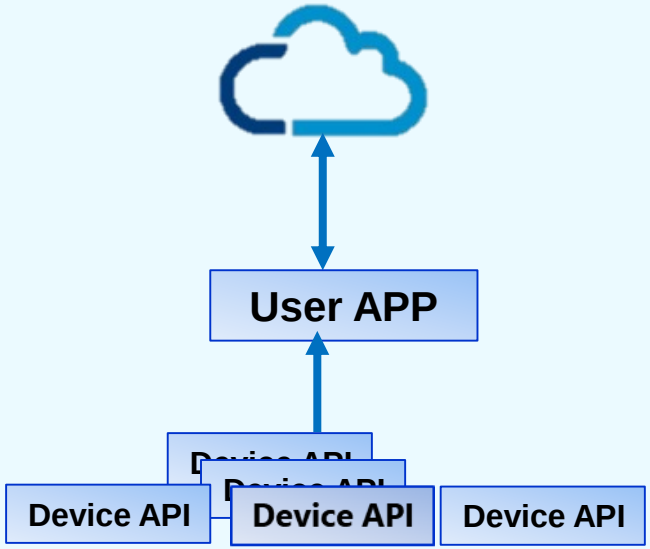
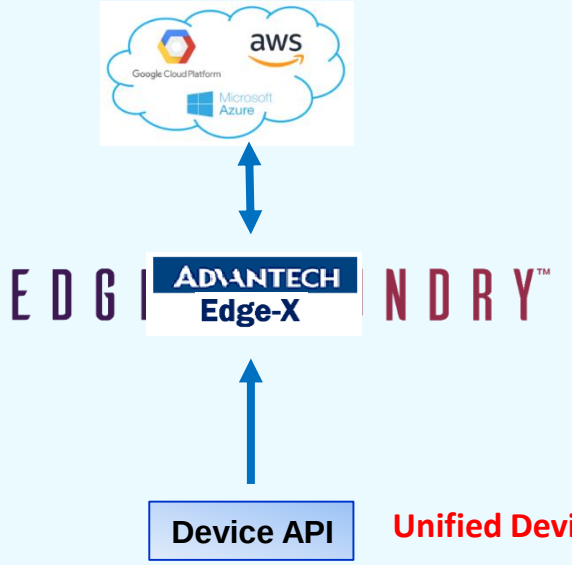
Why Edge X?

Open Platform to Speed up Data Acquisition and Application Development

Traditional Architecture



Edge X Architecture



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EI-52 Feature Highlights

- Intel® Core i5-1145G7E/i3-1115G4E/Celeron-6305E, i5 Turbo boost up to 4.1 GHz
- 4K HDMI + DP 1.4a Dual display
- 2x Intel GbE, 2x RS-232/422/485, 4x USB 3.0, 2x USB 2.0
- Built-in 16G/8G DDR4 Memory & 64G SATA Slim SSD
- OS supports Win 10 IoT & Ubuntu 20.04
- Pre-installed Edge X Expendable data acquisition API and WISE-DeviceOn
- Intel VNNI/OpenVINO & Advantech Edge AI Suite support for AI/deep learning

Target Applications:

Smart City/ Factory Automation/ Retail/ Self-service kiosk

11th Gen. intel CORE i5

HDMI+DP

Ready to Use

Fan-less

Edge-X WISE-DeviceOn

OpenVINO

Edge AI Suite

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EI-52 Expansions: Wi-Fi

Optional Wi-Fi Kit — Supports EWM-W189H02E Wi-Fi and Bluetooth Modules

- Add-on wireless capabilities: EWM-W189H02E Wi-Fi module
- Supports Wi-Fi 802.11ac/a/b/g/n and Bluetooth 5.0
- Supports -40 ~ 70 ˚C (-40 ~ 158 ˚F) operating temperature
- Support Windows 10 and Linux kernel 4.0 or above

EI-52 Expansions: AI

Optional VEGA-330 AI Module with Intel® Movidius® VPU

- Add-on AI capability: up to 8 TOPS with 7.6 watt
- Edge AI Suite with 100+ pre-trained AI models, graphic UI, and built-in OpenVINO accelerates development
- FaceView industrial app with high precision AI engine and SDK for facial recognition applications

Power Efficient Edge AI Inference:
up to **8** TOPS @ **7.6** Watt

AMK-A0038

Including VEGA-330 and Thermal solution

Certificate PASS!

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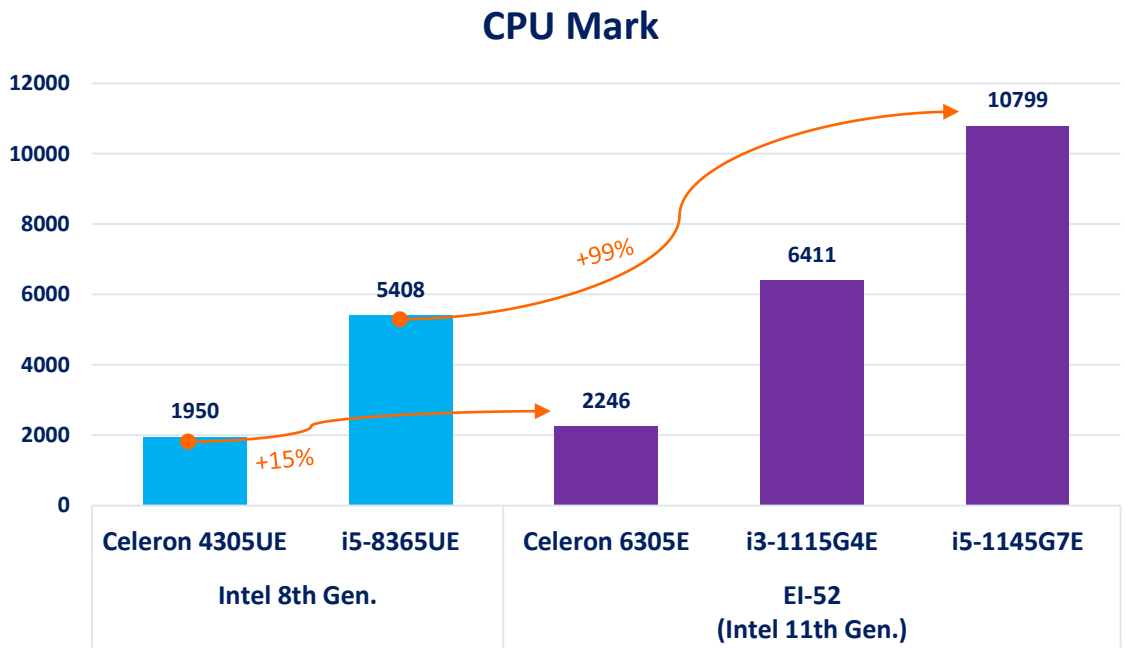
CPU Performance Benchmark

- Compared with i5-8365UE (8th Gen.), i5-1145G7E (11th Gen.) performance increase 99%

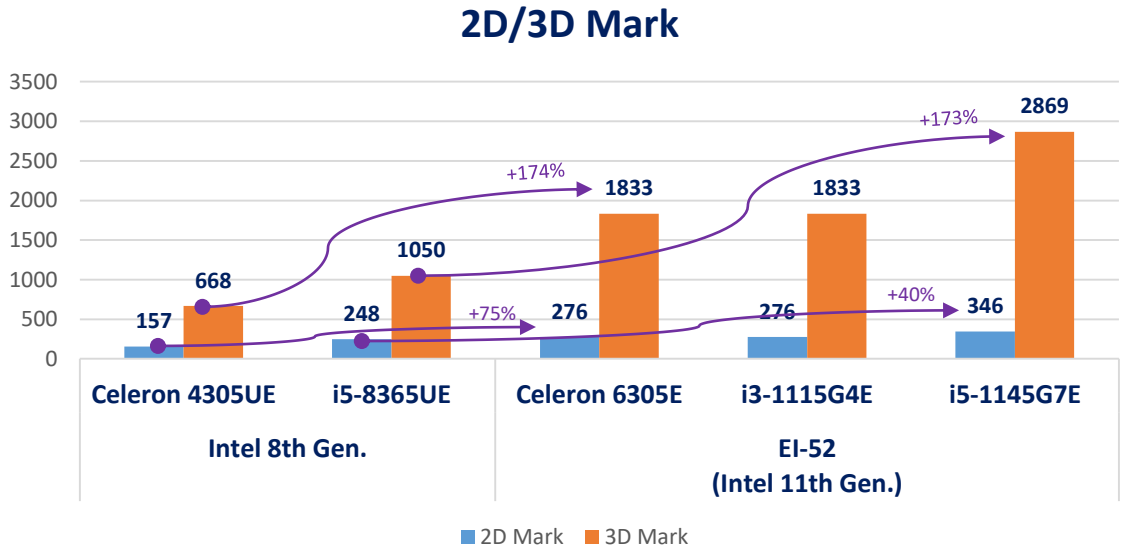
- Compared with Celeron 4305UE (8th Gen.), Celeron 6305E (11th Gen.) performance increase 15%



Graphic Performance Benchmark

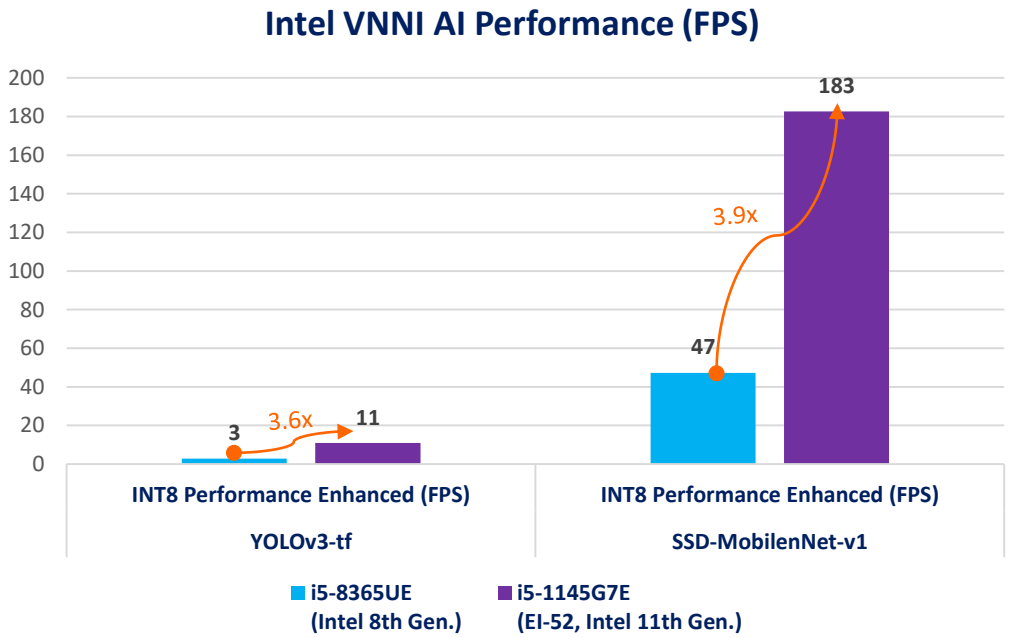
- Compared with i5-8365UE (8th Gen.), i5-1145G7E (11th Gen.) 2D performance increase 40%, 3D performance increase 173%

- Compared with Celeron 4305UE (8th Gen.), Celeron 6305E (11th Gen.) 2D performance increase 75%, 3D performance increase 174



Intel VNNI AI Performance Benchmark

- Compared to previous 8th Gen., Intel 11th Core i processor supports **Vector Neural Network Instruction (VNNI)**, which improves AI inference performance about 4x higher.



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Co-Creating the Future of the IoT World