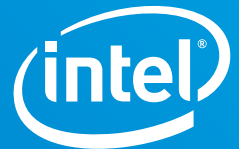


# PRODUCT BRIEF

Intel® Kiosk Peripheral Management Utility



## Efficient Remote Operation and Maintenance Help Build Highly Reliable Kiosk Solutions

**Intel® KPM Utility supports users to remotely operate and maintain self-service kiosk peripherals, reducing USB port failure rate by 30-50% and the number of operation and maintenance attendances by 30-40%.**

Self-service kiosks present one of the largest growth opportunities with use cases across majority of industries with an addressable market of 4.8 million units in 2020 and a staggering compound annual growth rate (CAGR) of 26%<sup>1</sup>.

"Self-service kiosks today are playing a significant role in improving the operations of businesses digital transformation. In close collaboration with our key partners such as Seavo Technology, we are equipping the ecosystem with solution reference designs and software development kits to enable robust products to address the market pain points while enabling the end users for differentiated market applications with the flexibility to integrate new capabilities such as artificial intelligence. This will help transform self-service kiosks into smarter and versatile business information processing platforms."

– Alec Gefrides

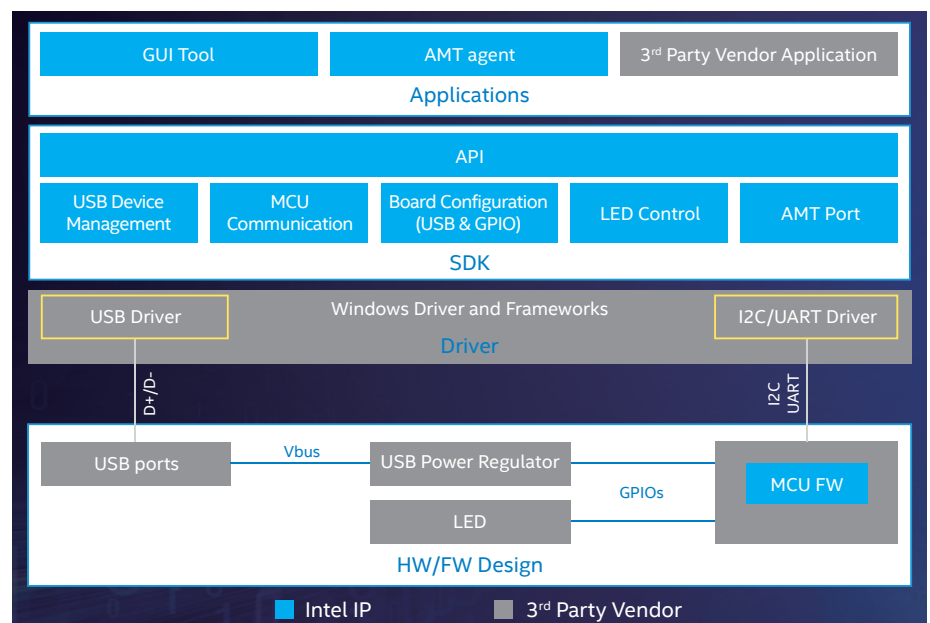
General Manager, Products & Technologies  
Retail, Banking, Hospitality & Education (RBHE)  
Internet of Things Group, Intel

### Intel® KPM Utility enables improved maintenance and reduced downtime

Driven by the development and commercial application of artificial intelligence (AI), computer vision, mobile Internet, and some other technologies, an increasing number of self-service kiosks are found rapidly deployed in a wide range of scenarios, such as urban streets, bank lobbies, hospitals, and government reception areas. They are used to provide self-service information inquiry, self-service receipt and payment, self-service business processing, etc., giving full play to the advantages in expanding business service coverage, saving human resources expenditure, and meeting personalized service needs.

As Interactive Digital Kiosks become more dynamic, it is increasingly critical to ensure the peripheral devices connected to kiosks are being managed and secured properly to ensure operational efficiencies. These multi-functional kiosks are equipped with feature-rich capabilities to enable AI, analytics and sensing applications to novel ways of interaction from mobile integration to touchscreen, gesture and voice.

Intel and its partners have jointly launched Intel® Kiosk Peripheral Management Utility (Intel® KPM Utility). It is designed to help customers in the interactive self-service kiosks market to address the challenges of difficult on-site device maintenance, complex peripheral management, and multiple failures. By combining the functions of software and hardware, Intel® KPM Utility helps to meet the management and maintenance needs of a variety of smart self-service



Architecture of Intel® KPM Utility-based Self-service Kiosk Solution

peripherals, supporting end customers to easily carry out multi-site deployment and long-term system maintenance.

Intel® KPM Utility enables a smarter and more efficient way to deploy Intel®-based kiosk systems by providing software tools and hardware design considerations for design manufacturers and system integrators to directly integrate into their kiosk system designs, enabling a more holistic monitoring and control of the peripheral devices.<sup>2</sup>

Moreover, when implemented on Intel®-based kiosk systems with Intel® vPro® technology, the Intel® KPM Utility delivers a powerful feature to remotely<sup>3</sup> manage and resolve the peripheral devices related issues without the need to physically interfering with the kiosk systems therefore saving on the costly on-site IT service calls.

Its software includes dedicated USB port diagnosis tool and UI management tool, which help address customers' system diagnostics and solution requirements. Intel also provides flexible software development kits (SDK) to meet customers' needs to integrate system applications. The hardware part includes the power management scheme for the peripheral interface on the motherboard, and the dedicated micro control unit (MCU) design, which deliver the reset function for the software and hardware of peripheral USB devices by following the communication protocol between the host and the MCU.

- **Efficient remote maintenance** – Intel® KPM Utility, coupled with Intel® Active Management Technology (AMT), can remotely enable the software and hardware reset without the need to have the maintenance personnel on-site therefore improving operational efficiency and reducing the associated labor costs.
- **Multiple resolution methods** – Intel® KPM Utility supports two reset options to meet the maintenance needs in different application scenarios flexibly: First, use Intel® KPM Utility to control USB devices to achieve software reset in accordance with the USB bus protocol; second, in Intel® KPM Utility, use the dedicated MCU to restart the 5V power supply of corresponding USB ports for hardware reset.
- **High integration design** – Intel® KPM Utility provides corresponding hardware reference design and software to facilitate customers to design an integrated system of industrial control motherboard and self-service device, helping self-service kiosk designers and manufacturers save space, reduce wires consumption, and better meet the needs of heat dissipation.
- **Scalability and flexibility** – Intel® KPM Utility supports a wide range of computing platforms. It does not occupy platform hardware resources, which is convenient to import and expand the design. It is applicable to multiple computing platforms, including platforms based on the latest Intel® Core™ processors.
- **Efficient operation and maintenance guarantee** – Intel® KPM Utility provides users with more robust self-service support. It is able to use remote technology to timely detect potential faults, and solve most of USB device problems by remotely controlling the software and hardware reset functions, thereby ensuring that self-service kiosks are always available. For enterprises, ensuring the stability and availability of self-service kiosks will not only provide users with more stable and sustainable services, but help them reduce operation and maintenance pressure and costs, improve unattended intelligent capabilities of self-service kiosks, and provide high value proposition to customers in the marketplace.

## Support for new uses cases

Intel® KPM Utility can help users build stable and highly available self-service kiosks, so as to expand service areas, reduce service costs and provide better services to end users. The Intel® KPM Utility can meet the extensive needs of users in industries such as banking, healthcare and government, and can support self-service product and solution providers to create specialized solutions based on specific needs of industries.

### Banking

With Intel® KPM Utility, customers can develop highly available self-service kiosks for banking services. Different from traditional ATMs, these self-service kiosks not only provide functions such as account query and deposit and withdrawal, but also meet the business query and handling requirements such as statement printing, card replacement/renewal, self-service loss reporting, etc., This replaces the work of tellers to a greater extent, expands service areas, saves human resources, and reduces waiting time. Thanks to Intel® KPM Utility, financial institutions are able to better ensure the stability of devices and reduce losses caused by downtime and other problems.

### Healthcare

Self-service kiosks for healthcare industry scenarios can provide self-service capabilities such as registration, cash recharge, bank card transaction, payment, appointment registration, report printing, inquiry, barcode scanning and other functions. Thanks to Intel® KPM Utility, healthcare industry users can deploy self-service kiosks in more areas, reduce the workload of operation and maintenance personnel, and accelerate the implementation of smart healthcare while ensuring rapid service to patients.

### Government

Intel® KPM Utility can help users develop self-service kiosks for government scenarios. While ensuring stability and availability, the kiosks can provide information display, e-government, living expenses payment, summons payment, gas payment, road and bridge payment and other functions. It can also be connected with various e-government systems, allowing the public to obtain information and access convenient services more quickly. Intel® KPM Utility can help reduce government concerns in operation and maintenance, thus speeding up the implementation of smart government infrastructure.



<b>System Requirements</b>	<ul style="list-style-type: none"> <li>– Intel® Core™ Processors</li> <li>– Windows 10 (64bit)</li> <li>– Board design following the Intel® KPM Utility Design Guide</li> </ul>
<b>Intel® KPM Utility Features</b>	<ul style="list-style-type: none"> <li>– USB software reset</li> <li>– USB hardware reset</li> <li>– LED control</li> <li>– MCU communication over I2C and UART</li> <li>– USB device status monitor</li> <li>– Board configuration</li> <li>– GUI tool</li> <li>– Software development kit</li> <li>– AMT agent</li> </ul>

## Industry Support for Intel® KPM Utility

### Kioskhomes

"Intel® KPM Utility can help us effectively find and solve the inherent O&M problems of self-service kiosks, thereby reducing equipment maintenance costs, improving brand premium capabilities, and helping build a friendly industry ecosystem. Kioskhomes is willing to work with Intel and other partners to promote the application of this solution in healthcare and government industries, to create more innovative high-tech and intelligent products, to shape the future with technological innovation, and to contribute to the development of the intelligent self-service industry."



– Zhong Jiangang  
General Manager  
Kioskhomes

### Seavo Technology

"Based on Intel® KPM Utility, we have successfully launched Seavo self-service application motherboard and USB port real-time recovery software. This solution helps us detect and remotely fix peripheral failures in a timely manner, thereby reducing device failure probability and maintenance costs. It helps manufacturers design self-service kiosks that meet future load demands. Statistics of on-site support cases show that using Intel® KPM Utility reduces the number of operation and maintenance attendances by 30-40% and USB port failure rate by 30-50%."



– Wu Wenpu  
Deputy General Manager  
Seavo Technology

### Fodenn

"Thanks to Intel® KPM Utility, we are able to significantly improve the stability and usability of self-service terminals without major modifications to the existing hardware platform, thereby effectively controlling development costs and shortening the development cycle. At present, we have provided industry users with self-service terminals based on Intel® KPM Utility to help users meet the requirements of low failure rate and low failure recovery time, and continue to accelerate users' business rollout."



– Xiang Xiao  
General Manager  
Fodenn

### Cashway Fintech Co., Ltd.

"Intel® KPM Utility is intended to solve operation and maintenance pain points of self-service device manufacturers. It helps us effectively solve related problems and reduce operation and maintenance difficulties and costs. It is also beneficial to establishing a better environment for win-win cooperation in the self-service device industry. Cashway is willing to work with Intel, Seavo, and other partners to promote the application of this solution in finance and other industries, create more high technologies and intelligent products with core market competitiveness, promote market innovation based on technological innovation, and make contributions to the development of the intelligent technology community."



– Li Jinkui  
System Hardware Architect  
Cashway Fintech Co., Ltd.



**Learn more about Intel® Kiosk Peripheral Management Utility >**

<sup>1</sup> Global Processor-Level Serviceable Available Market (SAM) - Intel Internal Research 2020

<sup>2</sup> USB-based peripheral devices only

<sup>3</sup> In-band only

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at [intel.com](https://www.intel.com)

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