



Imedtac and Avalue Deliver the KRYON ICU Ward Medical Device Integration Platform

Powered by Intel® Xeon® processors and Intel® Core™ i5 processors, this medical device integration platform help caregiver in ICU to enable accurate data collection and send real-time physiological sign data.

Medical technology and the Internet of Things have shown unprecedented explosive growth and expansion. Through the storage, management analysis, and visual display of medical data, it provides assistance to medical personnel to make more data-based decisions. And use this data to drive changes in care, improve efficiency, or rapidly deliver patient care-focused services. The combination of artificial intelligence and the application of the Internet of Things in medical care shows an important industrial aspect, that is, the smart medical Internet of Things. The cloud medical platform is committed to integrating the Internet of Things system between clinical medical data, telemedicine and medical equipment.

Medical Information Protocol enables devices and platforms to continuously monitor and manage patient health status.

In the face of global infectious diseases such as new coronary pneumonia, the need for long-distance isolation medical treatment is even more urgent. Under the condition of limited medical human resources, with the technology of the smart medical Internet of Things, the direct contact of medical staff with patients is reduced, and various data output from instruments are continuously received and consolidated, so as to improve the quality and efficiency of care, and simplify the tedious work content of medical staff.

With the increasing value of data, KRYON has become a priority healthcare provider to improve patient care by processing the quantity of data generated by the growing number of medical devices.

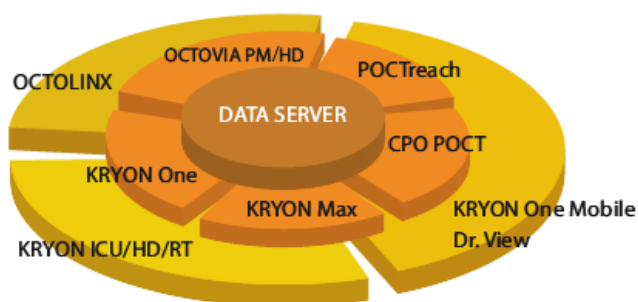


SOLUTION ADVANTAGES

1. Use smart IoT devices to interface with hospital information systems to transmit data, doctor's orders, and nursing records to achieve accurate and intelligent data collection goals.
2. Implement patient identification, confirm the case number, medicine bag, medical equipment, bed number and other information by scanning barcodes or swiping cards, etc., and compare with the doctor's order obtained by HIS to avoid medication errors caused by manual identification.
3. Using edge computing and artificial intelligence technology, the data of clinical medical instruments is aggregated, alarm prompts and real-time physiological sign data are pushed, and medical staff can use mobile vehicles to remotely view clinical data.

HOW IT WORKS

The KRYON medical IoT platform adopts the leading-edge computing technology to provide different clinical units or medical processes to link medical equipment data and clinical information flow



KRYON system structure

KRYON Max is a plug-and-play clinical medical

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equipment data platform, which can automatically determine the connected equipment and support major medical equipment brands in the market. There is no need to install ramps, complicated clinical equipment lines and manual settings in each equipment.

The intuitive operation interface is convenient for medical personnel to use and keep track of the connection status of the patient's equipment. It can also integrate the patient's clinical statistical data through the IoT server and upload it to various data application systems.



KRYON Max UI

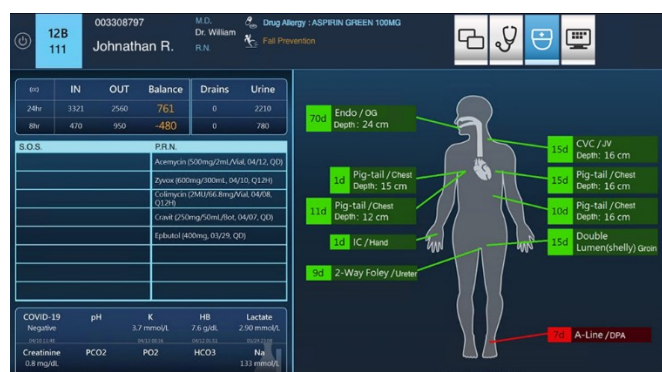
KRYON adopts edge computing architecture to integrate real-time medical equipment information and clinical data of clinical patients through KRYON ICU/HD/RT and other services. The system uses technologies such as heuristics and data visualization to create a patient dashboard to present the diagnostic information most needed by physicians and nursing staff. Compared with the traditional manual writing of medical records, this system is in line with the characteristics of clinical medical workflow, allowing medical staff to have better work efficiency and productivity.

Continuous data reception and transmission

KRYON Max supports major medical equipment brands around the world, and all clinical and physiological data can be completely received and uploaded to the server. Just connect a signal line between the medical device and the Windows PC where KRYON Max is located, and data collection can start immediately, and the connection status of the device can be detected at any time. KRYON Max provides the most efficient medical equipment integration platform for daily clinical medical work.

Clinical Dashboard

The KRYON ICU/HD system is designed for patients in the intensive care unit and dialysis center, which can display the diagnosis and care information required by the person according to different medical roles such as the attending physician and the primary nurse.



KRYON ICU

Comprehensive clinical diagnostic evaluation

Medical staff can use the clinical information compiled by the KRYON platform to conduct a comprehensive clinical diagnosis and evaluation. Timely assessment results accelerate medical decisions by the medical team. The CPO POCT blood glucose measurement mobile application system performs blood glucose measurement in

the patient care location, and directly uploads the measurement results to the POCT information system, so that medical staff can quickly interpret the data and give a diagnosis, and control the blood glucose instrument detection management of each unit

Ability to enter complete clinical information

KRYON One can directly obtain various clinical data of patients at the bedside, automatically integrate physiological signs, or manually input information such as height and weight, urine output, etc. It can also support barcode and RFID scanning to log information such as medical staff ID and patient numbers. Completely integrate clinical medical patient information, greatly improving the efficiency of bedside medical care.



KRYON One

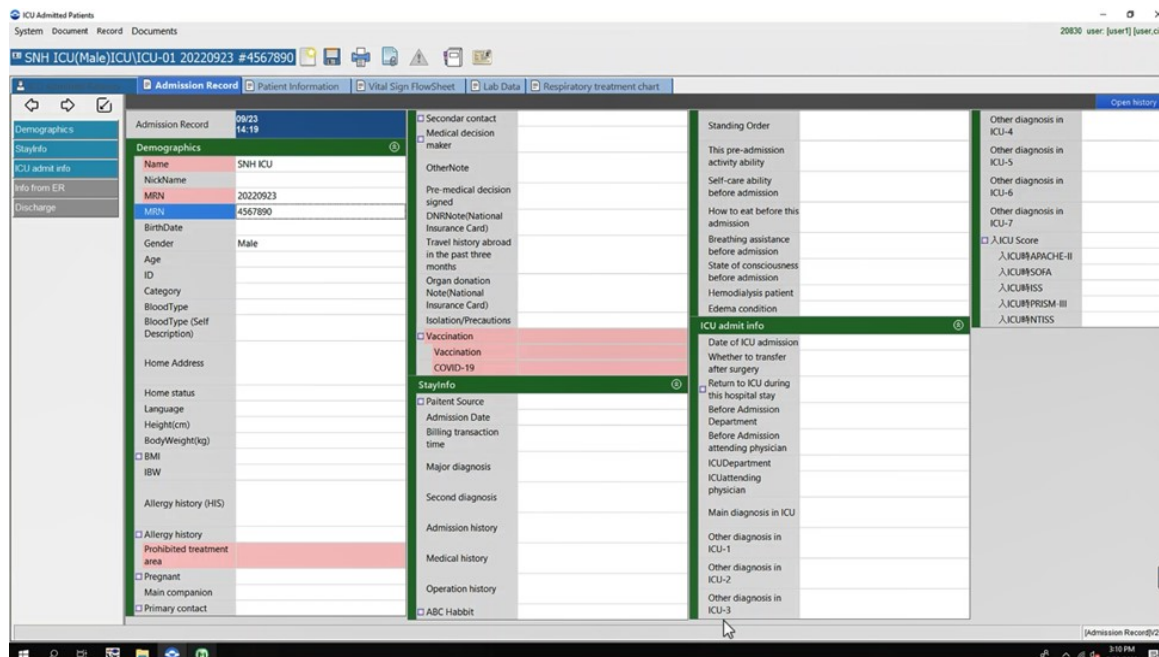
Easy to install and maintain

KRYON adopts an open architecture, supports HL7 and integrates HIS, EMR and other systems. Provide online upgrade and driver update, no longer need tedious software maintenance and management, keep the system running in the latest version.

Charting System

Horizon CIS ICU is a form management system specially designed for ICU wards, which is suitable for acute and critical patient care workflow, such as patient scheduling management, patient records, physiological monitor data records and trend analysis.

Because of the plug-and-play integration with KRYON Max, it can continuously receive the data transmitted by the instrument, greatly reduce manual transcription errors, integrate diverse and complex forms, greatly reduce the complicated recording time, and improve the quality of medical staff's care for patients.



Horizon CIS ICU Layout



Total KRYON ICU solution in the ICU

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Avalue's product line: Able to be highly flexible configuration

A wide range of solutions are available according to the requirements of each project. Besides the tower workstation and 4U rackmount models, three industrial-grade motherboards of different performances are available for selection, and L6 barebone system and L10 completely assembled system can be customized and selected. Up to 12 different combinations can be customized by matching different cases, motherboards and systems. Diverse and highly flexible combinations enable customers to achieve painless transfer and in-place deployment without having to change existing infrastructure, greatly improving performance and scalability. Avalue HPC servers are ideal for precision medicine and life sciences, 3D simulation and architecture, genetic engineering, automated manufacturing, smart city and energy sector.

The HPS-621U4A (4U rackmount) we use from Avalue support first- and second-generation Intel® Xeon® scalable processors, Intel® C621 chipset, built-in 6-channel DDR4 slot, multicard configuration with three PCIe x 16 or six PCIe x 8 slots, three front 2.5-inch HDD removable modules for easy capacity expansion, and diverse high-speed I/O interfaces (1xRS232, 1xVGA, 6xUSB3.2 and 4xRJ-45 network port). Outstanding thermal management including front and rear fans, and sensors for real-time air flow detection, ensure high stability and reliability even when the HPC server is running at high speed.



Avalue HPS-621D4A

The EMS-TGL-DVI we use from Avalue with the outstanding features of Intel 11th Gen CPU, the performance has been improved dramatically. Performance speed was boosted up to 23% (Spec ST) with the new CPU. It also accelerates the graphic performance 2.95 times with the improved transcode performance. The new generation of CPU also supports more output qualities especially 4K displays. Moreover, the 11th Gen CPU is the first ever U series with IBECC, which supports for latest memory for lower power and increased BW. In comparison with the 8th Gen, the PCIe Gen4 brings in greater performance, lower latency, and lower power consumption than the Gen3. The SGX has been removed from the 11th Gen CPU by using the Total Memory Encryption to protect against prevalent malware attack. Besides, the new CPU can also encrypt and protect DIMMs from physical attack. Overall, the 11th Gen CPU has comprehensive advantages over the 8th Gen CPU.



Avalue EMS-TGL-DVI

KRYON system charting average processing time is with HPS-621U4A and EMS-TGL-DVI.

10.1 Seconds

KRYON system charting average processing time is with 8 Gen i5 CPU

27.6 Seconds

Processing time reduction

2.73X Faster

Conclusion

The needs of healthcare services in the ICU environment are very important, any error can result in the safety of the patient's life, and caregivers are always looking for new digital tools to reduce their workload and reduce the chance of error.

KRYON ICU Ward Medical Device Integration Platform can integrate with hospital information systems to transmit data, doctor's orders, and nursing records to achieve accurate and intelligent data collection goals which can reduce the time to generate care records and reduce errors significantly.

With the

By combining the powerful KRYON ICU Ward Medical Device Integration Platform with the right high performance computing technologies from Avalue and Intel, caregivers can get a useful digital ICU solution to provide better and comprehensive healthcare service.



About Imedtac

Imedtac Co., Ltd. is the most professional intelligent healthcare system integrator in Taiwan. Our intelligent healthcare solutions can improve patient satisfaction, reduce the workload of caregivers and help to prevent medical errors. The core value of imedtac is to build a point of care platform with fast healthcare interoperability with our medical software team, system integration team, marketing team, professional consultant planning team, and experts with great clinical experience.

<https://www.imedtac.com/en/>



About Avalue

Avalue is a future-focused provider of innovative embedded computer products. Avalue is dedicated to designing and manufacturing a broad range of computing solutions that exceed customers' expectations and contribute to a more convenient living environment.

<https://www.avalue.com.tw/>

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