DIGITIZE THINGS

Digital Transformation for Healthcare System Integrator

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"Cumulator seamlessly integrated our operational processes with our corporate ERP, eliminating custom development needs. It empowers our technicians with efficient workflows while automating tracking of progress, inventory, and financials, streamlining our entire operation."

Scott Standhart
SVP, KORE Managed Services

Executive Summary

KORE Wireless, a leader in IoT connectivity and solutions, solidified its position as a system integrator in the connected health sector through the acquisition of Integron Systems. By leveraging Cumulator, KORE was able to model and optimize its operational processes, transaction modeling, and overlay it seamlessly within existing corporate ERP ecosystems. This case study explores how Cumulator enabled KORE to streamline its accessory kit assembly for managed services offerings in connected health, 3PL interactions and manage returns efficiently. Cumulator also served as bridge between the corporate financial ERP and operational bench tools in order to facilitate smooth governance and operations.

Challenges

KORE's managed services business unit, which includes the acquired Integron business, serves major pharmaceutical companies producing medical devices for vital organ monitoring. Their core services include:

1. Assembly of accessory kits comprising tablets/smartphones, SIMs, cellular modems, Wi-Fi routers, power supplies, and cables.
2. Ensuring proper firmware, device management software, and geographically appropriate SIMs are included and configured for global deployments.
3. Return, repurpose and redeploy accessories when previous deployment purpose is served or when duration is over. This involved data scrubbing as per applicable privacy laws, sanitization, complete testing and refurbishing if needed.

Key operational aspects:

1. Virtual Warehousing: Customers use KORE's facilities as virtual warehouses, placing bulk purchase orders for devices and parts.
2. Inventory Management: KORE manages both customer-owned inventory in virtual warehouses and its own inventory, occasionally transferring parts between them as needed.
3. Deployment Orders: Customers place these on behalf of their clients, requiring KORE technicians to assemble, configure, and test kits for hospital use, clinical studies, or remote patient monitoring.
4. Return Processing: Post-deployment or in case of malfunction, kits are returned to KORE for data scrubbing, repairs, or disassembly and repurposing as per service level agreements.
5. Lifecycle Tracking: KORE maintains operational awareness of devices even after sale, as they may be redeployed multiple times per customer request.

Prior to acquisition, Integron used homegrown desktop IT systems to manage its entire business, including orders, operations, and accounting. Post-acquisition, integration with KORE's corporate-wide NetSuite ERP system became necessary. While NetSuite adequately handled financial transactions and reporting, it faced limitations for a variety of reasons:

1. **Complex kit assembly**: Creating accessory kits for medical equipment involves assembling multiple components (smartphones/tablets with specific firmware, cellular routers, SIMs, power adapters, cables, connectors, etc.). Many parts are allowed to be substituted. There are rules for assembly, compatibility and validation that need to be adhered to.
2. **Circular nature of device/kit deployment and returns:** When the deployment is complete at hospitals or clinics, customers return the whole kit or individual components to be repurposed for the next deployment. The disassembly and scrubbing are also multistep rule-based processes.
3. **Distinct tracking of customer-owned and KORE-owned assets:** Multiple virtual and physical warehouses needed per customer and complex inventory movements between warehouses.
4. **Operational parameter recording**: Kits as assembled need to have associated operational parameters such as firmware versions, repair history etc. recorded. Recording of these parameters does not have any financial implication but serves the future operational needs.
5. **Integration with assembly bench-tools**: The selection of bench-tool and information recorded is dependent on customer and the chosen kit.

Implementing these functionalities in NetSuite would require proprietary and extensive customization, offering limited future reusability. KORE needed a solution to accurately reflect customer orders (bulk and deployment), assets, inventory, and services while seamlessly integrating with their existing ERP ecosystem.

Solution

Cumulator is Digitize Things' no-code business platform that streamlines the management of complex, multi-part offerings. It integrates order processing, inventory control, and work order routing with an event/API framework, enabling seamless lifecycle operations such as order processing, assembly and return. This comprehensive system facilitates workflow-driven processes and effortlessly interacts with existing business infrastructure, all without requiring coding expertise. KORE implemented Cumulator to address the challenges by leveraging the following capabilities:

Operational Modeling: Cumulator workflow-based modeling of the entire kit assembly process, ensured each component and firmware version allowed for accurate representation and execution while fulfilling the order. The BOM composition engine allowed configuring rules for substitution.

Seamless Integration: API integration with NetSuite allowed Cumulator to receive against the bulk POs generated on the NetSuite and automatically update NetSuite as inventory got consumed during assembly or when replenished upon shipment receiving.

Return Management: Used Cumulator workflow to model the return process, including the decision-making, quarantine and approvals for reusing or repurposing returned components.

API Framework: Integrated with bench tools via Cumulator's event framework to where technicians could post update the status in real-time of kits being assembled along with any attributes that need to be stored, ensuring compliance with procedural steps.

Cumulator allowed KORE operations managers to define BOM, set up inventory locations with attributes and steps needed for the assembly of kits and verification/approval gates including packing and shipping steps.

How Cumulator Helped

Enhanced Kit Assembly: Cumulator allowed to create master workflow for KORE's generic assembly process and then allowed to create variations for specific BOMs all from its no-code user interface. Workflows allowed specifying steps that would need bench-tool interactions and the corresponding events/API.

Facility Management: Cumulator's flexible facility modelling allowed KORE warehouses to be subdivided as multiple virtual customer warehouses and inventory to be moved from a KORE owned warehouse to a customer warehouse if required.

Efficient Return Management: Streamlined the process of handling returns in a similar manner by modeling reverse workflows in Cumulator. This enabled quick decision-making on whether to reuse or repurpose returned components.

Operational and Financial Integration: Cumulator brought the IT and OT world together at KORE. It enabled seamless integration with NetSuite for financial transactions while managing operational details within Cumulator. This ensured financial accuracy without extensive customization in NetSuite.

Real-Time Data Capture: Integrated with bench-tools to capture and record assembly details in real-time, ensuring accuracy and compliance with assembly protocols.

Results, Return on Investment and Future Plans

Improved Efficiency: Streamlined kit assembly and return processes, reducing manual interventions and errors, leading to cost savings and faster turnaround times.

Enhanced Accuracy: Ensured accurate tracking of components and firmware versions, reducing discrepancies and improving overall quality.

Financial and Operational Synergy: Maintained financial accuracy through NetSuite while handling complex operational tasks in Cumulator, achieving the best of both worlds.

Scalability: Provided a scalable solution that can grow with KORE's expanding connected health operations, supporting new product lines and increased volume. As new customers are added or when existing customers need new BOMs, no customization is needed, rather KORE operation team could create new BOM in the Cumulator provided no-code environment and revise the workflows if needed.

By leveraging Cumulator, KORE Wireless achieved significant improvements in its connected health operations, enabling efficient kit assembly, streamlined returns management, and maintaining financial accuracy.