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## SECURE, REAL-TIME DATA COLLECTION USING THE EUROTECH EVERYWARE CLOUD IN THE VENDING INDUSTRY

Vending machines are a $7B industry in the United States, and there is now one vending machine for every 55 people. Globally, the installed base is expected to reach 35.2 Million units by 2015. Customers are hungry for convenience coupled with healthy food options, which has increased the demand for smart vending machines that display calorie counts, provide hot or cold delivery, and offer several payment options.
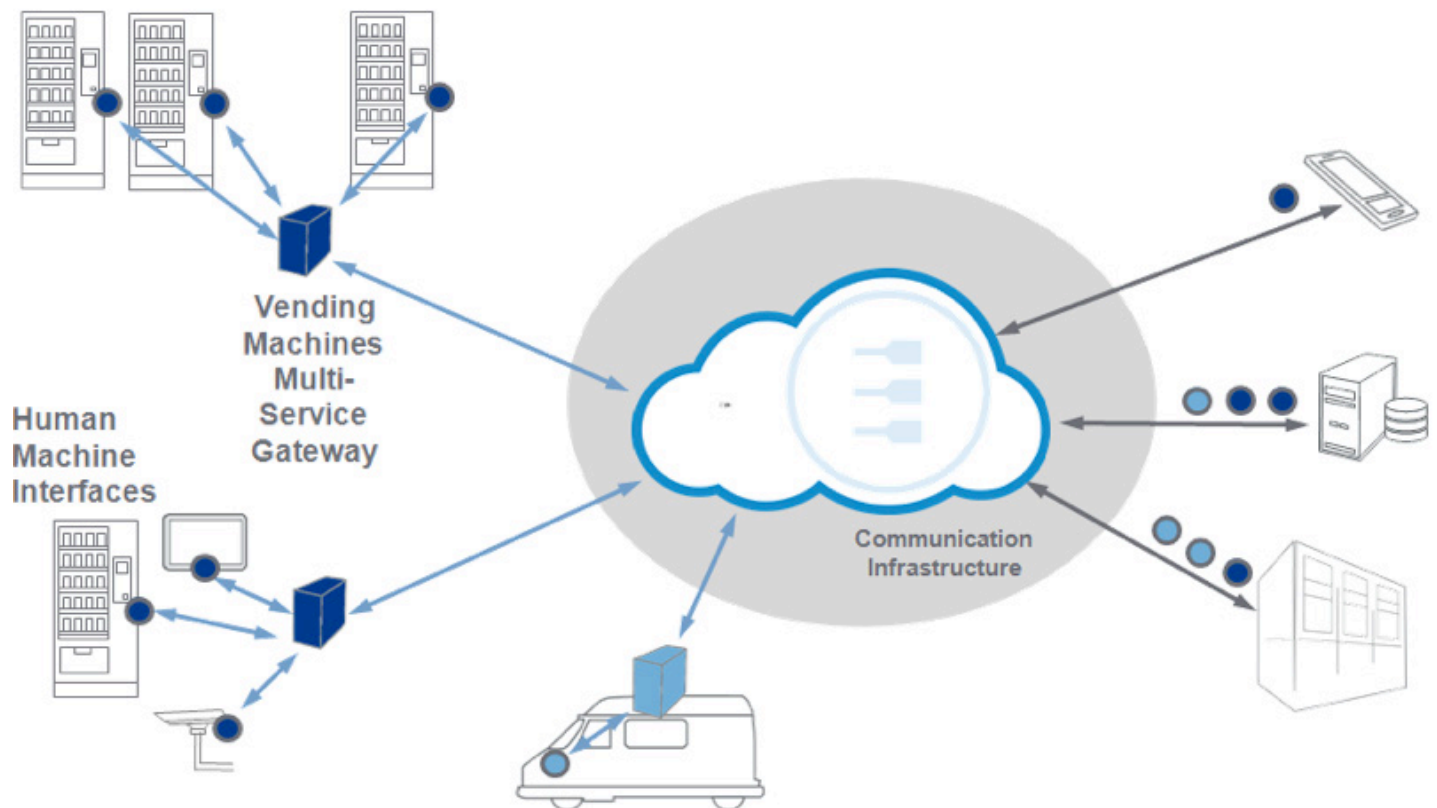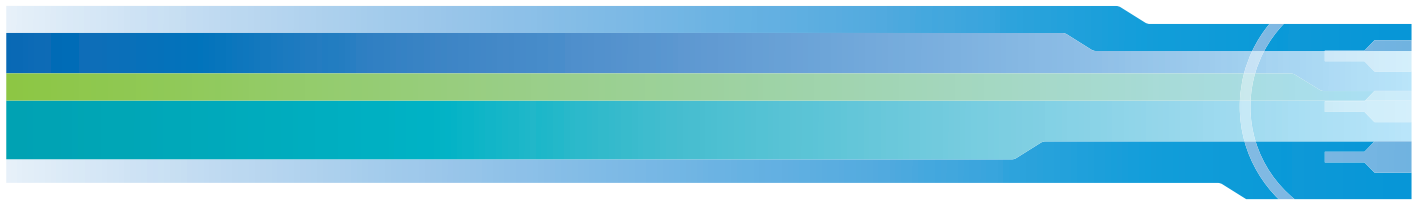
As a result, the latest vending machines are sophisticated enough to handle cash or credit, dispense hundreds of items, operate 24/7, and are located anywhere from industrial locations to supermarkets and gas stations. Vending machine operators need to collect data from the machines regularly to keep the machines running, keep track of sales, monitor key functions, and serve their customers effectively.

In the past few years as vending machine technology has evolved, it has become more challenging and less reliable to connect phone lines to vending machines and collect data via a modem. The cost to maintain a phone line and modem connection at retail or even remote locations continues to climb. Equipment failures often require technicians to visit retail sites and download vending machine data manually, a very costly, slow and labor intensive practice.

Vending machine operators need remote management and monitoring capabilities to save time and maintenance costs. Vending machine systems need to be updated for more reliable and detailed data collection, and Eurotech offers a solution for this common problem in distributed retail applications.

## INTEGRATED TECHNOLOGIES

Eurotech solutions integrate the latest in vending technology including touchscreen display, cashless payment options, and vending industry standard protocols to simplify development for OEMs.

Eurotech's capacitive touchscreens revolutionize the capabilities of vending machines, allowing manufacturers and operators to offer advertising, caloric information,

updated inventory and a more attractive user experience.

Eurotech offers hardware for the vending industry with cashless payment options including a magnetic stripe reader (MSR) and near field communication (NFC) capabilities to allow customers to pay by credit card or smart phone.

Eurotech hardware also integrates seamlessly to vending industry protocols by offering a connection to either the MBD or DEX interfaces. DEX allows for product auditing and cash accountability, while MDB is the means by which various transactional devices operate and communicate with the brains of the vending machine.

## RUGGEDIZED AND CONNECTED SYSTEMS: EUROTECH'S EXPERTISE

Eurotech's extensive experience in varied environments allows the company to support distributed retail systems that use different communications methods. Depending on the location of the vending machine, standard rugged Eurotech products such as the ReliaGATE 20-11 multi-service gateway can enable machine to machine (M2M) communications in different environments, whether connected through a LAN, over WiFi or over a cellular network. Other ReliaGATE gateways offer different price and performance options.

Another option is the DuraCOR family of Rugged Mobile Computers, a purpose-built mobile computer platform that is very compact and will withstand mechanical and temperature stress commonly experienced in harsh environmental conditions. Eurotech has several excellent options of gateways for distributed applications with industrial grade multi-service gateways designed to

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enable M2M applications in a variety of environments, including mobile applications.

Eurotech systems offer the ideal hardware and wireless or fixed connectivity capabilities to collect data from vending machines, all the while designing to ensure the security of the retailer's device, data, and network. As a result, vending machine manufacturers can expand vending machine functions and enable creation of new services for their operators.



Eurotech ReliaGATE 20-11 Multi-Service Gateway

## DEVICE APPLICATION SIMPLIFIED: A FLEXIBLE SOFTWARE FRAMEWORK

Coupled with the hardware Eurotech develops, the Eurotech Everyware™ Software Framework (ESF) takes the system a step further to provide an integrated hardware and software infrastructure so customers can start with their value-add on day one.

ESF is a software framework that provides an abstraction layer between the operating system and the customer application (Figure 1) with industry standard interfaces and simplified cooling that shorten custom development time. It also allows software to be easily ported from one ESF-enahbled hardware platform to another.

The ultimate goal is to get data from thousands of

distributed vending machines to the enterprise where people can act on the data received. With ESF, vending machines companies get remote device monitoring capabilities that allow them to monitor the machines for real-time inventory and machine health data. In addition, they get cloud-ready hardware that greatly reduces the development hurdles to building device apps while shortening the time required to connect and communicate through the cloud.

## DISTRIBUTED RETAIL APPLICATIONS: THE EUROTECH EVERYWARE CLOUD

Everyware Cloud is a complete data management and delivery solution for comprehensive distributed device platforms. Distributed retail applications such as vending machines can leverage the Everyware Cloud to manage their data and communications as the number of devices grows, data management needs change or new services and capabilities are conceived.

In the case of vending machines, companies can use the Everyware Cloud to store mapping data, barcode data, and other non-device information. The Everyware Cloud gathers data from the distributed devices on vending machines, stores the data in the cloud, and distributes it to enterprise applications such as a back-office system or data center, depending on the need. Having all of the data in one place allows customers to easily identify trends and patterns in the data that would have been extremely difficult to coordinate and analyze with disparate, monolithic systems.

By accessing, storing and transmitting the data through the cloud, companies do not have to expand their data center, saving on space, cooling and power expenses.

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The Everyware Cloud solution includes data storage, which minimizes the costs and complexity of their IT infrastructure.

With the Everyware Cloud, any executive or retail manager can access vending machine data with a simple Web connection. New barcodes can be added easily, expanding the data set of products available for purchase. Complete new functionality and uses of data are now possible — all that's required is the idea or the question, such as "What if I knew both the weather and the usage in a certain retail operation? Can I drive business actions based on analysis of such data?" That could mean remotely changing the price of bottled water on a hot day, and changing stocking schedules to ensure the machines are well-stocked when the UV index is expected to go over 6.

Vending machine operators can use Eurotech device and data software and services to be more responsive, provide better services, meet regulatory requirements, and improve operational efficiencies.

## EVERYWARE CLOUD BENEFITS

Companies could see a positive return on investment for a new vending machine data collection system very quickly based solely on the cost savings from eliminating modems and phone lines. Customers could also likely save significant development time and headache by focusing on their core competencies of product quality and timely distribution while allowing Eurotech to handle data collection, transfer, and analysis.

Another benefit of the Eurotech Everyware Cloud is it can capture and act on vending machines status errors



**Everyware Software Framework (ESF)** is a Java-based application framework that simplifies application development for smart **M3M Edge Nodes** and **Multi-Service Gateways**.
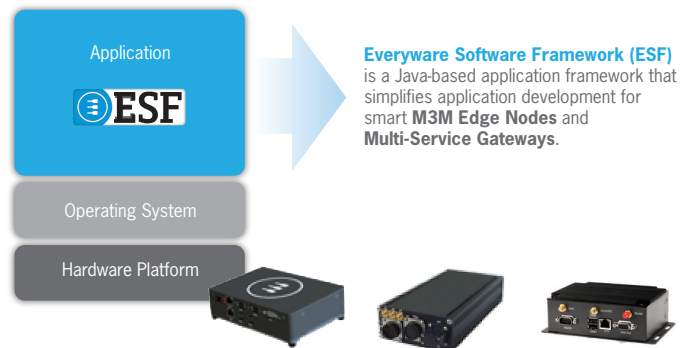
Fig.1 ESF as Abstraction Layer

in real-time. As soon as a vending machine encounters an error, notifications go to systems, personnel or both to diagnose the problem promptly and sometimes remotely resolve the error without sending a technician. When a technician is necessary to fix a trouble, the tech knows what to expect and can bring the appropriate tools and replacement parts.

The Eurotech Everyware Cloud also tracks operational data in real-time. With other methods, vending machines collect sales data only once per month, but with the Everyware Cloud, companies could see a real-time snapshot of revenue for individual machines, groups of machines with certain product, or the entire set of vending machines at any moment. Having access to the data when it's needed lets the company make business decisions based on real input, not assumptions based on outdated information.

To learn more about how the Eurotech Everyware Cloud can simplify device and data management in your application, contact us at: sales.na@eurotech.com.

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