Hewlett Packard Enterprise | intel | RELIMETRICS

RELIMETRICS PRODUCT QUALITY MANAGEMENT SOLUTION FOR INDUSTRY 4.0

Achieving zero defect at production line

HPE IT Systems, Intel and Relimetrics software advances Quality Assurance in manufacturing processing video streams at the edge site using AI to detect if servers are properly configured in assembly lines.

This solution when deployed in production:

- Helps optimize product quality and maximize output
- Provides feedback loop into MES and other software deployed in the factory floor.
- Enables processing images or video streams to spot issues faster.
- Reduces production and maintenance cost
- Eliminates unnecessary rework

Higher product quality. Less rework. Rapid deployment. Easy to scale. These are the key parameters of the QA demonstration using Video analytics in assembly lines.

COMPUTER VISION IN MANUFACTURING

Electronics manufacturers operate in a challenging environment. It's hard enough to keep up with the ever-accelerating rate of change in the industry. Now customers want increasingly specialized product variations in less time and of higher quality.
Meeting this demand for increased product variation can seriously impact the bottom line. Such variability increases warranty cost that, in the US, currently averages 2.7 percent of electronics manufacturers' revenue. This means that for every $1 billion in revenue, a company spends $27 million to support its product warranties.

These factors explain why Hewlett Packard Enterprise (HPE), a leading manufacturer of servers and other IT hardware, is undertaking an Industry 4.0 strategy to modernize and automate assembly processes.
This requires capturing and aggregating data at the edge to drive intelligence across the whole manufacturing process, from the edge to the cloud and leveraging artificial intelligence (AI) to understand challenges across manufacturing lines.

A key part of the process it wanted to automate is server assembly quality assurance, which was being done manually by quality operators. This labor-intensive process is prone to error due to human eye fatigue and the inability of quality operators to catch critical defects. The company's portfolio of server products is complex and highly customized.

These characteristics made it difficult to find a machine vision system that could handle the product mix.

BUSINESS BENEFITS

The Demonstration is for HPE, Intel and Relimetrics the best sales tools to get our customers interested in the technology:

HPE ProLiant: We are running the compute on a system such as HPE ProLiant DL380 Gen10 5218R 1P 32GB-R S100i NC 8SFF 800W PS Server P24844-B21 equipped with Intel® Xeon® Scalable 5218R (16 core, 2.3 GHz. 27.5 MB, 125W).

Intel® Distribution of OpenVINO™ Toolkit: OpenVINO™ is an open-source toolkit that has been used to optimize trained deep learning models for the target demo platform and boost AI inference.

Relimetrics: The Relimetrics Quality Audit Solution for Electronics (RELI-QA) is a proven Zero Defect Manufacturing software platform using computer vision that can be rapidly deployed, trained in order to improve quality inspections.

HPE Demonstration Portal: The purpose of the portal is to promote the existing demonstration WW.

https://hpedemoportal.ext.hpe.com/login

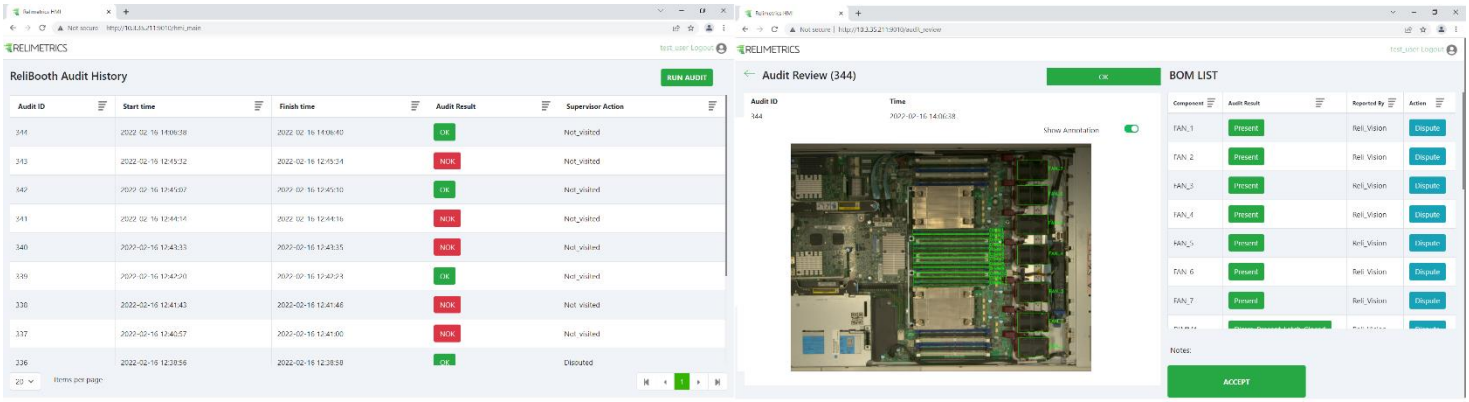

FIGURE 1. Quality Audit for Server Assembly. The audit runs fast on Intel CPU!

Manages complexity: Electronics components are ever becoming smaller and requires real-time AI-based Quality Audit solutions.

Future-proofs manufacturing processes: Running Relimetrics software at the edge allows better performance compare to the cloud and keep your production data in a secure place.

FEATURES

Speedy go-to-market: The solution offering encompasses required software, hardware, and services, along with a fast-start workshop for risk-free trials that meet customers' requirements to speedily set up your QA projects.

Demonstration: HPE ProLiant DL360 server is under the range of a high-definition camera. Relimetrics HMI shows the result of the audit operation with anomalies highlighted in red.

Easy to manage: Enterprise class management solution allows to remotely manage the systems.

Scalable: The architecture enables smooth scalability deploying servers and cameras directly at the edge site to handle network bandwidth requirements.

Trusted partners: Proven, best-in-class technologies from HPE, Intel, and Relimetrics are already deployed in production.

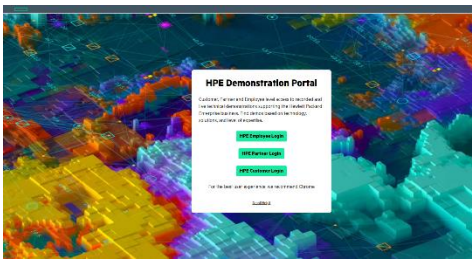

FIGURE 2. HPE Demonstration Portal

KNOW-HOW FROM HPE, INTEL, AND RELIMETRICS

To achieve zero-defect manufacturing in QA, our solution demonstration combines expertise and best-in-class technologies from HPE, Intel, and Relimetrics.

HPE delivers hardware solutions capable to support analytics workloads where data are generated. HPE acts as an IT Integrator with partners to enable QA project implementation for customers.

Intel contributes to build next generation processors, drivers and AI toolkit to accelerate time to insight running inference operations.

Live demonstration at the Geneva Customer Innovation Center allows customers to see the technology into action and share on how data analytics and AI can deliver better business outcomes with concrete use cases ranging from condition monitoring, predictive maintenance, and quality assurance.

Recorded demonstration is also available on the HPE Demonstration Portal.

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