

# Cortical.io Message Intelligence

## Reliably process large volumes of messages in real time

### INTRODUCTION

Email management is becoming more challenging every year. In 2019, more than 128.8 billion business emails were sent and received per day. Often, an incoming email doesn't reach the right person. Or the email isn't handled in a timely manner. This impairs productivity in matters where speed is critical, resulting in operational delays, rising costs and lost revenue. In addition, prospects and customers may use other forms of messaging to communicate with an organization, providing further challenges.

Cortical.io Message Intelligence is a ready-to-use solution that tackles this daunting challenge by processing and routing messages at massive scale in real time. The product accomplishes this by combining the Cortical.io patented AI-based natural language understanding algorithms with FPGA-powered acceleration from Xilinx in a purpose-built appliance.

According to benchmarks using a well-known email dataset, Message Intelligence appliance performs between 1,000 and 10,000 times faster than BERT, the NLP (Natural Language Processing) technique developed by Google, while achieving the same level of accuracy.

### KEY BENEFITS

- Decrease the costs of processing large amounts of emails
- Maximize revenue opportunities
- Improve customer retention
- Gain insight from email & social media messages

### SOLUTION OVERVIEW

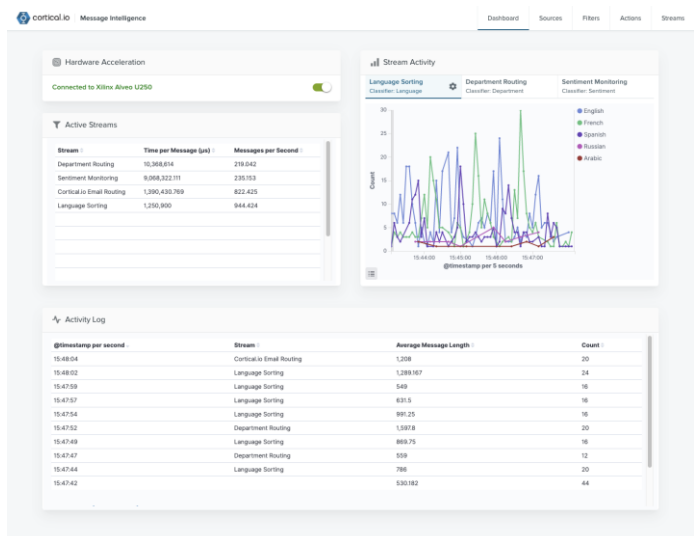
Message Intelligence is delivered as a pre-packaged appliance. The appliance consists of a 1U Supermicro rackmount with a 64 core AMD processor and a Xilinx U50™ Alveo Data Center accelerator card. The pre-installed software comes with pre-built filters and classifiers and allows administrators to quickly and easily create custom filters and classifiers. Message Intelligence also provides a dashboard to monitor the performance of the appliance.

Message Intelligence provides human-level accuracy in filtering and classifying messages, enabling businesses to more quickly process and respond to messages of any kind and also mitigate legal risks. Users can create custom semantic classifiers and filters with minimal effort.

### SOLUTION BRIEF



- More than 100x faster than other hardware-accelerated approaches
- Human-level accuracy
- Quickly customizable to an organization's needs
- Real-time processing at massive scale



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### SOLUTION DETAILS

#### Immediately improve productivity by automating the processing of messages

Message Intelligence is an out-of-the-box solution that filters, classifies, and routes streams of messages in real time at a massive scale. It comes as a pre-packaged software and hardware solution that can be immediately applied to high volume message streams in an enterprise environment. Message Intelligence automatically sorts incoming messages based on pre-defined or custom criteria and, for example, flags them and directs them to the appropriate department.

With Cortical.io Message Intelligence, large organizations can improve responsiveness and customer satisfaction while reducing the costs of manually processing vast amounts of incoming messages. Email or social media inquiries are classified and processed in real time based on the specific requirements of the organization. Message Intelligence can also be used to analyze messages with respect to risk and compliance regulations.

#### Quickly adapt to specific requirements

The solution supports two types of filters – keyword filters and semantic filters. Keyword filters allow the user to create a filter that matches specific words within a message. Semantic filters understand the meaning of words and phrases to effectively triage messages with similar meaning but with different phrasing. Semantic filters can be created in minutes. No AI training of the filters is required.

The real power of Message Intelligence, however, lies in the ability to create custom semantic classifiers that meet the specific needs of any organization. And even better, users can build, without the need of AI experts, highly accurate classifiers within hours with a fraction of the training material required by traditional AI approaches. Classifiers for language, sentiment and complaints come built in and ready to use.

#### Accurately process streams of messages in real time

Message Intelligence leverages Cortical.io patented approach to natural language understanding to understand the meaning of sentences independently of the formulation used. The combination of keyword filters, semantic filters and classifiers enables Message Intelligence to analyze and process messages with human-level accuracy.

The increased performance of Cortical.io algorithms on accelerated hardware enables Cortical.io Message Intelligence to process massive amounts of messages at unprecedented levels of speed and quality.

### RESULTS

Organizations that can figure out a way to efficiently classify and process messages can improve their bottom lines, reduce costs, improve productivity, and serve customers better. For example, an international transportation company implemented Message Intelligence to optimize email processing in customer centers. The company was coping with hundreds of thousands of emails sent every day in thirty-five countries. Message Intelligence categorized the topics addressed in the emails and forwarded them to proper department to take action. With Message Intelligence, the company greatly improved its responsiveness, leading to higher customer satisfaction and retention, not to mention the increased motivation of its customer center agents, who could focus on more rewarding activities.

### TAKE THE NEXT STEP

Learn more about Xilinx [Alveo accelerator cards](#)

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