



# Fast Image File Transfer Cuts Container Inventory Tracking Time in Half at Ports

## AT A GLANCE

### Industry

Global Enterprise

### Challenge

Reliably track thousands of cargo containers at global shipping ports with fast, easy image file transfer

### Solution

Aspera *Embedded Client* and *Enterprise Server*

### Benefits

- High-speed, reliable transfer of image files over cellular networks for real-time container tracking
- 50% reduction in file transfer speed for delivery of images in under two seconds to scale up container shipment volumes
- Highly reliable transmission regardless of network conditions to ensure real-time tracking of container location

PACECO Corp. is one of the leading manufacturers of container handling equipment for ports around the globe. With close to 40% of worldwide container quay cranes built by PACECO, the company's products are well known for quality, reliability and durability. The world's largest ports count on PACECO to track the thousands of cargo containers moving through their facilities each day, so real-time tracking of container and chassis cargo is critical to ensure smooth on time delivery of cargo. PACECO relies on Aspera technology for quick and reliable transmission of container images to a port's central server for proper identification and real-time tracking.

### CHALLENGE

In today's post-9/11 world, port security is of utmost importance, making accurate, fast and reliable container and chassis inventory tracking a critical element of daily operations. Whether a container is loaded on a ship or unloaded to a dock, truck or rail car on the way to its final destination, port personnel must know its precise location at all times.

PACECO has developed a Mobile Inventory Vehicle (MIV) with a small camera that photographs each container and chassis parked in a terminal yard by driving by the parking

spaces of the containers and imaging them (Fig. 1). The images capture a container's unique identifier and are then uploaded via a cellular network to the port's central sys-

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● Bernie Yip  
Engineer, PACECO Corp.

tem. The system then reads the images and uses optical character recognition (OCR) to capture the containers' ID and update the container and chassis location system in real-time.

In the past, PACECO used standard messaging technology as the embedded solution to transmit camera images to the port's server, but speed and reliability were problematic. The messaging technology was not only slow, but images often failed to transmit due to the limitations of the technology, resulting in a missed opportunity to capture the location of the container and chassis. This meant delays in tracking as the image was re-transmitted, and in some cases wasted time and resources to manually track down the containers' parked location.

## BENEFITS

**Maximum speed:** 50% faster image transfer time. Aspera technology enabled PACECO to transfer files in 1 - 2 seconds, instead of 3 - 4. Large data sets of small files can be transferred with the same efficiency as large single files - perfect for PACECO's average image file size of 100 kb.

**Reliability:** perfect throughput efficiency, independent of the latency of the path and robust to packet loss. Automatically resumes partial transfers and retries failed transfers.

**Bandwidth Control:** full visibility into bandwidth utilization and fast, automatic discovery of bandwidth capacity between the source and destination. Aspera provides precise rate control (pre-set and on-the-fly) for guaranteed transfer times.

**Security:** complete end-to-end security is built in using open standard cryptography for user authentication, data encryption and data integrity verification.

**Scalability:** ability to scale to thousands of concurrent transfers per server host. PACECO relies on this critical benefit to manage the large volume of containers moving through a port.

## ABOUT PACECO CORP.

PACECO Corp. is one of the world's leading manufacturers of container handling machinery for cargo ports. The company's trademark quay crane, the PORTAINER crane, is one of the most reliable and productive quay cranes on the market, and is used by some of the world's largest ports, including the Ports of Hong Kong, Singapore and Los Angeles. In addition to supplying quality cranes, PACECO continues to develop new crane designs, features and technologies to enable ports to meet the challenges of 21st century cargo handling.

Learn more at [www.pacecocorp.com](http://www.pacecocorp.com) or [pacecocas.com](http://pacecocas.com)

## SOLUTION

PACECO relies on the Aspera Embedded Client and Enterprise Server for high-performance image transmission to facilitate container tracking.

Aspera Embedded Client is a full-featured desktop transfer client which can be embedded into client applications and used to initiate and automate secure high-speed file transfers. At PACECO, the Aspera Client is embedded in mobile computers mounted on cranes or trucks. The mobile computers are equipped with cellular devices, which transmit the container photos to the PACECO main location that houses the Enterprise Server. The container is identified and the appropriate shipping manifest is automatically updated, enabling port personnel to track containers in real time.

Built on patented *fasp*™ technology, the Aspera Enterprise Server delivers maximum transfer throughput independent of distance and network conditions.



## RESULTS:

With the Aspera Client and Enterprise Server, PACECO has cut image transmission times in half. According to Bernie Yip, PACECO Engineer, "Aspera has been invaluable because we can now transmit an image in 1-2 seconds versus 3-4 seconds." While two seconds may not seem like a lot of time, Yip emphasizes that it delivers significant overall cost and time savings

for PACECO. "When you multiply those seconds by the number of containers that must be tracked, you see that the time savings are truly significant."

Yip also touts the reliability of the Aspera solution. "Transmissions often failed, and images had to be resent," he says. With Aspera, that is no longer an issue, as the underlying *fasp* protocol is extremely fast, robust and reliable. And, because of the never-ending increase in the numbers of containers to track, the ability of Aspera to scale effectively was paramount. "We are confident in Aspera for fast, reliable image transmission - they are a critical part of our solution," Yip says.

An additional advantage is the cost savings in using the cellular network - the faster transmission and shorter transmission times allow PACECO to save bandwidth and consume fewer minutes.

**"Aspera has been invaluable because we can now transmit an image in 1-2 seconds versus 3-4 seconds... Two seconds offers us a significant savings, as time is everything in this business."**

 Bernie Yip  
Engineer, PACECO Corp



## About Aspera

Aspera is the creator of next-generation transport technologies that move the world's data at maximum speed regardless of file size, transfer distance and network conditions. Based on its patented *fasp*™ protocol, Aspera software fully utilizes existing 8infastructures to deliver the fastest, most predictable file-transfer experience. Aspera's core technology delivers unprecedented control over bandwidth, complete security and uncompromising reliability. More than 1,700 organizations across a variety of industries on six continents rely on Aspera software for the business-critical transport of their digital assets.

Learn more at [www.asperasoft.com](http://www.asperasoft.com)