Gate Innovations & Technologies for Improving Throughput, Efficiency and Security

AAPA Annual Convention 2009 Information Technology Award
Port of Miami

- **Acreage:** 520
- **Miles of Roads (Lanes):** 18
- **Berths (Number):** 17
- **Berth Length (Ft.):** 19,690
- **Water Depth (Ft.):** 30, 36, & 42
Port of Miami is an important economic engine for Miami-Dade County, the tri-county region, and the state of Florida.

- 7.5 Million Tons of Cargo a Year!
- 35% Heads North
- 65% 50 miles

Source: Economic Impact of Dante B. Fascell Port Miami-Dade County, 2008
Vehicular Volume on Bridge

13,600 Vehicles (2,050 Trucks)
24,350 Vehicles (3,600 Trucks)

In Each Direction
Every Day
Previous Gate Lane Configuration

Out Out Out
In In In In

Cars In

Bob Tails and Chassis In
Gate Operations

Gate Processing

- Valid Port ID
- Verification of Company Permit
- Manual Entry of Container and Chassis Numbers
- Weigh Truck (if requested) and Collect Scale Fee
- Average Processing Time – 2.5 minutes
New Gate Improvements

16 Lanes

- Inbound 10 lanes
  - 7 truck technology only
  - 2 multi-use
  - 1 Personal Vehicle Only (POV)

- Outbound 6 lanes
  - 4 truck technology only
  - 1 multi-use
  - 1 Personal Vehicle Only (POV)
New Gate Operations

- Provides arrival date/time for First-In / First-Out cueing purposes
- Pictures of Cab Door to verify Company Name
- Ground Loops and Sensors activate cameras and gate arms
Optical Character Recognition acquires the Container, Chassis, Vehicle License Plate Numbers.
Closed Circuit Television Backup to Optical Character Recognition System
FAST PASS (bypass prompts) or Driver follows easy to use prompts to enter data
Pedestal

- Initial Point of Contact
- Allows driver to enter information and process themselves
- Gate Operators verify data and approve entry from the Command Center
- Processing for permanent ID Card holders significantly reduces processing time
Multi-use Lanes
Personal Vehicles (Low)
Trucks (High)
Scales and Collection of Money

Weighing the trucks and hand collection of the fees, takes extra time, therefore delays result.

- The Port set up an automatic debit system for the truckers to collect the scale fees; to eliminate money transactions at the gate.
- Multi-use lanes still available for cash transactions ($5.00 surcharge for cash transactions).
Outbound Lanes

- Integrated with U.S. Customs & Border Protection Radiation Portal Monitors
- Bar code Reading of Gate Pass
- OCR Reading of Container and Chassis Numbers
- Arrival & Departure Messages From Cargo Terminals
Processing of Vehicles from the Remote Command Center

Operator reviews data AFTER driver inputs data. Operator only intervenes when there are exceptions and to complete transaction.
If radiation is detected by the CBP Radiation Portal Monitors, the officer is notified via the screen turning colors and a message stating the occurrence. Driver is given instructions to go to the secondary CBP Inspection Station and the gate arm is lifted. Gate arms south of the alarmed gate are held for 45 seconds to allow the vehicle to traverse lanes and enter the designated inspection area.
Entry into Cargo Restricted Area
Conclusions

The Port of Miami Security Gate System has demonstrated exceptional reliability. Applications and Database servers are clustered, load balanced and redundant across multiple sites.

Average Transaction Processing Time has been reduced by 50% at the inbound lanes and 80% at the outbound lanes.

The system provides secured logs and statistics for both real-time management as well as for traffic load / productivity analysis.

All the required Port of Miami business rules (Business Permits, Insurance, Surety Bonds, prepaid scale accounts) are validated, State/Federal regulations are built into the system and enforced.

The system is tightly integrated with existing Legacy Applications (Pre-Paid Account Handler, Credentialing, Access Control, Billing, Business Permitting, C.B.P., and Radiation Portal Monitors) to expedite processing times.
Thank You

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