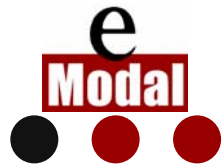# Using Information Technology To Reduce Congestion And Optimize Operations

Presented by

eModal

Port Operations and
Information Technology Seminar
AMERICAN ASSOCIATION OF PORT AUTHORITIES
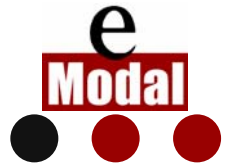April 27-29, 2005
Chicago, IL

Congestion = Problem
Problem Solving:
A Four Step Process

1. Understanding The Problem
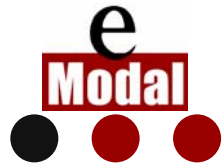2. Devising A Plan
3. Carrying Out The Plan
4. Looking Back

"A Problem Solving Approach to Mathematics for Elementary School Teachers" (The Benjamin/Cummings Publishing Co.) George Polya, 1945.

Step 1 Understanding the Problem

What we know

✓ If congestion is a problem, we at least admit we have a problem

✓ Blame can go around, but we all pretty much know that every facility, mode, and service contributes to the congestion problem.
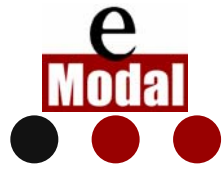
✓ It will take a "group effort" to fix it

Addressing One Segment of Congestion

Marine Terminal "Challenges"
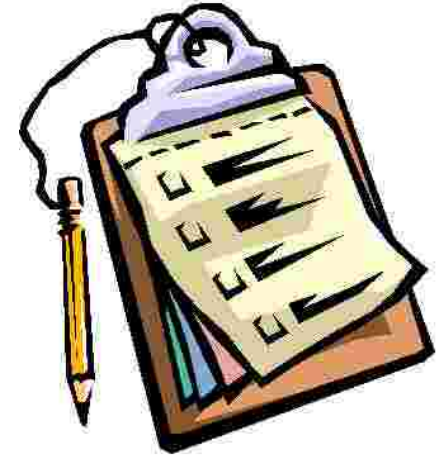
➢ Turn the Ship

➢ Manage the yard

➢ Flow the Gate
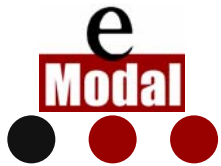
Trucking Company "Challenges"

➢ Complete information

➢ Timely information

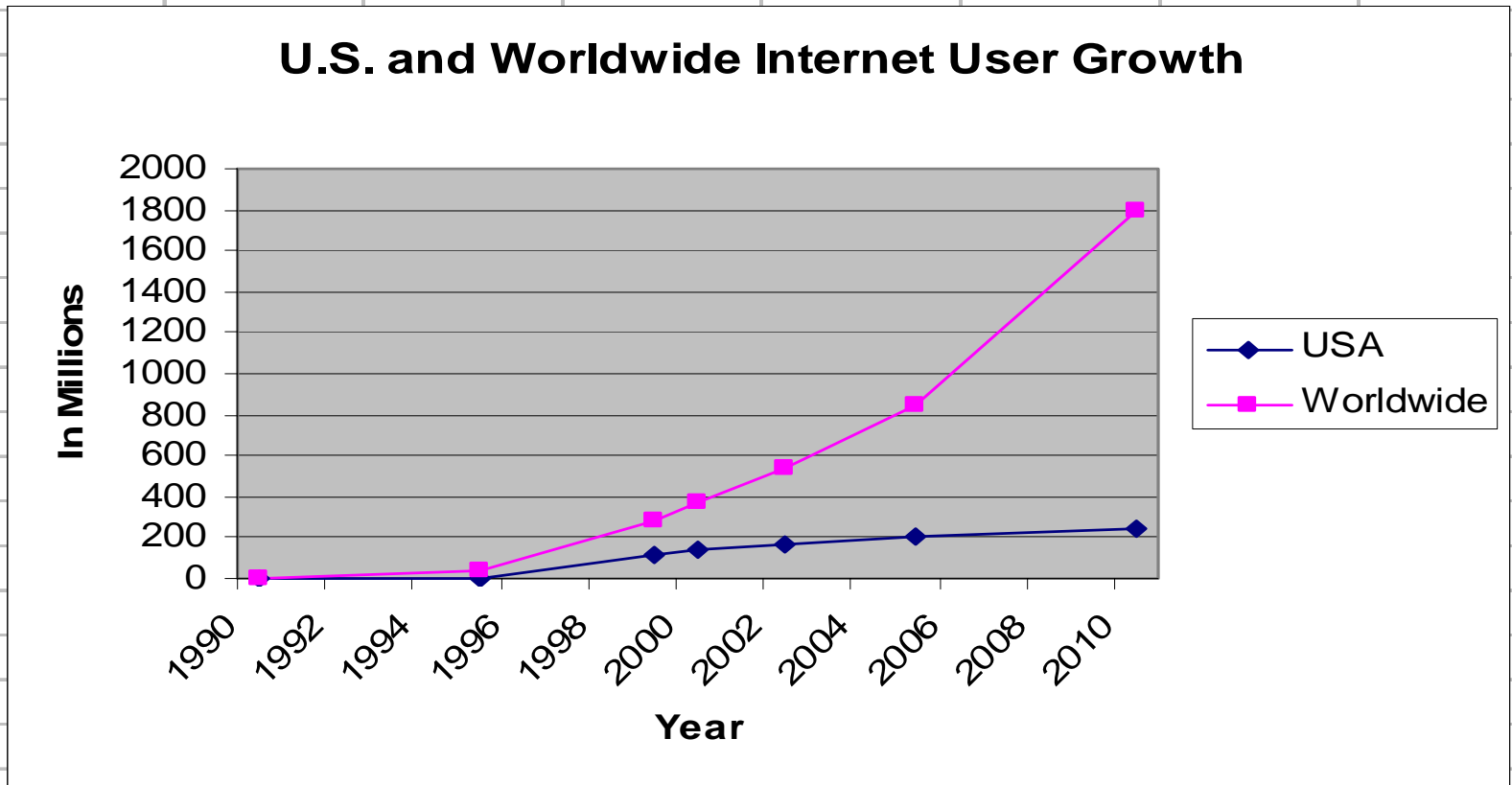➢ Consolidated information

Step 2 Devising A Plan

- ✓ The "right input"
- ✓ Common platform for communicating
- ✓ Technology that can provide industry coordination

Recognizing the Internet as the new telecommunication medium

In Millions	1/1/1990	1/1/1995	1/1/1999	1/1/2000	1/1/2002	1/1/2005	1/1/2010
USA	1.8	2.81	111	136	166	208	250
Worldwide	2.13	42.2	276	375	544	840	1800

U.S. and Worldwide Internet User Growth

Source: eTForecasts

Launched the Port Community System Web site in Feb, 2000. Marine terminals send container and/or booking status to eModal's ASP throughout the day.
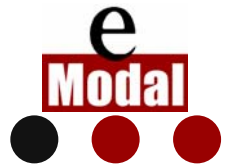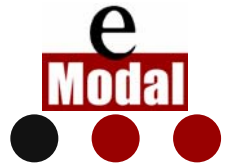
Marine Terminal Participation

- 36 marine terminals in 14 Port complexes are participating.

- More than 11,000 companies are registered - including shippers, consignees, marine terminals, Customs brokers, steamship lines, trucking companies, and others – the entire transportation industry.
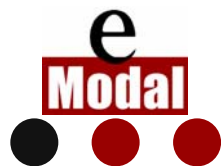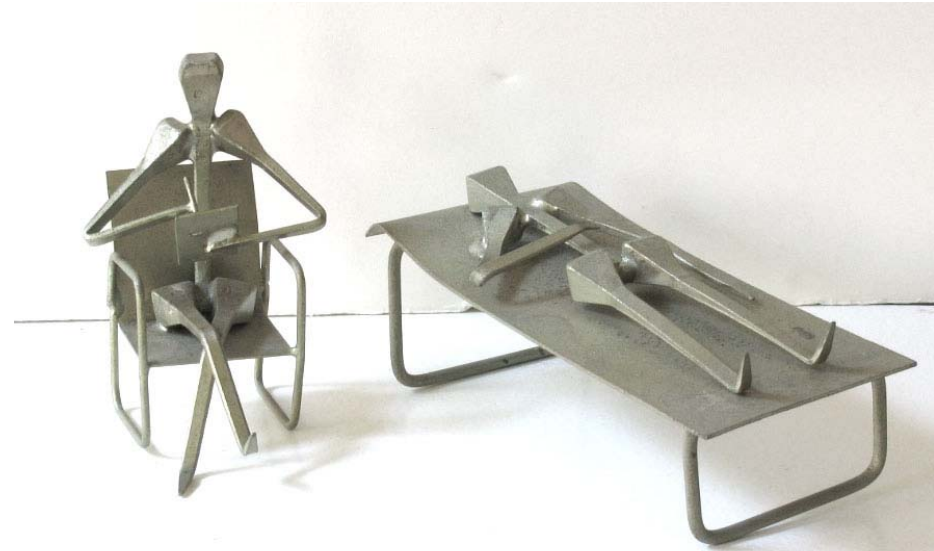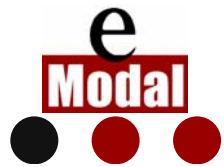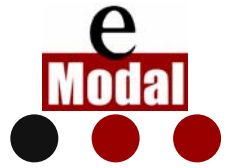
Activity Folder

Select	Container	Available	Customs	Fees	Freight	Terminal	In Yard	Last Free Day	Valid as of
☐	APHU6042530	YES	RELEASED		PAID	TRPLA	W	4/20/2005	4/19 14:24 PST
☐	APHU6127339	YES				TRPLA	W	4/27/2005	4/19 14:24 PST
☐	CBHU0965730	YES	RELEASED		PAID	PCT	G	4/25/2005	4/19 14:26 PST
☐	CBHU1463932	YES	RELEASED		PAID	PCT	G	4/22/2005	4/19 14:26 PST
☐	CBHU1636637	YES	RELEASED	$102.00	PAID	PCT	G	4/18/2005	4/19 14:26 PST
☐ 🖼	CBHU1673137	YES	RELEASED		PAID	PCT	G	4/22/2005	4/19 14:26 PST
☐	CBHU1724234	YES	RELEASED		PAID	PCT	W	4/22/2005	4/19 14:26 PST
☐	CBHU1808633	YES	RELEASED		PAID	PCT	G	4/25/2005	4/19 14:26 PST
☐	CBHU2929136	NO	RELEASED		PAID	PCT	OG		4/19 14:26 PST
☐	CBHU9735831	YES	RELEASED	$102.00	PAID	PCT	G	4/18/2005	4/19 14:26 PST
☐	CBHU9741238	NO	EXAM	$102.00	PAID	PCT	W	4/18/2005	4/19 14:26 PST
☐	CBHU9963739	NO				ITS	OG		4/19 14:22 PST
☐	CCLU4004330	NO	RELEASED		PAID	PNCT	OG		4/19 16:54 EST
☐	CLHU8284137	YES	RELEASED		PAID	ITS	G	4/22/2005	4/19 14:22 PST

Other causes of congestion?

✓ Stopping to pay fees at the gate

✓ No preplanning for the pick-up or delivery

✓ Out-dated security and verification processes

Pay Fees via the Activity Folder

Select	Container	Available	Customs	Fees	Freight	Terminal	In Yard	Last Free Day	Valid as of
☐	APHU6042530	YES	RELEASED		PAID	TRPLA	W	4/20/2005	4/19 14:24 PST
☐	APHU6127339	YES				TRPLA	W	4/27/2005	4/19 14:24 PST
☐	CBHU0965730	YES	RELEASED		PAID	PCT	G	4/25/2005	4/19 14:26 PST
☐	CBHU1463932	YES	RELEASED		PAID	PCT	G	4/22/2005	4/19 14:26 PST
☐	CBHU1636637	YES	RELEASED	$102.00	PAID				14:26 PST
☐	CBHU1673137	YES	RELEASED		PAID				14:26 PST
☐	CBHU1724234	YES	RELEASED		PAID				14:26 PST
☐	CBHU1808633	YES	RELEASED		PAID				14:26 PST
☐	CBHU2929136	NO	RELEASED		PAID				14:26 PST
☐	CBHU9735831	YES	RELEASED	$102.00	PAID				14:26 PST
☐	CBHU9741238	NO	EXAM	$102.00	PAID				14:26 PST
☐	CBHU9963739	NO				ITS	OG		4/19 14:22 PST
☐	CCLU4004330	NO	RELEASED		PAID	PNCT	OG		4/19 16:54 EST
☐	CLHU8284137	YES	RELEASED		PAID	ITS	G	4/22/2005	4/19 14:22 PST

31% of all Trouble Window transactions at marine terminal gates are related to fee payments.
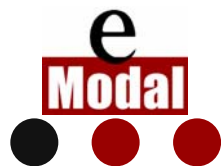
"E" checking and major credit cards

eModal.com

Enter Search Topics | Search

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NorthAmerican Transportation Association

Paying demurrage now easier than ever

| Logoff | Activity Folder | Scheduler | Fee Payment | Trucker Check | EDO | My eModal |

Pay Container Fees For Terminal PCT

Container No.	Fee	Apr/19	Apr/20	Apr/21	Apr/22	Apr/23	Apr/24	Apr/25
CBHU1636637	DEMURRAGE	○ 102.00	○ 204.00	○ 306.00	○ 408.00	○ 510.00	○ 664.00	N/A

Pay Selected Fees

Payment Services by VeriSign

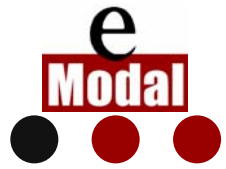TeleCheck AMEX VISA MasterCard

VeriSign is routing, processing, and securing your payment information.
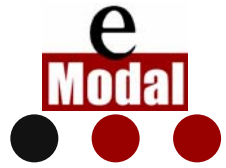
Benefits of prepayment on-line

✓ Every 3 ½ minutes of the working weekday, a truck does not stop at a marine terminal trouble window

✓ Annual growth rate of <u>258</u>%.
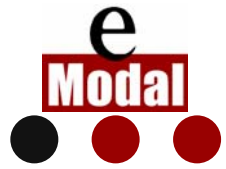
Coordinating pick-up and delivery *appointments*

- ➢ What works for a marine terminal's operations?
- ➢ What works for a trucking company's dispatch?
- ➢ What works for _both_?
- ➢ What technology can provide the solution?

Terminal Parameters } Zones
Time
Capacity

Row 1	Row 2	Row 3	Row 4
8-10 cap: 20	8-10 cap: 15	8-10 cap: 25	8-10 cap: 15
10-12 cap: 30	10-12 cap: 20	10-12 cap: 15	10-12 cap: 30

etc. throughout the day

User Interface

Select	Container	Available	Customs	Fees	Freight	Terminal	In Yard	Last Free Day	Valid as of
☐	APHU6042530	YES	RELEASED		PAID	TRPLA	W	4/20/2005	4/19 14:24 PST
☐	127339	YES				TRPLA	W	4/27/2005	4/19 14:24 PST
☐	CBHU0965730	YES	RELEASED		PAID	PCT	G	4/25/2005	4/19 14:26 PST
☐	CBHU1463932	YES	RELEASED		PAID	PCT	G	4/22/2005	4/19 14:26 PST
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☐	CBHU1808633	YES	RELEASED		PAID	PCT	G	4/25/2005	4/19 14:26 PST
☐	CBHU2929136	NO	RELEASED		PAID	PCT	OG		4/19 14:26 PST
☐	CBHU9735831	YES	RELEASED	$102.00	PAID	PCT	G	4/18/2005	4/19 14:26 PST
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☐	CBHU9963739	NO				ITS	OG		4/19 14:22 PST
☐	CCLU4004330	NO	RELEASED		PAID	PNCT	OG		4/19 16:54 EST
☐	CLHU8284137	YES	RELEASED		PAID	ITS	G	4/22/2005	4/19 14:22 PST

Scheduler

Import Scheduler

Click an appointment to assign information to Container CBHU1724234 at Terminal PCT

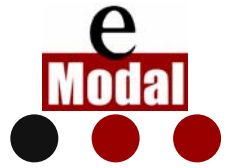| Date	Time Interval	Zone	Capacity Ratio
04/20/05	7:00AM – 4:30PM	WHLS1	(2/800)
04/21/05	7:00AM – 4:30PM	WHLS1	(0/800)
04/22/05	7:00AM – 4:30PM	WHLS1	(1/800)
04/25/05	7:00AM – 4:30PM	WHLS1	(0/800)

Click on an appointment above to have this information saved with the appointment and click the "Save" button below.

Are you delivering a container? ○ Yes ● No   Container # [   ]   ● is Empty   ○ is Full
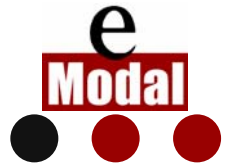
Booking# [   ]   Are you using your own chassis?

First Round "Reviews"

"So far, Pacific Container Terminal has seen a reduction to about 20 trucks waiting to get inside certain gates at peak times, from 60 to 70 previously, company officials said. Waiting times have been reduced to between 10 and 20 minutes, versus more than an hour previously."
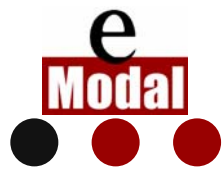
- Los Angeles Business Journal

Provide increased security *without* compromising gate efficiency

➤ What can terminals do to verify truckers?

➤ What can trucking companies do to verify that the trucker *actually drives for them*?

➤ What can technology provide for *both*?
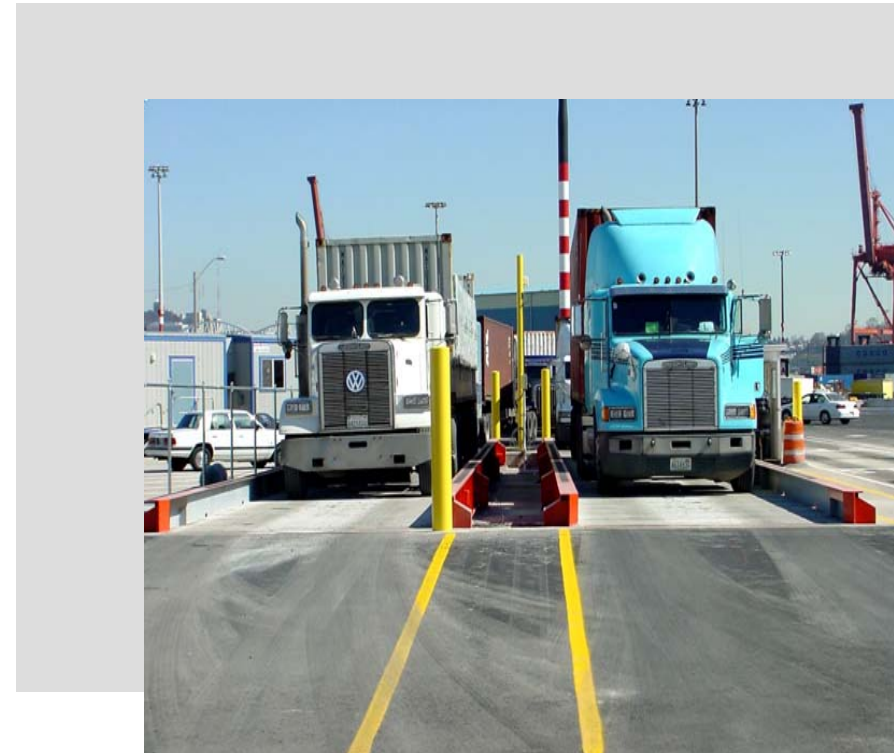
Step 2: eModal Trucker Check - Add/Edit Trucker

As a registered user of www.emodal.com, I am submitting a driver's information to this system and site, and I warrant and represent that the driver has given to me written consent to obtain such information and to transmit it to eModal.com, LLC. for dissemination to eModal's registered users, in accordance with the provisions of the Driver's Privacy Protection Act, 18 U.: the driver that such information may inc driver's license expiration date and stat the names of the companies who have :

This registered company also warrants provided me with proof that he/she has

Registered Company Accept

Registered Company Does Not

Step 1: eModal Trucker Check - Add/Edit Trucker

All fields are required.

First Name: _____ **Last Name:** _____

☑ **Trucker is Active.**
Click on the box to activate. If you wish to de-activate a trucker, click to remove the check.
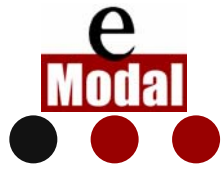
Driver License Number: _____ **State/Province:** Select a state / province ▼

Expiration Date (mm/dd/yyyy): _____ ▼

☐ **Contract doesn't have expiration date.**

Contract Begin: (mm/dd/yyyy) _____ ▼ **Contract End:** (mm/dd/yyyy) _____ ▼

Company tractor Plate Pool   View Company Plate Pool

Tractor Plate Number: _____ **State/Province:** Select a state / province ▼

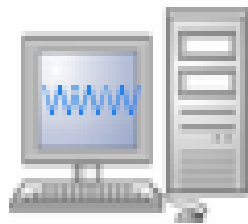Continue   Add More Tractor Plates   Cancel

Scaleable Technology

- Trucker's name -last/first
- Assigned PIN – SCAC
- CDL number – state/province of issue, expiration date
- Tractor plate number(s)
- Numeric identifiers - TWIC, other Govt. nos.
- Verifying appt. numbers
- Biometrics/Fingerprints
- Digital photos
- RFID numbers
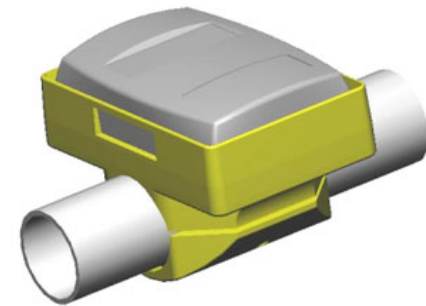
Drayage Companies

① Updates

eModal

Marine Terminal Site

② Updates

XML
Tag ID
License Plate
Drayage Contact Info
SCAC Code
Trucker Names and PIN
Driver's License Info
Active Drayage Contacts Info

③ Tag

④ Gate Event

Gate Event Detected

WhereNet VSS

XML
Lane ID
License Plate
Drayage Contact Info
SCAC Code
Trucker Names and PIN
Driver's License Info
Active Drayage Contacts Info

Gate
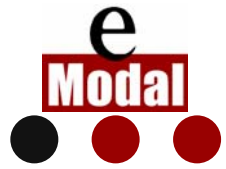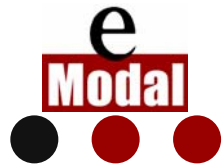
PIERPASS

MTOS

Step 4 Looking Back

Was the problem resolved?

- ✓ We got the Internet thing right!
- ✓ Industry acceptance of the port community system
    - 3.9 million container view hits per month
- ✓ ….but, we still have congestion

What else can be done?
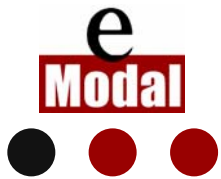
Keep up the fight!
- ✓ Increase industry-wide action
  - AAPA
  - Port Authority involvement
  - PierPASS-like organizations
  - Community systems

Thank you
Questions?/Comments

JOHN CUSHING
President

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