The Evolution Of Public Port Authorities: Charting The Path Forward

- The Impact of Deployment/Capacity
- Infrastructure Needs & Investment
- Participants & Development Profile

A Presentation By:
Bruce E. Cashon, CCO & Senior Vice President, Ceres Terminals Incorporated
“THERE IS NO FUTURE WITHOUT THE PATH MADE TO IT BY THE PAST”

**CAPITAL EXPENDITURES**
for U.S. Public Port Development from 1946 through 2005 totaled over $30.1 billion. During this 60-year period, the average yearly investment was $501 million.

**AVERAGE INVESTMENT**
from 2001 – 2005, jumped to $1.5 billion per year. These investments covered expenditures for the construction of new facilities and the modernization and rehabilitation of existing ones.

<table>
<thead>
<tr>
<th>Region</th>
<th>Expenditures</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Atlantic</td>
<td>$5,404,975</td>
<td>17.3</td>
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<tr>
<td>South Atlantic</td>
<td>4,705,285</td>
<td>15.1</td>
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<tr>
<td>Gulf</td>
<td>5,486,958</td>
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<td>10,658,586</td>
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<td>Great Lakes</td>
<td>581,725</td>
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<tr>
<td>Non-Contiguous</td>
<td>995,835</td>
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<tr>
<td>Guam/Saipan</td>
<td>193,242</td>
<td>0.6</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$31,223,070</strong></td>
<td><strong>100.0</strong></td>
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# PROJECTED CAPITAL EXPENDITURES
**YEARS 2007 - 2011**

<table>
<thead>
<tr>
<th>Region</th>
<th>Expenditures</th>
<th>Percent</th>
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<td>$887,484</td>
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<td>3,437,580</td>
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<td>2,195,207</td>
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<td>790,681</td>
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<td>615</td>
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<td>0</td>
<td>0.0</td>
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<tr>
<td>Guam/Saipan</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$9,385,241</strong></td>
<td><strong>100.0</strong></td>
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</table>
NEW PRIVATE SECTOR PLAYERS IN NORTH AMERICA – SINCE 2006

Within the same period of time, a number of private financial firms have invested approximately $9.5 billion dollars in maritime companies that operate marine terminals at public ports.
WHO PURCHASED WHO?

- Maher Terminals
- RRREEF
- Goldman Sachs
- Fraser Surrey Docks
- Pacific Rim Stevedoring
- Morgan Stanley
- Montreal Gateway Terminals
- AMPports
- P&O Ports
- HIGHSTAR CAPITAL
- Terminal Systems Inc.
- Global Container Terminals USA
- NYCT
- Teachers' Pension Plan

49%
80%
40%
WHAT DOES THE FUTURE HOLD?

**Deployment/Capacity:**
What Does It Mean To The Stevedore/Terminal Operator & Port Evolution?

**Infrastructure Requirements & Investments:**
What Shape Are We In?

**Port Evolution:**
Participants & Development Profile
## DEPLOYMENT/CAPACITY

### Newbuilding Delivery Projections - Cellular Fleet

<table>
<thead>
<tr>
<th>Nominal TEU</th>
<th>2010 Deliveries</th>
<th>2011 Deliveries</th>
<th>2012 Deliveries</th>
<th>2013 Deliveries</th>
<th>2014 Deliveries</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>TEU</td>
<td>No.</td>
<td>TEU</td>
<td>No.</td>
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<tr>
<td>10,000-18,000</td>
<td>31</td>
<td>406,330</td>
<td>47</td>
<td>597,142</td>
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<tr>
<td>7,500-9,999</td>
<td>32</td>
<td>275,295</td>
<td>25</td>
<td>218,717</td>
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### Cellular Fleet Projections

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</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>TEU</td>
<td>No.</td>
<td>TEU</td>
<td>No.</td>
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<tr>
<td>10,000-18,000</td>
<td>71</td>
<td>887,598</td>
<td>118</td>
<td>1,484,740</td>
<td>173</td>
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<td>7,500-9,999</td>
<td>264</td>
<td>2,262,471</td>
<td>289</td>
<td>2,488,540</td>
<td>316</td>
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### Global Capacity Deployment Breakdown By Trade (As At 1 Nov. 2011)

#### By Vessel Count

<table>
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<tr>
<th>Trade</th>
<th>100-999</th>
<th>1,000-1999</th>
<th>2,000-2,999</th>
<th>3,000-3,999</th>
<th>4,000-5,099</th>
<th>5,100-7,499</th>
<th>7,500-9,999</th>
<th>10,000-15,500</th>
<th>Total Cellular Units</th>
<th>Non-Cellular Units</th>
<th>Total Liner Units</th>
<th>%</th>
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<tbody>
<tr>
<td>Europe-N. America</td>
<td>0</td>
<td>9</td>
<td>38</td>
<td>27</td>
<td>63</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>148</td>
<td>5</td>
<td>153</td>
<td>3%</td>
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<tr>
<td>Far East-N. America</td>
<td>0</td>
<td>10</td>
<td>25</td>
<td>12</td>
<td>198</td>
<td>127</td>
<td>94</td>
<td>2</td>
<td>468</td>
<td>4</td>
<td>472</td>
<td>9%</td>
</tr>
<tr>
<td>Europe-Far East</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>9</td>
<td>33</td>
<td>141</td>
<td>164</td>
<td>108</td>
<td>458</td>
<td>0</td>
<td>458</td>
<td>8%</td>
</tr>
</tbody>
</table>
DEPLOYMENT/CAPACITY: REALITY SETS IN

398 VLCS In Service • 272 On Order

The MEGA SHIPS are already here with more coming in multiple trade lanes. For the Stevedore/Terminal Operator, it is all about the ship!
SUPER ALLIANCES: AVAILABLE CAPACITY

P3 Available TEU Capacity: 6,496,277

G6 Available TEU Capacity: 3,118,773

CKYH Available TEU Capacity: 2,127,459
MSC, Hamburg Süd, PIL & UASC do not publish financial results. EMC not consolidated for non-listed part of the Evergreen Group.

Includes earnings for container terminal operations for CMA CGM, “K” Line, OOCL, MOL, HJS, APL, HMM, CSCL & Yang Ming.
CHART OF THE WEEK: YEAR 2009 - 2013
Carrier Operating Income Margin By Quarter Versus Freight & Bunker Index

Average Carrier Operating Margin

-17%-17%-17%
-11%
-2%
-8%
-11%
-12%
-2%
-4%
-1%

Average of APL, CMA CGM (fr 2010), CCNI, CSAV, CSCL, EMC, Hanjin, HMM, Hapag-Lloyd, KL, Maersk, MOL, NYK, RCL, STX PO (until 2012), WHL, YML, Zim
MARKET CONDITIONS REMAIN CHALLENGING

- Container carriers continue to add capacity resulting in lower rates. In turn, carriers pressure their vendors, terminal operators and port authorities on cost.
- In comparison to 20 years ago, ocean freight rates are the same or lower today with no near term signs of improving.
- Global container fleet capacity increased 9% in 2012 and is projected to grow 6% in 2013.
- According to the IMF, global growth will be subdued at 3%, the same as last year, which means too much capacity chasing too little cargo.
- U.S. Consumer demand still remains weak at a 1% growth rate even though the GDP is slightly above 2%. With the current situation, it is very likely that there will not be a true Peak Season in Europe or the United States.
- While Terminal Operating/Stevedoring rates were stable in some areas, the continued pressure is downward due to ongoing carrier alliance alignments such as P3, G6 and CKYH. Others?
Port Authorities & Their Business Partners Continue Making Major Investments In Port Facilities.

**WHILE,** Intermodal Links such as Roads, Bridges & Tunnels Get Scant Attention By State Federal Agencies.

**As A Result,** Reduced Productivity, Cargo Traffic Bottlenecks, Increased Cost And Loss Of Job Growth.  (Reference AAPA)
INFRASTRUCTURE NEEDS & INVESTMENTS

HIGHWAYS & BRIDGES

HIGHWAYS

Number of Highway Miles in the U.S.: 47,013
Current Spending: $42 Billion Annually
Ideal Spending: $146 Billion to $310 Billion Annually Over A 15 to 50-Year Period

The top 10 highway interchange bottlenecks in the nation delay truck shipments by an average of 1.5 million hours a year. (Kiplinger)

BRIDGES

Number of Bridges in the U.S.: 590,766
Number of Deficient Bridges: 152,316
Current Spending: $5.2 Billion Annually
Ideal Spending: $19 Billion Annually Over A 50-Year Period

The average age of bridges in America stands at 43 years old. (Kiplinger)
MAP-21, the MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY ACT does not include a stand-alone freight program or dedicated formula funding for freight but introduces several new provisions to Federal Transportation Policy.

- In particular, MAP-21 establishes the need for a National Freight Policy, prioritizes freight projects and recommends the creation of State Freight Advisory Boards and State Freight Plans.

- The Projects of National and Regional Significance, a MAP-21 program applicable to freight, was authorized out of the General Fund at $500 million for FY2013 although it will not be funded at all in FY2014.

- The National Freight Policy program will establish goals and recommend the designation of a National Freight Network.

- MAP-21 directs U.S. DOT to develop a freight strategic plan to assess the conditions and performance of the National Freight Network, identify highway bottlenecks and estimate the cost of resolving those bottlenecks.

- On the financing side, MAP-21 also raises the federal share for eligible projects to 95% for projects on the Interstate System and 90% for other eligible projects. Eligible projects include construction and operational improvements for freight, intelligent transportation systems, grade separations, geometric improvements, truck-only lanes, improvements to freight intermodal connectors and improvements to truck bottlenecks.
INFRASTRUCTURE NEEDS & INVESTMENTS
A SILVER LINING

RAILROAD INVESTMENT - PRIVATE & PUBLIC/PRIVATE PROJECTS
$500 billion since the 1980 building, maintaining and growing their 140,000 mile rail network. In 2012, an estimated $23 billion invested to include key public-private projects.

HEARTLAND CORRIDOR
A public-private partnership among Norfolk Southern and federal and state agencies to increase vertical clearances in 28 tunnels and remove 24 overhead obstructions to allow passage of double-stacked container trains between the Port of Virginia and Columbus, Ohio.

NATIONAL GATEWAY
A partnership between CSX, six states and the District of Columbia, CSX’s National Gateway will be a state-of-the-art rail corridor connecting Mid-Atlantic seaports and consumption centers to consumers and manufacturing centers in the Midwest.

TRANSCON CORRIDOR
Spanning 4,647 route miles and traversing 13 states, BNSF Railway’s Transcon Corridor connects the ports and markets in California and the Southwest to the Midwest, Texas and the Southeast.
PORTS

Number of Commercial U.S. Seaports: 360
Current Spending: Approximately $850 Million Annually
Ideal Spending: Approximately $1.8 Billion Annually

(Kiplinger)
INFRASTRUCTURE NEEDS & INVESTMENTS

DREDGING: THE BEAT GOES ON BUT SEEMS FRAGMENTED & TEDIOUS

September 19, 2013
Push For More Aggressive Harbor Maintenance Trust Fund Reform Stalls In WRRDA

June 22, 2012
Congress Hears Calls for New Approach on Port Funding
Army Corps of Engineers urges thinking outside the box to fund harbor dredging, locks and dam projects.

July 11, 2012
Charleston Dredging Project Beating Expectations

July 30, 2012
Dredging Projects Fast-Track In The East
A federal promise puts East Coast Ports from New York to Miami on the fast track to deeper channels.

October 16, 2012
Kickoff Of Port Of Miami’s Deep Dredge Project’s Contracting Phase

October 30, 2012
Savannah River Dredging Gets Green Flag

September 24, 2012
Final $7.5 Million In Funding Approved For The Port of Los Angeles’ Main Channel Deepening Project

February 16, 2011
Florida Governor Seeks Dredging, Highway Funds Over Rail
INFRASTRUCTURE NEEDS & INVESTMENTS
FEDERAL POLICY LAGGING
TRUST FUND SURPLUS SKYROCKETS!

Sources: AAPA, Budgets of the United States, Energy and Water Development Appropriations Acts, MARAD, and the Corps of Engineers.
PORT EVOLUTION & THE PRIVATE SECTOR
HOW IS THE PRIVATE STEVEDORE/TERMINAL OPERATOR INVOLVED?

U.S. ports and their private sector partners plan to spend more than $40 billion collectively over the next five years in marine terminal capital improvements. The private sector is increasingly participating in these master plans for development.

August 19, 2013
Tampa Port, CSX To Develop Reefer Transload Facility

July 24, 2013
New Steel Terminal To Be Built At Port Of Mobile

July 10, 2013
Georgia Ports, Cordele Intermodal Sign Inland Port Accord

April 19, 2013
Kemmsies Talks Public/Private Partnerships for Infrastructure

March 26, 2012
Port of NY-NJ’s Global Reach

January 14, 2013
Port Newark Container Terminal Details Expansion Plan

December 18, 2012
LB Terminal Investment Gives CMA CGM U.S. Base

November 8, 2012
LA Approved TraPac Construction Projects

September 12, 2012
CSX Chooses Baltimore Intermodal Facility Site

June 8, 2012
Port of LA Approves Eagle Marine Services’ “Pier 300” Container Terminal Expansion

June 7, 2012
APL Terminal Project Gets Green Light In LA

May 9, 2012
Global Terminal Details Expansion Plans

April 3, 2012
OOCL, Long Beach Sign 40 Year Lease
PORT EVOLUTION & THE PRIVATE SECTOR

HOW CAN THE PRIVATE STEVEDORE/Terminal Operator contribute effectively to evolution demands?

IMPROVE VELOCITY/DENSITY
- Technology critical to improving operations
- Equipment enhancements maximize space utilization
- Gate/TOS: Systems continue to evolve/improve
- Automation: One size does not fit all and likely will be gradual
- OOCL Middle Harbor, Trapac, APL LA, APM NFK, Global NY
- Off Peak Terminal Ops, Pier Pass LA/LB

CHASSIS POOLS
Improved asset utilization, reduce terminal space requirements

SATELLITE/INLAND TERMINALS
Accommodate inbound loads/mts

INTERMODAL/RAIL INFRASTRUCTURE INTERFACE
On/near dock rail velocity improvements

GREY BOX POOLS
Unlikely near-term but perhaps more momentum with Uber Alliances

NATIONAL FREIGHT POLICY COUNCIL
Continue active participation
HOW WILL TERMINAL OPERATORS SURVIVE THESE EVOLVING DEMANDS?

- Throughput cost and handling cargo efficiently will determine success - Reliability on the dockside is essential.
- The proprietary container terminal operated for an individual shipping line is becoming an endangered species.
- There will likely be more consolidation within Terminal Operators & Stevedoring Companies.
- Formation of operating/equipment sharing agreements – become more asset efficient.
- Push to automation sooner where possible.
- More joint ventures with carriers.
- New approaches to billing for stevedoring/terminal services for account of BCO? (Pier Pass, THC to include stevedoring)
Size/Scope Of Business
$600 mil plus annual revenue

Broad Geographic/Operating Scope
West Coast North America
East Coast North America
Gulf Coast North America
Marquee: High Demand Terminal Locations

Large Asset Base Readily Available
Equipment
Systems
Management

State-Of-The-Art, Well-Established and/or Proprietary Terminal Operating System/IT Systems

Project Development – Internal Resources Available
Research/Analysis Engineering
Finance: Management & Administration

Apparent Ready Access To Capital

Ability To Respond To Opportunities
# North America Stevedores & Terminal Operators

## Categories/Competitive Profile

<table>
<thead>
<tr>
<th>Multinational</th>
<th>Investment Vehicles</th>
<th>Strategic To Liner Affiliate</th>
<th>Regional Operators</th>
<th>Joint Ventures</th>
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<tr>
<td>APL</td>
<td>SSA/Goldman Sachs</td>
<td>APM*</td>
<td>Cooper T. Smith*</td>
<td>APM/CNM</td>
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<tr>
<td>APM*</td>
<td>Ports</td>
<td>Cal United</td>
<td>Eller</td>
<td>CP&amp;O</td>
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<tr>
<td>CMA-CGM*</td>
<td>America/Highstar</td>
<td>Eagle Marine</td>
<td>Empire</td>
<td>Ceres/Logistec</td>
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<tr>
<td>(Cosco Pacific)</td>
<td>Capital</td>
<td>Evergreen*</td>
<td>Florida Stevedoring</td>
<td>Ceres/MSC</td>
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<td>DP World</td>
<td>Gateway/J. P. Morgan</td>
<td>ITS</td>
<td>Flanagan</td>
<td>DRS</td>
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<tr>
<td>Evergreen*</td>
<td>Maher Terminals/Deutsch Bank</td>
<td>LBCT</td>
<td>Holt</td>
<td>Eller ITO</td>
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<tr>
<td>Hanjin*</td>
<td>Global</td>
<td>Matson</td>
<td>Jones Stevedoring</td>
<td>MGT</td>
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<td>(HPH)</td>
<td>Terminals/Ontario</td>
<td>PCT</td>
<td>Logistec*</td>
<td>PA/Yang Ming</td>
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<td>ICTSI</td>
<td>Teacher's Pension</td>
<td>Pier A</td>
<td>Metropolitan</td>
<td>PA/CSCL</td>
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<td>K Line</td>
<td>Fund</td>
<td>Trapac</td>
<td>Pasha</td>
<td>PA/Hanjin</td>
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<tr>
<td>MOL</td>
<td></td>
<td>Total Terminals*</td>
<td>Red Hook Terminals</td>
<td>PA/TIL</td>
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<tr>
<td>MSC*</td>
<td>Halterm/Fraser</td>
<td>West Basin</td>
<td>Shippers</td>
<td>PET</td>
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<td>NYK</td>
<td>Surrey/Macquarie</td>
<td>YTI</td>
<td>Suderman</td>
<td>POMTOC</td>
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<tr>
<td>(PSA)</td>
<td>Total Terminals*</td>
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<td>Other Non-Union</td>
<td>SSA/Cooper</td>
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<td></td>
<td>Macquarie</td>
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<td>SSA/MSC</td>
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<td>SSA/COSCO</td>
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<td></td>
<td></td>
<td></td>
<td>TTI/TIL</td>
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</tbody>
</table>

*Appears in more than one category

(): Not yet in NA
THE EVOLUTION OF PUBLIC PORTS
THE SIGNS ARE PROMISING...
BUT CAREFUL WHAT YOU WISH FOR!

OPERATING PROFILE – THE MARKET
- VLCS/ULCS
  The future is here and will continue to test facility capabilities.
- Uber alliances will increasingly be the staple of major trade lanes. These alliances will financially and operationally challenge ports and terminal operators.

INFRASTRUCTURE & TERMINAL INVESTMENT
- Substantial Private/Public investment in play
- Focus remains fragmented by modal type
- Private sector highly focused on return on capital employed and meeting IRR
- Continued Public – Private approach
THE EVOLUTION OF PUBLIC PORTS
THE SIGNS ARE PROMISING BUT WHERE ARE WE REALLY GOING?

TERMINAL DEVELOPMENT & INFRASTRUCTURE FUTURE

- Heightened Focus On Dredging
- MP-21: Formative Stages For A National Freight Program
- The Private Sector Continues Investing Carefully
- Sound Signs Of Public/Private Success & New Initiatives
- National Network Funding Sources Remain Murky
Thank You For Your Attention.
Enjoy Your Stay in Orlando!
### INDUSTRIAL TRANSPACIFIC
#### EASTBOUND REVENUE/TEU FIGURES
*Based On Annual Averages For All Origins/Destinations*

<table>
<thead>
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<th>Year</th>
<th>Average REV/TEU</th>
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<td>5/1/1994</td>
<td>$1,687</td>
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<td>$1,711</td>
</tr>
<tr>
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<td>$1,246</td>
</tr>
<tr>
<td>5/1/1997</td>
<td>$1,102</td>
</tr>
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<td>5/1/1998</td>
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<tr>
<td>5/1/2009</td>
<td>$1,852</td>
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</table>
**Key Differences**

- Willingness to invest major capital
- Investing other people’s money
- May consolidate and/or spin-off group companies
- Envisioned flipping purchased companies for near-term gain
- Investing own capital
- Seemingly appears to be in the business long-term

Logos for:
- HighStar Capital
- Goldman Sachs
- Macquarie Bank
- RREEF
- Morgan Stanley
- Teachers’ Pension Plan
DEPLOYMENT/CAPACITY:
HOW THE P3 NETWORK STACKS UP

CARRIERS' SHARES OF P3 NETWORK FLEET (TEUs):
- Maersk: 1.1 M
- MSC: 900,000
- COSCO: 600,000
Total TEUs: 2.6 M

P3 CARRIERS' INDIVIDUAL GLOBAL FLEETS:
- 42% of P3 Network: 2,587,401 TEUs
- 34% of P3 Network: 2,326,849 TEUs
- 24% of P3 Network: 1,486,962 TEUs

P3 NETWORK CAPACITY AS % OF TOTAL GLOBAL CONTAINER SHIP FLEET:
- 15.1%: 2,600,000 TEUs

P3 CARRIERS' SHARE OF TOTAL GLOBAL FLEET:
- 100%: 17,240,171 TEUs

Sources: Alphaliner Top 100 as of June 18, 2013; carrier announcement