Klein Systems Group Ltd.

**AAPA**

Shared Information

June 11, 2009

Software Solutions to Meet the Challenging Needs of Maritime Ports and Vessel Traffic Regions
Introduction

- Challenge (Information)
- Solution (System)
- Detail of types of info shared
Port System

- Challenge
A lot Happens at a Port

<table>
<thead>
<tr>
<th>Category</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agents &amp; Port Community</td>
<td><img src="image1.jpg" alt="Agents &amp; Port Community" /></td>
</tr>
<tr>
<td>Traffic Management</td>
<td><img src="image2.jpg" alt="Traffic Management" /></td>
</tr>
<tr>
<td>Pilot Scheduling</td>
<td><img src="image3.jpg" alt="Pilot Scheduling" /></td>
</tr>
<tr>
<td>Boat and Launch Scheduling</td>
<td><img src="image4.jpg" alt="Boat and Launch Scheduling" /></td>
</tr>
<tr>
<td>Tug Scheduling</td>
<td><img src="image5.jpg" alt="Tug Scheduling" /></td>
</tr>
<tr>
<td>Lock Management</td>
<td><img src="image6.jpg" alt="Lock Management" /></td>
</tr>
<tr>
<td>Port Services Planning</td>
<td><img src="image7.jpg" alt="Port Services Planning" /></td>
</tr>
<tr>
<td>Waste Control</td>
<td><img src="image8.jpg" alt="Waste Control" /></td>
</tr>
<tr>
<td>Container, Cargo &amp; Yard Management</td>
<td><img src="image9.jpg" alt="Container, Cargo &amp; Yard Management" /></td>
</tr>
<tr>
<td>Cargo &amp; Dangerous Goods</td>
<td><img src="image10.jpg" alt="Cargo &amp; Dangerous Goods" /></td>
</tr>
<tr>
<td>Warehouse Management</td>
<td><img src="image11.jpg" alt="Warehouse Management" /></td>
</tr>
<tr>
<td>Billing &amp; Accounting</td>
<td><img src="image12.jpg" alt="Billing &amp; Accounting" /></td>
</tr>
</tbody>
</table>
Replication

- A lot of Information
- Various types of users
- Information Dispersed
- Different Information Formats
- Different views of information (data, graphical)
- Dispersed locations of input and reporting
- Extensive Reporting (Detailed, General, Formal)
- Integration of all port activities (vessels, cargo, billing, property)
3rd Party Information

- Lloyd’s Registry
- Coast Guard
- Customs
- Manifest
- System
- SafeSeaNet
- Agency / Shipping Line EDI Message
- Cruise Line Long-Term Schedule
- Pilot Association
Different Info Records

Same Info in gathered and used in different ways
- Paper, carbon copy, fax, notes
- White boards
- Magnetic boards
- Rulers
- Sticky notes
- Cargo manifest
- Agent request, confirmation
- Service providers, request, confirmation, change
Challenge

Interconnectivity

Integration

Communications
Port System

• Solution
Solution

- Manage flow of info from various sources
- Enable community communication
- Info sharing not replication
- Accurate and timely info
- Automation of port rules
- Access rights
Solution Architecture

- Enterprise Service Bus
- Application Server
- MS SQL Server
- Web Server
- 3rd Party Services
- Messaging/Notifications/Alerts
- Web Clients
- Windows Clients
- Administrator
- 3rd Party Services
- Web Clients
- Windows Clients
- Administrator
Port System – Detailed Results

- Information Integration
- 3 main components of a port system interconnected
Vessel Related Info

- Web Booking
- Berth Planning
- Resource Planning
- Conflicts Resolution
- Traffic Control
- Maritime Community Collaboration
- Reports

BILLING
Billing Related Info

Billing Task -> Tariff / Rate Table -> Auto Fee Generation -> Discount Contract -> Approval / Review -> Invoicing -> Credit / Debit Note
Property Management Info

- Properties
- Tenants
- Agreements
- Billing Schedule
- Rent Roll Generation

Government Website

GIS System
Port System

- Summary
- Interconnectivity
- Integration
- Communication
Info Entered Once and Shared
Interconnectivity

Port of Klein

Financial System

LAN Client/Server

Pilots
Tugs
Linesmen
Customs
3rd Party
3rd Party

Vessel
Finance
Cargo
Agreements
Admin
Property

Port of Klein

WAN Terminal Server

Agencies

Port Community System
IVS90 Inland Vessel Info
Gov’t Regs
Lloyds Register of Ships

WAN EDI/XML Communications
Integration

KleinPort

- Lloyd’s Registry
- Coast Guard
- Customs
- SafeSeaNet
- Ports America
- Cruise Line
- Agency / Shipping Line
- EDI Message
- Long-Term Schedule
- Pilot Association
Communication

- Info in -> record
- Record -> report
- Report -> communicate
Problem Solved

Interconnectivity
Integration
Communications
• Thank you