

NSRP Joint Panel Meeting



LOUISIANA CENTER
FOR MANUFACTURING SCIENCES
DESIGN • DEVELOPMENT • APPLICATION

Mobility Solutions Project
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Agenda



- The Louisiana Center for Manufacturing Sciences
 - Who We Are
 - What We Do
- Mobility Solutions Project Overview
- Client-Host Framework
- Cable Testing Application

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Overview



- A non-profit consortium of non-competing businesses chartered with developing technologies to improve manufacturing efficiencies across the defense and commercial industrial base
- Exploitation of member-developed technologies and processes for application to the shipbuilding industry
- Participating Members: Boeing Commercial, Praeses, Ex One, Tiburon Associates, UPS Professional Services, CTG
- Headquartered in Shreveport, LA; established in 1997





The LCMS Consortium and its various technology partners possess a number of relevant capabilities:

- Production Planning Methods and Standards
- Process Analysis and Re-engineering
- Supply Chain Consulting Including Logistics, Warehousing, and Material Movement
- Lean Assessments, Value Stream Mapping, Implementation, and Training
- Large Scale Systems Integration
- Development of Custom Handheld and Web-based Software Solutions

Key Projects



- LPD Program Value Stream Mapping
- Warehouse Storage Process Optimization
- Tier 2 Common Parts Catalog Pilot
- Production Planning Roadmap Development, ROI Generation, and Advocacy
- Mobility Solutions



Key Drivers of Change:

- Devastation created by Hurricane Katrina resulted in loss of almost all yard data management systems at Pascagoula yard
- Significant process inefficiency, redundancy (excellent business case)
- Disparate systems – 1000's of disconnected, unsupported Access databases and Excel Spreadsheets

Key Design Constraints:

- Transition from legacy mainframe system to a new ERP system
- Large, open site with few buildings or PC's
- Requirements for many different applications across a wide range of operations
- Limited funding and time window for implementation



- Deployment of a sector-wide wireless infrastructure to replace wired infrastructure destroyed by Hurricane Katrina
- Development of a Gateway approach to handle the pending shift from the existing legacy mainframe system and the new Oracle-based ERP system
 - Allows for linking to current systems and then reconnecting data links when new ERP system is online
 - Supports a single integration point for all new applications
- Drafted a preliminary plan for deployment of dozens of mobility applications and up to 1000 devices using a common integration framework
- Engaged LCMS through an ONR funded contract to provide architectural consulting and application development support

Mobility Solutions Project



- Project Initiated in June, 2007
- Praeses was selected as the Subcontractor
 - Information Management and IT Consulting Company located in Shreveport, Louisiana
 - Key products include:
 - Jurisdiction Online
 - Transaction Management
 - Handheld Development
 - Key customers
 - FM Global
 - Air Force - AFCyber
 - US Army



PRAESES, LLC

Trusted Information Management Services

Mobility Solutions Project (Scope)

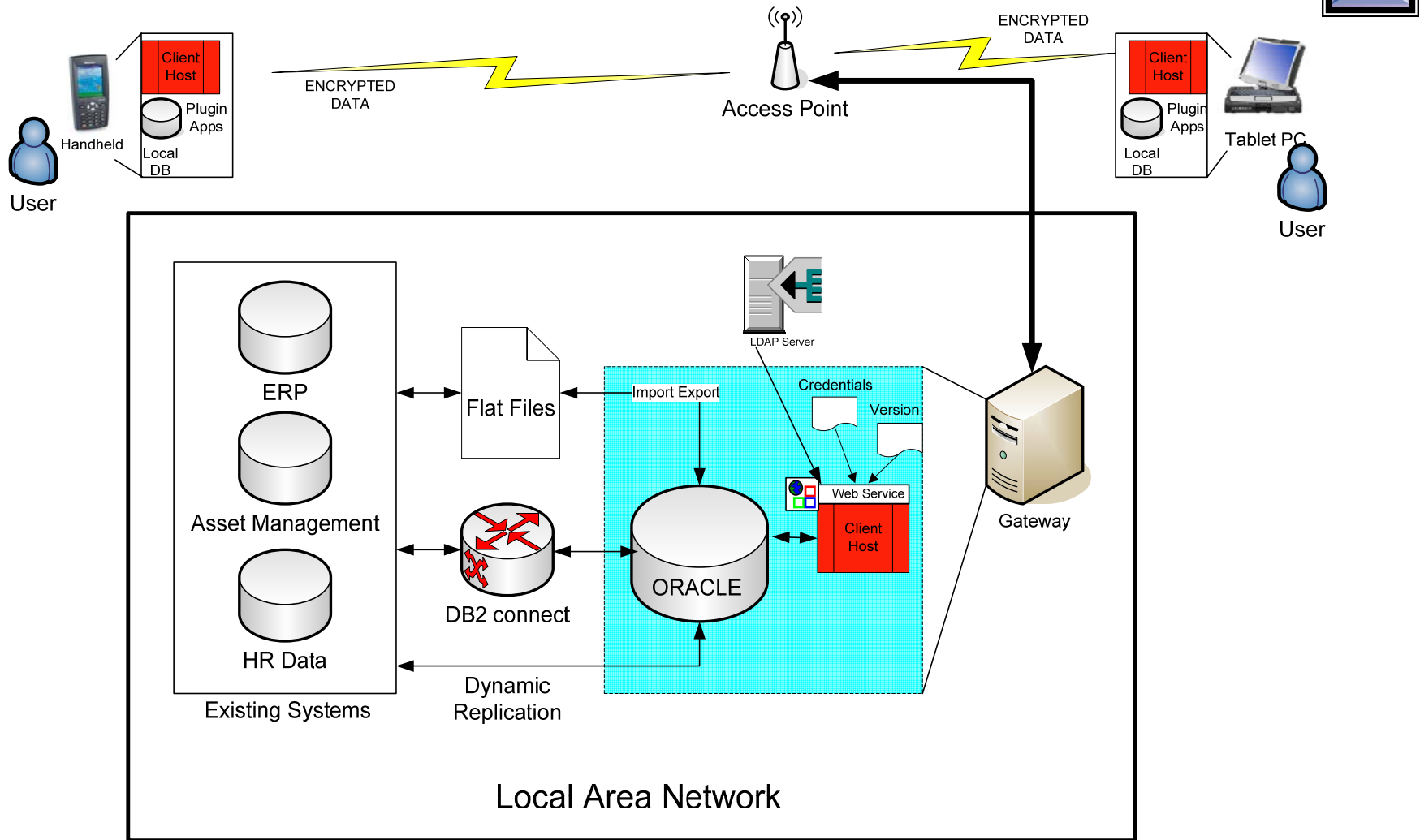


Client-Host Framework - Manages all communications between the backend database and plug-in applications, project includes development of the following plug-in applications:

Target Plug-in Applications

- Cable Testing
- Maintenance Job Tickets
- Pipe Shop Material Tracking

Mobility Architecture





Features:

- Supports an expandable suite of mobile applications using a single integration point
- Manages credentials for users
- Provides menuing function for multiple plug-in applications
- Automates the process for releasing versions of plug-in applications
- Built as an Application Programming Interface (API)



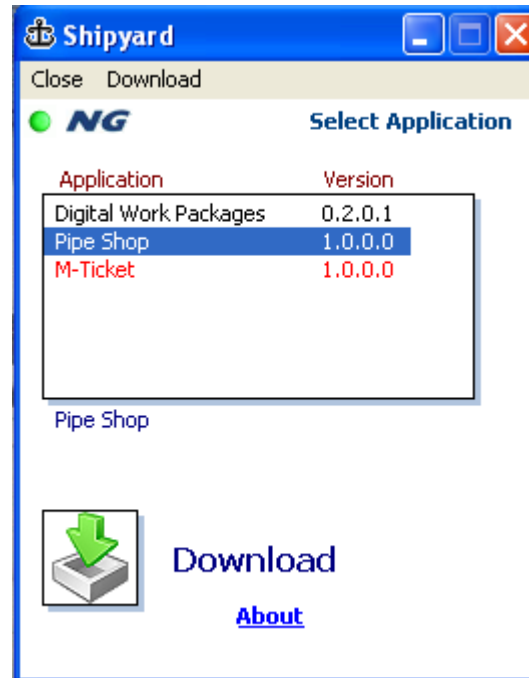
Benefits:

- Improves information access and data integrity throughout the enterprise
- Supports operation in a disconnected state
- Reduces development cost for multiple mobility applications
- Open API allows for 3rd party plug-in application development

Client-Host Framework



Login Screen



Application Menu -
Download



Application Menu -
Start

Cable Testing Handheld Application



Application Features:

- Designed to handle all Level 2 Cable Tests including Copper, Coax, and Fiber Optic
- Shows all test procedures assigned to a particular tester
- Filters circuit by compartment or other criteria to allow testers to quickly find circuits to be tested

Status	Circuit Number	ALO
?	R-SK176-W3301(R06)	
?	R-SK174-W3299(R06)	
P	R-SK175-W3300(R06)	
P	R-SK173-W3298(R06)	
P	R-SC526-W22237	

? Incomplete 100
P Passed 5
F Failed 0
Total 105

Inspect

Back

Cable Testing Handheld Application



Application Features:

- Electronically records test results to eliminate subsequent data entry
- Supports electronic notification of tests requiring customer or QA witness
- Allows quick entry of Test Deficiency Reports for swift resolution of a failed test

NGSS 12:34 ok
Cable Testing

< Previous TDR PASS Next >

Circuit # : R-SK176-W3301(R06)

TP Number	Hull	TIR	IR MIN
2A400C008	2525	600057	1M

Completed: No

Details IR CONT

Back

NGSS 12:37 ok
Cable Testing

< Previous TDR PASS Next >

IR ACT CONT ACT

SAT SAT

Details IR CONT

Back

Cable Testing Website



- Administers users and system settings
- Allows Foreman to assign test procedures and test equipment to testers
- Displays test data
- Manages the Test Deficiency Reporting (TDR) and resolution process
- Generates and prints required reports

The screenshot shows the user management interface of the Cable Testing Website. The header features the Northrop Grumman logo and the tagline "DEFINING THE FUTURE". Below the header is a navigation bar with tabs for "User Control", "Equipment", "TDR", "Contract Contacts", "TIR Management", "Reports", and "Log".

The main content area is divided into two columns. The left column contains a sidebar with "Northrop Grumman" and "Tech Support" links. The right column contains the user management interface. At the top, there is a section titled "Users (select User to view roles)" with a list of users: M ASISLA, R BADON, D BAGLEY, J BALL, S BARBOUR, P BARIAL, C BARNETT, R BARNETT, F BASS, M BASS, G BENEZUE, G BIGELOW, G BIGELOW, and K BLACKMON. Below the list are buttons for "Delete User", "Edit User", and "New User".

Below the user list is an "Add User" section with form fields for "User Number" (B346), "Badge Number" (66486), "First Name" (M), "Middle Name" (T), "Last Name" (ASISLA), and "UserName" (ASISLAMT8). There are buttons for "Add/Edit User" and "Clear Form".

On the right side, there is a section titled "M ASISLA's roles" with a list of roles: "Inspector". Below this is a button for "Remove Selected Role".

Below the roles list is a section titled "Select new role for M ASISLA" with a "Role" dropdown menu set to "Admin" and an "Add Role" button.

Cable Testing Benefits



- Moves critical information off of an unstable and unsupported database system (MS Access)
- Virtually eliminates all back office data handling and manipulation
- Improves tester efficiency
- Provides customer (Navy) more accurate test status



- LCMS provides value by leveraging the expertise of its members in the areas of:
 - Process Reengineering
 - Production Planning
 - Information Systems
- Mobility Solutions Project funded by ONR completed in collaboration with Northrop Grumman Shipbuilding
- Client-Host Framework developed to provide single integration point for all mobility applications
 - Currently deployed on 24 devices at NG
 - Five plug-in applications complete
- Cable Testing Application developed to streamline testing and data reporting process
 - Pilot deployment on 2 devices at NGSB