



Exploring the New Frontier for Profitable Enterprises

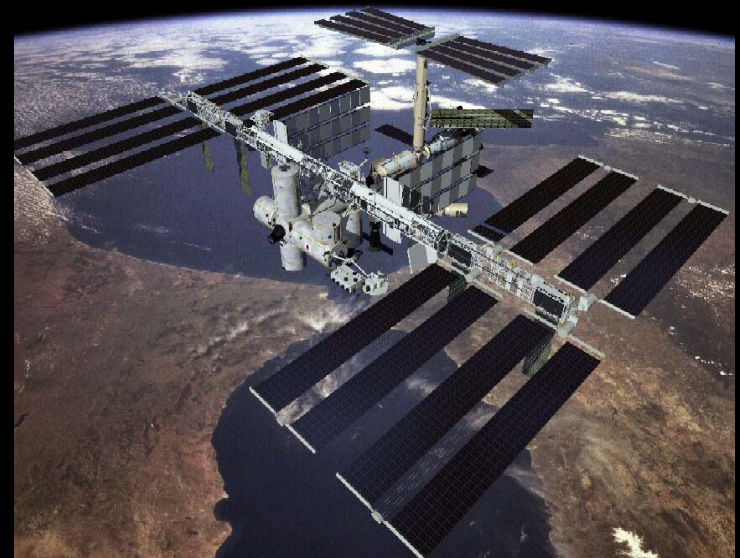
manugistics



Manugistics Combined Capabilities for APS & MRO

Jeff Holmes

Senior Vice President
Government, Aerospace &
Public Sector



SOLE Conference 14 August 2002

Manugistics Application Portfolio for Government, Aerospace, Defense and Public Sector

Supplier Management

Supply Chain Management

**Budget & Pricing
Optimization**

Weapons Program Management Solution

Strategic Sourcing

Strategic Planning

Surcharge Determination

Supplier Collaboration

Forecasting (Consumables)

Contract Manufacturing

**Component Purchasing
Rationalization**

Forecasting (Repairables/Rotables)

Distribution/Inventory Planning

Order Management

**Purchase Order
Management**

Reverse Logistics

Capacity Planning

Service Parts Pricing

Contract Manufacturing

Multi-Site Scheduling & Sequencing

Delivery Management

Constrained Budget Planning

Price Management

Maintenance, Repair, Overhaul & Recapitalization

Integrated Systems

**Enterprise & eMarketplace
Infrastructure**

**Event Management
and Analysis**

Manugistics & WDS Acquisition

- Business effect
 - Improved financial strength and viability for WDS
 - Combined solution is 18% of Manugistics software license sales (annualized FY02)
 - Increased resources
 - Leverage corporate functions for cost reduction while taking advantage of increase in engineering and market-facing resources
 - Improves the linkage of the DoD supply chain
 - Over 100 Aerospace companies as clients
 - Larger application footprint for clients
 - Application portfolio assembly to meet business needs
 - Enhancement of service and parts management offering(commercial) and weapons system program management requirements(government)



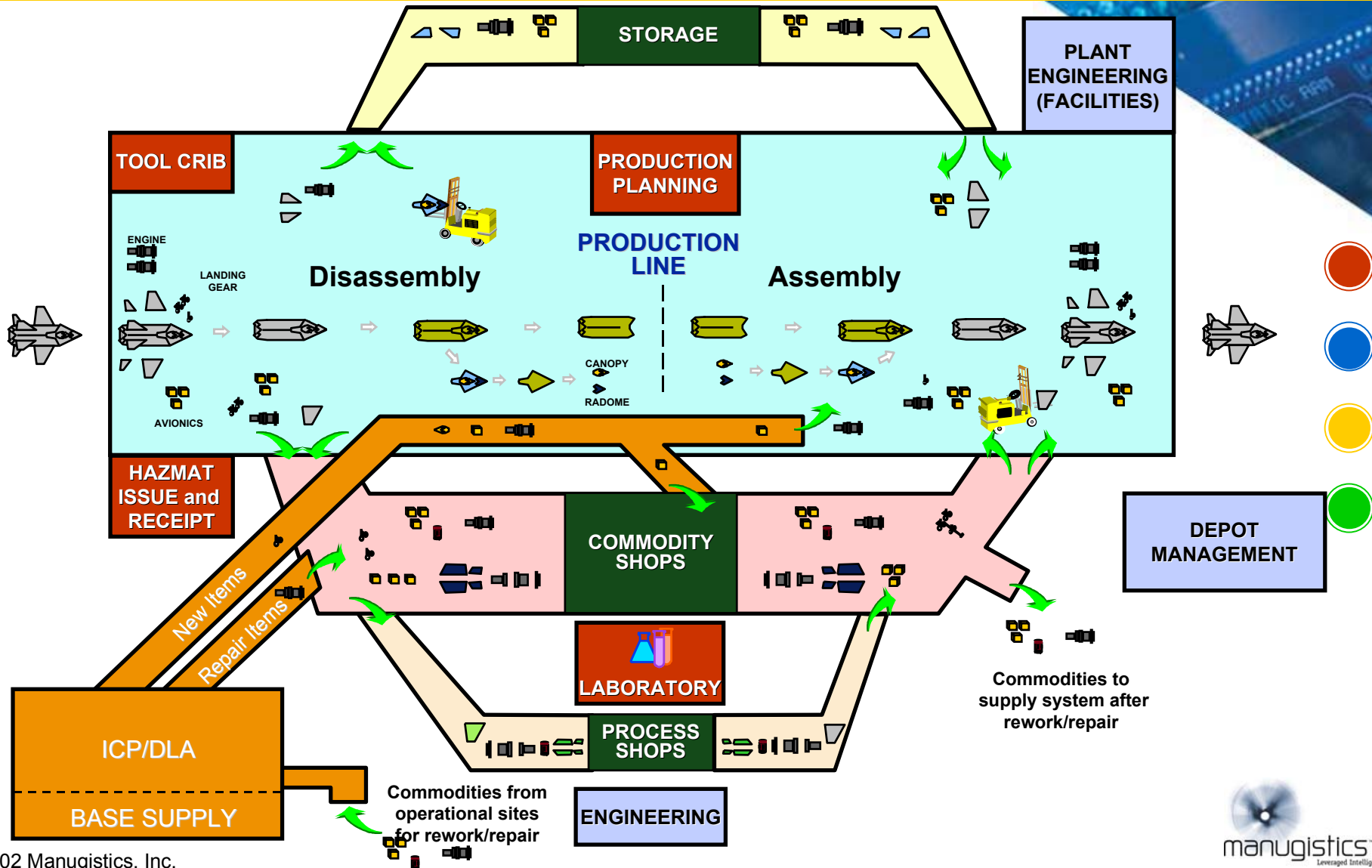
The Enhanced Capabilities

The enhanced solution delivers

- direct linkage to detailed historical failure and utilization data
 - significant improvement in predictive failure forecasting
 - enables collaborative planning
 - service level based management with constrained budget forecasting
- direct link to information concerning capacity availability
 - enabling constraint based planning and scheduling
 - multi-facility scheduling for government and contractors
- delivery management information
 - visibility to the inbound flow of materials
 - reverse logistics flows for managing inductions
- Speed to information
 - Direct integration capability to reduce information latency and standard/supported product
 - Reporting and Analysis for improved business management



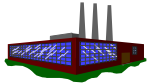
Current Stand-Alone Depot Operating Environment



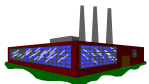
Current NAVAIR Operating Environment

-- OEM's and Virtual Prime Vendors --

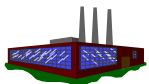
Boeing



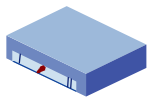
Pratt & Whitney



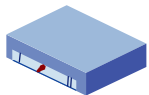
Lockheed Martin



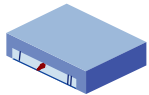
DLA



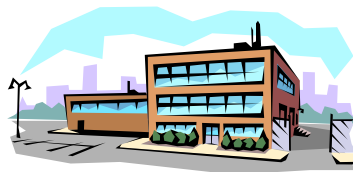
SAIC



Northrop Grumman



**Transportation
Visibility and
Control**

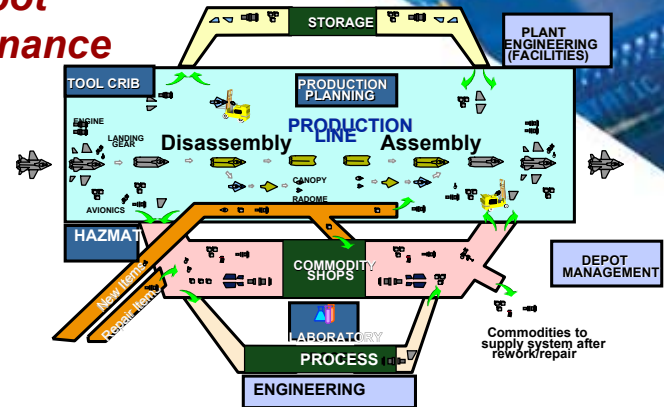


Forward Inventory
Location

Forward Inventory
Location

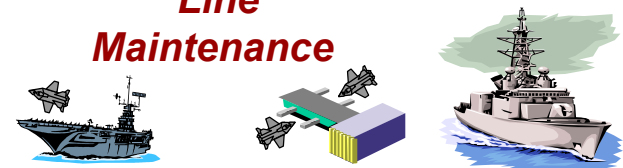
- Enterprise Parts/Material Management
 - Predictive Forecasting
 - Distribution Planning
 - Allocation
 - Reverse logistics
- Capacity Planning
- Buy vs Repair Analysis
- Logistics Management
- Supplier Relationship Mgmt
- Collaboration

**Depot
Maintenance**



- Maintenance Planning & Preparation
- Asset & Configuration Management
- Resource planning & Scheduling
- Repair, Replace, Rebuild Management
- Maintenance Execution & Completion
- Financial Management
- Records Management

**Line
Maintenance**



- Not in Scope



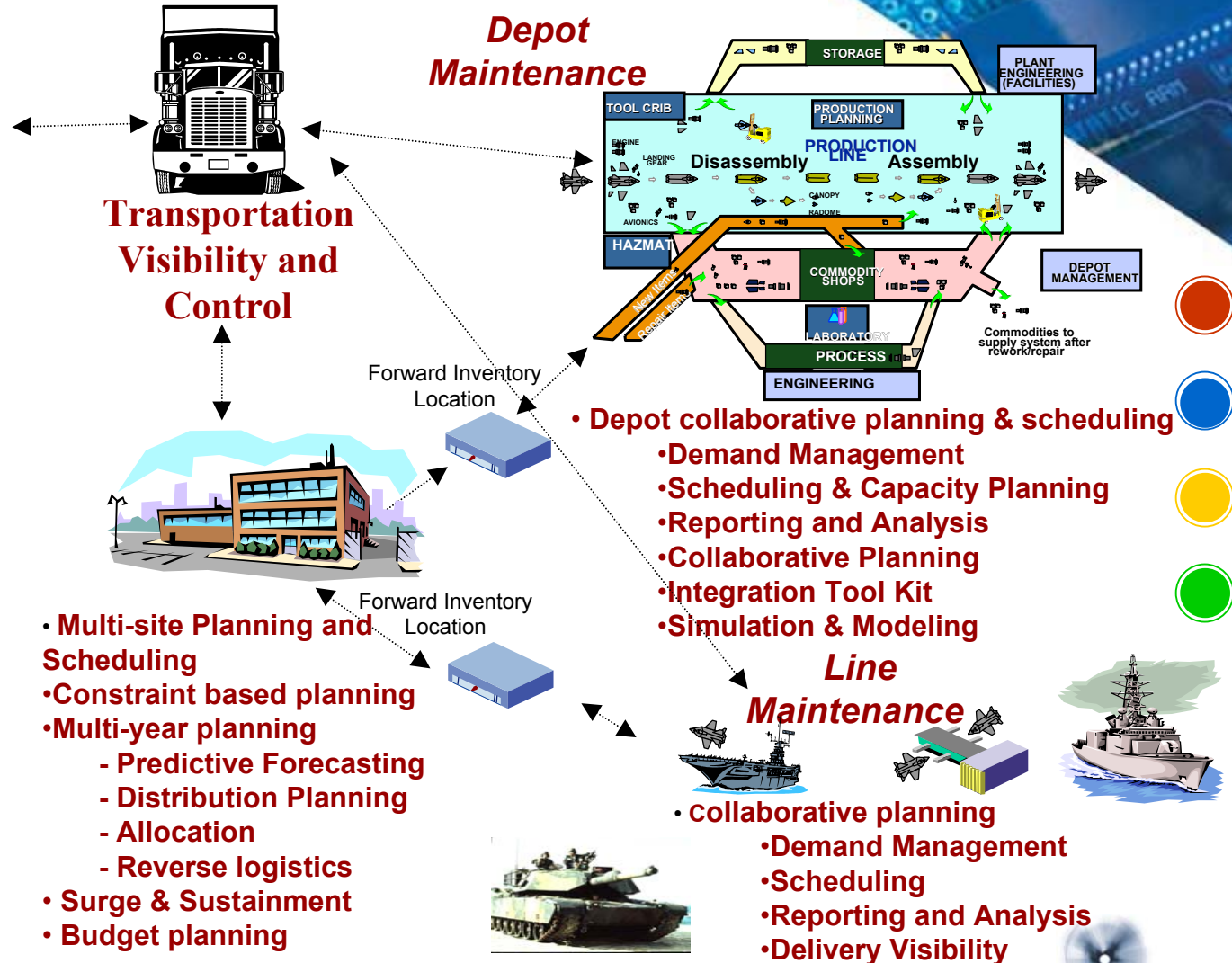
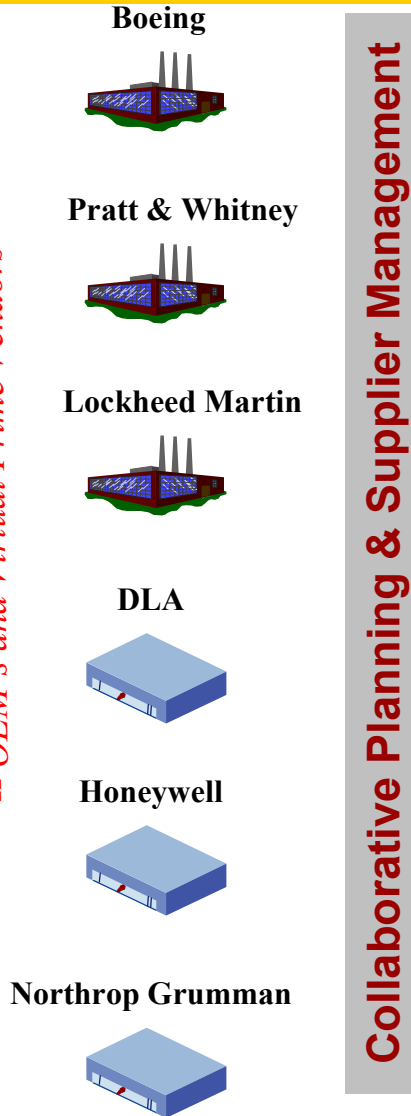
Enabling A New Operational Environment

- Add additional capabilities at each depot to enhance planning and operational capabilities
 - Integrate to legacy and MR&O installed solutions
 - Create a collaborative planning solution for connectivity and joint planning with suppliers, customers and business partners
 - Utilize constraint based time-phased planning for operational efficiency
- Connect “Enterprise” level planning to suppliers, depots and customers
 - Create collaborative planning environment
 - Utilize constraint based capabilities to increase service level improvements while optimally managing within budgetary constraints
 - Utilize collaborative weapon system life cycle management techniques to improve initial provisioning for retail and wholesale logistics execution
 - Reduce customer wait time and improve reliability
 - Use simulation and modeling for “what-if” analysis and situational awareness planning



New Operating Environment

-- OEM's and Virtual Prime Vendors --



Primary Deliverables

- Significant reductions in repair turn-around time
 - Jacksonville experiencing 16% throughput improvement in avionics repairable assets
 - Resulting increases in productivity and throughput will drive increase in available assets for operational use and should reduce acquisition costs of “spares/float” end items
 - Positive impacts on asset life cycle management
 - Improved forecast accuracy
- Service improvements
 - Visibility to asset availability for customers
 - Increased available inventory to increase operational readiness
 - Reduction in cost through productivity improvements
 - Reduction in spares inventory for MR&O operations utilizing time-phased planning techniques
 - Improved service to line based customers



Specific Benefits

- Forecasting and Demand Management

- Higher fidelity forecasts for material needed for repair
- Based on actual repair history and asset data such as MTBF
- Initial provisioning for component upgrades
- Calculation of Station spares stocking levels for improved fill rate, reduced investment and decreased asset downtime (i.e. AOG/NMCS/MNCM)
- Spares repair management (reverse logistics) optimizes use of repair and reduces purchase of new material

- Customer Management

- Better response to and management of customer needs
- Fast ATP, CTP, and delivery for repairs and spares order requests
- Enhanced collaboration with customers using up-to-date customer demand forecasts and depot repair capabilities and capacities(simulations for OPTEMPO increases)
- Improved fill rate for line maintenance spares orders
- Reduced inventory investment to support spares orders

- Constraints-Based Planning

- Finite capacity planning for material, labor, and other constraints such as skill sets



Specific Benefits

•Multi-Site Planning and Visibility

- Ability to design an optimized Repair Network, including depots, sources of supply, and transportation constraints
- Ability to make tactical repair and sourcing decisions for multiple depots
- Ability to plan across an enterprise regardless of legacy systems
- Better use of excess common materials from other depots
- Better cross-depot visibility of supply and demand across the Repair Network
- Dynamic deployment of spares to satisfy spares requirements improves fill rates
- Repair versus new buy decision reduces purchases of new spares
- Manage Contractor Logistics Support/Prime Vendor utilization

•Supplier and Customer Collaboration

- Ability to receive demand forecasts with customers and supply forecasts from suppliers
- Ability to share capabilities, capacity, and supply forecasts with customers and demand forecasts with suppliers



Next Steps Solution Rollout

- Solution Footprint
 - Launch improved and integrated MR&O solution not later than 1 December 2002
 - Immediately explore DLA Go-Live items to determine collaborative planning potential between Services and Aerospace suppliers
- Continue enhancement of Manugistics 7.1 capabilities
 - Enhance “zero-footprint” deployability
 - Stress the opportunity for Purchase Management and Order Management functionality in the business solution offering
 - Work with DOD customers for follow-on enhancements

