

NAVAL SEA SYSTEMS COMMAND

NSWC

Naval Surface Warfare Center

CARDEROCK DIVISION

DoD IETM Interoperability Project

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DoD IETM Interoperability

- Develop a New IETM Architecture for Fielded Weapon System Support Information
- Ability to Include and Interoperate IETM Data Bases and Additional Functions to Support:
 - Maintenance including Parts Ordering
 - Equipment Operations
 - Job Site Training
- Need to Confederates and Include Existing Legacy Information into Interoperable System

Background

- The DoD IETM Specifications were
 - Developed to guide the transformation from paper to interactive electronic medium for TMs/Tos
 - Coordinated with Army, Navy, and Air Force
 - Formally Issued in 1992 to allow inclusion in contracts

Background (Con'd)

- IETM Specs were General specifications designed to encourage innovation and use of electronic documents
- They have been used in many implementations and have been successful in meeting original objectives

Issues with IETM Interoperability

- Initial developers had to develop both authoring system and presentation system from scratch
- Leading efforts emerged independently of each other and used their own differing interpretation of the specifications

Results

- Developers could not use or share each others source data because of differing use of the IETM Database Spec
- Individual Presentation Systems could only display information specifically authored for that Presentation System

Proposed Approach to Solving the Interoperability Problem

- Needed an Approach to Solve the Interoperability Problem for Both Suppliers and Users
- Needed an environment in which a successful transition has been made from paper media to electronic media
- Desired a Commercial Technology Solution

Selected General Approach

- Use World-Wide-Web/ Internet approach in Private DoD Intranet
- Proven and mature Software Products
- Very High Level of User Acceptance
- High user population and High level of vendor support

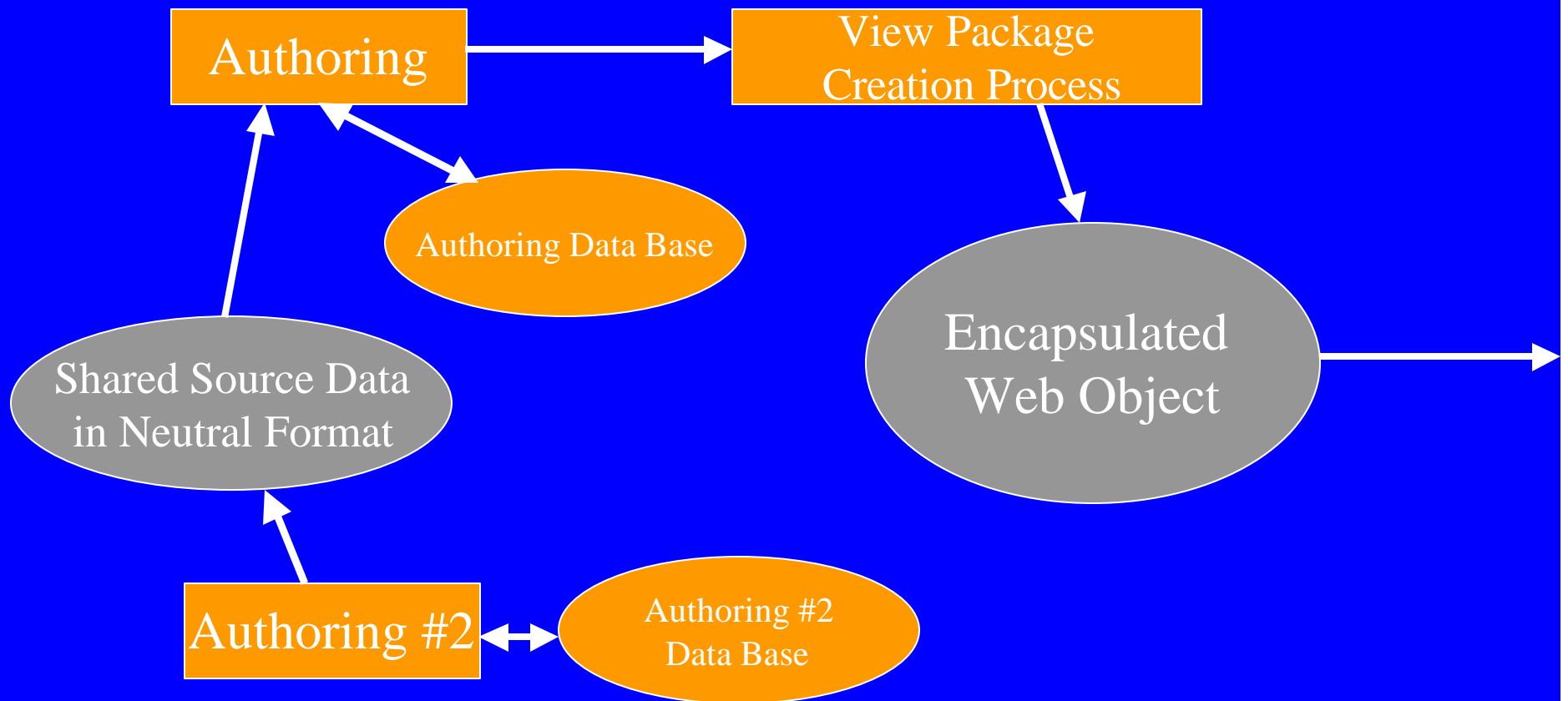
IETM Interoperability

- The ability to use someone else's IETM for
 - Cross-referencing
 - Inclusion of portions in your IETM
 - Building a composite IETM out of different parts (yours and theirs)
- The ability to view anyone's IETM on one common browser

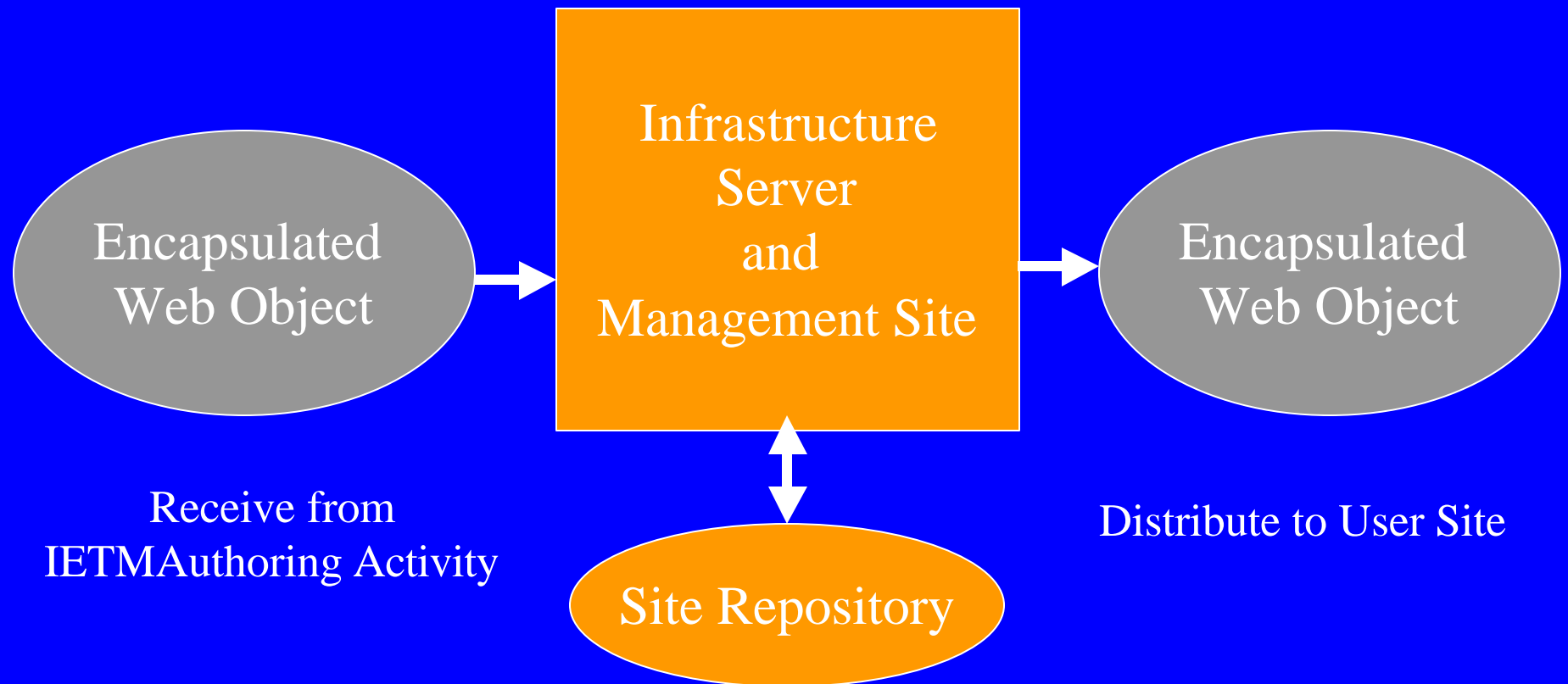
Interoperability applies to the entire IETM Community

- IETM Authoring Organization
- Government Infrastructure Activity managing the IETMs
- User Operational Sites
 - Site Electronic Library (using a Site Server)
 - End-User (viewing the IETM on a Workstation or PEDD)

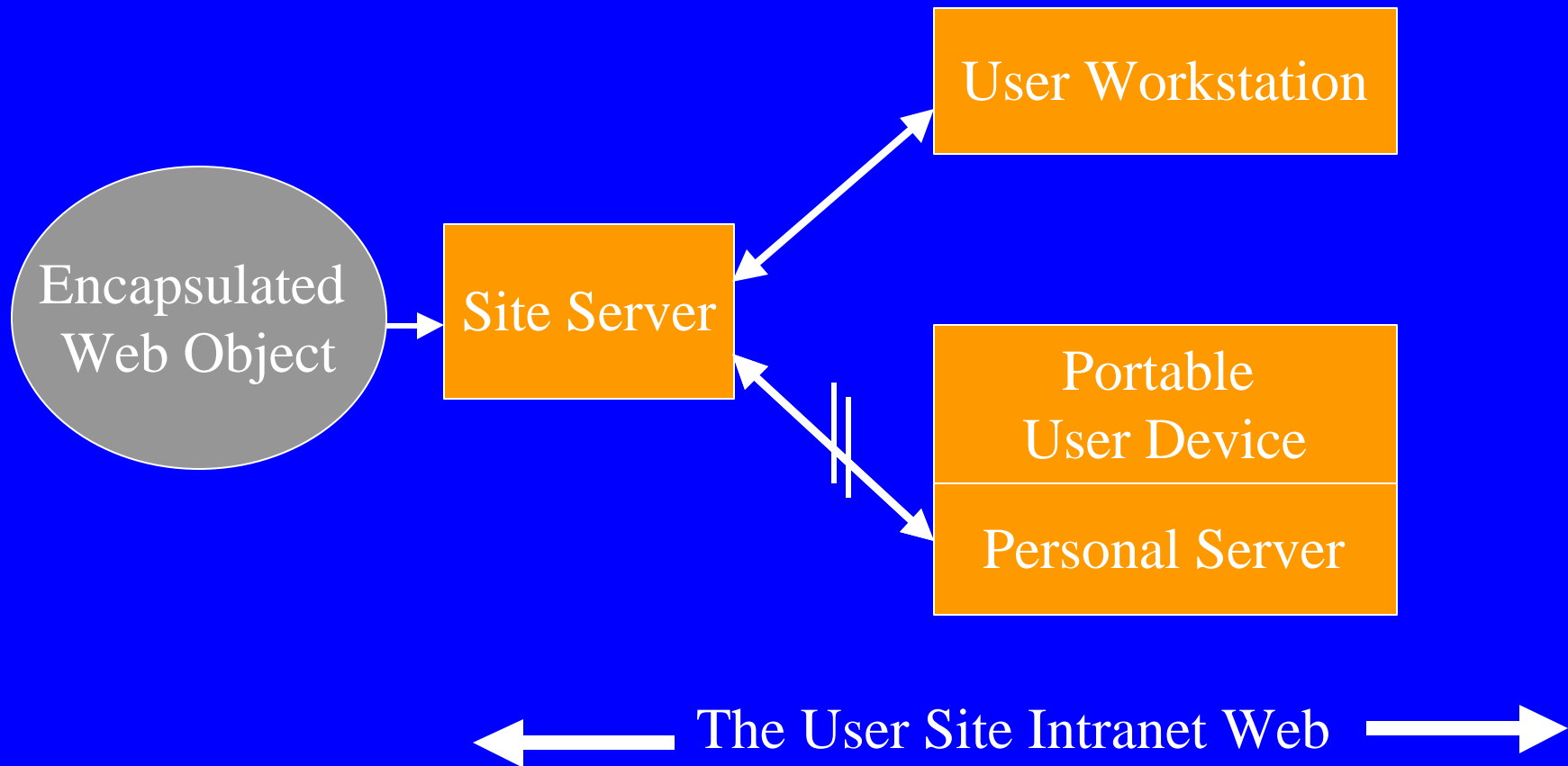
Authoring Process



Infrastructure Process



User Site Process



User Site Interoperability

- Ability to read and use any DoD IETM from any Standard User Device using Common Browser
- Ability to Invoke Electronic Reference to another DoD IETM and View that IETM in the same Common Browser
- Ability to return easily to 1st IETM

Specifications Needed

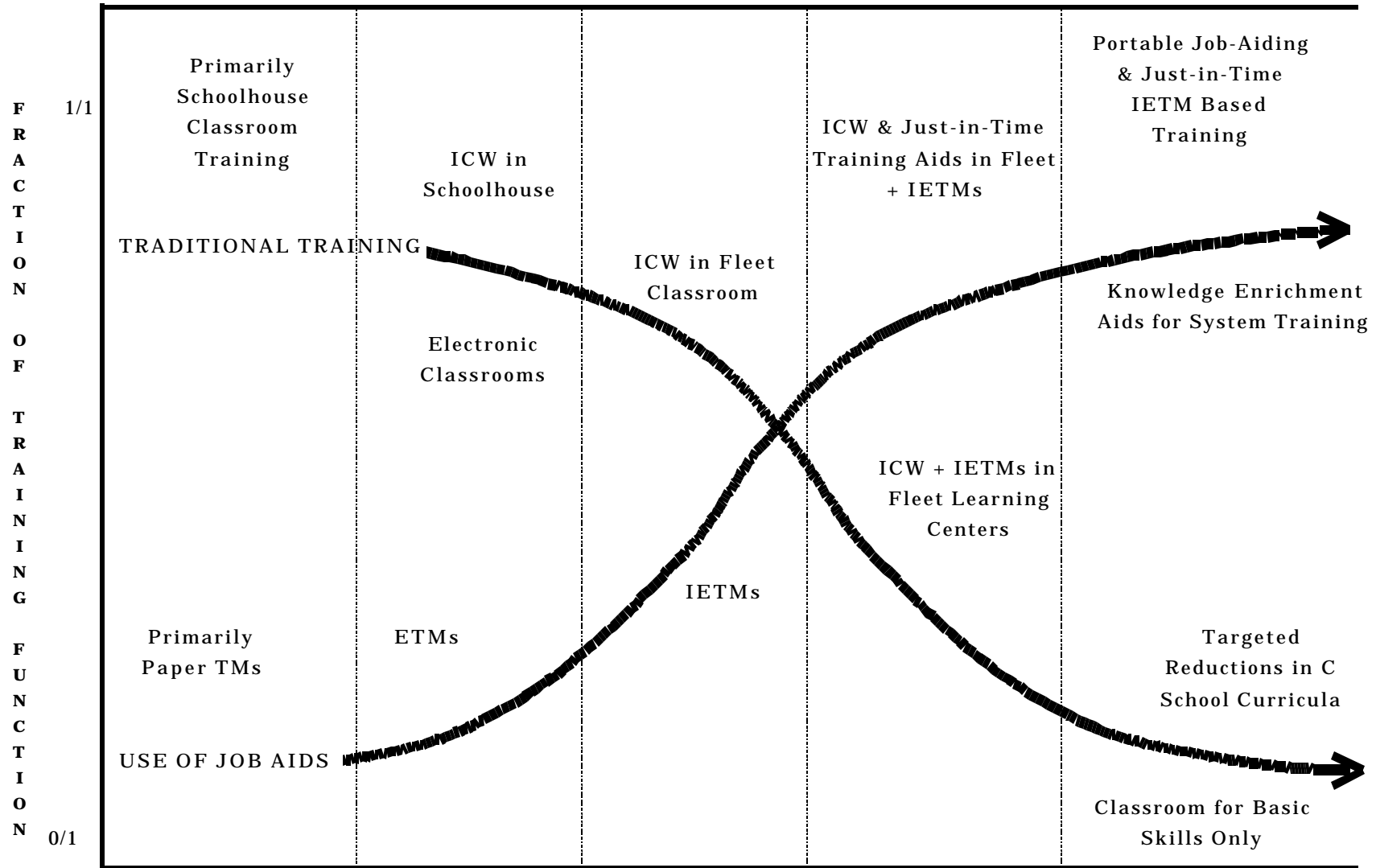
- Object Encapsulation (IETM View Package)
- Addressing Model and Registry
- Common Browser
- Source Data Sharing Neutral Structure (based on MIL-87269)

Initial Development

- Initial Architecture Currently Being Developed and Evaluated for Naval Aviation Community
- FY-98 Tri-Service Program Planned to Expand to All DoD
- DoD CALS Chartered Tri-Service IETM Technology Working Group Effort
- Final Recommendations - Mid FY-99

Not Just For IETMs Only!

DoD Can Use the New IETM
Architecture to Build an Integrated
Data Environment



SPECTRUM FROM CLASSROOM TRAINING TO JOB AIDING TOOLS IN THE FLEET

Projected Future Goals

- Procure a New Mix of Weapon System Support Products
 - Permit move from Institutional Training to Just-in-Time Performance Aids at Job Site
 - Permit All Job Aids to be Accessible from One Common Electronic Delivery Device
 - Capable of being Updated and Configuration Managed at the Fleet Site

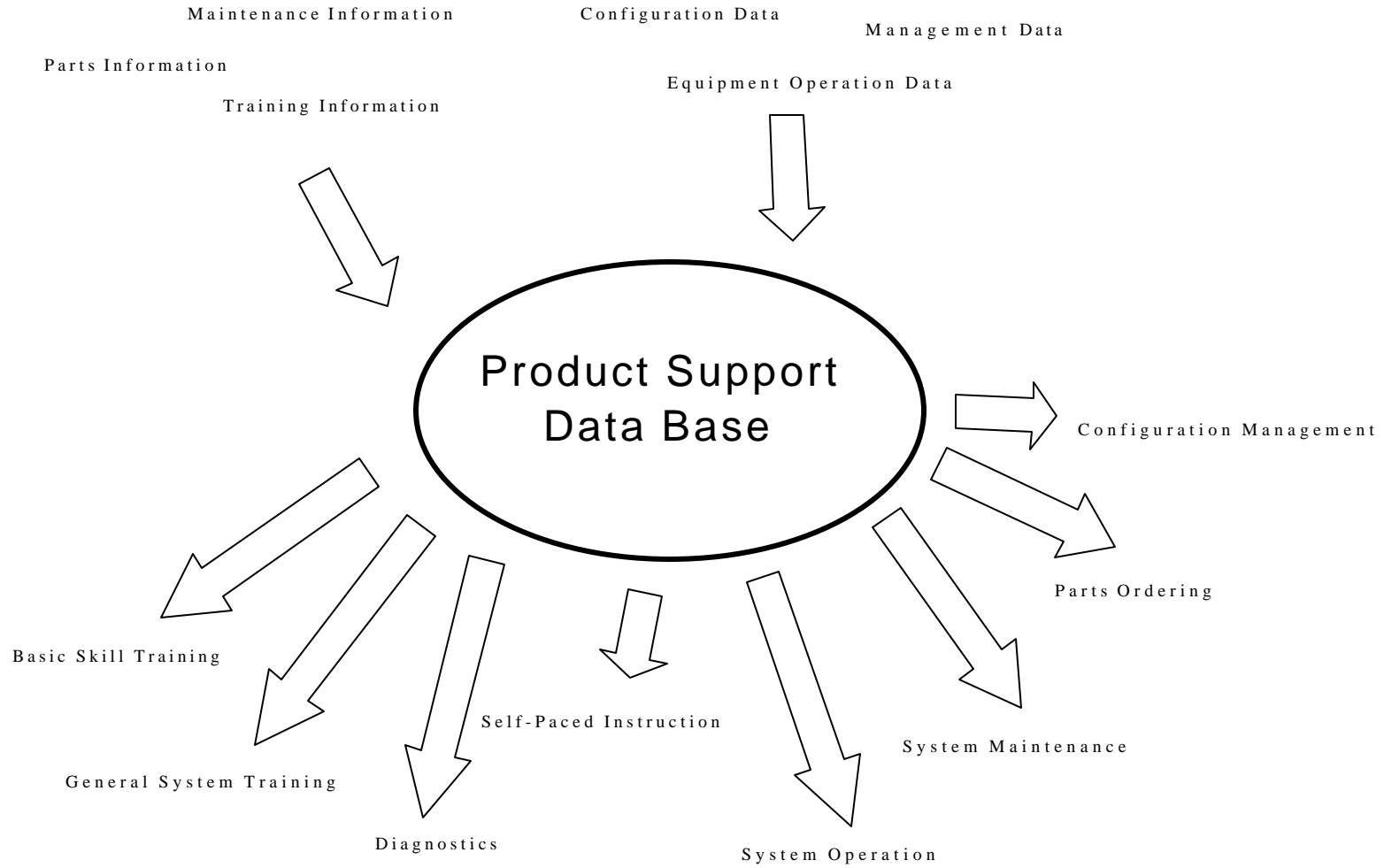
Include Interface with Other Job Performance Aids

- Real-Time Link to Information Not Available at Job Site
 - Consult with Shore-based Help desk
 - Communicate with Manufacturer Technical Representative at Factory
 - Order parts
- Link to Diagnostic Testers
- Access to a Virtual Environment for Maintenance Training (I.e., Simulation)

Web-Based Concept of Single Product Support Data Base

- Include All Information Needed to Maintain, Train, and Operate Weapon System
- Accessible On-Line at Equipment Site
- Does Not Require Monolithic System
- Need Capability to Draw Different Functional Views from Common Data Base
 - (Training, Job Aiding, Technical Reference, Parts Info, Configuration Management, etc.)

Source Data



Single Product Support Data Base Concept

Summary

- Approach to Integrate IETM, Just-in-Time Training, & Other Lifecycle Support Info into Single Data Base Accessible at Job Site
- Benefits
 - Reduced Classroom Training
 - More Current Training Tailored to Job
 - Increased Job Performance
- All Product-Support Entities Have to Cooperate to Make this Happen

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