



# Project Broadsword

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The Portal to the World of Information

## *PROGRAM OVERVIEW*

A Data Access and Security Approach

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# OUTLINE

**Background**

**Broadword**

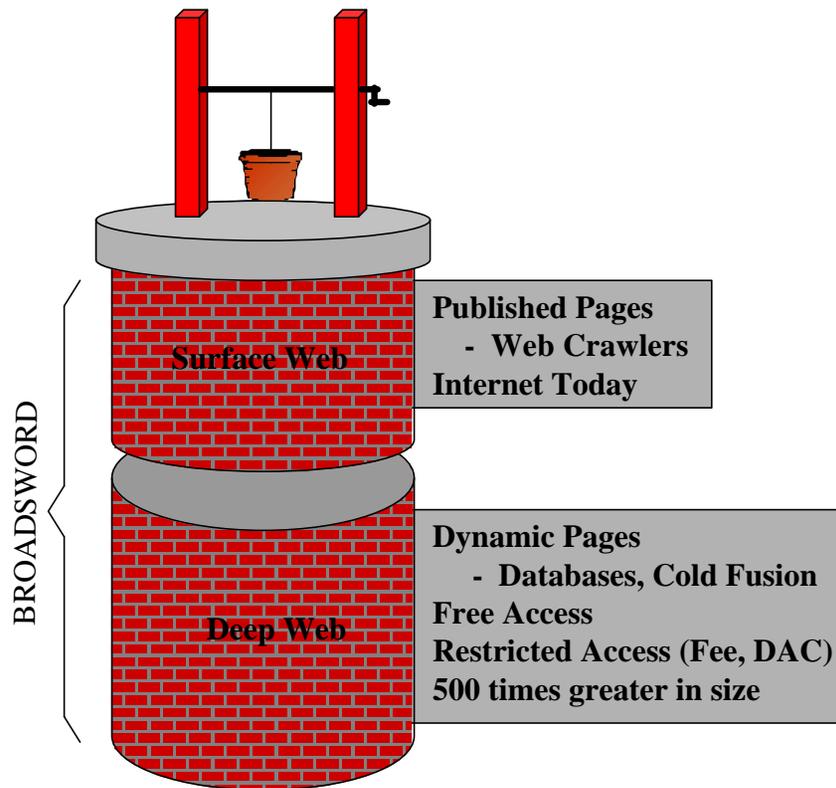
- **The Architecture**
- **The Client**

**Status/Schedule**

**Summary**

# BACKGROUND

## INTERNET/INTELINK TODAY



## OBJECTIVE

To provide a single, secure architecture enabling access to information that exists anywhere.

## CHALLENGES

Diverse Storage Mechanisms  
Varying Product Delivery Strategies  
Different File Formats  
Differing Security Policies  
Multiple Access Methodologies

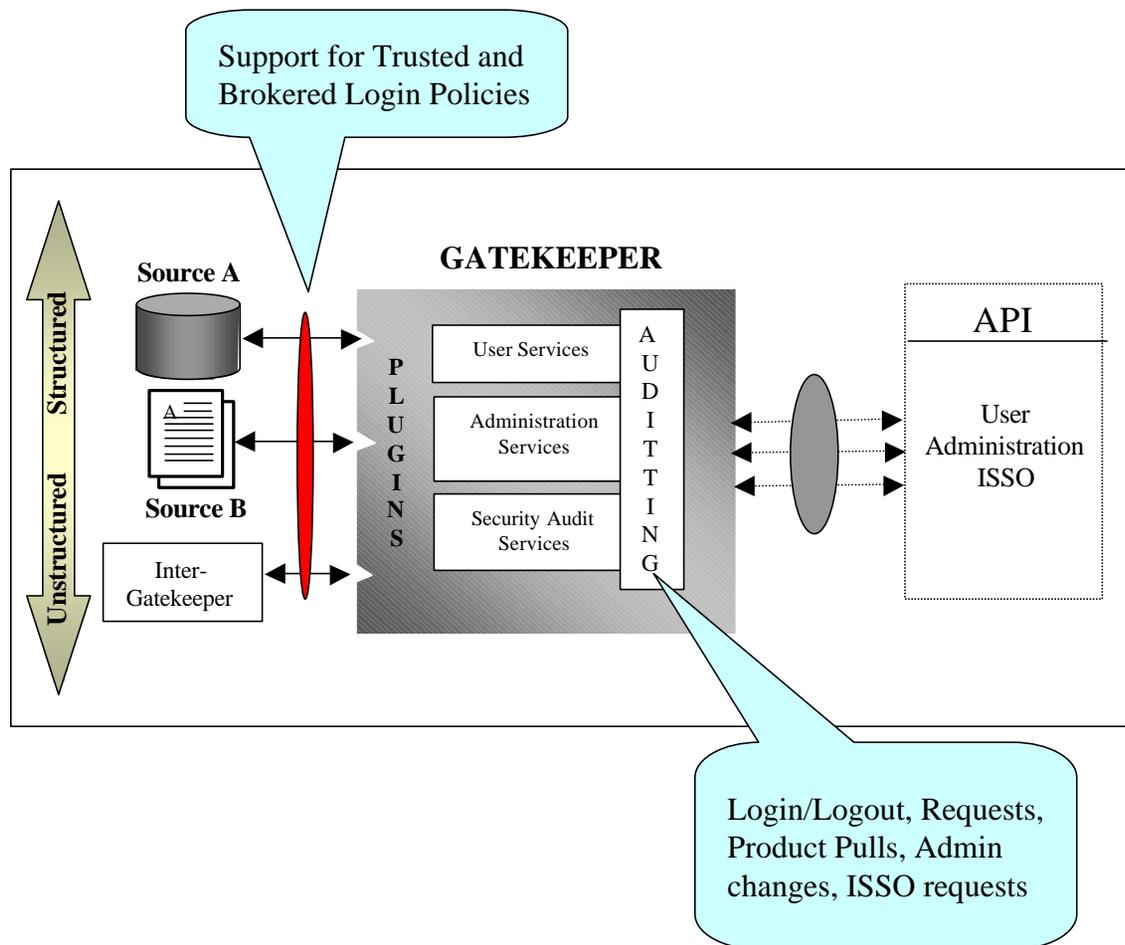
## SPONSORSHIP

DIA (GIDP) - JIVA  
AF Intel - AFDI  
ACC - PCI3  
AC2ISR - C2Link/Broadsword  
NIMA - IPL

# BROADSWORD COMPONENTS

Component Name	Purpose
Gatekeeper	Provides single interface to various sources for query, retrieval, and product request/delivery. It also provides a single point in which users are authenticated and all actions audited.
Keymaster	Acts as a global map manager allowing for gatekeepers and their sources to become accessible to others who register with the same Keymaster.
Client	User interface which implements the Client/Gatekeeper API and provides ISSO, System Administrator and General Searching Capabilities.

# GATEKEEPER ARCHITECTURE



- Single API to access multiple sources of information
  - Both structured and **unstructured**
  - Retrieve elements, reports and products
  - Access to Imagery, Video, Audio and Text Products
- Meets DCID 1/16 or 6/3 Requirements for System High Mode
- Thin Layer of Code
  - Audit all user requests and accesses
  - Route request to appropriate sources
  - Join all responses
- Interface to specific sources performed by plug-ins

# PLUG-INS

- Identifies to the Gatekeeper what services are provided by the source, e.g., keyword, geographic and query
- Identifies what sources are available to the user and what elements are queryable/returnable.
- Converts the API request format to the specific interface requirements to include translations and transformations
- Blocks unsupported query elements (e.g., Image ID in MIDB)

ENFORCES POLICY  
PROTECTS SOURCE

# AVAILABLE PLUG-INS

**Automated Message Handling System (AMHS)**

**Air Operations Data Base (AODB)**

**Commercial Satellite Image Library (CSIL)**

**Demand Driven Direct Digital Dissemination (5D)**

**Image Exploitation Support System (IESS)**

**Intelink Hydra**

**Intelink MetaSearch**

**Imagery Product Library (IPL 1.0/2.1/2.5)**

**Military Equipment Parametric and Engineering Data Base (MEPED)**

**Modernized Integrated Data Base (MIDB)**

**Space DB**

**Air Force Weather**

**Infosphere Management (ISM)**

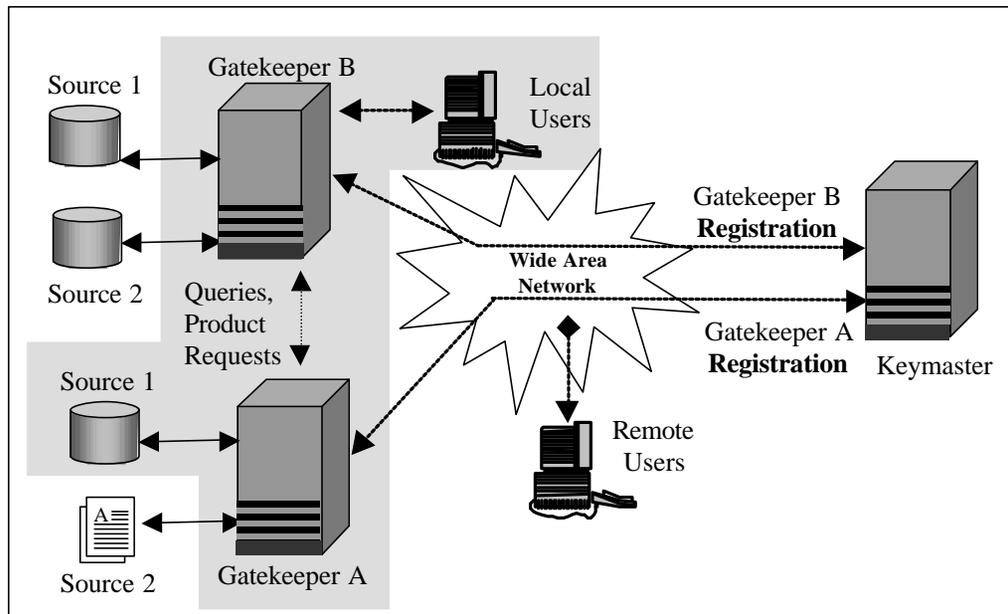
**FIRES**

**Information Extraction Tool (IET)**

**Moving Target Indicator (MTIX) (2.0)**

**Web Link**

# KEYMASTER ARCHITECTURE



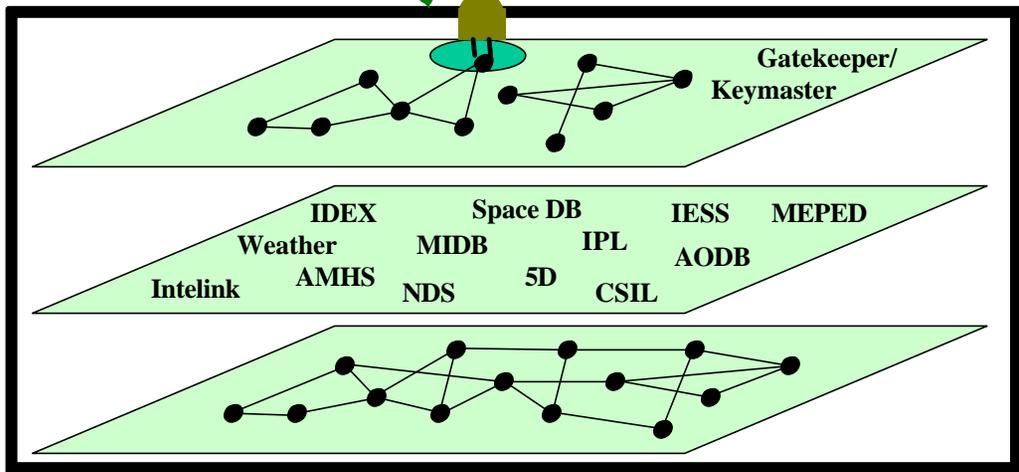
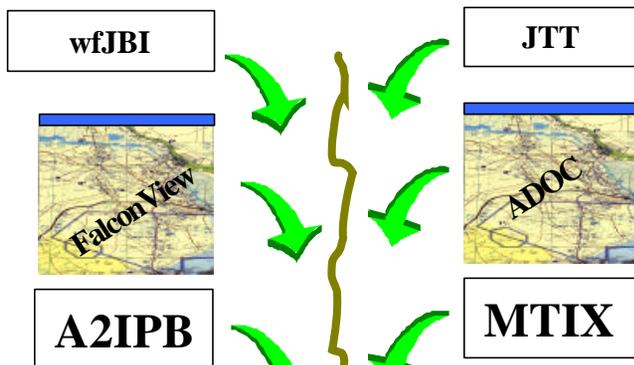
## Registration

- Each Gatekeeper registers with the Keymaster for remote connectivity
- Keymaster distributes global maps and updates
- Based on Digital Certificate Technology (X.509)

## Requests

- Gatekeepers use each of their Digital Certificates to authenticate each other before allowing request to be initiated
- Protects each Gatekeeper against other potential non-participating Gatekeepers
- After authentication, request is processed by each Gatekeeper

# DATA ACCESS & SECURITY INFRASTRUCTURE



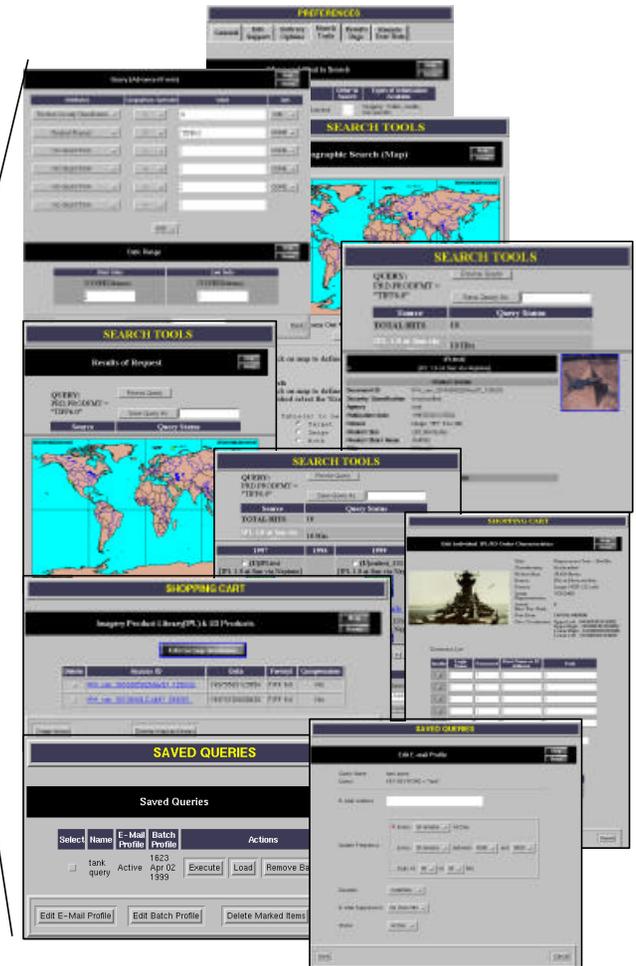
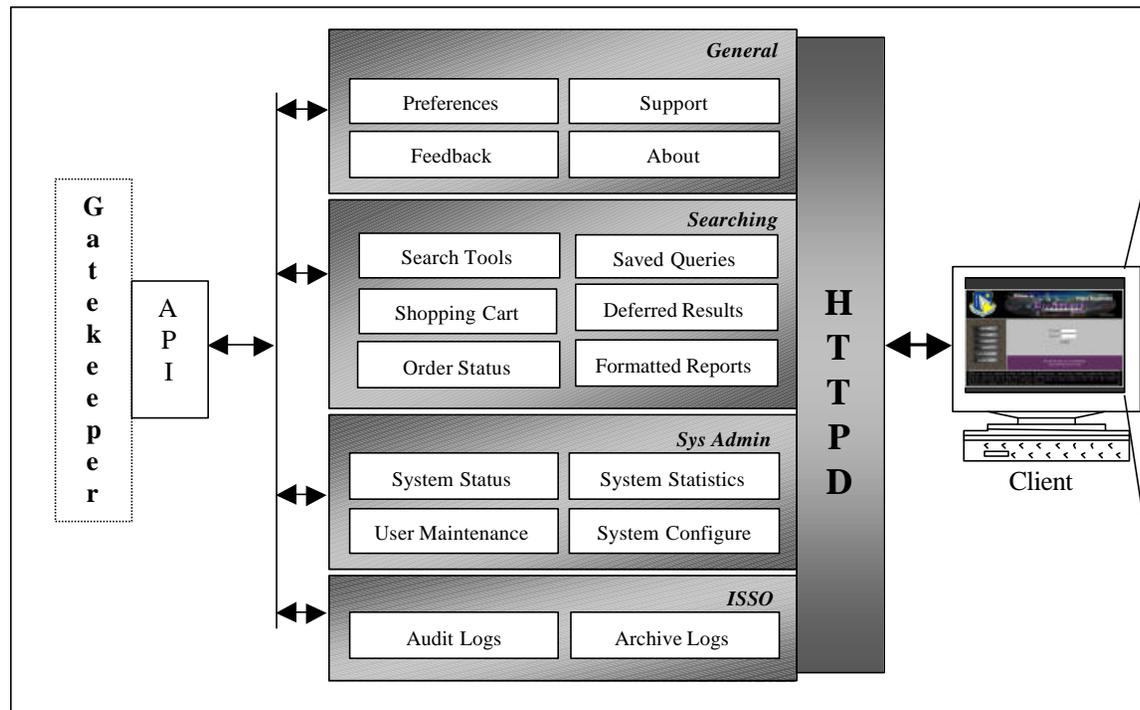
Multi-Tier Architecture



# CLIENT FUNCTIONALITY

- General User Search, Navigate, Find and Acquire Information
  - Keyword, Query, Geospatial Requests
  - User Tailorable Returns
    - Attributes and Format
  - Batched Queries
  - Email Notification of New Products (IPL/5D)
- Catalog
- Administration
- ISSO

# BROADSWORD V2.0 - THE CLIENT



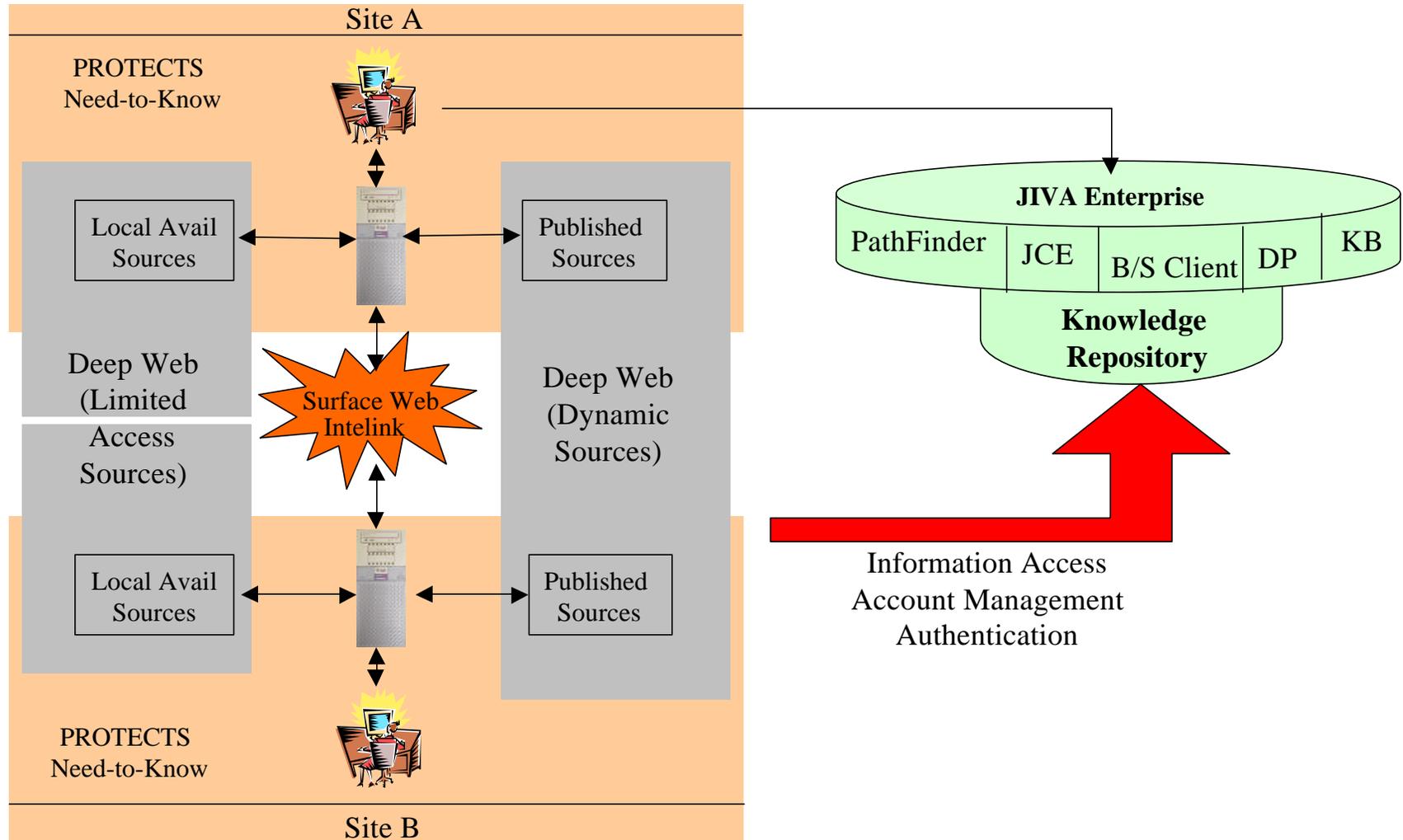
# USERS OF BROADSWORD

## Support For:

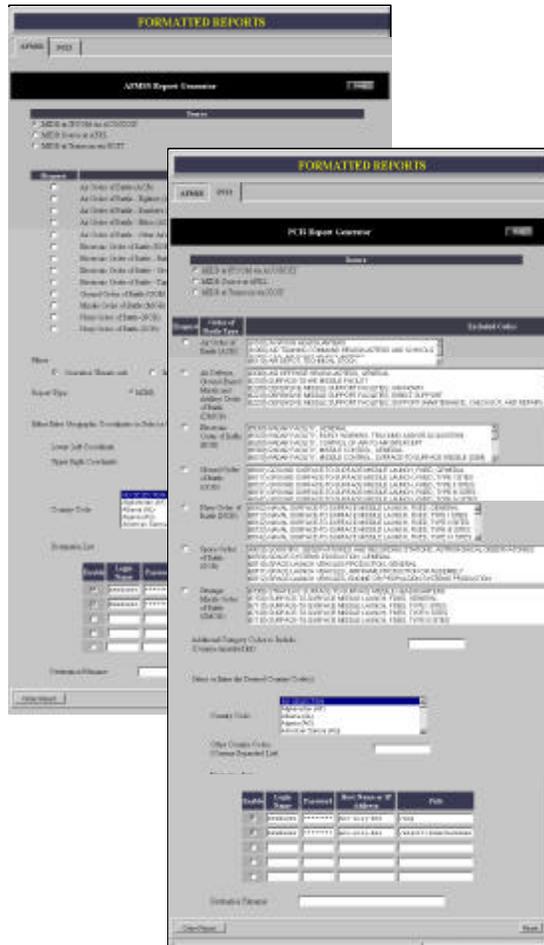
<b>JIVA (JADE)</b>	<b>Access to sources/Security Architecture</b>
<b>IPL Client</b>	<b>Access to 5D, IPL 1.0, IPL 2.1, IESS/ User Interface</b>
<b>PCI3</b>	<b>Access to sources/Generation of MIDB Extracts</b>
<b>A2IPB</b>	<b>Access to sources</b>
<b>FIRES</b>	<b>Architecture (availability to many users) User Interface</b>
<b>MTIX</b>	<b>Architecture (availability to many users)</b>

# JIVA

## Building an Information Enterprise Architecture



# PCI3 SUPPORT



Broadword Client

Generate Order of Battle Extract and send to AFMSS (MIDB, MIIDS'93)



Air Force Mission Support System

Generate Order of Battle Extract and send to ADOCS (PCI3 Fmt)



Automated Deep Operations Coordination System

PC-I3 Tools

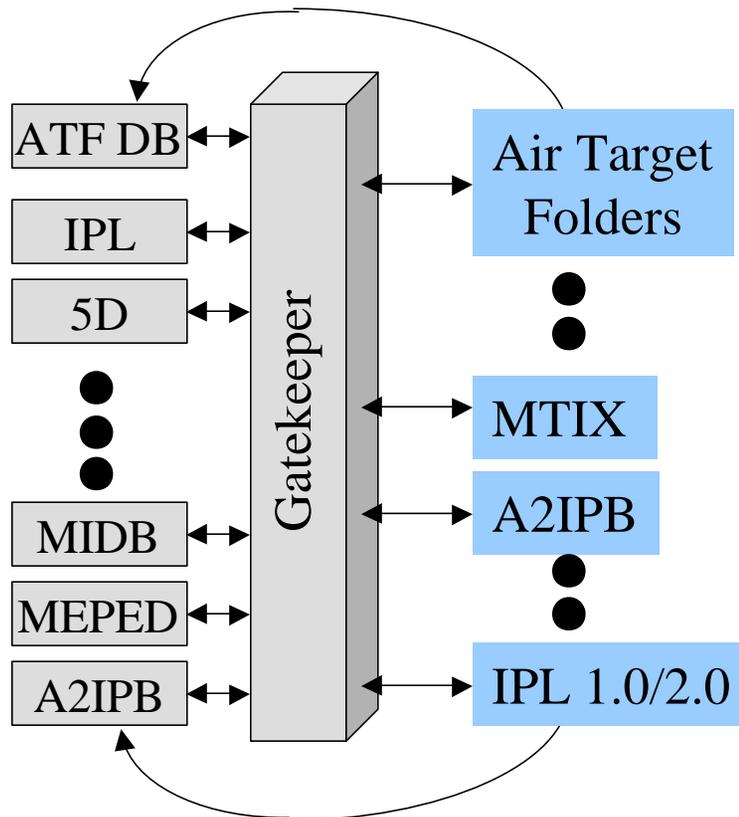
Threat File



FalconView Mission Planning

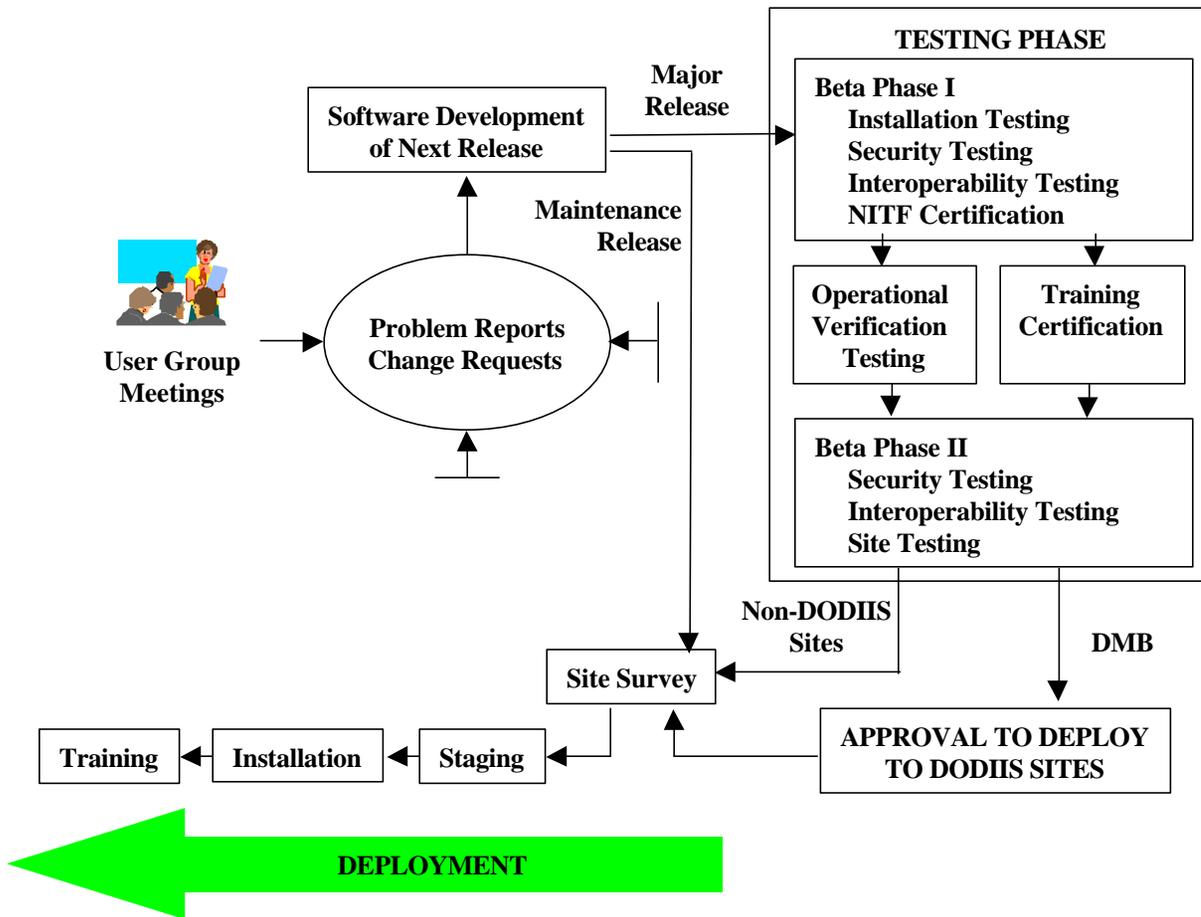


# SUPPORT TO PRODUCTION



- Use infrastructure to gather information
- Build Product
- Store Product in Production Data Base
- Products become available to infrastructure users

# DEVELOPMENT/DEPLOYMENT PROCESS



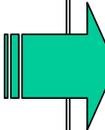
## Players

- JITF
- JITC
- 497IG/DIA Security
- NIMA College
- DIA College

# DOCUMENTATION

## Version 2.0

- Security Documents (DCID 1/16, DIAM 50-4)
  - Concept Of Operations
  - Requirements/Analysis
  - Certification Test Plan
  - Certification Test Procedures
  - Security Test Results Template
- Functional Description
- Functional Requirements Document (497th)
- Gatekeeper ICD
- Training Management Plan
- Test Procedures
- System Installation and Maintenance Guide
  - Site Acceptance Test Procedures
- On-Line User's Guide
- On-Line Computer Based Training (CBT)



## Version 3.0

- Security Document (DCID 6/3)
  - SSAA
  - Appendix A: Security Requirements Matrix
  - Appendix B: Test Procedures
- Gatekeeper ICD
- Training Management Plan
- Test Procedures
- System Installation and Maintenance Guide
  - Site Acceptance Test Procedures
- On-Line User's Guide
- On-Line Computer Based Training (CBT)

### Visit our Web Site:

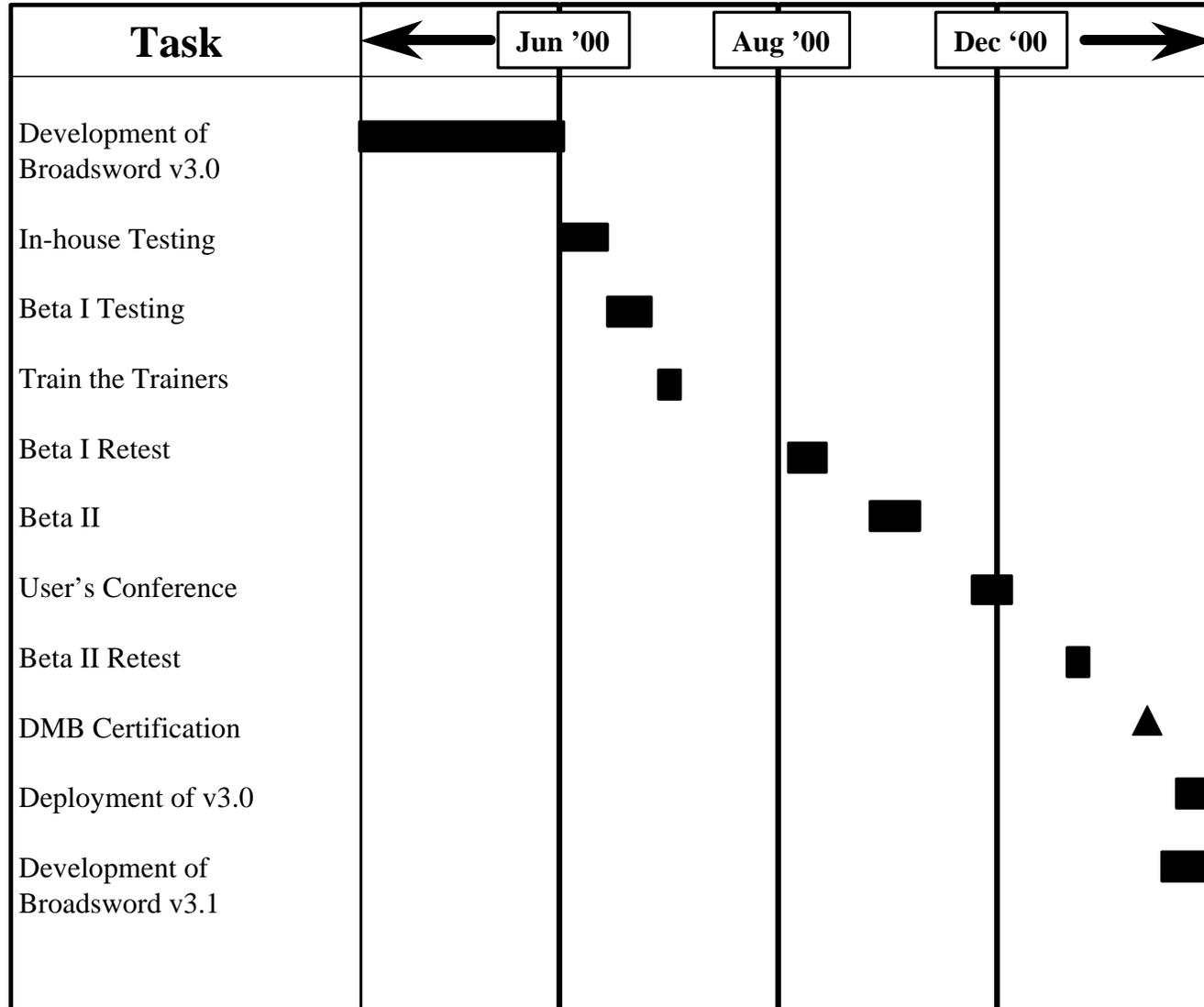
**Internet:** <http://www.rl.af.mil/bsword>  
**Collateral:** <http://199.56.91.107:8080/bsword>  
**Intelink:** <http://web1.rome.ic.gov/bsword>

# STANDALONE DEPLOYMENTS/STATUS

## Version 2.0

ACC - PCI3 Sites	AC2ISR Sites	JIVA Sites	Other Sites						
<ul style="list-style-type: none"> <li> ACC/XOIY</li> <li> AFRC</li> <li>  ANG East</li> <li> ANG West</li> <li> Barksdale</li> <li>  Shaw</li> <li>  Davis Monthan</li> <li> <b>Jiva</b>  JFCOM</li> <li>  NELLIS</li> <li>  NOSC</li> <li> PACAF</li> <li> SWA</li> </ul> <p style="text-align: right; margin-right: 20px;">5   12</p>	<ul style="list-style-type: none"> <li> 1AF</li> <li> AFSOC</li> <li> AFSPACE</li> <li> CAOC (Aviano)</li> <li> CAOC (Vicenza)</li> <li> JTF - NW</li> <li> NORAD</li> </ul> <hr style="width: 10%; margin-left: 0;"/> <p style="margin-left: 0;">7</p>	<ul style="list-style-type: none"> <li> AFMIC</li> <li>  CENTCOM</li> <li> DIA</li> <li>  EUCOM (32nd)</li> <li>  EUCOM (66 MI)</li> <li>  EUCOM (JAC)</li> <li> <b>PCI3</b>  JFCOM</li> <li>  MSIC</li> <li>  NAIC</li> <li>  NMIC</li> <li>  NGIC</li> <li>  ONI</li> <li>  PACOM (PASS-H)</li> <li>  Pentagon</li> <li>  SOCOM</li> <li>  SOUTHCOM</li> <li>  STRATCOM</li> <li>  USFK</li> <li>  USSPACECOM</li> <li>  USTRANSCOM</li> </ul> <hr style="width: 10%; margin-left: 0;"/> <p style="margin-left: 0;">20   16</p>	<ul style="list-style-type: none"> <li>  5AF</li> <li>  7AF</li> <li>  11AF</li> <li> 17TRG</li> <li> 23AF</li> <li>  480IG</li> <li>  497IG</li> </ul> <hr style="width: 10%; margin-left: 0;"/> <p style="margin-left: 0;">6   6</p>						
<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Key</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"> High Side</td> <td style="text-align: center;"> Operational</td> </tr> <tr> <td style="text-align: center;"> Low Side</td> <td style="text-align: center;"> TBD</td> </tr> </tbody> </table>			Key		High Side	Operational	Low Side	TBD	<div style="border: 2px solid black; padding: 10px; width: fit-content; margin: auto;"> <p style="font-size: 1.2em; margin: 0;">Totals:</p> <p style="font-size: 1.5em; margin: 5px 0 0 20px;">31   </p> <p style="font-size: 1.5em; margin: 5px 0 0 20px;">41   </p> </div>
Key									
High Side	Operational								
Low Side	TBD								

# SCHEDULE



# STATUS/SCHEDULE

Train the Trainers (17-21 July)  
Major recommendations

BETA I Testing  
JITF - 4 CAT 1s  
Security - 4 CAT 1s  
JITC - OK

Retested 8-9 August 2000  
Security issues resolved - received IATO for Standalone

Marine Exercise  
Camp Pendleton/Yuma (Shopping Cart/Ordering, Chipping)

Beta II Testing 16 - 27 October 2000  
480IG - 1 Finding  
JFIC - 4 Findings  
Security - 2 CAT II - received IATO to field  
JITC - No Findings

Plan for Jan DMB Certification to Field

# WHERE ARE WE REALLY?

- Correcting major findings from BETA II Testing
- Stability still a concern
  - IE most stable
  - Netscape on PC: Found major problem concerning random new line
  - Netscape on UNIX: Inconsistent in stability
- What are we doing?
  - Dyna Libraries now support most of the menu and bottom buttons
  - Have tested these new libraries - Substantial increase in stability on all platforms (uses MUCH less JavaScript)
  - Currently replacing old functions with new ones - Done by User's Conference and release of 3.0

## What's in Version 3.1

Integration of Trusted Transfer Agent

Client Performance Improvements

**YOUR CALL**

# The Future is Almost Here!

See and touch Broadword 3.0

Also have:

TTA

ISSE Guard

AFDI

MTIX (Thursday Only)

IET

FIRES

Located in the demonstration room, all day Tuesday - Thursday

# SUMMARY

- Evolutionary Approach (Spiral Development) Implementing New Technologies and Performance Improvements as Risks & Capabilities Allow.
- Bringing BOTH INTEL and C2 together into a single multi-tier architecture. Both sides backing and supporting a single effort.
- Broadsword is a framework. It is a beginning. **CANNOT BE CONTENT WITH WHAT WE HAVE, ALWAYS CAN DO BETTER!**