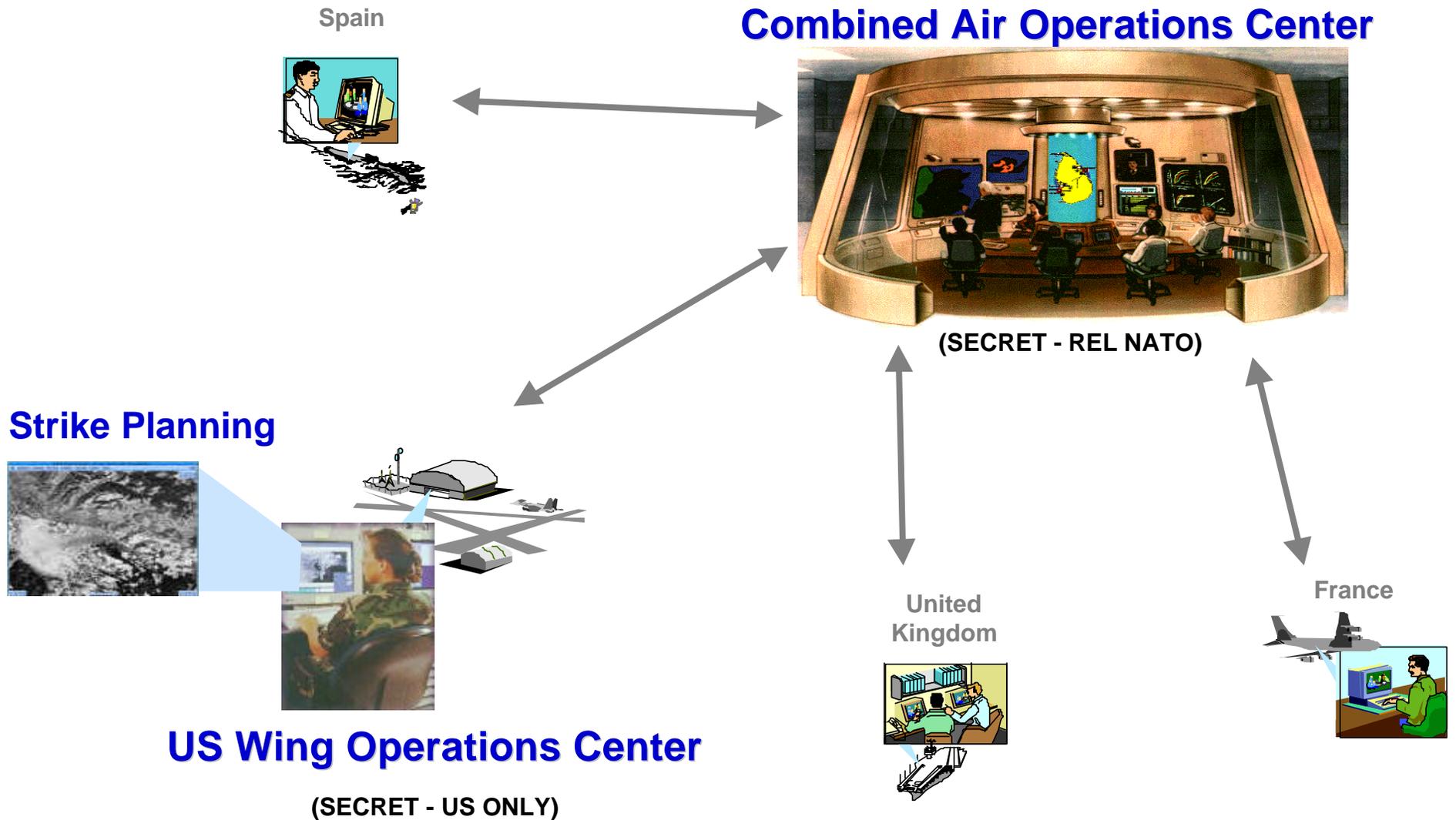
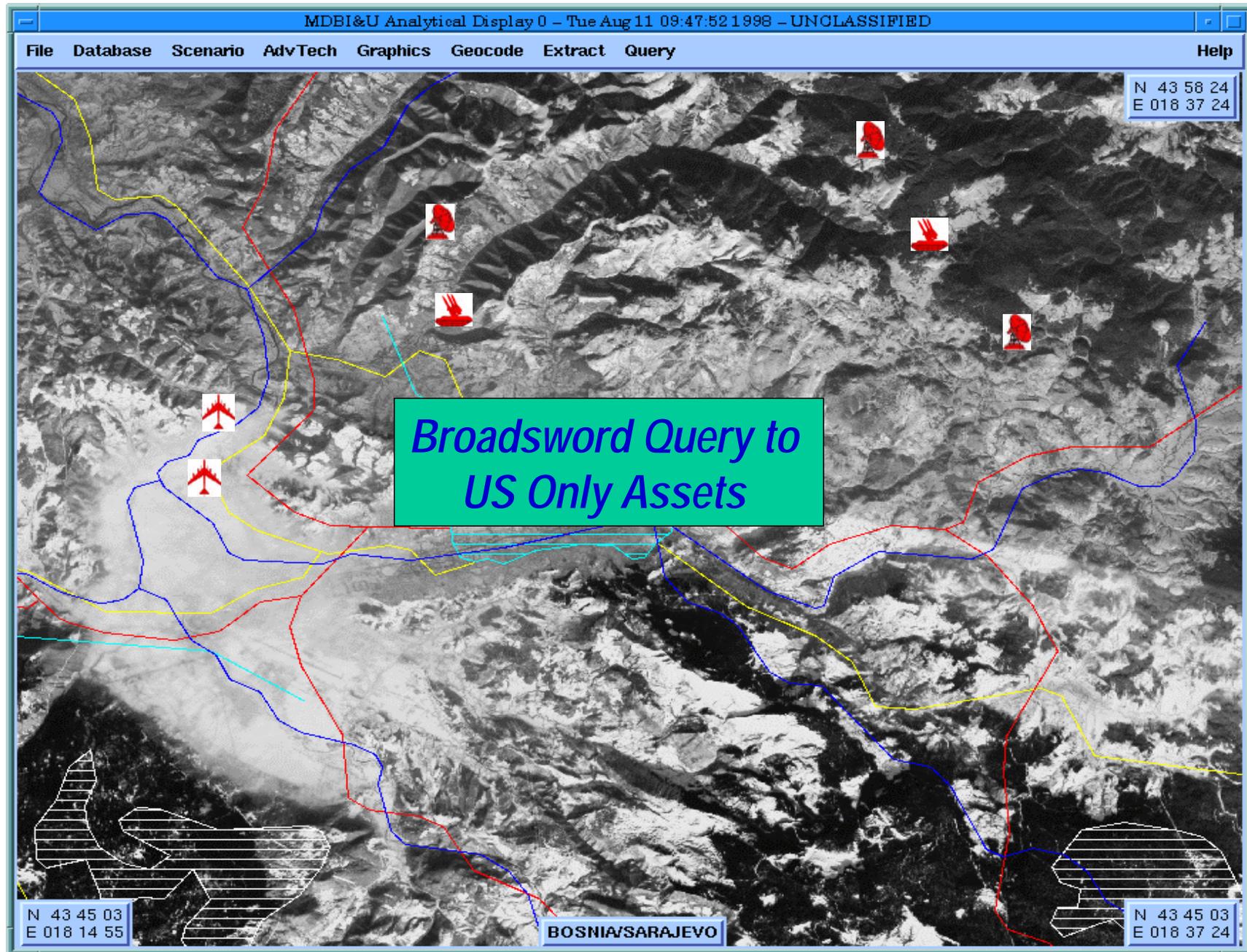


Multi-National Force Environment



Strike Planning Product



Without Trusted Transfer Agent

Combined Air Operations Center

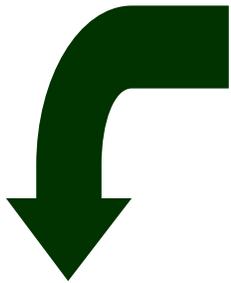


(SECRET - REL NATO)

Target Materials

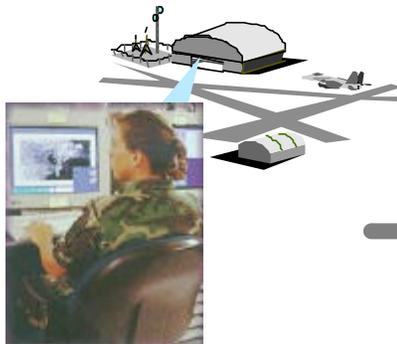
- Basic Target Graphics (BTGs)
- Contingency Target Graphics (CTGs)
- Reference Imagery
- Other NITF formatted imagery
- USMTF Messages
 - Target Bulletins (TARBULs)
 - Intelligence Summaries (INTSUMs)

Results



Accomplished by:

- Predominantly hardcopy transfer
- Dedicated coalition network access



Update to Strike Planning:

- Manpower/Time/Money intensive
- Not up-to-date
- Introduction of Errors

US Wing Operations Center

(SECRET - US ONLY)

Security Boundary

RFI (STU-III ?)

With Trusted Transfer Agent

Combined Air Operations Center



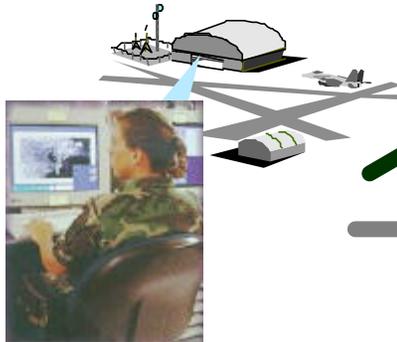
(SECRET - REL NATO)

Target Materials

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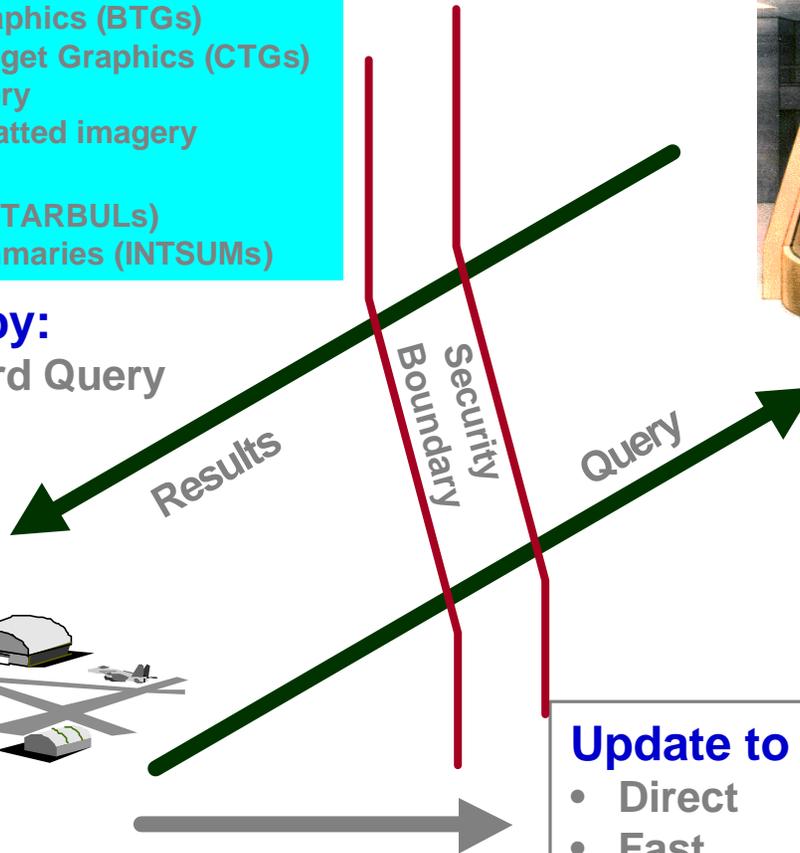
Accomplished by:

- TTA/Broadword Query



US Wing Operations Center

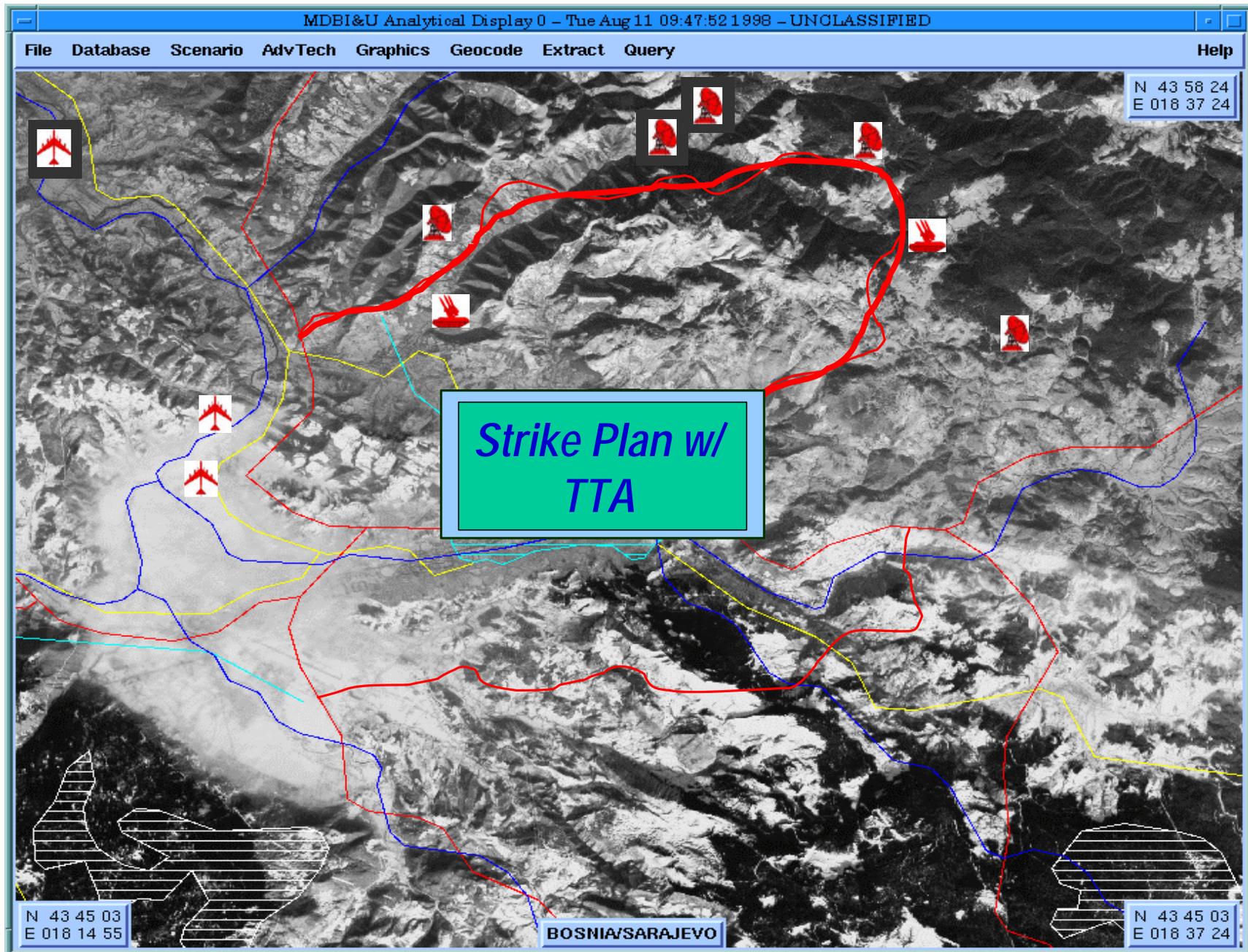
(SECRET - US ONLY)



Update to Strike Planning:

- Direct
- Fast
- Real-Time
- Accurate

TTA Updated Strike Planning



Topics

- TTA
 - What it will do for Broadword 3.1
 - How will TTA change the Broadword user's "experience"
 - What's the testing/certification status
 - Why it's accreditable
 - Demo
 - What about Reach Up/Across
- ISSE Guard
 - Automated Bi-directional MIDB Replication
 - Core capabilities
 - Upcoming releases
 - Customer Base
 - Program Office
 - R&D efforts & Untapped Opportunities

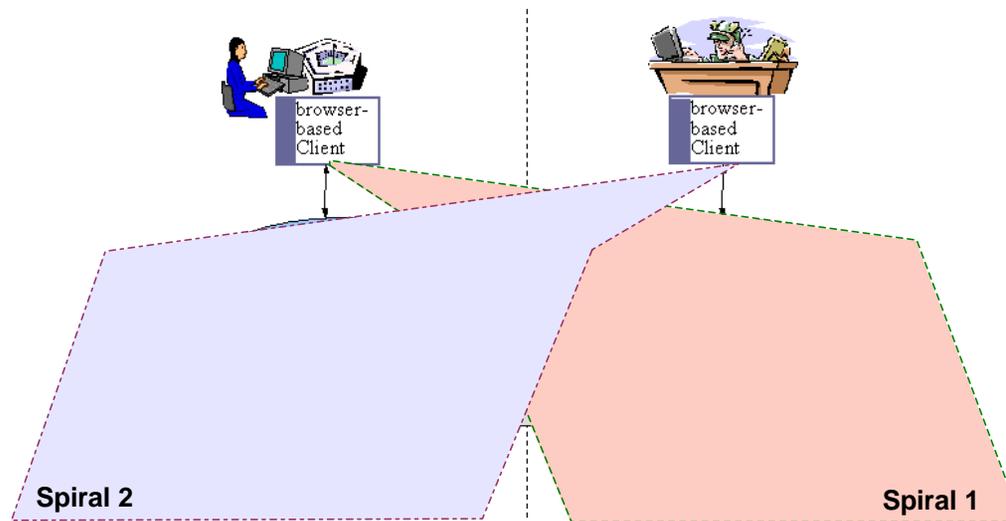
Trusted Transfer Agent (TTA)

- Leverage the strengths of Broadsword & ISSE Guard to enable MSL information access
- Spiral 1 focuses on **reach down** – high side Broadsword users accessing low side Broadsword sources (JEFX 00 initiative)
- Spiral 2 (CY 00-02) focuses on **reach up/across** – Warfighter performing search & retrieval of secret/releasable products stored on high/national side systems



secure, bi-directional cross-domain information push

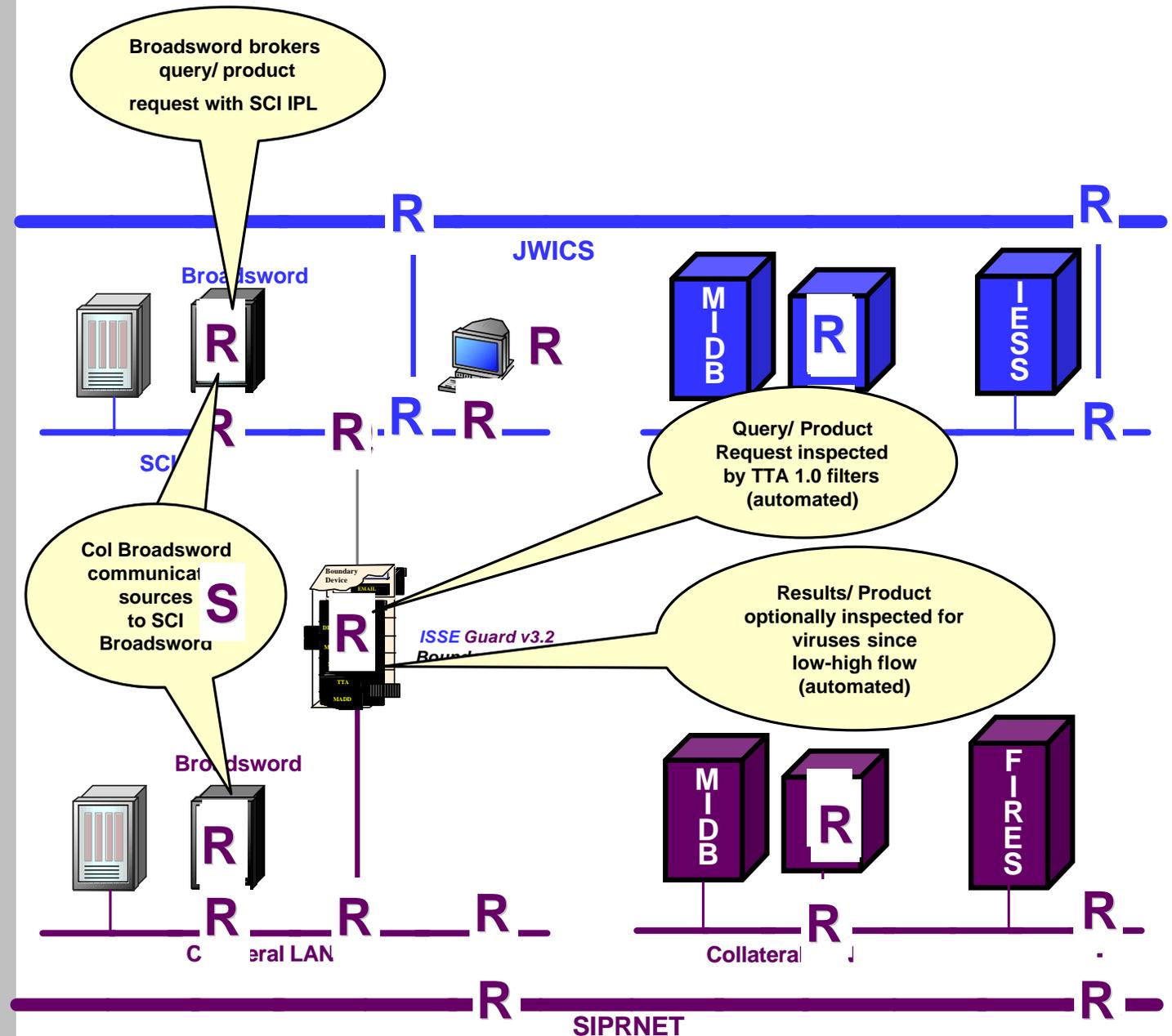
secure, transparent access to distributed information sources (within a single security domain)



Bundled into Broadsword 3.1 (requires co-located ISSE Guard)

TTA in Broadword 3.1

- Broadword SCI user decides to search local SCI IPL for specific imagery
- TTA enables user to also search Collateral IPLs
- User queries IPL connected to Collateral Broadword (not limited to IPL, all non-streaming Broadword sources are available)



***How will TTA 1.0
change the
Broadsword
user's
"experience"?***

- The existence of TTA is essentially transparent to the Broadsword user
- **BENEFIT:**
 - Low side sources will be available for "reach down" (querying and product requests)
- **PRICE:**
 - Fields queryable through a TTA enabled Broadsword will be a subset of a standard Broadsword (189 of 207 potentially supported)
 - Additional error messages specific to TTA functionality
 - Additional latencies specific to TTA functionality

TTA 1.0 Release Status

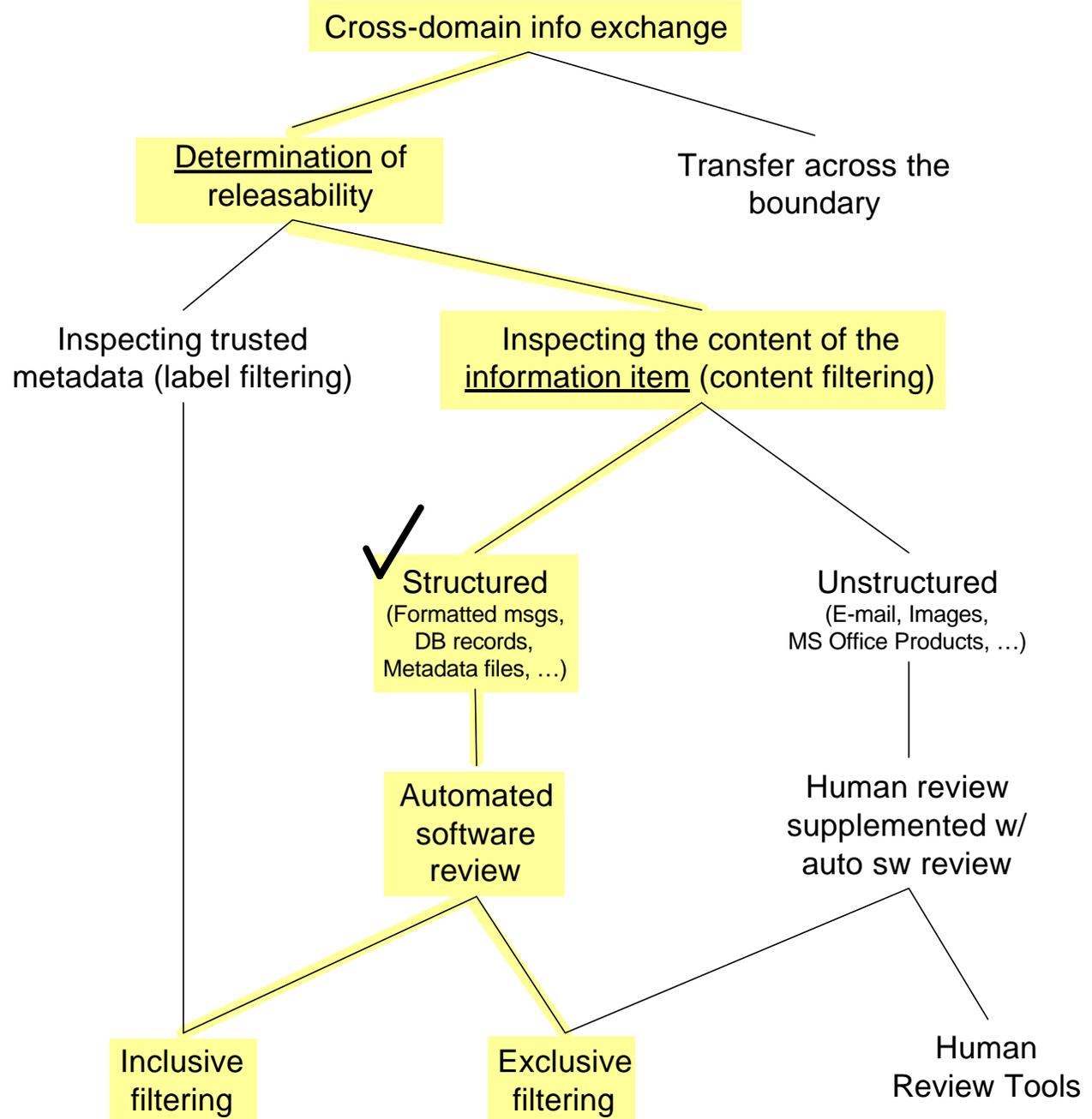
- TTA 1.0 design & implementation approach briefed to DICAST in Feb 00
- Conducted Beta I Security Certification with DIA on 19-20 Sep 00 with TTA 1.0 as part of BSWD 3.0
 - 2 Cat 1s
 - 11 Cat 2s
- Plan was to address all findings by early Dec, conduct another Beta I 18-22 Dec, and field TTA in BSWD 3.1 in Jan/Feb 01 (incl CAOC-X)
- Fixes/improvements required by ISSE/TTA team have been completed
- Fixes/improvements required by BSWD/TTA team have not been completed due to higher priorities in addressing v3.0 Beta II issues
- Awaiting word from BSWD PMO & DExA on schedule for v3.1

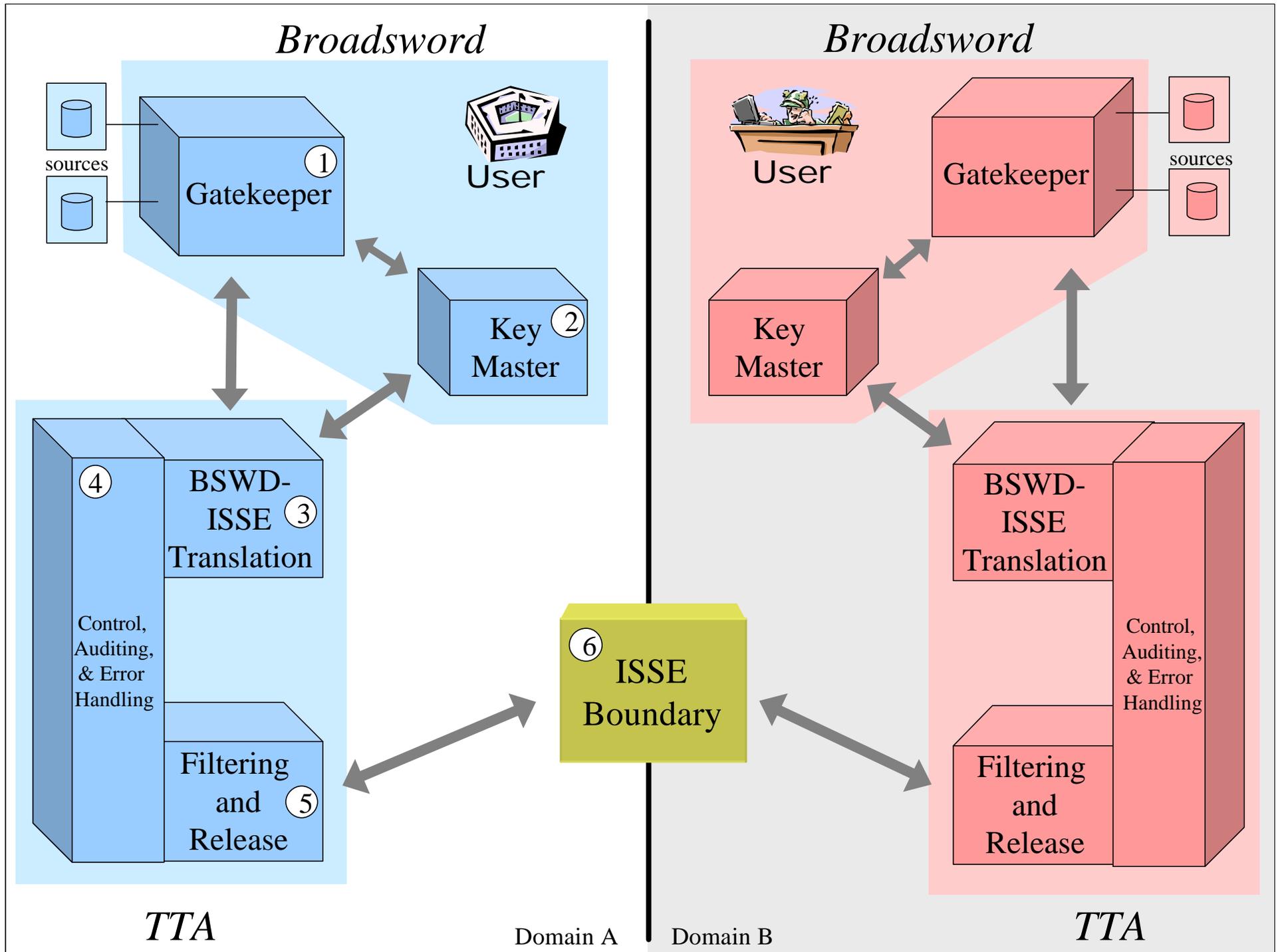
Findings/status of 19-20 Sep 00 Beta 1 Security Certification Testing

- Cat I
 - 1. No restriction of # of chars allowed in query's free-text fields
 - Status: awaiting DIA feedback on resolution approach – involves straightforward configuration change based on approval of TTA queryable elements list
 - 2. Tractability and completeness of audit records between BSWD, TTA, and ISSE needs improvements
 - Status: development 90% complete – ISSE/TTA documentation complete – BSWD documentation in-progress
- Cat II
 - 1. TTA did not shutdown as a result of an MD5 error
 - Status: development complete – BSWD documentation in-progress
 - 2. TTA admin acct does not allow individual authentication & identification
 - Status: development & documentation complete
 - 3. Sources not clearly identifiable as to whether they are low or high
 - Status: complete
 - 4. Not clear to administrator what Gatekeeper they are connected to
 - Status: BSWD action – development in-progress
 - 5. TTA security filters were not configured to reflect operational site security policies
 - Status: deferred to Beta II
 - 6. Filtering limited to exclusive (dirty word) checking
 - Status: complete – added inclusive field level filtering
 - 7. Incomplete security configuration of Solaris OS for TTA platform
 - Status: recently received NSA configuration guide – analysis and incorporation into Broadword C&I Guide is in-progress
 - 8. Authentication for remote administration of LDAP servers is inadequate
 - Status: N/A to TTA since LDAP not in Broadword 3.1 nor pertinent to TTA
 - 9. Email sent to TTA Admin upon security relevant events does not include informative subject line
 - Status: complete
 - 10. Security certification test procedures do not cover enough error conditions and audit inspection
 - Status: BSWD documentation in-progress
 - 11. Classification banners on Broadword client did not follow style guide requirements
 - Status: complete

Why TTA is accreditable

- ISSE Guard is accredited for cross-domain info exchange (SCI->Secret, US->Coalition, ...)
- ISSE Guard can perform automated filtering of structured information
- Broadsword uses **structured** messages for communication between gatekeepers
- Broadsword can restrict query options through control of queryable fields and their allowable values
- TTA has filter admin tool which takes nominated BSWD fields/values and presents them to TTA ISSO for option to allow in inclusive filters





Live Demo ...

(please visit the demo room for a more interactive session on Broadsword/TTA as well as other products like IET and FIRES)

TTA 2.x

Capabilities

(Reach Up/Across)

- TTA 2.0 is targeted for late 01 – early 02

- Low-side Broadsword user can Search high-side Broadsword sources for **appropriately classified information**
- Search = issue query & get results
- User can then Retrieve desired high-side products/reports
- Retrieve = request product/report & receive delivery
- Since high-to-low transfers require security filtering, the “get results” and “receive delivery” are inspected
- While reach down is generally source independent, reach up/across is generally source specific
 - TTA 2.0 will attack low-side user being able to establish a high-side profile & receive automated notification of matches ...
 - TTA 2.1& beyond will address access to specific sources like MIDB, IPL (metadata only at first, then thumbnails, and eventually imagery access)

Topics

✓ TTA

- ✓ What it will do for Broadsword 3.1
- ✓ How will TTA change the Broadsword user's "experience"
- ✓ What's the testing/certification status
- ✓ Why it's accreditable
- ✓ Demo
- ✓ What about Reach Up/Across

• ISSE Guard

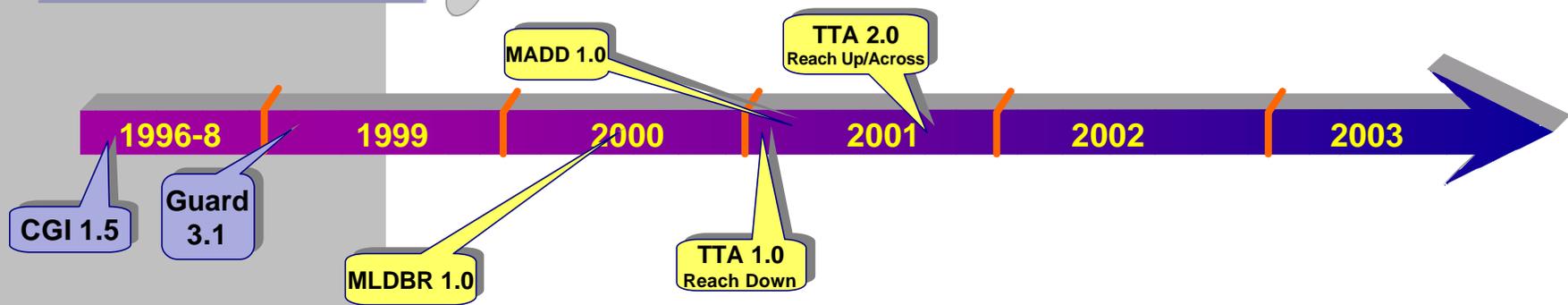
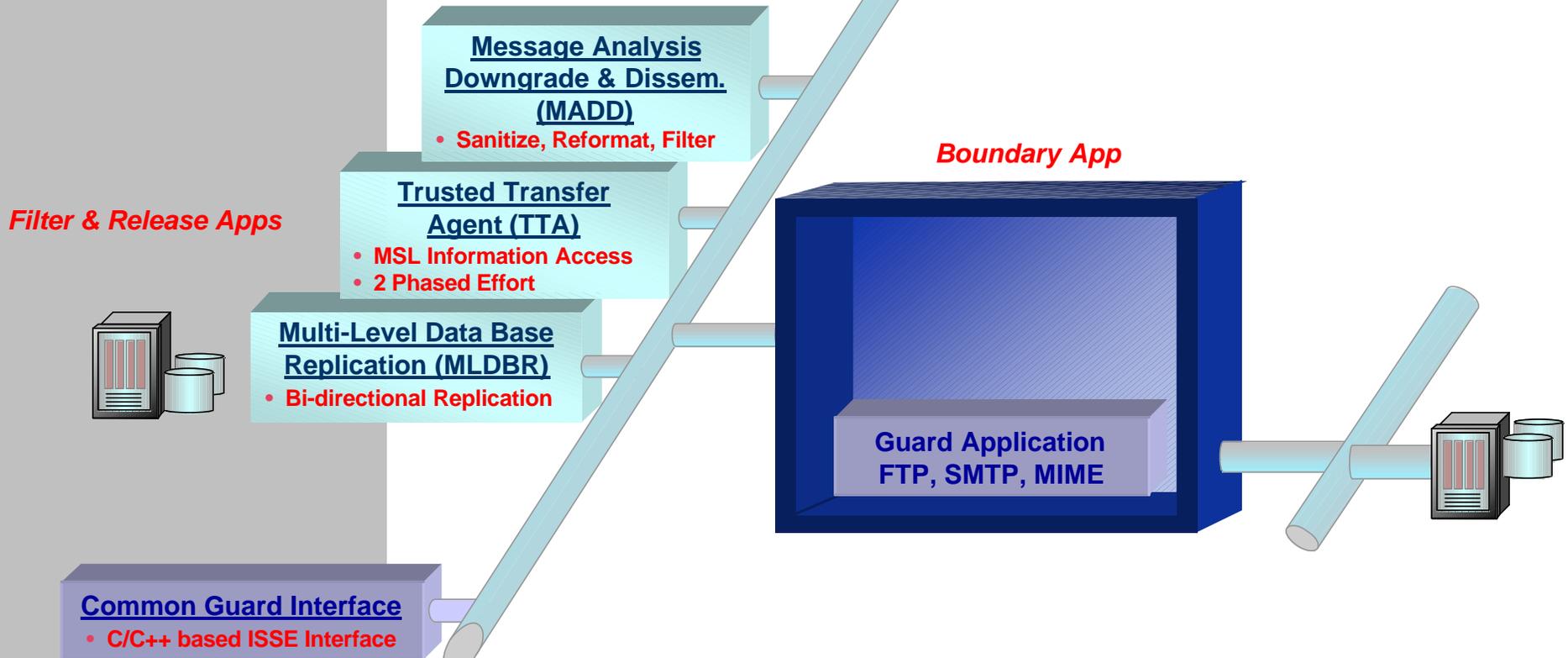
- Automated Bi-directional MIDB Replication
- Core capabilities
- Upcoming releases
- Customer Base
- Program Office
- R&D efforts & Untapped Opportunities



*I*nformation
*S*upport *Guard*
*S*erver
*E*nvironment

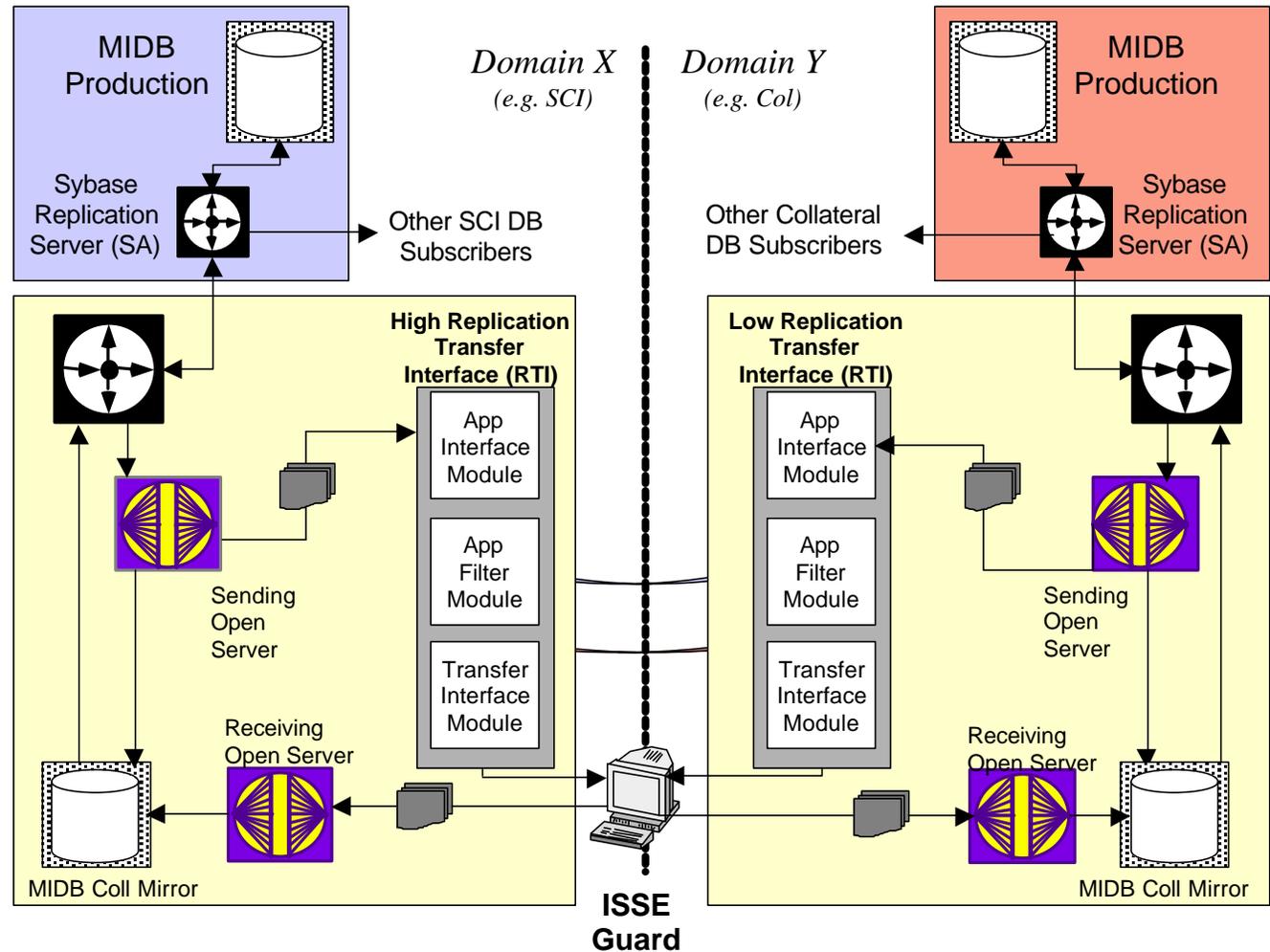
<http://www.if.afrl.af.mil/programs/isse>

ISSE Guard Extensions



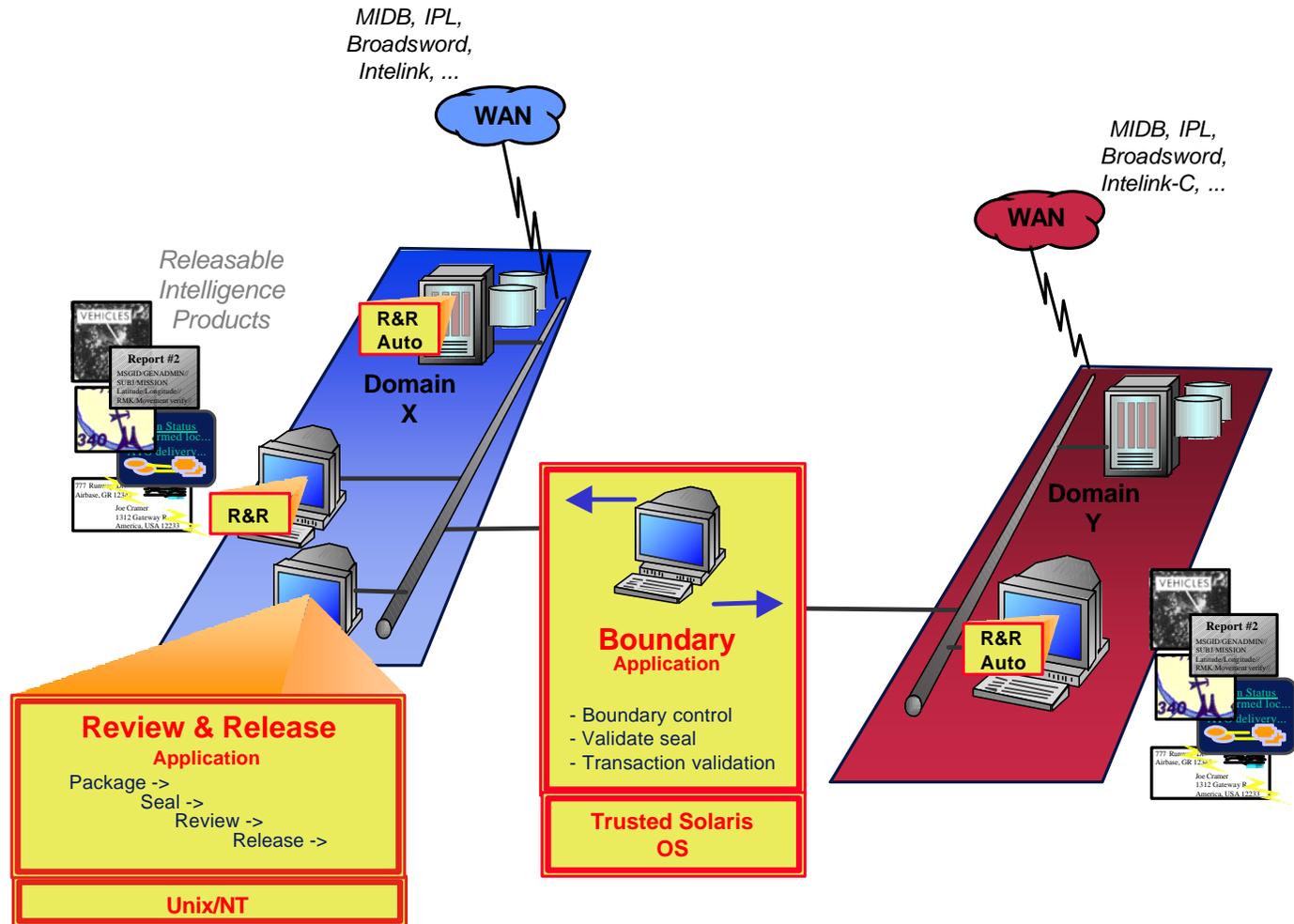
Multi-Level Data Base Replication (MLDBR)

- ISSE Guard filter & release app enabling automatic bi-directional synchronization of Collateral records between SCI & Collateral MIDBs
- Initially accredited by DIA/SYS-4 in May 00, updated accreditation in Oct 00
- Operational for CENTCOM's Lucky Sentinel & Internal Look exercises
- Being considered for bundling in MIDB FY01 release
- US<->Coalition MIDB replication requires filter development based on release rules



System Architecture

- Distributed Arch:
 - desktop accessible R&R application enforces DCID 6/3 security requirements for information validation and release
 - unmanned boundary application performs verification of package header and integrity seal & provides acknowledgement to pkg originator concerning success or failure of MSL transfer
- Low-to-high transfers are fully automated for all data types (file based)

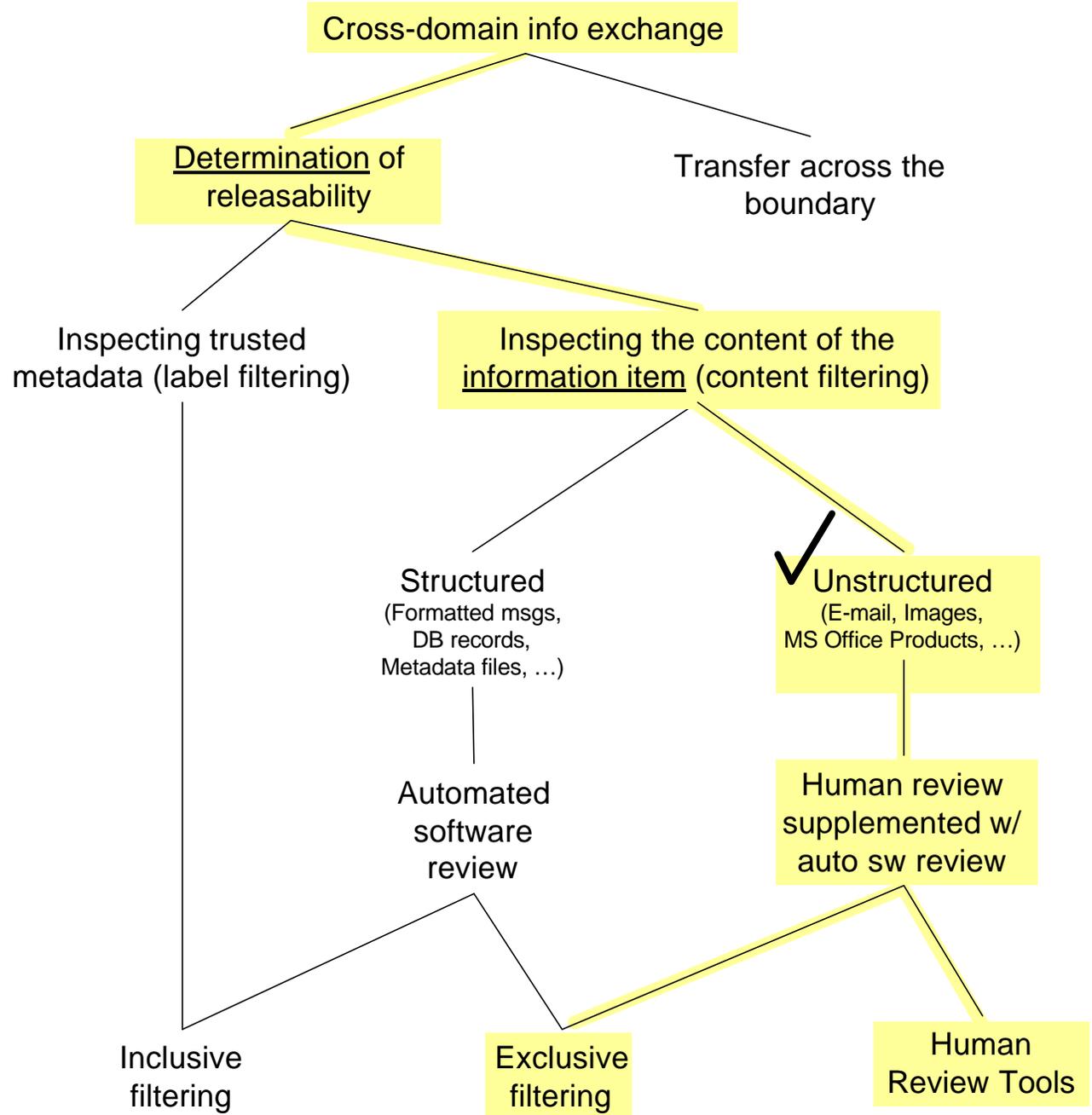


- E-mail
- Imagery
- Web Pages
- USMTF Messages
- Map data
- MS Office products
- Audio & Video

more on Apps ...

High-to-Low Filtering for Unstructured Products

- E-mail
- Imagery
- Web Pages
- USMTF Messages
- Map data
- MS Office products
- Audio & Video



ISSE Guard Certification & Accreditation Status



ISSE Guard is **certified for the bi-directional exchange of files between SCI & Secret networks**

- DIA/SYS-4 is the DODIIS certifier
- Follow the DOD Information Technology Security Certification and Accreditation Process (DITSCAP)
- Individual site implementations must be accredited by DIA/SYS-4 in coordination with local site accreditation authorities (e.g. site ISSO)
- Currently transitioning from Director of Central Intelligence (DCID) 1/16 compliance to DCID 6/3 compliance as a Protection Level (PL) 4 information system



ISSE Guard is on the Secret And Below Interoperability (SABI**) Referenced Implementation List**

- NSA is responsible for oversight of implementations NOT involving SCI network connectivity
- Individual site implementations must be evaluated by NSA in coordination with local site accreditation authorities (e.g. site ISSO)

Upcoming Releases

- All 3 applications will be Beta II Tested in Feb 01
- Worldwide deployment beginning in March 01

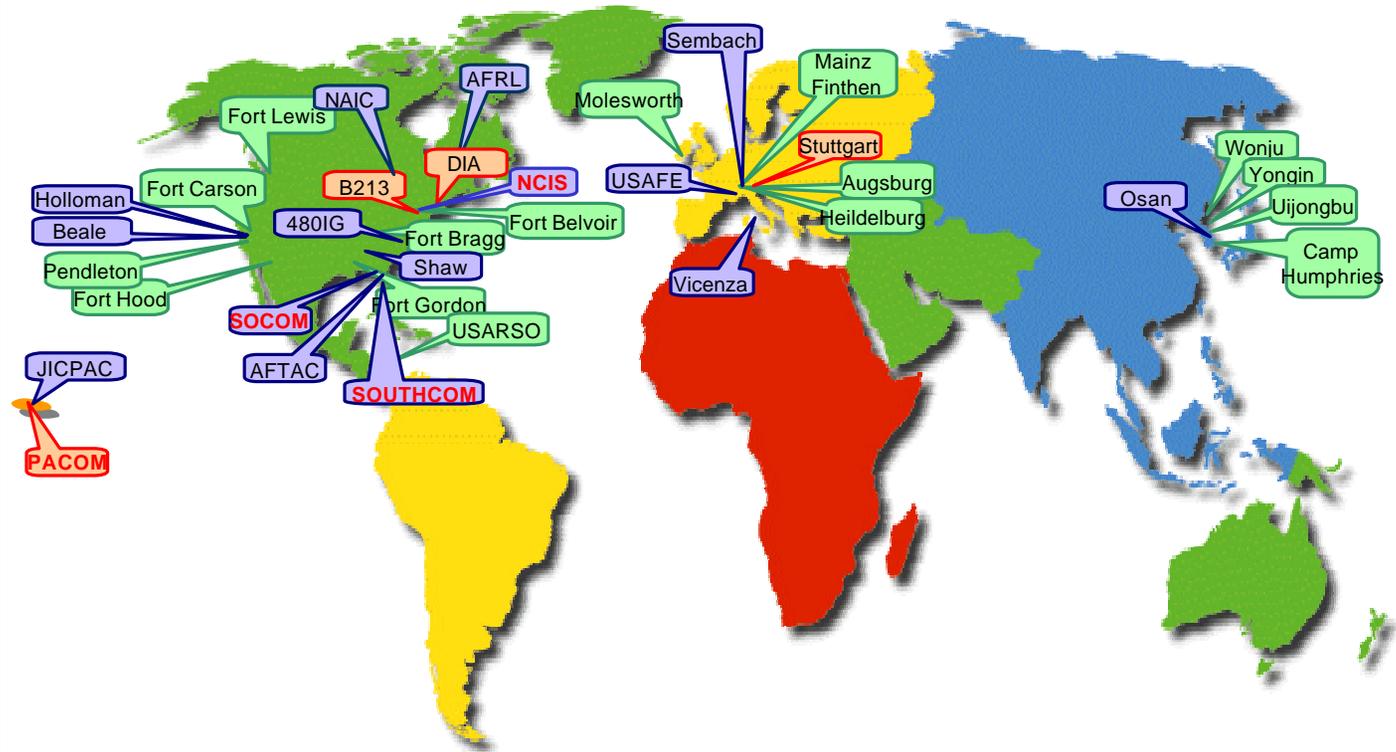
- Guard 3.2
 - New version of the Boundary Application
 - Bi-directional virus filtering (COTS based)
 - Bi-directional file type filtering
- Common Guard Interface (CGI) 1.6
 - New version of the Unix-based R&R Application
 - Minor PR fixes
 - Required for sites needing to R&R imagery
- ISSE User Agent (IUA) 1.0



- New Platform-independent R&R application
- Substantially improved GUI
- Support for COIs (establishes R&R groups)
- Definable R&R process per file type
- Support for imagery will be included in IUA 1.1 (Mid-late 01)

Worldwide Operational Presence

- 65+ operational systems (Oct 00)
- 30+ sites



Current Customer Base

- ISSE Guard and it's extensions (TTA, MLDBR, MADD) are also actively engaged in CAOC-X, Desert Shift, and APTX 01

<u>User</u>	<u>Status</u>	<u>#Sys</u>
Army Space Program Office (ASPO)	Operational	21
480 th IG - Langley AFB	Operational	2
USNIC Vicenza, Italy	Operational	1
CAOC Vicenza , Italy	Operational	1
USAREUR - Darmstadt, Germany	Operational	1
USAFE - Ramstein AFB	Operational	2
NAIC – WPAFB	Operational	1
SOUTHCOM - Miami	Operational	1
JICPAC - Makalapa	Operational	1
EUCOM - Joint Analysis Center	Operational	2
AFTAC - Patrick AFB	Operational	1
TBMCS - Multiple sites	Operational	3
KCOIC - Osan AB	Operational	1
OWS - Sembach	Operational	1
NIMA - Building 213	Operational	1
Pentagon J2 - DIA	Operational	1
Stone Ghost - DIA	Operational	1
SOCOM - MacDill AFB	Operational	1
USARSO - Puerto Rico	Operational	1
SPACECOM - Cheyenne Mt.	Operational	1
USCENTAF - SHAW AFB	Operational	1
46 th Test Squadron - EGLIN AFB	Operational	1
SPACECOM Data Server - Cheyenne Mt.	Install in progress	2
ARCENT-KU - Camp Doha Kuwait.	Exercise	1
JSIPS/DTS - Langley	Operational	2
JISPS/DTS - Beale, Rino	Install in progress	2
JEFX - Hurlburt Field	Exercise	2
JWID - NIMA Bethesda	Exercise	1
AFTAC Sys #2 - Patrick	Install in progress	1
DCGS - Langley, Beal	Install in progress	2
AFWA	Operational	2
AFWA SDHS & JAFWIN	Install in progress	6
NAVOCEANO	Install in progress	2
Joint Battle Center	Install in progress	1
PACAF	Install in progress	1

PMO Info

- Program Office Structure:
 - DExA: 497IG - MSgt Jim Brewington 
 - PM: AFRL - Capt Dave Hoopes 
 - Architect: AFRL – Matt Kochan
 - SETA: BAE Systems – Joe Riolo & Joshua Beardsley
- Fees (FY01):
 - Installation ~55K CONUS, ~65K OCONUS
 - User 25K (1st) / 15K (2nd) / 5K (each remaining)
- Prime Contractor:
 - Logicon Sterling Federal – Rome NY
 - Project Mgr - Jack LoSecco
 - Lead Engineer - Dave Gray

Controlled Interface S&T Spectrum

- **O&M** - Funded, partially funded, and unfunded efforts focused on enhancing capabilities of the operational ISSE Guard controlled interface
- **Tech Transition** - Current & candidate efforts aimed at transitioning key CI technologies from a laboratory environment to an operational evaluation environment
- **Tech Dev** - Current & candidate efforts focused on technologies which have the potential to make big impacts in CI capabilities

Legend:

- funded
- un-funded or partially
- ▨ leveragable external effort

Tech Development (6.2/6.3a)

AFMC/AFRL \$\$

FD Policy Mgmt AFRL/DARPA

FDCI

WHAMS

Data Streaming

Multi-Domain Net Man

Tech Transition (6.3b)

PE 63260F \$\$

AUTO-SYNC

TTA

Complex Product Filtering

SIREN

GIP

O&M (6.4/Program 3)

User Fees/497th/Customer \$\$

BD Clustering

Multi-Low Sides

Regional M&A

PKI Support

TSol 8 Port



COTS Intrusion Detection

DCID 6/3

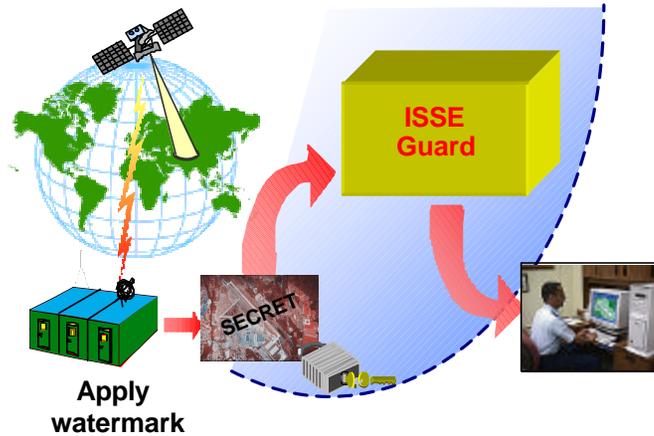
MLDBR 1.1

MADD Port to TSol

WHAMS

(Watermarked High-performance Automated Multi-level Security)

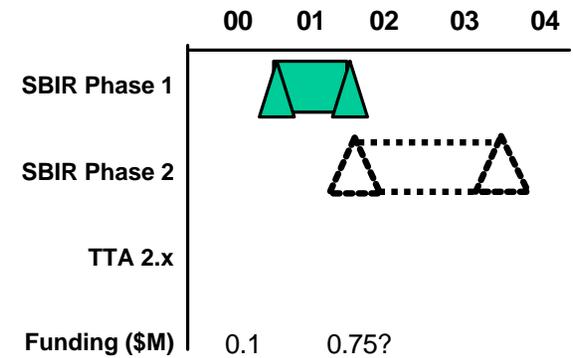
- FY00-01 SBIR Phase 1 effort (100K)
- Investigate opportunities digital watermarking technologies offer to automated cross-domain dissemination of imagery
- Prototype to be demonstrated at AFRL in Oct/Nov 00
- Phase 2 proposal evaluation and rack/stack with other AFRL phase 2 efforts set for Oct-Dec 00
- Phase 2 capability would enable TTA reach up for thumbnails initially and then NITF imagery



Technology

- Digital Watermarking and smart digital imagery
- Controlled interface filters which supplement product metadata filtering (e.g. NITF header) with digital watermark based filtering

Technology Investment Schedule



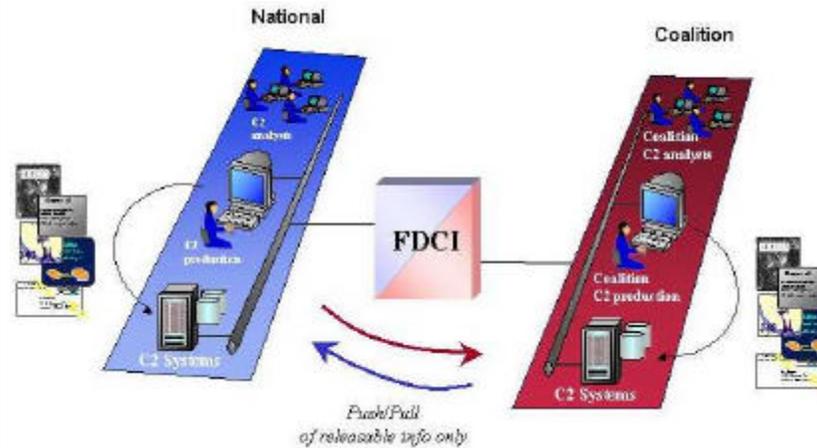
Projected Benefits to Warfighter

- Real-time access to collateral imagery resident on Intel systems
- Near-real-time delivery of imagery to warfighter

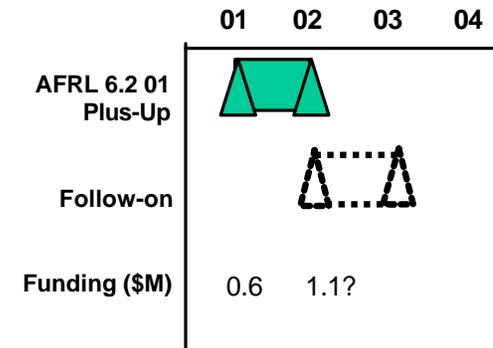
FDCI

(Foreign Disclosure Controlled Interface)

- Investigate & prototype a capability to digitally affix foreign disclosure labels and filter them for digital dissem. thru a controlled interface
- FDOs currently have no capability to digitally mark and disseminate products nominated for release – everything done in hardcopy
- 3-phased 3-year effort
- Phase 1 funded with FY01 6.2 funds



Technology Investment Schedule



Technology

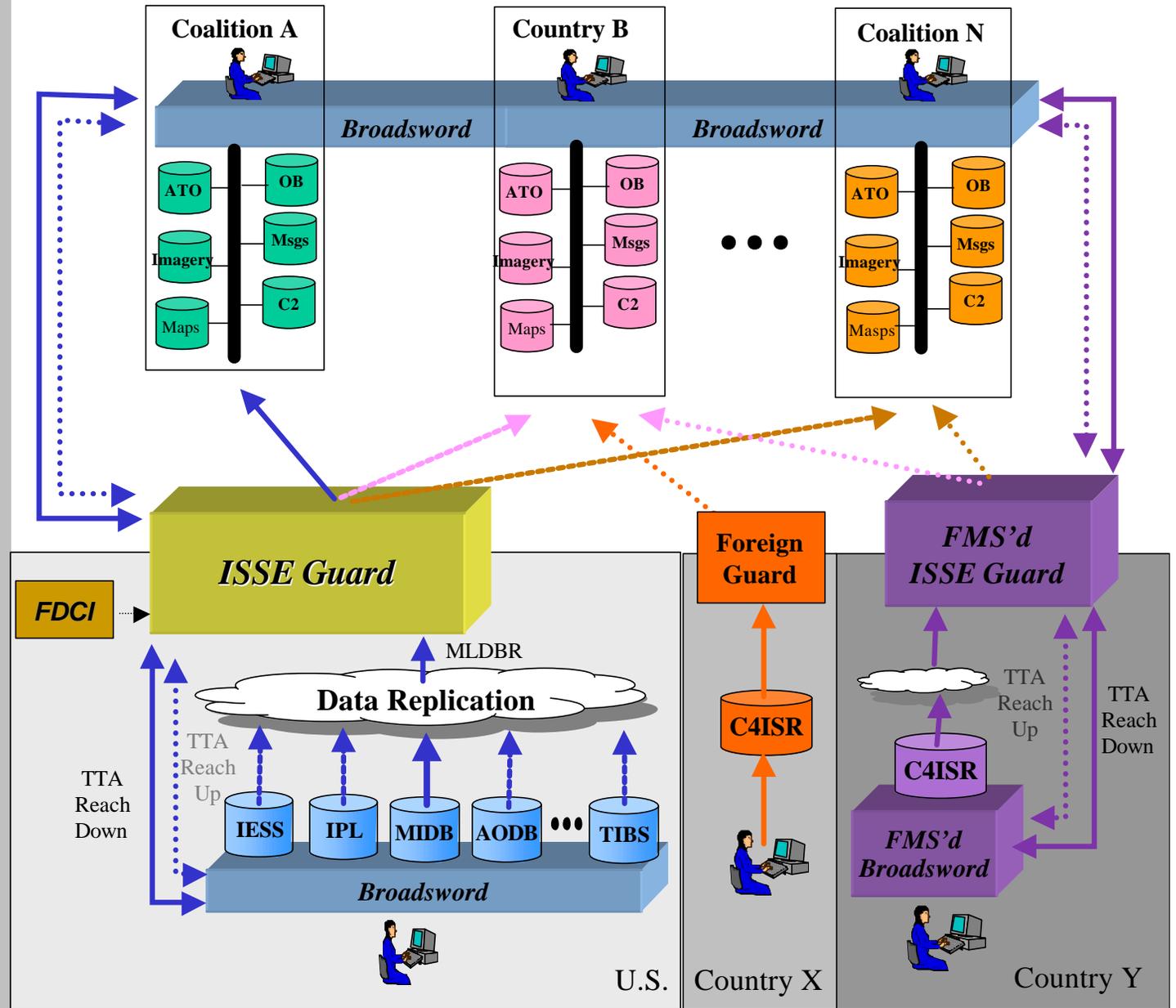
- Advanced tools for reviewing nominated products, linking to external foreign disclosure policy systems, performing sanitization, and securely affixing 'release mark' labels
- Adaptive data-level filtering within controlled interfaces based on disclosure policy changes

Projected Benefits to Warfighter

- Improved information sharing between National enclaves and coalition enclaves
- Coalition warfighter/peacekeeper has ready access to information pushed into Coalition domain or releasable information residing on National systems

ISSE Guard Enabled Multi-National Information Sharing Architecture

- Allows cross-domain information access via Broadsword/TTA
- Allows multi-national database replication via MLDBR
- Allows ad hoc dissemination of products via FDCI
- 'Dotted Lines' – in development or planned



ISSE Guard POCs

- PM – Capt Dave Hoopes,
David.Hoopes@rl.af.mil,
DSN 587-4271, Comm 315-
330-4271
- DExA – MSgt Jim
Brewington,
BREWINJW@emh-
497ig.bolling.af.mil, DSN
754-1780, Comm 202-404-
1780
- Architect – Matt Kochan,
Matthew.Kochan@rl.af.mil,
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- Contractor – Jack LoSecco,
Jack.Losecco@sterling.com,
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