



Distributed Common Ground System-Army Net-Centric Reference Implementation

“On Demand” Information and Capabilities

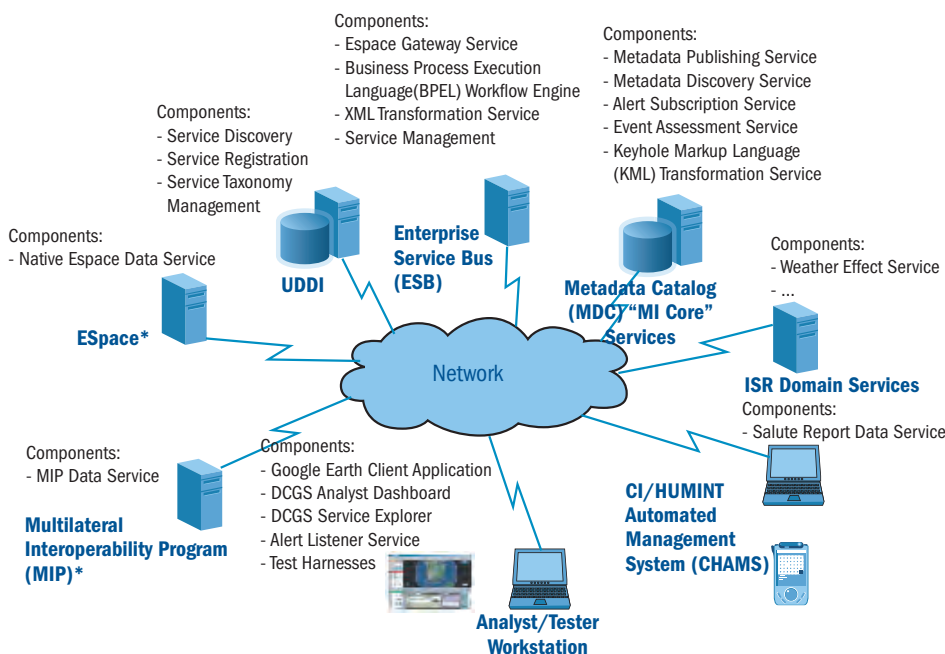
The Department of Defense (DoD) is aggressively pursuing Net-Centric warfare as an integral part of the force transformation initiative. The Distributed Common Ground System-Army (DCGS-A) program faces the challenging task of transforming 13 Army intelligence, surveillance, and reconnaissance (ISR) programs of record (POR)—spanning more than seven intelligence domains (e.g., signals intelligence [SIGINT], human intelligence [HUMINT], imagery intelligence [IMINT]) into a single virtual system that gives warfighters and intelligence analysts an integrated view of the battlespace threat, from space to mud. Add to this scenario the requirement to interoperate with the larger ISR community—including the other armed services, national agencies, and coalition forces—and the challenge is prodigious.

Booz Allen and Net-Centricity

Booz Allen Hamilton, a leading strategy and technology consulting firm, is helping DCGS-A achieve Net-Centricity by constructing a set of leveraged interface specifications. These platform-independent interface specifications provide a layer of abstraction that enables the interoperability of disparate systems, regardless of their underlying technology (hardware, software, and data structures).

These specifications establish the Net-Centric standards that participating systems employ to perform services and exchange data. The specifications conform to an SOA approach and are built using Web services-based industry standards, such as Extensible Markup Language (XML), XML Schema Definition (XSD), Web Services Description Language (WSDL), Simple Object Access Protocol (SOAP), and Universal Description, Discovery, and Integration (UDDI).

The reference implementation (RI) enables multiple Army intelligence mission threads by integrating existing HUMINT, SIGINT, weather, and battle command systems (including a national-level provider of SIGINT information) with the Google Earth commercial off-the-shelf (COTS) visualization tool. The RI also includes military intelligence core services for metadata management, information discovery, publish and subscribe, as well as an ESB that provides services discovery, services management, Extensible Stylesheet Language Transformation (XSLT) data transformation, and workflow management.



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The RI demonstrates the key benefits of a specifications-driven SOA environment including collaboration, leveragability, and agility.

- Collaboration benefits
 - The Net is the application—delivers enormous robustness and scalability potential with exponential return on investment
 - SOA substantially enhances the ability to effect rapid systems integration
- Leveragability benefits
 - Reduces “time to capability” and systems cost by leveraging functionality that already exists on the Net
 - Capitalizes on IT investments through use of service-enabling current systems
- Agility benefits
 - Process agility delivers systems that can rapidly react to changing mission needs by assembling the required services into an on-demand application
 - Platform independence enables updating of technology more easily

- A modular approach accelerates systems development and evolution

Services and Approach

Booz Allen employs the following process to deliver on the SOA interface-specification approach to designing and implementing a Net-Centric DCGS-A.

- SOA Strategic Planning—use an IT portfolio management approach to analyzing functionality and planning incremental SOA capabilities over time
- Operational analysis—use a top-down and bottom-up approach to services design ensuring IT/mission alignment and a clear migration path to SOAn SOA Logical Design—design systems that are “born interoperable”
- SOA RI—turn design artifacts into a working prototype to enhance design, validate technology, and learn key lessons D07.166.06N
- SOA Physical Design—build the deployment patterns and performance specifications that capture

the physical environment where services are fielded

Booz Allen has worked with clients across DoD to help them move to a Net-Centric environment. We have a deep understanding of Net-Centricity, SOA, and Web services, along with extensive knowledge of the business, warfighter, and intelligence domains. In addition to a commitment to client service, our professionals have a successful track record, best practices, and proven methodologies to further your organization’s Net-Centric performance.

About Booz Allen

Booz Allen Hamilton has been at the forefront of strategy and technology consulting for 95 years. Providing a broad range of services in strategy, operations, organization and change, information technology, systems engineering, and program management, Booz Allen is committed to delivering results that endure.

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