1 Scope

The following paragraphs will identify the CSCI, provide a system overview, and provide an overview of the document.

1.1 Identification

This Software Design Document (SDD) describes the design of the CSCI identified as DIS Gateway (DG), CSCI 1 of the Ada Distributed Interactive Simulation (ADIS) project. The design of this CSCI was derived from *Software Requirements Specification for the DIS Gateway (DG) CSCI 1 of the Ada Distributed Interactive Simulation (ADIS) Project* (JFT-145-DG.SRS), and from *Interface Requirements Specification for the DIS Gateway (DG) CSCI 1 of the Ada Distributed Interactive Simulation (ADIS) Project* (JFT-145-DG.IRS).

1.2 System Overview

The Naval Air Warfare Center Aircraft Division (NAWCAD) Flight Test and Engineering Group (FTEG) develops and maintains a state-of-the-art high-fidelity flight test simulation facility, the Manned Flight Simulator (MFS). This facility supports a number of Department of the Navy (DON) programs and is a key element of the Air Combat Environment Test and Evaluation Facility (ACETEF). The MFS has worked extensively with integration of a new standard in inter-simulation communications, the Distributed Interactive Simulation (DIS) standard, which allows the MFS to communicate with other simulation facilities.

DIS is a time and space coherent synthetic representation of world environments designed for linking the interactive, free play activities of people in operational exercises. The synthetic environment is created through real-time exchange of data units between distributed, computationally autonomous simulation applications in the form of simulations, simulators, and instrumented equipment interconnected through standard computer communicative services. The computational simulation entities may be present in one location or may be distributed geographically.

The basic architecture concepts of DIS are an extension of the Simulator Networking (SIMNET) program developed by Defense Advanced Research Project Agency (DARPA). The basic architcture concepts for DIS are:

1. No central computer controls the entire simulation exercise
2. Autonomous simulation applications are responsible for maintaining the state of one or more simulation entities
3. A standard protocol is used for communicating "ground truth" data
4. Changes in the state of an entity are communicated by simulation applications
5. Perception of events or other entities is determined by the receiving application
6. Dead reckoning algorithms are used to reduce communications processing

The tasks associated with interfacing with the DIS architecture (DIS and network protocol support, tracking of entity state information, communication of simulation events, and updating of dead-reckoned entity positions) are common to all systems. These tasks can be thought of as an interface layer, or "gateway", between a given system and other systems participating in a DIS exercise.

The MFS has been tasked by the Ada Joint Program Office (AJPO) to develop and demonstrate Ada bindings and tools to interface with a DIS gateway. These bindings and tools are to be made part of the AJPO's publicly available Ada repository upon project completion. This project is referenced as the Ada Distributed Interactive Simulation (ADIS) project and will provide the Ada community with access to DIS technology.

J. F. Taylor, Inc. has been tasked to provide support for the development of Ada software systems to implement basic network communications using the DIS protocol. The DIS Gateway (DG) CSCI's role within the ADIS project would be to provide a generic, portable interface between the DIS network and an application program. Potential application programs which would benefit from the DG would be simulator systems (AH-1W, V-22, Minicrewstation, etc.), simulation monitors (God's Eye View), and DIS-related support programs (ADIS Ordnance Server). The DG CSCI will incorporate a Graphical User Interface (GUI) to establish initial conditions, modify run-time parameters, and monitor network activities.

1.3 Document Overview

The purpose of this document is to describe the complete design of the DG CSCI. This SDD describes the CSCI as composed of Computer Software Components (CSCs) and Computer Software Units (CSUs).

2 Applicable Documents

The following paragraphs describe those documents which form a part of this specification.

2.1 Government Documents

The following documents of the exact issue shown form a part of this specification to the extent specified herein. In the event of conflict between the documents referenced herein and the contents of this specification, the contents of this specification shall be considered a superseding requirement.

Document Number	Title
DOD-STD-2167A	Defense System Software Development
DI-MCCR-80012A	Software Design Document
	Statement of Work - Ada Distributed Interactive Simulation Support

Copies of specifications, standards, drawings, and publications required by suppliers in connection with specified procurement functions should be obtained from the contracting agency or as directed by the contracting officer.

2.2 Non-Government Documents

The following documents of the exact issue shown form a part of this specification to the extent specified herein. In the event of conflict between the documents referenced herein and the contents of this specification, the contents of this specification shall be considered a superseding requirement.

Document Number	Title	Source
IST-CR-93-15	IEEE Standard for Information Technology - Protocols for Distributed Interactive Simulation Applications Version 2.0	Institute for Simulation and Training
IST-CR-93-19	Enumeration and Bit Encoded Values for Use with Protocols for Distributed Interactive Simulation Applications	Institute for Simulation and Training
JFT-145-DG.SRS	Software Requirements Specification for the DIS Gateway (DG) CSCI 1 of the Ada Distributed Interactive Simulation (ADIS) Project	J. F. Taylor, Inc.
JFT-145-DG.IRS	Interface Requirements Specification for the DIS Gateway (DG) CSCI 1 of the Ada Distributed Interactive Simulation (ADIS) Project	J. F. Taylor, Inc.
JFT-145-DL.IRS	Interface Requirements Specification for the DIS Library (DL) CSCI 2 of the Ada Distributed Interactive Simulation (ADIS)	J. F. Taylor, Inc.

	Project	
JFT-145-DL.SDD	Software Design Document for the DIS Library (DL) CSCI 2 of the Ada Distributed Interactive Simulation (ADIS) Project	J. F. Taylor, Inc.
	Ada Distributed Interactive Simulation Support Project Kickoff Meeting/Requirements Discussion November 17, 1993	J. F. Taylor, Inc.

Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal Agencies.

Documents originating from the Institute for Simulation and Training (IST) are available from:

Institute for Simulation and Training
12424 Research Parkway, Suite 300
Orlando, FL 32826

Documents originating from J. F. Taylor, Inc. are available from:

J. F. Taylor, Inc.
PO Box 760
Lexington Park, MD 20653

3 Preliminary Design

The following subparagraphs describe the preliminary design of the DG CSCI.

3.1 CSCI Overview

The DIS Gateway (DG) CSCI's role within the ADIS project would be to provide a generic, portable interface between the DIS network and an application program. The DG CSCI is used by the Ordnance Server (OS) CSCI to access the DIS network. The DIS Filter Library (DFL) CSCI is used by the DG CSCI to perform certain filtering, prioritization, and smoothing functions. Table 3.1-1 identifies the external interface of the CSCI. Figure 3.1-1 describes the relationships between the DG CSCI and the other CIs in the system.

Table 3.1-1
External Interfaces of the DG CSCI

Name	Identifier	Role
DIS Gateway Interface	DG-EI-1	The DIS Gateway Interface is the interface between the DG CSCI and the application software. This interface provides simulation information to the application software, and permits the application software to send data and commands to the DG CSCI.
DIS Network Interface	DG-EI-2	The DIS Interface is the interface between the DG CSCI and other simulation sites participating in a DIS exercise.

Figure 3.1-1
ADIS System Architecture Diagram

3.1.1 CSCI Architecture

This paragraph describes the internal organizational structure of this CSCI. Figure 3.1.1-1 illustrates the top-level CSCI architecture. Table 3.1.1-1 identifies the CSCs and sub-level CSCs of the DG CSCI and summarizes their purposes. There is no non-developmental software (NDS) incorporated in the design of the DG CSCI.

Figure 3.1.1-1
Top-Level CSCI Architecture Diagramtc "3.1.1-1Top-Level CSCI Architecture Diagram" \f f§

Table 3.1.1-1
Top-Level CSCstc "3.1.1-1 Top-Level CSCs" \f t§

Identifier	Name	Purpose
DG-CSC-1	Configuration File Management	Load and save configuration files; provide the name of a default configuration file

3.1.2 System States and Modestc "3.1.2 System States and Modes"§

The DG CSCI does not operate in different states or modes.

3.1.3 Memory and Processing Time Allocationtc "3.1.3 Memory and Processing Time Allocation"§

This paragraph has been tailored out of the SDD.

3.2 CSCI Design Descriptiontc "3.2 CSCI Design Description"§

The following subparagraphs provide a design description of each CSC of the DG CSCI.

3.2.1 Configuration File Management CSC (DG-CSC-1)tc "3.2.1 Configuration File Management CSC (DG-CSC-1)"§

This paragraph describes the Configuration File Management (CFM) CSC, identified as DG-CSC-1. The purpose of this CSC is to load and save configuration files. The CFM CSC also provides the name of a default configuration file for loading when the DG CSCI is first executed. Figure 3.2.1-1 describes the execution control of this CSC. Figure 3.2.1-2 describes the data flow of this CSC. There are no derived requirements or design constraints imposed on or by this CSC.

Figure 3.2.1-1
Configuration File Management CSC Execution Control Diagramtc "3.2.1-1 Configuration File Management CSC Execution Control Diagram" \f f§

Figure 3.2.1-2
Configuration File Management CSC Data Flow Diagramtc "3.2.1-2 Configuration File Management CSC Data Flow Diagram" \f f§

3.2.2 Hash Table Support CSC (DG-CSC-2)tc "3.2.2 Hash Table Support CSC (DG-CSC-2)"§

This paragraph describes the Hash Table Support (HTS) CSC, identified as DG-CSC-2. The purpose of this CSC is to support the various hash tables required by the DG CSCI. Figure 3.2.2-1 describes the execution control of this CSC. Figure 3.2.2-2 describes the data flow of this CSC. There are no derived requirements or design constraints imposed on or by this CSC.

Figure 3.2.2-1
Hash Table Support CSC Execution Control Diagramtc "3.2.2-1 Hash Table Support CSC Execution Control Diagram" \f f§

Figure 3.2.2-2
Hash Table Support CSC Data Flow Diagramtc "3.2.2-2 Hash Table Support CSC Data Flow Diagram" \f f§

3.2.3 Error Processing CSC (DG-CSC-3)tc "3.2.3 Error Processing CSC (DG-CSC-3)"§

This paragraph describes the Error Processing (EP) CSC, identified as DG-CSC-3. The purpose of this CSC is to permit logging and user notification of error conditions within the DG CSCI. This requirement is not allocated from the DG SRS, but is instead derived from the necessity of reporting errors in the DG so that corrective action can be undertaken. Figure 3.2.3-1 describes the execution control of this CSC. Figure 3.2.3-2 describes the data flow of this CSC. There are no design constraints imposed on or by this CSC.

Figure 3.2.3-1
Error Processing CSC Execution Control Diagramtc "3.2.3-1 Error Processing CSC Execution Control Diagram" \f f§

Figure 3.2.3-2
Error Processing CSC Data Flow Diagramtc "3.2.3-2 Error Processing CSC Data Flow Diagram" \f f§

3.2.4 Filter Support CSC (DG-CSC-4)tc "3.2.4 Filter Support CSC (DG-CSC-4)"§

This paragraph describes the Filter Support (FS) CSC, identified as DG-CSC-4. The purpose of this CSC is to filter network data to eliminate non-PDU data, and to filter PDU data based upon user-supplied parameters. Figure 3.2.4-1 describes the execution control of this CSC. Figure 3.2.4-2 describes the data flow of this CSC. There are no derived requirements or design constraints imposed on or by this CSC.

Figure 3.2.4-1
Filter Support CSC Execution Control Diagramtc "3.2.4-1 Filter Support CSC Execution Control Diagram" \f f§

Figure 3.2.4-2
Filter Support CSC Data Flow Diagramtc "3.2.4-2 Filter Support CSC Data Flow Diagram" \f f§

3.2.5 DG Client CSC (DG-CSC-4)tc "3.2.5 DG Client CSC (DG-CSC-4)"§

This paragraph describes the DG Client (CLI) CSC, identified as DG-CSC-4. The purpose of this CSC is to filter network data to eliminate non-PDU data, and to filter PDU data based upon user-supplied parameters. There are no derived requirements or design constraints imposed on or by this CSC.

3.2.6 DG Server Control CSC (DG-CSC-6)tc "3.2.6 DG Server Control CSC (DG-CSC-6)"§

This paragraph describes the DG Server Control (DSC) CSC, identified as DG-CSC-6. The purpose of this CSC is to provide overall control of DG Server processing. This CSC does not fulfill a specific requirement of the SRS, but rather is derived from the need for implementing control of program startup, initialization, mainline processing, and shutdown. Figure 3.2.6-1 describes the execution control of this CSC. Figure 3.2.6-2 describes the data flow of this CSC. There are no design constraints imposed on or by this CSC.

Figure 3.2.6-1
DG Server Control CSC Execution Control Diagramtc "3.2.6-1 DG Server Control CSC Execution Control Diagram" \f f§

Figure 3.2.6-2
DG Server Control CSC Data Flow Diagramtc "3.2.6-2 DG Server Control CSC Data Flow Diagram" \f f§

3.2.7 Network Interface Support CSC (DG-CSC-7)tc "3.2.7 Network Interface Support CSC (DG-CSC-7)"§

This paragraph describes the Network Interface Support (NIS) CSC, identified as DG-CSC-7. The purpose of this CSC is to establish, transmit data to and receive data from, and terminate the interface with the DIS simulation network. Figure 3.2.7-1 describes the execution control of this CSC. Figure 3.2.7-2 describes the data flow of this CSC. There are no derived requirements or design constraints imposed on or by this CSC.

Figure 3.2.7-1
Network Interface Support CSC Execution Control Diagramtc "3.2.7-1 Network Interface Support CSC Execution Control Diagram" \f f§

Figure 3.2.7-2
Network Interface Support CSC Data Flow Diagramtc "3.2.7-2 Network Interface Support CSC Data Flow Diagram" \f f§

4 Detailed Designtc "4 Detailed Design"§

The following subparagraphs describe the detailed design of each CSC of the DG CSCI.

4.1 Configuration File Management CSC (DG-CSC-1)tc "4.1 Configuration File Management CSC (DG-CSC-1)"§

The following subparagraphs identify and describe each of the CSUs of the Configuration File Management (CFM) CSC. Figure 4.1-1 shows the hierarchy of units within the CSC. Figure 4.1-2 describes the relationships of the CSUs in terms of execution control. Figures 4.1-3 and 4.1-4 describe the relationships of the CSUs in terms of data flow. Solid lines with no arrows indicate a hierarchical relationship. Solid lines with arrows indicate data flow, and dashed lines with arrows indicate control flow. Rectangles with solid borders represent units internal to the CSC, and rectangles with dashed borders indicate external CSCs and CSCIs.

Figure 4.1-1
Configuration File Management CSC Hierarchy Diagramtc "4.1-1 Configuration File Management CSC Hierarchy Diagram" \f f§

Figure 4.1-2
Configuration File Management CSC Execution Control Diagramtc "4.1-1 Configuration File Management CSC Execution Control Diagram" \f f§

Figure 4.1-3
Configuration File Management CSC Data Flow Diagramtc "4.1-3 Configuration File Management CSC Data Flow Diagram" \f f§

Figure 4.1-4
Configuration File Management CSC Data Flow Diagram (continued)tc "4.1-4 Configuration File Management CSC Data Flow Diagram (continued)" \f f§

4.1.1 Get Default Server Configuration Filename CSU (DG-CSU-1.1)tc "4.1.1 Get Default Server Configuration Filename CSU (DG-CSU-1.1)"§

The following subparagraphs provide the design information for the Get Default Server Configuration Filename (GDSC) CSU, identified as DG-CSU-1.1. The purpose of this CSU is to provide a default configuration filename for the DG Server's initial parameter values.

4.1.1.1 GDSC CSU Design Specifications/Constraintstc "4.1.1.1GDSC CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.1.1.2 GDSC CSU Design

The following subparagraphs specify the design of the GDSC CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.1.1.2.1 GDSC CSU Input/Output Data Elements

Table 4.1.1.2.1-1 identifies and states the purpose of each input and output data element of the GDSC CSU.

Table 4.1.1.2.1-1
GDSC CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Filename	Output	Contains the filename for the default configuration file.	See Table 5-1
Status	Output	Indicates success or failure of executing this CSU.	See Table 5-1

4.1.1.2.2 GDSC CSU Local Data Elements

The GDSC CSU does not utilize any local data elements.

4.1.1.2.3 GDSC CSU Global Data Elements

The GDSC CSU does not utilize any global data elements.

4.1.1.2.4 GDSC CSU Local and Shared Data Structurestc "4.1.1.2.4 GDSC CSU Local and Shared Data Structures"§

The GDSC CSU does not implement any local or shared data structures.

4.1.1.2.5 GDSC CSU Interrupts and Signalstc "4.1.1.2.5 GDSC CSU Interrupts and Signals"§

The GDSC CSU does not handle any interrupts or signals.

4.1.1.2.6 GDSC CSU Error Handlingtc "4.1.1.2.6 GDSC CSU Error Handling"§

The GDSC CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.1.1.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.1.1.2.7 GDSC CSU Use of Other Elementstc "4.1.1.2.7 GDSC CSU Use of Other Elements"§

The GDSC CSU uses the system service routine appropriate for retrieving environmental variable settings. This routine varies in name and parameters between operating systems.

4.1.1.2.8 GDSC CSU Logic Flowtc "4.1.1.2.8 GDSC CSU Logic Flow"§

Figure 4.1.1.2.8-1 describes the logic flow of the GDSC CSU. This CSU is executed by the Server Control CSC and the Client Control CSC. This CSU does not execute any other CSUs.

Figure 4.1.1.2.8-1
GDSC CSU Logic Flowtc "4.1.1.2.8-1 GDSC CSU Logic Flow" \f f§

4.1.1.2.9 GDSC CSU Algorithmstc "4.1.1.2.9 GDSC CSU Algorithms"§

The GDSC CSU does not utilize any algorithms.

4.1.1.2.10 GDSC CSU Local Data Filestc "4.1.1.2.10 GDSC CSU Local Data Files"§

The GDSC CSU does not utilize any local data files.

4.1.1.2.11 GDSC CSU Limitations

The GDSC CSU design assumes that the operating system supports environment variables, and that the values of these variables can be retrieved by means of a system call.

4.1.2 Load Server Configuration File CSU (DG-CSU-1.2)

The following subparagraphs provide the design information for the Load Server Configuration File (LSCF) CSU, identified as DG-CSU-1.2. The purpose of this CSU is to set operational parameters of the DG Server based on values contained in the specified configuration file.

4.1.2.1 LSCF CSU Design Specifications/Constraints

There are no design constraints for this CSU.

4.1.2.2 LSCF CSU Design

The following subparagraphs specify the design of the LSCF CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.1.2.2.1 LSCF CSU Input/Output Data Elements

Table 4.1.2.2.1-1 identifies and states the purpose of each input and output data element of the LSCF CSU.

Table 4.1.2.2.1-1
LSCF CSU I/O Datatc "4.1.2.2.1-1 LSCF CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Filename	Input	Provides the filename for the configuration file.	See Table 5-1
Status	Output	Indicates the success or failure of executing this CSU.	See Table 5-1

4.1.2.2.2 LSCF CSU Local Data Elements

Table 4.1.2.2.2-1 identifies and states the purpose of each data element that originates in the LSCF CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.1.2.2.2-1
LSCF CSU Local Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Param_Line	Stores a line from the configuration file.	String (255 characters)	2040	n/a	n/a

4.1.2.2.3 LSCF CSU Global Data Elements

Table 4.1.2.2.3-1 identifies and states the purpose of each data element that is used by the LSCF CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.1.2.2.2-1
LSCF CSU Global Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.1.2.2.4 LSCF CSU Local and Shared Data Structurestc "4.1.2.2.4 LSCF CSU Local and Shared Data Structures"§

The LSCF CSU does not implement any local or shared data structures.

4.1.2.2.5 LSCF CSU Interrupts and Signalstc "4.1.2.2.5 LSCF CSU Interrupts and Signals"§

The LSCF CSU does not handle any interrupts or signals.

4.1.2.2.6 LSCF CSU Error Handlingtc "4.1.2.2.6 LSCF CSU Error Handling"§

The LSCF CSU handles unexpected run-time errors using an Ada exception handler. The "Status" parameter (see Table 4.1.2.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

If there is an error opening the configuration file (nonexistant file, insufficient priviledges, etc.) then the "Status" parameter will be set to LSCF_FILEOPEN_FAILURE.

The LSCF CSU handles unknown or invalid configuration file entries by discarding the entry and reporting an LSCF_PARAM_FAILURE error using the Report Error CSU (DG-CSU-3.1).

4.1.2.2.7 LSCF CSU Use of Other Elementstc "4.1.2.2.7 LSCF CSU Use of Other Elements"§

The LSCF CSU does not use system service routines, global data files, or other global elements.

4.1.2.2.8 LSCF CSU Logic Flowtc "4.1.2.2.8 LSCF CSU Logic Flow"§

Figures 4.1.2.2.8-1 and 4.1.2.2.8-2 describe the logic flow of the LSCF CSU. This CSU is executed by the DG Server Control CSC. This CSU executes the Report Error CSU (DG-CSU-3.1).

Figure 4.1.2.2.8-1
LSCF CSU Logic Flowtc "4.1.2.2.8-1 LSCF CSU Logic Flow" \f f§

Figure 4.1.2.2.8-2
LSCF CSU Logic Flow (continued)tc "4.1.2.2.8-1 LSCF CSU Logic Flow (continued)" \f f§

4.1.2.2.9 LSCF CSU Algorithms tc "4.1.2.2.9 LSCF CSU Algorithms"§

The LSCF CSU determines parameter validity and initialization locations based on the information in Table 4.1.2.2.9-1.

Table 4.1.2.2.9-1
LSCF CSU Configuration File Parameterstc "4.1.2.2.9 LSCF CSU Configuration File Parameters" \f t§

Parameter Name	Data Type	Data Element
MAX_ENTITIES	Integer	Server_Interface. Max_Entities
MAX_EMITTERS	Integer	Server_Interface. Max_Emitters
UDP_PORT	Integer	Network_Parameters. UDP_Port

4.1.2.2.10 LSCF CSU Local Data Files tc "4.1.2.2.10 LSCF CSU Local Data Files"§

The configuration file used by this CSU shall consist of zero or more lines of configuration information. The file shall be composed of ASCII characters, so that it can easily be created/modified by an editor. Any line starting with the '#' character shall be treated as a comment, and the entire line discarded. All other lines shall be of the form:

parameter_name = *value*

Parameter_name must match one of the parameters described in Table 4.1.2.2.9-1, and *value* must be appropriate for the data type of the parameter. The '=' sign is required, and shall be separated from *parameter_name* and *value* by blanks or tabs. If the parameter requires a string value, then *value* shall consist of all characters starting from the first non-whitespace character after the '=' and continuing to the end of the line.

4.1.2.2.11 LSCF CSU Limitationstc "4.1.2.2.11 LSCF CSU Limitations"**§**

There are no limitations or unusual features in the LSCF CSU.

4.1.3 Save Server Configuration File CSU (DG-CSU-1.3)tc "4.1.3 Save Server Configuration File CSU (DG-CSU-1.3)"§

The following subparagraphs provide the design information for the Save Server Configuration File (SSCF) CSU, identified as DG-CSU-1.3. The purpose of this CSU is to save the current values of all DG Server operational parameters.

4.1.3.1 SSCF CSU Design Specifications/Constraintstc "4.1.3.1 SSCF CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.1.3.2 SSCF CSU Designtc "4.1.3.2 SSCF CSU Design"§

The following subparagraphs specify the design of the SSCF CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.1.3.2.1 SSCF CSU Input/Output Data Elementstc "4.1.3.2.1 SSCF CSU Input/Output Data Elements"§

Table 4.1.3.2.1-1 identifies and states the purpose of each input and output data element of the SSCF CSU.

Table 4.1.3.2.1-1
SSCF CSU I/O Datatc "4.1.3.2.1-1 SSCF CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Filename	Input	Provides the filename for the configuration file.	See Table 5-1
Status	Output	Indicates the success or failure of executing this CSU.	See Table 5-1

4.1.3.2.2 SSCF CSU Local Data Elements

The SSCF CSU does not utilize any local data elements.

4.1.3.2.3 SSCF CSU Global Data Elements

Table 4.1.3.2.3-1 identifies and states the purpose of each data element that is used by the SSCF CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.1.3.2.2-1
SSCF CSU Global Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			
Network Parameters	Contains information for establishing the network interface for the exercise	See Table 5-1			

4.1.3.2.4 SSCF CSU Local and Shared Data Structures

The SSCF CSU does not implement any local or shared data structures.

4.1.3.2.5 SSCF CSU Interrupts and Signals

The SSCF CSU does not handle any interrupts or signals.

4.1.3.2.6 SSCF CSU Error Handlingtc "4.1.3.2.6 SSCF CSU Error Handling"§

The SSCF CSU handles unexpected run-time errors using an Ada exception handler. The "Status" parameter (see Table 4.1.3.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.1.3.2.7 SSCF CSU Use of Other Elementstc "4.1.3.2.7 SSCF CSU Use of Other Elements"§

The SSCF CSU does not use system service routines, global data files, or other global elements.

4.1.3.2.8 SSCF CSU Logic Flowtc "4.1.3.2.8 SSCF CSU Logic Flow"§

Figure 4.1.3.2.8-1 describes the logic flow of the SSCF CSU. This CSU is executed by the DG Server Control CSC. This CSU does not execute any other CSUs.

Figure 4.1.3.2.8-1
SSCF CSU Logic Flowtc "4.1.3.2.8-1 SSCF CSU Logic Flow" \f f§

4.1.3.2.9 SSCF CSU Algorithmstc "4.1.3.2.9 SSCF CSU Algorithms"§

The SSCF CSU utilizes the same algorithms as the LSCF CSU (see Paragraph 4.1.2.2.9).

4.1.3.2.10 SSCF CSU Local Data Filestc "4.1.3.2.10 SSCF CSU Local Data Files"**§**

The GDSC CSU uses the same type of data files as the LSCF CSU (see Paragraph 4.1.2.2.10).

4.1.3.2.11 SSCF CSU Limitationstc "4.1.3.2.11 SSCF CSU Limitations"**§**

There are no limitations or unusual features in the SSCF CSU.

4.1.4 Get Default Client Configuration Filename CSU (DG-CSU-1.4)tc "4.1.4 Get Default Client Configuration Filename CSU (DG-CSU-1.4)"§

The following subparagraphs provide the design information for the Get Default Client Configuration Filename (GDCC) CSU, identified as DG-CSU-1.4. The purpose of this CSU is to provide a default configuration filename for the DG Client's initial parameter values.

4.1.4.1 GDCC CSU Design Specifications/Constraintstc "4.1.4.1 GDCC CSU Design Specifications/Constraints"§

Table 4.1.4.1-1 identifies the requirements that are satisfied or partially satisfied by the GDCC CSU. There are no design constraints for this CSU.

4.1.4.2 GDCC CSU Designtc "4.1.4.2 GDCC CSU Design"§

The following subparagraphs specify the design of the GDCC CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.1.4.2.1 GDCC CSU Input/Output Data Elementstc "4.1.4.2.1 GDCC CSU Input/Output Data Elements"§

Table 4.1.4.2.1-1 identifies and states the purpose of each input and output data element of the GDCC CSU.

Table 4.1.4.2.1-1
GDCC CSU I/O Datatc "4.1.4.2.1-1GDCC CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Filename	Output	Contains the filename for the default configuration file.	See Table 5-1
Status	Output	Indicates success or failure of executing this CSU.	See Table 5-1

4.1.4.2.2 GDCC CSU Local Data Elementstc "4.1.4.2.2 GDCC CSU Local Data Elements"§

The GDCC CSU does not utilize any local data elements.

4.1.4.2.3 GDCC CSU Global Data Elementstc "4.1.4.2.3 GDCC CSU Global Data Elements"§

The GDCC CSU does not utilize any global data elements.

4.1.4.2.4 GDCC CSU Local and Shared Data Structurestc "4.1.4.2.4 GDCC CSU Local and Shared Data Structures"§

The GDCC CSU does not implement any local or shared data structures.

4.1.4.2.5 GDCC CSU Interrupts and Signalstc "4.1.4.2.5GDCC CSU Interrupts and Signals"§

The GDCC CSU does not handle any interrupts or signals.

4.1.4.2.6 GDCC CSU Error Handlingtc "4.1.4.2.6 GDCC CSU Error Handling"§

The GDCC CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.1.4.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.1.4.2.7 GDCC CSU Use of Other Elementstc "4.1.4.2.7GDCC CSU Use of Other Elements"§

The GDCC CSU uses the system service routine appropriate for retrieving environmental variable settings. This routine varies in name and parameters between operating systems.

4.1.4.2.8 GDCC CSU Logic Flowtc "4.1.4.2.8 GDCC CSU Logic Flow"§

Figure 4.1.4.2.8-1 describes the logic flow of the GDCC CSU. This CSU is executed by the Server Control CSC and the Client Control CSC. This CSU does not execute any other CSUs.

Figure 4.1.4.2.8-1
GDCC CSU Logic Flowtc "4.1.4.2.8-1 GDCC CSU Logic Flow" \f f§

4.1.4.2.9 GDCC CSU Algorithmstc "4.1.4.2.9 GDCC CSU Algorithms"§

The GDCC CSU does not utilize any algorithms.

4.1.4.2.10 GDCC CSU Local Data Filestc "4.1.4.2.10 GDCC CSU Local Data Files"§

The GDCC CSU does not utilize any local data files.

4.1.4.2.11 GDCC CSU Limitations

The GDCC CSU design assumes that the operating system supports environment variables, and that the values of these variables can be retrieved by means of a system call.

4.1.5 Load Client Configuration File CSU (DG-CSU-1.5)

The following subparagraphs provide the design information for the Load Client Configuration File (LCCF) CSU, identified as DG-CSU-1.5. The purpose of this CSU is to set operational parameters of the DG Client based on values contained in the specified configuration file.

4.1.5.1 LCCF CSU Design Specifications/Constraints

There are no design constraints for this CSU.

4.1.5.2 LCCF CSU Design

The following subparagraphs specify the design of the LCCF CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.1.5.2.1 LCCF CSU Input/Output Data Elements

Table 4.1.5.2.1-1 identifies and states the purpose of each input and output data element of the LCCF CSU.

Table 4.1.5.2.1-1
LCCF CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Filename	Input	Provides the filename for the configuration file.	See Table 5-1
Status	Output	Indicates the success or failure of executing this CSU.	See Table 5-1

4.1.5.2.2 LCCF CSU Local Data Elements

Table 4.1.5.2.2-1 identifies and states the purpose of each data element that originates in the LCCF CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.1.5.2.2-1
LCCF CSU Local Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Param_Line	Stores a line from the configuration file.	String (255 characters)	2040	n/a	n/a

4.1.5.2.3 LCCF CSU Global Data Elements

Table 4.1.5.2.3-1 identifies and states the purpose of each data element that is used by the LCCF CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.1.5.2.2-1
LCCF CSU Global Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.1.5.2.4 LCCF CSU Local and Shared Data Structurestc "4.1.5.2.4 LCCF CSU Local and Shared Data Structures"§

The LCCF CSU does not implement any local or shared data structures.

4.1.5.2.5 LCCF CSU Interrupts and Signalstc "4.1.5.2.5 LCCF CSU Interrupts and Signals"§

The LCCF CSU does not handle any interrupts or signals.

4.1.5.2.6 LCCF CSU Error Handlingtc "4.1.5.2.6 LCCF CSU Error Handling"§

The LCCF CSU handles unexpected run-time errors using an Ada exception handler. The "Status" parameter (see Table 4.1.5.2.1-1) is either set to SUCCESS (if no error occurs in this CSU), or to a value indicating the error which occurred.

If there is an error opening the configuration file (nonexistant file, insufficient priviledges, etc.) then the "Status" parameter will be set to LCCF_FILEOPEN_FAILURE.

The LCCF CSU handles unknown or invalid configuration file entries by discarding the entry and reporting an LCCF_PARAM_FAILURE error using the Report Error CSU (DG-CSU-3.1).

4.1.5.2.7 LCCF CSU Use of Other Elementstc "4.1.5.2.7 LCCF CSU Use of Other Elements"§

The LCCF CSU does not use system service routines, global data files, or other global elements.

4.1.5.2.8 LCCF CSU Logic Flowtc "4.1.5.2.8 LCCF CSU Logic Flow"§

Figures 4.1.5.2.8-1 and 4.1.5.2.8-2 describe the logic flow of the LCCF CSU. This CSU is executed by the DG Server Control CSC. This CSU executes the Report Error CSU (DG-CSU-3.1).

Figure 4.1.5.2.8-1
LCCF CSU Logic Flowtc "4.1.5.2.8-1 LCCF CSU Logic Flow" \f f§

Figure 4.1.5.2.8-2
LCCF CSU Logic Flow (continued)tc "4.1.5.2.8-1 LCCF CSU Logic Flow (continued)" \f f§

4.1.5.2.9 LCCF CSU Algorithms

The LCCF CSU determines parameter validity and initialization locations based on the information in Table 4.1.5.2.9-1.

Table 4.1.5.2.9-1
LCCF CSU Configuration File Parameterstc "4.1.5.2.9 LCCF CSU Configuration File Parameters" \f t§

Parameter Name	Data Type	Data Element
MAX_ENTITIES	Integer	Client_Interface. Max_Entities
MAX_EMITTERS	Integer	Client_Interface. Max_Emitters
FILTER_FILE	String	Client_Filter_File

4.1.5.2.10 LCCF CSU Local Data Files

The configuration file used by this CSU shall have the same format as that described in the Load Server Configuration File (LSCF) CSU in Paragraph 4.1.2.2.10, except that Table 4.1.5.2.9-1 defines the *parameter_name* values and types for client configuration files.

4.1.5.2.11 LCCF CSU Limitations

There are no limitations or unusual features in the LCCF CSU.

4.1.6 Save Client Configuration File CSU (DG-CSU-1.6)tc "4.1.6 Save Client Configuration File CSU (DG-CSU-1.6)"§

The following subparagraphs provide the design information for the Save Client Configuration File (SCCF) CSU, identified as DG-CSU-1.6. The purpose of this CSU is to save the current values of all DG Client operational parameters.

4.1.6.1 SCCF CSU Design Specifications/Constraintstc "4.1.6.1 SCCF CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.1.6.2 SCCF CSU Designtc "4.1.6.2 SCCF CSU Design"§

The following subparagraphs specify the design of the SCCF CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.1.6.2.1 SCCF CSU Input/Output Data Elementstc "4.1.6.2.1 SCCF CSU Input/Output Data Elements"§

Table 4.1.6.2.1-1 identifies and states the purpose of each input and output data element of the SCCF CSU.

Table 4.1.6.2.1-1
SCCF CSU I/O Datatc "4.1.6.2.1-1 SCCF CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Filename	Input	Provides the filename for the configuration file.	See Table 5-1
Status	Output	Indicates the success or failure of executing this CSU.	See Table 5-1

4.1.6.2.2 SCCF CSU Local Data Elementstc "4.1.6.2.2 SCCF CSU Local Data Elements"§

The SCCF CSU does not utilize any local data elements.

4.1.6.2.3 SCCF CSU Global Data Elementstc "4.1.6.2.3 SCCF CSU Global Data Elements"§

Table 4.1.6.2.3-1 identifies and states the purpose of each data element that is used by the SCCF CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.1.6.2.2-1
SCCF CSU Global Data Elementstc "4.1.6.2.2-1 SCCF CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.1.6.2.4 SCCF CSU Local and Shared Data Structurestc "4.1.6.2.4 SCCF CSU Local and Shared Data Structures"§

The SCCF CSU does not implement any local or shared data structures.

4.1.6.2.5 SCCF CSU Interrupts and Signalstc "4.1.6.2.5 SCCF CSU Interrupts and Signals"§

The SCCF CSU does not handle any interrupts or signals.

4.1.6.2.6 SCCF CSU Error Handlingtc "4.1.6.2.6 SCCF CSU Error Handling"§

The SCCF CSU handles unexpected run-time errors using an Ada exception handler. The "Status" parameter (see Table 4.1.6.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.1.6.2.7 SCCF CSU Use of Other Elementstc "4.1.6.2.7 SCCF CSU Use of Other Elements"§

The SCCF CSU does not use system service routines, global data files, or other global elements.

4.1.6.2.8 SCCF CSU Logic Flowtc "4.1.6.2.8 SCCF CSU Logic Flow"§

Figure 4.1.6.2.8-1 describes the logic flow of the SCCF CSU. This CSU is executed by the DG Server Control CSC. This CSU does not execute any other CSUs.

Figure 4.1.6.2.8-1
SCCF CSU Logic Flowtc "4.1.6.2.8-1 SCCF CSU Logic Flow" \f f§

4.1.6.2.9 SCCF CSU Algorithmstc "4.1.6.2.9 SCCF CSU Algorithms"§

The SCCF CSU uses the same algorithm as the LCCF CSU (See Paragraph 4.1.5.2.9).

4.1.6.2.10 SCCF CSU Local Data Filestc "4.1.6.2.10 SCCF CSU Local Data Files"**§**

The SCCF CSU uses the same format data files as the LSCF CSU (See Paragraph 4.1.2.2.10).

4.1.6.2.11 SCCF CSU Limitationstc "4.1.6.2.11 SCCF CSU Limitations"**§**

There are no limitations or unusual features in the SCCF CSU.

4.2 Hash Table Support CSC (DG-CSC-2)tc "4.2 Hash Table Support CSC (DG-CSC-2)"§

The following subparagraphs identify and describe each of the CSUs of the Hash Table Support (HTS) CSC. Figure 4.2-1 shows the hierarchy of units within the CSC. Figure 4.2-2 describes the relationships of the CSUs in terms of execution control. Figures 4.2-3 and 4.2-4 describe the relationships of the CSUs in terms of data flow. Solid lines with no arrows indicate a hierarchical relationship. Solid lines with arrows indicate data flow, and dashed lines with arrows indicate control flow. Rectangles with solid borders represent units internal to the CSC, and rectangles with dashed borders indicate external CSCs and CSCIs.

Figure 4.2-1
Hash Table Support CSC Hierarchy Diagramtc "4.2-1 Hash Table Support CSC Hierarchy Diagram" \f f§

Figure 4.2-2
Hash Table Support CSC Execution Control Diagramtc "4.2-1 Hash Table Support CSC Execution Control Diagram" \f f§

Figure 4.2-3
Hash Table Support CSC Data Flow Diagramtc "4.2-3 Hash Table Support CSC Data Flow Diagram" \f f§

Figure 4.2-4
Hash Table Support CSC Data Flow Diagram (continued)tc "4.2-4 Hash Table Support CSC Data Flow Diagram (continued)" \f f§

4.2.1 Get Entity Hash Index CSU (DG-CSU-2.1)tc "4.2.1 Get Entity Hash Index CSU (DG-CSU-2.1)"§

The following subparagraphs provide the design information for the Get Entity Hash Index (ENTIDX) CSU, identified as DG-CSU-2.1. The purpose of this CSU is to determine a unique identifier for an entity based upon a hashing function.

4.2.1.1 ENTIDX CSU Design Specifications/Constraintstc "4.2.1.1 ENTIDX CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.2.1.2 ENTIDX CSU Designtc "4.2.1.2 ENTIDX CSU Design"§

The following subparagraphs specify the design of the ENTIDX CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.2.1.2.1 ENTIDX CSU Input/Output Data Elements

Table 4.2.1.2.1-1 identifies and states the purpose of each input and output data element of the ENTIDX CSU.

Table 4.2.1.2.1-1
ENTIDX CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Add Hash	Input	Specifies handling of new table entries. If True, new entries are automatically created in the hash table. If False, new entries are not entered in the table, and a Hash Index of 0 is returned.	See Table 5-1
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Table Size	Input	Specifies the number of entries in the Hash Table	See Table 5-1
Hash Table	Input/Output	Contains data to determine hash indexes	See Table 5-1
Hash Index	Output	Contains a unique identifier based on the specified parameters	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.2.1.2.2 ENTIDX CSU Local Data Elements

Table 4.2.1.2.2-1 identifies and states the purpose of each data element that originates in the ENTIDX CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.2.1.2.2-1
ENTIDX CSU Local Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
First Link	Stores the value of the first hash index whose entry has a status of *Link*.	Integer	32	n/a	n/a
Test Index	Contains the current hash index under examination.	Integer	32	n/a	n/a

4.2.1.2.3 ENTIDX CSU Global Data Elements

The ENTIDX CSU does not utilize any global data elements.

4.2.1.2.4 ENTIDX CSU Local and Shared Data Structures

The ENTIDX CSU does not implement any local or shared data structures.

4.2.1.2.5 ENTIDX CSU Interrupts and Signals

The ENTIDX CSU does not handle any interrupts or signals.

4.2.1.2.6 ENTIDX CSU Error Handlingtc "4.2.1.2.6 ENTIDX CSU Error Handling"§

The ENTIDX CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.2.1.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.2.1.2.7 ENTIDX CSU Use of Other Elementstc "4.2.1.2.7 ENTIDX CSU Use of Other Elements"§

The ENTIDX CSU does not use system service routines, global data files, or other global elements.

4.2.1.2.8 ENTIDX CSU Logic Flowtc "4.2.1.2.8 ENTIDX CSU Logic Flow"§

Figures 4.2.1.2.8-1 to 4.2.1.2.8-3 describe the logic flow of the ENTIDX CSU. This CSU is executed by application software and by the Get Entity Information CSU. This CSU does not execute any other CSUs.

Figure 4.2.1.2.8-1
ENTIDX CSU Logic Flowtc "4.2.1.2.8-1 ENTIDX CSU Logic Flow" \f f§

Figure 4.2.1.2.8-2
ENTIDX CSU Logic Flow (continued)tc "4.2.1.2.8-2 ENTIDX CSU Logic Flow (continued)" \f f§

Figure 4.2.1.2.8-3
ENTIDX CSU Logic Flow (continued)tc "4.2.1.2.8-3 ENTIDX CSU Logic Flow (continued)" \f f§

4.2.1.2.9 ENTIDX CSU Algorithmstc "4.2.1.2.9 ENTIDX CSU Algorithms"§

The ENTIDX CSU does not utilize any algorithms.

4.2.1.2.10 ENTIDX Local Data Files Algorithmstc "4.2.1.2.10 ENTIDX Local Data Files"§

The ENTIDX CSU does not utilize any local data files.

4.2.1.2.11 ENTIDX CSU Limitationstc "4.2.1.2.11 ENTIDX CSU Limitations"§

There are no limitations or unusual features in the ENTIDX CSU.

4.2.2 Get Emitter Hash Index CSU (DG-CSU-2.2)tc "4.2.2 Get Emitter Hash Index CSU (DG-CSU-2.2)"§

The following subparagraphs provide the design information for the Get Emitter Hash Index (EMITIDX) CSU, identified as DG-CSU-2.2. The purpose of this CSU is to determin a unique identifier for each emitter based upon a hashing function.

4.2.2.1 EMITIDX CSU Design Specifications/Constraintstc "4.2.2.1 EMITIDX CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.2.2.2 EMITIDX CSU Designtc "4.2.2.2 EMITIDX CSU Design"§

The following subparagraphs specify the design of the EMITIDX CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.2.2.2.1 EMITIDX CSU Input/Output Data Elementstc "4.2.2.2.1 EMITIDX CSU Input/Output Data Elements"§

Table 4.2.2.2.1-1 identifies and states the purpose of each input and output data element of the EMITIDX CSU.

Table 4.2.2.2.1-1
EMITIDX CSU I/O Datatc "4.2.2.2.1-1 EMITIDX CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Add Hash	Input	Indicates handling of new table entries. If True, new entries are automatically created in the hash table. If False, new entries are not entered in the table, and a Hash Index of 0 is returned.	See Table 5-1
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Emitter ID	Input	Specifies an emitter on an entity	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Table Size	Input	Specifies the number of entries in the Hash Table	See Table 5-1
Hash Table	Input/Output	Contains data to determine hash indexes	See Table 5-1
Hash Index	Output	Contains a unique identifier based on the specified parameters	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.2.2.2.2 EMITIDX CSU Local Data Elements

Table 4.2.2.2.2-1 identifies and states the purpose of each data element that originates in the EMITIDX CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.2.2.2.2-1
EMITIDX CSU Local Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Entity Index	Stores the hash index for the entity specified by the Site ID, Application ID, and Entity ID parameters.	Integer	32	n/a	n/a
First Link	Stores the value of the first hash index whose entry has a status of *Link*.	Integer	32	n/a	n/a
Test Index	Contains the current hash index under examination.	Integer	32	n/a	n/a

4.2.2.2.3 EMITIDX CSU Global Data Elements

The EMITIDX CSU does not utilize any global data elements.

4.2.2.2.4 EMITIDX CSU Local and Shared Data Structurestc "4.2.2.2.4 EMITIDX CSU Local and Shared Data Structures"§

The EMITIDX CSU does not implement any local or shared data structures.

4.2.2.2.5 EMITIDX CSU Interrupts and Signalstc "4.2.2.2.5 EMITIDX CSU Interrupts and Signals"§

The EMITIDX CSU does not handle any interrupts or signals.

4.2.2.2.6 EMITIDX CSU Error Handlingtc "4.2.2.2.6 EMITIDX CSU Error Handling"§

The EMITIDX CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.2.2.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.2.2.2.7 EMITIDX CSU Use of Other Elementstc "4.2.2.2.7 EMITIDX CSU Use of Other Elements"§

The EMITIDX CSU does not use system service routines, global data files, or other global elements.

4.2.2.2.8 EMITIDX CSU Logic Flowtc "4.2.2.2.8 EMITIDX CSU Logic Flow"§

Figures 4.2.2.2.8-1 to 4.2.2.2.8-3 describe the logic flow of the EMITIDX CSU. This CSU is executed by the application software. This CSU does not execute any other CSUs.

Figure 4.2.2.2.8-1
EMITIDX CSU Logic Flowtc "4.2.2.2.8-1 EMITIDX CSU Logic Flow" \f f§

Figure 4.2.2.2.8-2
EMITIDX CSU Logic Flow (continued)tc "4.2.2.2.8-2 EMITIDX CSU Logic Flow (continued)" \f f§

Figure 4.2.2.2.8-2
EMITIDX CSU Logic Flow (continued)tc "4.2.2.2.8-2 EMITIDX CSU Logic Flow (continued)" \f f§

4.2.2.2.9 EMITIDX CSU Algorithmstc "4.2.2.2.9 EMITIDX CSU Algorithms"§

The EMITIDX CSU does not utilize any algorithms.

4.2.2.2.10 EMITIDX Local Data Files Algorithmstc "4.2.2.2.10 EMITIDX Local Data Files"§

The EMITIDX CSU does not utilize any local data files.

4.2.2.2.11 EMITIDX CSU Limitationstc "4.2.2.2.11 EMITIDX CSU Limitations"§

There are no limitations or unusual features in the EMITIDX CSU.

4.2.3 Get Laser Hash Index CSU (DG-CSU-2.3)tc "4.2.3 Get Laser Hash Index CSU (DG-CSU-2.3)"§

The following subparagraphs provide the design information for the Get Laser Hash Index (LASIDX) CSU, identified as DG-CSU-2.3. The purpose of this CSU is to determin a unique identifier for a laser based upon a hashing function.

4.2.3.1 LASIDX CSU Design Specifications/Constraintstc "4.2.3.1 LASIDX CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.2.3.2 LASIDX CSU Designtc "4.2.3.2 LASIDX CSU Design"§

The following subparagraphs specify the design of the LASIDX CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.2.3.2.1 LASIDX CSU Input/Output Data Elementstc "4.2.3.2.1 LASIDX CSU Input/Output Data Elements"§

Table 4.2.3.2.1-1 identifies and states the purpose of each input and output data element of the LASIDX CSU.

Table 4.2.3.2.1-1
LASIDX CSU I/O Datatc "4.2.3.2.1-1 LASIDX CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Add Hash	Input	Indicates handling of new table entries. If True, new entries are automatically created in the hash table. If False, new entries are not entered in the table, and a Hash Index of 0 is returned.	See Table 5-1
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Laser ID	Input	Specifies a laser on an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Table Size	Input	Specifies the number of entries in the Hash Table	See Table 5-1
Hash Table	Input/Output	Contains data to determine hash indexes	See Table 5-1
Hash Index	Output	Contains a unique identifier based on the specified parameters	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.2.3.2.2 LASIDX CSU Local Data Elements

Table 4.2.3.2.2-1 identifies and states the purpose of each data element that originates in the LASIDX CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.2.3.2.2-1
LASIDX CSU Local Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Entity Index	Stores the hash index for the entity specified by the Site ID, Application ID, and Entity ID parameters.	Integer	32	n/a	n/a
First Link	Stores the value of the first hash index whose entry has a status of *Link*.	Integer	32	n/a	n/a
Test Index	Contains the current hash index under examination.	Integer	32	n/a	n/a

4.2.3.2.3 LASIDX CSU Global Data Elements

The LASIDX CSU does not utilize any global data elements.

4.2.3.2.4 LASIDX CSU Local and Shared Data Structurestc "4.2.3.2.4 LASIDX CSU Local and Shared Data Structures"§

The LASIDX CSU does not implement any local or shared data structures.

4.2.3.2.5 LASIDX CSU Interrupts and Signalstc "4.2.3.2.5 LASIDX CSU Interrupts and Signals"§

The LASIDX CSU does not handle any interrupts or signals.

4.2.3.2.6 LASIDX CSU Error Handlingtc "4.2.3.2.6 LASIDX CSU Error Handling"§

The LASIDX CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.2.3.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.2.3.2.7 LASIDX CSU Use of Other Elementstc "4.2.3.2.7 LASIDX CSU Use of Other Elements"§

The LASIDX CSU does not use system service routines, global data files, or other global elements.

4.2.3.2.8 LASIDX CSU Logic Flowtc "4.2.3.2.8 LASIDX CSU Logic Flow"§

Figures 4.2.3.2.8-1 to 4.2.3.2.8-3 describe the logic flow of the LASIDX CSU. This CSU is executed by the application software and by the Get Laser Information CSU. This CSU does not execute any other CSUs.

Figure 4.2.3.2.8-1
LASIDX CSU Logic Flowtc "4.2.3.2.8-1 LASIDX CSU Logic Flow" \f f§

Figure 4.2.3.2.8-2
LASIDX CSU Logic Flow (continued)tc "4.2.3.2.8-2 LASIDX CSU Logic Flow (continued)" \f f§

Figure 4.2.3.2.8-3
LASIDX CSU Logic Flow (continued)tc "4.2.3.2.8-3 LASIDX CSU Logic Flow (continued)" \f f§

4.2.3.2.9 LASIDX CSU Algorithmstc "4.2.3.2.9 LASIDX CSU Algorithms"§

The LASIDX CSU does not utilize any algorithms.

4.2.3.2.10 LASIDX Local Data Files Algorithmstc "4.2.3.2.10 LASIDX Local Data Files"§

The LASIDX CSU does not utilize any local data files.

4.2.3.2.11 LASIDX CSU Limitationstc "4.2.3.2.11 LASIDX CSU Limitations"§

There are no limitations or unusual features in the LASIDX CSU.

4.2.4 Get Resupply Hash Index CSU (DG-CSU-2.4)tc "4.2.4 Get Resupply Hash Index CSU (DG-CSU-2.4)"§

The following subparagraphs provide the design information for the Get Resupply Hash Index (RESIDX) CSU, identified as DG-CSU-2.4. The purpose of this CSU is to determine a unique identifier.

4.2.4.1 RESIDX CSU Design Specifications/Constraintstc "4.2.4.1 RESIDX CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.2.4.2 RESIDX CSU Designtc "4.2.4.2 RESIDX CSU Design"§

The following subparagraphs specify the design of the RESIDX CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.2.4.2.1 RESIDX CSU Input/Output Data Elementstc "4.2.4.2.1 RESIDX CSU Input/Output Data Elements"§

Table 4.2.4.2.1-1 identifies and states the purpose of each input and output data element of the RESIDX CSU.

Table 4.2.4.2.1-1
RESIDX CSU I/O Datatc "4.2.4.2.1-1 RESIDX CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Add Hash	Input	Indicates handling of new table entries. If True, new entries are automatically created in the hash table. If False, new entries are not entered in the table, and a Hash Index of 0 is returned.	See Table 5-1
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Resupply Request ID	Input	Specifies a resupply request of an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Table Size	Input	Specifies the number of entries in the Hash Table	See Table 5-1
Hash Table	Input/Output	Contains data to determine hash indexes	See Table 5-1
Hash Index	Output	Contains a unique identifier based on the specified parameters	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.2.4.2.2 RESIDX CSU Local Data Elements

Table 4.2.4.2.2-1 identifies and states the purpose of each data element that originates in the RESIDX CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.2.4.2.2-1
RESIDX CSU Local Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Entity Index	Stores the hash index for the entity specified by the Site ID, Application ID, and Entity ID parameters.	Integer	32	n/a	n/a
First Link	Stores the value of the first hash index whose entry has a status of *Link*.	Integer	32	n/a	n/a
Test Index	Contains the current hash index under examination.	Integer	32	n/a	n/a

4.2.4.2.3 RESIDX CSU Global Data Elements

The RESIDX CSU does not utilize any global data elements.

4.2.4.2.4 RESIDX CSU Local and Shared Data Structurestc "4.2.4.2.4 RESIDX CSU Local and Shared Data Structures"§

The RESIDX CSU does not implement any local or shared data structures.

4.2.4.2.5 RESIDX CSU Interrupts and Signalstc "4.2.4.2.5 RESIDX CSU Interrupts and Signals"§

The RESIDX CSU does not handle any interrupts or signals.

4.2.4.2.6 RESIDX CSU Error Handlingtc "4.2.4.2.6 RESIDX CSU Error Handling"§

The RESIDX CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.2.4.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.2.4.2.7 RESIDX CSU Use of Other Elementstc "4.2.4.2.7 RESIDX CSU Use of Other Elements"§

The RESIDX CSU does not use system service routines, global data files, or other global elements.

4.2.4.2.8 RESIDX CSU Logic Flowtc "4.2.4.2.8 RESIDX CSU Logic Flow"§

Figures 4.2.4.2.8-1 to 4.2.4.2.8-3 describe the logic flow of the RESIDX CSU. This CSU is executed by the application software and by the Get Resupply Information CSU. This CSU does not execute any other CSUs.

Figure 4.2.4.2.8-1
RESIDX CSU Logic Flowtc "4.2.4.2.8-1 RESIDX CSU Logic Flow" \f f§

Figure 4.2.4.2.8-2
RESIDX CSU Logic Flow (continued)tc "4.2.4.2.8-2 RESIDX CSU Logic Flow (continued)" \f f§

Figure 4.2.4.2.8-3
RESIDX CSU Logic Flow (continued)tc "4.2.4.2.8-3 RESIDX CSU Logic Flow (continued)" \f f§

4.2.4.2.9 RESIDX CSU Algorithmstc "4.2.4.2.9 RESIDX CSU Algorithms"§

The RESIDX CSU does not utilize any algorithms.

4.2.4.2.10 RESIDX Local Data Files Algorithmstc "4.2.4.2.10 RESIDX Local Data Files"§

The RESIDX CSU does not utilize any local data files.

4.2.4.2.11 RESIDX CSU Limitationstc "4.2.4.2.11 RESIDX CSU Limitations"§

There are no limitations or unusual features in the RESIDX CSU.

4.2.5 Get Repair Hash Index CSU (DG-CSU-2.5)tc "4.2.5 Get Repair Hash Index CSU (DG-CSU-2.5)"§

The following subparagraphs provide the design information for the Get Repair Hash Index (REPIDX) CSU, identified as DG-CSU-2.5. The purpose of this CSU is to determine a unique identifier for a repair request based upon a hashing function.

4.2.5.1 REPIDX CSU Design Specifications/Constraintstc "4.2.5.1 REPIDX CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.2.5.2 REPIDX CSU Designtc "4.2.5.2 REPIDX CSU Design"§

The following subparagraphs specify the design of the REPIDX CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.2.5.2.1 REPIDX CSU Input/Output Data Elementstc "4.2.5.2.1 REPIDX CSU Input/Output Data Elements"§

Table 4.2.5.2.1-1 identifies and states the purpose of each input and output data element of the REPIDX CSU.

Table 4.2.5.2.1-1
REPIDX CSU I/O Datatc "4.2.5.2.1-1 REPIDX CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Add Hash	Input	Indicates handling of new table entries. If True, new entries are automatically created in the hash table. If False, new entries are not entered in the table, and a Hash Index of 0 is returned.	See Table 5-1
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Repair Request ID	Input	Specifies a repair request of an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Table Size	Input	Specifies the number of entries in the Hash Table	See Table 5-1
Hash Table	Input/Output	Contains data to determine hash indexes	See Table 5-1
Hash Index	Output	Contains a unique identifier based on the specified parameters	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.2.5.2.2 REPIDX CSU Local Data Elements

Table 4.2.5.2.2-1 identifies and states the purpose of each data element that originates in the REPIDX CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.2.5.2.2-1
REPIDX CSU Local Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Entity Index	Stores the hash index for the entity specified by the Site ID, Application ID, and Entity ID parameters.	Integer	32	n/a	n/a
First Link	Stores the value of the first hash index whose entry has a status of *Link*.	Integer	32	n/a	n/a
Test Index	Contains the current hash index under examination.	Integer	32	n/a	n/a

4.2.5.2.3 REPIDX CSU Global Data Elements

The REPIDX CSU does not utilize any global data elements.

4.2.5.2.4 REPIDX CSU Local and Shared Data Structurestc "4.2.5.2.4 REPIDX CSU Local and Shared Data Structures"§

The REPIDX CSU does not implement any local or shared data structures.

4.2.5.2.5 REPIDX CSU Interrupts and Signalstc "4.2.5.2.5 REPIDX CSU Interrupts and Signals"§

The REPIDX CSU does not handle any interrupts or signals.

4.2.5.2.6 REPIDX CSU Error Handlingtc "4.2.5.2.6 REPIDX CSU Error Handling"§

The REPIDX CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.2.5.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.2.5.2.7 REPIDX CSU Use of Other Elementstc "4.2.5.2.7 REPIDX CSU Use of Other Elements"§

The REPIDX CSU does not use system service routines, global data files, or other global elements.

4.2.5.2.8 REPIDX CSU Logic Flowtc "4.2.5.2.8 REPIDX CSU Logic Flow"§

Figures 4.2.5.2.8-1 to 4.2.5.2.8-3 describe the logic flow of the REPIDX CSU. This CSU is executed by the application software and by the Get Repair Information CSU. This CSU does not execute any other CSUs.

Figure 4.2.5.2.8-1
REPIDX CSU Logic Flowtc "4.2.5.2.8-1 REPIDX CSU Logic Flow" \f f§

Figure 4.2.5.2.8-2
REPIDX CSU Logic Flow (continued)tc "4.2.5.2.8-2 REPIDX CSU Logic Flow (continued)" \f f§

Figure 4.2.5.2.8-3
REPIDX CSU Logic Flow (continued)tc "4.2.5.2.8-3 REPIDX CSU Logic Flow (continued)" \f f§

4.2.5.2.9 REPIDX CSU Algorithmstc "4.2.5.2.9 REPIDX CSU Algorithms"§

The REPIDX CSU does not utilize any algorithms.

4.2.5.2.10 REPIDX Local Data Files Algorithmstc "4.2.5.2.10 REPIDX Local Data Files"§

The REPIDX CSU does not utilize any local data files.

4.2.5.2.11 REPIDX CSU Limitationstc "4.2.5.2.11 REPIDX CSU Limitations"§

There are no limitations or unusual features in the REPIDX CSU.

4.2.6 Get Receiver Hash Index CSU (DG-CSU-2.6)tc "4.2.6 Get Receiver Hash Index CSU (DG-CSU-2.6)"§

The following subparagraphs provide the design information for the Get Receiver Hash Index (RECIDX) CSU, identified as DG-CSU-2.6. The purpose of this CSU is to determine a unique identifier for a receiver on an entity based upon a hashing function.

4.2.6.1 RECIDX CSU Design Specifications/Constraintstc "4.2.6.1 RECIDX CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.2.6.2 RECIDX CSU Designtc "4.2.6.2 RECIDX CSU Design"§

The following subparagraphs specify the design of the RECIDX CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.2.6.2.1 RECIDX CSU Input/Output Data Elementstc "4.2.6.2.1 RECIDX CSU Input/Output Data Elements"§

Table 4.2.6.2.1-1 identifies and states the purpose of each input and output data element of the RECIDX CSU.

Table 4.2.6.2.1-1
RECIDX CSU I/O Datatc "4.2.6.2.1-1 RECIDX CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Add Hash	Input	Indicates handling of new table entries. If True, new entries are automatically created in the hash table. If False, new entries are not entered in the table, and a Hash Index of 0 is returned.	See Table 5-1
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Receiver ID	Input	Specifies a receiver on an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Table Size	Input	Specifies the number of entries in the Hash Table	See Table 5-1
Hash Table	Input/Output	Contains data to determine hash indexes	See Table 5-1
Hash Index	Output	Contains a unique identifier based on the specified parameters	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.2.6.2.2 RECIDX CSU Local Data Elements

Table 4.2.6.2.2-1 identifies and states the purpose of each data element that originates in the RECIDX CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.2.6.2.2-1
RECIDX CSU Local Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Entity Index	Stores the hash index for the entity specified by the Site ID, Application ID, and Entity ID parameters.	Integer	32	n/a	n/a
First Link	Stores the value of the first hash index whose entry has a status of *Link*.	Integer	32	n/a	n/a
Test Index	Contains the current hash index under examination.	Integer	32	n/a	n/a

4.2.6.2.3 RECIDX CSU Global Data Elements

The RECIDX CSU does not utilize any global data elements.

4.2.6.2.4 RECIDX CSU Local and Shared Data Structurestc "4.2.6.2.4RECIDX CSU Local and Shared Data Structures"§

The RECIDX CSU does not implement any local or shared data structures.

4.2.6.2.5 RECIDX CSU Interrupts and Signalstc "4.2.6.2.5 RECIDX CSU Interrupts and Signals"§

The RECIDX CSU does not handle any interrupts or signals.

4.2.6.2.6 RECIDX CSU Error Handlingtc "4.2.6.2.6 RECIDX CSU Error Handling"§

The RECIDX CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.2.6.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.2.6.2.7 RECIDX CSU Use of Other Elementstc "4.2.6.2.7 RECIDX CSU Use of Other Elements"§

The RECIDX CSU does not use system service routines, global data files, or other global elements.

4.2.6.2.8 RECIDX CSU Logic Flowtc "4.2.6.2.8 RECIDX CSU Logic Flow"§

Figures 4.2.6.2.8-1 to 4.2.6.2.8-3 describes the logic flow of the RECIDX CSU. This CSU is executed by the application software and by the Get Receiver Information CSU. This CSU does not execute any other CSUs.

Figure 4.2.6.2.8-1
RECIDX CSU Logic Flowtc "4.2.6.2.8-1 RECIDX CSU Logic Flow" \f f§

Figure 4.2.6.2.8-2
RECIDX CSU Logic Flow (continued)tc "4.2.6.2.8-2 RECIDX CSU Logic Flow (continued)" \f f§

Figure 4.2.6.2.8-3
RECIDX CSU Logic Flow (continued)tc "4.2.6.2.8-3 RECIDX CSU Logic Flow (continued)" \f f§

4.2.6.2.9 RECIDX CSU Algorithmstc "4.2.6.2.9 RECIDX CSU Algorithms"§

The RECIDX CSU does not utilize any algorithms.

4.2.6.2.10 RECIDX Local Data Files Algorithmstc "4.2.6.2.10 RECIDX Local Data Files"§

The RECIDX CSU does not utilize any local data files.

4.2.6.2.11 RECIDX CSU Limitationstc "4.2.6.2.11 RECIDX CSU Limitations"§

There are no limitations or unusual features in the RECIDX CSU.

4.2.7 Get Transmitter Hash Index CSU (DG-CSU-2.7)tc "4.2.7 Get Transmitter Hash Index CSU (DG-CSU-2.7)"§

The following subparagraphs provide the design information for the Get Transmitter Hash
Index (TRANIDX) CSU, identified as DG-CSU-2.7. The purpose of this CSU is to determine a unique identifier for a transmitter on an entity based upon a hashing function.

4.2.7.1 TRANIDX CSU Design Specifications/Constraintstc "4.2.7.1 TRANIDX CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.2.7.2 TRANIDX CSU Designtc "4.2.7.2 TRANIDX CSU Design"§

The following subparagraphs specify the design of the TRANIDX CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.2.7.2.1 TRANIDX CSU Input/Output Data Elementstc "4.2.7.2.1 TRANIDX CSU Input/Output Data Elements"§

Table 4.2.7.2.1-1 identifies and states the purpose of each input and output data element of the TRANIDX CSU.

Table 4.2.7.2.1-1
TRANIDX CSU I/O Datatc "4.2.7.2.1-1 TRANIDX CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Add Hash	Input	Indicates handling of new table entries. If True, new entries are automatically created in the hash table. If False, new entries are not entered in the table, and a Hash Index of 0 is returned.	See Table 5-1
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Table Size	Input	Specifies the number of entries in the Hash Table	See Table 5-1
Transmitter ID	Input	Specifies a transmitter on an entity	See Table 5-1
Hash Table	Input/Output	Contains data to determine hash indexes	See Table 5-1
Hash Index	Output	Contains a unique identifier based on the specified parameters	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.2.7.2.2 TRANIDX CSU Local Data Elements

Table 4.2.7.2.2-1 identifies and states the purpose of each data element that originates in the TRANIDX CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.2.7.2.2-1
TRANIDX CSU Local Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Entity Index	Stores the hash index for the entity specified by the Site ID, Application ID, and Entity ID parameters.	Integer	32	n/a	n/a
First Link	Stores the value of the first hash index whose entry has a status of *Link*.	Integer	32	n/a	n/a
Test Index	Contains the current hash index under examination.	Integer	32	n/a	n/a

4.2.7.2.3 TRANIDX CSU Global Data Elements

The TRANIDX CSU does not utilize any global data elements.

4.2.7.2.4 TRANIDX CSU Local and Shared Data Structures

The TRANIDX CSU does not implement any local or shared data structures.

4.2.7.2.5 TRANIDX CSU Interrupts and Signals

The TRANIDX CSU does not handle any interrupts or signals.

4.2.7.2.6 TRANIDX CSU Error Handling

The TRANIDX CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.2.7.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.2.7.2.7 TRANIDX CSU Use of Other Elements

The TRANIDX CSU does not use system service routines, global data files, or other global elements.

4.2.7.2.8 TRANIDX CSU Logic Flow

Figures 4.2.7.2.8-1 to 4.2.7.2.8-3 describe the logic flow of the TRANIDX CSU. This CSU is executed by the application software and by the Get Transmitter Information CSU. This CSU does not execute any other CSUs.

Figure 4.2.7.2.8-1
TRANIDX CSU Logic Flow

Figure 4.2.7.2.8-2
TRANIDX CSU Logic Flow (continued)

Figure 4.2.7.2.8-3
TRANIDX CSU Logic Flow (continued)tc "4.2.7.2.8-3 TRANIDX CSU Logic Flow (continued)" \f f§

4.2.7.2.9 TRANIDX CSU Algorithmstc "4.2.7.2.9 TRANIDX CSU Algorithms"§

The TRANIDX CSU does not utilize any algorithms.

4.2.7.2.10 TRANIDX Local Data Files Algorithmstc "4.2.7.2.10 TRANIDX Local Data Files"§

The TRANIDX CSU does not utilize any local data files.

4.2.7.2.11 TRANIDX CSU Limitationstc "4.2.7.2.11 TRANIDX CSU Limitations"§

There are no limitations or unusual features in the TRANIDX CSU.

4.3 Error Processing CSC (DG-CSC-3)tc "4.3 Error Processing CSC (DG-CSC-3)"§

The following subparagraphs identify and describe each of the CSUs of the Error Processing (EP) CSC. Figure 4.3-1 shows the hierarchy of units within the CSC. Figure 4.3-2 describes the relationships of the CSUs in terms of execution control. Figure 4.3-3 describes the relationships of the CSUs in terms of data flow. Solid lines with no arrows indicate a hierarchical relationship. Solid lines with arrows indicate data flow, and dashed lines with arrows indicate control flow. Rectangles with solid borders represent units internal to the CSC, and rectangles with dashed borders indicate external CSCs and CSCIs.

Figure 4.3-1
Error Processing CSC Hierarchy Diagramtc "4.3-1 Error Processing CSC Hierarchy Diagram" \f f§

Figure 4.3-2
Error Processing CSC Execution Control Diagramtc "4.3-1 Error Processing CSC Execution Control Diagram" \f f§

Figure 4.3-3
Error Processing CSC Data Flow Diagramtc "4.3-3 Error Processing CSC Data Flow Diagram" \f f§

4.3.1 Report Error (RE) CSU (DG-CSU-3.1)tc "4.3.1 Report Error (RE) CSU (DG-CSU-3.1)"§

The following subparagraphs provide the design information for the Report Error (RE) CSU, identified as DG-CSU-3.1. The purpose of this CSU is to permit logging and user notification of error conditions within the DG CSCI.

4.3.1.1 RE CSU Design Specifications/Constraintstc "4.3.1.1 RE CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.3.1.2 RE CSU Designtc "4.3.1.2 RE CSU Design"§

The following subparagraphs specify the design of the RE CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.3.1.2.1 RE CSU Input/Output Data Elementstc "4.3.1.2.1 RE CSU Input/Output Data Elements"§

Table 4.3.1.2.1-1 identifies and states the purpose of each input and output data element of the RE CSU.

Table 4.3.1.2.1-1
RE CSU I/O Datatc "4.3.1.2.1-1 RE CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Error	Input	Contains the error code to add to the log file	See Table 5-1

4.3.1.2.2 RE CSU Local Data Elementstc "4.3.1.2.2 RE CSU Local Data Elements"§

Table 4.3.1.2.2-1 identifies and states the purpose of each data element that originates in the RE CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.3.1.2.2-1
RE CSU Local Data Elementstc "4.3.1.2.2-1 RE CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Log File Handle	Contains information associated with the current error log file	See Table 5-1, File Handle			
Log Status	Contains value of *Status* parameter returned by Add Error Log Entry CSU	See Table 5-1, Status			
Monitor Status	Contains value of *Status* parameter returned by Add Error Monitor Entry CSU	See Table 5-1, Status			
Timestamp	Contains current system time	See Table 5-1, Timestamp			

4.3.1.2.3 RE CSU Global Data Elementstc "4.3.1.2.3 RE CSU Global Data Elements"§

Table 4.3.1.2.3-1 identifies and states the purpose of each data element that is used by the RE CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.3.1.2.2-1
RE CSU Global Data Elementstc "4.3.1.2.2-1 RE CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Error Processing Parameters	Contains parameter values related to logging and monitoring errors	See Table 5-1			

4.3.1.2.4 RE CSU Local and Shared Data Structurestc "4.3.1.2.4 RE CSU Local and Shared Data Structures"§

The RE CSU does not implement any local or shared data structures.

4.3.1.2.5 RE CSU Interrupts and Signalstc "4.3.1.2.5 RE CSU Interrupts and Signals"§

The RE CSU does not handle any interrupts or signals.

4.3.1.2.6 RE CSU Error Handlingtc "4.3.1.2.6 RE CSU Error Handling"§

The RE CSU handles unexpected run-time errors using an Ada exception handler. No indication of the error is provided to the calling CSU. (If the RE CSU encountered an error and returned it in a status, then proper action of the calling CSU would be to call the RE CSU to log the error, potentially resulting in an infinite loop.)

4.3.1.2.7 RE CSU Use of Other Elementstc "4.3.1.2.7 RE CSU Use of Other Elements"§

The RE CSU does not use system service routines, global data files, or other global elements.

4.3.1.2.8 RE CSU Logic Flow

Figure 4.3.1.2.8-1 and Figure 4.3.1.2.8-2 describe the logic flow of the RE CSU. This CSU executes the Add Error Log Entry CSU (DG-CSU-3.2) and the Add Error Monitor Entry CSU (DG-CSU-3.3).

Figure 4.3.1.2.8-1
RE CSU Logic Flow

Figure 4.3.1.2.8-2
RE CSU Logic Flow (continued)

4.3.1.2.9 RE CSU Algorithms

The RE CSU does not utilize any algorithms.

4.3.1.2.10 RE CSU Limitations

There are no limitations or unusual features in the RE CSU.

4.3.2 Add Error Log Entry (AELE) CSU (DG-CSU-3.2)

The following subparagraphs provide the design information for the Add Error Log Entry (AELE) CSU, identified as DG-CSU-3.2. The purpose of this CSU is to record error information in a log file.

4.3.2.1 AELE CSU Design Specifications/Constraints

There are no design constraints for this CSU.

4.3.2.2 AELE CSU Design

The following subparagraphs specify the design of the AELE CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.3.2.2.1 AELE CSU Input/Output Data Elements

Table 4.3.2.2.1-1 identifies and states the purpose of each input and output data element of the AELE CSU.

Table 4.3.2.2.1-1
AELE CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Error	Input	Contains the error code to add to the log file	See Table 5-1
File Handle	Input	Contains information associated with the current error log file	See Table 5-1
Timestamp	Input	Contains current system time	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.3.2.2.2 AELE CSU Local Data Elements

The AELE CSU does not utilize any local data elements.

4.3.2.2.3 AELE CSU Global Data Elements

The AELE CSU does not utilize any global data elements.

4.3.2.2.4 AELE CSU Local and Shared Data Structurestc "4.3.2.2.4 AELE CSU Local and Shared Data Structures"§

The AELE CSU does not implement any local or shared data structures.

4.3.2.2.5 AELE CSU Interrupts and Signalstc "4.3.2.2.5 AELE CSU Interrupts and Signals"§

The AELE CSU does not handle any interrupts or signals.

4.3.2.2.6 AELE CSU Error Handlingtc "4.3.2.2.6 AELE CSU Error Handling"§

The AELE CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.3.2.2.1-1) is either set to SUCCESS (if no error occurs in this CSU), or to a value indicating the error which occurred.

4.3.2.2.7 AELE CSU Use of Other Elementstc "4.3.2.2.7 AELE CSU Use of Other Elements"§

The AELE CSU does not use system service routines, global data files, or other global elements.

4.3.2.2.8 AELE CSU Logic Flowtc "4.3.2.2.8 AELE CSU Logic Flow"§

Figure 4.3.2.2.8-1 describes the logic flow of the AELE CSU. This CSU is executed by the Report Error CSU. This CSU does not execute any other CSUs.

Figure 4.3.2.2.8-1
AELE CSU Logic Flowtc "4.3.2.2.8-1 AELE CSU Logic Flow" \f f§

4.3.2.2.9 AELE CSU Algorithmstc "4.3.2.2.9 AELE CSU Algorithms"§

The AELE CSU does not utilize any algorithms.

4.3.2.2.10 AELE CSU Limitationstc "4.3.2.2.10 AELE CSU Limitations"§

There are no limitations or unusual features in the AELE CSU.

4.3.3 Add Error Monitor Entry (AEME) CSU (DG-CSU-3.3)tc "4.3.3 Add Error Monitor Entry (AEME) CSU (DG-CSU-3.3)"§

The following subparagraphs provide the design information for the Add Error Monitor Entry (AEME) CSU, identified as DG-CSU-3.3. The purpose of this CSU is to record error data for monitoring via the graphical user interface.

4.3.3.1 AEME CSU Design Specifications/Constraintstc "4.3.3.1 AEME CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.3.3.2 AEME CSU Designtc "4.3.3.2 AEME CSU Design"§

The following subparagraphs specify the design of the AEME CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.3.3.2.1 AEME CSU Input/Output Data Elementstc "4.3.3.2.1 AEME CSU Input/Output Data Elements"§

Table 4.3.3.2.1-1 identifies and states the purpose of each input and output data element of the AEME CSU.

Table 4.3.3.2.1-1
AEME CSU I/O Datatc "4.3.3.2.1-1AEME CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Error	Input	Contains the error code to add to the log file	See Table 5-1
Timestamp	Input	Contains current system time	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.3.3.2.2 AEME CSU Local Data Elementstc "4.3.3.2.2 AEME CSU Local Data Elements"§

The AEME CSU does not utilize any local data elements.

4.3.3.2.3 AEME CSU Global Data Elementstc "4.3.3.2.3 AEME CSU Global Data Elements"§

Table 4.3.3.2.3-1 identifies and states the purpose of each data element that is used by the AEME CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.3.3.2.2-1
AEME CSU Global Data Elementstc "4.3.3.2.2-1 AEME CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Error Monitor Data	Tracks information on errors for display by the GUI	See Table 5-1			

4.3.3.2.4 AEME CSU Local and Shared Data Structurestc "4.3.3.2.4 AEME CSU Local and Shared Data Structures"§

The AEME CSU does not implement any local or shared data structures.

4.3.3.2.5 AEME CSU Interrupts and Signalstc "4.3.3.2.5AEME CSU Interrupts and Signals"§

The AEME CSU does not handle any interrupts or signals.

4.3.3.2.6 AEME CSU Error Handlingtc "4.3.3.2.6 AEME CSU Error Handling"§

The AEME CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.3.3.2.1-1) is either set to SUCCESS (if no error occurs in this CSU), or to a value indicating the error which occurred.

4.3.3.2.7 AEME CSU Use of Other Elementstc "4.3.3.2.7 AEME CSU Use of Other Elements"§

The AEME CSU does not use system service routines, global data files, or other global elements.

4.3.3.2.8 AEME CSU Logic Flowtc "4.3.3.2.8 AEME CSU Logic Flow"§

Figure 4.3.3.2.8-1 describes the logic flow of the AEME CSU. This CSU is executed by the Report Error CSU. This CSU does not execute any other CSUs.

Figure 4.3.3.2.8-1
AEME CSU Logic Flowtc "4.3.3.2.8-1 AEME CSU Logic Flow" \f f§

4.3.3.2.9 AEME CSU Algorithmstc "4.3.3.2.9 AEME CSU Algorithms"§

The AEME CSU does not utilize any algorithms.

4.3.3.2.10 AEME CSU Limitationstc "4.3.3.2.10 AEME CSU Limitations"§

There are no limitations or unusual features in the AEME CSU.

4.4 Filter Support CSC (DG-CSC-4)tc "4.4 Filter Support CSC (DG-CSC-4)"§

The following subparagraphs identify and describe each of the CSUs of the Filter Support (FS) CSC. Figure 4.4-1 shows the hierarchy of units within the CSC. Figure 4.4-2 describes the relationships of the CSUs in terms of execution control. Figure 4.4-3 describes the relationships of the CSUs in terms of data flow. Solid lines with no arrows indicate a hierarchical relationship. Solid lines with arrows indicate data flow, and dashed lines with arrows indicate control flow. Rectangles with solid borders represent units internal to the CSC, and rectangles with dashed borders indicate external CSCs and CSCIs.

Figure 4.4-1
Filter Support CSC Hierarchy Diagramtc "4.4-1 Filter Support CSC Hierarchy Diagram" \f f§

Figure 4.4-2
Filter Support CSC Execution Control Diagramtc "4.4-1Filter Support CSC Execution Control Diagram" \f f§

Figure 4.4-3
Filter Support CSC Data Flow Diagramtc "4.4-3 Filter Support CSC Data Flow Diagram" \f f§

4.4.1 Valid PDU (VALPDU) CSU (DG-CSU-4.1)tc "4.4.1 Valid PDU (VALPDU) CSU (DG-CSU-4.1)"§

The following subparagraphs provide the design information for the Valid PDU (VALPDU) CSU, identified as DG-CSU-4.1. The purpose of this CSU is to perform elementary validation of the data in a PDU.

4.4.1.1 VALPDU CSU Design Specifications/Constraintstc "4.4.1.1 VALPDU CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.4.1.2 VALPDU CSU Designtc "4.4.1.2 VALPDU CSU Design"§

The following subparagraphs specify the design of the VALPDU CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.4.1.2.1 VALPDU CSU Input/Output Data Elementstc "4.4.1.2.1 VALPDU CSU Input/Output Data Elements"§

Table 4.4.1.2.1-1 identifies and states the purpose of each input and output data element of the VALPDU CSU.

Table 4.4.1.2.1-1
VALPDU CSU I/O Datatc "4.4.1.2.1-1 VALPDU CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
PDU Pointer	Input	Points to a PDU	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1
Valid PDU Flag	Output	Indicates if the PDU data is internally consistent	See Table 5-1

4.4.1.2.2 VALPDU CSU Local Data Elementstc "4.4.1.2.2 VALPDU CSU Local Data Elements"§

The VALPDU CSU does not utilize any local data elements.

4.4.1.2.3 VALPDU CSU Global Data Elementstc "4.4.1.2.3 VALPDU CSU Global Data Elements"§

The VALPDU CSU does not utilize any global data elements.

4.4.1.2.4 VALPDU CSU Local and Shared Data Structurestc "4.4.1.2.4 VALPDU CSU Local and Shared Data Structures"§

The VALPDU CSU does not implement any local or shared data structures.

4.4.1.2.5 VALPDU CSU Interrupts and Signalstc "4.4.1.2.5 VALPDU CSU Interrupts and Signals"§

The VALPDU CSU does not handle any interrupts or signals.

4.4.1.2.6 VALPDU CSU Error Handlingtc "4.4.1.2.6 VALPDU CSU Error Handling"§

The VALPDU CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.4.1.2.1-1) is either set to SUCCESS (if no error occurs in this CSU), or to a value indicating the error which occurred.

4.4.1.2.7 VALPDU CSU Use of Other Elementstc "4.4.1.2.7 VALPDU CSU Use of Other Elements"§

The VALPDU CSU does not use system service routines, global data files, or other global elements.

4.4.1.2.8 VALPDU CSU Logic Flowtc "4.4.1.2.8 VALPDU CSU Logic Flow"§

Figure 4.4.1.2.8-1 describes the logic flow of the VALPDU CSU. This CSU does not execute any other CSUs.

Figure 4.4.1.2.8-1
VALPDU CSU Logic Flowtc "4.4.1.2.8-1 VALPDU CSU Logic Flow" \f f§

4.4.1.2.9 VALPDU CSU Algorithmstc "4.4.1.2.9 VALPDU CSU Algorithms"§

The VALPDU CSU does not utilize any algorithms.

4.4.1.2.10 VALPDU CSU Limitationstc "4.4.1.2.10 VALPDU CSU Limitations"§

There are no limitations or unusual features in the VALPDU CSU.

4.4.2 Desired PDU (DESPDU) CSU (DG-CSU-4.2)tc "4.4.2 Desired PDU (DESPDU) CSU (DG-CSU-4.2)"§

The following subparagraphs provide the design information for the Desired PDU (DESPDU) CSU, identified as DG-CSU-4.2. The purpose of this CSU is to determine if a PDU is desired by any DG client applications, based upon filtering information provided by the client.

4.4.2.1 DESPDU CSU Design Specifications/Constraintstc "4.4.2.1 DESPDU CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.4.2.2 DESPDU CSU Designtc "4.4.2.2 DESPDU CSU Design"§

The following subparagraphs specify the design of the DESPDU CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.4.2.2.1 DESPDU CSU Input/Output Data Elements

Table 4.4.2.2.1-1 identifies and states the purpose of each input and output data element of the DESPDU CSU.

Table 4.4.2.2.1-1
DESPDU CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Filter List	Input	Contains a list of evaluations to perform to determine if a PDU should be kept, or if the PDU should be discarded	See Table 5-1
PDU Pointer	Input	Points to a PDU	See Table 5-1
Filter Index	Input/Output	Contains index into Filter List for the entry to be evaluated	See Table 5-1
Desired PDU	Output	Indicates if the PDU should be kept, based upon the PDU data and the Filter List contents	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.4.2.2.2 DESPDU CSU Local Data Elements

Table 4.4.2.2.2-1 identifies and states the purpose of each data element that originates in the DESPDU CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.4.2.2.2-1
DESPDU CSU Local Data Elementstc "4.4.2.2.2-1 DESPDU CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Filter	Contains a copy of the filter entry under evaluation	See Table 5-8, Filter List Entry Type			
Filter_Result	Stores intermediate results when evaluating logical filters	See Table 5-1, Desired PDU			

4.4.2.2.3 DESPDU CSU Global Data Elementstc "4.4.2.2.3 DESPDU CSU Global Data Elements"§

The DESPDU CSU does not utilize any global data elements.

4.4.2.2.4 DESPDU CSU Local and Shared Data Structurestc "4.4.2.2.4DESPDU CSU Local and Shared Data Structures"§

The DESPDU CSU does not implement any local or shared data structures.

4.4.2.2.5 DESPDU CSU Interrupts and Signalstc "4.4.2.2.5 DESPDU CSU Interrupts and Signals"§

The DESPDU CSU does not handle any interrupts or signals.

4.4.2.2.6 DESPDU CSU Error Handlingtc "4.4.2.2.6 DESPDU CSU Error Handling"§

The DESPDU CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.4.2.2.1-1) is either set to SUCCESS (if no error occurs in this CSU), or to a value indicating the error which occurred.

4.4.2.2.7 DESPDU CSU Use of Other Elementstc "4.4.2.2.7 DESPDU CSU Use of Other Elements"§

The DESPDU CSU does not use system service routines, global data files, or other global elements.

4.4.2.2.8 DESPDU CSU Logic Flowtc "4.4.2.2.8 DESPDU CSU Logic Flow"§

Figures 4.4.2.2.8-1 to 4.4.2.2.8-7 describe the logic flow of the DESPDU CSU. This CSU executes itself recursively.

Figure 4.4.2.2.8-1
DESPDU CSU Logic Flowtc "4.4.2.2.8-1 DESPDU CSU Logic Flow" \f f§

Figure 4.4.2.2.8-2
DESPDU CSU Logic Flow (continued)tc "4.4.2.2.8-2 DESPDU CSU Logic Flow (continued)" \f f§

Figure 4.4.2.2.8-3
DESPDU CSU Logic Flow (continued)tc "4.4.2.2.8-3 DESPDU CSU Logic Flow (continued)" \f f§

Figure 4.4.2.2.8-4
DESPDU CSU Logic Flow (continued)tc "4.4.2.2.8-4 DESPDU CSU Logic Flow (continued)" \f f§

Figure 4.4.2.2.8-5
DESPDU CSU Logic Flow (continued)tc "4.4.2.2.8-5 DESPDU CSU Logic Flow (continued)" \f f§

Figure 4.4.2.2.8-6
DESPDU CSU Logic Flow (continued)tc "4.4.2.2.8-6 DESPDU CSU Logic Flow (continued)" \f f§

Figure 4.4.2.2.8-7
DESPDU CSU Logic Flow (continued)tc "4.4.2.2.8-7 DESPDU CSU Logic Flow (continued)" \f f§

4.4.2.2.9 DESPDU CSU Algorithms

tc "4.4.2.2.9 DESPDU CSU Algorithms"§

The DESPDU CSU provides tri-state logical filters, which have been documented in the Logic Flow paragraph above. Additionally, the DESPDU CSU implements filters based upon specific fields of specific PDU types. Table 4.4.2.2.9-1 summarizes the filter names and the associated PDU types, fields, and field types for these filters.

Table 4.4.2.2.9-1
DESPDU CSU PDU Filterstc "4.4.2.2.9-1 DESPDU CSU PDU Filters" \f t§

Filter Name	PDU Type	PDU Field	Field Type
Exercise ID	All	PDU_Header. Exercise_ID	8-bit Integer See IST-CR-93
PDU Type	All	PDU_Header. PDU_Type	Enumeration See IST-CR-93
Force ID	Entity State	Force_ID	Enumeration See IST-CR-93
Entity Kind	Entity State	Entity_Type. Entity_Kind	Enumeration See IST-CR-93

4.4.2.2.10 DESPDU CSU Limitations

There are no limitations or unusual features in the DESPDU CSU.

4.5 DG Client CSC (DG-CSC-5)

The following subparagraphs identify and describe each of the CSUs of the DG Client (CLI) CSC. Figure 4.5-1 shows the hierarchy of units within the CSC. Figure 4.5-2 describes the relationships of the CSUs in terms of execution control. Solid lines with no arrows indicate a hierarchical relationship. Solid lines with arrows indicate data flow, and dashed lines with arrows indicate control flow. Rectangles with solid borders represent units internal to the CSC, and rectangles with dashed borders indicate external CSCs and CSCIs.

Figure 4.5-1
DG Client CSC Hierarchy Diagram

Figure 4.5-2
DG Client CSC Execution Control Diagram

4.5.1 Client/Server Interface CSC (DG-CSC-5.1)

The following subparagraphs identify and describe each of the CSUs of the Client/Server Interface (CSI) CSC. Figure 4.5.1-1 shows the hierarchy of units within the CSC. Figure 4.5.1-2 describes the relationships of the CSUs in terms of execution control. Figure 4.5.1-3 describes the relationships of the CSUs in terms of data flow. Solid lines with no arrows indicate a hierarchical relationship. Solid lines with arrows indicate data flow, and dashed lines with arrows indicate control flow. Rectangles with solid borders represent units internal to the CSC, and rectangles with dashed borders indicate external CSCs and CSCIs.

Figure 4.5.1-1
Client/Server Interface CSC Hierarchy Diagramtc "4.5.1-1 Client/Server Interface CSC Hierarchy Diagram" \f f§

Figure 4.5.1-2
Client/Server Interface CSC Execution Control Diagramtc "4.5.1-1 Client/Server Interface CSC Execution Control Diagram" \f f§

Figure 4.5.1-3
Client/Server Interface CSC Data Flow Diagramtc "4.5.1-3 Client/Server Interface CSC Data Flow Diagram" \f f§

4.5.1.1 Establish Server Interface CSU (DG-CSU-5.1.1)tc "4.5.1.1 Establish Server Interface CSU (DG-CSU-5.1.1)"§

The following subparagraphs provide the design information for the Establish Server Interface (ESI) CSU, identified as DG-CSU-5.1.1. The purpose of this CSU is to load configuration data, establish an interface with the DG server, and optionally initiate the client's graphical user interface.

4.5.1.1.1 ESI CSU Design Specifications/Constraintstc "4.5.1.1.1 ESI CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.1.1.2 ESI CSU Designtc "4.5.1.1.2 ESI CSU Design"§

The following subparagraphs specify the design of the ESI CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.1.1.2.1 ESI CSU Input/Output Data Elementstc "4.5.1.1.2.1 ESI CSU Input/Output Data Elements"§

Table 4.5.1.1.2.1-1 identifies and states the purpose of each input and output data element of the ESI CSU.

Table 4.5.1.1.2.1-1
ESI CSU I/O Datatc "4.5.1.1.2.1-1 ESI CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Configuration File	Input (Optional)	Contains name of file containing configuration data	See Table 5-1
Initialize GUI Flag	Input	Indicates if the Graphical User Interface should be started	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.1.1.2.2 ESI CSU Local Data Elementstc "4.5.1.1.2.2 ESI CSU Local Data Elements"§

The ESI CSU does not utilize any local data elements.

4.5.1.1.2.3 ESI CSU Global Data Elementstc "4.5.1.1.2.3 ESI CSU Global Data Elements"§

The ESI CSU does not utilize any global data elements.

4.5.1.1.2.4 ESI CSU Local and Shared Data Structurestc "4.5.1.1.2.4 ESI CSU Local and Shared Data Structures"§

The ESI CSU does not implement any local or shared data structures.

4.5.1.1.2.5 ESI CSU Interrupts and Signalstc "4.5.1.1.2.5 ESI CSU Interrupts and Signals"§

The ESI CSU does not handle any interrupts or signals.

4.5.1.1.2.6 ESI CSU Error Handlingtc "4.5.1.1.2.6 ESI CSU Error Handling"§

The ESI CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.1.1.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.1.1.2.7 ESI CSU Use of Other Elementstc "4.5.1.1.2.7 ESI CSU Use of Other Elements"§

The ESI CSU does not use system service routines, global data files, or other global elements.

4.5.1.1.2.8 ESI CSU Logic Flowtc "4.5.1.1.2.8 ESI CSU Logic Flow"§

Figures 4.5.1.1.2.8-1 to 4.5.1.1.2.8-3 describe the logic flow of the ESI CSU. This CSU is executed by the application software. This CSU executes the Get Default Configuration Filename CSU, the Load Client Configuration File, and the Initialize Graphical User Interface CSU.

Figure 4.5.1.1.2.8-1
ESI CSU Logic Flowtc "4.5.1.1.2.8-1 ESI CSU Logic Flow" \f f§

Figure 4.5.1.1.2.8-2
ESI CSU Logic Flow (continued)tc "4.5.1.1.2.8-2 ESI CSU Logic Flow (continued)" \f f§

Figure 4.5.1.1.2.8-3
ESI CSU Logic Flow (continued)tc "4.5.1.1.2.8-3 ESI CSU Logic Flow (continued)" \f f§

4.5.1.1.2.9 ESI CSU Algorithmstc "4.5.1.1.2.9 ESI CSU Algorithms"§

The ESI CSU does not utilize any algorithms.

4.5.1.1.2.10 ESI Local Data Files Algorithmstc "4.5.1.1.2.10 ESI Local Data Files"§

The ESI CSU does not utilize any local data files.

4.5.1.1.2.11 ESI CSU Limitationstc "4.5.1.1.2.11 ESI CSU Limitations"§

There are no limitations or unusual features in the ESI CSU.

4.5.1.2 Terminate Server Interface CSU (DG-CSU-5.1.2)tc "4.5.1.2 Terminate Server Interface CSU (DG-CSU-5.1.2)"§

The following subparagraphs provide the design information for the Terminate Server Interface (TSI) CSU, identified as DG-CSU-5.1.2. The purpose of this CSU is to inform the DG Server of the client's termination, and to deallocate system resources used in the client/server interface.

4.5.1.2.1 TSI CSU Design Specifications/Constraintstc "4.5.1.2.1 TSI CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.1.2.2 TSI CSU Designtc "4.5.1.2.2 TSI CSU Design"§

The following subparagraphs specify the design of the TSI CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.1.2.2.1 TSI CSU Input/Output Data Elementstc "4.5.1.2.2.1 TSI CSU Input/Output Data Elements"§

Table 4.5.1.2.2.1-1 identifies and states the purpose of each input and output data element of the TSI CSU.

Table 4.5.1.2.2.1-1
TSI CSU I/O Datatc "4.5.1.2.2.1-1 TSI CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.1.2.2.2 TSI CSU Local Data Elementstc "4.5.1.2.2.2 TSI CSU Local Data Elements"§

The TSI CSU does not utilize any local data elements.

4.5.1.2.2.3 TSI CSU Global Data Elementstc "4.5.1.2.2.3 TSI CSU Global Data Elements"§

The TSI CSU does not utilize any global data elements.

4.5.1.2.2.4 TSI CSU Local and Shared Data Structurestc "4.5.1.2.2.4 TSI CSU Local and Shared Data Structures"§

The TSI CSU does not implement any local or shared data structures.

4.5.1.2.2.5 TSI CSU Interrupts and Signalstc "4.5.1.2.2.5 TSI CSU Interrupts and Signals"§

The TSI CSU does not handle any interrupts or signals.

4.5.1.2.2.6 TSI CSU Error Handlingtc "4.5.1.2.2.6 TSI CSU Error Handling"§

The TSI CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.1.2.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.1.2.2.7 TSI CSU Use of Other Elementstc "4.5.1.2.2.7 TSI CSU Use of Other Elements"§

The TSI CSU does not use system service routines, global data files, or other global elements.

4.5.1.2.2.8 TSI CSU Logic Flowtc "4.5.1.2.2.8 TSI CSU Logic Flow"§

Figure 4.5.1.2.2.8-1 describes the logic flow of the TSI CSU. This CSU is executed by the application software. This CSU does not execute any other CSUs.

Figure 4.5.1.2.2.8-1
TSI CSU Logic Flowtc "4.5.1.2.2.8-1 TSI CSU Logic Flow" \f f§

4.5.1.2.2.9 TSI CSU Algorithmstc "4.5.1.2.2.9 TSI CSU Algorithms"§

The TSI CSU does not utilize any algorithms.

4.5.1.2.2.10 TSI Local Data Files Algorithmstc "4.5.1.2.2.10 TSI Local Data Files"§

The TSI CSU does not utilize any local data files.

4.5.1.2.2.11 TSI CSU Limitationstc "4.5.1.2.2.11 TSI CSU Limitations"§

There are no limitations or unusual features in the TSI CSU.

4.5.1.3 Set Filter Parameters CSU (DG-CSU-5.1.3)tc "4.5.1.3 Set Filter Parameters CSU (DG-CSU-5.1.3)"§

The following subparagraphs provide the design information for the Set Filter Parameters (SFP) CSU, identified as DG-CSU-5.1.3. The purpose of this CSU is to set PDU filter parameters from a filter parameter file.

4.5.1.3.1 SFP CSU Design Specifications/Constraintstc "4.5.1.3.1 SFP CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.1.3.2 SFP CSU Designtc "4.5.1.3.2 SFP CSU Design"§

The following subparagraphs specify the design of the SFP CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.1.3.2.1 SFP CSU Input/Output Data Elementstc "4.5.1.3.2.1SFP CSU Input/Output Data Elements"§

Table 4.5.1.3.2.1-1 identifies and states the purpose of each input and output data element of the SFP CSU.

Table 4.5.1.3.2.1-1
SFP CSU I/O Datatc "4.5.1.3.2.1-1 SFP CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Client Filter File	Input	Specifies name of file containing PDU filtering criteria	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.1.3.2.2 SFP CSU Local Data Elementstc "4.5.1.3.2.2 SFP CSU Local Data Elements"§

The SFP CSU does not utilize any local data elements.

4.5.1.3.2.3 SFP CSU Global Data Elementstc "4.5.1.3.2.3 SFP CSU Global Data Elements"§

Table 4.5.1.3.2.3-1 identifies and states the purpose of each data element that is used by the SFP CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.1.3.2.2-1
SFP CSU Global Data Elementstc "4.5.1.3.2.2-1 SFP CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.1.3.2.4 SFP CSU Local and Shared Data Structurestc "4.5.1.3.2.4 SFP CSU Local and Shared Data Structures"§

The SFP CSU does not implement any local or shared data structures.

4.5.1.3.2.5 SFP CSU Interrupts and Signalstc "4.5.1.3.2.5 SFP CSU Interrupts and Signals"§

The SFP CSU does not handle any interrupts or signals.

4.5.1.3.2.6 SFP CSU Error Handlingtc "4.5.1.3.2.6 SFP CSU Error Handling"§

The SFP CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.1.3.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.1.3.2.7 SFP CSU Use of Other Elementstc "4.5.1.3.2.7 SFP CSU Use of Other Elements"§

The SFP CSU does not use system service routines, global data files, or other global elements.

4.5.1.3.2.8 SFP CSU Logic Flowtc "4.5.1.3.2.8 SFP CSU Logic Flow"§

Figures 4.5.1.3.2.8-1 to 4.5.1.3.2.8-2 describe the logic flow of the SFP CSU. This CSU is executed by the application software. This CSU does not execute any other CSUs.

Figure 4.5.1.3.2.8-1
SFP CSU Logic Flowtc "4.5.1.3.2.8-1 SFP CSU Logic Flow" \f f§

4.5.1.3.2.9 SFP CSU Algorithmstc "4.5.1.3.2.9 SFP CSU Algorithms"§

The SFP CSU does not utilize any algorithms.

4.5.1.3.2.10 SFP Local Data Files Algorithmstc "4.5.1.3.2.10 SFP Local Data Files"§

The SFP CSU does not utilize any local data files.

4.5.1.3.2.11 SFP CSU Limitationstc "4.5.1.3.2.11 SFP CSU Limitations"§

There are no limitations or unusual features in the SFP CSU.

4.5.2 Simulation Input CSC (DG-CSC-5.2)tc "4.5.2 Simulation Input CSC (DG-CSC-5.2)"§

The following subparagraphs identify and describe each of the CSUs of the Simulation Input (SIMIN) CSC. Figure 4.5.2-1 shows the hierarchy of units within the CSC. Figures 4.5.2-2 and 4.5.2-3 describe the relationships of the CSUs in terms of execution control. Figures 4.5.2-4 to 4.5.2-5 describe the relationships of the CSUs in terms of data flow. Solid lines with no arrows indicate a hierarchical relationship. Solid lines with arrows indicate data flow, and dashed lines with arrows indicate control flow. Rectangles with solid borders represent units internal to the CSC, and rectangles with dashed borders indicate external CSCs and CSCIs.

Figure 4.5.2-1
Simulation Input CSC Hierarchy Diagramtc "4.5.2-1 Simulation Input CSC Hierarchy Diagram" \f f§

Figure 4.5.2-2
Simulation Input CSC Execution Control Diagramtc "4.5.2-1 Simulation Input CSC Execution Control Diagram" \f f§

Figure 4.5.2-3
Simulation Input CSC Execution Control Diagram (continued)tc "4.5.2-3 Simulation Input CSC Execution Control Diagram (continued)" \f f§

Figure 4.5.2-4
Simulation Input CSC Data Flow Diagramtc "4.5.2-4 Simulation Input CSC Data Flow Diagram" \f f§

Figure 4.5.2-5
Simulation Input CSC Data Flow Diagram (continued)tc "4.5.2-5 Simulation Input CSC Data Flow Diagram (continued)" \f f§

4.5.2.1 Get Next PDU CSU (DG-CSU-5.2.1)tc "4.5.2.1 Get Next PDU CSU (DG-CSU-5.2.1)"§

The following subparagraphs provide the design information for the Get Next PDU (GNP) CSU, identified as DG-CSU-5.2.1. The purpose of this CSU is to obtain the next PDU from the simulation.

4.5.2.1.1 GNP CSU Design Specifications/Constraintstc "4.5.2.1.1 GNP CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.1.2 GNP CSU Designtc "4.5.2.1.2 GNP CSU Design"§

The following subparagraphs specify the design of the GNP CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.1.2.1 GNP CSU Input/Output Data Elementstc "4.5.2.1.2.1 GNP CSU Input/Output Data Elements"§

Table 4.5.2.1.2.1-1 identifies and states the purpose of each input and output data element of the GNP CSU.

Table 4.5.2.1.2.1-1
GNP CSU I/O Datatc "4.5.2.1.2.1-1 GNP CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
PDU Pointer	Input/Output	Points to a PDU	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.1.2.2 GNP CSU Local Data Elementstc "4.5.2.1.2.2 GNP CSU Local Data Elements"§

Table 4.5.2.1.2.2-1 identifies and states the purpose of each data element that originates in the GNP CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.1.2.2-1
GNP CSU Local Data Elementstc "4.5.2.1.2.2-1 GNP CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Desired Flag	Indicates if the PDU should be kept, based upon the PDU data and the Filter List contents	See Table 5-1, Desired PDU			
Temp PDU Ptr	Stores the current PDU under consideration	See Table 5-1, PDU Pointer			
Valid Flag	Indicates if the PDU data is internally consistent	See Table 5-1, Valid PDU Flag			

4.5.2.1.2.3 GNP CSU Global Data Elementstc "4.5.2.1.2.3 GNP CSU Global Data Elements"§

Table 4.5.2.1.2.3-1 identifies and states the purpose of each data element that is used by the GNP CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.1.2.2-1
GNP CSU Global Data Elementstc "4.5.2.1.2.2-1 GNP CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.5.2.1.2.4 GNP CSU Local and Shared Data Structurestc "4.5.2.1.2.4 GNP CSU Local and Shared Data Structures"§

The GNP CSU does not implement any local or shared data structures.

4.5.2.1.2.5 GNP CSU Interrupts and Signalstc "4.5.2.1.2.5 GNP CSU Interrupts and Signals"§

The GNP CSU does not handle any interrupts or signals.

4.5.2.1.2.6 GNP CSU Error Handlingtc "4.5.2.1.2.6 GNP CSU Error Handling"§

The GNP CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.1.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.1.2.7 GNP CSU Use of Other Elementstc "4.5.2.1.2.7 GNP CSU Use of Other Elements"§

The GNP CSU does not use system service routines, global data files, or other global elements.

4.5.2.1.2.8 GNP CSU Logic Flow

Figures 4.5.2.1.2.8-1 to 4.5.2.1.2.8-2 describe the logic flow of the GNP CSU. This CSU is executed by the Main Server Control CSU. This CSU executes the Valid PDU CSU and the Desired PDU CSU.

Figure 4.5.2.1.2.8-1
GNP CSU Logic Flow

Figure 4.5.2.1.2.8-2
GNP CSU Logic Flow (continued)

Figure 4.5.2.1.2.8-3
GNP CSU Logic Flow (continued)

4.5.2.1.2.9 GNP CSU Algorithms

The GNP CSU does not utilize any algorithms.

4.5.2.1.2.10 GNP Local Data Files Algorithms

The GNP CSU does not utilize any local data files.

4.5.2.1.2.11 GNP CSU Limitations

There are no limitations or unusual features in the GNP CSU.

4.5.2.2 Get Simulation State CSU (DG-CSU-5.2.2)tc "4.5.2.2 Get Simulation State CSU (DG-CSU-5.2.2)"§

The following subparagraphs provide the design information for the Get Simulation State (GSS) CSU, identified as DG-CSU-5.2.2. The purpose of this CSU is to return the current simulation state, based on the most recently received simulation management PDUs.

4.5.2.2.1 GSS CSU Design Specifications/Constraintstc "4.5.2.2.1 GSS CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.2.2 GSS CSU Designtc "4.5.2.2.2 GSS CSU Design"§

The following subparagraphs specify the design of the GSS CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.2.2.1 GSS CSU Input/Output Data Elementstc "4.5.2.2.2.1 GSS CSU Input/Output Data Elements"§

Table 4.5.2.2.2.1-1 identifies and states the purpose of each input and output data element of the GSS CSU.

Table 4.5.2.2.2.1-1
GSS CSU I/O Datatc "4.5.2.2.2.1-1 GSS CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1
Simulation State	Output	Indicates the last known state of the exercise	See Table 5-1
Freeze Reason	Output	Indicates the reason that the simulation is frozen. If the simulation is not frozen, then this is set to *OTHER*.	See Table 5-1

4.5.2.2.2.2 GSS CSU Local Data Elementstc "4.5.2.2.2.2 GSS CSU Local Data Elements"§

The GSS CSU does not utilize any local data elements.

4.5.2.2.2.3 GSS CSU Global Data Elementstc "4.5.2.2.2.3 GSS CSU Global Data Elements"§

Table 4.5.2.2.2.3-1 identifies and states the purpose of each data element that is used by the GSS CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.2.2.2-1
GSS CSU Global Data Elementstc "4.5.2.2.2.2-1 GSS CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.5.2.2.2.4 GSS CSU Local and Shared Data Structurestc "4.5.2.2.2.4 GSS CSU Local and Shared Data Structures"§

The GSS CSU does not implement any local or shared data structures.

4.5.2.2.2.5 GSS CSU Interrupts and Signalstc "4.5.2.2.2.5 GSS CSU Interrupts and Signals"§

The GSS CSU does not handle any interrupts or signals.

4.5.2.2.2.6 GSS CSU Error Handlingtc "4.5.2.2.2.6 GSS CSU Error Handling"§

The GSS CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.2.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.2.2.7 GSS CSU Use of Other Elementstc "4.5.2.2.2.7 GSS CSU Use of Other Elements"§

The GSS CSU does not use system service routines, global data files, or other global elements.

4.5.2.2.2.8 GSS CSU Logic Flowtc "4.5.2.2.2.8 GSS CSU Logic Flow"§

Figure 4.5.2.2.2.8-1 describes the logic flow of the GSS CSU. This CSU is executed by the application software. This CSU does not execute any other CSUs.

Figure 4.5.2.2.2.8-1
GSS CSU Logic Flowtc "4.5.2.2.2.8-1 GSS CSU Logic Flow" \f f§

4.5.2.2.2.9 GSS CSU Algorithmstc "4.5.2.2.2.9 GSS CSU Algorithms"§

The GSS CSU does not utilize any algorithms.

4.5.2.2.2.10 GSS Local Data Files Algorithmstc "4.5.2.2.2.10 GSS Local Data Files"§

The GSS CSU does not utilize any local data files.

4.5.2.2.2.11 GSS CSU Limitationstc "4.5.2.2.2.11 GSS CSU Limitations"§

There are no limitations or unusual features in the GSS CSU.

4.5.2.3 Get Entity Information CSU (DG-CSU-5.2.3)tc "4.5.2.3 Get Entity Information CSU (DG-CSU-5.2.3)"§

The following subparagraphs provide the design information for the Get Entity Information (GETENT) CSU, identified as DG-CSU-5.2.3. The purpose of this CSU is to return entity state information for a specific entity, based upon Entity ID information.

4.5.2.3.1 GETENT CSU Design Specifications/Constraintstc "4.5.2.3.1 GETENT CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.3.2 GETENT CSU Design

The following subparagraphs specify the design of the GETENT CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.3.2.1 GETENT CSU Input/Output Data Elements

Table 4.5.2.3.2.1-1 identifies and states the purpose of each input and output data element of the GETENT CSU.

Table 4.5.2.3.2.1-1
GETENT CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Entity State Information	Output	Contains data regarding an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.3.2.2 GETENT CSU Local Data Elements

Table 4.5.2.3.2.2-1 identifies and states the purpose of each data element that originates in the GETENT CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.3.2.2-1
GETENT CSU Local Data Elementstc "4.5.2.3.2.2-1 GETENT CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Hash Index	Contains a unique identifier based on the specified parameters	See Table 5-1			

4.5.2.3.2.3 GETENT CSU Global Data Elementstc "4.5.2.3.2.3 GETENT CSU Global Data Elements"§

The GETENT CSU does not utilize any global data elements.

4.5.2.3.2.4 GETENT CSU Local and Shared Data Structurestc "4.5.2.3.2.4 GETENT CSU Local and Shared Data Structures"§

The GETENT CSU does not implement any local or shared data structures.

4.5.2.3.2.5 GETENT CSU Interrupts and Signalstc "4.5.2.3.2.5 GETENT CSU Interrupts and Signals"§

The GETENT CSU does not handle any interrupts or signals.

4.5.2.3.2.6 GETENT CSU Error Handlingtc "4.5.2.3.2.6 GETENT CSU Error Handling"§

The GETENT CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.3.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.3.2.7 GETENT CSU Use of Other Elementstc "4.5.2.3.2.7 GETENT CSU Use of Other Elements"§

The GETENT CSU does not use system service routines, global data files, or other global elements.

4.5.2.3.2.8 GETENT CSU Logic Flowtc "4.5.2.3.2.8 GETENT CSU Logic Flow"§

Figure 4.5.2.3.2.8-1 describes the logic flow of the GETENT CSU. This CSU is executed by the application software. This CSU executes the Get Entity Hash Index CSU and the Get Entity Information by Hash Index CSU.

Figure 4.5.2.3.2.8-1
GETENT CSU Logic Flowtc "4.5.2.3.2.8-1 GETENT CSU Logic Flow" \f f§

4.5.2.3.2.9 GETENT CSU Algorithmstc "4.5.2.3.2.9 GETENT CSU Algorithms"§

The GETENT CSU does not utilize any algorithms.

4.5.2.3.2.10 GETENT Local Data Files Algorithmstc "4.5.2.3.2.10 GETENT Local Data Files"§

The GETENT CSU does not utilize any local data files.

4.5.2.3.2.11 GETENT CSU Limitationstc "4.5.2.3.2.11 GETENT CSU Limitations"§

There are no limitations or unusual features in the GETENT CSU.

4.5.2.4 Get Emitter Information CSU (DG-CSU-5.2.4)tc "4.5.2.4 Get Emitter Information CSU (DG-CSU-5.2.4)"§

The following subparagraphs provide the design information for the Get Emitter Information (GETEMIT) CSU, identified as DG-CSU-5.2.4. The purpose of this CSU is to return emitter information for a specific emitter on a specific entity, based upon Entity ID and Emitter ID information.

4.5.2.4.1 GETEMIT CSU Design Specifications/Constraintstc "4.5.2.4.1 GETEMIT CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.4.2 GETEMIT CSU Designtc "4.5.2.4.2 GETEMIT CSU Design"§

The following subparagraphs specify the design of the GETEMIT CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.4.2.1 GETEMIT CSU Input/Output Data Elementstc "4.5.2.4.2.1GETEMIT CSU Input/Output Data Elements"§

Table 4.5.2.4.2.1-1 identifies and states the purpose of each input and output data element of the GETEMIT CSU.

Table 4.5.2.4.2.1-1
GETEMIT CSU I/O Datatc "4.5.2.4.2.1-1 GETEMIT CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Emitter ID	Input	Specifies an emitter on an entity	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Emitter Information	Output	Contains data regarding an emitter on an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.4.2.2 GETEMIT CSU Local Data Elementstc "4.5.2.4.2.2 GETEMIT CSU Local Data Elements"§

Table 4.5.2.4.2.2-1 identifies and states the purpose of each data element that originates in the GETEMIT CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.4.2.2-1
GETEMIT CSU Local Data Elementstc "4.5.2.4.2.2-1 GETEMIT CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Hash Index	Contains a unique identifier based on the specified parameters	See Table 5-1			

4.5.2.4.2.3 GETEMIT CSU Global Data Elementstc "4.5.2.4.2.3 GETEMIT CSU Global Data Elements"§

The GETEMIT CSU does not utilize any global data elements.

4.5.2.4.2.4 GETEMIT CSU Local and Shared Data Structurestc "4.5.2.4.2.4 GETEMIT CSU Local and Shared Data Structures"§

The GETEMIT CSU does not implement any local or shared data structures.

4.5.2.4.2.5 GETEMIT CSU Interrupts and Signalstc "4.5.2.4.2.5 GETEMIT CSU Interrupts and Signals"§

The GETEMIT CSU does not handle any interrupts or signals.

4.5.2.4.2.6 GETEMIT CSU Error Handlingtc "4.5.2.4.2.6 GETEMIT CSU Error Handling"§

The GETEMIT CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.4.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.4.2.7 GETEMIT CSU Use of Other Elementstc "4.5.2.4.2.7 GETEMIT CSU Use of Other Elements"§

The GETEMIT CSU does not use system service routines, global data files, or other global elements.

4.5.2.4.2.8 GETEMIT CSU Logic Flowtc "4.5.2.4.2.8 GETEMIT CSU Logic Flow"§

Figure 4.5.2.4.2.8-1 describes the logic flow of the GETEMIT CSU. This CSU is executed by the application software. This CSU executes the Get Emitter Hash Index CSU and the Get Emitter Information by Hash Index CSU.

Figure 4.5.2.4.2.8-1
GETEMIT CSU Logic Flowtc "4.5.2.4.2.8-1 GETEMIT CSU Logic Flow" \f f§

4.5.2.4.2.9 GETEMIT CSU Algorithmstc "4.5.2.4.2.9 GETEMIT CSU Algorithms"§

The GETEMIT CSU does not utilize any algorithms.

4.5.2.4.2.10 GETEMIT Local Data Files Algorithmstc "4.5.2.4.2.10 GETEMIT Local Data Files"§

The GETEMIT CSU does not utilize any local data files.

4.5.2.4.2.11 GETEMIT CSU Limitationstc "4.5.2.4.2.11 GETEMIT CSU Limitations"§

There are no limitations or unusual features in the GETEMIT CSU.

4.5.2.5 Get Laser Information CSU (DG-CSU-5.2.5)tc "4.5.2.5 Get Laser Information CSU (DG-CSU-5.2.5)"§

The following subparagraphs provide the design information for the Get Laser Information (GETLAS) CSU, identified as DG-CSU-5.2.5. The purpose of this CSU is to return laser designator information for a specific laser on a specific entity, based upon Entity ID and Laser ID information.

4.5.2.5.1 GETLAS CSU Design Specifications/Constraintstc "4.5.2.5.1 GETLAS CSU Design Specifications/Constraints"§

4.5.2.5.2 GETLAS CSU Designtc "4.5.2.5.2 GETLAS CSU Design"§

The following subparagraphs specify the design of the GETLAS CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.5.2.1 GETLAS CSU Input/Output Data Elementstc "4.5.2.5.2.1 GETLAS CSU Input/Output Data Elements"§

Table 4.5.2.5.2.1-1 identifies and states the purpose of each input and output data element of the GETLAS CSU.

Table 4.5.2.5.2.1-1
GETLAS CSU I/O Datatc "4.5.2.5.2.1-1 GETLAS CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Laser ID	Input	Specifies a laser on an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Laser Information	Output	Contains data regarding a laser on an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.5.2.2 GETLAS CSU Local Data Elementstc "4.5.2.5.2.2 GETLAS CSU Local Data Elements"§

Table 4.5.2.5.2.2-1 identifies and states the purpose of each data element that originates in the GETLAS CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.5.2.2-1
GETLAS CSU Local Data Elementstc "4.5.2.5.2.2-1 GETLAS CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Hash Index	Contains a unique identifier based on the specified parameters	See Table 5-1			

4.5.2.5.2.3 GETLAS CSU Global Data Elementstc "4.5.2.5.2.3 GETLAS CSU Global Data Elements"§

The GETLAS CSU does not utilize any global data elements.

4.5.2.5.2.4 GETLAS CSU Local and Shared Data Structurestc "4.5.2.5.2.4 GETLAS CSU Local and Shared Data Structures"§

The GETLAS CSU does not implement any local or shared data structures.

4.5.2.5.2.5 GETLAS CSU Interrupts and Signalstc "4.5.2.5.2.5 GETLAS CSU Interrupts and Signals"§

The GETLAS CSU does not handle any interrupts or signals.

4.5.2.5.2.6 GETLAS CSU Error Handlingtc "4.5.2.5.2.6 GETLAS CSU Error Handling"§

The GETLAS CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.5.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.5.2.7 GETLAS CSU Use of Other Elementstc "4.5.2.5.2.7 GETLAS CSU Use of Other Elements"§

The GETLAS CSU does not use system service routines, global data files, or other global elements.

4.5.2.5.2.8 GETLAS CSU Logic Flowtc "4.5.2.5.2.8 GETLAS CSU Logic Flow"§

Figure 4.5.2.5.2.8-1 describes the logic flow of the GETLAS CSU. This CSU is executed by the application software. This CSU executes Get Laser Hash Index CSU and the Get Laser Information by Hash Index CSU.

Figure 4.5.2.5.2.8-1
GETLAS CSU Logic Flowtc "4.5.2.5.2.8-1 GETLAS CSU Logic Flow" \f f§

4.5.2.5.2.9 GETLAS CSU Algorithmstc "4.5.2.5.2.9 GETLAS CSU Algorithms"§

The GETLAS CSU does not utilize any algorithms.

4.5.2.5.2.10 GETLAS Local Data Files Algorithmstc "4.5.2.5.2.10 GETLAS Local Data Files"§

The GETLAS CSU does not utilize any local data files.

4.5.2.5.2.11 GETLAS CSU Limitationstc "4.5.2.5.2.11 GETLAS CSU Limitations"§

There are no limitations or unusual features in the GETLAS CSU.

4.5.2.6 Get Resupply Information CSU (DG-CSU-5.2.6)tc "4.5.2.6 Get Resupply Information CSU (DG-CSU-5.2.6)"§

The following subparagraphs provide the design information for the Get Resupply Request (GETRES) CSU, identified as DG-CSU-5.2.6. The purpose of this CSU is to return resupply request information for a specific resupply request of a specific entity, based upon Entity ID and Resupply Request ID information.

4.5.2.6.1 GETRES CSU Design Specifications/Constraintstc "4.5.2.6.1 GETRES CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.6.2 GETRES CSU Design

The following subparagraphs specify the design of the GETRES CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.6.2.1 GETRES CSU Input/Output Data Elements

Table 4.5.2.6.2.1-1 identifies and states the purpose of each input and output data element of the GETRES CSU.

Table 4.5.2.6.2.1-1
GETRES CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Resupply ID	Input	Specifies a resupply request of an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Resupply Information	Output	Contains data regarding a resupply request of an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.6.2.2 GETRES CSU Local Data Elementstc "4.5.2.6.2.2 GETRES CSU Local Data Elements"§

Table 4.5.2.6.2.2-1 identifies and states the purpose of each data element that originates in the GETRES CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.6.2.2-1
GETRES CSU Local Data Elementstc "4.5.2.6.2.2-1 GETRES CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Hash Index	Contains a unique identifier based on the specified parameters	See Table 5-1			

4.5.2.6.2.3 GETRES CSU Global Data Elementstc "4.5.2.6.2.3 GETRES CSU Global Data Elements"§

The GETRES CSU does not utilize any global data elements.

4.5.2.6.2.4 GETRES CSU Local and Shared Data Structurestc "4.5.2.6.2.4 GETRES CSU Local and Shared Data Structures"§

The GETRES CSU does not implement any local or shared data structures.

4.5.2.6.2.5 GETRES CSU Interrupts and Signalstc "4.5.2.6.2.5 GETRES CSU Interrupts and Signals"§

The GETRES CSU does not handle any interrupts or signals.

4.5.2.6.2.6 GETRES CSU Error Handlingtc "4.5.2.6.2.6 GETRES CSU Error Handling"§

The GETRES CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.6.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.6.2.7 GETRES CSU Use of Other Elementstc "4.5.2.6.2.7 GETRES CSU Use of Other Elements"§

The GETRES CSU does not use system service routines, global data files, or other global elements.

4.5.2.6.2.8 GETRES CSU Logic Flowtc "4.5.2.6.2.8 GETRES CSU Logic Flow"§

Figure 4.5.2.6.2.8-1 describes the logic flow of the GETRES CSU. This CSU is executed by the application software. This CSU executes the Get Resupply Hash Index CSU and the Get Resupply Information by Hash Index CSU.

Figure 4.5.2.6.2.8-1
GETRES CSU Logic Flowtc "4.5.2.6.2.8-1 GETRES CSU Logic Flow" \f f§

4.5.2.6.2.9 GETRES CSU Algorithmstc "4.5.2.6.2.9 GETRES CSU Algorithms"§

The GETRES CSU does not utilize any algorithms.

4.5.2.6.2.10 GETRES Local Data Files Algorithmstc "4.5.2.6.2.10 GETRES Local Data Files"§

The GETRES CSU does not utilize any local data files.

4.5.2.6.2.11 GETRES CSU Limitationstc "4.5.2.6.2.11 GETRES CSU Limitations"§

There are no limitations or unusual features in the GETRES CSU.

4.5.2.7 Get Repair Information CSU (DG-CSU-5.2.7)tc "4.5.2.7Get Repair Information CSU (DG-CSU-5.2.7)"§

The following subparagraphs provide the design information for the Get Repair Information (GETREP) CSU, identified as DG-CSU-5.2.7. The purpose of this CSU is to return repair request information for a specific repair request of a specific entity, based upon Entity ID and Repair Request ID information.

4.5.2.7.1 GETREP CSU Design Specifications/Constraintstc "4.5.2.7.1 GETREP CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.7.2 GETREP CSU Design

The following subparagraphs specify the design of the GETREP CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.7.2.1 GETREP CSU Input/Output Data Elements

Table 4.5.2.7.2.1-1 identifies and states the purpose of each input and output data element of the GETREP CSU.

Table 4.5.2.7.2.1-1
GETREP CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Resupply Request ID	Input	Specifies a resupply request of an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Resupply Information	Output	Contains data regarding a resupply request of an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.7.2.2 GETREP CSU Local Data Elementstc "4.5.2.7.2.2 GETREP CSU Local Data Elements"§

Table 4.5.2.7.2.2-1 identifies and states the purpose of each data element that originates in the GETREP CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.7.2.2-1
GETREP CSU Local Data Elementstc "4.5.2.7.2.2-1 GETREP CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Hash Index	Contains a unique identifier based on the specified parameters	See Table 5-1			

4.5.2.7.2.3 GETREP CSU Global Data Elementstc "4.5.2.7.2.3 GETREP CSU Global Data Elements"§

The GETREP CSU does not utilize any global data elements.

4.5.2.7.2.4 GETREP CSU Local and Shared Data Structurestc "4.5.2.7.2.4 GETREP CSU Local and Shared Data Structures"§

The GETREP CSU does not implement any local or shared data structures.

4.5.2.7.2.5 GETREP CSU Interrupts and Signalstc "4.5.2.7.2.5 GETREP CSU Interrupts and Signals"§

The GETREP CSU does not handle any interrupts or signals.

4.5.2.7.2.6 GETREP CSU Error Handlingtc "4.5.2.7.2.6 GETREP CSU Error Handling"§

The GETREP CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.7.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.7.2.7 GETREP CSU Use of Other Elementstc "4.5.2.7.2.7 GETREP CSU Use of Other Elements"§

The GETREP CSU does not use system service routines, global data files, or other global elements.

4.5.2.7.2.8 GETREP CSU Logic Flowtc "4.5.2.7.2.8 GETREP CSU Logic Flow"§

Figure 4.5.2.7.2.8-1 describes the logic flow of the GETREP CSU. This CSU is executed by the application software. This CSU executes the Get Repair Hash Index CSU and the Get Repair Information by Hash Index CSU.

Figure 4.5.2.7.2.8-1
GETREP CSU Logic Flowtc "4.5.2.7.2.8-1 GETREP CSU Logic Flow" \f f§

4.5.2.7.2.9 GETREP CSU Algorithmstc "4.5.2.7.2.9 GETREP CSU Algorithms"§

The GETREP CSU does not utilize any algorithms.

4.5.2.7.2.10 GETREP Local Data Files Algorithmstc "4.5.2.7.2.10 GETREP Local Data Files"§

The GETREP CSU does not utilize any local data files.

4.5.2.7.2.11 GETREP CSU Limitationstc "4.5.2.7.2.11 GETREP CSU Limitations"§

There are no limitations or unusual features in the GETREP CSU.

4.5.2.8 Get Receiver Information CSU (DG-CSU-5.2.8)tc "4.5.2.8 Get Receiver Information CSU (DG-CSU-5.2.8)"§

The following subparagraphs provide the design information for the Get Receiver Information (GETREC) CSU, identified as DG-CSU-5.2.8. The purpose of this CSU is to return receiver information for a specific receiver of a specific entity, based upon Entity ID and Receiver ID information.

4.5.2.8.1 GETREC CSU Design Specifications/Constraintstc "4.5.2.8.1 GETREC CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.8.2 GETREC CSU Design

The following subparagraphs specify the design of the GETREC CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.8.2.1 GETREC CSU Input/Output Data Elements

Table 4.5.2.8.2.1-1 identifies and states the purpose of each input and output data element of the GETREC CSU.

Table 4.5.2.8.2.1-1
GETREC CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Receiver ID	Input	Specifies a receiver on an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Receiver Information	Output	Contains data regarding a receiver on an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.8.2.2 GETREC CSU Local Data Elements

Table 4.5.2.8.2.2-1 identifies and states the purpose of each data element that originates in the GETREC CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.8.2.2-1
GETREC CSU Local Data Elementstc "4.5.2.8.2.2-1 GETREC CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Hash Index	Contains a unique identifier based on the specified parameters	See Table 5-1			

4.5.2.8.2.3 GETREC CSU Global Data Elementstc "4.5.2.8.2.3 GETREC CSU Global Data Elements"§

The GETREC CSU does not utilize any global data elements.

4.5.2.8.2.4 GETREC CSU Local and Shared Data Structurestc "4.5.2.8.2.4 GETREC CSU Local and Shared Data Structures"§

The GETREC CSU does not implement any local or shared data structures.

4.5.2.8.2.5 GETREC CSU Interrupts and Signalstc "4.5.2.8.2.5 GETREC CSU Interrupts and Signals"§

The GETREC CSU does not handle any interrupts or signals.

4.5.2.8.2.6 GETREC CSU Error Handlingtc "4.5.2.8.2.6 GETREC CSU Error Handling"§

The GETREC CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.8.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.8.2.7 GETREC CSU Use of Other Elementstc "4.5.2.8.2.7 GETREC CSU Use of Other Elements"§

The GETREC CSU does not use system service routines, global data files, or other global elements.

4.5.2.8.2.8 GETREC CSU Logic Flowtc "4.5.2.8.2.8 GETREC CSU Logic Flow"§

Figure 4.5.2.8.2.8-1 describes the logic flow of the GETREC CSU. This CSU is executed by the application software. This CSU executes the Get Receiver Hash Index CSU and Get Receiver Information by Hash Index CSU.

Figure 4.5.2.8.2.8-1
GETREC CSU Logic Flowtc "4.5.2.8.2.8-1GETREC CSU Logic Flow" \f f§

4.5.2.8.2.9 GETREC CSU Algorithmstc "4.5.2.8.2.9 GETREC CSU Algorithms"§

The GETREC CSU does not utilize any algorithms.

4.5.2.8.2.10 GETREC Local Data Files Algorithmstc "4.5.2.8.2.10 GETREC Local Data Files"§

The GETREC CSU does not utilize any local data files.

4.5.2.8.2.11 GETREC CSU Limitationstc "4.5.2.8.2.11 GETREC CSU Limitations"§

There are no limitations or unusual features in the GETREC CSU.

4.5.2.9 Get Transmitter Information CSU (DG-CSU-5.2.9)tc "4.5.2.9 Get Transmitter Information CSU (DG-CSU-5.2.9)"§

The following subparagraphs provide the design information for the Get Transmitter Information (GETTRAN) CSU, identified as DG-CSU-5.2.9. The purpose of this CSU is to return transmitter information for a specific transmitter of a specific entity, based upon Entity ID and Transmitter ID information.

4.5.2.9.1 GETTRAN CSU Design Specifications/Constraintstc "4.5.2.9.1 GETTRAN CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.9.2 GETTRAN CSU Designtc "4.5.2.9.2 GETTRAN CSU Design"§

The following subparagraphs specify the design of the GETTRAN CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.9.2.1 GETTRAN CSU Input/Output Data Elements

Table 4.5.2.9.2.1-1 identifies and states the purpose of each input and output data element of the GETTRAN CSU.

Table 4.5.2.9.2.1-1
GETTRAN CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Transmitter ID	Input	Specifies a transmitter on an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1
Transmitter Information	Output	Contains data regarding a transmitter on an entity	See Table 5-1

4.5.2.9.2.2 GETTRAN CSU Local Data Elements

Table 4.5.2.9.2.2-1 identifies and states the purpose of each data element that originates in the GETTRAN CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.9.2.2-1
GETTRAN CSU Local Data Elementstc "4.5.2.9.2.2-1 GETTRAN CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Hash Index	Contains a unique identifier based on the specified parameters	See Table 5-1			

4.5.2.9.2.3 GETTRAN CSU Global Data Elementstc "4.5.2.9.2.3 GETTRAN CSU Global Data Elements"§

The GETTRAN CSU does not utilize any global data elements.

4.5.2.9.2.4 GETTRAN CSU Local and Shared Data Structurestc "4.5.2.9.2.4 GETTRAN CSU Local and Shared Data Structures"§

The GETTRAN CSU does not implement any local or shared data structures.

4.5.2.9.2.5 GETTRAN CSU Interrupts and Signalstc "4.5.2.9.2.5 GETTRAN CSU Interrupts and Signals"§

The GETTRAN CSU does not handle any interrupts or signals.

4.5.2.9.2.6 GETTRAN CSU Error Handlingtc "4.5.2.9.2.6 GETTRAN CSU Error Handling"§

The GETTRAN CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.9.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.9.2.7 GETTRAN CSU Use of Other Elementstc "4.5.2.9.2.7 GETTRAN CSU Use of Other Elements"§

The GETTRAN CSU does not use system service routines, global data files, or other global elements.

4.5.2.9.2.8 GETTRAN CSU Logic Flowtc "4.5.2.9.2.8 GETTRAN CSU Logic Flow"§

Figure 4.5.2.9.2.8-1 describes the logic flow of the GETTRAN CSU. This CSU is executed by the application software. This CSU executes the Get Transmitter Hash Index CSU and the Get Transmitter Information by Hash Index CSU.

Figure 4.5.2.9.2.8-1
GETTRAN CSU Logic Flowtc "4.5.2.9.2.8-1 GETTRAN CSU Logic Flow" \f f§

4.5.2.9.2.9 GETTRAN CSU Algorithmstc "4.5.2.9.2.9 GETTRAN CSU Algorithms"§

The GETTRAN CSU does not utilize any algorithms.

4.5.2.9.2.10 GETTRAN Local Data Files Algorithmstc "4.5.2.9.2.10 GETTRAN Local Data Files"§

The GETTRAN CSU does not utilize any local data files.

4.5.2.9.2.11 GETTRAN CSU Limitationstc "4.5.2.9.2.11 GETTRAN CSU Limitations"§

There are no limitations or unusual features in the GETTRAN CSU.

4.5.2.10 Get Entity State Information by Hash Index CSU (DG-CSU-5.2.10)tc "4.5.2.10 Get Entity State Information by Hash Index CSU (DG-CSU-5.2.10)"§

The following subparagraphs provide the design information for the Get Entity State Information by Hash Index (HSHENT) CSU, identified as DG-CSU-5.2.10. The purpose of this CSU is to return entity state information for a specific entity, based upon the entity's hash table index.

4.5.2.10.1 HSHENT CSU Design Specifications/Constraintstc "4.5.2.10.1 HSHENT CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.10.2 HSHENT CSU Design

The following subparagraphs specify the design of the HSHENT CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.10.2.1 HSHENT CSU Input/Output Data Elements

Table 4.5.2.10.2.1-1 identifies and states the purpose of each input and output data element of the HSHENT CSU.

Table 4.5.2.10.2.1-1
HSHENT CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Entity Index	Input	The hash table index of an entity	See Table 5-1
Entity State Information	Output	Contains data regarding an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.10.2.2 HSHENT CSU Local Data Elements

The HSHENT CSU does not utilize any local data elements.

4.5.2.10.2.3 HSHENT CSU Global Data Elements

Table 4.5.2.10.2.3-1 identifies and states the purpose of each data element that is used by the HSHENT CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.10.2.2-1
HSHENT CSU Global Data Elementstc "4.5.2.10.2.2-1 HSHENT CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.5.2.10.2.4 HSHENT CSU Local and Shared Data Structurestc "4.5.2.10.2.4 HSHENT CSU Local and Shared Data Structures"§

The HSHENT CSU does not implement any local or shared data structures.

4.5.2.10.2.5 HSHENT CSU Interrupts and Signalstc "4.5.2.10.2.5 HSHENT CSU Interrupts and Signals"§

The HSHENT CSU does not handle any interrupts or signals.

4.5.2.10.2.6 HSHENT CSU Error Handlingtc "4.5.2.10.2.6 HSHENT CSU Error Handling"§

The HSHENT CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.10.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.10.2.7 HSHENT CSU Use of Other Elementstc "4.5.2.10.2.7 HSHENT CSU Use of Other Elements"§

The HSHENT CSU does not use system service routines, global data files, or other global elements.

4.5.2.10.2.8 HSHENT CSU Logic Flowtc "4.5.2.10.2.8 HSHENT CSU Logic Flow"§

Figure 4.5.2.10.2.8-1 describes the logic flow of the HSHENT CSU. This CSU is executed by the application software and by the Get Entity Information CSU. This CSU does not execute any CSUs.

Figure 4.5.2.10.2.8-1
HSHENT CSU Logic Flowtc "4.5.2.10.2.8-1 HSHENT CSU Logic Flow" \f f§

4.5.2.10.2.9 HSHENT CSU Algorithmstc "4.5.2.10.2.9 HSHENT CSU Algorithms"§

The HSHENT CSU does not utilize any algorithms.

4.5.2.10.2.10 HSHENT Local Data Files Algorithmstc "4.5.2.10.2.10 HSHENT Local Data Files"§

The HSHENT CSU does not utilize any local data files.

4.5.2.10.2.11 HSHENT CSU Limitationstc "4.5.2.10.2.11HSHENT CSU Limitations"§

There are no limitations or unusual features in the HSHENT CSU.

4.5.2.11 Get Emitter Information by Hash Index CSU (DG-CSU-5.2.11)tc "4.5.2.11 Get Emitter Information by Hash Index CSU (DG-CSU-5.2.11)"§

The following subparagraphs provide the design information for the Get Emitter Information by Hash Index (HSHEMIT) CSU, identified as DG-CSU-5.2.11. The purpose of this CSU is to return emitter information for a specific emitter on a specific entity, based upon the emitter's hash table index.

4.5.2.11.1 HSHEMIT CSU Design Specifications/Constraintstc "4.5.2.11.1 HSHEMIT CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.11.2 HSHEMIT CSU Designtc "4.5.2.11.2 HSHEMIT CSU Design"§

The following subparagraphs specify the design of the HSHEMIT CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.11.2.1 HSHEMIT CSU Input/Output Data Elementstc "4.5.2.11.2.1 HSHEMIT CSU Input/Output Data Elements"§

Table 4.5.2.11.2.1-1 identifies and states the purpose of each input and output data element of the HSHEMIT CSU.

Table 4.5.2.11.2.1-1
HSHEMIT CSU I/O Datatc "4.5.2.11.2.1-1HSHEMIT CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Emitter Index	Input	The hash table index of an emitter	See Table 5-1
Emitter Information	Output	Contains data regarding an emitter on an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.11.2.2 HSHEMIT CSU Local Data Elementstc "4.5.2.11.2.2 HSHEMIT CSU Local Data Elements"§

The HSHEMIT CSU does not utilize any local data elements.

4.5.2.11.2.3 HSHEMIT CSU Global Data Elementstc "4.5.2.11.2.3 HSHEMIT CSU Global Data Elements"§

Table 4.5.2.11.2.3-1 identifies and states the purpose of each data element that is used by the HSHEMIT CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.11.2.2-1
HSHEMIT CSU Global Data Elementstc "4.5.2.11.2.2-1 HSHEMIT CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.5.2.11.2.4 HSHEMIT CSU Local and Shared Data Structurestc "4.5.2.11.2.4 HSHEMIT CSU Local and Shared Data Structures"§

The HSHEMIT CSU does not implement any local or shared data structures.

4.5.2.11.2.5 HSHEMIT CSU Interrupts and Signalstc "4.5.2.11.2.5 HSHEMIT CSU Interrupts and Signals"§

The HSHEMIT CSU does not handle any interrupts or signals.

4.5.2.11.2.6 HSHEMIT CSU Error Handlingtc "4.5.2.11.2.6 HSHEMIT CSU Error Handling"§

The HSHEMIT CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.11.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.11.2.7 HSHEMIT CSU Use of Other Elementstc "4.5.2.11.2.7 HSHEMIT CSU Use of Other Elements"§

The HSHEMIT CSU does not use system service routines, global data files, or other global elements.

4.5.2.11.2.8 HSHEMIT CSU Logic Flowtc "4.5.2.11.2.8 HSHEMIT CSU Logic Flow"§

Figure 4.5.2.11.2.8-1 describes the logic flow of the HSHEMIT CSU. This CSU is executed by the application software and by the Get Emitter Information CSU. This CSU does not execute any CSUs.

Figure 4.5.2.11.2.8-1
HSHEMIT CSU Logic Flowtc "4.5.2.11.2.8-1 HSHEMIT CSU Logic Flow" \f f§

4.5.2.11.2.9 HSHEMIT CSU Algorithmstc "4.5.2.11.2.9 HSHEMIT CSU Algorithms"§

The HSHEMIT CSU does not utilize any algorithms.

4.5.2.11.2.10 HSHEMIT Local Data Files Algorithmstc "4.5.2.11.2.10 HSHEMIT Local Data Files"§

The HSHEMIT CSU does not utilize any local data files.

4.5.2.11.2.11 HSHEMIT CSU Limitationstc "4.5.2.11.2.11 HSHEMIT CSU Limitations"§

There are no limitations or unusual features in the HSHEMIT CSU.

4.5.2.12 Get Laser Information by Hash Index CSU (DG-CSU-5.2.12)tc "4.5.2.12 Get Laser Information by Hash Index CSU (DG-CSU-5.2.12)"§

The following subparagraphs provide the design information for the Get Laser Information by Hash Index (HSHLAS) CSU, identified as DG-CSU-5.2.12. The purpose of this CSU is to return laser information for a specific laser on a specific entity, based upon the laser's hash table index.

4.5.2.12.1 HSHLAS CSU Design Specifications/Constraintstc "4.5.2.12.1 HSHLAS CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.12.2 HSHLAS CSU Designtc "4.5.2.12.2 HSHLAS CSU Design"§

The following subparagraphs specify the design of the HSHLAS CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.12.2.1 HSHLAS CSU Input/Output Data Elementstc "4.5.2.12.2.1 HSHLAS CSU Input/Output Data Elements"§

Table 4.5.2.12.2.1-1 identifies and states the purpose of each input and output data element of the HSHLAS CSU.

Table 4.5.2.12.2.1-1
HSHLAS CSU I/O Datatc "4.5.2.12.2.1-1 HSHLAS CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Laser Index	Input	The hash table index of a laser	See Table 5-1
Laser Information	Output	Contains data regarding a laser on an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.12.2.2 HSHLAS CSU Local Data Elementstc "4.5.2.12.2.2 HSHLAS CSU Local Data Elements"§

The HSHLAS CSU does not utilize any local data elements.

4.5.2.12.2.3 HSHLAS CSU Global Data Elementstc "4.5.2.12.2.3 HSHLAS CSU Global Data Elements"§

Table 4.5.2.12.2.3-1 identifies and states the purpose of each data element that is used by the HSHLAS CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.12.2.2-1
HSHLAS CSU Global Data Elementstc "4.5.2.12.2.2-1 HSHLAS CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.5.2.12.2.4 HSHLAS CSU Local and Shared Data Structurestc "4.5.2.12.2.4 HSHLAS CSU Local and Shared Data Structures"§

The HSHLAS CSU does not implement any local or shared data structures.

4.5.2.12.2.5 HSHLAS CSU Interrupts and Signalstc "4.5.2.12.2.5 HSHLAS CSU Interrupts and Signals"§

The HSHLAS CSU does not handle any interrupts or signals.

4.5.2.12.2.6 HSHLAS CSU Error Handlingtc "4.5.2.12.2.6 HSHLAS CSU Error Handling"§

The HSHLAS CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.12.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.12.2.7 HSHLAS CSU Use of Other Elementstc "4.5.2.12.2.7 HSHLAS CSU Use of Other Elements"§

The HSHLAS CSU does not use system service routines, global data files, or other global elements.

4.5.2.12.2.8 HSHLAS CSU Logic Flowtc "4.5.2.12.2.8 HSHLAS CSU Logic Flow"§

Figure 4.5.2.12.2.8-1 describes the logic flow of the HSHLAS CSU. This CSU is executed by the application software and by the Get Laser Information CSU. This CSU does not execute any other CSUs.

Figure 4.5.2.12.2.8-1
HSHLAS CSU Logic Flowtc "4.5.2.12.2.8-1 HSHLAS CSU Logic Flow" \f f§

4.5.2.12.2.9 HSHLAS CSU Algorithmstc "4.5.2.12.2.9 HSHLAS CSU Algorithms"§

The HSHLAS CSU does not utilize any algorithms.

4.5.2.12.2.10 HSHLAS Local Data Files Algorithmstc "4.5.2.12.2.10 HSHLAS Local Data Files"§

The HSHLAS CSU does not utilize any local data files.

4.5.2.12.2.11 HSHLAS CSU Limitations

There are no limitations or unusual features in the HSHLAS CSU.

4.5.2.13 Get Resupply Information by Hash Index CSU (DG-CSU-5.2.13)

The following subparagraphs provide the design information for the Get Resupply Information by Hash Index (HSHRES) CSU, identified as DG-CSU-5.2.13. The purpose of this CSU is to return resupply information for a specific resupply request of a specific entity, based upon the resupply request's hash table index.

4.5.2.13.1 HSHRES CSU Design Specifications/Constraints

There are no design constraints for this CSU.

4.5.2.13.2 HSHRES CSU Design

The following subparagraphs specify the design of the HSHRES CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.13.2.1 HSHRES CSU Input/Output Data Elements

Table 4.5.2.13.2.1-1 identifies and states the purpose of each input and output data element of the HSHRES CSU.

Table 4.5.2.13.2.1-1
HSHRES CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Resupply Index	Input	The hash table index of a resupply request	See Table 5-1
Resupply Information	Output	Contains data regarding a resupply request of an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.13.2.2 HSHRES CSU Local Data Elementstc "4.5.2.13.2.2 HSHRES CSU Local Data Elements"§

The HSHRES CSU does not utilize any local data elements.

4.5.2.13.2.3 HSHRES CSU Global Data Elementstc "4.5.2.13.2.3 HSHRES CSU Global Data Elements"§

Table 4.5.2.13.2.3-1 identifies and states the purpose of each data element that is used by the HSHRES CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.13.2.2-1
HSHRES CSU Global Data Elementstc "4.5.2.13.2.2-1 HSHRES CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.5.2.13.2.4 HSHRES CSU Local and Shared Data Structurestc "4.5.2.13.2.4 HSHRES CSU Local and Shared Data Structures"§

The HSHRES CSU does not implement any local or shared data structures.

4.5.2.13.2.5 HSHRES CSU Interrupts and Signalstc "4.5.2.13.2.5 HSHRES CSU Interrupts and Signals"§

The HSHRES CSU does not handle any interrupts or signals.

4.5.2.13.2.6 HSHRES CSU Error Handlingtc "4.5.2.13.2.6 HSHRES CSU Error Handling"§

The HSHRES CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.13.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.13.2.7 HSHRES CSU Use of Other Elementstc "4.5.2.13.2.7 HSHRES CSU Use of Other Elements"§

The HSHRES CSU does not use system service routines, global data files, or other global elements.

4.5.2.13.2.8 HSHRES CSU Logic Flowtc "4.5.2.13.2.8 HSHRES CSU Logic Flow"§

Figures 4.5.2.13.2.8-1 to 4.5.2.13.2.8-2 describe the logic flow of the HSHRES CSU. This CSU is executed by the application software and by the Get Resupply Information CSU. This CSU does not execute any other CSUs.

Figure 4.5.2.13.2.8-1
HSHRES CSU Logic Flowtc "4.5.2.13.2.8-1 HSHRES CSU Logic Flow" \f f§

4.5.2.13.2.9 HSHRES CSU Algorithmstc "4.5.2.13.2.9 HSHRES CSU Algorithms"§

The HSHRES CSU does not utilize any algorithms.

4.5.2.13.2.10 HSHRES Local Data Files Algorithmstc "4.5.2.13.2.10 HSHRES Local Data Files"§

The HSHRES CSU does not utilize any local data files.

4.5.2.13.2.11 HSHRES CSU Limitationstc "4.5.2.13.2.11 HSHRES CSU Limitations"§

There are no limitations or unusual features in the HSHRES CSU.

4.5.2.14 Get Repair Information by Hash Index CSU (DG-CSU-5.2.14)tc "4.5.2.14 Get Repair Information by Hash Index CSU (DG-CSU-5.2.14)"§

The following subparagraphs provide the design information for the Get Repair Information by Hash Index (HSHREP) CSU, identified as DG-CSU-5.2.14. The purpose of this CSU is to return repair information for a specific repair request of a specific entity, based upon the repair request's hash table index.

4.5.2.14.1 HSHREP CSU Design Specifications/Constraintstc "4.5.2.14.1 HSHREP CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.14.2 HSHREP CSU Design

The following subparagraphs specify the design of the HSHREP CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.14.2.1 HSHREP CSU Input/Output Data Elements

Table 4.5.2.14.2.1-1 identifies and states the purpose of each input and output data element of the HSHREP CSU.

Table 4.5.2.14.2.1-1
HSHREP CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Repair Index	Input	The hash table index of a repair request	See Table 5-1
Repair Information	Output	Contains data regarding a repair request of an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.14.2.2 HSHREP CSU Local Data Elements

The HSHREP CSU does not utilize any local data elements.

4.5.2.14.2.3 HSHREP CSU Global Data Elements

Table 4.5.2.14.2.3-1 identifies and states the purpose of each data element that is used by the HSHREP CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.14.2.2-1
HSHREP CSU Global Data Elementstc "4.5.2.14.2.2-1 HSHREP CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.5.2.14.2.4 HSHREP CSU Local and Shared Data Structurestc "4.5.2.14.2.4 HSHREP CSU Local and Shared Data Structures"§

The HSHREP CSU does not implement any local or shared data structures.

4.5.2.14.2.5 HSHREP CSU Interrupts and Signalstc "4.5.2.14.2.5 HSHREP CSU Interrupts and Signals"§

The HSHREP CSU does not handle any interrupts or signals.

4.5.2.14.2.6 HSHREP CSU Error Handlingtc "4.5.2.14.2.6 HSHREP CSU Error Handling"§

The HSHREP CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.14.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.14.2.7 HSHREP CSU Use of Other Elementstc "4.5.2.14.2.7 HSHREP CSU Use of Other Elements"§

The HSHREP CSU does not use system service routines, global data files, or other global elements.

4.5.2.14.2.8 HSHREP CSU Logic Flowtc "4.5.2.14.2.8 HSHREP CSU Logic Flow"§

Figure 4.5.2.14.2.8-1 describes the logic flow of the HSHREP CSU. This CSU is executed by the application software and by the Get Repair Information CSU. This CSU does not execute any CSUs.

Figure 4.5.2.14.2.8-1
HSHREP CSU Logic Flowtc "4.5.2.14.2.8-1 HSHREP CSU Logic Flow" \f f§

4.5.2.14.2.9 HSHREP CSU Algorithmstc "4.5.2.14.2.9 HSHREP CSU Algorithms"§

The HSHREP CSU does not utilize any algorithms.

4.5.2.14.2.10 HSHREP Local Data Files Algorithmstc "4.5.2.14.2.10 HSHREP Local Data Files"§

The HSHREP CSU does not utilize any local data files.

4.5.2.14.2.11 HSHREP CSU Limitationstc "4.5.2.14.2.11HSHREP CSU Limitations"§

There are no limitations or unusual features in the HSHREP CSU.

4.5.2.15 Get Receiver Information by Hash Index CSU (DG-CSU-5.2.15)tc "4.5.2.15 Get Receiver Information by Hash Index CSU (DG-CSU-5.2.15)"§

The following subparagraphs provide the design information for the Get Receiver Information by Hash Index (HSHREC) CSU, identified as DG-CSU-5.2.15. The purpose of this CSU is to return receiver information for a specific receiver on a specific enity, based upon the receiver's hash table index.

4.5.2.15.1 HSHREC CSU Design Specifications/Constraintstc "4.5.2.15.1 HSHREC CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.15.2 HSHREC CSU Designtc "4.5.2.15.2 HSHREC CSU Design"§

The following subparagraphs specify the design of the HSHREC CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.15.2.1 HSHREC CSU Input/Output Data Elementstc "4.5.2.15.2.1 HSHREC CSU Input/Output Data Elements"§

Table 4.5.2.15.2.1-1 identifies and states the purpose of each input and output data element of the HSHREC CSU.

Table 4.5.2.15.2.1-1
HSHREC CSU I/O Datatc "4.5.2.15.2.1-1 HSHREC CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Receiver Index	Input	The hash table index of a receiver	See Table 5-1
Receiver Information	Output	Contains data regarding a receiver on an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.15.2.2 HSHREC CSU Local Data Elementstc "4.5.2.15.2.2HSHREC CSU Local Data Elements"§

The HSHREC CSU does not utilize any local data elements.

4.5.2.15.2.3 HSHREC CSU Global Data Elementstc "4.5.2.15.2.3 HSHREC CSU Global Data Elements"§

Table 4.5.2.15.2.3-1 identifies and states the purpose of each data element that is used by the HSHREC CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.15.2.2-1
HSHREC CSU Global Data Elementstc "4.5.2.15.2.2-1 HSHREC CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.5.2.15.2.4 HSHREC CSU Local and Shared Data Structurestc "4.5.2.15.2.4 HSHREC CSU Local and Shared Data Structures"§

The HSHREC CSU does not implement any local or shared data structures.

4.5.2.15.2.5 HSHREC CSU Interrupts and Signalstc "4.5.2.15.2.5 HSHREC CSU Interrupts and Signals"§

The HSHREC CSU does not handle any interrupts or signals.

4.5.2.15.2.6 HSHREC CSU Error Handlingtc "4.5.2.15.2.6 HSHREC CSU Error Handling"§

The HSHREC CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.15.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.15.2.7 HSHREC CSU Use of Other Elementstc "4.5.2.15.2.7 HSHREC CSU Use of Other Elements"§

The HSHREC CSU does not use system service routines, global data files, or other global elements.

4.5.2.15.2.8 HSHREC CSU Logic Flowtc "4.5.2.15.2.8 HSHREC CSU Logic Flow"§

Figure 4.5.2.15.2.8-1 describes the logic flow of the HSHREC CSU. This CSU is executed by the application software and the Get Receiver Information CSU. This CSU does not execute any other CSUs.

Figure 4.5.2.15.2.8-1
HSHREC CSU Logic Flowtc "4.5.2.15.2.8-1 HSHREC CSU Logic Flow" \f f§

4.5.2.15.2.9 HSHREC CSU Algorithmstc "4.5.2.15.2.9 HSHREC CSU Algorithms"§

The HSHREC CSU does not utilize any algorithms.

4.5.2.15.2.10 HSHREC Local Data Files Algorithmstc "4.5.2.15.2.10 HSHREC Local Data Files"§

The HSHREC CSU does not utilize any local data files.

4.5.2.15.2.11 HSHREC CSU Limitationstc "4.5.2.15.2.11 HSHREC CSU Limitations"§

There are no limitations or unusual features in the HSHREC CSU.

4.5.2.16 Get Transmitter Information by Hash Index CSU (DG-CSU-5.2.16)tc "4.5.2.16 Get Transmitter Information by Hash Index CSU (DG-CSU-5.2.16)"§

The following subparagraphs provide the design information for the Get Transmitter Information by Hash Index (HSHTRAN) CSU, identified as DG-CSU-5.2.16. The purpose of this CSU is to return transmitter information for a specific transmitter on a specific entity, based upon the transmitter's hash table index.

4.5.2.16.1 HSHTRAN CSU Design Specifications/Constraintstc "4.5.2.16.1 HSHTRAN CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.2.16.2 HSHTRAN CSU Designtc "4.5.2.16.2 HSHTRAN CSU Design"§

The following subparagraphs specify the design of the HSHTRAN CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.2.16.2.1 HSHTRAN CSU Input/Output Data Elementstc "4.5.2.16.2.1 HSHTRAN CSU Input/Output Data Elements"§

Table 4.5.2.16.2.1-1 identifies and states the purpose of each input and output data element of the HSHTRAN CSU.

Table 4.5.2.16.2.1-1
HSHTRAN CSU I/O Datatc "4.5.2.16.2.1-1 HSHTRAN CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Transmitter Index	Input	The hash table index of a transmitter	See Table 5-1
Status	Output	Contains data regarding a transmitter on an entity	See Table 5-1
Transmitter Information	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.2.16.2.2 HSHTRAN CSU Local Data Elementstc "4.5.2.16.2.2 HSHTRAN CSU Local Data Elements"§

The HSHTRAN CSU does not utilize any local data elements.

4.5.2.16.2.3 HSHTRAN CSU Global Data Elementstc "4.5.2.16.2.3 HSHTRAN CSU Global Data Elements"§

Table 4.5.2.16.2.3-1 identifies and states the purpose of each data element that is used by the HSHTRAN CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.2.16.2.2-1
HSHTRAN CSU Global Data Elementstc "4.5.2.16.2.2-1 HSHTRAN CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.5.2.16.2.4 HSHTRAN CSU Local and Shared Data Structurestc "4.5.2.16.2.4 HSHTRAN CSU Local and Shared Data Structures"§

The HSHTRAN CSU does not implement any local or shared data structures.

4.5.2.16.2.5 HSHTRAN CSU Interrupts and Signalstc "4.5.2.16.2.5 HSHTRAN CSU Interrupts and Signals"§

The HSHTRAN CSU does not handle any interrupts or signals.

4.5.2.16.2.6 HSHTRAN CSU Error Handlingtc "4.5.2.16.2.6 HSHTRAN CSU Error Handling"§

The HSHTRAN CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.2.16.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.2.16.2.7 HSHTRAN CSU Use of Other Elementstc "4.5.2.16.2.7 HSHTRAN CSU Use of Other Elements"§

The HSHTRAN CSU does not use system service routines, global data files, or other global elements.

4.5.2.16.2.8 HSHTRAN CSU Logic Flowtc "4.5.2.16.2.8 HSHTRAN CSU Logic Flow"§

Figure 4.5.2.16.2.8-1 describes the logic flow of the HSHTRAN CSU. This CSU is executed by the application software and the Get Transmitter Information CSU. This CSU does not utilize any other CSUs.

Figure 4.5.2.16.2.8-1
HSHTRAN CSU Logic Flowtc "4.5.2.16.2.8-1 HSHTRAN CSU Logic Flow" \f f§

4.5.2.16.2.9 HSHTRAN CSU Algorithmstc "4.5.2.16.2.9 HSHTRAN CSU Algorithms"§

The HSHTRAN CSU does not utilize any algorithms.

4.5.2.16.2.10 HSHTRAN Local Data Files Algorithmstc "4.5.2.16.2.10 HSHTRAN Local Data Files"§

The HSHTRAN CSU does not utilize any local data files.

4.5.2.16.2.11 HSHTRAN CSU Limitationstc "4.5.2.16.2.11 HSHTRAN CSU Limitations"§

There are no limitations or unusual features in the HSHTRAN CSU.

4.5.3 DG Client Graphical User Interface CSC (DG-CSC-5.3)tc "4.5.3 DG Client Graphical User Interface CSC (DG-CSC-5.3)"§

The following subparagraphs identify and describe each of the CSUs of the DG Client Graphical User Interface (CLIGUI) CSC. Figure 4.5.3-1 shows the hierarchy of units within the CSC. Figure 4.5.3-2 describes the relationships of the CSUs in terms of execution control. Solid lines with no arrows indicate a hierarchical relationship. Solid lines with arrows indicate data flow, and dashed lines with arrows indicate control flow. Rectangles with solid borders represent units internal to the CSC, and rectangles with dashed borders indicate external CSCs and CSCIs.

Figure 4.5.3-1
DG Client Graphical User Interface CSC Hierarchy Diagramtc "4.5.3-1 DG Client Graphical User Interface CSC Hierarchy Diagram" \f f§

Figure 4.5.3-2
DG Client Graphical User Interface CSC Execution Control Diagramtc "4.5.3-1 DG Client Graphical User Interface CSC Execution Control Diagram" \f f§

4.5.3.1 Display/Modify Filter Parameters CSU (DG-CSU-5.3.1)tc "4.5.3.1 Display/Modify Filter Parameters CSU (DG-CSU-5.3.1)"§

The following subparagraphs provide the design information for the Display/Modify Filter Parameters (GUIFILT) CSU, identified as DG-CSU-5.3.1. The purpose of this CSU is to permit the user to review and possibly modify parameters associated with DG PDU filtering.

4.5.3.1.1 GUIFILT CSU Design Specifications/Constraintstc "4.5.3.1.1GUIFILT CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.3.1.2 GUIFILT CSU Designtc "4.5.3.1.2 GUIFILT CSU Design"§

The following subparagraphs specify the design of the GUIFILT CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.3.1.2.1 GUIFILT CSU Input/Output Data Elementstc "4.5.3.1.2.1 GUIFILT CSU Input/Output Data Elements"§

Table 4.5.3.1.2.1-1 identifies and states the purpose of each input and output data element of the GUIFILT CSU.

Table 4.5.3.1.2.1-1
GUIFILT CSU I/O Datatc "4.5.3.1.2.1-1 GUIFILT CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.3.1.2.2 GUIFILT CSU Local Data Elementstc "4.5.3.1.2.2 GUIFILT CSU Local Data Elements"§

The GUIFILT CSU does not utilize any local data elements.

4.5.3.1.2.3 GUIFILT CSU Global Data Elementstc "4.5.3.1.2.3 GUIFILT CSU Global Data Elements"§

Table 4.5.3.1.2.3-1 identifies and states the purpose of each data element that is used by the GUIFILT CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.3.1.2.2-1
GUIFILT CSU Global Data Elementstc "4.5.3.1.2.2-1 GUIFILT CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.3.1.2.4 GUIFILT CSU Local and Shared Data Structurestc "4.5.3.1.2.4 GUIFILT CSU Local and Shared Data Structures"§

The GUIFILT CSU does not implement any local or shared data structures.

4.5.3.1.2.5 GUIFILT CSU Interrupts and Signalstc "4.5.3.1.2.5 GUIFILT CSU Interrupts and Signals"§

The GUIFILT CSU does not handle any interrupts or signals.

4.5.3.1.2.6 GUIFILT CSU Error Handlingtc "4.5.3.1.2.6 GUIFILT CSU Error Handling"§

The GUIFILT CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.3.1.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.3.1.2.7 GUIFILT CSU Use of Other Elementstc "4.5.3.1.2.7 GUIFILT CSU Use of Other Elements"§

The GUIFILT CSU does not use system service routines, global data files, or other global elements.

4.5.3.1.2.8 GUIFILT CSU Logic Flowtc "4.5.3.1.2.8 GUIFILT CSU Logic Flow"§

Figure 4.5.3.1.2.8-1 describes the logic flow of the GUIFILT CSU. This CSU is executed by the Initialize DG Client Graphical User Interface CSU. This CSU does not execute any other CSUs.

Figure 4.5.3.1.2.8-1
GUIFILT CSU Logic Flowtc "4.5.3.1.2.8-1GUIFILT CSU Logic Flow" \f f§

4.5.3.1.2.9 GUIFILT CSU Algorithmstc "4.5.3.1.2.9 GUIFILT CSU Algorithms"§

The GUIFILT CSU does not utilize any algorithms.

4.5.3.1.2.10 GUIFILT Local Data Files Algorithmstc "4.5.3.1.2.10 GUIFILT Local Data Files"§

The GUIFILT CSU does not utilize any local data files.

4.5.3.1.2.11 GUIFILT CSU Limitationstc "4.5.3.1.2.11 GUIFILT CSU Limitations"§

There are no limitations or unusual features in the GUIFILT CSU.

4.5.3.2 Display/Modify Exercise Parameters CSU (DG-CSU-5.3.2)tc "4.5.3.2 Display/Modify Exercise Parameters CSU (DG-CSU-5.3.2)"§

The following subparagraphs provide the design information for the Display/Modify Exercise Parameters (GUIEXER) CSU, identified as DG-CSU-5.3.2. The purpose of this CSU is topermit the user to review and possibly modify parameters associated with DIS exercises.

4.5.3.2.1 GUIEXER CSU Design Specifications/Constraintstc "4.5.3.2.1 GUIEXER CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.3.2.2 GUIEXER CSU Designtc "4.5.3.2.2 GUIEXER CSU Design"§

The following subparagraphs specify the design of the GUIEXER CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.3.2.2.1 GUIEXER CSU Input/Output Data Elementstc "4.5.3.2.2.1 GUIEXER CSU Input/Output Data Elements"§

Table 4.5.3.2.2.1-1 identifies and states the purpose of each input and output data element of the GUIEXER CSU.

Table 4.5.3.2.2.1-1
GUIEXER CSU I/O Datatc "4.5.3.2.2.1-1 GUIEXER CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.3.2.2.2 GUIEXER CSU Local Data Elementstc "4.5.3.2.2.2 GUIEXER CSU Local Data Elements"§

The GUIEXER CSU does not utilize any local data elements.

4.5.3.2.2.3 GUIEXER CSU Global Data Elementstc "4.5.3.2.2.3GUIEXER CSU Global Data Elements"§

Table 4.5.3.2.2.3-1 identifies and states the purpose of each data element that is used by the GUIEXER CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.3.2.2.2-1
GUIEXER CSU Global Data Elementstc "4.5.3.2.2.2-1 GUIEXER CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Client Exercise Parameters	Contains data specific to a client's participation in an exercise	See Table 5-1			

4.5.3.2.2.4 GUIEXER CSU Local and Shared Data Structures

The GUIEXER CSU does not implement any local or shared data structures.

4.5.3.2.2.5 GUIEXER CSU Interrupts and Signals

The GUIEXER CSU does not handle any interrupts or signals.

4.5.3.2.2.6 GUIEXER CSU Error Handling

The GUIEXER CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.3.2.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.3.2.2.7 GUIEXER CSU Use of Other Elements

The GUIEXER CSU does not use system service routines, global data files, or other global elements.

4.5.3.2.2.8 GUIEXER CSU Logic Flow

Figure 4.5.3.2.2.8-1 describes the logic flow of the GUIEXER CSU. This CSU is executed by the Initialize DG Client Graphical User Interface CSU. This CSU does not execute any other CSUs.

Figure 4.5.3.2.2.8-1
GUIEXER CSU Logic Flow

4.5.3.2.2.9 GUIEXER CSU Algorithms

The GUIEXER CSU does not utilize any algorithms.

4.5.3.2.2.10 GUIEXER Local Data Files Algorithmstc "4.5.3.2.2.10 GUIEXER Local Data Files"§

The GUIEXER CSU does not utilize any local data files.

4.5.3.2.2.11 GUIEXER CSU Limitationstc "4.5.3.2.2.11 GUIEXER CSU Limitations"§

There are no limitations or unusual features in the GUIEXER CSU.

4.5.3.3 Display/Modify Configuration Filename CSU (DG-CSU-5.3.3)tc "4.5.3.3 Display/Modify Configuration Filename CSU (DG-CSU-5.3.3)"§

The following subparagraphs provide the design information for the Display/Modify Configuration Filename (GUICFG) CSU, identified as DG-CSU-5.3.3. The purpose of this CSU is to permit the user to review and possibly modify the configuration filename where DG client parameter values are stored.

4.5.3.3.1 GUICFG CSU Design Specifications/Constraintstc "4.5.3.3.1 GUICFG CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.3.3.2 GUICFG CSU Designtc "4.5.3.3.2 GUICFG CSU Design"§

The following subparagraphs specify the design of the GUICFG CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.3.3.2.1 GUICFG CSU Input/Output Data Elementstc "4.5.3.3.2.1 GUICFG CSU Input/Output Data Elements"§

Table 4.5.3.3.2.1-1 identifies and states the purpose of each input and output data element of the GUICFG CSU.

Table 4.5.3.3.2.1-1
GUICFG CSU I/O Datatc "4.5.3.3.2.1-1 GUICFG CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.3.3.2.2 GUICFG CSU Local Data Elementstc "4.5.3.3.2.2 GUICFG CSU Local Data Elements"§

The GUICFG CSU does not utilize any local data elements.

4.5.3.3.2.3 GUICFG CSU Global Data Elementstc "4.5.3.3.2.3 GUICFG CSU Global Data Elements"§

Table 4.5.3.3.2.3-1 identifies and states the purpose of each data element that is used by the GUICFG CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.3.3.2.2-1
GUICFG CSU Global Data Elementstc "4.5.3.3.2.2-1 GUICFG CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Configuration Filename	Contains name of file containing configuration data	See Table 5-1			

4.5.3.3.2.4 GUICFG CSU Local and Shared Data Structurestc "4.5.3.3.2.4 GUICFG CSU Local and Shared Data Structures"§

The GUICFG CSU does not implement any local or shared data structures.

4.5.3.3.2.5 GUICFG CSU Interrupts and Signalstc "4.5.3.3.2.5 GUICFG CSU Interrupts and Signals"§

The GUICFG CSU does not handle any interrupts or signals.

4.5.3.3.2.6 GUICFG CSU Error Handlingtc "4.5.3.3.2.6 GUICFG CSU Error Handling"§

The GUICFG CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.3.3.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.3.3.2.7 GUICFG CSU Use of Other Elementstc "4.5.3.3.2.7 GUICFG CSU Use of Other Elements"§

The GUICFG CSU does not use system service routines, global data files, or other global elements.

4.5.3.3.2.8 GUICFG CSU Logic Flowtc "4.5.3.3.2.8 GUICFG CSU Logic Flow"§

Figure 4.5.3.3.2.8-1 describes the logic flow of the GUICFG CSU. This CSU is executed by the Initialize DG Client Graphical User Interface CSU. This CSU does not execute any other CSUs.

Figure 4.5.3.3.2.8-1
GUICFG CSU Logic Flowtc "4.5.3.3.2.8-1 GUICFG CSU Logic Flow" \f f§

4.5.3.3.2.9 GUICFG CSU Algorithmstc "4.5.3.3.2.9 GUICFG CSU Algorithms"§

The GUICFG CSU does not utilize any algorithms.

4.5.3.3.2.10 GUICFG Local Data Files Algorithmstc "4.5.3.3.2.10 GUICFG Local Data Files"§

The GUICFG CSU does not utilize any local data files.

4.5.3.3.2.11 GUICFG CSU Limitationstc "4.5.3.3.2.11 GUICFG CSU Limitations"§

There are no limitations or unusual features in the GUICFG CSU.

4.5.3.4 Initialize DG Client Graphical User Interface CSU (DG-CSU-5.3.4)tc "4.5.3.4 Initialize DG Client Graphical User Interface CSU (DG-CSU-5.3.4)"§

The following subparagraphs provide the design information for the Initialize DG Client Graphical User Interface (INIGUI) CSU, identified as DG-CSU-5.3.4. The purpose of this CSU is to perform create the initial user interface screen, and to permit the user to select other user interface screens as desired.

4.5.3.4.1 INIGUI CSU Design Specifications/Constraintstc "4.5.3.4.1 INIGUI CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.3.4.2 INIGUI CSU Design

The following subparagraphs specify the design of the INIGUI CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.3.4.2.1 INIGUI CSU Input/Output Data Elements

Table 4.5.3.4.2.1-1 identifies and states the purpose of each input and output data element of the INIGUI CSU.

Table 4.5.3.4.2.1-1
INIGUI CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.3.4.2.2 INIGUI CSU Local Data Elements

The INIGUI CSU does not utilize any local data elements.

4.5.3.4.2.3 INIGUI CSU Global Data Elements

The INIGUI CSU does not utilize any global data elements.

4.5.3.4.2.4 INIGUI CSU Local and Shared Data Structures

The INIGUI CSU does not implement any local or shared data structures.

4.5.3.4.2.5 INIGUI CSU Interrupts and Signals

The INIGUI CSU does not handle any interrupts or signals.

4.5.3.4.2.6 INIGUI CSU Error Handlingtc "4.5.3.4.2.6 INIGUI CSU Error Handling"§

The INIGUI CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.3.4.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.3.4.2.7 INIGUI CSU Use of Other Elementstc "4.5.3.4.2.7 INIGUI CSU Use of Other Elements"§

The INIGUI CSU does not use system service routines, global data files, or other global elements.

4.5.3.4.2.8 INIGUI CSU Logic Flowtc "4.5.3.4.2.8 INIGUI CSU Logic Flow"§

Figures 4.5.3.4.2.8-1 to 4.5.3.4.2.8-2 describe the logic flow of the INIGUI CSU. This CSU is executed by the application software. This CSU executes the Display/Modify Filter Parameters CSU, the Display/Modify Exercise Parameters CSU, and the Display/Modify Configuration Filename CSU.

Figure 4.5.3.4.2.8-1
INIGUI CSU Logic Flowtc "4.5.3.4.2.8-1 INIGUI CSU Logic Flow" \f f§

Figure 4.5.3.4.2.8-2
INIGUI CSU Logic Flow (continued)tc "4.5.3.4.2.8-2 INIGUI CSU Logic Flow (continued)" \f f§

4.5.3.4.2.9 INIGUI CSU Algorithmstc "4.5.3.4.2.9 INIGUI CSU Algorithms"§

The INIGUI CSU does not utilize any algorithms.

4.5.3.4.2.10 INIGUI Local Data Files Algorithmstc "4.5.3.4.2.10 INIGUI Local Data Files"§

The INIGUI CSU does not utilize any local data files.

4.5.3.4.2.11 INIGUI CSU Limitationstc "4.5.3.4.2.11 INIGUI CSU Limitations"§

There are no limitations or unusual features in the INIGUI CSU.

4.5.4 Simulation Output CSC (DG-CSC-5.4)tc "4.5.4 Simulation Output CSC (DG-CSC-5.4)"§

The following subparagraphs identify and describe each of the sublevel CSCs of the Simulation Output (SIMOUT) CSC. Figure 4.5.4-1 shows the hierarchy of sublevel CSCs within the CSC. Figure 4.5.4-2 describes the relationships of the sublevel CSCs in terms of execution control. Solid lines with no arrows indicate a hierarchical relationship. Solid lines with arrows indicate data flow, and dashed lines with arrows indicate control flow. Rectangles with solid borders represent sublevel CSCs internal to the CSC, and rectangles with dashed borders indicate external CSCs and CSCIs.

Figure 4.5.4-1
Simulation Output CSC Hierarchy Diagramtc "4.5.4-1 Simulation Output CSC Hierarchy Diagram" \f f§

Figure 4.5.4-2
Simulation Output CSC Execution Control Diagramtc "4.5.4-1 Simulation Output CSC Execution Control Diagram" \f f§

4.5.4.1 Send PDU CSU (DG-CSU-5.4.1)tc "4.5.4.1 Send PDU CSU (DG-CSU-5.4.1)"§

The following subparagraphs provide the design information for the Send PDU (SENDPDU) CSU, identified as DG-CSU-5.4.1. The purpose of this CSU is to permit the application software to transmit PDUs to a DIS exercise.

4.5.4.1.1 SENDPDU CSU Design Specifications/Constraintstc "4.5.4.1.1 SENDPDU CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.1.2 SENDPDU CSU Design

The following subparagraphs specify the design of the SENDPDU CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.1.2.1 SENDPDU CSU Input/Output Data Elements

Table 4.5.4.1.2.1-1 identifies and states the purpose of each input and output data element of the SENDPDU CSU.

Table 4.5.4.1.2.1-1
SENDPDU CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
PDU Pointer	Input	Points to a PDU	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.1.2.2 SENDPDU CSU Local Data Elements

The SENDPDU CSU does not utilize any local data elements.

4.5.4.1.2.3 SENDPDU CSU Global Data Elements

Table 4.5.4.1.2.3-1 identifies and states the purpose of each data element that is used by the SENDPDU CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.1.2.2-1
SENDPDU CSU Global Data Elementstc "4.5.4.1.2.2-1 SENDPDU CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.5.4.1.2.4 SENDPDU CSU Local and Shared Data Structurestc "4.5.4.1.2.4 SENDPDU CSU Local and Shared Data Structures"§

The SENDPDU CSU does not implement any local or shared data structures.

4.5.4.1.2.5 SENDPDU CSU Interrupts and Signalstc "4.5.4.1.2.5 SENDPDU CSU Interrupts and Signals"§

The SENDPDU CSU does not handle any interrupts or signals.

4.5.4.1.2.6 SENDPDU CSU Error Handlingtc "4.5.4.1.2.6 SENDPDU CSU Error Handling"§

The SENDPDU CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.1.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.1.2.7 SENDPDU CSU Use of Other Elementstc "4.5.4.1.2.7 SENDPDU CSU Use of Other Elements"§

The SENDPDU CSU does not use system service routines, global data files, or other global elements.

4.5.4.1.2.8 SENDPDU CSU Logic Flowtc "4.5.4.1.2.8 SENDPDU CSU Logic Flow"§

Figure 4.5.4.1.2.8-1 describes the logic flow of the SENDPDU CSU. This CSU is executed by the application software. This CSU executes the Set Entity Information CSU, the Set Emitter Information CSU, the Set Laser Information PDU, the Set Resupply Information CSU, the Set Repair Information CSU, the Set Receiver Information CSU, and the Set Transmitter Information CSU.

Figure 4.5.4.1.2.8-1
SENDPDU CSU Logic Flowtc "4.5.4.1.2.8-1 SENDPDU CSU Logic Flow" \f f§

4.5.4.1.2.9 SENDPDU CSU Algorithmstc "4.5.4.1.2.9 SENDPDU CSU Algorithms"§

The SENDPDU CSU does not utilize any algorithms.

4.5.4.1.2.10 SENDPDU Local Data Files Algorithmstc "4.5.4.1.2.10 SENDPDU Local Data Files"§

The SENDPDU CSU does not utilize any local data files.

4.5.4.1.2.11 SENDPDU CSU Limitationstc "4.5.4.1.2.11 SENDPDU CSU Limitations"§

There are no limitations or unusual features in the SENDPDU CSU.

4.5.4.2 Set Entity Information CSU (DG-CSU-5.4.2)tc "4.5.4.2 Set Entity Information CSU (DG-CSU-5.4.2)"§

The following subparagraphs provide the design information for the Set Entity Information (SETENT) CSU, identified as DG-CSU-5.4.2. The purpose of this CSU is to permit the application software to specify information for a new or existing entity.

4.5.4.2.1 SETENT CSU Design Specifications/Constraintstc "4.5.4.2.1 SETENT CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.2.2 SETENT CSU Design

The following subparagraphs specify the design of the SETENT CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.2.2.1 SETENT CSU Input/Output Data Elements

Table 4.5.4.2.2.1-1 identifies and states the purpose of each input and output data element of the SETENT CSU.

Table 4.5.4.2.2.1-1
SETENT CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Entity Data	Input	Contains data regarding an entity	See Table 5-1, Entity Information
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.2.2.2 SETENT CSU Local Data Elements

Table 4.5.4.2.2.2-1 identifies and states the purpose of each data element that originates in the SETENT CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.2.2.2-1
SETENT CSU Local Data Elementstc "4.5.4.2.2.2-1 SETENT CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Entity Index	Contains a unique identifier for the entity	See Table 5-1, Hash Index			

4.5.4.2.2.3 SETENT CSU Global Data Elementstc "4.5.4.2.2.3 SETENT CSU Global Data Elements"§

Table 4.5.4.2.2.3-1 identifies and states the purpose of each data element that is used by the SETENT CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.2.2.2-1
SETENT CSU Global Data Elementstc "4.5.4.2.2.2-1 SETENT CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.2.2.4 SETENT CSU Local and Shared Data Structurestc "4.5.4.2.2.4 SETENT CSU Local and Shared Data Structures"§

The SETENT CSU does not implement any local or shared data structures.

4.5.4.2.2.5 SETENT CSU Interrupts and Signalstc "4.5.4.2.2.5 SETENT CSU Interrupts and Signals"§

The SETENT CSU does not handle any interrupts or signals.

4.5.4.2.2.6 SETENT CSU Error Handlingtc "4.5.4.2.2.6 SETENT CSU Error Handling"§

The SETENT CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.2.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.2.2.7 SETENT CSU Use of Other Elementstc "4.5.4.2.2.7 SETENT CSU Use of Other Elements"§

The SETENT CSU does not use system service routines, global data files, or other global elements.

4.5.4.2.2.8 SETENT CSU Logic Flowtc "4.5.4.2.2.8 SETENT CSU Logic Flow"§

Figure 4.5.4.2.2.8-1 describes the logic flow of the SETENT CSU. This CSU is executed by the application software and by the Send PDU CSU. This CSU executes the Get Entity Hash Index CSU.

Figure 4.5.4.2.2.8-1
SETENT CSU Logic Flowtc "4.5.4.2.2.8-1 SETENT CSU Logic Flow" \f f§

4.5.4.2.2.9 SETENT CSU Algorithmstc "4.5.4.2.2.9 SETENT CSU Algorithms"§

The SETENT CSU does not utilize any algorithms.

4.5.4.2.2.10 SETENT Local Data Files Algorithmstc "4.5.4.2.2.10 SETENT Local Data Files"§

The SETENT CSU does not utilize any local data files.

4.5.4.2.2.11 SETENT CSU Limitationstc "4.5.4.2.2.11 SETENT CSU Limitations"§

There are no limitations or unusual features in the SETENT CSU.

4.5.4.3 Set Emitter Information CSU (DG-CSU-5.4.3)tc "4.5.4.3 Set Emitter Information CSU (DG-CSU-5.4.3)"§

The following subparagraphs provide the design information for the Set Emitter Information (SETEMIT) CSU, identified as DG-CSU-5.4.3. The purpose of this CSU is to permit the application software to specify information for a new or existing emitter on an entity.

4.5.4.3.1 SETEMIT CSU Design Specifications/Constraintstc "4.5.4.3.1 SETEMIT CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.3.2 SETEMIT CSU Designtc "4.5.4.3.2 SETEMIT CSU Design"§

The following subparagraphs specify the design of the SETEMIT CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.3.2.1 SETEMIT CSU Input/Output Data Elementstc "4.5.4.3.2.1 SETEMIT CSU Input/Output Data Elements"§

Table 4.5.4.3.2.1-1 identifies and states the purpose of each input and output data element of the SETEMIT CSU.

Table 4.5.4.3.2.1-1
SETEMIT CSU I/O Datatc "4.5.4.3.2.1-1 SETEMIT CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Emitter Data	Input	Contains data regarding an emitter on an entity	See Table 5-1, Emitter Information
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.3.2.2 SETEMIT CSU Local Data Elementstc "4.5.4.3.2.2 SETEMIT CSU Local Data Elements"§

Table 4.5.4.3.2.2-1 identifies and states the purpose of each data element that originates in the SETEMIT CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.3.2.2-1
SETEMIT CSU Local Data Elementstc "4.5.4.3.2.2-1 SETEMIT CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Entity Index	Contains a unique identifier for the entity	See Table 5-1, Hash Index			
Emitter Index	Contains a unique identifier for the emitter	See Table 5-1, Hash Index			

4.5.4.3.2.3 SETEMIT CSU Global Data Elementstc "4.5.4.3.2.3 SETEMIT CSU Global Data Elements"§

Table 4.5.4.3.2.3-1 identifies and states the purpose of each data element that is used by the SETEMIT CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.3.2.2-1
SETEMIT CSU Global Data Elementstc "4.5.4.3.2.2-1 SETEMIT CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.3.2.4 SETEMIT CSU Local and Shared Data Structurestc "4.5.4.3.2.4 SETEMIT CSU Local and Shared Data Structures"§

The SETEMIT CSU does not implement any local or shared data structures.

4.5.4.3.2.5 SETEMIT CSU Interrupts and Signalstc "4.5.4.3.2.5 SETEMIT CSU Interrupts and Signals"§

The SETEMIT CSU does not handle any interrupts or signals.

4.5.4.3.2.6 SETEMIT CSU Error Handlingtc "4.5.4.3.2.6 SETEMIT CSU Error Handling"§

The SETEMIT CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.3.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.3.2.7 SETEMIT CSU Use of Other Elementstc "4.5.4.3.2.7 SETEMIT CSU Use of Other Elements"§

The SETEMIT CSU does not use system service routines, global data files, or other global elements.

4.5.4.3.2.8 SETEMIT CSU Logic Flowtc "4.5.4.3.2.8 SETEMIT CSU Logic Flow"§

Figure 4.5.4.3.2.8-1 describes the logic flow of the SETEMIT CSU. This CSU is executed by the application software and by the Send PDU CSU. This CSU executes the Get Entity Hash Index CSU and the Get Emitter Hash Index CSU.

Figure 4.5.4.3.2.8-1
SETEMIT CSU Logic Flowtc "4.5.4.3.2.8-1 SETEMIT CSU Logic Flow" \f f§

4.5.4.3.2.9 SETEMIT CSU Algorithmstc "4.5.4.3.2.9 SETEMIT CSU Algorithms"§

The SETEMIT CSU does not utilize any algorithms.

4.5.4.3.2.10 SETEMIT Local Data Files Algorithmstc "4.5.4.3.2.10 SETEMIT Local Data Files"§

The SETEMIT CSU does not utilize any local data files.

4.5.4.3.2.11 SETEMIT CSU Limitationstc "4.5.4.3.2.11 SETEMIT CSU Limitations"§

There are no limitations or unusual features in the SETEMIT CSU.

4.5.4.4 Set Laser Information CSU (DG-CSU-5.4.4)tc "4.5.4.4 Set Laser Information CSU (DG-CSU-5.4.4)"§

The following subparagraphs provide the design information for the Set Laser Information (SETLAS) CSU, identified as DG-CSU-5.4.4. The purpose of this CSU is to permit the application software to specify information for a new or existing laser on an entity.

4.5.4.4.1 SETLAS CSU Design Specifications/Constraintstc "4.5.4.4.1 SETLAS CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.4.2 SETLAS CSU Designtc "4.5.4.4.2 SETLAS CSU Design"§

The following subparagraphs specify the design of the SETLAS CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.4.2.1 SETLAS CSU Input/Output Data Elementstc "4.5.4.4.2.1 SETLAS CSU Input/Output Data Elements"§

Table 4.5.4.4.2.1-1 identifies and states the purpose of each input and output data element of the SETLAS CSU.

Table 4.5.4.4.2.1-1
SETLAS CSU I/O Datatc "4.5.4.4.2.1-1 SETLAS CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Laser Data	Input	Contains data regarding a laser on an entity	See Table 5-1, Laser Information
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.4.2.2 SETLAS CSU Local Data Elementstc "4.5.4.4.2.2 SETLAS CSU Local Data Elements"§

Table 4.5.4.4.2.2-1 identifies and states the purpose of each data element that originates in the SETLAS CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.4.2.2-1
SETLAS CSU Local Data Elementstc "4.5.4.4.2.2-1 SETLAS CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Entity Index	Contains a unique identifier for the entity	See Table 5-1, Hash Index			
Laser Index	Contains a unique identifier for the laser	See Table 5-1, Hash Index			

4.5.4.4.2.3 SETLAS CSU Global Data Elementstc "4.5.4.4.2.3 SETLAS CSU Global Data Elements"§

Table 4.5.4.4.2.3-1 identifies and states the purpose of each data element that is used by the SETLAS CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.4.2.2-1
SETLAS CSU Global Data Elementstc "4.5.4.4.2.2-1 SETLAS CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.4.2.4 SETLAS CSU Local and Shared Data Structurestc "4.5.4.4.2.4 SETLAS CSU Local and Shared Data Structures"§

The SETLAS CSU does not implement any local or shared data structures.

4.5.4.4.2.5 SETLAS CSU Interrupts and Signalstc "4.5.4.4.2.5 SETLAS CSU Interrupts and Signals"§

The SETLAS CSU does not handle any interrupts or signals.

4.5.4.4.2.6 SETLAS CSU Error Handlingtc "4.5.4.4.2.6 SETLAS CSU Error Handling"§

The SETLAS CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.4.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.4.2.7 SETLAS CSU Use of Other Elementstc "4.5.4.4.2.7 SETLAS CSU Use of Other Elements"§

The SETLAS CSU does not use system service routines, global data files, or other global elements.

4.5.4.4.2.8 SETLAS CSU Logic Flowtc "4.5.4.4.2.8 SETLAS CSU Logic Flow"§

Figure 4.5.4.4.2.8-1 describes the logic flow of the SETLAS CSU. This CSU is executed by the application software and by the Send PDU CSU. This CSU executes the Get Entity Hash Index CSU and the Get Laser Hash Index CSU.

Figure 4.5.4.4.2.8-1
SETLAS CSU Logic Flowtc "4.5.4.4.2.8-1 SETLAS CSU Logic Flow" \f f§

4.5.4.4.2.9 SETLAS CSU Algorithmstc "4.5.4.4.2.9 SETLAS CSU Algorithms"§

The SETLAS CSU does not utilize any algorithms.

4.5.4.4.2.10 SETLAS Local Data Files Algorithmstc "4.5.4.4.2.10 SETLAS Local Data Files"§

The SETLAS CSU does not utilize any local data files.

4.5.4.4.2.11 SETLAS CSU Limitationstc "4.5.4.4.2.11 SETLAS CSU Limitations"§

There are no limitations or unusual features in the SETLAS CSU.

4.5.4.5 Set Resupply Information CSU (DG-CSU-5.4.5)tc "4.5.4.5 Set Resupply Information CSU (DG-CSU-5.4.5)"§

The following subparagraphs provide the design information for the Set Resupply Information (SETRES) CSU, identified as DG-CSU-5.4.5. The purpose of this CSU is to permit the application software to specify information for a new or existing resupply request of an entity.

4.5.4.5.1 SETRES CSU Design Specifications/Constraintstc "4.5.4.5.1 SETRES CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.5.2 SETRES CSU Designtc "4.5.4.5.2 SETRES CSU Design"§

The following subparagraphs specify the design of the SETRES CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.5.2.1 SETRES CSU Input/Output Data Elementstc "4.5.4.5.2.1 SETRES CSU Input/Output Data Elements"§

Table 4.5.4.5.2.1-1 identifies and states the purpose of each input and output data element of the SETRES CSU.

Table 4.5.4.5.2.1-1
SETRES CSU I/O Datatc "4.5.4.5.2.1-1 SETRES CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Resupply Data	Input	Contains data regarding a resupply request of an entity	See Table 5-1, Resupply Information
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.5.2.2 SETRES CSU Local Data Elementstc "4.5.4.5.2.2 SETRES CSU Local Data Elements"§

Table 4.5.4.5.2.2-1 identifies and states the purpose of each data element that originates in the SETRES CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.5.2.2-1
SETRES CSU Local Data Elementstc "4.5.4.5.2.2-1 SETRES CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Entity Index	Contains a unique identifier for the entity	See Table 5-1, Hash Index			
Resupply Index	Contains a unique identifier for the resupply request	See Table 5-1, Hash Index			

4.5.4.5.2.3 SETRES CSU Global Data Elementstc "4.5.4.5.2.3 SETRES CSU Global Data Elements"§

Table 4.5.4.5.2.3-1 identifies and states the purpose of each data element that is used by the SETRES CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.5.2.2-1
SETRES CSU Global Data Elementstc "4.5.4.5.2.2-1 SETRES CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.5.2.4 SETRES CSU Local and Shared Data Structurestc "4.5.4.5.2.4 SETRES CSU Local and Shared Data Structures"§

The SETRES CSU does not implement any local or shared data structures.

4.5.4.5.2.5 SETRES CSU Interrupts and Signalstc "4.5.4.5.2.5 SETRES CSU Interrupts and Signals"§

The SETRES CSU does not handle any interrupts or signals.

4.5.4.5.2.6 SETRES CSU Error Handlingtc "4.5.4.5.2.6 SETRES CSU Error Handling"§

The SETRES CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.5.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.5.2.7 SETRES CSU Use of Other Elementstc "4.5.4.5.2.7 SETRES CSU Use of Other Elements"§

The SETRES CSU does not use system service routines, global data files, or other global elements.

4.5.4.5.2.8 SETRES CSU Logic Flowtc "4.5.4.5.2.8 SETRES CSU Logic Flow"§

Figure 4.5.4.5.2.8-1 describes the logic flow of the SETRES CSU. This CSU is executed by the application software and by the Send PDU CSU. This CSU executes the Get Entity Hash Index CSU and the Get Resupply Hash Index CSU.

Figure 4.5.4.5.2.8-1
SETRES CSU Logic Flowtc "4.5.4.5.2.8-1 SETRES CSU Logic Flow" \f f§

4.5.4.5.2.9 SETRES CSU Algorithmstc "4.5.4.5.2.9 SETRES CSU Algorithms"§

The SETRES CSU does not utilize any algorithms.

4.5.4.5.2.10 SETRES Local Data Files Algorithmstc "4.5.4.5.2.10 SETRES Local Data Files"§

The SETRES CSU does not utilize any local data files.

4.5.4.5.2.11 SETRES CSU Limitationstc "4.5.4.5.2.11 SETRES CSU Limitations"§

There are no limitations or unusual features in the SETRES CSU.

4.5.4.6 Set Repair Information CSU (DG-CSU-5.4.6)tc "4.5.4.6 Set Repair Information CSU (DG-CSU-5.4.6)"§

The following subparagraphs provide the design information for the Set Repair Information (SETREP) CSU, identified as DG-CSU-5.4.6. The purpose of this CSU is to permit the application software to specifiy information for a new or existing repair request of an entity.

4.5.4.6.1 SETREP CSU Design Specifications/Constraintstc "4.5.4.6.1 SETREP CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.6.2 SETREP CSU Designtc "4.5.4.6.2 SETREP CSU Design"§

The following subparagraphs specify the design of the SETREP CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.6.2.1 SETREP CSU Input/Output Data Elementstc "4.5.4.6.2.1 SETREP CSU Input/Output Data Elements"§

Table 4.5.4.6.2.1-1 identifies and states the purpose of each input and output data element of the SETREP CSU.

Table 4.5.4.6.2.1-1
SETREP CSU I/O Datatc "4.5.4.6.2.1-1 SETREP CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Repair Data	Input	Contains data regarding a repair request of an entity	See Table 5-1, Repair Information
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.6.2.2 SETREP CSU Local Data Elementstc "4.5.4.6.2.2 SETREP CSU Local Data Elements"§

Table 4.5.4.6.2.2-1 identifies and states the purpose of each data element that originates in the SETREP CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.6.2.2-1
SETREP CSU Local Data Elementstc "4.5.4.6.2.2-1 SETREP CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Entity Index	Contains a unique identifier for the entity	See Table 5-1, Hash Index			
Repair Index	Contains a unique identifier for the repair request	See Table 5-1, Hash Index			

4.5.4.6.2.3 SETREP CSU Global Data Elementstc "4.5.4.6.2.3 SETREP CSU Global Data Elements"§

Table 4.5.4.6.2.3-1 identifies and states the purpose of each data element that is used by the SETREP CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.6.2.2-1
SETREP CSU Global Data Elementstc "4.5.4.6.2.2-1 SETREP CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.6.2.4 SETREP CSU Local and Shared Data Structurestc "4.5.4.6.2.4 SETREP CSU Local and Shared Data Structures"§

The SETREP CSU does not implement any local or shared data structures.

4.5.4.6.2.5 SETREP CSU Interrupts and Signalstc "4.5.4.6.2.5 SETREP CSU Interrupts and Signals"§

The SETREP CSU does not handle any interrupts or signals.

4.5.4.6.2.6 SETREP CSU Error Handlingtc "4.5.4.6.2.6 SETREP CSU Error Handling"§

The SETREP CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.6.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.6.2.7 SETREP CSU Use of Other Elementstc "4.5.4.6.2.7 SETREP CSU Use of Other Elements"§

The SETREP CSU does not use system service routines, global data files, or other global elements.

4.5.4.6.2.8 SETREP CSU Logic Flowtc "4.5.4.6.2.8 SETREP CSU Logic Flow"§

Figure 4.5.4.6.2.8-1 describes the logic flow of the SETREP CSU. This CSU is executed by the application software and by the Send PDU CSU. This CSU executes the Get Entity Hash Index CSU and the Get Repair Hash Index CSU.

Figure 4.5.4.6.2.8-1
SETREP CSU Logic Flowtc "4.5.4.6.2.8-1 SETREP CSU Logic Flow" \f f§

4.5.4.6.2.9 SETREP CSU Algorithmstc "4.5.4.6.2.9 SETREP CSU Algorithms"§

The SETREP CSU does not utilize any algorithms.

4.5.4.6.2.10 SETREP Local Data Files Algorithmstc "4.5.4.6.2.10 SETREP Local Data Files"§

The SETREP CSU does not utilize any local data files.

4.5.4.6.2.11 SETREP CSU Limitationstc "4.5.4.6.2.11 SETREP CSU Limitations"§

There are no limitations or unusual features in the SETREP CSU.

4.5.4.7 Set Receiver Information CSU (DG-CSU-5.4.7)tc "4.5.4.7 Set Receiver Information CSU (DG-CSU-5.4.7)"§

The following subparagraphs provide the design information for the Set Receiver Information (SETREC) CSU, identified as DG-CSU-5.4.7. The purpose of this CSU is to permit the application software to specify information for a new or existing receiver on an entity.

4.5.4.7.1 SETREC CSU Design Specifications/Constraintstc "4.5.4.7.1 SETREC CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.7.2 SETREC CSU Designtc "4.5.4.7.2 SETREC CSU Design"§

The following subparagraphs specify the design of the SETREC CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.7.2.1 SETREC CSU Input/Output Data Elementstc "4.5.4.7.2.1 SETREC CSU Input/Output Data Elements"§

Table 4.5.4.7.2.1-1 identifies and states the purpose of each input and output data element of the SETREC CSU.

Table 4.5.4.7.2.1-1
SETREC CSU I/O Datatc "4.5.4.7.2.1-1 SETREC CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Receiver Data	Input	Contains data regarding a receiver on an entity	See Table 5-1, Receiver Information
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.7.2.2 SETREC CSU Local Data Elementstc "4.5.4.7.2.2 SETREC CSU Local Data Elements"§

Table 4.5.4.7.2.2-1 identifies and states the purpose of each data element that originates in the SETREC CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.7.2.2-1
SETREC CSU Local Data Elementstc "4.5.4.7.2.2-1 SETREC CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Entity Index	Contains a unique identifier for the entity	See Table 5-1, Hash Index			
Receiver Index	Contains a unique identifier for the receiver	See Table 5-1, Hash Index			

4.5.4.7.2.3 SETREC CSU Global Data Elementstc "4.5.4.7.2.3 SETREC CSU Global Data Elements"§

Table 4.5.4.7.2.3-1 identifies and states the purpose of each data element that is used by the SETREC CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.7.2.2-1
SETREC CSU Global Data Elementstc "4.5.4.7.2.2-1 SETREC CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.7.2.4 SETREC CSU Local and Shared Data Structurestc "4.5.4.7.2.4 SETREC CSU Local and Shared Data Structures"§

The SETREC CSU does not implement any local or shared data structures.

4.5.4.7.2.5 SETREC CSU Interrupts and Signalstc "4.5.4.7.2.5 SETREC CSU Interrupts and Signals"§

The SETREC CSU does not handle any interrupts or signals.

4.5.4.7.2.6 SETREC CSU Error Handlingtc "4.5.4.7.2.6 SETREC CSU Error Handling"§

The SETREC CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.7.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.7.2.7 SETREC CSU Use of Other Elementstc "4.5.4.7.2.7 SETREC CSU Use of Other Elements"§

The SETREC CSU does not use system service routines, global data files, or other global elements.

4.5.4.7.2.8 SETREC CSU Logic Flowtc "4.5.4.7.2.8 SETREC CSU Logic Flow"§

Figure 4.5.4.7.2.8-1 describes the logic flow of the SETREC CSU. This CSU is executed by the application software and the Send PDU CSU. This CSU executes the Get Entity Hash Index CSU and the Get Receiver Hash Index CSU.

Figure 4.5.4.7.2.8-1
SETREC CSU Logic Flowtc "4.5.4.7.2.8-1 SETREC CSU Logic Flow" \f f§

4.5.4.7.2.9 SETREC CSU Algorithmstc "4.5.4.7.2.9 SETREC CSU Algorithms"§

The SETREC CSU does not utilize any algorithms.

4.5.4.7.2.10 SETREC Local Data Files Algorithmstc "4.5.4.7.2.10 SETREC Local Data Files"§

The SETREC CSU does not utilize any local data files.

4.5.4.7.2.11 SETREC CSU Limitationstc "4.5.4.7.2.11 SETREC CSU Limitations"§

There are no limitations or unusual features in the SETREC CSU.

4.5.4.8 Set Transmitter Information CSU (DG-CSU-5.4.8)tc "4.5.4.8 Set Transmitter Information CSU (DG-CSU-5.4.8)"§

The following subparagraphs provide the design information for the Set Transmitter Information (SETTRAN) CSU, identified as DG-CSU-5.4.8. The purpose of this CSU is to permit the application software to specify information for a new or existing transmitter on an entity.

4.5.4.8.1 SETTRAN CSU Design Specifications/Constraintstc "4.5.4.8.1 SETTRAN CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.8.2 SETTRAN CSU Designtc "4.5.4.8.2 SETTRAN CSU Design"§

The following subparagraphs specify the design of the SETTRAN CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.8.2.1 SETTRAN CSU Input/Output Data Elementstc "4.5.4.8.2.1 SETTRAN CSU Input/Output Data Elements"§

Table 4.5.4.8.2.1-1 identifies and states the purpose of each input and output data element of the SETTRAN CSU.

Table 4.5.4.8.2.1-1
SETTRAN CSU I/O Datatc "4.5.4.8.2.1-1 SETTRAN CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Transmitter Data	Input	Contains data regarding a transmitter on an entity	See Table 5-1, Transmitter Information
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.8.2.2 SETTRAN CSU Local Data Elementstc "4.5.4.8.2.2 SETTRAN CSU Local Data Elements"§

Table 4.5.4.8.2.2-1 identifies and states the purpose of each data element that originates in the SETTRAN CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.8.2.2-1
SETTRAN CSU Local Data Elementstc "4.5.4.8.2.2-1 SETTRAN CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Entity Index	Contains a unique identifier for the entity	See Table 5-1, Hash Index			
Transmitter Index	Contains a unique identifier for the transmitter	See Table 5-1, Hash Index			

4.5.4.8.2.3 SETTRAN CSU Global Data Elementstc "4.5.4.8.2.3SETTRAN CSU Global Data Elements"§

Table 4.5.4.8.2.3-1 identifies and states the purpose of each data element that is used by the SETTRAN CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.8.2.2-1
SETTRAN CSU Global Data Elementstc "4.5.4.8.2.2-1 SETTRAN CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.8.2.4 SETTRAN CSU Local and Shared Data Structurestc "4.5.4.8.2.4 SETTRAN CSU Local and Shared Data Structures"§

The SETTRAN CSU does not implement any local or shared data structures.

4.5.4.8.2.5 SETTRAN CSU Interrupts and Signalstc "4.5.4.8.2.5 SETTRAN CSU Interrupts and Signals"§

The SETTRAN CSU does not handle any interrupts or signals.

4.5.4.8.2.6 SETTRAN CSU Error Handlingtc "4.5.4.8.2.6 SETTRAN CSU Error Handling"§

The SETTRAN CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.8.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.8.2.7 SETTRAN CSU Use of Other Elementstc "4.5.4.8.2.7 SETTRAN CSU Use of Other Elements"§

The SETTRAN CSU does not use system service routines, global data files, or other global elements.

4.5.4.8.2.8 SETTRAN CSU Logic Flowtc "4.5.4.8.2.8 SETTRAN CSU Logic Flow"§

Figure 4.5.4.8.2.8-1 describes the logic flow of the SETTRAN CSU. This CSU is executed by the application software and by the Send PDU CSU. This CSU executes the Get Entity Hash Index CSU and the Get Transmitter Hash Index CSU.

Figure 4.5.4.8.2.8-1
SETTRAN CSU Logic Flowtc "4.5.4.8.2.8-1 SETTRAN CSU Logic Flow" \f f§

4.5.4.8.2.9 SETTRAN CSU Algorithmstc "4.5.4.8.2.9 SETTRAN CSU Algorithms"§

The SETTRAN CSU does not utilize any algorithms.

4.5.4.8.2.10 SETTRAN Local Data Files Algorithmstc "4.5.4.8.2.10 SETTRAN Local Data Files"§

The SETTRAN CSU does not utilize any local data files.

4.5.4.8.2.11 SETTRAN CSU Limitationstc "4.5.4.8.2.11 SETTRAN CSU Limitations"§

There are no limitations or unusual features in the SETTRAN CSU.

4.5.4.9 Remove Entity CSU (DG-CSU-5.4.9)tc "4.5.4.9 Remove Entity CSU (DG-CSU-5.4.9)"§

The following subparagraphs provide the design information for the Remove Entity (REMENT) CSU, identified as DG-CSU-5.4.9. The purpose of this CSU is to permit the application software to remove an entity from the exercise. This CSU additionally ensures that all associated data stores (emitters, lasers, etc.) are removed as well.

4.5.4.9.1 REMENT CSU Design Specifications/Constraintstc "4.5.4.9.1 REMENT CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.9.2 REMENT CSU Designtc "4.5.4.9.2 REMENT CSU Design"§

The following subparagraphs specify the design of the REMENT CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.9.2.1 REMENT CSU Input/Output Data Elementstc "4.5.4.9.2.1 REMENT CSU Input/Output Data Elements"§

Table 4.5.4.9.2.1-1 identifies and states the purpose of each input and output data element of the REMENT CSU.

Table 4.5.4.9.2.1-1
REMENT CSU I/O Datatc "4.5.4.9.2.1-1 REMENT CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.9.2.2 REMENT CSU Local Data Elementstc "4.5.4.9.2.2 REMENT CSU Local Data Elements"§

Table 4.5.4.9.2.2-1 identifies and states the purpose of each data element that originates in the REMENT CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.9.2.2-1
REMENT CSU Local Data Elementstc "4.5.4.9.2.2-1 REMENT CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Entity Index	Contains a unique identifier for the entity	See Table 5-1, Hash Index			

4.5.4.9.2.3 REMENT CSU Global Data Elementstc "4.5.4.9.2.3 REMENT CSU Global Data Elements"§

Table 4.5.4.9.2.3-1 identifies and states the purpose of each data element that is used by the REMENT CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.9.2.2-1
REMENT CSU Global Data Elementstc "4.5.4.9.2.2-1 REMENT CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.9.2.4 REMENT CSU Local and Shared Data Structurestc "4.5.4.9.2.4 REMENT CSU Local and Shared Data Structures"§

The REMENT CSU does not implement any local or shared data structures.

4.5.4.9.2.5 REMENT CSU Interrupts and Signalstc "4.5.4.9.2.5 REMENT CSU Interrupts and Signals"§

The REMENT CSU does not handle any interrupts or signals.

4.5.4.9.2.6 REMENT CSU Error Handlingtc "4.5.4.9.2.6 REMENT CSU Error Handling"§

The REMENT CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.9.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.9.2.7 REMENT CSU Use of Other Elementstc "4.5.4.9.2.7 REMENT CSU Use of Other Elements"§

The REMENT CSU does not use system service routines, global data files, or other global elements.

4.5.4.9.2.8 REMENT CSU Logic Flowtc "4.5.4.9.2.8 REMENT CSU Logic Flow"§

Figures 4.5.4.9.2.8-1 to 4.5.4.9.2.8-2 describe the logic flow of the REMENT CSU. This CSU is executed by the application software. This CSU executes the Get Entity Hash Index CSU, the Remove Emitter CSU, the Remove Laser CSU, the Remove Resupply CSU, the Remove Repair CSU, the Remove Receiver CSU, and the Remove Transmitter CSU.

Figure 4.5.4.9.2.8-1
REMENT CSU Logic Flowtc "4.5.4.9.2.8-1 REMENT CSU Logic Flow" \f f§

Figure 4.5.4.9.2.8-2
REMENT CSU Logic Flow (continued)tc "4.5.4.9.2.8-2 REMENT CSU Logic Flow (continued)" \f f§

4.5.4.9.2.9 REMENT CSU Algorithmstc "4.5.4.9.2.9 REMENT CSU Algorithms"§

The REMENT CSU does not utilize any algorithms.

4.5.4.9.2.10 REMENT Local Data Files Algorithmstc "4.5.4.9.2.10 REMENT Local Data Files"§

The REMENT CSU does not utilize any local data files.

4.5.4.9.2.11 REMENT CSU Limitationstc "4.5.4.9.2.11 REMENT CSU Limitations"§

There are no limitations or unusual features in the REMENT CSU.

4.5.4.10 Remove Emitter CSU (DG-CSU-5.4.10)tc "4.5.4.10 Remove Emitter CSU (DG-CSU-5.4.10)"§

The following subparagraphs provide the design information for the Remove Emitter (REMEMIT) CSU, identified as DG-CSU-5.4.10. The purpose of this CSU is to permit the application software to remove an emitter from an entity.

4.5.4.10.1 REMEMIT CSU Design Specifications/Constraints

There are no design constraints for this CSU.

4.5.4.10.2 REMEMIT CSU Design

The following subparagraphs specify the design of the REMEMIT CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.10.2.1 REMEMIT CSU Input/Output Data Elements

Table 4.5.4.10.2.1-1 identifies and states the purpose of each input and output data element of the REMEMIT CSU.

Table 4.5.4.10.2.1-1
REMEMIT CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Emitter ID	Input	Specifies an emitter on an entity	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.10.2.2 REMEMIT CSU Local Data Elementstc "4.5.4.10.2.2 REMEMIT CSU Local Data Elements"§

Table 4.5.4.10.2.2-1 identifies and states the purpose of each data element that originates in the REMEMIT CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.10.2.2-1
REMEMIT CSU Local Data Elementstc "4.5.4.10.2.2-1 REMEMIT CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Emitter Index	Contains a unique identifier for the emitter	See Table 5-1, Hash Index			

4.5.4.10.2.3 REMEMIT CSU Global Data Elementstc "4.5.4.10.2.3 REMEMIT CSU Global Data Elements"§

Table 4.5.4.10.2.3-1 identifies and states the purpose of each data element that is used by the REMEMIT CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.10.2.2-1
REMEMIT CSU Global Data Elementstc "4.5.4.10.2.2-1 REMEMIT CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.10.2.4 REMEMIT CSU Local and Shared Data Structurestc "4.5.4.10.2.4 REMEMIT CSU Local and Shared Data Structures"§

The REMEMIT CSU does not implement any local or shared data structures.

4.5.4.10.2.5 REMEMIT CSU Interrupts and Signalstc "4.5.4.10.2.5 REMEMIT CSU Interrupts and Signals"§

The REMEMIT CSU does not handle any interrupts or signals.

4.5.4.10.2.6 REMEMIT CSU Error Handlingtc "4.5.4.10.2.6 REMEMIT CSU Error Handling"§

The REMEMIT CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.10.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.10.2.7 REMEMIT CSU Use of Other Elementstc "4.5.4.10.2.7 REMEMIT CSU Use of Other Elements"§

The REMEMIT CSU does not use system service routines, global data files, or other global elements.

4.5.4.10.2.8 REMEMIT CSU Logic Flowtc "4.5.4.10.2.8 REMEMIT CSU Logic Flow"§

Figure 4.5.4.10.2.8-1 describes the logic flow of the REMEMIT CSU. This CSU is executed by the application software and by the Remove Entity CSU. This CSU executes Get Emitter Hash Index CSU.

Figure 4.5.4.10.2.8-1
REMEMIT CSU Logic Flowtc "4.5.4.10.2.8-1 REMEMIT CSU Logic Flow" \f f§

4.5.4.10.2.9 REMEMIT CSU Algorithmstc "4.5.4.10.2.9 REMEMIT CSU Algorithms"§

The REMEMIT CSU does not utilize any algorithms.

4.5.4.10.2.10 REMEMIT Local Data Files Algorithmstc "4.5.4.10.2.10 REMEMIT Local Data Files"§

The REMEMIT CSU does not utilize any local data files.

4.5.4.10.2.11 REMEMIT CSU Limitationstc "4.5.4.10.2.11 REMEMIT CSU Limitations"§

There are no limitations or unusual features in the REMEMIT CSU.

4.5.4.11 Remove Laser CSU (DG-CSU-5.4.11)tc "4.5.4.11 Remove Laser CSU (DG-CSU-5.4.11)"§

The following subparagraphs provide the design information for the Remove Laser (REMLAS) CSU, identified as DG-CSU-5.4.11. The purpose of this CSU is to permit the application software to remove a laser from an entity.

4.5.4.11.1 REMLAS CSU Design Specifications/Constraintstc "4.5.4.11.1 REMLAS CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.11.2 REMLAS CSU Designtc "4.5.4.11.2 REMLAS CSU Design"§

The following subparagraphs specify the design of the REMLAS CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.11.2.1 REMLAS CSU Input/Output Data Elementstc "4.5.4.11.2.1 REMLAS CSU Input/Output Data Elements"§

Table 4.5.4.11.2.1-1 identifies and states the purpose of each input and output data element of the REMLAS CSU.

Table 4.5.4.11.2.1-1
REMLAS CSU I/O Datatc "4.5.4.11.2.1-1 REMLAS CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Laser ID	Input	Specifies a laser on an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.11.2.2 REMLAS CSU Local Data Elementstc "4.5.4.11.2.2 REMLAS CSU Local Data Elements"§

Table 4.5.4.11.2.2-1 identifies and states the purpose of each data element that originates in the REMLAS CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.11.2.2-1
REMLAS CSU Local Data Elementstc "4.5.4.11.2.2-1 REMLAS CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Laser Index	Contains a unique identifier for the laser	See Table 5-1, Hash Index			

4.5.4.11.2.3 REMLAS CSU Global Data Elementstc "4.5.4.11.2.3 REMLAS CSU Global Data Elements"§

Table 4.5.4.11.2.3-1 identifies and states the purpose of each data element that is used by the REMLAS CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.11.2.2-1
REMLAS CSU Global Data Elementstc "4.5.4.11.2.2-1 REMLAS CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.11.2.4 REMLAS CSU Local and Shared Data Structurestc "4.5.4.11.2.4 REMLAS CSU Local and Shared Data Structures"§

The REMLAS CSU does not implement any local or shared data structures.

4.5.4.11.2.5 REMLAS CSU Interrupts and Signalstc "4.5.4.11.2.5 REMLAS CSU Interrupts and Signals"§

The REMLAS CSU does not handle any interrupts or signals.

4.5.4.11.2.6 REMLAS CSU Error Handlingtc "4.5.4.11.2.6 REMLAS CSU Error Handling"§

The REMLAS CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.11.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.11.2.7 REMLAS CSU Use of Other Elementstc "4.5.4.11.2.7 REMLAS CSU Use of Other Elements"§

The REMLAS CSU does not use system service routines, global data files, or other global elements.

4.5.4.11.2.8 REMLAS CSU Logic Flowtc "4.5.4.11.2.8 REMLAS CSU Logic Flow"§

Figure 4.5.4.11.2.8-1 describes the logic flow of the REMLAS CSU. This CSU is executed by the application software and by the Remove Entity CSU. This CSU executes the Get Laser Hash Index CSU.

Figure 4.5.4.11.2.8-1
REMLAS CSU Logic Flowtc "4.5.4.11.2.8-1 REMLAS CSU Logic Flow" \f f§

4.5.4.11.2.9 REMLAS CSU Algorithmstc "4.5.4.11.2.9 REMLAS CSU Algorithms"§

The REMLAS CSU does not utilize any algorithms.

4.5.4.11.2.10 REMLAS Local Data Files Algorithmstc "4.5.4.11.2.10 REMLAS Local Data Files"§

The REMLAS CSU does not utilize any local data files.

4.5.4.11.2.11 REMLAS CSU Limitationstc "4.5.4.11.2.11 REMLAS CSU Limitations"§

There are no limitations or unusual features in the REMLAS CSU.

4.5.4.12 Remove Resupply CSU (DG-CSU-5.4.12)tc "4.5.4.12 Remove Resupply CSU (DG-CSU-5.4.12)"§

The following subparagraphs provide the design information for the Remove Resupply (REMRES) CSU, identified as DG-CSU-5.4.12. The purpose of this CSU is to permit the application software to remove a resupply request of an entity.

4.5.4.12.1 REMRES CSU Design Specifications/Constraintstc "4.5.4.12.1 REMRES CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.12.2 REMRES CSU Design

The following subparagraphs specify the design of the REMRES CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.12.2.1 REMRES CSU Input/Output Data Elements

Table 4.5.4.12.2.1-1 identifies and states the purpose of each input and output data element of the REMRES CSU.

Table 4.5.4.12.2.1-1
REMRES CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Resupply Request ID	Input	Specifies a resupply request of an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.12.2.2 REMRES CSU Local Data Elements

Table 4.5.4.12.2.2-1 identifies and states the purpose of each data element that originates in the REMRES CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.12.2.2-1
REMRES CSU Local Data Elementstc "4.5.4.12.2.2-1 REMRES CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Resupply Index	Contains a unique identifier for the resupply request	See Table 5-1, Hash Index			

4.5.4.12.2.3 REMRES CSU Global Data Elementstc "4.5.4.12.2.3 REMRES CSU Global Data Elements"§

Table 4.5.4.12.2.3-1 identifies and states the purpose of each data element that is used by the REMRES CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.12.2.2-1
REMRES CSU Global Data Elementstc "4.5.4.12.2.2-1 REMRES CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.12.2.4 REMRES CSU Local and Shared Data Structurestc "4.5.4.12.2.4 REMRES CSU Local and Shared Data Structures"§

The REMRES CSU does not implement any local or shared data structures.

4.5.4.12.2.5 REMRES CSU Interrupts and Signalstc "4.5.4.12.2.5 REMRES CSU Interrupts and Signals"§

The REMRES CSU does not handle any interrupts or signals.

4.5.4.12.2.6 REMRES CSU Error Handlingtc "4.5.4.12.2.6 REMRES CSU Error Handling"§

The REMRES CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.12.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.12.2.7 REMRES CSU Use of Other Elementstc "4.5.4.12.2.7 REMRES CSU Use of Other Elements"§

The REMRES CSU does not use system service routines, global data files, or other global elements.

4.5.4.12.2.8 REMRES CSU Logic Flowtc "4.5.4.12.2.8 REMRES CSU Logic Flow"§

Figure 4.5.4.12.2.8-1 describes the logic flow of the REMRES CSU. This CSU is executed by the application software and by the Remove Entity CSU. This CSU executes the Get Resupply Hash Index CSU.

Figure 4.5.4.12.2.8-1
REMRES CSU Logic Flowtc "4.5.4.12.2.8-1 REMRES CSU Logic Flow" \f f§

4.5.4.12.2.9 REMRES CSU Algorithmstc "4.5.4.12.2.9 REMRES CSU Algorithms"§

The REMRES CSU does not utilize any algorithms.

4.5.4.12.2.10 REMRES Local Data Files Algorithmstc "4.5.4.12.2.10 REMRES Local Data Files"§

The REMRES CSU does not utilize any local data files.

4.5.4.12.2.11 REMRES CSU Limitationstc "4.5.4.12.2.11 REMRES CSU Limitations"§

There are no limitations or unusual features in the REMRES CSU.

4.5.4.13 Remove Repair CSU (DG-CSU-5.4.13)tc "4.5.4.13 Remove Repair CSU (DG-CSU-5.4.13)"§

The following subparagraphs provide the design information for the Remove Repair (REMREP) CSU, identified as DG-CSU-5.4.13. The purpose of this CSU is to permit the application software to remove a repair request of an entity.

4.5.4.13.1 REMREP CSU Design Specifications/Constraintstc "4.5.4.13.1 REMREP CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.13.2 REMREP CSU Designtc "4.5.4.13.2 REMREP CSU Design"§

The following subparagraphs specify the design of the REMREP CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.13.2.1 REMREP CSU Input/Output Data Elementstc "4.5.4.13.2.1 REMREP CSU Input/Output Data Elements"§

Table 4.5.4.13.2.1-1 identifies and states the purpose of each input and output data element of the REMREP CSU.

Table 4.5.4.13.2.1-1
REMREP CSU I/O Datatc "4.5.4.13.2.1-1 REMREP CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Repair Request ID	Input	Specifies a repair request of an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.13.2.2 REMREP CSU Local Data Elementstc "4.5.4.13.2.2 REMREP CSU Local Data Elements"§

Table 4.5.4.13.2.2-1 identifies and states the purpose of each data element that originates in the REMREP CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.13.2.2-1
REMREP CSU Local Data Elementstc "4.5.4.13.2.2-1 REMREP CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Repair Index	Contains a unique identifier for the repair request	See Table 5-1, Hash Index			

4.5.4.13.2.3 REMREP CSU Global Data Elementstc "4.5.4.13.2.3 REMREP CSU Global Data Elements"§

Table 4.5.4.13.2.3-1 identifies and states the purpose of each data element that is used by the REMREP CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.13.2.2-1
REMREP CSU Global Data Elementstc "4.5.4.13.2.2-1 REMREP CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.13.2.4 REMREP CSU Local and Shared Data Structurestc "4.5.4.13.2.4 REMREP CSU Local and Shared Data Structures"§

The REMREP CSU does not implement any local or shared data structures.

4.5.4.13.2.5 REMREP CSU Interrupts and Signalstc "4.5.4.13.2.5 REMREP CSU Interrupts and Signals"§

The REMREP CSU does not handle any interrupts or signals.

4.5.4.13.2.6 REMREP CSU Error Handlingtc "4.5.4.13.2.6 REMREP CSU Error Handling"§

The REMREP CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.13.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.13.2.7 REMREP CSU Use of Other Elementstc "4.5.4.13.2.7 REMREP CSU Use of Other Elements"§

The REMREP CSU does not use system service routines, global data files, or other global elements.

4.5.4.13.2.8 REMREP CSU Logic Flowtc "4.5.4.13.2.8 REMREP CSU Logic Flow"§

Figure 4.5.4.13.2.8-1 describes the logic flow of the REMREP CSU. This CSU is executed by the application software and the Remove Entity CSU. This CSU executes the Get Repair Hash Index CSU.

Figure 4.5.4.13.2.8-1
REMREP CSU Logic Flowtc "4.5.4.13.2.8-1 REMREP CSU Logic Flow" \f f§

4.5.4.13.2.9 REMREP CSU Algorithmstc "4.5.4.13.2.9 REMREP CSU Algorithms"§

The REMREP CSU does not utilize any algorithms.

4.5.4.13.2.10 REMREP Local Data Files Algorithmstc "4.5.4.13.2.10 REMREP Local Data Files"§

The REMREP CSU does not utilize any local data files.

4.5.4.13.2.11 REMREP CSU Limitationstc "4.5.4.13.2.11 REMREP CSU Limitations"§

There are no limitations or unusual features in the REMREP CSU.

4.5.4.14 Remove Receiver CSU (DG-CSU-5.4.14)tc "4.5.4.14 Remove Receiver CSU (DG-CSU-5.4.14)"§

The following subparagraphs provide the design information for the Remove Receiver (REMREC) CSU, identified as DG-CSU-5.4.14. The purpose of this CSU is to permit the application software to remove a receiver from an entity.

4.5.4.14.1 REMREC CSU Design Specifications/Constraintstc "4.5.4.14.1 REMREC CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.14.2 REMREC CSU Design

The following subparagraphs specify the design of the REMREC CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.14.2.1 REMREC CSU Input/Output Data Elements

Table 4.5.4.14.2.1-1 identifies and states the purpose of each input and output data element of the REMREC CSU.

Table 4.5.4.14.2.1-1
REMREC CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Receiver ID	Input	Specifies a receiver on an entity	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.14.2.2 REMREC CSU Local Data Elements

Table 4.5.4.14.2.2-1 identifies and states the purpose of each data element that originates in the REMREC CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.14.2.2-1
REMREC CSU Local Data Elementstc "4.5.4.14.2.2-1 REMREC CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Receiver Index	Contains a unique identifier for the receiver	See Table 5-1, Hash Index			

4.5.4.14.2.3 REMREC CSU Global Data Elementstc "4.5.4.14.2.3 REMREC CSU Global Data Elements"§

Table 4.5.4.14.2.3-1 identifies and states the purpose of each data element that is used by the REMREC CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.14.2.2-1
REMREC CSU Global Data Elementstc "4.5.4.14.2.2-1 REMREC CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.14.2.4 REMREC CSU Local and Shared Data Structurestc "4.5.4.14.2.4 REMREC CSU Local and Shared Data Structures"§

The REMREC CSU does not implement any local or shared data structures.

4.5.4.14.2.5 REMREC CSU Interrupts and Signalstc "4.5.4.14.2.5 REMREC CSU Interrupts and Signals"§

The REMREC CSU does not handle any interrupts or signals.

4.5.4.14.2.6 REMREC CSU Error Handlingtc "4.5.4.14.2.6 REMREC CSU Error Handling"§

The REMREC CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.14.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.14.2.7 REMREC CSU Use of Other Elementstc "4.5.4.14.2.7 REMREC CSU Use of Other Elements"§

The REMREC CSU does not use system service routines, global data files, or other global elements.

4.5.4.14.2.8 REMREC CSU Logic Flowtc "4.5.4.14.2.8 REMREC CSU Logic Flow"§

Figure 4.5.4.14.2.8-1 describes the logic flow of the REMREC CSU. This CSU is executed by the application software and by the Remove Entity CSU. This CSU executes the Get Receiver Hash Index CSU.

Figure 4.5.4.14.2.8-1
REMREC CSU Logic Flowtc "4.5.4.14.2.8-1 REMREC CSU Logic Flow" \f f§

4.5.4.14.2.9 REMREC CSU Algorithmstc "4.5.4.14.2.9 REMREC CSU Algorithms"§

The REMREC CSU does not utilize any algorithms.

4.5.4.14.2.10 REMREC Local Data Files Algorithmstc "4.5.4.14.2.10 REMREC Local Data Files"§

The REMREC CSU does not utilize any local data files.

4.5.4.14.2.11 REMREC CSU Limitationstc "4.5.4.14.2.11 REMREC CSU Limitations"§

There are no limitations or unusual features in the REMREC CSU.

4.5.4.15 Remove Transmitter CSU (DG-CSU-5.4.15)tc "4.5.4.15 Remove Transmitter CSU (DG-CSU-5.4.15)"§

The following subparagraphs provide the design information for the Remove Transmitter (REMTRAN) CSU, identified as DG-CSU-5.4.15. The purpose of this CSU is to permit the application software to remove a transmitter from an entity.

4.5.4.15.1 REMTRAN CSU Design Specifications/Constraintstc "4.5.4.15.1 REMTRAN CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.5.4.15.2 REMTRAN CSU Designtc "4.5.4.15.2 REMTRAN CSU Design"§

The following subparagraphs specify the design of the REMTRAN CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.5.4.15.2.1 REMTRAN CSU Input/Output Data Elementstc "4.5.4.15.2.1 REMTRAN CSU Input/Output Data Elements"§

Table 4.5.4.15.2.1-1 identifies and states the purpose of each input and output data element of the REMTRAN CSU.

Table 4.5.4.15.2.1-1
REMTRAN CSU I/O Datatc "4.5.4.15.2.1-1 REMTRAN CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Application ID	Input	Specifies an application at a site in an exercise	See Table 5-1
Entity ID	Input	Specifies an entity in an application at a site in an exercise	See Table 5-1
Site ID	Input	Specifies a site in an exercise	See Table 5-1
Transmitter ID	Input	Specifies a transmitter on an entity	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.5.4.15.2.2 REMTRAN CSU Local Data Elementstc "4.5.4.15.2.2 REMTRAN CSU Local Data Elements"§

Table 4.5.4.15.2.2-1 identifies and states the purpose of each data element that originates in the REMTRAN CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.15.2.2-1
REMTRAN CSU Local Data Elementstc "4.5.4.15.2.2-1 REMTRAN CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/Range
Transmitter Index	Contains a unique identifier for the transmitter	See Table 5-1, Hash Index			

4.5.4.15.2.3 REMTRAN CSU Global Data Elementstc "4.5.4.15.2.3 REMTRAN CSU Global Data Elements"§

Table 4.5.4.15.2.3-1 identifies and states the purpose of each data element that is used by the REMTRAN CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.5.4.15.2.2-1
REMTRAN CSU Global Data Elementstc "4.5.4.15.2.2-1 REMTRAN CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			

4.5.4.15.2.4 REMTRAN CSU Local and Shared Data Structurestc "4.5.4.15.2.4 REMTRAN CSU Local and Shared Data Structures"§

The REMTRAN CSU does not implement any local or shared data structures.

4.5.4.15.2.5 REMTRAN CSU Interrupts and Signalstc "4.5.4.15.2.5 REMTRAN CSU Interrupts and Signals"§

The REMTRAN CSU does not handle any interrupts or signals.

4.5.4.15.2.6 REMTRAN CSU Error Handlingtc "4.5.4.15.2.6 REMTRAN CSU Error Handling"§

The REMTRAN CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.5.4.15.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.5.4.15.2.7 REMTRAN CSU Use of Other Elementstc "4.5.4.15.2.7 REMTRAN CSU Use of Other Elements"§

The REMTRAN CSU does not use system service routines, global data files, or other global elements.

4.5.4.15.2.8 REMTRAN CSU Logic Flowtc "4.5.4.15.2.8 REMTRAN CSU Logic Flow"§

Figure 4.5.4.15.2.8-1 describes the logic flow of the REMTRAN CSU. This CSU is executed by the application software and the Remove Entity CSU. This CSU executes the Get Transmitter Hash Index CSU.

Figure 4.5.4.15.2.8-1
REMTRAN CSU Logic Flowtc "4.5.4.15.2.8-1 REMTRAN CSU Logic Flow" \f f§

4.5.4.15.2.9 REMTRAN CSU Algorithmstc "4.5.4.15.2.9 REMTRAN CSU Algorithms"§

The REMTRAN CSU does not utilize any algorithms.

4.5.4.15.2.10 REMTRAN Local Data Files Algorithmstc "4.5.4.15.2.10 REMTRAN Local Data Files"§

The REMTRAN CSU does not utilize any local data files.

4.5.4.15.2.11 REMTRAN CSU Limitationstc "4.5.4.15.2.11 REMTRAN CSU Limitations"§

There are no limitations or unusual features in the REMTRAN CSU.

4.6 DG Server Control CSC (DG-CSC-6)tc "4.6 DG Server Control CSC (DG-CSC-6)"§

The following subparagraphs identify and describe each of the CSUs of the DG Server Control (DSC) CSC. Figure 4.6-1 shows the hierarchy of units within the CSC. Figure 4.6-2 describes the relationships of the CSUs in terms of execution control. Figure 4.6-3 describes the relationships of the CSUs in terms of data flow. Solid lines with no arrows indicate a hierarchical relationship. Solid lines with arrows indicate data flow, and dashed lines with arrows indicate control flow. Rectangles with solid borders represent units internal to the CSC, and rectangles with dashed borders indicate external CSCs and

CSCIs.

Figure 4.6-1
DG Server Control CSC Hierarchy Diagramtc "4.6-1 DG Server Control CSC Hierarchy Diagram" \f f§

Figure 4.6-2
DG Server Control CSC Execution Control Diagramtc "4.6-1 DG Server Control CSC Execution Control Diagram" \f f§

Figure 4.6-3
DG Server Control CSC Data Flow Diagramtc "4.6-3 DG Server Control CSC Data Flow Diagram" \f f§

4.6.1 Main Server Control (MSC) CSU (DG-CSU-6.1)tc "4.6.1 Main Server Control (MSC) CSU (DG-CSU-6.1)"§

The following subparagraphs provide the design information for the Main Server Control (MSC) CSU, identified as DG-CSU-6.1. The purpose of this CSU is to provide overall control and synchronization of the DG Server operations.

4.6.1.1 MSC CSU Design Specifications/Constraintstc "4.6.1.1 MSC CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.6.1.2 MSC CSU Designtc "4.6.1.2MSC CSU Design"§

The following subparagraphs specify the design of the MSC CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.6.1.2.1 MSC CSU Input/Output Data Elements

The MSC CSU does not utilize any input or output data elements.

4.6.1.2.2 MSC CSU Local Data Elements

Table 4.6.1.2.2-1 identifies and states the purpose of each data element that originates in the MSC CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.6.1.2.2-1
MSC CSU Local Data Elements

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Default Config File	Contains name of file containing configuration data	String (255 characters)	2040	n/a	n/a
Network Status	Indicates success or failure of a call to a unit	See Table 5-1, Status			
Status	Indicates success or failure of a call to a unit	See Table 5-1			
PDU Pointer	Points to a PDU	See Table 5-1			

4.6.1.2.3 MSC CSU Global Data Elementstc "4.6.1.2.3 MSC CSU Global Data Elements"§

Table 4.6.1.2.3-1 identifies and states the purpose of each data element that is used by the MSC CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.6.1.2.2-1
MSC CSU Global Data Elementstc "4.6.1.2.2-1 MSC CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.6.1.2.4 MSC CSU Local and Shared Data Structurestc "4.6.1.2.4 MSC CSU Local and Shared Data Structures"§

The MSC CSU does not implement any local or shared data structures.

4.6.1.2.5 MSC CSU Interrupts and Signalstc "4.6.1.2.5 MSC CSU Interrupts and Signals"§

The MSC CSU does not handle any interrupts or signals.

4.6.1.2.6 MSC CSU Error Handlingtc "4.6.1.2.6 MSC CSU Error Handling"§

The MSC CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.6.1.2.1-1) is either set to SUCCESS (if no error occurs in this CSU), or to a value indicating the error which occurred.

4.6.1.2.7 MSC CSU Use of Other Elementstc "4.6.1.2.7 MSC CSU Use of Other Elements"§

The MSC CSU does not use system service routines, global data files, or other global elements.

4.6.1.2.8 MSC CSU Logic Flowtc "4.6.1.2.8 MSC CSU Logic Flow"§

Figures 4.6.1.2.8-1 to 4.6.1.2.8-5 describe the logic flow of the MSC CSU. This CSU is not executed by any other CSU. This CSU executes the Get Default Configuration Filename CSU, the Load Configuration File CSU, the Dead Reckoned Position Update Task CSU, the Create Network Interface CSU, the Report Error CSU, the Get Next PDU CSU, the Process GUI Commands CSU, the Client Support Task CSU, and the Terminate Network Interface CSU.

Figure 4.6.1.2.8-1
MSC CSU Logic Flowtc "4.6.1.2.8-1 MSC CSU Logic Flow" \f f§

Figure 4.6.1.2.8-2
MSC CSU Logic Flow (continued)tc "4.6.1.2.8-2 MSC CSU Logic Flow (continued)" \f f§

Figure 4.6.1.2.8-3
MSC CSU Logic Flow (continued)tc "4.6.1.2.8-3 MSC CSU Logic Flow (continued)" \f f§

Figure 4.6.1.2.8-4
MSC CSU Logic Flow (continued)tc "4.6.1.2.8-4 MSC CSU Logic Flow (continued)" \f f§

Figure 4.6.1.2.8-5
MSC CSU Logic Flow (continued)tc "4.6.1.2.8-5 MSC CSU Logic Flow (continued)" \f f§

4.6.1.2.9 MSC CSU Algorithmstc "4.6.1.2.9 MSC CSU Algorithms"§

The MSC CSU does not utilize any algorithms.

4.6.1.2.10 MSC CSU Limitationstc "4.6.1.2.10 MSC CSU Limitations"§

There are no limitations or unusual features in the MSC CSU.

4.6.2 Client Support Task CSU (DG-CSU-6.2)tc "4.6.2 Client Support Task CSU (DG-CSU-6.2)"§

The following subparagraphs provide the design information for the Client Support Task (CST) CSU, identified as DG-CSU-6.2. The purpose of this CSU is to handle support tasks, including entity maintenance and event generation, related to a particular DG Client.

4.6.2.1 CST CSU Design Specifications/Constraintstc "4.6.2.1 CST CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.6.2.2 CST CSU Designtc "4.6.2.2 CST CSU Design"§

The following subparagraphs specify the design of the CST CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.6.2.2.1 CST CSU Input/Output Data Elementstc "4.6.2.2.1 CST CSU Input/Output Data Elements"§

The CST CSU does not utilize any input or output data elements.

4.6.2.2.2 CST CSU Local Data Elementstc "4.6.2.2.2 CST CSU Local Data Elements"§

Table 4.6.2.2.2-1 identifies and states the purpose of each data element that originates in the CST CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.6.2.2.2-1
CST CSU Local Data Elementstc "4.6.2.2.2-1 CST CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Hash Index	Contains a unique identifier based on the specified parameters	See Table 5-1			

4.6.2.2.3 CST CSU Global Data Elementstc "4.6.2.2.3 CST CSU Global Data Elements"§

Table 4.6.2.2.3-1 identifies and states the purpose of each data element that is used by the CST CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.6.2.2.2-1
CST CSU Global Data Elementstc "4.6.2.2.2-1 CST CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.6.2.2.4 CST CSU Local and Shared Data Structurestc "4.6.2.2.4 CST CSU Local and Shared Data Structures"§

The CST CSU does not implement any local or shared data structures.

4.6.2.2.5 CST CSU Interrupts and Signalstc "4.6.2.2.5 CST CSU Interrupts and Signals"§

The CST CSU does not handle any interrupts or signals.

4.6.2.2.6 CST CSU Error Handlingtc "4.6.2.2.6 CST CSU Error Handling"§

The CST CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.6.2.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.6.2.2.7 CST CSU Use of Other Elementstc "4.6.2.2.7 CST CSU Use of Other Elements"§

The CST CSU does not use system service routines, global data files, or other global elements.

4.6.2.2.8 CST CSU Logic Flowtc "4.6.2.2.8 CST CSU Logic Flow"§

Figures 4.6.2.2.8-1 to 4.6.2.2.8-2 describe the logic flow of the CST CSU. This CSU is executed by the Main Server Control CSU. This CSU executes does not execute any other CSUs.

Figure 4.6.2.2.8-1
CST CSU Logic Flowtc "4.6.2.2.8-1CST CSU Logic Flow" \f f§

Figure 4.6.2.2.8-2
CST CSU Logic Flow (continued)tc "4.6.2.2.8-2 CST CSU Logic Flow (continued)" \f f§

4.6.2.2.9 CST CSU Algorithmstc "4.6.2.2.9 CST CSU Algorithms"§

The CST CSU does not utilize any algorithms.

4.6.2.2.10 CST Local Data Files Algorithmstc "4.6.2.2.10 CST Local Data Files"§

The CST CSU does not utilize any local data files.

4.6.2.2.11 CST CSU Limitationstc "4.6.2.2.11 CST CSU Limitations"§

There are no limitations or unusual features in the CST CSU.

4.6.3 Dead Reckoned Position Update Task CSU (DG-CSU-6.3)tc "4.6.3 Dead Reckoned Position Update Task CSU (DG-CSU-6.3)"§

The following subparagraphs provide the design information for the Dead Reckoned Position Update Task (DRPOS) CSU, identified as DG-CSU-6.3. The purpose of this CSU is to update the dead reckoned position of all active entities maintained by the DG Server.

4.6.3.1 DRPOS CSU Design Specifications/Constraintstc "4.6.3.1 DRPOS CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.6.3.2 DRPOS CSU Designtc "4.6.3.2 DRPOS CSU Design"§

The following subparagraphs specify the design of the DRPOS CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.6.3.2.1 DRPOS CSU Input/Output Data Elementstc "4.6.3.2.1 DRPOS CSU Input/Output Data Elements"§

The DRPOS CSU does not utilize any input or output data elements.

4.6.3.2.2 DRPOS CSU Local Data Elementstc "4.6.3.2.2 DRPOS CSU Local Data Elements"§

The DRPOS CSU does not utilize any local data elements.

4.6.3.2.3 DRPOS CSU Global Data Elementstc "4.6.3.2.3 DRPOS CSU Global Data Elements"§

Table 4.6.3.2.3-1 identifies and states the purpose of each data element that is used by the DRPOS CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.6.3.2.2-1
DRPOS CSU Global Data Elementstc "4.6.3.2.2-1DRPOS CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-1			
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-1			

4.6.3.2.4 DRPOS CSU Local and Shared Data Structurestc "4.6.3.2.4 DRPOS CSU Local and Shared Data Structures"§

The DRPOS CSU does not implement any local or shared data structures.

4.6.3.2.5 DRPOS CSU Interrupts and Signalstc "4.6.3.2.5 DRPOS CSU Interrupts and Signals"§

The DRPOS CSU does not handle any interrupts or signals.

4.6.3.2.6 DRPOS CSU Error Handlingtc "4.6.3.2.6 DRPOS CSU Error Handling"§

The DRPOS CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.6.3.2.1-1) is either set to SUCCESS (if no error occurs in this CSU) or to a value indicating the error which occurred.

4.6.3.2.7 DRPOS CSU Use of Other Elementstc "4.6.3.2.7 DRPOS CSU Use of Other Elements"§

The DRPOS CSU does not use system service routines, global data files, or other global elements.

4.6.3.2.8 DRPOS CSU Logic Flowtc "4.6.3.2.8 DRPOS CSU Logic Flow"§

Figure 4.6.3.2.8-1 describes the logic flow of the DRPOS CSU. This CSU is executed by the Main Server Control CSU. This CSU executes the Update Entity Position CSU of the DIS Library CSCI.

Figure 4.6.3.2.8-1
DRPOS CSU Logic Flowtc "4.6.3.2.8-1 DRPOS CSU Logic Flow" \f f§

4.6.3.2.9 DRPOS CSU Algorithmstc "4.6.3.2.9 DRPOS CSU Algorithms"§

The DRPOS CSU does not utilize any algorithms.

4.6.3.2.10 DRPOS Local Data Files Algorithmstc "4.6.3.2.10 DRPOS Local Data Files"§

The DRPOS CSU does not utilize any local data files.

4.6.3.2.11 DRPOS CSU Limitationstc "4.6.3.2.11 DRPOS CSU Limitations"§

There are no limitations or unusual features in the DRPOS CSU.

4.7 Network Interface Support CSC (DG-CSC-7)tc "4.7 Network Interface Support CSC (DG-CSC-7)"§

The following subparagraphs identify and describe each of the CSUs of the Network Interface Support (NIS) CSC. Figure 4.7-1 shows the hierarchy of units within the CSC. Figure 4.7-2 describes the relationships of the CSUs in terms of execution control. Figure 4.7-3 describes the relationships of the CSUs in terms of data flow. Solid lines with no arrows indicate a hierarchical relationship. Solid lines with arrows indicate data flow, and dashed lines with arrows indicate control flow. Rectangles with solid borders represent units internal to the CSC, and rectangles with dashed borders indicate external CSCs and CSCIs.

Figure 4.7-1
Network Interface Support CSC Hierarchy Diagramtc "4.7-1 Network Interface Support CSC Hierarchy Diagram" \f f§

Figure 4.7-2
Network Interface Support CSC Execution Control Diagramtc "4.7-1 Network Interface Support CSC Execution Control Diagram" \f f§

Figure 4.7-3
Network Interface Support CSC Data Flow Diagramtc "4.7-3 Network Interface Support CSC Data Flow Diagram" \f f§

4.7.1 Establish Network Interface (ENI) CSU (DG-CSU-7.1)tc "4.7.1 Establish Network Interface (ENI) CSU (DG-CSU-7.1)"§

The following subparagraphs provide the design information for the Establish Network Interface (ENI) CSU, identified as DG-CSU-7.1. The purpose of this CSU is to allocate DG CSCI and system resources necessary for maintaining the network interface.

4.7.1.1 ENI CSU Design Specifications/Constraintstc "4.7.1.1 ENI CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.7.1.2 ENI CSU Designtc "4.7.1.2 ENI CSU Design"§

The following subparagraphs specify the design of the ENI CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.7.1.2.1 ENI CSU Input/Output Data Elementstc "4.7.1.2.1 ENI CSU Input/Output Data Elements"§

Table 4.7.1.2.1-1 identifies and states the purpose of each input and output data element of the ENI CSU.

Table 4.7.1.2.1-1
ENI CSU I/O Datatc "4.7.1.2.1-1 ENI CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.7.1.2.2 ENI CSU Local Data Elementstc "4.7.1.2.2 ENI CSU Local Data Elements"§

The ENI CSU does not utilize any local data elements.

4.7.1.2.3 ENI CSU Global Data Elementstc "4.7.1.2.3 ENI CSU Global Data Elements"§

Table 4.7.1.2.3-1 identifies and states the purpose of each data element that is used by the ENI CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.7.1.2.2-1
ENI CSU Global Data Elementstc "4.7.1.2.2-1 ENI CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Network Parameters	Contains information for establishing the network interface for the exercise	See Table 5-1			

4.7.1.2.4 ENI CSU Local and Shared Data Structurestc "4.7.1.2.4 ENI CSU Local and Shared Data Structures"§

The ENI CSU does not implement any local or shared data structures.

4.7.1.2.5 ENI CSU Interrupts and Signalstc "4.7.1.2.5 ENI CSU Interrupts and Signals"§

The ENI CSU does not handle any interrupts or signals.

4.7.1.2.6 ENI CSU Error Handlingtc "4.7.1.2.6 ENI CSU Error Handling"§

The ENI CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.7.1.2.1-1) is either set to SUCCESS (if no error occurs in this CSU), or to a value indicating the error which occurred.

4.7.1.2.7 ENI CSU Use of Other Elementstc "4.7.1.2.7 ENI CSU Use of Other Elements"§

The ENI CSU does not use system service routines, global data files, or other global elements.

4.7.1.2.8 ENI CSU Logic Flowtc "4.7.1.2.8ENI CSU Logic Flow"§

Figure 4.7.1.2.8-1 describes the logic flow of the ENI CSU. This CSU is executed by the Main Server Control CSU. This CSU does not execute any other CSUs.

Figure 4.7.1.2.8-1
ENI CSU Logic Flowtc "4.7.1.2.8-1 ENI CSU Logic Flow" \f f§

4.7.1.2.9 ENI CSU Algorithmstc "4.7.1.2.9ENI CSU Algorithms"§

The ENI CSU does not utilize any algorithms.

4.7.1.2.10 ENI CSU Limitationstc "4.7.1.2.10 ENI CSU Limitations"§

There are no limitations or unusual features in the ENI CSU.

4.7.2 Terminate Network Interface (TNI) CSU (DG-CSU-7.2)tc "4.7.2 Terminate Network Interface (TNI) CSU (DG-CSU-7.2)"§

The following subparagraphs provide the design information for the Terminate Network Interface (TNI) CSU, identified as DG-CSU-7.2. The purpose of this CSU is to deallocate DG CSCI and system resources involved in maintaining the network interface.

4.7.2.1 TNI CSU Design Specifications/Constraintstc "4.7.2.1 TNI CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.7.2.2 TNI CSU Designtc "4.7.2.2 TNI CSU Design"§

The following subparagraphs specify the design of the TNI CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.7.2.2.1 TNI CSU Input/Output Data Elementstc "4.7.2.2.1 TNI CSU Input/Output Data Elements"§

Table 4.7.2.2.1-1 identifies and states the purpose of each input and output data element of the TNI CSU.

Table 4.7.2.2.1-1
TNI CSU I/O Datatc "4.7.2.2.1-1 TNI CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.7.2.2.2 TNI CSU Local Data Elementstc "4.7.2.2.2 TNI CSU Local Data Elements"§

The TNI CSU does not utilize any local data elements.

4.7.2.2.3 TNI CSU Global Data Elementstc "4.7.2.2.3 TNI CSU Global Data Elements"§

The TNI CSU does not utilize any global data elements.

4.7.2.2.4 TNI CSU Local and Shared Data Structurestc "4.7.2.2.4 TNI CSU Local and Shared Data Structures"§

The TNI CSU does not implement any local or shared data structures.

4.7.2.2.5 TNI CSU Interrupts and Signalstc "4.7.2.2.5 TNI CSU Interrupts and Signals"§

The TNI CSU does not handle any interrupts or signals.

4.7.2.2.6 TNI CSU Error Handlingtc "4.7.2.2.6 TNI CSU Error Handling"§

The TNI CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.7.2.2.1-1) is either set to SUCCESS (if no error occurs in this CSU), or to a value indicating the error which occurred.

4.7.2.2.7 TNI CSU Use of Other Elementstc "4.7.2.2.7 TNI CSU Use of Other Elements"§

The TNI CSU does not use system service routines, global data files, or other global elements.

4.7.2.2.8 TNI CSU Logic Flowtc "4.7.2.2.8TNI CSU Logic Flow"§

Figure 4.7.2.2.8-1 describes the logic flow of the TNI CSU. This CSU is executed by by the Main Server Control CSU. This CSU executes does not execute any other CSUs.

Figure 4.7.2.2.8-1
TNI CSU Logic Flowtc "4.7.2.2.8-1 TNI CSU Logic Flow" \f f§

4.7.2.2.9 TNI CSU Algorithmstc "4.7.2.2.9TNI CSU Algorithms"§

The TNI CSU does not utilize any algorithms.

4.7.2.2.10 TNI CSU Limitationstc "4.7.2.2.10 TNI CSU Limitations"§

There are no limitations or unusual features in the TNI CSU.

4.7.3 Receive Network Data (RXNET) CSU (DG-CSU-7.3)tc "4.7.3 Receive Network Data (RXNET) CSU (DG-CSU-7.3)"§

The following subparagraphs provide the design information for the Receive Network Data (RXNET) CSU, identified as DG-CSU-7.3. The purpose of this CSU is to receive exercise data from the network and queue the data for further processing.

4.7.3.1 RXNET CSU Design Specifications/Constraintstc "4.7.3.1 RXNET CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.7.3.2 RXNET CSU Designtc "4.7.3.2 RXNET CSU Design"§

The following subparagraphs specify the design of the RXNET CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.7.3.2.1 RXNET CSU Input/Output Data Elementstc "4.7.3.2.1 RXNET CSU Input/Output Data Elements"§

Table 4.7.3.2.1-1
RXPDU CSU I/O Datatc "4.7.3.2.1-1 RXPDU CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.7.3.2.2 RXNET CSU Local Data Elementstc "4.7.3.2.2 RXNET CSU Local Data Elements"§

The RXNET CSU does not utilize any local data elements.

4.7.3.2.3 RXNET CSU Global Data Elementstc "4.7.3.2.3 RXNET CSU Global Data Elements"§

Table 4.7.3.2.3-1 identifies and states the purpose of each data element that is used by the RXNET CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.7.3.2.2-1
RXNET CSU Global Data Elementstc "4.7.3.2.2-1 RXNET CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Received PDU List	Stores PDU data received from the network	Pointer to Received PDU Entry (See Paragraph 4.7.3.2.4)	32	n/a	n/a

4.7.3.2.4 RXNET CSU Local and Shared Data Structurestc "4.7.3.2.4 RXNET CSU Local and Shared Data Structures"§

The RXNET CSU implements the Received PDU List Entry shared data structure, described in table 4.7.3.2.4-1. The RXNET CSU does not implement any local data structures.

Table 4.7.3.2.4-1
Received PDU List Entry Data Structuretc "4.7.3.2.4-1 Received PDU List Entry Data Structure" \f t§

Component	Purpose	Type	Size (Bits)	Units	Limit/ Range
Next	Points to the next entry in the Received PDU List	Pointer to Received PDU Entry (See Paragraph 4.7.3.2.4)	32	n/a	n/a
PDU Pointer	Points to a PDU	See Table 5-1			

4.7.3.2.5 RXNET CSU Interrupts and Signalstc "4.7.3.2.5 RXNET CSU Interrupts and Signals"§

The RXNET CSU handles interrupts from the UDP network device.

4.7.3.2.6 RXNET CSU Error Handlingtc "4.7.3.2.6 RXNET CSU Error Handling"§

The RXNET CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.7.3.2.1-1) is either set to SUCCESS (if no error occurs in this CSU), or to a value indicating the error which occurred.

4.7.3.2.7 RXNET CSU Use of Other Elementstc "4.7.3.2.7 RXNET CSU Use of Other Elements"§

The RXNET CSU does not use system service routines, global data files, or other global elements.

4.7.3.2.8 RXNET CSU Logic Flowtc "4.7.3.2.8 RXNET CSU Logic Flow"§

Figure 4.7.3.2.8-1 describes the logic flow of the RXNET CSU. This CSU is executed by upon receipt of an interrupt from the UDP network device. This CSU does not execute any other CSUs.

Figure 4.7.3.2.8-1
RXNET CSU Logic Flowtc "4.7.3.2.8-1 RXNET CSU Logic Flow" \f f§

4.7.3.2.9 RXNET CSU Algorithmstc "4.7.3.2.9 RXNET CSU Algorithms"§

The RXNET CSU does not utilize any algorithms.

4.7.3.2.10 RXNET CSU Limitationstc "4.7.3.2.10 RXNET CSU Limitations"§

There are no limitations or unusual features in the RXNET CSU.

4.7.4 Receive PDU (RXPDU) CSU (DG-CSU-7.4)tc "4.7.4 Receive PDU (RXPDU) CSU (DG-CSU-7.4)"§

The following subparagraphs provide the design information for the Receive PDU (RXPDU) CSU, identified as DG-CSU-7.4. The purpose of this CSU is to return the next PDU received from the network, after verifying the validity of the PDU and after filtering out undesired PDUs.

4.7.4.1 RXPDU CSU Design Specifications/Constraintstc "4.7.4.1 RXPDU CSU Design Specifications/Constraints"§

There are no design constraints for this CSU.

4.7.4.2 RXPDU CSU Designtc "4.7.4.2 RXPDU CSU Design"§

The following subparagraphs specify the design of the RXPDU CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.7.4.2.1 RXPDU CSU Input/Output Data Elementstc "4.7.4.2.1 RXPDU CSU Input/Output Data Elements"§

Table 4.7.4.2.1-1 identifies and states the purpose of each input and output data element of the RXPDU CSU.

Table 4.7.4.2.1-1
RXPDU CSU I/O Datatc "4.7.4.2.1-1 RXPDU CSU I/O Data" \f t§

Data Element	Input/Output	Purpose	Data Type
PDU Pointer	Input/Output	Points to a PDU	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.7.4.2.2 RXPDU CSU Local Data Elementstc "4.7.4.2.2 RXPDU CSU Local Data Elements"§

Table 4.7.4.2.2-1 identifies and states the purpose of each data element that originates in the RXPDU CSU and is not used by any other CSU. This table also describes the data elements in terms of type, size, units of measure, and limit/range.

Table 4.7.4.2.2-1
RXPDU CSU Local Data Elementstc "4.7.4.2.2-1 RXPDU CSU Local Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Desired PDU	Indicates if the PDU should be kept, based upon the PDU data and the Filter List contents	See Table 5-1			
Valid PDU	Indicates if the PDU data is internally consistent	See Table 5-1			

4.7.4.2.3 RXPDU CSU Global Data Elementstc "4.7.4.2.3 RXPDU CSU Global Data Elements"§

Table 4.7.4.2.3-1 identifies and states the purpose of each data element that is used by the RXPDU CSU and is also used by other CSUs. This table also describes the global data elements in terms of type, size, units of measure, and limit/range.

Table 4.7.4.2.2-1
RXPDU CSU Global Data Elementstc "4.7.4.2.2-1 RXPDU CSU Global Data Elements" \f t§

Name	Purpose	Type	Size (Bits)	Units	Limit/ Range
Received PDU List	Stores PDU data received from the network	Pointer to Received PDU Entry (See Paragraph 4.7.3.2.4)	32	n/a	n/a

4.7.4.2.4 RXPDU CSU Local and Shared Data Structurestc "4.7.4.2.4 RXPDU CSU Local and Shared Data Structures"§

The RXPDU CSU does not implement any local or shared data structures.

4.7.4.2.5 RXPDU CSU Interrupts and Signalstc "4.7.4.2.5 RXPDU CSU Interrupts and Signals"§

The RXPDU CSU does not handle any interrupts or signals.

4.7.4.2.6 RXPDU CSU Error Handlingtc "4.7.4.2.6 RXPDU CSU Error Handling"§

The RXPDU CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.7.4.2.1-1) is either set to SUCCESS (if no error occurs in this CSU), or to a value indicating the error which occurred.

4.7.4.2.7 RXPDU CSU Use of Other Elementstc "4.7.4.2.7 RXPDU CSU Use of Other Elements"§

The RXPDU CSU does not use system service routines, global data files, or other global elements.

4.7.4.2.8 RXPDU CSU Logic Flowtc "4.7.4.2.8 RXPDU CSU Logic Flow"§

Figure 4.7.4.2.8-1 describes the logic flow of the RXPDU CSU. This CSU is executed by the DG Server Control CSU. This CSU executes the Validate PDU CSU and the Desired PDU CSU.

Figure 4.7.4.2.8-1
RXPDU CSU Logic Flowtc "4.7.4.2.8-1 RXPDU CSU Logic Flow" \f f§

Figure 4.7.4.2.8-2
RXPDU CSU Logic Flow (continued)tc "4.7.4.2.8-2 RXPDU CSU Logic Flow (continued)" \f f§

4.7.4.2.9 RXPDU CSU Algorithms

The RXPDU CSU does not utilize any algorithms.

4.7.4.2.10 RXPDU CSU Limitations

There are no limitations or unusual features in the RXPDU CSU.

4.7.5 Transmit PDU (TXPDU) CSU (DG-CSU-7.5)

The following subparagraphs provide the design information for the Transmit PDU (TXPDU) CSU, identified as DG-CSU-7.5. The purpose of this CSU is to transmit a PDU over the simulation network.

4.7.5.1 TXPDU CSU Design Specifications/Constraints

There are no design constraints for this CSU.

4.7.5.2 TXPDU CSU Design

The following subparagraphs specify the design of the TXPDU CSU, including input/output data, local data, local and shared data structures, interrupts, error handling, logic flow, algorithms, limitations, and use of other elements.

4.7.5.2.1 TXPDU CSU Input/Output Data Elements

Table 4.7.5.2.1-1 identifies and states the purpose of each input and output data element of the TXPDU CSU.

Table 4.7.5.2.1-1
TXPDU CSU I/O Data

Data Element	Input/Output	Purpose	Data Type
PDU Pointer	Input	Points to a PDU	See Table 5-1
Status	Output	Indicates success or failure of a call to a unit	See Table 5-1

4.7.5.2.2 TXPDU CSU Local Data Elementstc "4.7.5.2.2 TXPDU CSU Local Data Elements"§

The TXPDU CSU does not utilize any local data elements.

4.7.5.2.3 TXPDU CSU Global Data Elementstc "4.7.5.2.3 TXPDU CSU Global Data Elements"§

The TXPDU CSU does not utilize any global data elements.

4.7.5.2.4 TXPDU CSU Local and Shared Data Structurestc "4.7.5.2.4 TXPDU CSU Local and Shared Data Structures"§

The TXPDU CSU does not implement any local or shared data structures.

4.7.5.2.5 TXPDU CSU Interrupts and Signalstc "4.7.5.2.5 TXPDU CSU Interrupts and Signals"§

The TXPDU CSU does not handle any interrupts or signals.

4.7.5.2.6 TXPDU CSU Error Handlingtc "4.7.5.2.6 TXPDU CSU Error Handling"§

The TXPDU CSU handles unexpected run-time errors using an Ada exception handler. The "Status" output parameter (see Table 4.7.5.2.1-1) is either set to SUCCESS (if no error occurs in this CSU), or to a value indicating the error which occurred.

4.7.5.2.7 TXPDU CSU Use of Other Elementstc "4.7.5.2.7 TXPDU CSU Use of Other Elements"§

The TXPDU CSU does not use system service routines, global data files, or other global elements.

4.7.5.2.8 TXPDU CSU Logic Flowtc "4.7.5.2.8 TXPDU CSU Logic Flow"§

Figure 4.7.5.2.8-1 describes the logic flow of the TXPDU CSU. This CSU is executed by the DG Server Control CSU and the Client Support Task CSU. This CSU does not execute any other CSUs.

Figure 4.7.5.2.8-1
TXPDU CSU Logic Flowtc "4.7.5.2.8-1 TXPDU CSU Logic Flow" \f f§

4.7.5.2.9 TXPDU CSU Algorithms

The TXPDU CSU does not utilize any algorithms.

4.7.5.2.10 TXPDU CSU Limitations

There are no limitations or unusual features in the TXPDU CSU.

5 CSCI Data

This paragraph describes global data elements within the DG CSCI. Table 5-1 provides the name, description, units, limit/range, data type, and size of each global data element. Table 5-2 provides cross-referencing between global data elements and CSUs.

Table 5-1
Global Data Element Descriptions

Name	Description	Data Type	Limit/ Range	Units	Size (Bits)
Add Hash	Indicates handling of new table entries. If True, new entries are automatically created in the hash table. If False, new entries are not entered in the table, and a Hash Index of 0 is returned.	Boolean	n/a	False, True	8
Application ID	Specifies an application at a site in an exercise	See IST-CR-93			
Client Exercise Parameters	Contains data specific to a client's participation in an exercise	See Table 5-9	n/a	n/a	
Client Filter File	Specifies name of file containing PDU filtering criteria	String (255 characters)	n/a	n/a	2040

Client Interface	Contains simulation data created by the application software utilizing the DG Client	See Table 5-3	n/a	n/a	
Configuration File	Contains name of file containing configuration data	String (255 characters)	n/a	n/a	2040
Desired PDU	Indicates if the PDU should be kept, based upon the PDU data and the Filter List contents	Enumeration	n/a	False, True, Default	8
Emitter ID	Specifies an emitter on an entity	See IST-CR-93			
Emitter Information	Contains data regarding an emitter on an entity	See IST-CR-93			
Entity ID	Specifies an entity in an application at a site in an exercise	See IST-CR-93			
Entity State Information	Contains data regarding an entity	See IST-CR-93			
Error	Contains the error code to add to the log file	See DG IRS			
Error Monitor Data	Tracks information on errors for display by the GUI	See Table 5-7	n/a	n/a	
Error Processing Parameters	Contains parameter values related to logging and monitoring errors	See Table 5-6	n/a	n/a	

File Handle	Contains information associated with the current error log file	(system dependent)			
Filename	Contains the name of a configuration file	String (255 characters)	n/a	n/a	2040

Filter Index	Contains index into Filter List for the entry to be evaluated	Integer	n/a	n/a	32
Filter List	Contains a list of evaluations to perform to determine if a PDU should be kept, or if the PDU should be discarded	Array of Filter List Entries (See Table 5-8)		n/a	
Freeze Reason	Indicates the reason that the simulation is frozen. If the simulation is not frozen, then this is set to *OTHER*.	See IST-CR-93			
Hash Index	Contains a unique identifier based on the specified parameters	Integer	n/a	n/a	32
Hash Table	Contains data to determine hash indexes	Varies (based on item being hashed)		n/a	
Initialize GUI Flag	Indicates if the Graphical User Interface should be started	Boolean	n/a	False, True	8
Laser ID	Specifies a laser on an entity	See IST-CR-93			
Laser Information	Contains data regarding a laser on an entity	See IST-CR-93			
Network Parameters	Contains information for establishing the network interface for the exercise	See Table 5-5	n/a	n/a	

PDU Pointer	Points to a PDU	Pointer to PDU (See IST-CR-93)	n/a	n/a	32
Receiver ID	Specifies a receiver on an entity	See IST-CR-93			
Receiver Information	Contains data regarding a receiver on an entity	See IST-CR-93			
Repair Information	Contains data regarding a repair request of an entity	See IST-CR-93			
Repair Request ID	Specifies a repair request of an entity	See IST-CR-93			
Resupply Information	Contains data regarding a resupply request of an entity	See IST-CR-93			
Resupply Request ID	Specifies a resupply request of an entity	See IST-CR-93			
Server Interface	Contains simulation data received from the network and from other applications connected to the DG Server	See Table 5-4	n/a	n/a	
Simulation State	Indicates the last known state of the exercise	See IST-CR-93			
Site ID	Specifies a site in an exercise	See IST-CR-93			

Status	Indicates success or failure of a call to a unit	See DG IRS			
Table Size	Specifies the number of entries in the Hash Table	Integer	n/a	n/a	32
Timestamp	Contains current system time	(system dependent)			
Transmitter ID	Specifies a transmitter on an entity	See IST-CR-93			
Transmitter Information	Contains data regarding a transmitter on an entity	See IST-CR-93			
Valid PDU Flag	Indicates if the PDU data is internally consistent	Boolean	n/a	False, True	8

6 CSCI Data File

The DG CSCI does not utilize any global data files.

7 Notes

The following subparagraphs contain general information to aid in undertanding this specification, including a list of acronyms/abbreviations and their meanings, and conventions for project-unique identifiers.

7.1 Acronyms and Abbreviations

Table 7.1-1 contains a list of all acronyms and abbreviations used in this SRS, and their meanings as used in this document.

Table 7.1-1
Meanings of Acronyms and Abbreviations

Acronym/ Abbreviation	Meaning
ACETEF	Air Combat Environment Test and Evaluation Facility
ADIS	Ada Distributed Interactive Simulation Support
AELE	Add Error Log Entry (CSU)
AEME	Add Error Monitor Entry (CSU)
AJPO	Ada Joint Program Office
CDRL	Contract Data Requirements List
CFM	Configuration File Management (CSC)
CLI	DG Client (CSC)
CLIGUI	DG Client Graphical User Interface (CSC)

CSCI	Computer Software Configuration Item
CSI	Client/Server Interface (CSC)
CST	Client Support Task (CSU)
DARPA	Defense Advanced Research Project Agency
DESPDU	Desired PDU (CSU)
DFL	DIS Filter Library
DG	DIS Gateway
DIS	Distributed Interactive Simulation
DOD	Department of Defense
DRM	Dead-Reckoning Model
DRPOS	Dead Reckoned Position Update Task (CSU)
DSC	DG Server Control (CSC)
EMITIDX	Get Emitter Hash Index (CSU)
ENI	Establish Network Interface (CSU)
ENTIDX	Get Entity Hash Index (CSU)

EP	Error Processing (CSC)
ESI	Establish Server Interface (CSU)
FS	Filter Support (CSC)
FTEG	Flight Test and Engineering Group
GDCC	Get Default Client Configuration Filename (CSU)
GDSC	Get Default Server Configuration Filename (CSU)
GETEMIT	Get Emitter Information (CSU)
GETENT	Get Entity Information (CSU)
GETLAS	Get Laser Information (CSU)
GETREC	Get Receiver Information (CSU)
GETREP	Get Repair Information (CSU)
GETRES	Get Resupply Information (CSU)
GETTRAN	Get Transmitter Information (CSU)
GNP	Get Next PDU (CSU)
GSS	Get Simulation State (CSU)

GUI	Graphical User Interface
GUICFG	Display/Modify Configuration Filename (CSU)
GUIEXER	Display/Modify Exercise Parameters (CSU)
GUIFILT	Display/Modify Filter Parameters (CSU)
HSHEMIT	Get Emitter Information by Hash Index (CSU)
HSHENT	Get Entity State Information by Hash Index (CSU)
HSHLAS	Get Laser Information by Hash Index (CSU)
HSHREC	Get Receiver Information by Hash Index (CSU)
HSHREP	Get Repair Information by Hash Index (CSU)
HSHRES	Get Resupply Information by Hash Index (CSU)
HSHTRAN	Get Transmitter Information by Hash Index (CSU)
HTS	Hash Table Support (CSC)
I/F	Interface
I/O	Input/Output
IEEE	Institute of Electrical and Electronics Engineers

INIGUI	Initialize DG Client Graphical User Interface (CSU)
IST	Institute for Simulation and Training
LASIDX	Get Laser Hash Index (CSU)
LCCF	Load Client Configuration File (CSU)
LSCF	Load Server Configuration File (CSU)
MFS	Manned Flight Simulator
MSC	Main Server Control (CSU)
NAWCAD	Naval Air Warfare Center Aircraft Division
NIS	Network Interface Support (CSC)
NTIS	National Technical Information Service
OS	Ordnance Server
PDU	Protocol Data Unit
RE	Report Error (CSU)
RECIDX	Get Receiver Hash Index (CSU)
REMEMIT	Remove Emitter (CSU)

REMENT	Remove Entity (CSU)
REMLAS	Remove Laser (CSU)
REMREC	Remove Receiver (CSU)
REMREP	Remove Repair (CSU)
REMRES	Remove Resupply (CSU)
REMTRAN	Remove Transmitter (CSU)
REPIDX	Get Repair Hash Index (CSU)
RESIDX	Get Resupply Hash Index (CSU)
RXNET	Receive Network Data (CSU)
RXPDU	Receive PDU (CSU)
SCCF	Save Client Configuration File (CSU)
SENDPDU	Send PDU (CSU)
SETEMIT	Set Emitter Information (CSU)
SETENT	Set Entity Information (CSU)
SETLAS	Set Laser Information (CSU)

SETREC	Set Receiver Information (CSU)
SETREP	Set Repair Information (CSU)
SETRES	Set Resupply Information (CSU)
SETTRAN	Set Transmitter Information (CSU)
SIMIN	Simulation Input (CSC)
SIMNET	Simulator Networking
SIMOUT	Simulation Output (CSC)
SOW	Statement of Work
SRS	System Requirements Specification
SSCF	Save Server Configuration File (CSU)
TNI	Terminate Network Interface (CSU)
TRANIDX	Get Transmitter Hash Index (CSU)
TSI	Terminate Server Interface (CSU)
TXPDU	Transmit PDU (CSU)
UDP	User Defined Protocol

VALPDU	Valid PDU (CSU)

7.2 Project-Unique Identifier Conventionstc "7.2 Project-Unique Identifier Conventions"§

This Software Design Document adheres to the following project-unique identifier conventions:

Capability	*csci*-C-*nn*
Data Element	*csci*-D-*nn*
Internal Interface	*csci*-II-*nn*
External Interface	*csci*-EI-*nn*

Where:

csci is the CSCI abbreviation (DG for the DIS Gateway), and
nn is a unique number

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FOR THE

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