

SEMI E37.2-95 (Withdrawn 1109)

HIGH-SPEED SECS MESSAGE SERVICES GENERAL SESSION (HSMS-GS)

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NOTICE: This Document was balloted and approved for withdrawal in 2009.

1 Purpose

1.1 HSMS-GS is intended to support the needs of complex systems containing multiple independently accessible subsystems such as cluster tools or track systems. Specifically, procedures are defined to permit access to any individual subsystem or set of subsystems within any complex system.

2 Scope

2.1 High-Speed SECS Message Services General Session (HSMS-GS) is a subsidiary standard to High-Speed SECS Message Services (HSMS) Generic Services.

NOTICE: SEMI Standards and Safety Guidelines do not purport to address all safety issues associated with their use. It is the responsibility of the users of the Documents to establish appropriate safety and health practices, and determine the applicability of regulatory or other limitations prior to use.

3 Referenced Standards and Documents

3.1 SEMI Standards and Safety Guidelines

SEMI E4 — SEMI Equipment Communications Standard 1 Message Transfer (SECS-I)

SEMI E5 — SEMI Equipment Communications Standard 2 Message Content (SECS-II)

SEMI E37 — High-Speed SECS Message Services (HSMS) Generic Services

NOTICE: Unless otherwise indicated, all documents cited shall be the latest published versions.

4 Terminology

4.1 Definitions

4.1.1 *Selected Entity List* — a list of session entities currently selected for communication on a given TCP/IP connection.

4.1.2 *Selection Count* — the number of sessions opened by an HSMS Select procedure and not yet ended by an HSMS Deselect or Separate procedure.

4.1.3 *Session Entity* — an individually selectable entity within an HSMS-GS system.

4.1.4 *Session Entity ID* — a 16-bit identifier for a Session-Entity.

4.1.5 *SessionEntityList* — a list of all available session entities within an HSMS-GS system and associated with a particular IP address and port number.

4.2 In addition, all definitions for HSMS Generic Services apply.

4.3 Note that the terms HSMS and HSMS Generic Services both refer to the HSMS Generic Services standard definition (SEMI E37).

5 HSMS-GS Overview and State Machine

5.1 HSMS-GS provides a set of definitions which permit the individual sub-entities (e.g., subsystems) of complex entities (e.g., systems) to be separately accessible during HSMS procedures. HSMS-GS defines no new procedures or message types beyond HSMS Generic Services to provide these services. It does, however, require extensions to the

HSMS State machine, in the form of additional state transition definitions and additional state information, which are used by the extended state machine which must be maintained by an HSMS-GS implementation to support the extended state machine. The additional information consists of the following:

1. The Session Entity List
2. The Selected Entity List
3. The Selection Count

5.2 The Session Entity List consists of the set of all Session Entities having individual accessibility within the HSMS-GS entity. The scope of this list is normally the entire HSMS-GS entity. HSMS-GS, however, does not require this scope: the supplier may provide access to HSMS-GS entity through more than one well known port and provide a different Session Entity List for each.

5.3 A Session Entity is any individually addressable sub-entity within the HSMS-GS entity: for example, a Session Entity may be an individual sub-device in a track system or cluster tool, or may be an individual service provider, such as a data server, within an entity. HSMS-GS only provides the conventions for identifying Session Entities. It places no restrictions on the individual supplier as to what constitutes a SessionEntity: the supplier must determine what is the most appropriate for the particular implementation.

5.4 The Selected Entity List is the list of Session Entities actually selected for access on a given TCP/IP connection. When the TCP/IP connection is established (CONNECTED state entered), an empty Selected Entity List is created. Each time, the Select Procedure is used to select a Session Entity, its Session Entity ID is added to the Selected Entity List created for that TCP/IP connection. Each time the Session Entity is deselected via the Deselect or Separate procedures, its Session Entity ID is removed from the Selected Entity List. At any given time on any given TCP/IP connection endpoint, HSMS Data Messages will only be accepted by an entity if the SessionID of the Data Message is equal to any Session Entity ID in the Selected Entity List.

5.5 The Selection Count is simply the number of Session Entity IDs in the Selected Entity List. Its value affects the behavior of the state machine: the transition to NOT SELECTED from SELECT can only take place when the SELECTION COUNT is zero.

5.6 Note that the above lists and count are defined for the purpose of explaining state machine operation only. There is no requirement that any of the above lists and count be explicitly implemented.

5.7 *HSMS-GS State Machine* — The HSMS-GS state machine is the same as the HSMS Generic Services state machine with the addition of the two new state transitions (#6 and #7) and the use of the Selection Count in the other transitions as described in the state transition table below.

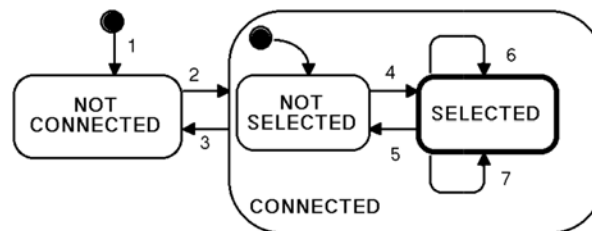


Figure 1

5.8 *State Descriptions* — The state descriptions are the same as HSMS Generic Services.

5.9 *State Transition Table* — The state transition table is almost identical with the state transition table for HSMS Generic Services. For convenience, however, the entire table is reproduced and extended here, not just those areas which differ from it.