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Amendment Record

Issue	Date	Description
4	29/10/99	Converted to Word format by AEA Technology Rail. Same as issue 3.1. Issue 3.1 included amendments that are not yet approved for use.
4.1	01/11/99	Sections 4.11 and 7.1.11 amended for MVME172 type 'C' board and MVME172 type 'M' board. Table boxes removed in section 4.2.10.
4.2	01/03/00	Board configuration file formats amended in sections 4.11 and 7.1.11.
5	01/10/03	Amended to be applicable to all variants of the MVME172 board as follows: All sections - MVME172-213 replaced by MVME172, minor typographical corrections. Section 4.11 – sentence added to state that duplicated computer units may not necessarily use the same MVME172 board variants.

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I Introduction

This document is the reference manual for the IECC System Monitor Subsystem (ISM) data compiler and contains information concerning the following subjects :-

- installation of the ISM data compiler;
- precise input file syntax description;
- error messages and their interpretation;
- a worked example of the ISM data compiler source files.

Users of Automated Data Preparation (ADP) tools may use this document to check and modify ADP prepared data.

2 Assumptions And Restrictions

- 2.1 The Central Parameter File may be referred to within this document by its abbreviation, CPF.
- 2.2 The reader of this document is assumed to be familiar with the content of the CPF.
- 2.3 The 'technician' is the person using the ISM terminal. The technician is likely to be away from the terminal for most of the time.
- 2.4 When indices are used in the input files, a zero (0) index indicates that the index is not relevant.

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3 Overview Of Components

There are three main components of the ISM data compiler:-

- the frontend, which validates the input data;
- the backend, which processes the input data; and
- the 'C' language compilation, which produces object files.

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4 File Preparation

Before the ISM data compiler can be used, the following files require preparation. This is normally achieved through use of ADP but they can be produced or amended manually.

- (1) Central Parameter File;
- (2) Site Specific Overview File;
- (3) User Identities and Passwords File;
- (4) ISM Specific External Device Input Definitions file;
- (5) ARS Specific State Input Definitions File;
- (6) ECS/PCS Specific State Input Definitions File;
- (7) RII Specific State Input Definition File;
- (8) Subsystem Specific Alarms to Technician - Part A File;
- (9) Subsystem Specific Alarms to Technician - Part B File;
- (10) Alarms to Other Subsystems File;
- (11) Alarm Action Definitions File;
- (12) Board Configuration File;
- (13) ISM Status Timeouts - Information Network;
- (14) ISM Status Timeouts - Signalling Network;
- (15) ISM Network Diagram Definition;
- (16) NDS Quiet and Enquiry times - Information Network;
- (17) NDS Quiet and Enquiry times - Signalling Network.

All these files contain data which is specific to each IECC site. They will normally be different between sites. Some are optional dependent on whether specific subsystems exist at a given site

This section describes the input file format and the effect of the various data fields on subsystem operation. The syntax is described in English. For a more rigorous description of the input file syntax, refer to section 7.2.

Preparation of the CPF is described elsewhere within this manual. All other files are described within this document.

4.1 SITE SPECIFIC OVERVIEW FILE

This file contains the path and names of the files which are searched by the ISM data compiler.

If a file is not needed for a particular site, then its pathname does not require to be entered in the Site Specific Overview file.

Each statement in this Site Specific Overview file is described below. The statements are expected in the order in which they are described.

4.1.1 CPF Statement

CPF: { FILE '..//SERVICE/cpf1' }

The **CPF:** statement sets the search pathname which is used to load the CPF.

4.1.2 USERID Statement

USERID: { FILE '..//ISM/userid' }

The **USERID:** statement sets the search pathname which is used to load the User Identities and Passwords file.

4.1.3 ISMIN Statement

ISMIN: { FILE '..//ISM/ismin' }

The **ISMIN:** statement sets the search pathname which is used to load the ISM Specific External Device Input Definitions file. This file is optional.

4.1.4 ARSIN Statement

ARSIN: { FILE '..//ISM/arsin' }

The **ARSIN:** statement sets the search pathname which is used to load the ARS Specific State Input Definitions file. This file is optional.

4.1.5 PCSIN Statement

PC SIN: { FILE '..//ISM/pcsin' }

The **PC SIN:** statement sets the search pathname which is used to load the ECS or PCS Specific State Input Definitions file. This file is optional.

4.1.6 RIIN Statement

RIIN: { FILE '..//ISM/riiin' }

The **RIIN:** statement sets the search pathname which is used to load the RII Specific State Input Definitions file. This file is optional.

4.1.7 TECHA Statement

TECHA: { FILE '..//ISM/techa' }

The **TECHA:** statement sets the search pathname which is used to load the Subsystem Specific Alarms to Technician, Part A file.

4.1.8 TECHB Statement

TECHB: { FILE '..//ISM/techb' }

The **TECHB:** statement sets the search pathname which is used to load the Subsystem Specific Alarms to Technician, Part B file.

4.1.9 SDSALM Statement

SDSALM: { FILE '../ISM/sdsalm' }

The **SDSALM:** statement sets the search pathname which is used to load the Alarms to Other Subsystems file. This file is optional.

4.1.10 PROFORMAS Statement

PROFORMAS: { FILE '../ISM/actn' }

The **PROFORMAS:** statement sets the search pathname which is used to load the Alarm Action Definitions file.

4.1.11 BOARDS Statement

BOARDS: { FILE '../ISM/board' }

The **BOARDS:** statement sets the search pathname which is used to load the Board Configuration file.

4.1.12 STATUS Statement

STATUS: { information FILE '../ISM/stati'
signalling FILE '../ISM/stats'
}

The **STATUS:** statement sets the search pathname which is used to load the ISM Status Timeout files. Two such files exist, one for each network.

4.1.13 QUIET Statement

QUIET: { information FILE '../SERVICE/qeti1'
signalling FILE '../SERVICE/qets1'
}

The **QUIET:** statement sets the search pathname which is used to load the NDS Primary Quiet and Enquiry times files. Two such files exist, one for each network.

4.1.14 DIAGRAM Statement

DIAGRAM: { FILE '../ISM/diagn' }

The **DIAGRAM:** statement sets the search pathname which is used to load the ISM Network Diagram Definition file.

4.2 USER IDENTITIES AND PASSWORDS FILE (DCFI)

The format of this file is as follows :-

USERID:

{ NUM UID PSW P1 P2 P3 P4 P5 P6 P7 P8 P9 }

more entries

where :-

NUM	is the number of the user identity/password pair;
UID	is the user identity (up to 6 characters);
PSW	is the password (up to 6 characters) or, if to be generated automatically, a hyphen is used; and
P1 .. P9	are the permissions (see below):
0	command not available
1	command available.

Each entry represents one user. There are a maximum of 19 entries. Permissions indicate the commands available to this user and have the following meanings :-.

- P1** allow the setting and deleting of temporary users;
- P2** allow use of the Overview command;
- P3** allow access to the Show command;
- P4** allow access and acceptance of Alarms;
- P5** allow access to the Reports detail screen;
- P6** allow use of Message Interception facility;
- P7** allow access to the Dump command;
- P8** allow user to set the time;
- P9** allow access to change Node Identities.

Note that the password field is optional. If it is omitted i.e. replaced by a **hyphen**, then one will be automatically generated. Generated passwords are placed in a file which has the suffix .paswd. Both the user identity and password may contain numerals and upper case letters only.

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4.3 ISM SPECIFIC EXTERNAL DEVICE INPUT DEFINITIONS FILE (DCF2)

The format of this file is as follows :-

ISMIN:

{ NUM STAT IND TMO TXT FAIL CLR }

other entries

where :-

NUM is the port reference number:

- 1 .. 8** Port B, bits 0-7 on MVME101 board 4
or
Port B, bits 0-7 on MVME172 board 5
- 9 .. 16** Port A, bits 0-7 on MVME101 board 4
or
Port A, bits 0-7 on MVME172 board 5
- 17 .. 24** Port B, bits 0-7 on MVME101 board 3
or
Port B, bits 0-7 on MVME172 board 4
- 25 .. 32** Port A, bits 0-7 on MVME101 board 3
or
Port A, bits 0-7 on MVME172 board 4;

STAT is the clear state of the line:

- 0** alarm triggered if state changes from 0 to 1
- 1** alarm triggered if state changes from 1 to 0;

IND is the alarm indicator:

- 0** alarm not announced on the EFA annunciators
- 1** alarm announced on the EFA annunciators;

TMO is the multiple change timeout (in seconds):

- 0** all changes raise alarm
- >0** single alarm raised (multiple reference) during timeout period;

TXT is the very short text output on the ISM terminal (up to 11 characters) or **hyphen**;

FAIL is the fault detection reference index or **hyphen**; and

CLR is the fault clearance reference index or **hyphen**.

Each entry represents one TTL alarm line. Each line is connected to an MVME101 board or corresponding MVME172 board. Two boards are used and each has two 8-bit ports allowing a maximum of 32 entries.

The timeout field represents a 'multiple change' timeout and is set up for each alarm detected. If a further alarm on a line occurs during this timeout period, a multiple occurrence will be indicated. A separate alarm on this line will not be given until it has been stable for the timeout period.

The short text output is displayed on the ISM terminal. It should uniquely describe to the technician what the line represents. If a **hyphen** is inserted, no text will be displayed on the ISM terminal.

The final two fields are references into another input table (see section 4.7) which defines the actions to perform when the line state changes. A **hyphen** indicates that an output display message will not be produced for that state change.

Note that if subsystems with alarmed fan trays are installed, each fan tray should have an entry in this file.

4.4 ARS SPECIFIC STATE INPUT DEFINITIONS FILE (DCF3)

The format of this file is as follows :-

ARSIN:

{ NUM	TXT	FAIL	CLR }
other entries			

where :-

NUM	is the state reference number (index into the set of states);
TXT	is the very short text output on the ISM terminal (up to 11 characters) or hyphen ;
FAIL	is the fault detection reference index or hyphen ; and
CLR	is the fault clearance reference index or hyphen .

Each entry represents one ARS state with a maximum of 32 entries. The states are used for ARS external devices (Only the tape logger currently) and remote links.

ARS reports the state of these items to ISM. The order of states is defined by ARS configuration data, usually the ARS tape logger followed by the link states, the order of the latter found in the ARS Site Link Detail File (DLNK).

For each entry, it is assumed that a **0** is a clear state and a **1** is a failed state. If a state changes from 0 to 1, an alarm will be raised.

The short text output is displayed on the ISM terminal. It should uniquely describe to the technician what the item state represents. If a **hyphen** is inserted, no text will be displayed on the ISM terminal.

The final two fields are references into another input table (see section 4.7) which defines the actions to perform when the item state changes. A **hyphen** indicates that an output display message will not be produced for that state change.

4.5 ECS/PCS SPECIFIC STATE INPUT DEFINITIONS FILE (DCF4)

The format of this file is as follows :-

PCSIN:

SID: { NUM TXT FAIL CLR }
 other entries

other SIDs

where :-

SID is the subsystem identity;
NUM is the state reference number (index into the set of states);
TXT is the very short text output on the ISM terminal (up to 11 chars.) or **hyphen**;
FAIL is the fault detection reference index or **hyphen**; and
CLR is the fault clearance reference index or **hyphen**.

There is either one ECS or may be several PCS subsystems in an IECC. The latter is represented by grouping entries by subsystem identifier. Where subsystems are clustered, only the master of the subsystem is relevant. There can be up to 32 entries for each subsystem.

The ECS or PCS states usually represent the status of communications with remote links of which there are two types, the ET and TD links. Neither of these need be present.

The ECS or PCSs will report these states to ISM. The order of states is therefore defined by the ECS or PCS subsystem data areas.

For each entry, it is assumed that a **0** is a clear state and a **1** is a failed state. If a state changes from 0 to 1, an alarm will be raised.

The short text output is displayed on the ISM terminal. It should uniquely describe to the technician what the item state represents. If a **hyphen** is inserted, no text will be displayed on the ISM terminal.

The final two fields are references into another input table (see section 4.7) which defines the actions to perform when the item state changes. A **hyphen** indicates that an output display message will not be produced for that state change.