Ministry of Defence

Defence Standard

05-47/Issue 2   16 November 1983

COMPUTER ON-LINE REAL-TIME APPLICATIONS LANGUAGE CORAL 66 SPECIFICATION FOR COMPILERS

AMENDMENT NUMBER AND DATE	SIGNATURE AND DATE WHEN AMENDMENT INSERTED

REVISION NOTE

Issue 2 of this Standard has been prepared to take into account the adoption, by the MOD, of BS 5905 as the official language definition.

COMPUTER ON-LINE REAL-TIME APPLICATIONS LANGUAGE - CORAL 66

SPECIFICATION FOR COMPILERS

> This Defence Standard supersedes DEF STAN 05-47
> Issue 1, dated 7 October 1977

1   This Defence Standard specifies the Ministry of Defence requirements for compilers for the Computer On-line Real-time Applications Language CORAL 66. It is to be invoked for the military use of CORAL 66 on a Target Machine(s) or , as a cross compiler on a Host Machine(s) generating code instructions for a Target Machine(s).

2   With effect from 1 January 1983, BS 5905 will be used as the official language definition by the MOD. However, any compilers currently under development which are designed to meet the HMSO publication 'Official Definition of CORAL 66', 7th impression published 1981 will be assessed against the HMSO publication up to and including 31 December 1983.

3   It is not intended that this Standard should be applied retrospectively to compilers that exist, or are under development, at the date of this Standard.

4   This Standard has been agreed by all authorities concerned. It is to be implemented, wherever practicable, in all designs, contracts, orders etc commencing after its date of publication. If a difficulty arises which prevents application of the Defence Standard, the Directorate of Standardization shall be informed so that a remedy can be sought.

5   Any enquiries regarding this Standard in relation to an invitation to tender or a contract in which it is invoked are to be addressed to the responsible technical or supervising authority named in that invitation to tender or contract.

6   This Standard has been devised for the use of the Crown and of its contractors in the execution of contracts for the Crown and, subject to the Unfair Contract Terms Act 1977, the Crown will not be liable in any way whatever (including but without limitation negligence on the part of the Crown its servants or agents) where the Standard is used for other purposes.

COMPUTER ON-LINE REAL-TIME APPLICATIONS LANGUAGE - CORAL 66

SPECIFICATION FOR COMPILERS

1   SCOPE

         This Standard specifies the requirements to be met by compilers, or
         systems including compilers, for the computer language CORAL 66 provided
         for defence use.

2   DEFINITIONS

         For the purposes of this Standard only, the terms listed below are
         defined as follows:

2.1   CORAL 66 Machine. A combination of hardware and software. The hardware
         consists of a Host Machine and a Target Machine, with peripheral
         equipment and possibly backing store. The software consists of a CORAL
         66 compiler resident on the Host Machine together with other supporting
         software, for example a linking loader, which enables a source text
         written in CORAL 66 to be compiled into an object code program and then
         loaded and run on the Target Machine.

2.2   CORAL 66. The computer language defined in BS 5905 - 'Specification for
         Computer Programming Language CORAL 66'.

2.3   Compiler. A program, running on a Host Machine, which translates
         CORAL 66 source text into a set of instructions which, possibly after
         further transformation, is capable of being loaded and run in the Target
         Machine.

2.4   Host Machine. A computer in which the compiler runs. The Host Machine
         may also be the Target Machine.

2.5   Target Machine. A computer which can execute, possibly after further
         transformation and relocation, the instructions generated by the
         compiler.

2.6   Language Authority. The authority within Ministry of Defence responsible
         for the definition and maintenance of the Language Standard. This body
         is currently the Inter Establishment Committee for Computer Applications,
         (IECCA).

2.7   Technical Authority. The authority within the MOD responsible for the
         provision of technical advice on all matters relating to CORAL 66.
         Currently the Computing Policy and Standards section, Royal Signals and
         Radar Establishment, Malvern.

2.8   Approval Authority. The authority responsible for the approval of a
         compiler prior to acceptance. Approval will normally only be given
         following an assessment by the CORAL 66 Assessment Authority, or their
         appointed agents, of the CORAL 66 machine on which the compiler resides.
         Currently the Approval Authority is IECCA.

2.9   Assessment Authority. The authority for undertaking the assessment of
       CORAL 66 machines for compliance with the language definition. This is
       currently the Software Group, Electrical Quality Assurance Directorate,
       Aquila, Bromley, Kent, BR1 2JB.

3   RELATED DOCUMENTS

3.1   Reference is made in this Standard to:

3.1.1 BS 5905 - 'Specification for Computer Programming Language CORAL 66'.

       This document prepared by the British Standards Institution in
       collaboration with the Language Authority contains a formal definition of
       the language syntax, an informal description in English of the semantic
       intent, a statement on reduced levels of implementation, and a list of
       language symbols and characters.

       Obtainable from the British Standards Institution, 101/113 Pentonville
       Road, London N1 9ND.

3.1.2 BS 4730 - 'Specification for the United Kingdom 7-bit data code
       (ISO-7-UK)'.

       This specification defines a standard code for representing a character
       set on 8 hole, 1 inch paper tape. It closely follows the equivalent ISO
       Standard.

       Obtainable from the British Standards Institution, 101/113 Pentonville
       Road, London N1 9ND.

3.1.3 IECCA (P) 1/83 - 'Specification for the Evaluation of a CORAL 66
       Machine'.

       This document contains a description of the tests to be met by a CORAL 66
       machine.

       Obtainable from the Software Group, Electrical Quality Assurance
       Directorate, Aquila, Bromley, Kent BR1 2JB.

3.2   The related documents listed above are those applicable at the date of
       publication of this Standard. Their current applicability must be
       confirmed by all users of this Standard. The project Technical Authority
       named in any project contract will supply, on request, information
       concerning any changes that may be necessary due to the cancellation,
       replacement, supersession or amendment of any related document.

4   REQUIREMENTS

4.1   The compiler shall be capable of accepting CORAL 66 source text, written
       to meet the language description specified in BS 5905 (related document
       3.1.1), and translating this into a set of instructions which, possibly
       after further transformation, is capable of being loaded and run in the
       Target Machine.

4.2   Methods of submitting a program to the compiler shall be agreed with the Technical Authority. Where paper tape input of source text is used then the physical representation of the character set used shall be to BS 4730 (related document 3.1.2).

4.3   The Technical Authority shall have the right to state which language facilities are to be implemented, in the areas where the British Standard permits the presence or absence of major features.

4.4   In cases where the development of a compiler to meet this Standard has not commenced, agreement should be reached between the developer and the Technical Authority of the Standard for documenting the compiler. Existing agreed Documentation Standards should normally be used.

5   ACCEPTANCE TESTING

CORAL 66 compilers offered as being in accordance with this Standard shall be subjected to an acceptance procedure by the Assessment Authority prior to receiving MOD approval. This acceptance procedure is carried out as part of the evaluation of a CORAL 66 machine. The current specification for the evaluation is contained in document IECCA(P) 1/83 (related document 3.1.3). The Technical Authority reserves the right to introduce additional test programs conforming to the British Standard should it be considered appropriate. Any extensions that are claimed by the applicant shall be tested by the Assessment Authority and a judgement made whether they conform to the spirit of the British Standard. On request of the Assessment Authority, the applicant shall correct any faults detected by these or other valid tests prior to approval.

6   APPROVAL

A compiler may be referred to as conforming to this Standard if, and only if, it has been formally approved by the Approval Authority. The approval is only valid for the version of the compiler nominated on the approval certificate. The Assessment Authority should be notified of any subsequent changes to the compiler so that re-validation can be undertaken if considered necessary.

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Our Ref: D/D Stan/218/22/3

Date: 11 October 1996

OBSOLESCENCE   NOTICE

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COMPUTER ON-LINE REAL-TIME APPLICATIONS LANGUAGE
CORAL 66
SPECIFICATION FOR COMPILERS

This notice has been agreed by the authorities concerned with the use of the above Standard.

This Standard is obsolescent because it is no longer required for the procurement of new equipment but is retained for maintenance purposes in support of existing in-service equipment.

W P Gorman
for Director of Standardization