

PREFACE

PREFACE TO THE FIRST EDITION

This document defines *Diana*, an intermediate form of ADA [7] programs that is especially suitable for communication between the front and Back Ends of ADA compilers. It is based on the formal definition of ADA [6] and resulted from the merger of the best aspects of two previous proposals: AIDA [4, 10] and TCOL [2]. Although DIANA is primarily intended as an interface between the parts of a compiler, it is also suitable for other programming support tools and carefully retains the structure of the original source program.

The definition of DIANA given here is expressed in another notation, IDL, that is formally defined in a separate document [9]. The present document is, however, completely self-contained; those aspects of IDL that are needed for the DIANA definition are informally described before they are used. Interested readers should consult the IDL formal description *either* if they are concerned with a more precise definition of the notation *or* if they need to define other data structures in an ADA support environment. In particular, implementors may need to extend DIANA in various ways for use with the tools in a specific environment, and the IDL document provides information on how this may be done.

This version of DIANA has been "frozen" to meet the needs of several groups who require a stable definition in a very short timeframe. We invite comments and criticisms for a longer-term review. We expect to re-evaluate DIANA after some practical experience with using it has been accumulated.

PREFACE TO THIS EDITION

Since first publication of the DIANA Reference Manual in March, 1981, further developments in connection with ADA and DIANA have required revision of DIANA. These developments include the following:

- The original DIANA design was based on ADA as defined in the July 1980 ADA Language Reference Manual [7], referred to hereafter as ADA-80; the present revision is based on ADA as defined in the July 1982 ADA LRM [8], referred to hereafter as ADA-82.
- Experience with use of DIANA has revealed errors and flaws in the original design; these have been corrected.

This publication reflects our best efforts to cope with the conflicting pressures on us both to impact minimally on existing implementations and to create a logically defensible design.

TARTAN Laboratories Inc. invites any further comments and criticisms on DIANA in general, and this version of the reference manual in particular. Any correspondence may be sent via ARPANet mail to DIANA-QUERY@USC-ECLB. Paper mail may be sent to

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We believe the changes made to DIANA make no undue constraint on any DIANA users or potential DIANA users, and we wish to hear from those who perceive any of these changes to be a problem.