

N90-14801

## AN SSE APPROACH TO REUSABILITY

David L. Badal  
Lockheed Missiles and Spacecraft Co.

The SSE project has engineering analysis and design efforts under way for the development of the SSE reusability library management system. An ad hoc committee on reuse has been meeting for several months identifying design considerations and learning about Ruben Prieto-Diaz faceted classification, CAMP domain analysis, SPC activities, SEI activities, and SPS activities. A standard format was developed for the Ada prologue for reusable components (both specification and body). The SSE reusability process can be viewed as a transformation process with minimized losses and difficulties.

**PRECEDING PAGE BLANK NOT FILMED**

## AGENDA

**PURPOSE:** D. BADAL

**DESIGN CONSIDERATIONS:** D. BADAL

- o AD HOC COMMITTEE
- o CLASSIFICATION SCHEMES
- o PROPOSED SOFTWARE COMPONENT PROLOG

**DESIGN OVERVIEW** C. SHOTTON

- o AUTOMATION OF REUSE PROCESS
- o CURRENT SSE SUPPORT FOR REUSE
- o FUTURE SSE REUSE CAPABILITIES

**INITIAL ADA COMPONENTS** Dr. T. MOEBES

- o ELEMENTARY FUNCTION MATH LIBRARY
- o IV&V METRICS

## PURPOSE

**TO PROVIDE INFORMATION ON THE ONGOING ENGINEERING ANALYSIS AND DESIGN EFFORTS FOR THE DEVELOPMENT OF THE SSE REUSABILITY LIBRARY MANAGEMENT SYSTEM**

## DESIGN CONSIDERATIONS

### o AD HOC COMMITTEE ON REUSE

- LIFE-CYCLE REUSABILITY OF PROCESSES AND PRODUCTS      Dr. C.W. McKAY
- TAXONOMY OF TAXONOMIES      P. RODGERS
- ACTIVITIES AT LANGLEY RESEARCH CENTER      S. VOIGT

## DESIGN CONSIDERATIONS

### o CLASSIFICATION SCHEMES

- RUBEN PRIETO-DIAZ FACETED CLASSIFICATION
- CAMP DOMAIN ANALYSIS
- SPC ACTIVITIES
- SEI ACTIVITIES
- SPS ACTIVITIES

## ADA PROLOG FOR REUSABLE COMPONENTS

PROLOG TO THE VISIBLE INTERFACE (SPECIFICATION) OF ANY  
ADA PROGRAM UNIT:

- -
- - COMPONENT\_NAME:
- - ABSTRACT:
- - DESCRIPTION:
- - REQUIREMENTS TRACE:
- - TESTING TRACE:
- - DISCLAIMER:
- - DISTRIBUTION\_AND\_COPYRIGHT:
- -
- - CONFIGURATION MANAGEMENT:
- - SECURITY LEVEL:
- - SUBSYSTEM CLASSIFICATION:
- - KEY WORDS:
- - TRACEABLE PREDECESSOR:

## ADA PROLOG FOR REUSABLE COMPONENTS

- - CREATION DATE      AUTHOR      ORGANIZATION
- -
- -
- - REVISIONS
- - DR#    DATE    VERSION    AUTHOR    ORGANIZATION
- - PURPOSE
- - PROGRAMMER'S INFORMATION
- - DESIGN RATIONALE
- -
- -
- -
- - TASKS SPAWNED:
- -
- -
- - CONCURRENT ACCESS CONTROL:
- -
- - DYNAMIC MEMORY MANAGEMENT:

## ADA PROLOG FOR REUSABLE COMPONENTS

- -
- - EXCEPTIONS PROPAGATED:
- -
- - EXCEPTIONS HANDLED:
- - KNOWN SIDE EFFECTS:
- -
- - COMPILER DEPENDENCIES:
- - LANGUAGE:
- - VERSION #:
- - COMPLEXITY:
- - LINES OF EXECUTABLE CODE:
- -
- - MACHINE DEPENDENCIES:
- -
- - ASSUMPTIONS AND LIMITATIONS OF THIS UNIT:
- -
- - WAIVERS:

## ADA PROLOG FOR REUSABLE COMPONENTS

- - PROPOSED EXTENSIONS AND MODIFICATIONS:
- -
- - DESCRIPTION FOR REUSERS:

## ADA PROLOG FOR REUSABLE COMPONENTS

### PROLOG FOR THE IMPLEMENTATION (BODY) SECTION OF ADA PROGRAM UNITS:

- -
- - **COMPONENT NAME:**
- -
- - **DESIGN RATIONALE:**
- -
- - **SPECIAL CONSTRUCTS USED:**
- - **TESTING TRACE:**
- - **PROPOSED EXTENSIONS AND MODIFICATIONS:**
- -
- - **DESCRIPTION FOR REUSERS:**

