ADA\textsc{NET}

\textbf{PHASE O SUPPORT FOR THE ADA\textsc{NET} DYNAMIC SOFTWARE INVENTORY (DSI) MANAGEMENT SYSTEM PROTOTYPE}

Catalog of Available Reusable Software Components

Lionel Hanley
GHG Corporation

May 1989

Cooperative Agreement NCC 9-16
Research Activity No. SE.24

NASA Headquarters
Technology Utilization Program
Information & Network Operations

\textit{ricis}

Research Institute for Computing and Information Systems
University of Houston - Clear Lake
The University of Houston-Clear Lake established the Research Institute for Computing and Information systems in 1986 to encourage NASA Johnson Space Center and local industry to actively support research in the computing and information sciences. As part of this endeavor, UH-Clear Lake proposed a partnership with JSC to jointly define and manage an integrated program of research in advanced data processing technology needed for JSC's main missions, including administrative, engineering and science responsibilities. JSC agreed and entered into a three-year cooperative agreement with UH-Clear Lake beginning in May, 1986, to jointly plan and execute such research through RICIS. Additionally, under Cooperative Agreement NCC 9-16, computing and educational facilities are shared by the two institutions to conduct the research.

The mission of RICIS is to conduct, coordinate and disseminate research on computing and information systems among researchers, sponsors and users from UH-Clear Lake, NASA/JSC, and other research organizations. Within UH-Clear Lake, the mission is being implemented through interdisciplinary involvement of faculty and students from each of the four schools: Business, Education, Human Sciences and Humanities, and Natural and Applied Sciences.

Other research organizations are involved via the "gateway" concept. UH-Clear Lake establishes relationships with other universities and research organizations, having common research interests, to provide additional sources of expertise to conduct needed research.

A major role of RICIS is to find the best match of sponsors, researchers and research objectives to advance knowledge in the computing and information sciences. Working jointly with NASA/JSC, RICIS advises on research needs, recommends principals for conducting the research, provides technical and administrative support to coordinate the research, and integrates technical results into the cooperative goals of UH-Clear Lake and NASA/JSC.
AdaNET

Phase 0 Support for the AdaNET Dynamic Software Inventory (DSI) Management System Prototype

Catalog of Available Reusable Software Components
Preface

This research was conducted under the auspices of the Research Institute for Computing and Information Systems by Lionel Hanley of GHG Corporation. Dr. Charles McKay, Director of SERC, at the University of Houston-Clear Lake served as RICIS technical representative.

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The views and conclusions contained in this report are those of the author and should not be interpreted as representative of the official policies, either express or implied, of NASA or the United States Government.
AdaNet

PHASE 0 SUPPORT FOR THE ADANET DYNAMIC SOFTWARE INVENTORY (DSI) MANAGEMENT SYSTEM PROTOTYPE
Project No. RICIS SE. 24

Catalog of Available Reusable Software Components

Research Institute for Computing and Information Systems (RICIS)
Cooperative Agreement NCC-9-16

Revision #01
May 1989

University of Houston Clear Lake
2700 Bay Area Blvd
Houston, Texas 77058-1068
ADANET
Catalog of Reusable Software Components

Prepared by
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Houston, Texas

Under
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for
Research Institute for Computing and Information Systems (RICIS)
University of Houston Clear Lake
Houston, Texas

MAY 1989

APPROVED BY GHG:

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>1</td>
</tr>
<tr>
<td>Ada</td>
<td>1</td>
</tr>
<tr>
<td>Ada-SQL</td>
<td>1</td>
</tr>
<tr>
<td>DAMES DBMS Interface</td>
<td>1</td>
</tr>
<tr>
<td>RAPPORT</td>
<td>3</td>
</tr>
<tr>
<td>SQL DBMS Interface</td>
<td>4</td>
</tr>
<tr>
<td>AI</td>
<td>4</td>
</tr>
<tr>
<td>EXPERT</td>
<td>6</td>
</tr>
<tr>
<td>LISP Routines</td>
<td>7</td>
</tr>
<tr>
<td>ANSI-LRM</td>
<td>7</td>
</tr>
<tr>
<td>Benchmarks</td>
<td>9</td>
</tr>
<tr>
<td>ADAFAIR85</td>
<td>10</td>
</tr>
<tr>
<td>Benchmarks</td>
<td>10</td>
</tr>
<tr>
<td>PIWG Benchmarks</td>
<td>11</td>
</tr>
<tr>
<td>SRITESTS</td>
<td>12</td>
</tr>
<tr>
<td>Tasking_Benchmarks</td>
<td>12</td>
</tr>
<tr>
<td>CAIS</td>
<td>13</td>
</tr>
<tr>
<td>Mitre_CAIS</td>
<td>13</td>
</tr>
<tr>
<td>Tests for Mitre CAIS</td>
<td>14</td>
</tr>
<tr>
<td>CAIS_Tools</td>
<td>15</td>
</tr>
<tr>
<td>Editor</td>
<td>15</td>
</tr>
<tr>
<td>Compilation_Order</td>
<td>16</td>
</tr>
<tr>
<td>Compilation Order</td>
<td>17</td>
</tr>
<tr>
<td>Components</td>
<td>17</td>
</tr>
<tr>
<td>Abstractions</td>
<td>19</td>
</tr>
<tr>
<td>CAS2</td>
<td>19</td>
</tr>
<tr>
<td>CAS3</td>
<td>20</td>
</tr>
<tr>
<td>CDUPDATE</td>
<td>21</td>
</tr>
<tr>
<td>CLI</td>
<td>21</td>
</tr>
<tr>
<td>CAS</td>
<td>21</td>
</tr>
<tr>
<td>Compools_in_Ada</td>
<td>22</td>
</tr>
<tr>
<td>Character Set</td>
<td>22</td>
</tr>
<tr>
<td>Dynamic String</td>
<td>23</td>
</tr>
<tr>
<td>Dynamic String 3</td>
<td>23</td>
</tr>
<tr>
<td>DIMENSIONAL_UNITS</td>
<td>24</td>
</tr>
<tr>
<td>FGET</td>
<td>24</td>
</tr>
<tr>
<td>FILECOMP</td>
<td>25</td>
</tr>
<tr>
<td>Garbage Collection</td>
<td>26</td>
</tr>
<tr>
<td>I/O Support</td>
<td>27</td>
</tr>
<tr>
<td>Limited Prioritized Queue</td>
<td>28</td>
</tr>
<tr>
<td>Linked List</td>
<td>29</td>
</tr>
<tr>
<td>Message I/O</td>
<td>30</td>
</tr>
<tr>
<td>Namelist</td>
<td>31</td>
</tr>
<tr>
<td>New Abstractions</td>
<td>32</td>
</tr>
<tr>
<td>Parser</td>
<td>33</td>
</tr>
<tr>
<td>Permutations Class</td>
<td>34</td>
</tr>
<tr>
<td>Prioritized Queue</td>
<td>35</td>
</tr>
<tr>
<td>Quick Sort</td>
<td>36</td>
</tr>
<tr>
<td>Ada Reserved Word Identification</td>
<td>37</td>
</tr>
<tr>
<td>Cross Reference</td>
<td>49</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>----</td>
</tr>
<tr>
<td>Ada_Cross_Reference</td>
<td>50</td>
</tr>
<tr>
<td>Data Base Management</td>
<td>51</td>
</tr>
<tr>
<td>MIMS</td>
<td>52</td>
</tr>
<tr>
<td>DDN</td>
<td>53</td>
</tr>
<tr>
<td>FTP</td>
<td>54</td>
</tr>
<tr>
<td>SMTP/FTP</td>
<td>55</td>
</tr>
<tr>
<td>TCP/IP</td>
<td>55</td>
</tr>
<tr>
<td>TELNET</td>
<td>57</td>
</tr>
<tr>
<td>Debuggers</td>
<td>58</td>
</tr>
<tr>
<td>Symbolic Debugger</td>
<td>59</td>
</tr>
<tr>
<td>Editors</td>
<td>60</td>
</tr>
<tr>
<td>Editors</td>
<td>60</td>
</tr>
<tr>
<td>Editor 2</td>
<td>62</td>
</tr>
<tr>
<td>Word Processor</td>
<td>63</td>
</tr>
<tr>
<td>Education</td>
<td>64</td>
</tr>
<tr>
<td>Ada to FORTRAN</td>
<td>65</td>
</tr>
<tr>
<td>General Information</td>
<td>66</td>
</tr>
<tr>
<td>Object-Oriented Design</td>
<td>67</td>
</tr>
<tr>
<td>Productivity Data</td>
<td>68</td>
</tr>
<tr>
<td>Programming Style/Errors</td>
<td>69</td>
</tr>
<tr>
<td>Technical Reports</td>
<td>70</td>
</tr>
<tr>
<td>Texts</td>
<td>71</td>
</tr>
<tr>
<td>External Tools</td>
<td>72</td>
</tr>
<tr>
<td>Ada_Emacs_Mode</td>
<td>73</td>
</tr>
<tr>
<td>Ada_Form</td>
<td>74</td>
</tr>
<tr>
<td>Ada Grammar</td>
<td>75</td>
</tr>
<tr>
<td>Forms_Generator</td>
<td>76</td>
</tr>
<tr>
<td>Forms_Generator 2</td>
<td>77</td>
</tr>
<tr>
<td>General</td>
<td>78</td>
</tr>
<tr>
<td>Copyright Information</td>
<td>80</td>
</tr>
<tr>
<td>FTP</td>
<td>81</td>
</tr>
<tr>
<td>Master Index Contents</td>
<td>82</td>
</tr>
<tr>
<td>KERMIT</td>
<td>83</td>
</tr>
<tr>
<td>Operational Information</td>
<td>84</td>
</tr>
<tr>
<td>Welcome Message</td>
<td>85</td>
</tr>
<tr>
<td>Graphical_KERNEL_System</td>
<td>86</td>
</tr>
<tr>
<td>Graphic Kernel System</td>
<td>87</td>
</tr>
<tr>
<td>Management Tools</td>
<td>88</td>
</tr>
<tr>
<td>Cost Estimation</td>
<td>89</td>
</tr>
<tr>
<td>General Management</td>
<td>90</td>
</tr>
<tr>
<td>Manpower</td>
<td>91</td>
</tr>
<tr>
<td>Requirements_Tracker</td>
<td>92</td>
</tr>
<tr>
<td>Category</td>
<td>Pages</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Project Tracking</td>
<td>93</td>
</tr>
<tr>
<td>Math Library</td>
<td>94</td>
</tr>
<tr>
<td>Bit Functions</td>
<td>96</td>
</tr>
<tr>
<td>Cody-Waite Math Library</td>
<td>97</td>
</tr>
<tr>
<td>Date</td>
<td>99</td>
</tr>
<tr>
<td>Set Manipulation</td>
<td>100</td>
</tr>
<tr>
<td>Kalman Filter Tracking</td>
<td>101</td>
</tr>
<tr>
<td>Logical Operations</td>
<td>102</td>
</tr>
<tr>
<td>Machine Arithmetic</td>
<td>103</td>
</tr>
<tr>
<td>Math_Functions</td>
<td>104</td>
</tr>
<tr>
<td>Matrix Manipulation</td>
<td>105</td>
</tr>
<tr>
<td>Math Library 1</td>
<td>106</td>
</tr>
<tr>
<td>Math Library 2</td>
<td>107</td>
</tr>
<tr>
<td>Menu</td>
<td>108</td>
</tr>
<tr>
<td>Menu Manager</td>
<td>109</td>
</tr>
<tr>
<td>Menu Manager 2</td>
<td>110</td>
</tr>
<tr>
<td>Message Handling</td>
<td>111</td>
</tr>
<tr>
<td>Message Handler</td>
<td>112</td>
</tr>
<tr>
<td>UNITREP Software Model</td>
<td>113</td>
</tr>
<tr>
<td>Metrics</td>
<td>114</td>
</tr>
<tr>
<td>Automatic Path Analyzer</td>
<td>116</td>
</tr>
<tr>
<td>Complexity Measures</td>
<td>117</td>
</tr>
<tr>
<td>Path Analyzer</td>
<td>118</td>
</tr>
<tr>
<td>Ada Performance Analyzer</td>
<td>119</td>
</tr>
<tr>
<td>Source Instrumenter</td>
<td>120</td>
</tr>
<tr>
<td>Self Metric Analysis</td>
<td>121</td>
</tr>
<tr>
<td>Miscellaneous Tools</td>
<td>122</td>
</tr>
<tr>
<td>A970</td>
<td>124</td>
</tr>
<tr>
<td>Calculator Functions</td>
<td>125</td>
</tr>
<tr>
<td>CAS</td>
<td>126</td>
</tr>
<tr>
<td>Combine and Break</td>
<td>127</td>
</tr>
<tr>
<td>CONSTRUCT and CREATE_CO</td>
<td>128</td>
</tr>
<tr>
<td>CREATE_TB</td>
<td>129</td>
</tr>
<tr>
<td>File Checker</td>
<td>130</td>
</tr>
<tr>
<td>Propagation Prediction (for Radio)</td>
<td>131</td>
</tr>
<tr>
<td>Map Generator</td>
<td>132</td>
</tr>
<tr>
<td>Newsletters</td>
<td>133</td>
</tr>
<tr>
<td>AIC Newsletters</td>
<td>134</td>
</tr>
<tr>
<td>ASR Newsletters</td>
<td>135</td>
</tr>
<tr>
<td>Snapshots</td>
<td>136</td>
</tr>
<tr>
<td>Online_Documentation</td>
<td>137</td>
</tr>
<tr>
<td>HELP System</td>
<td>138</td>
</tr>
<tr>
<td>Pager</td>
<td>140</td>
</tr>
<tr>
<td>Page</td>
<td>141</td>
</tr>
<tr>
<td>Pager</td>
<td>142</td>
</tr>
<tr>
<td>Unpage</td>
<td>143</td>
</tr>
<tr>
<td>PDL</td>
<td>144</td>
</tr>
<tr>
<td>Data Dictionary</td>
<td>145</td>
</tr>
<tr>
<td>Documentation Manager</td>
<td>146</td>
</tr>
<tr>
<td>Graphics to PDL Aid</td>
<td>147</td>
</tr>
<tr>
<td>PIWG Benchmarks</td>
<td>148</td>
</tr>
<tr>
<td>Pointers</td>
<td>152</td>
</tr>
<tr>
<td>PIWG Benchmarks</td>
<td>157</td>
</tr>
<tr>
<td>DoDD 3405.XX</td>
<td>158</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>IEEE RP for Ada as a PDL</td>
<td>159</td>
</tr>
<tr>
<td>ADA20 Information</td>
<td>160</td>
</tr>
<tr>
<td>SIMTEL20 Pointer Files</td>
<td>165</td>
</tr>
<tr>
<td>Pretty_Printers</td>
<td>166</td>
</tr>
<tr>
<td>Pretty_Printer</td>
<td>167</td>
</tr>
<tr>
<td>Pretty_Printer_2</td>
<td>168</td>
</tr>
<tr>
<td>Source Formatter</td>
<td>169</td>
</tr>
<tr>
<td>Source Formatter 2</td>
<td>170</td>
</tr>
<tr>
<td>ProgramStubber</td>
<td>171</td>
</tr>
<tr>
<td>Body Stubber</td>
<td>172</td>
</tr>
<tr>
<td>Simulation</td>
<td>173</td>
</tr>
<tr>
<td>Queuing Simulation</td>
<td>174</td>
</tr>
<tr>
<td>Spelling_Checkers</td>
<td>175</td>
</tr>
<tr>
<td>Speller 2</td>
<td>176</td>
</tr>
<tr>
<td>Starter_Kit</td>
<td>177</td>
</tr>
<tr>
<td>Load_AR_Tape</td>
<td>178</td>
</tr>
<tr>
<td>Style_Checkers</td>
<td>179</td>
</tr>
<tr>
<td>Standards Checker</td>
<td>180</td>
</tr>
<tr>
<td>Statement Profiler</td>
<td>181</td>
</tr>
<tr>
<td>Standards Checker 2</td>
<td>182</td>
</tr>
<tr>
<td>Style Checker</td>
<td>183</td>
</tr>
<tr>
<td>Style Checker 2</td>
<td>184</td>
</tr>
<tr>
<td>Virtual_Terminal</td>
<td>185</td>
</tr>
<tr>
<td>Curses Interface</td>
<td>186</td>
</tr>
<tr>
<td>Virtual Terminal 2</td>
<td>187</td>
</tr>
<tr>
<td>WIS_ADA_Tools</td>
<td>188</td>
</tr>
</tbody>
</table>
PREFACE

STATEMENT OF OPERATION - ADA SOFTWARE REPOSITORY

(OPERA TE.DOC, Version 1.0)

The Ada Software Repository is a public-domain collection of Ada software and information. The Ada Software Repository is one of several repositories located on the SIMTEL20 Defense Data Network host computer at White Sands Missile Range in New Mexico. SIMTEL20 is owned and operated by the Operations and Systems Integration Division of the Information Systems Command of the US Army.

The Ada Software Repository is sponsored by the Operations and Systems Integration Division at White Sands Missile Range with additional funding provided by the STARS (Software Technology for Adaptable, Reliable Systems) Joint Program Office at the Pentagon.

Disclaimer

All software, documentation and other items of information in the Ada Software Repository are in the public domain. These software, documentation and information files are provided "AS IS" and without any expressed or implied warranties whatsoever. No warranties as to performance, merchantability or fitness for a particular purpose exist.

Because of the diversity of conditions and hardware under which this software may be used, no warranty of fitness for a particular purpose is offered. The user is advised to test the software thoroughly before relying on it. The user must assume the entire risk and liability of using this software.

In no event shall any person or organization of people be held responsible for any direct, indirect, consequential or inconsequential damages or lost profits.

THE ADA SOFTWARE REPOSITORY (ASR) ON SIMTEL20

(ADAREPOS.DOC, Version 1.0)

A repository of Ada programs, software components and educational material has been established on the SIMTEL20 host computer on the Defense Data Network. This repository has been accessible to any host computer on the network since November 26, 1984.

This repository provides a free source for Ada programs and information. By employing the File Transfer Protocol (FTP) program, users of DDN hosts are able to scan the directories of the repository and transfer files to their hosts. If the files are Ada programs, they may then compile these programs and use them as they desire. Modifying these programs may be within their rights, and they may freely distribute these programs within and without the DoD as they desire, subject to the restrictions specified for each piece of software in its prologue.
The Ada Software Repository is divided into several subdirectories. These directories are organized by topic, and their names and a brief overview of their topics are contained in the file DIRLIST.DOC in PD2:<ADA.GENERAL>.

The Ada Software Repository on SIMTEL20 serves two basic roles: to promote the exchange and use (reusability) of Ada programs and tools (including components) and to promote Ada education (especially by providing several working examples of programs in source form for people to study and modify).

All members of the Ada community are encouraged to freely extract information and programs from the repository as well as make contributions to it. The only restrictions which apply to the access and use of this software are presented in the "Distribution and Copyright" section of the prologue associated with each piece of software.
Ada

PD:<ADA>

This is the top-level directory. The names of the subdirectories (*DIRECTORY) can be seen here. The listing of all files in all subdirectories ADA.CRCLST is also stored here. Also, the file FILEUSE.DOC, which contains a listing of all files in the repository, ordered by frequency of use (popularity), is contained here.

Ada-SQL

PD:<ADA.ADA-SQL>

This subdirectory contains files associated with the development of a standard Ada DBMS interface (Ada/SQL) based on the dpANS Data Base Language SQL. It is anticipated that SQL will be adopted as the Air Force standard Relational database query language.

Directory: PD:<ADA.ADA-SQL>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAMES.CMM</td>
<td>833</td>
</tr>
<tr>
<td>DAMES.DOC</td>
<td>5283</td>
</tr>
<tr>
<td>DAMES.PRO</td>
<td>4945</td>
</tr>
<tr>
<td>DAMES.SRC</td>
<td>616438</td>
</tr>
<tr>
<td>DAMESABS.DOC</td>
<td>2139</td>
</tr>
<tr>
<td>DAMESSRC.DIS</td>
<td>390</td>
</tr>
<tr>
<td>DAMESVMS.DIS</td>
<td>1062</td>
</tr>
<tr>
<td>RAPPABS.DOC</td>
<td>3647</td>
</tr>
<tr>
<td>RAPPNOTES.DOC</td>
<td>6284</td>
</tr>
<tr>
<td>RAPPORT.CMM</td>
<td>840</td>
</tr>
<tr>
<td>RAPPORT.PRO</td>
<td>4910</td>
</tr>
<tr>
<td>RAPPORT.SRC</td>
<td>282884</td>
</tr>
<tr>
<td>SQL.CMM</td>
<td>1885</td>
</tr>
<tr>
<td>SQL.PRO</td>
<td>5050</td>
</tr>
<tr>
<td>SQLDD2.DIS</td>
<td>75</td>
</tr>
<tr>
<td>SQLDD2.SRC</td>
<td>51795</td>
</tr>
<tr>
<td>SQLDDL.DIS</td>
<td>112</td>
</tr>
<tr>
<td>SQLDDL.SRC</td>
<td>42642</td>
</tr>
<tr>
<td>SQLDDLRTS.IN</td>
<td>2673</td>
</tr>
<tr>
<td>SQLDDLTS.OUT</td>
<td>4732</td>
</tr>
<tr>
<td>SQLDML.DAT</td>
<td>3845</td>
</tr>
<tr>
<td>SQLDML.DS</td>
<td>120</td>
</tr>
<tr>
<td>SQLDML.OUT</td>
<td>10333</td>
</tr>
<tr>
<td>SQLDML.SRC</td>
<td>123991</td>
</tr>
<tr>
<td>SQLDMLRD.ME</td>
<td>3072</td>
</tr>
<tr>
<td>SQLREADME.DOC</td>
<td>1299</td>
</tr>
<tr>
<td>SQLSPC.INT</td>
<td>43318</td>
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<td>SQLSPC.TXT</td>
<td>140309</td>
</tr>
<tr>
<td>SQLSPCRD.ME</td>
<td>284</td>
</tr>
</tbody>
</table>

30 Files  1367455

DAMES DBMS Interface

Catalog of Reusable Software Components, Page 1
Abstract:

The HQ USAF Assistant Chief of Staff for Information Systems anticipates the adoption of SQL as the Air Force standard Relational database query language. The Air Force will probably adopt the American National Standard (ANS) Database Language SQL as its Relational query language. A draft proposed American National Standard (dpANS)/International Standard Database Language SQL is in the public review process. Given the above Air Force position, the WIS JPMO began a project with the Institute for Defense Analysis and RACOM Computer Professionals to develop a standard Ada DBMS interface (Ada/SQL) based on the dpANS Database Language SQL.

A "Proposed Binding Ada to Database Language SQL" has been presented to the responsible American National Standards Committee(X3H2). We anticipate its adoption as the DoD and ANS/ISO standard Ada relational DBMS interface and it will be the WIS Standard Ada DBMS interface. As such, we recommend the Ada/SQL interface be used for any development of an Ada DBMS interface.

The RAPPORT and DAMES DBMS Ada interfaces were among the R&D precursors developed to define an Ada DBMS interface. They are provided for information only and their syntax should not be used as a basis to build an Ada interface for any other DBMS.

The following files are associated with this item:

Directory: PD:<ADA.ADA-SQL>
- DAMES.CMM 833
- DAMES.DOC 5283
- DAMES.PRO 4945
- DAMES.SRC 616438
- DAMESABS.DOC 2139
- DAMESSRC.DIS 390
- DAMESVMS.DIS 1062

7 Files 631090

RAPPORT

Machine/System Compiled/Run on: TeleSoft 1.3 / VMS

Abstract:

The HQ USAF Assistant Chief of Staff for Information Systems anticipates the adoption of SQL as the Air Force standard Relational database query language. The Air Force will probably adopt the American National Standard (ANS) Database Language SQL as its Relational query language. A draft proposed American National Standard (dpANS)/International Standard Database Language SQL is in the public review process. Given the above Air Force position, the WIS JPMO began a project with the Institute for Defense Analysis and RACOM Computer Professionals to develop a standard Ada DBMS interface (Ada/SQL) based on the dpANS Database Language SQL.
A "Proposed Binding Ada to Database Language SQL" has been presented to the responsible American National Standards Committee (X3H2). We anticipate its adoption as the DoD and ANS/ISO standard Ada relational DBMS interface and it will be the WIS Standard Ada DBMS interface. As such, we recommend the Ada/SQL interface be used for any development of an Ada DBMS interface.

The RAPPORT and DAMES DBMS Ada interfaces were among the R&D precursors developed to define an Ada DBMS interface. They are provided for information only and their syntax should not be used as a basis to build an Ada interface for any other DBMS.

The following files are associated with this item:

Directory: PD:<ADA.ADA-SQL>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
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<tbody>
<tr>
<td>RAPPABS.DOC</td>
<td>3647</td>
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<tr>
<td>RAPPNOTES.DOC</td>
<td>6284</td>
</tr>
<tr>
<td>RAPPORT.CMM</td>
<td>840</td>
</tr>
<tr>
<td>RAPPORT.PRO</td>
<td>4910</td>
</tr>
<tr>
<td>RAPPORT.SRC</td>
<td>282843</td>
</tr>
</tbody>
</table>

5 Files 298565

SQL DBMS Interface

Machine/System Compiled/Run on: ROLM/DG/AOS

Abstract:

The HQ USAF Assistant Chief of Staff for Information Systems anticipates the adoption of SQL as the Air Force standard Relational database query language. The Air Force will probably adopt the American National Standard (ANS) Database Language SQL as its Relational query language. A draft proposed American National Standard (dpANS)/International Standard Database Language SQL is in the public review process.

Given the above Air Force position, the WIS JPMO began a project with the Institute for Defense Analysis and RACOM Computer Professionals to develop a standard Ada DBMS interface (Ada/SQL) based on the dpANS Database Language SQL. A "Proposed Binding Ada to Database Language SQL" has been presented to the responsible American National Standards Committee (X3H2). We anticipate its adoption as the DoD and ANS/ISO standard Ada relational DBMS interface and it will be the WIS Standard Ada DBMS interface. As such, we recommend the Ada/SQL interface be used for any development of an Ada DBMS interface.

The following files are associated with this item:

Directory: PD:<ADA.ADA-SQL>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
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<tbody>
<tr>
<td>SQL.CMM</td>
<td>1885</td>
</tr>
<tr>
<td>SQL.PRO</td>
<td>5050</td>
</tr>
<tr>
<td>SQLDD2.DIS</td>
<td>75</td>
</tr>
<tr>
<td>SQLDD2.SRC</td>
<td>51795</td>
</tr>
<tr>
<td>SQLDDL.DIS</td>
<td>112</td>
</tr>
<tr>
<td>SQLDDL.SRC</td>
<td>42642</td>
</tr>
<tr>
<td>SQLDDLRD.ME</td>
<td>2673</td>
</tr>
</tbody>
</table>
This subdirectory contains programs relating to the fields of artificial intelligence, such as expert systems, pattern recognition, and heuristic analysis.

Directory: PD:<ADA.AI>

ALSP.ABS 2038
ALSP.CM2 8457
ALSP.CMM 5951
ALSP.PRO 3642
ALSPDESIGN.DOC 92478
ALSPREAD.ME 1561
ALSPREN.SUB 300
ALSPSRC.DIS 165
ALSPTECH.DOC 127481
ALSPTYPES.SRC 214879
ALSPUSER.DOC 87583
EXPERT.ADA 36105
EXPERT.DAT 890
EXPERT.PRO 3368

14 Files 584898

EXPERT

Machine/System Compiled/Run on: VAX 11/785, VMS 4.1, DEC Ada

Abstract:

EXPER is a backward chaining or goal driven expert system. It is based on two articles, first Sept 1981 BYTE (Duda and Gaschnig) published the expert system in BASIC skirting the use of recursion, second Jan/Feb 85 issue of JOURNAL OF PASCAL,ADA, & MODULA-2 (Darrell Morgeson) published in Modula-2 with recursion implemented. The listing had one logic error which caused pointer explosion on the last hypothesis in the GETRULE routine. This implementation follows the MODULA-2 design completely and was not designed from the ground up in Ada.
The following files are associated with this item:

Directory: PD:<ADA.AI>
EXPERT.ADA 36105
EXPERT.DAT 890
EXPERT.PRO 3368

============ =========
3 Files 40363

LISP Routines

Machine/System Compiled/Run on: VAX/VMS DEC Ada

Abstract:

This is a package of types, objects, and functions that emulate the important capabilities of the AI language LISP which are not directly available in Ada. These capabilities will be represented in Ada in a relatively straightforward manner without changing the Ada language definition.

The following files are associated with this item:

Directory: PD:<ADA.AI>
ALSP.ABS 2038
ALSP.CM2 8457
ALSP.CMM 5951
ALSP.PRO 3642
ALSPDESIGN.DOC 92478
ALSPREAD.ME 1561
ALSPRENSUB 300
ALSPSRC.DIS 165
ALSPTECH.DOC 127481
ALSPUSER.SRC 214879
ALSPUSER.DOC 87583

============ =========
11 Files 544535

ANSI-LRM

PD:<ADA.ANSI-LRM>

This subdirectory contains a machine-readable copy of the ANSI Version of the Ada Language Reference Manual (LRM). The files were obtained from the directory <ADA-LSN> on ECLB, and the file FTPFILES.SUB shows the FTP process used to copy the files over and the renaming that was done.

Chapters 1-14 and Appendices A-F are included as CHAPxx.DOC (like, CHAP01.DOC or CHAPA.DOC). Error files are also included as CHAPxx.ERR. The Foreword (FOREWORD.DOC, ERR), Postscript (POSTSCRIPT.DOC, ERR), and Table of Contents (TOC.DOC) are included. INDEX.DOC contains the index.
<table>
<thead>
<tr>
<th>File Name</th>
<th>Size</th>
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</thead>
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<tr>
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<td>25873</td>
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<td>CHAP02.ERR</td>
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<td>CHAP03.DOC</td>
<td>148935</td>
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<td>CHAP03.ERR</td>
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</tr>
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<td>CHAP04.DOC</td>
<td>93644</td>
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<td>7551</td>
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</table>

49 Files 1201050
Benchmarks

PD:<ADA.BENCHMARKS>

This subdirectory contains various Ada compiler benchmarks. Benchmarks submitted in conjunction with the NOSC tools are located in the Ada Repository BENCHMARKS directory.

Directory: PD:<ADA.BENCHMARKS>

- ADAFAIR85.CMM 3978
- ADAFAIR85.DOC 241861
- ADAFAIR85.PRO 2094
- ADAFAIR85.SRC 243002
- BENCH.DOC 7291
- BENCHABS.DOC 2658
- BENCHADA.SRC 75057
- BENCHDHRY.ADA 18473
- BENCHMARK.CMM 3266
- BENCHMARK.PRO 3857
- BENCHPFC.DIS 332
- BENCHPFC.SRC 81329
- BENCHRES.DOC 10307
- BENCHSRC.DIS 241
- BENENV.INF 103
- BENHTOOLS.ADA 10791
- BENMATH.ADA 965
- BENVHET.COM 262
- JPMOBENCH.CMM 3446
- JPMOBENCH.DIS 494
- JPMOBENCH.DOC 20454
- JPMOBENCH.PRO 4039
- JPMOBENCH.SRC 115548
- PIWG.DOC 14507
- PIWG.PRO 3350
- PIWG83186.CMM 424
- PIWGA831.INC 672
- PIWGA831.SRC 241273
- PIWGB831.INC 579
- PIWGB831.SRC 147989
- PIWGC831.INC 809
- PIWGC831.SRC 533807
- PIWGD831.INC 601
- PIWGD831.SRC 201739
- SRITESTS.DOC 106035
- SRITESTS.PRO 1912
- SRITESTS.SRC 108160
- TASKING.DOC 110056
- TASKING.PRO 3008
- TASKING.SRC 66865

40 Files 2391634

ADAFAIR85

Catalog of Reusable Software Components, Page 7
Author: LA AdaTEC, POC: Ed Colbert
: Absolute Software
: 220 40th Street
: Manhatten Beach, CA 90266

Machine/System Compiled/Run on: VAX/VMS

Abstract: ADAFAIR85 contains a set of tests/benchmarks used to compare various Ada compilers.

The following files are associated with this item:

Directory: PD:<ADA.BENCHMARKS>
ADAFAIR85.CMM 3978
ADAFAIR85.DOC 241861
ADAFAIR85.PRO 2094
ADAFAIR85.SRC 243002

4 Files 490935

Benchmarks

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

A suite of timing and sizing benchmark programs written in "C", Ada, Fortran and Pascal. The first program in the suite is the Whetstone benchmark, which measures processor speed. This benchmark suite is available in "C", Ada, Fortran and Pascal. The other program in the suite is the Dhrystone benchmark. The Dhrystone benchmark measures statement execution per unit time. Dhrystone is available only for Ada.

The following files are associated with this item:

Directory: PD:<ADA.BENCHMARKS>
BENCH.DOC 7291
BENCHABS.DOC 2658
BENCHADA.SRC 75057
BENCHDHRY.ADA 18473
BENCHMARK.CMM 3266
BENCHMARK.PRO 3857
BENCHPFC.DIS 322
BENCHPFC.SRC 81329
BENCHRES.DOC 10307
BENCNSRC.DIS 241
BENVINF 103
BENHTOOLS.ADA 10791
BENMATH.ADA 965
BENWHET.COM 262

14 Files 214932
JPMO Benchmarks

Machine/System Compiled/Run on: Telesoft 1.3 (unvalidated), WICAT/ROS

Abstract:

This tool is a series of very simple benchmarks which are used to test the validity of various assumptions that one might make about the behavior of a compiler. Probably all the implicit assumptions are valid, these tests just check that something has not been overlooked that could severely distort detailed quantitative tests. There should be no significance given to the numerical results of these tests, they just provide a framework for other tests. There is not even a pressing need to make sure of the status (or emptiness) of the machine on which they are run, since the desired comparison is one to another, not to some absolute.

The following files are associated with this item:

Directory: PD:<ADA.BENCHMARKS>

JPMOBENCH.CMM 3446
JPMOBENCH.DIS 494
JPMOBENCH.DOC 20454
JPMOBENCH.PRO 4039
JPMOBENCH.SRC 115548

5 Files 143981

PIWG Benchmarks

Unit name : PIWG Benchmarks
Version : TAPE_8.31_86
Author : ACM SIGAda Performance Issues Working Group (PIWG)

Machine/System Compiled/Run on: Numerous

PIWG is a suite of tests/benchmarks prepared by the Performance Issues Working Group of ACM SIGAda. The purpose of PIWG is to develop the benchmarks and collect and disseminate results.

The PIWG tests have been under development for many years and have been run against many Ada compilers. The PIWG test suite contains over 190 files which include Whetstone (to measure processor speed), Dhrystone (to measure statement execution per unit time), and other benchmarks which test various attributes of the Ada language and their implementations under specific compilers. The PIWG tests must be customized for a particular compiler, and instructions are included to do this.

Some of the items measured by PIWG include:

* task creation-related timing
* dynamic elaboration-related timing
* exception-related timing
* coding style-related timing
* TEXT_IO-related timing
* loop overhead-related timing
* procedure call-related timing
* task-related timing
* compilation, link, and execution times

NOTE: the directory PD:<ADA.PIWG> contains each of the individual files of the PIWG Benchmark Suite, while the directory PD:<ADA.BENCHMARKS> contains the same files grouped as just a few large PAGER files.

The following files are associated with this item:

Directory: PD:<ADA.BENCHMARKS>

<table>
<thead>
<tr>
<th>Filename</th>
<th>Size</th>
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<tr>
<td>PIWG.DOC</td>
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<td>PIWG83186.CMM</td>
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<tr>
<td>PIWGA831.SRC</td>
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</tr>
<tr>
<td>PIWGD831.INC</td>
<td>601</td>
</tr>
<tr>
<td>PIWGD831.SRC</td>
<td>201739</td>
</tr>
</tbody>
</table>

11 Files 1145750

SRITESTS

Author: SRI

Machine/System Compiled/Run on: VAX/VMS

Abstract:

SRITESTS contains a set of Ada compiler tests/benchmarks which concentrate on Ada tasking.

The following files are associated with this item:

Directory: PD:<ADA.BENCHMARKS>

<table>
<thead>
<tr>
<th>Filename</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>SRITESTS.PRO</td>
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</tr>
<tr>
<td>SRITESTS.SRC</td>
<td>108160</td>
</tr>
</tbody>
</table>

3 Files 216107

Tasking_Benchmarks

Machine/System Compiled/Run on: DEC Ada (Version 1.2) on a VAX 8600

Keywords: tasking, tasking benchmarks, tasking overhead

Abstract:
A set of tasking benchmarks were developed in conjunction with the paper "An Assessment of the Overhead Associated with Tasking Facilities and Task Paradigms in Ada" which appeared in the January, February 1987 Ada Letters. These benchmarks were developed to measure the efficiency of the implementation of the Ada tasking model, and evaluate the additional cost of introducing intermediaries for the various tasking paradigms.

The following files are associated with this item:

Directory: PD:<ADA.BENCHMARKS>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
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<td>110056</td>
</tr>
<tr>
<td>TASKING.PRO</td>
<td>3008</td>
</tr>
<tr>
<td>TASKING.SRC</td>
<td>66865</td>
</tr>
</tbody>
</table>

3 Files 179929

CAIS

This directory contains software associated with the Common APSE Interface Set (CAIS).

The CAIS is defined in MIL-STD-CAIS.

Directory: PD:<ADA.CAIS>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>CAIS.PRO</td>
<td>4658</td>
</tr>
<tr>
<td>CAIS.SRC</td>
<td>1333231</td>
</tr>
<tr>
<td>CAISTESTS.PRO</td>
<td>6084</td>
</tr>
<tr>
<td>CAISTESTS.SRC</td>
<td>385816</td>
</tr>
</tbody>
</table>

4 Files 1729789

Mitre_CAIS

Machine/System Compiled/Run on: Vax 8600
UNIX
Verdix Ada Development Sys

Abstract:

This CAIS package provides a robust subset of the interfaces defined in the proposed Military Standard Common Apse Interface Set (CAIS). The goal of MIL-STD-CAIS is to promote tool portability by providing a standardized set of calls for operating system services. It is also hoped that definition of a generalized node model will increase the interoperability of tool sets.

This subset includes:

5.1.1,2,3,5 -- Node_Definitions, Node_Management, Attributes, and Structural_Nodes

5.3.1,1-4,10 -- Io_Definitions, Direct_Io, Sequential_Io, Text_Io, and File_Import_Export (also a few procedures from Scroll_Terminal)
5.4.1-20,21 -- List_Utilities, Identifier_Items, and String_Items

The interfaces not included are Access_Control, Process_Control, Io_Control, the Io device packages, Float_Item, and Integer_Item.

It is intended that this CAIS subset be used to investigate the extent to which CAIS supports the needs of software development tools. Only by rehosting tools and their data to CAIS can the viability of CAIS be determined.

The following files are associated with this item:

Directory: PD:<ADA.CAIS>
CAIS.PRO 4658
CAIS.SRC 1333231

Tests for Mitre CAIS

Machine/System Compiled/Run on: Vax 8600
UNIX
Verdix Ada Development Sys

Abstract:

This set of tests exercises a wide range of the implemented CAIS interfaces. In general the results of the tests are self-documenting. However they are programmer-developed tests and are not as rigorous as might be expected for acceptance testing. They also vary in style. In some instances dependencies upon the state of the node model remain in these tests and thus may require modification.

The tests are:

attribute_ex.a  => Test Exceptions on Attribute Com
cais_commandos.a => Set of Interactive CAIS Commands
copytree_test.a  => Tests Copy_Tree(+Node), Rename
oxistree_ex.a  => Same as Nodetree_ex sans Creates
io_ex_create_test.a => Test Exceptions on Text_Io.Create
io_ex_open_test.a => Test Exceptions on Text_Io.Open
io_ex_delete_test.a => Test Exceptions on Text_Io.Delete
list_test_02_12.a  => Tests List_Utilities 5.4.2 - 12
list_test_13_ss.a  => Tests List_Utilities 5.4.13 - 23
list_testx.a  => Tests Exceptions on List_Utilities
listutilx.a  => Five Quick List_Utilities Tests
list_utilities_tests-body.a  => Part of Above
list_utilities_tests-spec.a  => Part of Above
natt_tst_all.a => Test Node Attribute Commands
natt_tst_it.a  => Test Node Attribute Iterators
new_user.a  => Adds New_Users
node_mgnt.a  => Tests some of Node-Management
node_management_tests-body.a  => Part of Above
node_management_tests-body.a  => Part of Above
nodetree_ex.a => Tests some Node_Management Excep.
nodetree_cleanup.a => Deletes Nodes from Above
patt_tst_all.a => Test Path Attribute Commands
patt_tst_it.a => Test Path Attribute Iterators
struct_nodes.a => Main for Structural_Nodes test
structural_nodes_tests-body.a => Part of Above
structural_nodes_tests-spec.a => Part of Above
test_internals.a => Test Window into Cais Insides
test_node_iterate.a => Tests Node Iterate
text_test.a => Tests some of Text_Io
text_io_tests-body.a => Part of Above
text_io_tests-spec.a => Part of Above

The tests should be run when the CAIS is installed and users have been added. They can also be run as regression tests, if the CAIS code is modified. They may be helpful as supplementary (though rudimentary) examples to MIL-STD-CAIS.

The following files are associated with this item:

Directory: PD:<ADA.CAIS>
CAISTESTS.PRO  6084
CAISTESTS.SRC  385816

2 Files 391900

CAIS_Tools

PD:<ADA.CAIS-TOOLS>

This subdirectory contains tools which are compatible with and modified or implemented to run under the CAIS presented in the directory PD:<ADA.CAIS>. These tools have been modified or implemented by Mitre Corporation and internally funded by Mitre.

Directory: PD:<ADA.CAIS-TOOLS>
EDITOR.PRO  7140
EDITOR.SRC  152675

2 Files 159815

Editor

Machine/System Compiled/Run on: VAX 8600 ULTRIX, Sun2 UNIX 4.2

Abstract:

ALED is designed to edit text files. Upon invocation, ALED prompts the user for a file name. If the file exists, its contents (lines) are read in and prepared for editing; if the file does not exist, the file is created and the empty buffer is prepared for editing. ALED is an interactive editor, accepting single-char commands, filling in a command prompt (for more info as needed), and performing its functions in real-time while the user watches. The functions provided include (but are not limited to) the following:
* List Lines
* Insert a Group of Lines into the Edit Buffer
* Delete Lines
* String Search and String Substitution
* Movement Within the Edit Buffer
* Reading in a File After a Specified Line
* Writing out a Range of Lines to a File
* Built-in, online Documentation (Summary)

ALED's design includes an input line editor, which allows the user to edit text as he types it.

The following files are associated with this item:

Directory: PD:<ADA.CAIS-TOOLS>
EDITOR.PRO 7140
EDITOR.SRC 152675

2 Files 159815

Compilation Order

PD:<ADA.COMPILETION-ORDER>

This subdirectory contains software which deals with the analysis of groups of Ada programs to determine the proper compilation order. Other information pertaining to the interrelationship of software segments of a system may be obtained as well.

Directory: PD:<ADA.COMPILETION-ORDER>
COABS.CO 622
COABS.NOT 236
COMPDOC.DIS 74
COMPORD.CMM 1456
COMPORD.CO 202
COMPORD.DOC 75149
COMPORD.PRO 3550
COMPORD.SRC 291226
COMPORD.TST 68764
COMPTST.DIS 284
COREAD.ME 4855

11 Files 446418

Compilation Order

Machine/System Compiled/Run on: DEC Ada, SUN Ada, VAX/VMS, SUN

Abstract:

The Compilation Order Requirements Report computes a proper compilation order for given Ada source files. It then generates a report showing the computed compilation order and outputs it to the default output file.
The following files are associated with this item:

Directory: PD:<ADA.COMPILATION-ORDER>
COABS.CO 622
COABS.NOT 236
COMPDLOC.DIS 74
COMPORD.CMM 1456
COMPORD.CO 202
COMPORD.DOC 75149
COMPORD.PRO 3550
COMPORD.SRC 291226
COMPORD.TST 68764
COMPTST.DIS 284
COREAD.ME 4855

11 Files 446418

Directory: PD:<ADA.COMONENTS>
ABSTRACT.CMM 2263
ABSTRACT.CO 2657
ABSTRACT.PRO 3334
ABSTRACT.SRC 572620

4 Files 580874

Components

PD:<ADA.COMONENTS>

This is the components subdirectory. Software components, including general-purpose procedures, packages, and generics, are stored here. Examples are: math packages, TERMCP routines, generic linked list packages, and dynamic string packages.

Directory: PD:<ADA.COMONENTS>
ABSTRACT.CMM 2263
ABSTRACT.CO 2657
ABSTRACT.PRO 3334
ABSTRACT.SRC 572620
CAS2.ADA 6942
CAS2.PRO 2452
CAS3.ADA 8259
CAS3.PRO 2755
CDUPDATE.ADA 57663
CDUPDATE.PRO 3561
CLI.CMM 2001
CLI.DIS 92
CLI.PRO 3745
CLI.SRC 30039
COUNTADA.CMM 1217
COUNTADA.PRO 4139
COUNTADA.SRC 4587
CPA.CMM 162
<table>
<thead>
<tr>
<th>Component</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPA.PRO</td>
<td>2397</td>
</tr>
<tr>
<td>CPA.SRC</td>
<td>2318</td>
</tr>
<tr>
<td>CSET.PRO</td>
<td>3582</td>
</tr>
<tr>
<td>CSET.SRC</td>
<td>16764</td>
</tr>
<tr>
<td>DSTR1.ADA</td>
<td>8598</td>
</tr>
<tr>
<td>DSTR1.PRO</td>
<td>3014</td>
</tr>
<tr>
<td>DSTR1.PRO</td>
<td>14129</td>
</tr>
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<td>DSTR2.PRO</td>
<td>2993</td>
</tr>
<tr>
<td>DSTR3.ABS</td>
<td>6272</td>
</tr>
<tr>
<td>DSTR3.CMM</td>
<td>2068</td>
</tr>
<tr>
<td>DSTR3.PRO</td>
<td>4570</td>
</tr>
<tr>
<td>DSTR3.SRC</td>
<td>16707</td>
</tr>
<tr>
<td>DSTR3.TST</td>
<td>7261</td>
</tr>
<tr>
<td>DUNIT.CMM</td>
<td>184</td>
</tr>
<tr>
<td>DUNIT.PRO</td>
<td>3041</td>
</tr>
<tr>
<td>DUNIT.SRC</td>
<td>29965</td>
</tr>
<tr>
<td>FGGET.PRO</td>
<td>3207</td>
</tr>
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<td>FGGET.SRC</td>
<td>11155</td>
</tr>
<tr>
<td>FILECOMP.ADA</td>
<td>85866</td>
</tr>
<tr>
<td>FILECOMP.PRO</td>
<td>3808</td>
</tr>
<tr>
<td>GARBAGE.PRO</td>
<td>2646</td>
</tr>
<tr>
<td>GARBAGE.SRC</td>
<td>6536</td>
</tr>
<tr>
<td>IOSPT.PRO</td>
<td>3858</td>
</tr>
<tr>
<td>IOSPT.SRC</td>
<td>16526</td>
</tr>
<tr>
<td>LIMPRIOR.ADA</td>
<td>7374</td>
</tr>
<tr>
<td>LIMPRIOR.PRO</td>
<td>3461</td>
</tr>
<tr>
<td>LIST.ADA</td>
<td>17483</td>
</tr>
<tr>
<td>LIST.PRO</td>
<td>3397</td>
</tr>
<tr>
<td>MESSAGEIO.ADA</td>
<td>25068</td>
</tr>
<tr>
<td>MESSAGEIO.PRO</td>
<td>3121</td>
</tr>
<tr>
<td>NAMELIST.CMM</td>
<td>436</td>
</tr>
<tr>
<td>NAMELIST.PRO</td>
<td>2496</td>
</tr>
<tr>
<td>NAMELIST.SRC</td>
<td>21435</td>
</tr>
<tr>
<td>NEWABS.DIS</td>
<td>2768</td>
</tr>
<tr>
<td>NEWABS.PRO</td>
<td>3319</td>
</tr>
<tr>
<td>NEWABS.SRC</td>
<td>659811</td>
</tr>
<tr>
<td>PARSER.PRO</td>
<td>4258</td>
</tr>
<tr>
<td>PARSER.SRC</td>
<td>11086</td>
</tr>
<tr>
<td>PERMUTATE.ADA</td>
<td>11226</td>
</tr>
<tr>
<td>PERMUTATE.PRO</td>
<td>3326</td>
</tr>
<tr>
<td>PRIOR.ADA</td>
<td>6398</td>
</tr>
<tr>
<td>PRIOR.PRO</td>
<td>3582</td>
</tr>
<tr>
<td>QSORT.PRO</td>
<td>1568</td>
</tr>
<tr>
<td>QSORT.SRC</td>
<td>7325</td>
</tr>
<tr>
<td>RESERVE.ADA</td>
<td>1306</td>
</tr>
<tr>
<td>RESERVE.PRO</td>
<td>3382</td>
</tr>
<tr>
<td>RESERVE.SRC</td>
<td>23186</td>
</tr>
<tr>
<td>SAFEIO.ADA</td>
<td>9730</td>
</tr>
<tr>
<td>SAFEIO.PRO</td>
<td>3661</td>
</tr>
<tr>
<td>SDEPDEC.PRO</td>
<td>3154</td>
</tr>
<tr>
<td>SDEPDEC.SRC</td>
<td>27034</td>
</tr>
<tr>
<td>SDEPDDG.ADA</td>
<td>4513</td>
</tr>
<tr>
<td>SDEPDDG.PRO</td>
<td>4215</td>
</tr>
<tr>
<td>SEARCH.ADA</td>
<td>19994</td>
</tr>
</tbody>
</table>
Abstractions

Machine/System Compiled/Run on: DEC Ada, VMS

Abstract:

ABSTRACTIONS contains a number of low-level support routines which are used by NOSC tools created by Intermetrics. Several routines are of general utility.

ABSTRACTIONS is used by NOSC/WIS tools 5.1.1, 5.1.2, 6.1.2, and 6.2. See also NEW_ABSTRACTIONS.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
ABSTRACT.CMM 2263
ABSTRACT.CO 2657
ABSTRACT.PRO 3334
ABSTRACT.SRC 572620

4 Files 580874

CAS2

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

This procedure calculates the "STATEMENTS" of a valid Ada fragment specified by a FILE_NAME string parameter. It need not be a complete compilation unit, but it should have closed all open parens and strings.
The Ada statement is defined by a semicolon terminator outside of comments, parentheses, or string or character literals. This definition is insensitive to formatting or layout of the source.

There are exotic cases for which this will misestimate the count but we have never encountered one in real code.

This procedure is derived from Bill Whitaker's original COUNT_OF_ADA_STATEMENTS, and it does not change his original algorithm. It adds a line count and a character-checksum hash (sum of POS values of all non-space characters in the file mod 256).

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
CAS2.ADA 6942
CAS2.PRO 2452
---------- ----------
2 Files 9394

CAS3

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

This procedure calculates the "STATEMENTS" of a valid Ada fragment specified by a FILE_NAME string parameter. It need not be a complete compilation unit, but it should have closed all open parens and strings.

The Ada statement is defined by a semicolon terminator outside of comments, parentheses, or string or character literals. This definition is insensitive to formatting or layout of the source.

There are exotic cases for which this will misestimate the count but we have never encountered one in real code.

This procedure is derived from Bill Whitaker's original COUNT_OF_ADA_STATEMENTS, and it does not change his original algorithm. It adds a line count and a character-checksum hash (sum of POS values of all non-space characters in the file mod 256). It also adds a count of the comment lines (over CAS2, which does not).

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
CAS3.ADA 8259
CAS3.PRO 2755
---------- ----------
2 Files 11014

CDUPDATE

Catalog of Reusable Software Components, Page 18
Abstract:

This generic package contains routines to perform files revision control. Given a baseline ASCII file, and one or more update decks stored in a single file, it generates an updated or downated version of the baseline. The update decks can be generated automatically by the package File_Compare_Utilities.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
  CDUPDATE.ADA  57663
  CDUPDATE.PRO  3561
----------------------  -------
  2 Files  61224

CLI

Machine/System Compiled/Run on: Telesoft 1.3 (unvalidated), WICAT/ROS

Abstract:

The Command Language Interpreter (CLI) implements the tools found in chapters one and two of "Software Tools in Pascal" by Brian W. Kernighan and P.J. Plauger. The commands available for execution are: copy, charcount, linecount, wordcount, detab, entab, overstrike, compress, expand, translit and quit. Most of the commands read subsequent text from the terminal modifying it in one way or another.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
  CLI.CMM  2001
  CLLDIS  92
  CLIPRO  3745
  CLISR.C  30039
----------------------  -------
  4 Files  35877

CAS

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

This function calculates the "statements" of a valid Ada fragment specified by a FILE_NAME string parameter. It need not be a complete compilation unit but it should have closed all open parentheses and and string brackets. The number of statements of code is returned as an integer. The Ada statement is defined by a semicolon.
terminator outside of comments, parentheses, or string or character literals. The definition is insensitive to formatting or layout of the source. This copy of the function is embedded in a test and driver program. The driver has a feature of correcting for the common error of leaving out the extension on a file name. The nature of this extension is system dependent and a "TXT" extension is used.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
COUNTADA.CMM 1217
COUNTADA.PRO 4139
COUNTADA.SRC 4587

            3 Files 9943

Compoools in Ada

Machine/System Compiled/Run on: VAX 11/780, VMS 4.4, DEC Ada

Abstract:

CPA - Compoools in Ada

CPA.SRC -- This file contains the programs for the compool like structure in Ada. This structure is similar to a common block.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
CPA.CMM 162
CPA.PRO 2397
CPA.SRC 2318

            3 Files 4877

Character Set

Machine/System Compiled/Run on: DG MV 10000, ROLM ADE

Abstract:

CHARACTER_SET provides a number of test routines which determine if a given character falls into a particular class of characters. See the visible section for details. It also provides routines for character and string letter case conversion (to lower case, to upper case) and for naming control characters.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
CSET.PRO 3582
CSET.SRC 16764

            3 Files 4877
### Dynamic String

**Machine/System** Compiled/Run on: DG MV 10000, ROLM ADE

**Abstract:**

This package creates and manipulates dynamic (variable-length) strings under Ada. See the source code for further details and documentation.

The following files are associated with this item:

```
Directory: PD:<ADA.COMPONENTS>
DSTR1.ADA  8598
DSTR1.PRO  3014
================= =======
2 Files       11612
```

### Dynamic String

**Machine/System** Compiled/Run on: DG MV 10000 with ROLM ADE
DEC VAX 11/780 with DEC Ada

**Abstract:**

DynamicStrings is a generic package which provides a set of routines to manipulate dynamic strings. See the documentation in the source code for references to magazine articles et al.

The following files are associated with this item:

```
Directory: PD:<ADA.COMPONENTS>
DSTR2.ADA  14129
DSTR2.PRO  2993
================= =======
2 Files       17122
```

### Dynamic String 3

**Machine/System** Compiled On: VAX 8600 / Ultrix / VERDIX

**Abstract:**

This is a package of several string manipulation functions based on a built-in dynamic string type DYN_STRING. It is an adaptation and extension of the package proposed by Sylvan Rubin of Ford Aerospace and Communications Corporation in the Nov/Dec 1984 issue of the Journal of Pascal, Ada and Modula-2. Some new functions have been added, and much of the body code has been rewritten.

The following files are associated with this item:
DIMENSIONAL_UNITS

Machine/System Compiled/Run on: DEC Ada on VAX
APLEX (Telegen 2) on Gould 32/97 running MPX

Keywords: Dimensional Units

Abstract:

This package provides useful parent types for derived dimensional units. That is, it makes it possible to do this:

```ada
  type Feet is new Integer_Unit;
  type Radians is new Float_Unit.
```

Objects of type Feet can be added together, but can't be multiplied together to get a result in feet. See Dr. Dobb's Journal of Software Tools issue #127 (May 1987) page 50 for a complete description of how to use this package.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
DUNIT.CMM 184
DUNIT.PRO 3041
DUNIT.SRC 29965

3 Files 33190

FGET

Machine/System Compiled/Run on: DG MV 10000, ROLM ADE
DEC VAX 11/785, DEC Ada

Abstract:

Package FGET manipulates an object which is a text file. Its main purpose is to return characters from this file, allowing one-character look-ahead. A character which has been obtained from the file via GETC can be returned to the file by an UNGETC, in which case the next GETC will return the same character again. Additionally, GETC returns ASCII.CR if the end of a text line is reached and ASCII.ETX if the end of the file is reached.
The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
FGET.PRO 3207
FGET.SRC 1 1155
========  =======
2 Files 14362
FILECOMP

Machine/System Compiled/Run on: DG MV10000, ROLM ADE
VAX 11/780, DEC ACS
RATIONAL R1000

See_Also: CDUPDATE

Abstract:

This generic package contains routines to compare two ASCII files. It produces as
output a side-by-side listing of both files, showing their differences in a very readable
format, and also produces an update deck which can be used to provide a mapping between
the two files. This update deck is meant to be input for a revision control package, called
Context_Directed_Update_Utilsities.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
FILECOMP.ADA 85866
FILECOMP.PRO 3808
========  =======
2 Files 89674

Garbage Collection

Machine/System Compiled/Run on: Data General MV/10000 running the Ada
Development Environment 2.2

Abstract:

This is a generic garbage collector. It simply maintains an internal linked list of items
which have been freed then reuses these items when more are needed.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
GARBAGE.PRO 2646
GARBAGE.SRC 6536
========  =======
2 Files 9182

I/O Support

Machine/System Compiled/Run on: DG MV 10000, ROLM ADE
Abstract:

IO_SUPPORT is a companion package for SYSDEP, a system dependencies package that provides console input and console output without echo on the input and without control character interpretation. IO_SUPPORT, which employs SYSDEP, provides an input line editor and interfaces to the routines in SYSDEP which provide a greater degree of functionality than SYSDEP itself provides.

For applications which are embedded and do not require features of TEXT_IO other than simple character or string I/O, IO_SUPPORT with SYSDEP offer an alternative to withing in the entire TEXT_IO package.

The philosophy behind creating SYSDEP is to provide low-level I/O routines which can be built upon to implement applications which require raw I/O, such as communications servers and character-oriented tools. IO_SUPPORT goes one step further by providing a set of commonly-used routines around SYSDEP, preventing the need for constantly reinventing the basic wheel.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>  
IOSPT.PRO 3858  
IOSPT.SRC 16526  
------------------------  -------  
2 Files 20384

Limited Prioritized Queue

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

This generic package creates a Prioritized Queue of a User-defined Limited number of objects. The Queue is First-In, First-Out except where overridden by the priority. The priority may be any discrete type. It is assumed that the priorities are from lowest to highest. The type of data structure to be instantiated for the queue may be any type having assignment and equality. Other types may be enqueued by using access types. (i.e. Access variable pointing to a task.)

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>  
LIMPRIOR.ADA 7374  
LIMPRIOR.PRO 3461  
------------------------  -------  
2 Files 10835

Linked List

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

Catalog of Reusable Software Components, Page 24
This package provides a number of routines which can be used to manipulate a doubly-linked list. See the visible section for a rather complete set of documentation on the routines.

Each element of the list is of the following structure:

```
RECORD
   element_pointer; -- ptr
   previous: element_pointer; -- ptr
END RECORD;
```

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>

- LIST.ADA 17483
- LIST.PRO 3397

2 Files 20880

**Message I/O**

Machine/System Compiled/Run on: VAX 11/785 VMS 4.1
DEC Ada

Abstract:

This package is used for sending messages to the default output file. See the visible part for the details of the structure of the messages. Minor changes to this package (including making the length of certain fields generic parameters) would make this package much more versatile.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>

- MESSAGEIO.ADA 25068
- MESSAGEIO.PRO 3121

2 Files 28189

**Namelist**

Machine/System Compiled/Run on: VAX 11/780, VMS 4.4, DEC Ada

Abstract:

NAMELIST - An input package which implements the FORTRAN NAMELIST capability.

The following files are associated with this item:
New Abstractions

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

NEW_ABSTRACTIONS contains a number of low-level support routines which are used by NOSC tools created by Intermetrics. Several routines are of general utility.

NEW_ABSTRACTIONS is used by NOSC/WIS tools 4.1.1 and 4.1.2. See also ABSTRACTIONS.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
NEWABS.DIS  2768
NEWABS.PRO   3319
NEWABS.SRC   659811

3 Files     665898

Parser

Machine/System Compiled/Run on: DG MV10000 (ROLM ADE) and DEC VAX 11/785 (DEC Ada)

Abstract:

PARSER is a generic parser that functions in a manner similar to the ARGC/ARGV parser of UNIX. It contains one procedure, PARSE, which accepts a string as input and returns ARGC, a count of the number of tokens in the string, and ARGV, a vector of strings, each string containing a token.

PARSER is instantiated with two strings (DEL for DELIMITER and DEL_TOKEN for DELIMITER_TOKEN). The DEL string is composed of characters which delimit each token (and are not a part of the token). All characters less than space are automatically delimiters, and the DEL string should contain at least one character (such as a space). DEL_TOKEN is a string composed of characters which delimit tokens an which are tokens themselves. If "=" is a DEL_TOKEN, for example, then "CAT= DOG" is composed of three tokens, "CAT", "=", and "DOG", where if "=" is a DEL, then "CAT= DOG" is composed of two tokens, "CAT" and "DOG". This assumes that the space character is a DEL.

PARSER may also be instantiated with ARGCLIMIT, which indicates the maximum number of tokens allowed. If this limit is exceeded, then the last ARGV token contains the remainder of the string. The default value of ARGCLIMIT is 20.
ARG_STRING_LENGTH is the last instantiation option for PARSER. It indicates the maximum length of an ARGV string, and it defaults to 80.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
- PARSER.PRO 4258
- PARSER.SRC 11086

Permutations Class

Abstract:

This is a generic package which, given an array of items, forms all possible permutations using these items. The package does so by providing a generic permutation class, within which is an iterator. The iterator has a generic formal subprogram to which it passes each permutation.

The package may make a nice example of the following Ada features: nested generics, recursion, generic formal subprograms as a method of implementing an iterator.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
- PERMUTATE.ADA 11226
- PERMUTATE.PRO 3326

Prioritized Queue

Abstract:

This generic package creates a Prioritized Queue of objects. The Queue is First-In, First-Out except where overridden by the priority.

The priority may be any discrete type. It is assumed that the priorities are from lowest to highest. The type of data structure to be instantiated for the queue may be any type having assignment and equality. Other types may be enqueued by using access types. (i.e. Access variable pointing to a task.) The space for the Queue is allocated dynamically with garbage collection left up to the target system.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
Quick Sort

Machine/System Compiled/Run on: DG MV 10000, Ada Development Environment

Abstract:

This generic procedure uses the QuickSort algorithm to sort an array of any base type with any discrete index type.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
-QSORT.PRO 1568
-QSORT.SRC 7325

2 Files 8893

Ada Reserved Word Identification

Machine/System Compiled/Run on: DEC Ada, DEC 8600

Abstract:

This package contains the single function "is_Ada_reserved_word". It returns with either a "true" or "false" to the statement "the input character string is a reserved word in the Ada language".

The contribution of the function is that it executes very quickly, being an implementation of the algorithm defined by David Wolverton in "A Perfect Hash Function for Ada Reserved Words", as published in Ada Letter, July-August 1984. It is much faster than either linear or binary searches of all the Ada reserved words.

A test driver is included, as is sample test data.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
-RESERVE.AD 1306
-RESERVE.PRO 3382
-RESERVE.SRC 23186

3 Files 27874

Safe IO

Machine/System Compiled/Run on: DEC Ada, VAX/VMS
Abstract:

This generic package allows the user to input data types from the keyboard while checking the input for errors. (Proper Type: syntax and ranges.)

A procedure for checking input of characters for a proper subrange of the character set is provided.

When an error is encountered, an error message is displayed and the user is allowed to reenter. Output routines are provided to allow the user to do I/O with only one instantiation. Screen manipulation (i.e. NEW_LINE) should be done with TEXT_IO directly.

Instantiations require a FIELD_WIDTH which specifies the maximum field width for the input of the corresponding type.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
SAFEIO.ADA 9730
SAFEIO.PRO 3661
================== ========
2 Files 13391

SYSDEP DEC

Machine/System Compiled/Run on: DG MV 10000, ROLM ADE
       DEC VAX 11/785, DEC Ada

Abstract:

SYSDEP2 provides a "standard" mechanism for character-at-a-time I/O under Ada. The I/O is without echo or special interpretation (such as abort code trapping) on input.

This SYSDEP2 submission is implemented for the Data General MV 10000 running the ROLM ADE and for the DEC VAX 11/785 running DEC Ada.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
SDEPDEC.PRO 3154
SDEPDEC.SRC 27034
================== ========
2 Files 30188

SYSDEP DG

Machine/System Compiled/Run on: DG MV 10000, ROLM ADE

Abstract:
SYSDEP provides GET, PUT, and IS_VALID_CHARACTER as basic I/O routines which are defined as follows:

GET - return the next character from the console without any interpretation (all 128 ASCII characters may be input with exceptions as noted by IS_VALID_CHARACTER) and without echo (echo must be supplied by the user)

PUT - output the indicated character without interpretation (any valid character, noted by IS_VALID_CHARACTER, may be output by PUT

This simple pair of defined functions permits a more flexible and constant I/O configuration than that provided by TEXT_IO and opens up the door to future tools written in Ada, such as communications servers. Adaption of SYSDEP to interface thru CAIS definitions, when such definitions are established and placed in use, can be done at a later time. OPEN_CONSOLE and CLOSE_CONSOLE must be called before the first use of PUT or GET and after the last use of PUT or GET, resp.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
SDEPDG.ADA 4513
SDEPDG.PRO 4215

SEARCH

Machine/System Compiled/Run on: DG MV10000, ROLM ADE
VAX 11/780, DEC ACS
RATIONAL R1000

Abstract:

This generic package contains binary and sequential searching routines for arrays. A full paper describing this unit's capabilities is available by contacting the author (see the prologue file for address).

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
SEARCH.ADA 19994
SEARCH.PRO 3322

Singly Linked List

Machine/System Compiled/Run on: VAX/VMS 4.1/VMS 4.1

Abstract:

This package provides an abstract singly linked list with a single point of reference.
The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
SLIST.PRO 2802
SLIST.SRC 23821

SORTARRY

Machine/System Compiled/Run on: DG MV10000, ROLM ADE
VAX 11/780, DEC ACS
RATIONAL R1000
(others)

Abstract:

This generic package contains several array sorting routines.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
SORTARRY.ADA 62225
SORTARRY.CMM 638
SORTARRY.PRO 3380

STACK

Machine/System Compiled/Run on: DG MV 10000, ROLM ADE

Abstract:

This is a generic package that provides the types, procedures and exceptions to define an abstract stack and its corresponding operations. Using an instantiation of this generic package, one can declare multiple versions of a stack of type GENERIC_STACK. The stack operations provided include:

1. clear the stack,
2. pop the stack,
3. push an element onto the stack, and
4. access the top element on the stack.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
STACK.ADA 6833
STACK.PRO 3309

Catalog of Reusable Software Components, Page 31
TBD

Machine/System Compiled/Run on: Vax 11/785 VMS 4.1 Dec-Ada

Abstract:

TBD stands for "To Be Determined". This package is intended to be used during design to aid in producing partial designs that are expressed in valid Ada. It also may be used advantageously in development while the implementation is incomplete or in rapid prototyping.

In particular, it supplies type definitions, range limits, and default values which may be used to assist in describing unknown or partially defined types, objects, and values. In addition, it supplies a place-holding procedure call.

If this TBD_PACKAGE is used, simple searches for the string "TBD" may be used to find many places where the design is incomplete.

N.B.: The types defined here should be used to derive those used in the design, rather than being used directly (see the usage given below for examples of the style).

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
TBD.ADA 13212
TBD.PRO 5322

2 Files 18534

TOD

Machine/System Compiled/Run on: DG MV10000, ROLM ADE VAX 11/780, DEC ACS RATIONAL R1000

Abstract:

This package contains time-of-day conversion routines. One routine takes practically any time/date STRING and converts it to CALENDAR.TIME format. The other routine takes a CALENDAR.TIME value and converts it to a STRING containing the day name, full date, and time (resolution to the nearest second).

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
TOD.ADA 78532
TOD.PRO 3600

2 Files 82132

Catalog of Reusable Software Components, Page 32
VDT100

Machine/System Compiled/Run on: Telesoft Ada 1.5, VAX

Abstract:

VDT100.SRC contains a package which provides a set of routines to interface with a VT100 computer terminal, providing procedures for functions such as cursor positioning and clear screen. Included is a test program, which is a solution to the Towers of Hanoi.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
VDT100.PRO 3332
VDT100.SRC 15113
=================== =========
2 Files 18445

Variable-Length Direct I/O

Machine/System Compiled/Run on: VAX 11/785 VMS 4.1
DEC Ada

Abstract:

This is a package similar to DIRECT_I that operates on records of variable length. The body of this package may use CAIS utilities in the future.

This package allows the user to write elements of differing lengths to a single direct access file. This package can be used to write data of all types to a single file (with the aid of UNCHECKED_CONVERSION). The DATA_FILE_IO package in the Ada repository serves as an example of how this can be accomplished.

This package also reduces the time-per-byte-of-data transferred by reducing the number of calls to the run time library routines associated with the predefined generic package DIRECT_IO. This is accomplished by placing many incoming records into a large buffer and then writing the entire buffer to an external file as a single element (vice versa for reading). Bytes_Per_Block, the only generic parameter for this package, determines the size (in bytes) of this buffer.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
VLENGTHIO.PRO 3883
VLENGTHIO.SRC 120626
=================== =========
2 Files 124509

Cross_Reference
PD: <ADA.CROSS-REFERENCE>

This subdirectory contains tools which generate cross-reference listing of Ada programs.

Directory: PD: <ADA.CROSS-REFERENCE>
- ADAREF.COM: 682
- ADAREF.DOC: 628
- ADAREF.PAS: 23786
- ADAREF.PRO: 3147

4 Files: 28243

**Ada_Cross_Reference**

Machine/System Compiled/Run on: DEC VAX 11/785, DEC Pascal

Abstract:

This is an Ada cross reference program, written in Pascal. Adapted from an original work by Wirth in his book "Algorithms + Data Structures = Programs", several modifications were made to create the present form. See the opening comments for authors and revision history.

The following files are associated with this item:

Directory: PD: <ADA.CROSS-REFERENCE>
- ADAREF.COM: 682
- ADAREF.DOC: 628
- ADAREF.PAS: 23786
- ADAREF.PRO: 3147

4 Files: 28243

**Data Base Management**

PD: <ADA.DBMS>

This directory contains Ada software components and programs directly related to Data Base Management functions.

Directory: PD: <ADA.DBMS>
- MIMS.CMM: 1061
- MIMS.PRO: 4253
- MIMS.SRC: 81285

3 Files: 86599

**MIMS**

Machine/System Compiled/Run on: ROLM Ada, DG
Abstract:

As a demonstration of the use of Ada for command and control applications, the current airborne and ground mobile systems at SAC (600,000 LOC - JOVIAL) are being consolidated into a mobile data management system using a common data format and query language with graphical display capabilities. The system includes an integrated data management system, automatic and manual update of the data, ad hoc data retrieval, building and maintaining displays as well as interaction with the working file, display transfers, and manual backup. It uses a multiple task environment to interface with several I/O devices, enter data into and retrieve data from similar systems across the communication links, and provide timely access to about 500 million characters of data.

Three packages (two generic) are provided from the MIMS at this time: balanced trees, source scanner, and variable lists.

The following files are associated with this item:

Directory: PD:<ADA.DBMS>
MIMS.CMM  1061
MIMS.PRO  4253
MIMS.SRC  81285

Directory: PD:<ADA.DDN>

DDN

PD:<ADA.DDN>

This subdirectory contains tools and components related to the Defense Data Network, its file transfer, mail, and communications facilities. Implementations of the TCP/IP communications protocol, the FTP file transfer tool, and the SMTP mail handler are included.

Directory: PD:<ADA.DDN>
FTP.COM  1080
FTP.PRO  3733
FTP.SRC  375318
FTP BATCH.COM  548
FTPSMTP.CMM  1253
IFACE.COM  512
IFACE.SRC  48820
IFACEBAT.COM  570
SMTP.COM  658
SMTP.PRO  3733
SMTP.SRC  68638
SMTP BAT.COM  545
SMTP SER.COM  1020
SMTPWICAT.DAT  198
SMTPWICAT.SRC  77005
TCPBATCHCMP.SUB  561
TCPBATTST.CO  551
TCPBATCH.SUB  1265
TCP/IP.CMM  1248

Catalog of Reusable Software Components, Page 35
These tools provide the ability to transfer files and to send and receive mail among users on diverse hosts. File transfer will use Ada SEQUENTIAL_IO calls to read and write files and will interface to TCP(CDRL 0001) to send data across communication lines and will interface to Telnet to send and receive all commands and replies. The Simple Mail Transfer Protocol to be implemented is RFC821.

The following files are associated with this item:

Directory: PD:<ADA.DDN>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTP.COM</td>
<td>1080</td>
</tr>
<tr>
<td>FTP.PRO</td>
<td>3733</td>
</tr>
<tr>
<td>FTP.SRC</td>
<td>375318</td>
</tr>
<tr>
<td>FTPBATCH.COM</td>
<td>548</td>
</tr>
<tr>
<td>FTPSMTP.COM</td>
<td>1253</td>
</tr>
<tr>
<td>IFACE.COM</td>
<td>512</td>
</tr>
<tr>
<td>IFACE.SRC</td>
<td>48820</td>
</tr>
<tr>
<td>IFACEBAT.COM</td>
<td>570</td>
</tr>
<tr>
<td>USERNAMES.LCL</td>
<td>66</td>
</tr>
<tr>
<td>WICATMISC.SRC</td>
<td>102526</td>
</tr>
<tr>
<td>==============</td>
<td>==========</td>
</tr>
<tr>
<td>12 Files</td>
<td>639692</td>
</tr>
</tbody>
</table>
SMTP/FTP

Machine/System Compiled/Run on: Telesoft 1.5 (unvalidated), WICAT/ROS

Abstract:

These tools provide the ability to transfer files and to send and receive mail among users on diverse hosts. File transfer will use Ada SEQUENTIAL_IO calls to read and write files and will interface to TCP(CDRL 0001) to send data across communication lines and will interface to Telnet to send and receive all commands and replies. The Simple Mail Transfer Protocol to be implemented is RFC821.

The following files are associated with this item:

Directory: PD:<ADA/DDN>
- SMTP.COM 658
- SMTP.PRO 3733
- SMTP.SRC 68638
- SMTPBAT.COM 545
- SMTPSER.COM 1020
- SMTPWICAT.DAT 198
- SMTPWICAT.SRC 77005
- IFACE.COM 512
- IFACE.SRC 48820
- IFACEBAT.COM 570
- USERNAMES.LCL 66
- WICATMISC.SRC 102526
- USERSMAN.DIS 103
- USERSMAN.DOC 105163

14 Files 409557

TCP/IP

Machine/System Compiled/Run on: Telesoft 1.5 (unvalidated), WICAT/ROS

Abstract:

The proposed tools provide communication with the Utility layer (TCP) corresponding to RFC793 and with Internet (IP). An operating system interface to VAX VMS will be provided. Internet Control Message Protocol (ICMP) will be provided as part of IP. These protocols allow multiuser access and message priority. A Test System will be provided to demonstrate these protocols, generate test scenarios, and display intermediate data.

The following files are associated with this item:

Directory: PD:<ADA/DDN>
- TCPBATCMP.SUB 561
- TCPBATTST.CO 551
- TCPCOMP.SUB 1265
- TCPPIP.CMM 1248
TELENET

Machine/System Compiled/Run on: Telesoft 1.5 (unvalidated), WICAT/ROS

Abstract:

This tool will implement RFC-854 of the TELNET protocol supporting a bidirectional, eight-bit byte oriented communications facility. This approach encompasses three main ideas: Network Virtual Terminal (NVT), negotiated options, and a symmetric view of terminals and processes.

The following files are associated with this item:

Directory: PD:<ADA.DDN>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>TELBAT.CO</td>
<td>555</td>
</tr>
<tr>
<td>TELNET.CMM</td>
<td>1264</td>
</tr>
<tr>
<td>TELNET.CO</td>
<td>808</td>
</tr>
<tr>
<td>TELNET.PRO</td>
<td>3642</td>
</tr>
<tr>
<td>TELNET.SRC</td>
<td>273396</td>
</tr>
<tr>
<td>TELWICAT.DAT</td>
<td>194</td>
</tr>
<tr>
<td>TELWICAT.SRC</td>
<td>218505</td>
</tr>
<tr>
<td>IFA.SRC</td>
<td>512</td>
</tr>
<tr>
<td>IFA.SRC</td>
<td>48820</td>
</tr>
<tr>
<td>IFA.BAT.COM</td>
<td>570</td>
</tr>
<tr>
<td>WICATMSC.SRC</td>
<td>102526</td>
</tr>
<tr>
<td>USRM.DIS</td>
<td>103</td>
</tr>
<tr>
<td>USRM.DOC</td>
<td>105163</td>
</tr>
</tbody>
</table>

13 Files 756058

Debuggers

PD:<ADA.DEBUGGER>

This subdirectory contains Ada source-level debuggers. A Symbolic Debugger is included.
Symbolic Debugger

Machine/System Compiled/Run on: DEC Ada / VMS

Abstract:

Interactive debugger will provide debugging and diagnostic aids at the Ada statement level through an "Ada-like" command language. Capabilities include: (1) Setting, resetting and displaying breakpoints; (2) Setting and displaying Ada program variables; (3) Tracing program execution at statement, block or unit level; (4) Snap dumps in printing format form or raw data form to occur periodically or on demand; (5) Execution frequency profiles for each Ada statement and entry/exit to each program block and unit, with optional report showing percentage of total execution time spent in each code block and in each statement within a block. Tool consists of source instrumentation module, debugger module and a report generator.

The following files are associated with this item:

Directory: PD:<ADA.DEBUGGER>

SD.ABS 1801
SD.CMM 3098
SD.HLP 12212
SD.MAN 269466
SD.PRO 4203
SD.SRC 889057
SD2.HLP 21414
SDGRAMMAR.GRM 82491
SDREAD.ME 5546
SDREAD.ME2 238
SDTCF.DAT 2023
SDTEST.DAT 112103
SDTEST.DIS 54

13 Files 1403706
Editors

PD:<ADA.EDITORS>

This directory contains the source code and documentation on some text editors written in Ada.

Directory: PD:<ADA.EDITORS>

```
ED.CMM 3859
ED.DOC 47972
ED.PRO 7045
ED.SRC 69604
ED2.DOC 47230
ED2.PRO 7266
ED2.SRC 74495
WP.ABS 3985
WP.CMM 1272
WP.CVT 842
WP.PRO 3856
WPCOMMON.DIS 113
WPCOMMON.SRC 150501
WPCRT.DIS 130
WPCRT.SRC 197491
WPEDHLP.DIS 78
WPEDITOR.DIS 426
WPEDITOR.HLP 42714
WPEDITOR.SRC 636103
WPFORMAT.DAT 52484
WPFORMAT.DIS 312
WPFORMAT.SRC 486814
```

22 Files 1834592

Editors

Machine/System Compiled/Run on: DG MV 10000, ROLM ADE

Abstract:

ALED is designed to edit text files. Upon invocation, ALED prompts the user for a file name. If the file exists, its contents (lines) are read in and prepared for editing; if the file does not exist, the file is created and the empty buffer is prepared for editing. ALED is an interactive editor, accepting singlechar commands, filling in a command prompt (for more info as needed), and performing its functions in realtime while the user watches. The functions provided include (but are not limited to) the following:

* List Lines
* Insert a Group of Lines into the Edit Buffer
* Delete Lines
* String Search and String Substitution
* Movement Within the Edit Buffer
* Reading in a File After a Specified Line
* Writing out a Range of Lines to a File
* Built-in, online Documentation (Summary)

The following files are associated with this item:

Directory: PD:<ADA.EDITORS>
- ED.CMM 3859
- ED.DOC 47972
- ED.PRO 7045
- ED.SRC 69604

4 Files 128480

Editor 2

Machine/System Compiled/Run on: DG MV 10000, ROLM ADE

Abstract:

ALED is designed to edit text files. Upon invocation, ALED prompts the user for a file name. If the file exists, its contents (lines) are read in and prepared for editing; if the file does not exist, the file is created and the empty buffer is prepared for editing. ALED is an interactive editor, accepting singlechar commands, filling in a command prompt (for more info as needed), and performing its functions in realtime while the user watches. The functions provided include (but are not limited to) the following:

* List Lines
* Insert a Group of Lines into the Edit Buffer
* Delete Lines
* String Search and String Substitution
* Movement Within the Edit Buffer
* Reading in a File After a Specified Line
* Writing out a Range of Lines to a File
* Built-in, online Documentation (Summary)

The following files are associated with this item:

Directory: PD:<ADA.EDITORS>
- ED2.DOC 47230
- ED2.PRO 7266
- ED2.SRC 74495

3 Files 128991

Word Processor

Compiler: Telesoft 1.3 (unvalidated), WICAT/ROS

Abstract:

WORD_PROCESSOR is a tool for creating, modifying, and formatting ASCII text files. This package contains an editor and a text formatter which are for use by the general user. It also contains a utility for defining the help screens which are available to
the general user as well as a utility for defining new type fonts. TEXT_EDITOR is a tool which allows a SOURCE_FILE to be edited.

TEXT_FORMATTER is a tool which formats the SOURCE_FILE according to the default format and imbedded formatting commands. The output is sent to the destination device or file.

DEFINE_HELP_FILE is a tool which processes a help file in ASCII format to a format allowing fast access to each of the various help screens. It is for use by the system's manager to modify user help information to his particular audience.

ADD_TYPE_FONT is a tool which adds new type font definitions to the text formatter's font table. It is for use by the system's manager to define new fonts when new device capabilities are added at a site.

The following files are associated with this item:

Directory: PD:<ADA.EDITORS>

WP.ABS 3985
WP.CMM 1272
WP.CVT 842
WP.PRO 3856
WPCOMMON.DIS 113
WPCOMMON.SRC 150501
WPCRT.DIS 130
WPCRT.SRC 197491
WPEDHLP.DIS 78
WPEDITOR.DIS 426
WPEDITOR.HLP 42714
WPEDITOR.SRC 636103
WPFORMAT.DAT 52484
WPFORMAT.DIS 312
WPFORMAT.SRC 486814

15 Files 1577121

Education

PD:<ADA.EDUCATION>

This is the education subdirectory. Sample programs, tutorials, and online courseware are located here.

Directory: PD:<ADA.EDUCATION>

ADA1FOR.DOC 5190
ADA2FOR.DOC 1428
ADASOFTR.DOC 7802
BIBLIO.DOC 4369
BOOT.DOC 8646
COMPOOLS.DOC 6789
FOR1ADA.DOC 2770
GLOSSARY.DOC 40187
OBJECT.DOC 8793
Ada to FORTRAN

These files contain information and examples of interfacing Ada routines to FORTRAN routines.

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADA1FOR.DOC</td>
<td>Ada-to-FORTRAN</td>
</tr>
<tr>
<td>ADA2FOR.DOC</td>
<td>FORTRAN-to-Ada</td>
</tr>
<tr>
<td>FOR1ADA.DOC</td>
<td></td>
</tr>
</tbody>
</table>

The following files are associated with this item:

Directory: PD:<ADA.EDUCATION>
- ADA1FOR.DOC 5190
- ADA2FOR.DOC 1428
- FOR1ADA.DOC 2770

General Information

These files contain general information not filed under other categories.

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOOT.DOC</td>
<td>Bootstrapping Oneself in the use of the ASR and its special tools which should be installed on your local host computer</td>
</tr>
<tr>
<td>GLOSSARY.DOC</td>
<td>Glossary of Ada Terms</td>
</tr>
</tbody>
</table>

The following files are associated with this item:

Directory: PD:<ADA.EDUCATION>
- BOOT.DOC 8646
- GLOSSARY.DOC 40187

2 Files 48833
Object-Oriented Design

These files contain information on object-oriented design techniques.

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECT.DOC</td>
<td>On Object-Oriented Design</td>
</tr>
</tbody>
</table>

The following files are associated with this item:

Directory: PD:<ADA.EDUCATION>

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECT.DOC</td>
<td>Productivity Information from TI</td>
</tr>
</tbody>
</table>

Productivity Data

These files contain software productivity information on Ada-related projects.

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODUCT.DOC</td>
<td>Productivity Information from TI</td>
</tr>
</tbody>
</table>

The following files are associated with this item:

Directory: PD:<ADA.EDUCATION>

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPOOLS.DOC</td>
<td>General comments, software engineering, Ada, Compools and common blocks (and their desirability/lack of desirability)</td>
</tr>
</tbody>
</table>

Programming Style/Errors

These files contain notes and comments on Ada programming style, software engineering, and related topics.

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNOTE*.DOC</td>
<td>Programming Notes</td>
</tr>
<tr>
<td>PROGERRS.DOC</td>
<td>Common Ada Programming Errors</td>
</tr>
</tbody>
</table>

The following files are associated with this item:

Directory: PD:<ADA.EDUCATION>

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNOTE1.DOC</td>
<td>Programming Notes</td>
</tr>
<tr>
<td>PNOTE2.DOC</td>
<td>Common Ada Programming Errors</td>
</tr>
</tbody>
</table>

Catalog of Reusable Software Components, Page 44
Technical Reports

These files contain technical reports from live Ada projects. Productivity information and "lessons learned" information are included.

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADASOFTR.DOC</td>
<td>by Adasoft</td>
</tr>
<tr>
<td>PORT1.DOC</td>
<td>by Honeywell</td>
</tr>
<tr>
<td>TITR.<em>.</em></td>
<td>by TI</td>
</tr>
</tbody>
</table>

The following files are associated with this item:

Directory: PD:<ADA.EDUCATION>

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADASOFTR.DOC</td>
<td></td>
<td>7802</td>
</tr>
<tr>
<td>TITR.DOC</td>
<td></td>
<td>71075</td>
</tr>
<tr>
<td>TITRINTRO.DOC</td>
<td></td>
<td>1309</td>
</tr>
<tr>
<td>PORT1.DOC</td>
<td></td>
<td>34001</td>
</tr>
</tbody>
</table>

4 Files 114187

Texts

These files contain information on Ada books.

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIBLIO.DOC</td>
<td>Bibliography</td>
</tr>
<tr>
<td>TEXT*.*</td>
<td>Text Book Information and Reviews</td>
</tr>
</tbody>
</table>

The following files are associated with this item:

Directory: PD:<ADA.EDUCATION>

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIBLIO.DOC</td>
<td></td>
<td>4369</td>
</tr>
<tr>
<td>TEXTBOOKS.BIB</td>
<td></td>
<td>9136</td>
</tr>
<tr>
<td>TEXTBOOKS.DOC</td>
<td></td>
<td>87808</td>
</tr>
<tr>
<td>TEXTS.DOC</td>
<td></td>
<td>26291</td>
</tr>
</tbody>
</table>

4 Files 127604

External Tools

PD:<ADA.EXTERNAL-TOOLS>
This subdirectory contains several miscellaneous tools which are helpful in developing Ada code but are not written in Ada or pertain to specific environments. For example, an Ada language development interface for the EMACS editor can be found here.

Directory: PD:<ADA.EXTERNAL-TOOLS>
ADAFORM.MSG 13195
ADAFORM.PRO 16694
ADAMODE.DOC 802
ADAMODE.OLD 19176
ADAMODE.PRO 3017
ADAMODE.SRC 30163
GRAMMAR.PRO 7366
GRAMMAR.SRC 45547
READ.ME 177

Ada_Emacs_Mode

Abstract:

This set of files constitutes a special 'ada-mode' for use with the Emacs editor. See the file 'ada-mode-help.doc' for more information.

The following files are associated with this item:

Directory: PD:<ADA.EXTERNAL-TOOLS>
ADAMODE.DOC 802
ADAMODE.OLD 19176
ADAMODE.PRO 3017
ADAMODE.SRC 30163

Ada_Form

Abstract:

NOTE: This is a UNIX lex input file. You need a lex processor (and C compiler) for this tool!! This tool is NOT in Ada.

Adaform takes a legal Ada program as input and adds Scribe commands. The output is then run through Scribe. The form of the output follows the typesetting conventions in the Ada LRM, with reserved words in lower-case/boldface. Additionally, comments are in italics. Adaform uses the Scribe indexing capability to produce an index of types, packages, procedures, etc, indexed by both name and 'class'. For instance, package
Text_IO would be entered as "Text_IO, package" and "Package, Text_IO". Adaform is based on the lex input from H. Fisher's Ada grammar.

The following files are associated with this item:

Directory: PD:<ADA.EXTERNAL-TOOLS>
  ADAFORM.MSG  13195
  ADAFORM.PRO   3532
  ADAFORM.SRC   16694
  ==============  ===========
  3 Files        33421

Ada Grammar

Machine/System Compiled/Run on: UNIX

Abstract:

This grammar is organized in the same order as the syntax summary in appendix E of the ANSI Ada Reference Manual. All reserved words are written in upper case letters. The lexical categories numeric_literal, string_literal, etc., are viewed as terminals. The rules for pragmas as stated in chapter 2, section 8, have been incorporated in the grammar. Comments are included wherever we had to deviate from the syntax given in appendix E. Different symbols used here (to comply with yacc requirements) are of note:

{,something} is denoted ...something..
{something} is denoted ..something..
[something] is denoted .something.

Constructs involving meta brackets, e.g., ...identifier.. are represented by a nonterminal formed by concatenating the construct symbols ( as ...identifier.. in the example) for which the rules are given at the end. When reading this grammar, it is important to note that all symbols appearing in the rules are separated by one or more blanks. A string such as 'identifier_type_mark is actually a single nonterminal symbol defined at the end of the rules. The " symbol is used to indicate that the rest of the line is a comment, just as in yacc programs.

This grammar is presented here in a form suitable for input to a yacc parser generator. It has been processed by the Bell System III lex/yacc combination, and tested against over 400 ACVC tests.

The following files are associated with this item:

Directory: PD:<ADA.EXTERNAL-TOOLS>
  GRAMMAR.PRO    7366
  GRAMMAR.SRC    45547
  ==============  ===========
  2 Files        52913

Forms_Generator

PD:<ADA.FORMGEN>

Catalog of Reusable Software Components, Page 47
This subdirectory contains tools for the generation of forms for use by Ada programs. The forms generator will display and accept input into a form (in a screen-oriented fashion via the virtual terminal) in such a way that this mechanism is transparent to the Ada program using it. Instead, the program simply reads fields from the form via procedure interfaces.

Directory: PD:<ADA.FORMGEN>
- FORM2.CMM 1377
- FORM2.DOC 68423
- FORM2.PRO 4062
- FORM2.SRC 273663
- FORM2.TST 44739
- FORM2MAN.DOC 78596

6 Files 470860

Forms Generator 2

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

This tool is used to separate an application's procedural code from the code required to drive a terminal. The system will provide both an interactive and batch interface that enables an application programmer to design a screen format and save the representation in a machine readable form. The Form Executor package will provide procedural and functional interfaces that enable a program to access the output of the system and present it to a terminal. This toolset will support asynchronous ASCII terminals with single character transmission capabilities.

The following files are associated with this item:

Directory: PD:<ADA.FORMGEN>
- FORM2.CMM 1377
- FORM2.DOC 68423
- FORM2.PRO 4062
- FORM2.SRC 273663
- FORM2.TST 44739
- FORM2MAN.DOC 78596

6 Files 470860

General

PD:<ADA.GENERAL>

This is the General Information subdirectory. Notes, comments, usage information, and other data are stored here.

Directory: PD:<ADA.GENERAL>
- AAREAD.ME 1238

Catalog of Reusable Software Components, Page 48
### Copyright Information

These files help to explain the legal meanings of the terms "copyright" and "public domain." All software in the ASR is in the public domain and is not subject to copyright protection as such.

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAREPOS.DOC</td>
<td>1837</td>
</tr>
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<tr>
<td>ASRSUPP.DOC</td>
<td>1211</td>
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<tr>
<td>CHECKOUT.DOC</td>
<td>1846</td>
</tr>
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<td>COPY1RT.DOC</td>
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<tr>
<td>COPY2RT.DOC</td>
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<td>COPY3RT.DOC</td>
<td>11313</td>
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<tr>
<td>COPYRITE.DOC</td>
<td>22887</td>
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<tr>
<td>COPYRTGNU.DOC</td>
<td>6547</td>
</tr>
<tr>
<td>CRC.DOC</td>
<td>4998</td>
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<td>DIRST.LIST.DOC</td>
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<td>3025</td>
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<tr>
<td>FLOP.DIST.DOC</td>
<td>2887</td>
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<tr>
<td>FTP.DOC</td>
<td>27559</td>
</tr>
<tr>
<td>FTP1.DOC</td>
<td>17334</td>
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<td>FTP2.DOC</td>
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<td>FTPADAINF.DOC</td>
<td>2248</td>
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<td>FTPDIST.DOC</td>
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<td>FTPECLB.DOC</td>
<td>5763</td>
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<td>INDEX.DOC</td>
<td>2665</td>
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<td>KERCOMM.DOC</td>
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<td>KERFLYER.DOC</td>
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<td>MINDEX.TOC</td>
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<td>MLIST.DOC</td>
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<td>NAMING.DOC</td>
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<td>SAMPLE.PRO</td>
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<td>SUBMIT.DOC</td>
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<td>TAPEDIST.DOC</td>
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<td>WELCOME.PRO</td>
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</tbody>
</table>

43 Files 361746
General Copyright Information

A Lawyer's Message on the Subject

The Copyright Associated with Richard Stallman's GNU

The following files are associated with this item:

Directory: PD:<ADA.GENERAL>
COPY1RT.DOC 4434
COPY2RT.DOC 5777
COPY3RT.DOC 11313
COPYRITE.DOC 22887
COPYRTGNU.DOC 6547
5 Files 50958

FTP

These files contain information on the use of the FTP (File Transfer Protocol) facility of the DDN (Defense Data Network). FTP is used to copy files from one DDN host computer to another, and understanding of FTP is essential in order to access the files in the Ada Software Repository (ASR) through the DDN.

File Name Purpose
------------ ------------
FTP.DOC Introductory Information
FTP1.DOC More Information and Examples
FTP2.DOC More Information and Examples
FTPADAINFO.DOC Accessing Ada-Info on ADA20 via FTP
FTPDECLB.DOC Examples of Using FTP from USC-ECLB (similar to ADA20)

The following files are associated with this item:

Directory: PD:<ADA.GENERAL>
FTP.DOC 27559
FTP1.DOC 17334
FTP2.DOC 20267
FTPADAINFO.DOC 2248
FTPDECLB.DOC 1069
FTPDECLB.DOC 5763
6 Files 74240

Master Index Contents

This file contains a listing of the table of contents for the Master Index to the Ada Software Repository.

The following files are associated with this item:

Directory: PD:<ADA.GENERAL>
KERMIT

These file contain information on the KERMIT file transfer protocol. KERMIT is a very robust protocol which has been recommended by the Network Information Center (NIC) of the Defense Data Network (DDN) for file transfers from DDN host computers to personal computers through the DDN. Designed by Columbia University, KERMIT is useful in moving files from your DDN host computer into your local computing environment for use at your facility (if, of course, your DDN host computer is not your local computing environment).

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>KERREAD.ME</td>
<td>The Latest AAAREAD.ME File from CU20B</td>
</tr>
<tr>
<td>KERMIT.DOC</td>
<td>General Information</td>
</tr>
<tr>
<td>KERFLYER.DOC</td>
<td>More General Information</td>
</tr>
<tr>
<td>KERMICRO.DOC</td>
<td>Using KERMIT with Microcomputers</td>
</tr>
<tr>
<td>KERCOMM.DOC</td>
<td>Commercial Use of Kermit</td>
</tr>
<tr>
<td>KEROPS.DOC</td>
<td>Listing of Kermit Implementations by Operating System</td>
</tr>
</tbody>
</table>

The following files are associated with this item:

Directory: PD:<ADA.GENERAL>

<table>
<thead>
<tr>
<th>File Name</th>
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<tr>
<td>KERCOMM.DOC</td>
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<td>KEROPS.DOC</td>
<td>16822</td>
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<td>KERREAD.ME</td>
<td>1904</td>
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</table>

6 Files 84840

Operational Information

These files contain operational information on the Ada Software Repository (ASR). This information is a useful supplement to the information contained in the files mentioned in the Welcome Message section.

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>ARCHIVE.DOC</td>
<td>General Overview of All Archives on SIMTEL20</td>
</tr>
<tr>
<td>CHECKOUT.DOC</td>
<td>Checkout Procedures (not implemented at this time)</td>
</tr>
<tr>
<td>CRC.DOC</td>
<td>Information on How to Compute CRC's and the Associated Programs</td>
</tr>
<tr>
<td>LBR.DOC</td>
<td>Information on LBR Files (useful when dealing with non-ASR archives)</td>
</tr>
<tr>
<td>PROLOGUE.ADA</td>
<td>Source to the ASR Prologue (required with all submissions)</td>
</tr>
<tr>
<td>PROLOGUE.DOC</td>
<td>Documentation on the ASR Prologue</td>
</tr>
</tbody>
</table>
READTAPE.FOR  FORTRAN Program Useful for Reading ASR Tapes Under AX/VMS
SAMPLE.PRO  Sample ASR Prologue
SUBMIT.DOC  Instructions on How to Make Submissions to the ASR
USENET.DOC  Brief on the USENET Computer Network
UUCPBIT.DOC  Brief on UUCP and the BITNET Computer Network

The following files are associated with this item:

Directory: PD:<ADA.GENERAL>

<table>
<thead>
<tr>
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<tbody>
<tr>
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<td>READTAPE.FOR</td>
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<td>SAMPLE.PRO</td>
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<td>UUCPBIT.DOC</td>
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<td>------------------</td>
<td>----------------------------------------------</td>
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<tr>
<td>11 Files</td>
<td>59185</td>
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</tbody>
</table>

Welcome Message

The following files contain information which is of general interest to the users of the Ada Software Repository (ASR). Most of these files are components of the Welcome Message which is sent to all new subscribers of the ADA-SW electronic mailing list.

File Name             Purpose
----------------------------------------
AAREAD.ME             Overview of the ASR
ADAREPOS.DOC          More Overview of the ASR
DIRLIST.DOC           Listings and Brief Descriptions of All Subdirectories
FINDME.DOC            Instructions on How to Locate Items in the ASR
FTP.DOC               General Instructions on How to Use FTP (File Transfer Protocol)
MLIST.DOC             Brief on the ADA-SW Electronic Mailing List
OPERATE.DOC           Statement of Operation
TAPEDIST.DOC          Details on the Tape Distribution Facility and How to Acquire a Tape of the ASR
WELCOME.PRO           Introduction to the Welcome Message
WELCOME.DOC           Welcome Message

The following files are associated with this item:

Directory: PD:<ADA.GENERAL>

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
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<tr>
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<td>FINDME.DOC</td>
<td>3025</td>
</tr>
<tr>
<td>FTP.DOC</td>
<td>27559</td>
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</tbody>
</table>
Graphical Kernel System

PD:<ADA.GKS>

This subdirectory contains routines associated with a Graphical Kernel System.

Directory: PD:<ADA.GKS>
- GKS.PRO 4471
- GKSOA.CMM 2051
- GKSOA.COM 7201
- GKSOA.SRC 1156972
- GKSMA.CMM 2218
- GKSMA.COM 5073
- GKSMA.SRC 834603
- GKSUSER.DOC 252763

8 Files 2265352

Graphic Kernel System

Machine/System Compiled/Run on: ROLM Ada, DG

Abstract:

The Graphic Kernel System (GKS) is a device independent software package which implements the draft GKS binding to ANSI Ada for GKS levels Ma, Oa, 1a, 2a, Mb, Ob, 1b, Mc, and 1c. GKS/Ada will support selective visibility, independent VDI and VDM interfaces, the configuration of multiple graphic device drivers, and independent packaging of the various GKS levels.

The complete GKS will include a prototype metafile generator/driver, and a metafile interpreter. Device-dependent software must be included to drive the Lexidata color raster device and the Summagraphics graphics tablet. Ada software to support contour processing requirements, including grid generation, mathematical interpolation and contour map generation needs to be developed. Also, the GKS and provides for the delivery of WIS-compatible equipment capable of high quality 35mm color slides directly from graphics displays.

The following files are associated with this item:

Directory: PD:<ADA.GKS>
- GKS.PRO 4471
- GKSOA.CMM 2051
- GKSOA.COM 7201
Management_Tools

PD:<ADA.MANAGEMENT-TOOLS>

This subdirectory contains tools for use in managing an Ada software development project. Status tracking and Manpower estimation tools are included.

Directory: PD:<ADA.MANAGEMENT-TOOLS>

<table>
<thead>
<tr>
<th>File</th>
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<td>MANAGE.PRO</td>
<td>3795</td>
</tr>
<tr>
<td>MANAGETR.DOC</td>
<td>25044</td>
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<td>MANPOWER.DIS</td>
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</table>

8 Files 2265352

35 Files 1990826

Catalog of Reusable Software Components, Page 54
Cost Estimation

Machine/Compiler: Data General, ROLM ADE

Abstract:

The cost estimation tool uses the COCOMO model. It produces manpower and schedule estimates. The project scheduler is based on SIMPERT which is a Monte Carlo simulation and review technique. It is useful in assessing the effects of requirement changes and schedule delays, and in risk analysis. It produces critical path and schedule, the probability of completing on schedule, and Gantt chart graphics. The Input File generator allows the user to build input files for COCOMO or SIMPERT, and then to modify such files.

The following files are associated with this item:

Directory: PD:<ADA.MANAGEMENT-TOOLS>
PPLANNER.ABS 1594
PPLANNER.CMM 774
PPLANNER.DOC 144593
PPLANNER.PRO 3590
PPLANNER.SRC 394030
PPLANNER.TST 47041
PPLANSRC.DIS 178
PPLANTST.DIS 410

8 Files 592210

General Management

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

The TRACKR program tracks the progress within projects and generates reports, estimates time to complete a project, and estimates project requirements. INPREP builds the data file for TRACKR interactively and outputs error messages for invalid data. The MANPOWER program based on the Simple Boehm Model produces manpower loading curves for several calculated schedules based on the number of lines of code and type of system.

The following files are associated with this item:

Directory: PD:<ADA.MANAGEMENT-TOOLS>
MANAGE.CMM 1094
MANAGE.PRO 3795
MANAGETR.DOC 25044

3 Files 29933
Manpower

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

The TRACKR program tracks the progress within projects and generates reports, estimates time to complete a project, and estimates project requirements. INPREP builds the data file for TRACKR interactively and outputs error messages for invalid data. The MANPOWER program based on the Simple Boehm Model produces manpower loading curves for several calculated schedules based on the number of lines of code and type of system.

The following files are associated with this item:

Directory: PD:<ADA.MANAGEMENT-TOOLS>

MANPOWER.DIS 167
MANPOWER.DOC 18973
MANPOWER.PRO 3795
MANPOWER.SRC 19412

4 Files 42347

Requirements Tracker

Machine/System Compiled/Run on: Dec Ada / VMS

Abstract:

This tool is used to trace routines and declarations in the source code back to specific paragraphs in a requirements document. For each requirement referenced in a source file, the output listing shows what program units reference that requirement. An intermediate file containing the pairs (location in code, reference cited) can be saved for use in subsequent invocations. When used in this way, the output report can show requirements traced to more than one source file.

The following files are associated with this item:

Directory: PD:<ADA.MANAGEMENT-TOOLS>

RT.ABS 2503
RT.CMM 627
RT.EXP 2640
RT.LIS 37874
RT.PRO 3915
RT.SRC 393200
RTGRML.LIS 37874
RTREAD.ME 3348
RTSRC.DIS 1673
RTTTEST.DAT 59084
RTTTEST.DIS 1576
RTUSER.MAN 16393

12 Files 560707
Directory: PD:<ADA.COMPONENTS>
NEWABS.DIS  2768
NEWABS.PRO  3319
NEWABS.SRC  659811
========   =====
3 Files  665898

Project Tracking

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

The TRACKR program tracks the progress within projects and generates reports, estimates time to complete a project, and estimates project requirements. INPREP builds the data file for TRACKR interactively and outputs error messages for invalid data. The MANPOWER program based on the Simple Boehm Model produces manpower loading curves for several calculated schedules based on the number of lines of code and type of system.

The following files are associated with this item:

Directory: PD:<ADA.MANAGEMENT-TOOLS>
TRACKDOC.DIS  67
TRACKER.CMM  1092
TRACKER.DOC  262297
TRACKER.INS  2924
TRACKER.PRO  3795
TRACKER.SRC  456782
TRACKER.TST  37240
TRACKSRC.DIS  1432
========   =====
8 Files  765629

Math_Library

PD:<ADA.MATH>

This subdirectory contains packages of math routines. All routines are written in Ada. Routines for trig functions, exponential functions, matrix manipulation, bit manipulation, and others are contained here.

Directory: PD:<ADA.MATH>
BIT.ADA  9918
BIT.PRO  3181
CODYWAITE.CMM  572
CODYWAITE.DOC  13104
CODYWAITE.PRO  2504
CODYWAITE.SRC  77400
CODYWAITE.TST  106938
DATE.CMM  179
Bit Functions

Machine/System Compiled/Run on: MV/1000, Rolm/ADE version 2.20

Abstract:
This package represents a collection of routines which allow the Ada programmer the ability to perform bit operations on objects of type INTEGER. The functions include the ability to extract/insert bit fields, shift objects left or right, and/or objects and create bit masks.

The following files are associated with this item:

Directory: PD:<ADA.MATH>
   BIT.ADA  9918
   BIT.PRO  3181
   ============  ===========
   2 Files       13099

Cody-Waite Math Library

Machine/System Compiled/Run on: Rational R1000, VAX (DEC), others

Abstract:

A set of elementary math functions (generic on digits <>) corresponding to the FORTRAN intrinsic functions. The implementation of the body uses the truncated polynomials method of Cody and Waite. This is a set of easily understood code to be machine independent. They are not particularly fast. They could be optimized for particular machines. A fairly extensive set of test procedures are also provided.

The available functions and constants are:

- \( \pi \) : constant := 3.14159_26535_89793_23846_26433_83279_50288_41972;
- \( e \) : constant := 2.71828_18284_59045_23536_02874_71352_66249_77572;
- \( \log_{10} 2 \) : constant := 0.69314_71805_59945_30941_72321_24158_17656_80755;
- \( \log_{10} 10 \) : constant := 2.30258_50929_94045_68401_77914_54684_36420_76011;

- function Sign (X, Y : Floating) return Floating;
   -- Returns the value of X with the sign of Y

- function Max (X, Y : Floating) return Floating;
   -- Returns the algebraically larger of X and Y

- function Min (X, Y : Floating) return Floating;
   -- Returns the algebraically smaller of X and Y

- function Truncate (X : Floating) return Floating;
   -- Returns the floating value of the integer no larger than X
   -- Truncates toward zero

- function Round (X : Floating) return Floating;
   -- Returns the floating value of the integer nearest X

- procedure Set_Ran_Key (K : in Floating := Floating (0.0));
   -- Can reset the random number generator

- function Ran return Floating;
   -- A random number between zero and one

- function Sqrt (X : Floating) return Floating;
- function Cbrt (X : Floating) return Floating;

Catalog of Reusable Software Components, Page 59
function Log (X : Floating) return Floating;
function Log10 (X : Floating) return Floating;
function Exp (X : Floating) return Floating;
function "**" (X, Y : Floating) return Floating;

function Sin (X : Floating) return Floating;
function Cos (X : Floating) return Floating;
function Tan (X : Floating) return Floating;
function Cot (X : Floating) return Floating;

function Asin (X : Floating) return Floating;
function Acos (X : Floating) return Floating;
function Atan (X : Floating) return Floating;
function Atan2 (V, U : Floating) return Floating;

function Sinh (X : Floating) return Floating;
function Cosh (X : Floating) return Floating;
function Tanh (X : Floating) return Floating;

The following files are associated with this item:

Directory: PD:<ADA.MATH>
  CODYWAITE.CMM 572
  CODYWAITE.DOC 13104
  CODYWAITE.PRO 2504
  CODYWAITE.SRC 77400
  CODYWAITE.TST 106938

5 Files 200518

Date

Machine/System Compiled/Run on: DEC VAX 11/750, DEC Ada v1.3

Abstract:

This generic package provides arithmetic and logical operations for dates. It strongly parallels the required CALENDAR package, but differs primarily in the range of dates handled. Like CALENDAR, routines such as SPLIT, MONTH, DAY, and YEAR are available.

The differences between this package and CALENDAR are reflected in the range of dates, the inclusion of a DAY_NAME function, and the ability to specify a date with a year and an annual Julian day number *. A day is the smallest unit of time in this package.

An important feature is the ability to subtract dates over the full range of years. Thus, you can for example, calculate the number of days between 10/15/1986 and 1/1/1988. Another important feature is the ability to add (or subtract) x number of days from a date and obtain a date x days in the future (or past).

The following files are associated with this item:

Directory: PD:<ADA.MATH>
Set Manipulation

Machine/System Compiled/Run on: DG MV 10000 with ROLM ADE
DEC VAX 11/780 with DEC Ada

Abstract:

Set_Package contains a series of generic routines which can be instantiated to create routines which provide a series of set manipulation functions for sets of enumeration or numeric objects. The functions in Set_Package include:

- set intersection
- set union
- set membership
- set element count

and others

The following files are associated with this item:

Directory: PD:<ADA.MATH>
GSET.ADA 7144
GSET.PRO 3321

3 Files 10465

Kalman Filter Tracking

Machine/System Compiled/Run on: DEC Ada / VMS

Abstract:

This tool will consist of a Kalman Filter, a simple track-plot correlation model, an accounting procedure which handles track maintenance details, and an output procedure. The filter will be callable from outside the package as well as internally.

The following files are associated with this item:

Directory: PD:<ADA.MATH>
KALINSTALL.DOC 33085
KALMAN.CMM 568
KALMAN.DIS 117
KALMAN.PRO 3628
KALMAN.SRC 441244
KALTEST.DAT 21447
KALTEST.DIS 44
KALV1.DIS 113
Logical Operations

Machine/System Compiled/Run on: CCUR_3200MPS, C3-Ada R00-00

Abstract:

This package provides logical operations such as AND, OR, XOR, NOT, SHIFT, ROTATE, on operands of type INTEGER. It is portable to any two's complement machine.

The following files are associated with this item:

Directory: PD:<ADA.MATH>
  LOGICAL.ADA 8581
  LOGICAL.CMM 289
  LOGICAL.PRO 2992
  =========== ========
  3 Files 11862

Machine Arithmetic

Machine/System Compiled/Run on: VAX/VMS TeleSoft

Abstract:

The purpose of this package is to emulate 36 bit machine host arithmetic on a 32 bit host machine. This package will provide support for 36 bit integer, real, and double precision real numbers in the form of the standard predefined arithmetic operations. The ranges of the supported types are as follows:

Integer
  range of -2**35 to 2**35-1

Real
  range of 10**-38 to 10**38 and 0
  mantissa => 27 bit binary fraction
  exponent => -128 to 127

Double Precision Real
  range of 10**-38 to 10**38 and 0
  mantissa => 63 bit binary fraction
  exponent => -128 to 127

Any errors which occur during use of the arithmetic exception declaration in the package specification can be changed to a rename of the predefined exception "NUMERIC_ERROR" for programs needing to handle arithmetic errors in a general fashion. Conversion functions are provided to assist in programming mixed operand (32 and 36 bit) arithmetic, and to facilitate IO. These functions should be renamed if they
will be used extensively so that the impact of the readability of a program's arithmetic expressions is minimized. The underlying arithmetic will be performed in two's complement arithmetic.

The following files are associated with this item:

Directory: PD:<ADA.MATH>
M36.ABS  2748
M36.CMM  565
M36.DEL  3988
M36.DOC  228759
M36.PRO  4998
M36.SRC  244196
M36DOC.DIS  101
M36PRGRPT.DIS  168
M36REN.SUB  363
M36SRC.DIS  152
M36TEST.DIS  184
M36TEST.SRC  81784

12 Files  568006

Math_Functions

Machine/System Compiled/Run on: VAX 11/780, VMS 4.4, DEC Ada

Abstract:

MATHFUN - Selected math functions for integer and floating point math. Functions for one- and two-dimensional arrays are included.

MATHFUN.SRC -- This file contains math functions and array functions programs with test programs. The programs include:

1) MATHGENI -- generic package of integer math functions
2) MATHGENF -- generic package of floating point math functions
3) MATHFUNG -- generic package of three component types
4) ARRAYFG1 -- generic package of one dimensional array functions (vectors)
5) ARRAYFG2 -- generic package of two dimensional array functions (matrices)
6) ARRAYFG -- generic package of three array component types

The following files are associated with this item:

Directory: PD:<ADA.MATH>
MATHFUN.CMM  171
MATHFUN.DAT  11013
MATHFUN.PRO  2887
MATHFUN.SRC  28563

4 Files  42634

Matrix Manipulation
MATRIX_PACKAGE is a general purpose matrix package. It defines data types VECTOR and MATRIX, and contains functions to perform general matrix algebra operations. It provides for addition, subtraction, and multiplication of VECTORS, MATRICES, and SCALARS. It also provides for matrix inversion and vector dot product.

The following files are associated with this item:

Directory: PD:<ADA.MATH>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATRIX.ADA</td>
<td>17612</td>
</tr>
<tr>
<td>MATRIX.PRO</td>
<td>2698</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Files</td>
<td>20310</td>
</tr>
</tbody>
</table>

Math Library 1

Machine/System Compiled/Run on: Telesoft Ada (DEC VAX)
DEC Ada (DEC VAX)

Abstract:

MATHLIB-TELESOFT and MATHLIB-DEC are two versions of the same mathlib. This library contains five Ada packages which provide the following math functions:

- SQRT (Square Root)
- CBRT (Cube Root)
- LOG (Base E)
- LOG10 (Base 10)
- EXP
- SIN
- COS
- TAN
- ASIN
- ACOS
- ATAN
- ATAN2
- SINH
- COSH
- TANH

Other functions are provided as well.

The following files are associated with this item:

Directory: PD:<ADA.MATH>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLIB.CMM</td>
<td>572</td>
</tr>
<tr>
<td>MLIB.PRO</td>
<td>3167</td>
</tr>
<tr>
<td>MLIBDEC.ADA</td>
<td>53520</td>
</tr>
<tr>
<td>MLIBTS.ADA</td>
<td>50567</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Files</td>
<td>107826</td>
</tr>
</tbody>
</table>

Math Library 2

Machine/System Compiled/Run on: Telesoft and DEC Ada, VAX/VMS

Abstract:
This package is a floating mantissa definition of a binary FLOAT. It was first used on the DEC-10 and the VAX but should work for any since the parameters are obtained by initial sizing on the actual hardware. Otherwise the parameters could be set in the spec if known. This is a preliminary package that defines the properties of the particular floating point type for which we generate the math routines.

The constants are those required by the routines described in "Software Manual for the Elementary Functions" W. Cody and W. Waite, Prentice-Hall 1980. Actually most are needed only for the test programs rather than the functions themselves. Most of these could be in the form of attributes if all the floating types to be considered were those built into the compiler, but we also want to be able to support user defined types such as software floating types of greater precision than the hardware affords, or types defined on one machine to simulate another.

The following files are associated with this item:

Directory: PD:<ADA.MATH>
MLIB2.CMM 1212
MLIB2.PRO 4574
MLIB2.SRC 47299

Menu

PD:<ADA.MENU>

This subdirectory contains software used in the generation of menus. Applications programs may use these menu generators as front-ends.

Directory: PD:<ADA.MENU>
MMAN.CMM 1546
MMAN.DAT 9802
MMAN.DOC 107541
MMAN.PRO 3562
MMAN.SRC 175108
MMAN.TST 3469
MMANDAT.DAT 37
MMANDOC.ABS 2784
MMANDOC.DAT 35
MMANR.SRC.CO 506
MMANST.DAT 69
MMGR.CMM 5079
MMGR.CO 928
MMGR.DOC 149510
MMGR.PRO 3910
MMGR.SRC 262235
MMGR.TST 12750
MMGRABS.CO 622
MMGRDEMO.CO 304
MMGRDEMO.DOC 3020
MMGRNOTES.ABS 236
Menu Manager

Machine/System Compiled/Run on: ROLM Ada, DG

Abstract:

This Package allows users to create and modify any display menus without requiring any modification of the Menu Manager programs. It processes menu definitions written in a menu definition language and residing in external files.

The following files are associated with this item:

Directory: PD:<ADA.MENU>

- MMAN.CMM 1546
- MMAN.DAT 9802
- MMAN.DOC 107541
- MMAN.PRO 3562
- MMAN.SRC 175108
- MMAN.TST 3469
- MMANDAT.DIS 37
- MMANDOC.ABS 2784
- MMANDOC.DIS 35
- MMANSRC.CO 506
- MMANTST.DIS 69

11 Files 304459

Menu Manager 2

Machine/System Compiled/Run on: Telesoft 1.3 (unvalidated), IBM DOS

Abstract:

VIDEO is a menu manager package that is divided into four functional areas. It will provide application programmers with the ability to run various application systems from a menu driven user interface. Applications to be invoked via menu selections may be written in any language providing the PRAGMA INTERFACE is supported. The four functional areas are initialization of the overall application system, modeling of the application system, running the application, and diagramming the system.

The following files are associated with this item:

Directory: PD:<ADA.MENU>

- MMGR.CMM 5079
- MMGR.CO 928
- MMGR.DOC 149510
- MMGR.PRO 3910
- MMGR.SRC 262235

Catalog of Reusable Software Components, Page 66
Message Handling

PD:<ADA.MESSAGE-HANDLING>

This subdirectory contains tools for use in message handling facilities and message transfer.

Directory: PD:<ADA.MESSAGE-HANDLING>
GMHF.CMM 1359
GMHF.DIS 60763
GMHF.PRO 3660
GMHF.SRC 519388
GMHFFD.DOC 34956
GMHFSRC.DIS 1333
GMHFTR.DOC 26322
GMHFUSER.DOC 88070
UNITREP.CMM 886
UNITREP.DOC 1799
UNITREP.PRO 3768
UNITREP.SRC 458113

12 Files 1200417

Message Handler

Machine/System Compiled/Run on: Telesoft 2.1, VAX/VMS

Abstract:

This tool may be used to edit any formatted message type that can be defined within the specified boundaries of the "generic message". The tool is delivered with instances defined for several Rainform message types and one Non_Rainform message type. Additional types may be instantiated with a recompilation.

The following files are associated with this item:

Directory: PD:<ADA.MESSAGE-HANDLING>
GMHF.CMM 1359
GMHF.DIS 60763
GMHF.PRO 3660
GMHF.SRC 519388
GMHFFD.DOC 34956
GMHFSRC.DIS 1333
UNITREP Software Model

Machine/System Compiled/Run on: Telesoft 1.5 (unvalidated), VAX/VMS

Abstract:

UNITREP consists of four subsystems: Message Input and Validation (MIV), Database Management (DBM), Man/Machine Interface (MMI), and Systems Utilities (SYS). DBM interfaces to an Intelligent Database Machine (IDM) back end relational database processor. The UNITREP database stores validated UNITREP messages from all organizations and units in the United States armed forces and some foreign forces under U.S. control.

The following files are associated with this item:

Directory: PD:<ADA.MESSAGE-HANDLING>
UNITREP.CMM 886
UNITREP.DOC 1799
UNITREP.PRO 3768
UNITREP.SRC 458113

4 Files 464566

Metrics

PD:<ADA.METRICS>

This subdirectory contains tools used to perform metrics analysis of Ada software. Tools for path analysis, performance analysis, and other metrics reports are included.

Directory: PD:<ADA.METRICS>
APATH.CMM 1355
APATH.DOC 1885
APATH.PRO 4208
APATHRD.ME 268
COMPMEAS.ABS 2349
COMPMEAS.CMM 4098
COMPMEAS.COM 1483
COMPMEAS.PRO 2519
COMPMEAS.SUB 703
HALSTEAD.CMM 3490
HALSTEAD.CO 969
HALSTEAD.DOC 34907
HALSTEAD.ME 3950
HALSTEAD.PL 2200
HALSTEAD.PRO 2519
HALSTEAD.SRC 1031145

Catalog of Reusable Software Components, Page 68
Automatic Path Analyzer

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

This tool consists of four modules. The Source Instrumenter inserts breakpoints (software probes) into Ada source programs to transfer control to execution monitor. The Execution Monitor traces paths executed and records information on execution frequency of each Ada program unit, code block and statement. The Control Program controls execution of the Ada program, allows users to execute Ada programs repetitively, and permits user input. The Report Generator provides comprehensive analysis of data collected from probes and outputs this information for each set of test parameters on frequency of path execution for each Ada program and each program unit.

The following files are associated with this item:

Directory: PD:<ADA.METRICS>
Complexity Measures

Machine/System Compiled/Run on: VAX/VMS/DEC Ada

Abstract:

The Complexity Measures Report will analyze program units for complexity as measured by Halstead and McCabe. The program unit and its complexity will be output to the default output file. If the measured complexity exceeds a desired maximum complexity, the program unit is flagged on the output listing.

The following files are associated with this item:

Directory: PD:<ADA,METRICS>

COMPMEAS.ABS 2349
COMPMEAS.CMM 4098
COMPMEAS.COM 1483
COMPMEAS.PRO 2519
COMPMEAS.SUB 703
HALSTEAD.CMM 3490
HALSTEAD.CO 969
HALSTEAD.DOC 34907
HALSTEAD.ME 3950
HALSTEAD.PL 2200
HALSTEAD.PRO 2519
HALSTEAD.SRC 1031145
HALSTEAD.TST 30606
MCCABE.CNT 2187
MCCABE.DOC 15250
MCCABE.DSS 1864
MCCABE.DST 4720
MCCABE.GRM 38028
MCCABE.ME 4974
MCCABE.PRO 2519
MCCABE.RNO 8390
MCCABE.SRC 432177
MCCABE.TST 56485
Path Analyzer

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

This tool will produce a report on the frequency of execution of paths in an Ada program. The number of executions of each path will be reported.

The following files are associated with this item:

```
Directory: PD:<ADA.COMPONENTS>
<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT.CMM</td>
<td>2263</td>
</tr>
<tr>
<td>ABSTRACT.CO</td>
<td>2657</td>
</tr>
<tr>
<td>ABSTRACT.PRO</td>
<td>3334</td>
</tr>
<tr>
<td>ABSTRACT.SRC</td>
<td>572620</td>
</tr>
</tbody>
</table>

4 Files 580874
```

Ada Performance Analyzer

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

This tool measures system timing to identify those subprograms which require a high percentage of total execution time. Two modules comprise the tool. The execution monitor records information on timing and frequency of execution of each Ada program unit. The report generator provides execution time statistics for each program unit including maximum, minimum and average execution times, and percentage of total execution time.

The following files are associated with this item:

```
Directory: PD:<ADA.METRICS>
<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PANAL.CMM</td>
<td>1333</td>
</tr>
<tr>
<td>PANAL.PRO</td>
<td>1676</td>
</tr>
<tr>
<td>PANALREAD.ME</td>
<td>268</td>
</tr>
<tr>
<td>SINST.ABS</td>
<td>2027</td>
</tr>
<tr>
<td>SINST.CMM</td>
<td>1345</td>
</tr>
<tr>
<td>SINST.INS</td>
<td>1806</td>
</tr>
<tr>
<td>SINST.ME</td>
<td>268</td>
</tr>
<tr>
<td>SINST.PRO</td>
<td>3596</td>
</tr>
<tr>
<td>SINSTRTM.SRC</td>
<td>195456</td>
</tr>
<tr>
<td>SINSTDOC.DIS</td>
<td>214</td>
</tr>
<tr>
<td>SINSTTOOL.DOC</td>
<td>251056</td>
</tr>
<tr>
<td>SINSTTOOL.SRC</td>
<td>1194799</td>
</tr>
</tbody>
</table>

13 Files 1657290
```
Source Instrumenter

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

This tool inserts breakpoints in Ada source code. These "software hooks" will be used to trace the execution of an Ada program. Normally, hooks will be placed at entry/exit and decision points. A user option allows for breakpoints at every statement.

The following files are associated with this item:

Directory: PD:<ADA.METRICS>
SINST.ABS 2027
SINST.CMM 1345
SINST.INS 1806
SINST.ME 268
SINST.PRO 3596
SINSTRTM.SRC 195456
SINSTTDOC.DIS 214
SINSTTOOL.DOC 251056
SINSTTOOL.SRC 1194799

9 Files 1650567

Self Metric Analysis

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

This tool instruments Ada source code for measurement and analysis of program timing, loop execution counts, state of control variables at decision points, the maximum,
minimum and average value of selected variables. The tool consists of a source instrumentation module, execution monitor and a report generator.

The following files are associated with this item:

Directory: PD:<ADA.METRICS>

SMETRIC.ABS 1908
SMETRIC.CMM 1411
SMETRIC.ME 268
SMETRIC.PRO 3716
SINST.ABS 2027
SINST.CMM 1345
SINST.INS 1806
SINST.ME 268
SINST.PRO 3596
SINSTRTM.SRC 195456
SINSTTDDOC.DIS 214
SINSTTOOL.DOC 251056
SINSTTOOL.SRC 1194799

13 Files 1657870

Miscellaneous Tools

PD:<ADA.TOOLS>

This is the miscellaneous tools subdirectory. Sources to various tools which do not fit into the categories of the other subdirectories are placed here.

Directory: PD:<ADA.TOOLS>

A970.PRO 3441
A970.SRC 95322
A970.TXT 632
CALC.CM2 1417
CALC.CMM 549
CALC.PRO 3616
CALC.SRC 25971
CALCREN.SUB 127
CALCSRC.DIS 62
CAS.ADA 2470
CBREAK.CMM 581
CBREAK.PRO 3542
CBREAK.SRC 28407
CBREAKREN.SUB 90
CONSTRCT.CMM 572
CONSTRCT.DOC 31539
CONSTRCT.PRO 4184
CONSTRCT.SRC 147191
CREATETB.DOC 4387
CREATETB.PRO 4524
CREATETB.SRC 48345
FCHECK.DOC 5048
FCHECK.PRO 3791
Abstract:

The purpose of PROG970 is to program the TVI 970 terminal from a file, setting a variety of its features. These features include the following:

- User Message Line
- Function Keys
- Cursor Type
- Key Click
- 25th Line Display
- Answerback Sequence
- Programmable Keys
- Personal Messages
- Other User-Definable Char Sequences

The following files are associated with this item:

Directory: PD:<ADA.TOOLS>
A970.PRO 3441
A970.SRC 95322
Calculator Functions

Machine/System Compiled/Run on: WICAT/ROS TeleSoft

Abstract:

This tool provides an on-line calculator function. It is set up to handle only integers at the present time. One-letter variables may be defined and used. The parser for expressions was generated by LR on the VAX. Expressions are terminated by a semi-colon. The program normally terminates with a CTRL-B. Error handling is non-existent at this time, so syntactic errors will also cause the program to exit.

The following files are associated with this item:

Directory: PD:<ADA.TOOLS>
CALC.CM2 1417
CALC.CMM 549
CALC.PRO 3616
CALC.SRC 25971
CALCREN.SUB 127
CALCSRC.DIS 62

CAS

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

This function calculates the "STATEMENTS" of a valid Ada fragment specified by a FILE_NAME string parameter. It need not be a complete compilation unit but it should have closed all open parentheses and string brackets. The number of STATEMENTS of code is returned as an INTEGER.

The Ada statement is defined by a semicolon terminator outside of comments, parentheses, or string or character literals. This definition is insensitive to formatting or layout of the source.

There are exotic cases for which this will misestimate the count but we have never encountered one in real code.

This copy of the function is embedded in a test and driver program. Running the program on its own source file should give The driver has an additional feature of correcting for the common error of leaving out the extension on a file name. The nature of this extension is system dependent and a ".TXT" is used.

The following files are associated with this item:
Combine and Break

Machine/System Compiled/Run on: WICAT/ROS TeleSoft

Abstract:

These tools are user to combine separate files into a single file, and to break single files into separate files. The code works on file banners which immediately precede each file. These tools normally are used to "break" a single source code file into the compilable subunits of the file. "Combine" is used to append all of the subunits into one file.

The following files are associated with this item:

Directory: PD:<ADA.TOOLS>
CBREAK.CMM 581
CBREAK.PRO 3542
CBREAK.SRC 28407
CBREAKREN.SUB 90
-------------- -----------
4 Files 32620

CONSTRUCT and CREATE_CO

Machine/System Compiled/Run on: Intellimac 7000M
        UNIX
        Telesoft unvalidated

Abstract:

The function of Construct is to perform the minimal number of system commands to bring a project up to date given that changes to project files have occurred. If a project is already up to date, Construct will indicate this and no commands will be performed. Construct can also be used to supply descriptive information in the form of dependency graphs and name lists of project files.

Create_CO reads a set of Ada source code files and creates a configuration object which describes the dependencies that exist among the files. The configuration object is formatted so that it may be read by Construct. In determining dependencies, Create_CO observes the filenaming conventions of the TeleSoft Ada compiler (i.e., filename extensions of .text, .sym, .code) and the compiler's language restriction that specifications and bodies of Ada packages reside in the same file.

The following files are associated with this item:
CREATE_TB

Machine/System Compiled/Run on: Intellimac 7000M
UNIX
Telesoft unvalidated

Abstract:

CREATE_TB scans text files and creates a table by selecting specified line entries. The text files are assumed to contain standardized entries which are repeated in each file. CREATE_TB extracts a subset of these entries compressing their text into a specified column width for printing in a tabular form. The entries to be extracted and the width of each column may be specified by the user for each table. CREATE_TB will scan a group of files identified by a UNIX file pattern (including *, ?, or selectors [aeiou]) and it also recognizes PAGE headers of the form:

```
FILENAME  or  --FILENAME
```

as file separators.

The following files are associated with this item:

Directory: PD:<ADA.TOOLS>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREATETB.DOC</td>
<td>4387</td>
</tr>
<tr>
<td>CREATETB.PRO</td>
<td>4524</td>
</tr>
<tr>
<td>CREATETB.SRC</td>
<td>48345</td>
</tr>
</tbody>
</table>

3 Files 57256

File Checker

Machine/System Compiled/Run on: DG MV 10000, ROLM ADE
DEC VAX 11/780, DEC Ada

Abstract:

FILE_CHECKER uses CAS3 to count the number of Ada statements (terminated by semicolons), the number of lines of code, and a checksum of the non-space (excludes tabs, CR, LF, FF, HT, and spaces) characters in a group of files.

FILE_CHECKER asks for one file name after another; the user terminates his input by striking RETURN to the file name prompt. FILE_CHECKER then gives a summary
report of this data on all files listed. Include files may be specified along with other file names.

Ada components used by FILE_CHECKER include GENERIC_LIST and CAS3. CHARACTER_SET is used by CAS3. All are in the Ada Repository in the COMPONENTS subdirectory.

The following files are associated with this item:

Directory: PD:<ADA.TOOLS>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>FCHECK.DOC</td>
<td>5048</td>
</tr>
<tr>
<td>FCHECK.PRO</td>
<td>3791</td>
</tr>
<tr>
<td>FCHECK.SRC</td>
<td>20881</td>
</tr>
</tbody>
</table>

3 Files 29720

Propagation Prediction (for Radio)

Machine/System Compiled/Run on: /TeleSoft 1.5

Abstract:

PROP_LINK is an interactive program to evaluate the signal performance and noise of a set of RF propagation links. The program allows the user to input transmission and receiver data for up to 300 nodes, each with up to 15 transmitters and 15 receivers. RF propagation routines will be based on the SIMSTAR RF propagation capabilities.

The following files are associated with this item:

Directory: PD:<ADA.TOOLS>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRP.ABS</td>
<td>2297</td>
</tr>
<tr>
<td>PRP.CMM</td>
<td>568</td>
</tr>
<tr>
<td>PRP.DAT</td>
<td>56208</td>
</tr>
<tr>
<td>PRP.DOC</td>
<td>23028</td>
</tr>
<tr>
<td>PRP.PRO</td>
<td>3578</td>
</tr>
<tr>
<td>PRP.RPT</td>
<td>11352</td>
</tr>
<tr>
<td>PRP.SRC</td>
<td>636152</td>
</tr>
<tr>
<td>PRPDATA.DIS</td>
<td>46</td>
</tr>
<tr>
<td>PRPDEBUG.DOC</td>
<td>1036</td>
</tr>
<tr>
<td>PRPREN.SUB</td>
<td>391</td>
</tr>
<tr>
<td>PRPSRC.DIS</td>
<td>260</td>
</tr>
<tr>
<td>PRPTEST.DAT</td>
<td>11048</td>
</tr>
<tr>
<td>PRPTEST.DIS</td>
<td>91</td>
</tr>
</tbody>
</table>

13 Files 746055

Map Generator

Machine/System Compiled/Run on: TeleSoft 2.1 / VMS

Abstract:
Inputs from operator will define map details, define and label fixed points; optional inputs will define three-dimensional display. Generator allows views of the earth from different projections, incorporates zoom capability, displays specified areas of interest.

The following files are associated with this item:

Directory: PD:<ADA.TOOLS>
WMGS.CMM 578
WMGS.MEN 11582
WMGS.PRO 3587
WMGS.SRC 304280
WMGSBP.INP 191412
WMGS.CMD.FLS 8608
WMGS.CMD.FL.DIS 242
WMGSMATH.TST 5389
WMGSMENU.DIS 135
WMGSREAD.ME 118
WMGSRC.DIS 451

11 Files 526382

Newsletters

PD:<ADA.NEWS>

This subdirectory contains the Ada Software Repository (ASR) Newsletters. They are numbered sequentially, starting at 001. File names are ASRnnn.DOC.

Directory: PD:<ADA.NEWS>
AIC42.DOC 31301
AIC43.DOC 41422
AIC44.DOC 32581
ASR001.DOC 30356
ASR002.DOC 33850
ASR003.DOC 32418
ASR004.DOC 29401
ASR005.DOC 36056
ASR006.DOC 15779
ASR007.DOC 15591
ASR008.DOC 52902
ASR010.DOC 54778
ASR011.DOC 96746
ASR012.DOC 82467
ASR012.SUP 114576
SNAP01.DOC 3754
SNAP02.DOC 10523
SNAP03.DOC 12600

19 Files 740254

AIC Newsletters
The following files are Newsletters put out by the Ada Information Clearinghouse. They are recommended reading.

The following files are associated with this item:

Directory: PD:<ADA.NEWS>
AIC42.DOC 31301
AIC43.DOC 41422
AIC44.DOC 32581

3 Files 105304

ASR Newsletters

The following files are Newsletters on the Ada Software Repository and associated activities. They are packed with useful information and are recommended reading for all users of the Ada Software Repository.

These newsletters may be obtained from the PD:<ADA.NEWS> subdirectory of the ASR or users may subscribe to have them delivered by conventional mail (for a minor fee). One newsletter is issued each month. In order to subscribe for mail delivery of the newsletters, write or telephone Echelon:

Echelon, Inc.
885 N. San Antonio Road
Los Altos, CA 94022
415/948-3820

Echelon can provide details on the current price for a year's subscription.

The following files are associated with this item:

Directory: PD:<ADA.NEWS>
ASR001.DOC 30356
ASR002.DOC 33850
ASR003.DOC 32418
ASR004.DOC 29401
ASR005.DOC 39056
ASR006.DOC 15779
ASR007.DOC 15591
ASR008.DOC 13153
ASR009.DOC 52902
ASR010.DOC 54778
ASR011.DOC 96746
ASR012.DOC 82467
ASR012.SUP 114576

13 Files 608073

Snapshots
These files contain snapshots of the Ada Software Repository (ASR). These snapshots list each directory in the ASR and show their sizes. The snapshots provide an overview of the ASR, provide a means to quickly find out how much is available in the various subject areas, and allow the reader to follow the growth of the ASR.

The following files are associated with this item:

Directory: PD:<ADA.NEWS>
SNAP01.DOC 3754
SNAP02.DOC 10523
SNAP03.DOC 12600

3 Files 26877

Online Documentation
PD:<ADA.ONLINE-DOC>

This directory contains supporting files for the online documentation system of the Ada Repository.

Directory: PD:<ADA.ONLINE-DOC>
HELP.DAT 208744
HELP.EX 10538
HELP.EX2 8145
HELP.EX3 21666
HELP.PRO 4129
HELP.SRC 63360

6 Files 316582

HELP System

Machine/System Compiled/Run on: VAX 11/785 (VMS 4.2), DEC Ada

Abstract:

The HELP System is a collection of programs which provide an interactive online documentation facility. Data for the facility is prepared as a conventional text file which is formatted in an outline form, as follows:

0 Topic-Name
<text of topic>
1 1st-Level-Subtopic
<text of subtopic>

... 9 9th-Level-Subtopic
<text>
1 2nd-1st-Level-Subtopic
<text>

... 1 3rd-1st-Level-Subtopic
The level numbers do not have to be consecutive, and the lower the level number is, the higher its entry appears in the hierarchy (level 4 elements appear before level 6). There may be as many topics at each level as desired. A line containing only a dot (.) character causes a break between screens when the help file is displayed to the user:

this line appears on one screen

this line appears on the next screen (at the top)

The HELP System consists of three programs: HELP, HELP_BUILD, and HELP_ANALYZE.

The HELP program is used to display information contained in a help file. This information is in the form of a direct-access file created by the HELP_BUILD program. Briefly:

help file
HELP_BUILD
direct-access help file
HELP displays info to user

The HELP_ANALYZE program displays the structure hierarchy of a direct access file which is created by HELP_BUILD.

The following files are associated with this item:

Directory: PD:<ADA.ONLINE-DOC>
HELP.EX  10538
HELP.EX2  8145
HELP.EX3  21666
HELP.PRO  4129
HELP.SRC  63360
5 Files  107838

Pager
PD:<ADA.PAGER>

This subdirectory contains tools which create and manipulated paged files. All SRC files are paged files, which are files composed of several smaller files separated by a special flag.

Directory: PD:<ADA.PAGER>
PAGE.ADA  6007
PAGE.PRO  3373
PAGER.DOC  17470
Page

Machine/System Compiled/Run on: DG MV 10000, ROLM ADE

Abstract:

PAGE creates a text file containing several other text files separated by the lines:

```
filename
```

where 'filename' is the name of the file which follows. It accepts as input the name of an output file (file to be generated) and the names of the input files, where striking a RETURN to the input file name prompt terminates the input of the list of names.

UNPAGE is the complement of PAGE, which extracts the component files from the combined file.

The following files are associated with this item:

Directory: PD:<ADA.PAGER>
```
PAGE.ADA 6007
PAGE.PRO 3373
```

2 Files 9380

Pager

Machine/System Compiled/Run on: DG MV10000, ROLM ADE
DEC VAX 11/785, DEC Ada

Abstract:

PAGER is a tool which creates, extracts from, and scans paged files, where a paged file is a file composed of one or more files prefixed by banners. PAGER is based in concept on the UNPAGE tool submitted to the Ada Repository on SIMTEL20 by Mitre Corporation.

Paged files are convenient mechanisms for storing related files. They reduce cluttering in the directories and simplify the file transfer process (to and from the Ada Repository, for example) by requiring the user to transfer only one file in order to obtain all files pertinent to a particular project or tool. Additionally, paged files are text files which can be handled more readily than the 8-bit binary images associated with other file grouping mechanisms. Paged files may be manipulated by a text editor if necessary.
The following files are associated with this item:

Directory: PD:<ADA.PAGER>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAGER.DOC</td>
<td>17470</td>
</tr>
<tr>
<td>PAGER.PRO</td>
<td>3835</td>
</tr>
<tr>
<td>PAGER.SRC</td>
<td>86752</td>
</tr>
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<td>-------------</td>
<td>--------</td>
</tr>
<tr>
<td>3 Files</td>
<td>108057</td>
</tr>
</tbody>
</table>

Unpage

Machine/System Compiled/Run on: Intellimac 7000M
UNIX
Telesoft unvalidated

Abstract:

UNPAGE is a program which complements the UNIX page command. The UNIX page command can be used to combine several source files, interspersing file headers of the form:

```
FILENAME
```

UNPAGE reads such a file breaking the subfiles into separate files as indicated by the filename headers. UNPAGE has been enhanced to also recognize file headers which have the format of an Ada comment:

```
--FILENAME
```

The following files are associated with this item:

Directory: PD:<ADA.PAGER>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNPAGE.ADA</td>
<td>5618</td>
</tr>
<tr>
<td>UNPAGE.PRO</td>
<td>3660</td>
</tr>
<tr>
<td>-------------</td>
<td>--------</td>
</tr>
<tr>
<td>2 Files</td>
<td>9278</td>
</tr>
</tbody>
</table>

PDL

PD:<ADA.PDL>

This subdirectory contains software associated with Ada Program Design Languages and tools to support the Ada program designer. Such tools include tools for data dictionary manipulation and design analysis. There may be some overlap between this directory and software which may fall into the PDL category that is scattered among the other subdirectories.
Data Dictionary

Machine/System Compiled/Run on: DEC Ada / VMS

Abstract:

The data dictionary is a collection of records which contain various data on Ada declarations and programs. Tools are provided to create, edit, and extract information from the data dictionary. The format and content of each kind of entry in the data dictionary is user defineable. Associated with each type of record is a display form for use while interactively creating or updating the data dictionary entry.

The following files are associated with this item:

<table>
<thead>
<tr>
<th>Directory: PD:&lt;ADA.PDL&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>DD.CMM</td>
</tr>
<tr>
<td>DD.PRO</td>
</tr>
<tr>
<td>DD.SRC</td>
</tr>
<tr>
<td>DDABS.DOC</td>
</tr>
<tr>
<td>DDICTSRCDIS</td>
</tr>
<tr>
<td>DDICTTEST.DAT</td>
</tr>
<tr>
<td>DDICTUSER.MAN</td>
</tr>
<tr>
<td>DDICTUSER.RNO</td>
</tr>
<tr>
<td>DDREAD.ME</td>
</tr>
<tr>
<td>DOCMGR.CMM</td>
</tr>
<tr>
<td>DOCMGR.CO</td>
</tr>
<tr>
<td>DOCMGR.DOC</td>
</tr>
<tr>
<td>DOCMGR.PRO</td>
</tr>
<tr>
<td>DOCMGR.SRC</td>
</tr>
<tr>
<td>DOCMGRRD.ME</td>
</tr>
<tr>
<td>GAD.CM2</td>
</tr>
<tr>
<td>GAD.CMM</td>
</tr>
<tr>
<td>GAD.PRO</td>
</tr>
<tr>
<td>GAD.SRC</td>
</tr>
<tr>
<td>GADABS.DOC</td>
</tr>
<tr>
<td>GADCDR.MIN</td>
</tr>
<tr>
<td>GADDDESIGN.DOC</td>
</tr>
<tr>
<td>GADEXAMPL.GPH</td>
</tr>
<tr>
<td>GADHELP.HLP</td>
</tr>
<tr>
<td>GADSRCDIS</td>
</tr>
<tr>
<td>GADTECH.INF</td>
</tr>
<tr>
<td>GADUSERS.MAN</td>
</tr>
</tbody>
</table>

27 Files 3083382
Documentation Manager

Machine/System Compiled/Run on: VAX/VMS/DEC Ada

Abstract:

The document manager maintains a catalog of configuration items stored in the system. Configuration items may be obtained from the catalog for read-only use, or for modification. Only one modifiable copy can be checked out at a time. When a modified configuration item is returned to the library, a new version number is assigned to it, so that all versions of an item can be obtained from the catalog. Items in the catalog have attributes associated with them and items can be selected by attribute as well as by name and version number. For example, an attribute can be the name of the person who created the configuration item. One can then easily find all configuration items created by a certain person.

The following files are associated with this item:

Directory: PD:<ADA.COMPONENTS>
NEWABS.DIS 2768  
NEWABS.PRO 3319  
NEWABS.SRC 659811  
------------------  ------------
3 Files 665898

Graphics to PDL Aid

Machine/System Compiled/Run on: DEC Ada / VMS

Abstract:

The Graphic Ada Designer is a specialized tool for creating graphical Object Oriented Design Diagrams (OODDs) for Ada programs and the Program Design Language (PDL) representations associated with each OODD. The Graphic Ada Designer is principally targeted towards the interactive development of these block-like diagrams in support of the development of Ada software. In particular it is designed to support a variant of the Ada Graphic Notation developed by SYSCON from the Object Oriented Design work of
Grady Booch and a presentation on graphical techniques for analysis given by Dr. R. Buhr of Carleton University (see "Software Engineering with Ada" by Grady Booch, and "System Design with Ada" by R.J.A. Buhr).

The Graphic Ada Designer requires a bit-mapped graphics terminal supporting at least a minimal display list capability. The implementation will use GKS interfaces when possible. Significant emphasis will be placed on the transportability of the applications software, with execution efficiency being a secondary consideration (i.e., when due to its device and system dependent nature).

The following files are associated with this item:

Directory: PD:<ADA.PDL>

GAD.CM2 2030
GAD.CMM 585
GAD.PRO 4760
GAD.SRC 1034745
GADABS.DOC 3036
GADCDR.MIN 8994
GADDDESIGN.DOC 269602
GADEXAML.GPH 102578
GADHELP.HLP 43523
GADSRCDIS 1615
GADTECH.INF 187808
GADUSERS.MAN 185315

PIWG Benchmarks

PIWG is a suite of tests/benchmarks prepared by the Performance Issues Working Group of ACM SIGAda. The purpose of PIWG is to develop the benchmarks and collect and disseminate results. The PIWG tests have been under development for many years and have been run against many Ada compilers. The PIWG test suite contains over 190 files which include Whetstone (to measure processor speed), Dhrystone (to measure statement execution per unit time), and other benchmarks which test various attributes of the Ada language and their implementations under specific compilers. The PIWG tests must be customized for a particular compiler, and instructions are included to do this.

Directory: PD:<ADA.PIWG>

A000001.ADA 84
A000002.ADA 0
A000011.ADA 375
A000012.ADA 842
A000013.ADA 2626
A000014.ADA 725
A000015.ADA 208
A000016.ADA 2275
A000021.ADA 869
A000022.ADA 961
A000031.ADA 981
A000032.ADA 5719
A000033.ADA 5271

Catalog of Reusable Software Components, Page 87
<table>
<thead>
<tr>
<th>File Name</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>L000002.ADA</td>
<td>7858</td>
</tr>
<tr>
<td>L000003.ADA</td>
<td>7893</td>
</tr>
<tr>
<td>P000001.ADA</td>
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</tr>
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</tr>
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<td>P000005.ADA</td>
<td>2446</td>
</tr>
<tr>
<td>P000006.ADA</td>
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</tr>
<tr>
<td>PIWG.DOC</td>
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<tr>
<td>PIWG.PRO</td>
<td>3350</td>
</tr>
<tr>
<td>PIWG83186.CMM</td>
<td>424</td>
</tr>
<tr>
<td>READ.ME</td>
<td>8987</td>
</tr>
<tr>
<td>T000001.ADA</td>
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<tr>
<td>TAPE.LOG</td>
<td>6797</td>
</tr>
<tr>
<td>TAPEDIST.LTR</td>
<td>5198</td>
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<tr>
<td>WCOMPILE.COM</td>
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<td>Size (10^4)</td>
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<td>10607</td>
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Catalog of Reusable Software Components, Page 90
### PIWG Benchmarks

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**Machine/System Compiled/Run on:** Numerous

PIWG is a suite of tests/benchmarks prepared by the Performance Issues Working Group of ACM SIGAda. The purpose of PIWG is to develop the benchmarks and collect and disseminate results.

The PIWG tests have been under development for many years and have been run against many Ada compilers. The PIWG test suite contains over 190 files which include Whetstone (to measure processor speed), Dhrystone (to measure statement execution per unit time), and other benchmarks which test various attributes of the Ada language and their implementations under specific compilers. The PIWG tests must be customized for a particular compiler, and instructions are included to do this.

Some of the items measured by PIWG include:

- task creation-related timing
- dynamic elaboration-related timing
- exception-related timing
- coding style-related timing
- TEXT_IO-related timing
- loop overhead-related timing
- procedure call-related timing
- task-related timing
- compilation, link, and execution times

---

Catalog of Reusable Software Components, Page 91
NOTE: the directory PD:<ADA.PIWG> contains each of the individual files of the PIWG Benchmark Suite, while the directory PD:<ADA.BENCHMARKS> contains the same files grouped as just a few large PAGER files.

The following files are associated with this item:

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Pointers

PD:<ADA.POINTERS>

This is the pointers subdirectory. Information on other sources of software and information (such as the USC-ECLB resources) is presented here. This data pertains to both on- and off-net resources.

Directory: PD:<ADA.POINTERS>

ACVC.DOC 382

Catalog of Reusable Software Components, Page 95
DoDD 3405.XX


The following files are associated with this item:

Directory: PD:<ADA.POINTERS>

D34051.MSG 2660

Catalog of Reusable Software Components, Page 96
IEEE RP for Ada as a PDL

IEEE Recommended Practice for
Ada as a Program Design Language

IEEE Std 990-1987

1.1 Scope. This document provides recommendations reflecting the state of the art and
alternate approaches to good practice for characteristics of Program Design Languages
(PDLs) based on the syntax and semantics of the Ada Programming Language. In this
recommended practice, these are referred to as Ada PDLs.

The following files are associated with this item:

Directory: PD:<ADA.POINTERS>
IEEEPDL.TXT 14332
========  ========
1 Files  14332

ADA20 Information

INDEX TO FILES OBTAINED FROM ADA-INFO ON THE ADA20 HOST

FORMAT KEY:
1st Line - Ada Software Repository File Name
Rest    - ADA-INFO File Name, Date, and Description

All files are in PD:<ADA.POINTERS> except when noted.

ADVINFO.INF
ADA-DDN.HLP  06-25-86  3187 This file contains
information on how to access the
(Point of Contact: Gil Austin)

ADA2INFO.INF
DDN-ACCESS.HLP  06-17-86  1731 This file contains
information on how to access the
XXX-info files on the Ada20.
(Point of Contact: Gil Austin)

ACVCSUITE.INF
ACVC.HLP  06-16-86  1173 This file contains information on how
to obtain copies of the Ada Compiler
Validation Capability (ACVC) Test Suite.
(Ada IC point of contact: Julie Davis)
This file contains a list of Ada related documents, including the agency from which each document is available.

(Ada IC point of contact: Mary Armstrong)

(NOTE: includes data on validated compilers)

This file contains a list of Ada language implementations.

(Ada IC point of contact: Greg Kee)

(NOTE: INCLUDES PLANNED COMPILERS)

This file contains information on how to access the Ada IC bulletin Board at (202)694-0215.

(Ada IC point of contact: Gilbert Austin)

This file contains the names, addresses and phone numbers of AJPO personnel.

(Ada IC point of contact: Greg Kee)

This file contains the latest updates on the Ada Language System.

(Ada IC point of contact: Becky Reile)

This file contains "Generic APSE Evaluation Questions" by Paul Dobbs of General Dynamics for the E&V Team.

This file contains a description of how to access the online files in the ARTEWG-INFO directory.

(Ada IC POC: Gil Austin)

This file contains a description of the Ada Bibliography Volumes I and II as well as ordering information.

(Ada IC point of contact: Becky Reile)

This file contains information regarding the current status of the MIL-STD-CAIS.

(Ada IC point of contact: Larry Thomas)
COMPEVAL.DOC 09-11-84 This file contains "Evaluation Criteria for Ada Compilers" by Elizabeth Kean of RADC for the E&V Team.

COMPILERS.INF
VAL-COMP.HLP 06-23-86 23809 This file contains a list of currently validated Ada compilers.
(Ada IC point of contact: Mary Armstrong)

CONTACTS.INF
CONTACTS.HLP 06-09-86 5574 This file contains a list of contacts for Ada Information.
(Ada IC point of contact: Greg Kee)

DIANA.INF
DIANA.HLP 06-09-86 2735 This file contains information on DIANA and how to obtain the DIANA reference manual.
(Ada IC contact: Sharon Guenterberg)

DODD5000.INF
DODDIREC.HLP 06-09-86 11262 This file contains a copy of DoD Directive 5000.31 which was circulated with USDRE Richard Delauer's memorandum of 6/10/83.
(Ada IC point of contact: Greg Kee)

EVINFO.INF
EV-INFORMATION-ACCESS.HLP 06-17-86 3749 This file contains a description of the purposes of the Evaluation and Validation Task.
(point of contact: Gil Austin)

IMPGUIDE.INF
IMPGUIDE.HLP 06-09-86 3919 This file contains an explanation of how to obtain the revised Ada Compiler Validation Implementers' Guide.
(Ada IC point of contact: David Scheidt)

ISO.INF
ISO-STAT.HLP 06-09-86 8333 This file contains update and status reports on the international Standards Organization.
(Ada IC point of contact: Larry Thomas)

KAPSE.INF
KAPSE.HLP 06-09-86 1555 This file contains information on how to obtain the latest Kapse Interface Team (KIT) Public Report.
(Ada IC point of contact: Greg Kee)

KITINFO.INF
KIT-INFORMATION-ACCESS.HLP 06-17-86 2850 This file contains information on how to access the KIT-info directory on the Ada20 computer.
This file contains contains the DOD-Wide guidelines for Acquiring Computer Resources under the Armed Services Procurement Act.

(Ada IC point of contact: Gil Austin)

This file contains information on NATO's adaption of the Ada Language as their common HOL in military systems.

(Ada IC point of contact: Greg Kee)

This file contains information on the status of MIL-STD-1750A (Sixteen Bit Computer Instruction Set Architecture).

(Ada IC point of contact: Greg Kee)

This file contains guidelines for using the Ada trademark.

(Ada IC point of contact: Julie Davis)

This file contains a list of the Ada Validation Facilities (AVFs) performing Ada Compiler Validation Capability tests.

(Ada IC point of contact: Julie Davis)

This file contains the draft version of the Ada Validation Policies and Procedures Document, distributed 2/86.

(Ada IC point of contact: Mary Armstrong)

This file contains information on how to access the Validation-info directory on the Ada20 computer.

(POC: Gil Austin)

This file contains an alphabetical listing of Ada-related terms and their meanings.

(Ada IC point of contact: Dave Scheidt)

This file contains a list of Ada Language textbooks, arranged alphabetically by title.

(Ada IC point of contact: Rebecca Reile)
This file contains abstracts of many of the Ada textbooks listed in the file TEXT-BIB.HLP.
(Ada IC point of contact: Rebecca Reile)

This file contains the most recent issue of the Quarterly Ada IC newsletter, currently the MAY, 1986 issue.
(Ada IC point of contact: Larry Thomas)

The following files are associated with this item:

Directory: PD:<ADA.POINTERS>

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACVCSUITE.INF</td>
<td>1293</td>
</tr>
<tr>
<td>ADA1INFO.INF</td>
<td>3187</td>
</tr>
<tr>
<td>ADA2INFO.INF</td>
<td>1613</td>
</tr>
<tr>
<td>ADADOC.INF</td>
<td>9739</td>
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<td>ADAINF.INF</td>
<td>16553</td>
</tr>
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<td>ADAPLANS.INF</td>
<td>55289</td>
</tr>
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<td>ADARBBS.INF</td>
<td>1512</td>
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<tr>
<td>ALSSTAT.INF</td>
<td>10954</td>
</tr>
<tr>
<td>APSEEVAL.INF</td>
<td>39521</td>
</tr>
<tr>
<td>ARTEWG.INF</td>
<td>2960</td>
</tr>
<tr>
<td>BIBORDER.INF</td>
<td>2529</td>
</tr>
<tr>
<td>CAISSTAT.INF</td>
<td>1163</td>
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<td>COMPEVAL.INF</td>
<td>61019</td>
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<td>COMPILERS.INF</td>
<td>69632</td>
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<tr>
<td>CONTACTS.INF</td>
<td>4127</td>
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<td>DIANA.INF</td>
<td>2723</td>
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<tr>
<td>DODD5000.INF</td>
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<td>EVINFO.INF</td>
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<td>ISO.INF</td>
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<td>MCCR.INF</td>
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<tr>
<td>NATOADA.INF</td>
<td>2227</td>
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<tr>
<td>ST1750A.INF</td>
<td>3164</td>
</tr>
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<td>TRADEMARK.INF</td>
<td>11770</td>
</tr>
<tr>
<td>VALFACIL.INF</td>
<td>1920</td>
</tr>
<tr>
<td>VALIDATE.INF</td>
<td>66002</td>
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<tr>
<td>VALINFO.INF</td>
<td>2869</td>
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</tbody>
</table>

29 Files 412772

SIMTEL20 Pointer Files

The following files are in PD:<ADA.POINTERS> in the Ada Software Repository on SIMTEL20. These files are provided in addition to the INF files from ADA20.

<table>
<thead>
<tr>
<th>File Name</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog of Reusable Software Components, Page 101</td>
<td></td>
</tr>
</tbody>
</table>
The following files are associated with this item:

<table>
<thead>
<tr>
<th>File Name</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>ACVC.DOC</td>
<td>382</td>
</tr>
<tr>
<td>ADAED.DOC</td>
<td>1886</td>
</tr>
<tr>
<td>ARMYALS.DOC</td>
<td>327</td>
</tr>
<tr>
<td>ECLBENCH.DOC</td>
<td>3094</td>
</tr>
<tr>
<td>IBMPCADA.DOC</td>
<td>4660</td>
</tr>
<tr>
<td>IMPGUIDE.DOC</td>
<td>1289</td>
</tr>
<tr>
<td>SEI.DOC</td>
<td>398</td>
</tr>
</tbody>
</table>

These files are part of the Ada Compiler Validation Facility at Wright-Patterson AFB.

Directory: PD:<ADA.POINTERS>

The following files are associated with this item:

<table>
<thead>
<tr>
<th>File Name</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACVC.DOC</td>
<td>382</td>
</tr>
<tr>
<td>ADAED.DOC</td>
<td>1886</td>
</tr>
<tr>
<td>ARMYALS.DOC</td>
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</tr>
<tr>
<td>ECLBENCH.DOC</td>
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</tr>
<tr>
<td>IBMPCADA.DOC</td>
<td>4660</td>
</tr>
<tr>
<td>IMPGUIDE.DOC</td>
<td>1289</td>
</tr>
<tr>
<td>SEI.DOC</td>
<td>398</td>
</tr>
</tbody>
</table>

These files are data on Ada compilers for the IBM PC's.

Directory: PD:<ADA.PRETTY-PRINTERS>

This subdirectory contains pretty printers for Ada source programs. The pretty printers reformat the Ada source programs in order to outline the structure of the programs and provide other useful information for the programmer.

<table>
<thead>
<tr>
<th>File Name</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADAFMT.COM</td>
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<tr>
<td>ADAFMT.DOC</td>
<td>628</td>
</tr>
<tr>
<td>ADAFMT.PAS</td>
<td>142504</td>
</tr>
<tr>
<td>ADAFMT.PRO</td>
<td>3570</td>
</tr>
<tr>
<td>AFMT.COM</td>
<td>703</td>
</tr>
<tr>
<td>AFMT2.PAS</td>
<td>169567</td>
</tr>
<tr>
<td>AFMT2.PRO</td>
<td>3837</td>
</tr>
<tr>
<td>FORMATTER.CMM</td>
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</tr>
<tr>
<td>FORMATTER.PRO</td>
<td>4104</td>
</tr>
<tr>
<td>FORMATTER.SRC</td>
<td>149649</td>
</tr>
<tr>
<td>PRET.CMM</td>
<td>1340</td>
</tr>
<tr>
<td>PRET.CO</td>
<td>165</td>
</tr>
<tr>
<td>PRET.DOC</td>
<td>73494</td>
</tr>
<tr>
<td>PRET.PRO</td>
<td>3677</td>
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<td>PRET.SRC</td>
<td>334770</td>
</tr>
<tr>
<td>PRET.TST</td>
<td>12901</td>
</tr>
<tr>
<td>PRETABS.CO</td>
<td>622</td>
</tr>
<tr>
<td>PRETABS.NOT</td>
<td>236</td>
</tr>
<tr>
<td>PRETDIS.DOC</td>
<td>100</td>
</tr>
<tr>
<td>PRETREAD.ME</td>
<td>4606</td>
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<tr>
<td>PRETTEST.DIS</td>
<td>150</td>
</tr>
<tr>
<td>PRETUPD.SRC</td>
<td>228450</td>
</tr>
</tbody>
</table>

These files are part of the Software Engineering Institute information.

Catalog of Reusable Software Components, Page 102
Pretty_Printer
Ada Pretty Printing Program
Machine/System Compiled/Run on: DEC VAX 11/785, DEC Pascal

Abstract:
This program takes as input an Ada program and reformats the program according to a standard set of pretty printing rules. No effort is made to detect or correct syntactic errors. See the comments at the front of the program for credits, revision history, and details on the pretty printing rules and operation.

ADAFMT is the original program, extracted from NOSC-TECR with permission of Col Bill Whitaker. ADAFMT1 is a modified version which contains one minor problem: "package ... is new" constructs cause the indentation level to increase. Provided files include a short documentation file (ADAFMT.DOC) and command files (ADAFMT.COM and ADAFMT1.COM).

The following files are associated with this item:

Directory: PD:<ADA.PRETI'Y-PRINTERS>
ADAFMT.COM 663
ADAFMT.DOC 628
ADAFMT.PAS 142504
ADAFMT.PRO 3570

4 Files 147365

Pretty_Printer_2

Machine/System Compiled/Run on: DEC VAX 11/785, DEC Pascal

Abstract:
This program takes as input an Ada program and reformats the program according to a standard set of pretty printing rules. No effort is made to detect or correct syntactic errors. See the comments at the front of the program for credits, revision history, and details on the pretty printing rules and operation.

ADAFMT is the original program, extracted from NOSC-TECR with permission of Col Bill Whitaker. ADAFMT1 is a modified version which contains one minor problem: "package ... is new" constructs cause the indentation level to increase. Provided files include a short documentation file (ADAFMT.DOC) and command files (ADAFMT.COM and ADAFMT1.COM). ADAFMT2 has corrected all known bugs in ADAFMT1 and has extended the completeness and functionality of the program.

The following files are associated with this item:
Source Formatter

Machine/System Compiled/Run on: Telesoft 1.3 (unvalidated), WICAT/ROS

Abstract:

Package FORMATTER follows a top-down recursive decent algorithm whose theory can be found in most compiler theory books. This formatter is designed to work for only those programs that are syntactically perfect. Due to the size of the system that these programs were written on, this package had to be split in two at the last minute. Now, in package FORMAT_2, one can find the few procedures that did not call any other procedure - those being the ones that could be moved because the compiler did not implement bodystubs or any type of "separate" capability. The package was written with a Telesoft_Ada compiler, which followed nonANSI standard Ada.

The following files are associated with this item:

Directory: PD:<ADA.PRETTY-PRINTERS>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORMATTER.CMM</td>
<td>3405</td>
</tr>
<tr>
<td>FORMATTER.PRO</td>
<td>4104</td>
</tr>
<tr>
<td>FORMATTER.SRC</td>
<td>149649</td>
</tr>
<tr>
<td>3 Files</td>
<td>157158</td>
</tr>
</tbody>
</table>

Source Formatter 2

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

The standard format of source code listed with this tool shall be the format used in the Ada LRM. Options shall allow the user to specify the number of spaces per indent level, the form for printing categories of key words and identifiers (eg, upper case, lower case, etc.), and similar parameters which can be varied without deviating from the LRM.

The following files are associated with this item:

Directory: PD:<ADA.PRETTY-PRINTERS>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRET.CMM</td>
<td>1340</td>
</tr>
<tr>
<td>PRET.CO</td>
<td>165</td>
</tr>
<tr>
<td>PRET.DOC</td>
<td>73494</td>
</tr>
<tr>
<td>PRET.PRO</td>
<td>3677</td>
</tr>
<tr>
<td>PRET.SRC</td>
<td>334770</td>
</tr>
<tr>
<td>PRET.TST</td>
<td>622</td>
</tr>
</tbody>
</table>
Program_Stubber

PD:<ADA.STUBBER>

This subdirectory contains Ada program body stubber tools. They analyze the definition of an Ada software design and generate software bodies as stubs to be filled in later during development.

Body Stubber

Machine/System Compiled/Run on: Telesoft 1.3 (unvalidated), WICAT/ROS

Abstract:

This program reads an Ada specification and generates a corresponding Body with stubs for all subprograms. The compiler used to write these programs was a 1982 (non ANSI Standard) Ada compiler, so these packages will need to be updated before they will run on a Mil Std 1815A Ada compiler. All of the compiler peculiarities, editor dependencies, and filer dependencies have been moved to the ROS_DEPENDENCIES package, with the exception of any peculiarities that might occur due to using 1982 nonANSI standard Ada.

The following files are associated with this item:

Directory: PD:<ADA.STUBBER>
Simulation

PD:<ADA.SIMULATION>

This subdirectory contains programs and tools associated with performing simulations, such as queuing simulations.

Directory: PD:<ADA.SIMULATION>

Queuing Simulation

Machine Compiled/Run on: Data General, ROLM ADE

Abstract:

This tool will simulate the statistical behavior of networks and queues, such as in communication systems, transportation and logistics. It will provide a stand-alone, single performance prediction function. It will provide useful performance prediction information to a user sizing, reconfiguring, or upgrading a system configuration. Data is provided interactively and describes a network to be modeled. This tool includes complex computational algorithms and thus is unusual among the precursors. It is predicted that 3000 FORTRAN lines will convert to 3750 Ada lines. The coordination of the Ada PDL design and the conversion of existing FORTRAN code may present difficulties.

The following files are associated with this item:

Directory: PD:<ADA.SIMULATION>

QSAP.ABS 2167
QSAP.CMM 956
QSAP.DOC 135857
QSAP.PRO 4048
QSAP.SRC 336254
QSAP.TST 1549
QSAPHELP.DIS 888
QSAPHELP.FIL 26169
QSAPSRC.DIS 110
QSAPSTT.DIS 66

10 Files 508064
Spelling Checkers

PD:<ADA.SPELLER>

This subdirectory contains spelling checkers written in Ada. Dictionaries are also included here.

Directory: PD:<ADA.SPELLER>
SP2ACRONY.DCT 29559
SP2HELP.INI 4758
SP2MASTER.DCT 393794
SPELL2.CMM 1296
SPELL2.DOC 32564
SPELL2.PRO 4121
SPELL2.SRC 766341
SPELL2.TST 127616

8 Files 1360049

Speller 2

Machine/System Compiled/Run on: DEC Ada, VAX/VMS

Abstract:

Procedure SPELLER is an interactive spell checking utility. The "default" format shall be interactive. Options allow the user to

* enable auxiliary dictionary search
* merge two or more dictionaries together
* list the contents of a specified dictionary
* execute in batch mode
* generate an output file containing all suspect words
* disable the MASTER dictionary and or enable the ACRONYM dictionary

This procedure establishes the first level user interface. From this level the user will be able to access the HELP facility, merge two or more dictionaries, list out a dictionary and begin the spell checking process of a document.

The following files are associated with this item:
Directory: PD:<ADA.SPELLER>
SP2ACRONY.DCT  29559
SP2HELP.INI     4758
SP2MASTER.DCT   393794
SPELL2.CMM      1296
SPELL2.DOC      32564
SPELL2.PRO      4121
SPELL2.SRC      766341
SPELL2.TST      127616

8 Files 1360049

Starter Kit

PD:<ADA.STARTER-KIT>

This subdirectory contains tools which are useful in accessing the software in the repository. It includes the PAGER tool, which is used to assemble and disassembled SRC (paged) files.

Directory: PD:<ADA.STARTER-KIT>
HELP.PTR 353
LART.DOC 10936
LART.PRO 2694
LART.SRC 31860
PAGER.PTR 169

5 Files 46012

Load_AR_Tape

Machine/System Compiled/Run on: Data General MV10000, Rolm ADE

Keywords: Ada Repository, ANSI Standard Tapes, Automated Loading

Abstract:

The program, Load_AR_Tape, and it's supporting packages, automate the process of loading the ANSI standard tape copies into a Data General MV10000. The directory structure of the Ada repository is preserved.

The following files are associated with this item:

Directory: PD:<ADA.STARTER-KIT>
LART.DOC 10936
LART.PRO 2694
LART.SRC 31860

3 Files 45490
Style_Checkers

PD:<ADA.STYLE>

This subdirectory contains Ada style checking tools. They analyze Ada source code and report on various aspects of the programming style, such as consistent indentation and use of long variable names.

Directory: PD:<ADA.STYLE>

CHECK.ABS 1712
CHECK.CM2 567
CHECK.CMM 1404
CHECK.DOC 17475
CHECK.PRO 3564
CHECK.SRC 413277
CHECK.TST 117647
CHECKRD.ME 4080
PROF.CMM 1368
PROF.CO 92
PROF.DOC 68844
PROF.PRO 3895
PROF.SRC 255248
PROFABS.CO 622
PROFABS.NOT 236
PROFDOC.DIS 64
PROFREAD.ME 2849
STND.CMM 1373
STND.CO 123
STND.DOC 74984
STND.PRO 3752
STND.SRC 282653
STND.TST 125
STNDBS.CO 622
STNDBS.NOT 236
STNDDOC.DIS 79
STNDDREAD.ME 3918
STYLE.ABS 1714
STYLE.DIS 139
STYLE.ME 4080
STYLE.PRO 3386
STYLE2.PRO 3454
STYLE2.SRC 408164
STYLECMP.DIS 3117
STYLEDAC.DIS 84
STYLEDAC.SRC 18088
STYLEINS.RPT 4228
STYLESRC.DIS 124
STYLESRC.SRC 409663
STYLEST.DIS 518
STYLEST.SRC 116759

41 Files 2234327
Standards Checker

Machine/System Compiled/Run on: ROLM Ada, DG MV10000

Abstract:

The style checker will examine an Ada program and try to pick pieces of the program which follow incorrect style conventions. These conventions themselves will be determined by a file of parameters which can be edited to "tailor" the style to local (or contractual) conventions.

The following files are associated with this item:

Directory: PD:<ADA.STYLE>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHECK.ABS</td>
<td>1712</td>
</tr>
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<td>CHECK.CM2</td>
<td>567</td>
</tr>
<tr>
<td>CHECK.CMM</td>
<td>1404</td>
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<tr>
<td>CHECK.DOC</td>
<td>17475</td>
</tr>
<tr>
<td>CHECK.PRO</td>
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<tr>
<td>CHECK.TST</td>
<td>117647</td>
</tr>
<tr>
<td>CHECKRD.ME</td>
<td>4080</td>
</tr>
</tbody>
</table>

8 Files 559726

Statement Profiler

Machine/System Compiled/Run on: AIE Ada, VM-UTS

Abstract:

The Statement Profiler counts every instance of each of the various types of Ada statements in the given program unit bodies, including comments, distinguishing whole-line comments from comments on a line of code. From these raw counts, a series of ratios and percentages can then be computed and shown in a table. The raw counts or the profile table is written to the default output file. This information can then be used to determine when program are inadequately commented or overly complex.

The following files are associated with this item:

Directory: PD:<ADA.STYLE>

<table>
<thead>
<tr>
<th>File</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROF.CMM</td>
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<td>PROF.CO</td>
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</tr>
<tr>
<td>PROF.DOC</td>
<td>3895</td>
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<tr>
<td>PROFAB.S.C</td>
<td>622</td>
</tr>
<tr>
<td>PROFAB.S.NOT</td>
<td>236</td>
</tr>
<tr>
<td>PROFDOC.DIS</td>
<td>64</td>
</tr>
<tr>
<td>PROFREAD.ME</td>
<td>2849</td>
</tr>
</tbody>
</table>

8 Files 333218

Directory: PD:<ADA.COMPONENTS>
Standards Checker 2

Machine/System Compiled/Run on: AIE Ada, VM-UTS

Abstract:

The Standard Checke checks a source file to see that it conforms to local programming standards. These standards include maximum number of lines per program unit, maximum number of arguments to a subprogram, use of pragmas, use of rep specs, use of named literals, naming of types and variables, etc. An annotated listing is output showing any misuse of these language constructs.

The following files are associated with this item:

Directory: PD:<ADA.STYLE>

STND.CMM 1373
STND.CO 123
STND.DOC 74984
STND.PRO 3752
STND.SRC 282653
STND.TST 125
STNDABS.CO 622
STNDABS.NOT 236
STNDDOC.DIS 79
STNDREAD.ME 3918

10 Files 367865

Directory: PD:<ADA.COMPONENTS>

ABSTRACT.CMM 2263
ABSTRACT.CO 2657
ABSTRACT.PRO 3334
ABSTRACT.SRC 572620

Files 580874

Style Checker

Machine/System Compiled/Run on: DG MV 10000, ROLM ADE

Abstract:

The style checker will examine an Ada program and try to pick pieces of the program which follow incorrect style conventions. These conventions themselves will be determined by a
file of parameters which can be edited to "tailor" the style to local (or contractual) conventions.

Both physical and logical style features will be checked for including indentation, use of blank space, names, use of reserved words (such as restricting certain features, i.e., gotos), nesting levels, parameter passing, and comments.

The following files are associated with this item:

Directory: PD:<ADA.STYLE>
STYLE.ABS 1714
STYLE.DIS 139
STYLE.ME 4080
STYLE.PRO 3386
STYLECMP.DIS 3117
STYLEDOC.DIS 84
STYLEDOC.SRC 18088
STYLEINS.RPT 4228
STYLESRC.DIS 124
STYLESRC.SRC 40963
STYLEST.DIS 518
STYLEST.SRC 116759

12 Files 561900

Style Checker 2

Machine/System Compiled/Run on: DEC VAX 11/785, DEC Ada

Abstract:

The style checker will examine an Ada program and try to pick pieces of the program which follow incorrect style conventions. These conventions themselves will be determined by a file of parameters which can be edited to "tailor" the style to local (or contractual) conventions.

Both physical and logical style features will be checked for including indentation, use of blank space, names, use of reserved words (such as restricting certain features, i.e., gotos), nesting levels, parameter passing, and comments.

The following files are associated with this item:

Directory: PD:<ADA.STYLE>
STYLE2.PRO 3454
STYLE2.SRC 408164

2 Files 411618

Virtual Terminal

PD:<ADA.VIRMED>
This subdirectory contains tools for a virtual terminal package, which performs screen-oriented functions by reading terminal characteristics from a UNIX-like TERMCP data base. The application program can call routines in these packages and not be concerned with the type of terminal being addressed.

Directory: PD:<ADA.VIRTERM>
  CURSES.PRO 2903
  CURSES.SRC 24734
  VT2.CMM 902
  VT2.PRO 3728
  VT2.SRC 224728
  VT2.TST 63335
  VT2SPEC.DOC 330874
  VT2TEST.DOC 176436
  VT2USER.DOC 127918

9 Files 95558

Curses Interface

Machine/System Compiled/Run on: VADS VAX/UNIX 4.06

Abstract:

This package provides an interface to the UNIX curses package through Ada.

The following files are associated with this item:

Directory: PD:<ADA.VIRTERM>
  CURSES.PRO 2903
  CURSES.SRC 24734

2 Files 27637

Virtual Terminal 2

Machine/System Compiled/Run on: ROLM ADE, DG MV10000

Abstract:

The ANSI virtual terminal is a program level interface providing support for scroll, page and form-mode terminals. This package uses a terminal capabilities database to determine the capabilities of a variety of terminals. This package was designed to enhance the transportability of the source code and interoperability of the terminal capabilities database.

The following files are associated with this item:

Directory: PD:<ADA.VIRTERM>
  VT2.CMM 902
  VT2.PRO 3728
  VT2.SRC 224728
  VT2.TST 63335

Catalog of Reusable Software Components, Page 113
WIS_ADA Tools

PD:<ADA.WIS-ADA-TOOLS>

This directory contains information about the software tools submitted by the Naval Oceans Systems Center (NOSC). An abstract of the tools is included.

These tools were paid for by WIS (WWMCCS Information Systems).

Directory: PD:<ADA.WIS-ADA-TOOLS>
ABSTRACT.DOC 105309
CONTENTS.DOC 54324
REFFILES.DOC 190757

3 Files 350390