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Product Standard

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Operating System and Languages:

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COE Platform Government-Supplied Kernel Source V2

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The Open Group

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Product Standard

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NAME

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COE Platform Government-Supplied Kernel Source V2

LABEL FOR LOGO

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No label.

DESCRIPTION

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The COE Platform Government-Supplied Kernel Source (GSKS) V2 Product Standard describes a common set of functionality that includes:

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- Print Services
- System Management Services
- Accounts and Profile Manager (APM)
- Segment Installer
- Runtime Tools
- Developer Tools
- Audit Log File Manager
- Application Program Interface

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The availability of COE Platform implementations providing this functionality assures that the Human-Computer Interfaces are functionally identical across multiple applications platforms. This reduces training costs and potential operator error.

CONFORMANCE REQUIREMENTS

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Conformance includes the ability of the COE Platform implementation to build the GSKS code from source with no unauthorized modifications. The following requirements apply to authorized modifications:

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- All changes to the Government-Supplied Kernel Source (GSKS) source code and/or objects shall comply with the appropriate standards; for example, ISO C, POSIX shell command language, or Java, as appropriate.
- All such changes shall be documented in the Conformance Statement. This documentation shall include reference to an approved Problem Report.

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A COE Platform implementation shall be in conformance with the following.

- 53 **Human-Computer Interface**
- 54 1. User Interface
- 55 — Product Documentation, October 1997, CDE 2.1/Motif 2.1: Style Guide and Glossary
56 (ISBN: 1-85912-104-7, M027), published by The Open Group
- 57 — Product Documentation, October 1997, CDE 2.1/Motif 2.1: Style Guide Certification
58 Check List (ISBN: 1-85912-109-8, M028), published by The Open Group
- 59 2. Print Services
- 60 A COE Platform implementation shall demonstrate the ability to print ASCII text and
61 postscript graphics to both a locally attached printer and a printer attached directly to the
62 network. The following functions are demonstrated:
- 63 — Attach a local printer
- 64 — Add a locally attached printer to the COE Platform implementation from the GUI
- 65 — Print text and graphics from the command line
- 66 — Add a network printer from the GUI
- 67 — Print text and graphics to the network printer
- 68 — Delete local and network printers
- 69 — Detach a printer from the COE Platform implementation
- 70 3. System Management Services
- 71 A COE Platform implementation shall support the COE Platform System Management
72 Services providing the following functions:
- 73 — Network management including hosts, DNS administration, system name/IP address
74 update, and routing administration
- 75 — Disk management
- 76 — System shutdown/reboot
- 77 4. Accounts and Profile Manager (APM)
- 78 The COE Platform Accounts and Profile Manager shall be provided on COE Platform
79 implementations both on the Client and on the Master side. This software will:
- 80 — Set profile configurations
- 81 — Create and edit local and global user profiles
- 82 — Create and edit local and global user accounts
- 83 — Manage features and assignment of features to profiles
- 84 — Manage systems that are part of an APM administrative domain
- 85 5. Segment Installer
- 86 The COE Platform Segment Installer shall be provided on a COE Platform implementation.
87 This is designed to install all COE segments (applications). It installs segments from disk,
88 CD, tape, or the network on both local and remote machines.

- 89 6. Runtime Tools
- 90 The system administrator uses the Runtime Tools support to install, configure, and de-
- 91 install systems. The tools also provide the developers with a means to communicate with
- 92 the operator during segment installation. The following runtime tools shall be supported on
- 93 a COE Platform implementation:
- 94 **COE_add_segment_features**
- 95 Adds one or more features to a segment installed on the system.
- 96 **COEAskUser** Displays a message to the user, and has the user click on a button
- 97 (Yes/No, True/False, Accept/Cancel, and so on) in response to the
- 98 message.
- 99 **COE_feature_enabled**
- 100 Determines whether a specified segment feature is currently enabled in
- 101 the user's current login session.
- 102 **COEFindSeg** Returns information about a requested segment. The tool sets status
- 103 and writes the pathname, segment name, segment prefix, and segment
- 104 type information to *stdout*.
- 105 **COEGetProcessGroup**
- 106 Returns the current setting of a process group.
- 107 **COE_get_features**
- 108 Returns the list of features assigned to a profile.
- 109 **COEInstaller** Displays a list of variants or segments that may be installed from tape,
- 110 disk, or other electronic media. It is normally executed by an operator
- 111 who selects it from a System Administrator menu to install or de-install
- 112 segments.
- 113 **COEInstError** Displays an error message to the user from within a Pre-Install, Post-
- 114 Install, or De-Install script signalling installation termination or de-
- 115 installation of the segment.
- 116 **COEListSegments**
- 117 Displays a list of segments that are installed on the system.
- 118 **COEListSegs** Reads and outputs information on installed segments from a computer.
- 119 **COEMsg** Displays a message to the user and has the user click on the "OK"
- 120 button to continue. The tool may be used by the Pre-Install, Post-Install,
- 121 and De-Install scripts.
- 122 **COEPrompt** Displays a message to the user and has the user enter a response to
- 123 the message. The tool may be used by the Pre-Install, Post-Install, and
- 124 De-Install scripts.
- 125 **COEPromptPasswd**
- 126 Prompts the user to enter a password. The tool may be used by the
- 127 Pre-Install, Post-Install, and De-Install scripts.
- 128 **COERegisterInterfaceEngine**
- 129 Prompts the user to enter a password.
- 130 **COESetProcessGroup**
- 131 Changes the current setting of a process group.

132 **COESegInstall** Allows users to install a segment that already exists on disk without
 133 asking the user for input during installation. The **COESegInstall** API is
 134 essentially a stand-alone binary that can be executed from the
 135 command line, from a shell script, or from within an executable program.
 136 The program was developed to allow users to install a segment that
 137 already exists on disk without asking the user for input during
 138 installation. The API call was implemented as a binary to allow
 139 programmers to use the function in any type of program (for example,
 140 shell script, binary executable, or stand-alone tool) rather than tying it
 141 specifically to a limited set of C or X Window System library calls.

142 **COEUpdateHome**
 143 Updates the *HOME* environment variable within a script file to point to
 144 where a segment was actually installed.

145 7. Developer Tools

146 COE Developer Tools support application software development and delivery, but are not
 147 delivered to operational sites. All interfaces to these tools are at the command line; none
 148 of them have a GUI interface. The following developer tools shall be supported on a COE
 149 Platform implementation:

150 **CalcSpace** Computes the space required for the segment specified and updates the
 151 hardware descriptor accordingly. The segment referred to must not be
 152 compressed and must not contain any files that do not belong with the
 153 segment (for example, source code) at runtime. The amount of space
 154 required is written to *stdout* in K bytes.

155 **CanInstall** Tests a segment to see whether it can be installed, which means that all
 156 required segments must already be on the disk, and the disk cannot
 157 have any conflicting segments.

158 **ConvertSeg** Examines segment descriptors and converts them to the latest format.
 159 The original segment descriptor directory is not modified. The output is
 160 in a directory created by the tool and called **SegDescrip.NEW**. This
 161 directory will be located directly underneath the segment's home
 162 directory at the same level as **SegDescrip**. **ConvertSeg** is not
 163 location-sensitive and may be moved to any directory desired for
 164 development.

165 **MakeAttribs** Creates the descriptor file **FileAttribs**. It recursively traverses every
 166 subdirectory beneath the segment home directory and creates a file
 167 containing permits, owner, group, and filename information.

168 **MakeInstall** Writes one or more segments to an installation medium, or packages the
 169 segments for distribution over the SIPRNET. **MakeInstall** checks to see
 170 whether **VerifySeg** has been run successfully on each of the segments,
 171 and aborts with an error if it has not.

172 **TestInstall** Temporarily installs a segment that already resides on disk. There must
 173 be no other COE process running when **TestInstall** is run. The reason
 174 for this restriction is that the tool may modify COE files already in use
 175 with unpredictable results.

176 **TestRemove** Removes a segment that was installed by **TestInstall**. There must be
 177 no other COE process running when **TestRemove** is run. The reason for
 178 this restriction is that the tool may modify COE files already in use with

179 unpredictable results.
180 **TimeStamp** Puts the current time and date into the VERSION descriptor.
181 **VerifySeg** Validates that a segment conforms to the rules for defining a segment.
182 It uses information in the **SegDescrip** subdirectory and must be run
183 whenever the segment is modified.

184 8. Audit Log File Manager

185 The COE Audit Log File Manager shall be available on a COE Platform implementation. It
186 exercises the following functions:

- 187 — Default configuration settings
- 188 — Sample audit log files
- 189 — Disk usage parameters
- 190 — Verify monitoring of log files and system audit logs
- 191 — Display events

192 **Portability Interface**

193 1. Application Program Interface

194 A COE Platform implementation shall demonstrate conformance for the following APIs as
195 described in the COE Programmer's Guide and Reference Manual (PGRM) for Kernel:¹

- 196 — COE Kernel APIs
- 197 — COE User Profiles APIs
- 198 — User Data APIs
- 199 — Profile Data APIs
- 200 — User/Profile Data APIs
- 201 — Application Data APIs
- 202 — Profile/Application Data APIs
- 203 — Current Profile Selection APIs
- 204 — Profile Locking APIs
- 205 — Miscellaneous APIs
- 206 — Common Data Store APIs
- 207 — COE Java Feature APIs

208 2. The system shall include the COE-provided standard Java runtime tools, class libraries, or
209 jar files.

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211 1. COE Programmer's Guide and Reference Manual (PGRM) for Kernel, Version 4.2.0.0, 4 February 2000, CM 30593.

212 **Programming Language Environment**

213 Not applicable.

214 **Interoperability**

215 Not applicable.

216 **OPERATIONAL ENVIRONMENT**

217 Not applicable.

218 **PORTABILITY ENVIRONMENT**

219 **Java Support**

220 A conforming system provides a set of services that permit the execution of pre-compiled
221 applications that use the Java Runtime Environment (JRE) 1.2 or later.

222 **OVERRIDING STANDARDS**

223 Not applicable.

224 **INDICATORS OF COMPLIANCE**

225 The following are the required Indicators of Compliance:

- 226 • A report from the Validation Host Initial Validation Procedure
- 227 • A report from the Candidate Platform Initial Validation Procedure
- 228 • A report from the Kernel Overview Validation Procedure
- 229 • A report from the Print Services Validation Procedure
- 230 • A report from the Accounts and Profile Manager Validation Client Procedure
- 231 • A report from the Accounts and Profile Manager Validation Master Procedure
- 232 • A report from the Segment Installation Validation Procedure
- 233 • A report from the Remote Installation Validation Procedure
- 234 • A report from the Developers Toolkit and Runtime Validation Procedure
- 235 • A report from the Audit Log File Manager Validation Procedure

236 **MIGRATION**

237 Not applicable.