

Oracle® Database

Database Licensing Information User Manual



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Preface

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Audience

This book is intended for all purchasers of Oracle Database 21c.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

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Related Documents

For more information, see these Oracle resources:

- *Learning Database New Features* for information on the features new to this release of Oracle Database
- Oracle Global Pricing and Licensing, available at:
<http://www.oracle.com/us/corporate/pricing/index.html>
- Oracle Database licensing guidelines, available at:
<https://www.oracle.com/assets/databaselicensing-070584.pdf>

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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1.1 Introduction

This Licensing Information document is a part of the product or program documentation under the terms of your Oracle license agreement and is intended to help you understand the program editions, entitlements, restrictions, prerequisites, special license rights, and/or separately licensed third party technology terms associated with the Oracle software program(s) covered by this document (the "Program(s)"). Entitled or restricted use products or components identified in this document that are not provided with the particular Program may be obtained from the Oracle Software Delivery Cloud website (<https://edelivery.oracle.com>) or from media Oracle may provide. If you have a question about your license rights and obligations, please contact your Oracle sales representative, review the information provided in Oracle's Software Investment Guide (<http://www.oracle.com/us/corporate/pricing/software-investment-guide/index.html>), and/or contact the applicable Oracle License Management Services representative listed on <http://www.oracle.com/us/corporate/license-management-services/index.html>.

1.2 Oracle Database Offerings

Table 1-1 Oracle Database Offerings

Oracle Database Offering	Offering Type	Abbreviated Name Used in this Guide	Description
Oracle Database Standard Edition 2	On-Premise	SE2	Oracle Database Standard Edition 2 includes features necessary to develop workgroup, department-level, and Web applications.

Table 1-1 (Cont.) Oracle Database Offerings

Oracle Database Offering	Offering Type	Abbreviated Name Used in this Guide	Description
Oracle Database Enterprise Edition	On-Premise	EE	<p>Oracle Database Enterprise Edition provides performance, availability, scalability, and security for developing applications such as high-volume online transaction processing (OLTP) applications, query-intensive data warehouses, and demanding Internet applications.</p> <p>Oracle Database Enterprise Edition can be enhanced with the purchase of Oracle Database options and Oracle management packs.</p>
Oracle Database Enterprise Edition on Engineered Systems	On-Premise	EE-ES	<p>Oracle Database Enterprise Edition software installed on an on-premise engineered system (Oracle Exadata Database Machine or Oracle Database Appliance).</p> <p>Includes all of the components of Oracle Database. You can further enhance this offering with the purchase of Oracle Database options and Oracle management packs.</p> <p>The licensing policies for EE-ES vary depending on whether it is installed on Oracle Exadata Database Machine or Oracle Database Appliance. Be sure to make note of these differences, which are documented in the subsequent sections of this guide.</p>
Oracle Database Personal Edition	On-Premise	PE	<p>Oracle Database Personal Edition supports single-user development and deployment environments that require full compatibility with Oracle Database Standard Edition 2 and Oracle Database Enterprise Edition.</p> <p>Includes all of the components that are included with Enterprise Edition, as well as all Oracle Database options, with the exception of the Oracle RAC One Node and Oracle Real Application Clusters options, which cannot be used with Personal Edition. Personal Edition is available on Linux and Windows platforms only. Oracle management packs cannot be used with Personal Edition.</p>
Oracle Database Cloud Service Standard Edition	Cloud	DBCS SE	Includes Oracle Database Standard Edition 2 software.
Oracle Database Cloud Service Enterprise Edition	Cloud	DBCS EE	Includes Oracle Database Enterprise Edition software.
Oracle Database Cloud Service Enterprise Edition - High Performance	Cloud	DBCS EE-HP	Includes Oracle Database Enterprise Edition software plus many Oracle Database options and Oracle management packs.
Oracle Database Cloud Service Enterprise Edition - Extreme Performance	Cloud	DBCS EE-EP	Includes Oracle Database Enterprise Edition software plus all Oracle Database options and Oracle management packs that are appropriate for use in Oracle Database Cloud Service.

Table 1-1 (Cont.) Oracle Database Offerings

Oracle Database Offering	Offering Type	Abbreviated Name Used in this Guide	Description
Oracle Database Exadata Cloud Service	Cloud	ExaCS	Includes Oracle Database Enterprise Edition software plus all Oracle Database options and Oracle management packs that are appropriate for use in Oracle Database Exadata Cloud Service. The licensing policies for ExaCS also apply to Oracle Database Exadata Cloud at Customer.

 **See Also:**

- [Oracle Database Options and Their Permitted Features](#)
- [Oracle Management Packs and Their Permitted Features](#)

1.3 Permitted Features, Options, and Management Packs by Oracle Database Offering

The tables in this section list Oracle Database features, Oracle Database options, and Oracle management packs, and their availability for each Oracle Database offering. The **Y** value in a column means that the feature, option, or pack is available for a particular offering; **N** means that it is unavailable; **N/A** means that it is not applicable. These tables can help you understand the difference between Oracle Database offerings to determine which one is right for you.

The tables are organized into the following functional categories:

- Autonomous - [Table 1-2](#)
- Consolidation - [Table 1-3](#)
- Development Platform - [Table 1-4](#)
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- VLDB, Data Warehousing, and Business Intelligence - [Table 1-14](#)

Table 1-2 Autonomous

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Automatic Zone Maps	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata and requires the Oracle Partitioning option. Not available on Oracle Database Appliance.
Automatic Materialized Views	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata. Not available on Oracle Database Appliance.
Cache Fusion Hardening	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata. Not available on Oracle Database Appliance.

Table 1-3 Consolidation

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Oracle Multitenant - # of PDBs	3	252	4096	3	3	4096	4096	4096	<p>The number value in each column indicates the maximum number of pluggable databases (PDBs) that can be created for each offering.</p> <ul style="list-style-type: none"> For all offerings, if you are not licensed for Oracle Multitenant, then you may have up to 3 user-created PDBs in a given container database at any time. EE: Extra cost option; if you are licensed for Oracle Multitenant, then you can create up to 252 PDBs. EE-ES: Extra cost option; if you are licensed for Oracle Multitenant, then you can create up to 4096 PDBs. DBCS EE-HP, DBCS EE-EP, and ExaCS: Included option; you can create up to 4096 PDBs. <p>Note: For licensing purposes, one non-CDB instance is equivalent to one user-created PDB inside one CDB.</p>

Table 1-3 (Cont.) Consolidation

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
CDB Fleet Management	N	N	Y	N	Y	Y	Y	Y	
PDB Snapshot Carousel	N	N	Y	N	Y	Y	Y	Y	
Refreshable PDB switchover	N	N	Y	Y	Y	Y	Y	Y	

Table 1-4 Development Platform

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
SQLJ	Y	Y	Y	Y	Y	Y	Y	Y	Requires Oracle Programmer
Oracle Developer Tools for Visual Studio .NET	Y	Y	N/A	N/A	N/A	N/A	N/A	N/A	Windows only
Microsoft Distributed Transaction Coordinator support	Y	Y	N/A	N/A	N/A	N/A	N/A	N/A	Windows only
Native .NET Data Provider—ODP.NET	Y	Y	N/A	N/A	N/A	N/A	N/A	N/A	Windows only
.NET Stored Procedures	Y	Y	N/A	N/A	N/A	N/A	N/A	N/A	Windows only

Table 1-5 High Availability

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Application Continuity	N	Y	Y	N	N	N	Y	Y	EE and EE-ES : Requires the Oracle Active Data Guard option or the Oracle Real Application Clusters option

Table 1-5 (Cont.) High Availability

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Oracle Sharding	N	Y	Y	N	Y	Y	Y	Y	<p>EE and EE-ES: No limit on the number of either primary shards or standby shards if every shard has an Oracle Active Data Guard, Oracle GoldenGate, or Oracle RAC license. Without an Oracle Active Data Guard, Oracle GoldenGate, or Oracle RAC license, use is limited to three primary shards, with basic Data Guard standbys.</p> <p>Authorized Cloud Environments, DBCS EE, and DBCS EE-HP: Use is limited to three primary shards; there is no limit on the number of standby shards.</p> <p>DBCS EE-EP and ExaCS: No limit on the number of either primary shards or standby shards.</p>
Oracle Fail Safe	Y	Y	N/A	N/A	N/A	N/A	N/A	N/A	Windows only
Oracle RAC One Node	N	Y	Y	N	N	N	N	Y	EE and EE-ES : Extra cost option
Standard Edition High Availability	Y	N	N	N	N	N	N	N	
Oracle Data Guard—Redo Apply	N	Y	Y	N	Y	Y	Y	Y	
Oracle Data Guard—Far Sync Standby	N	Y	Y	N	N	N	Y	Y	EE and EE-ES : Requires the Oracle Active Data Guard option
Oracle Data Guard—SQL Apply	N	Y	Y	N	Y	Y	Y	Y	
Oracle Data Guard—Snapshot Standby	N	Y	Y	N	Y	Y	Y	Y	
Oracle Data Guard—Real-Time Cascading Standbys	N	Y	Y	N	N	N	Y	Y	EE and EE-ES : Requires the Oracle Active Data Guard option
Oracle Data Guard—Automatic Correction of Non-logged Blocks at a Data Guard Standby Database	N	N	Y	N	N	N	Y	Y	EE-ES : Requires the Oracle Active Data Guard option

Table 1-5 (Cont.) High Availability

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Oracle Active Data Guard	N	Y	Y	N	N	N	Y	Y	EE and EE-ES : Extra cost option Authorized Cloud Environments : Active Data Guard DML Redirection is not available
Rolling Upgrades—Patch Set, Database, and Operating System	N	Y	Y	N	Y	Y	Y	Y	
Rolling Upgrade Using Active Data Guard	N	Y	Y	N	N	N	Y	Y	EE and EE-ES : Requires the Oracle Active Data Guard option
Online index rebuild	N	Y	Y	N	Y	Y	Y	Y	
Online table organization	N	Y	Y	N	Y	Y	Y	Y	ALTER TABLE ... MOVE ONLINE operations
Online table redefinition	N	Y	Y	N	Y	Y	Y	Y	Using the DBMS_REDEFINITION package
Duplexed backup sets	N	Y	Y	N	Y	Y	Y	Y	
Block change tracking for fast incremental backup	N	Y	Y	N	N	N	Y	Y	
Unused block compression in backups	N	Y	Y	N	Y	Y	Y	Y	
Block-level media recovery	N	Y	Y	N	Y	Y	Y	Y	
Lost Write Protection	N	Y	Y	N	Y	Y	Y	Y	
Automatic Block Repair	N	Y	Y	N	N	N	Y	Y	EE and EE-ES : Requires the Oracle Active Data Guard option
Parallel backup and recovery	N	Y	Y	N	Y	Y	Y	Y	
Tablespace point-in-time recovery	N	Y	Y	N	Y	Y	Y	Y	
Trial recovery	N	Y	Y	N	Y	Y	Y	Y	
Fast-start fault recovery	N	Y	Y	N	Y	Y	Y	Y	
Flashback Table	N	Y	Y	N	Y	Y	Y	Y	
Flashback Database	N	Y	Y	N	Y	Y	Y	Y	
Flashback Transaction	N	Y	Y	N	Y	Y	Y	Y	

Table 1-5 (Cont.) High Availability

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Flashback Transaction Query	N	Y	Y	N	Y	Y	Y	Y	
Optimization for Flashback Data Archive	N	Y	Y	N	N	Y	Y	Y	Basic Flashback Data Archive is in all offerings EE and EE-ES : Optimization for Flashback Data Archive requires the Oracle Advanced Compression option
Online Datafile Move	N	Y	Y	N	Y	Y	Y	Y	
Transaction Guard	N	Y	Y	N	Y	Y	Y	Y	
Cross-platform Backup and Recovery	N	Y	Y	N	Y	Y	Y	Y	
Global Data Services	N	Y	Y	N	N	N	Y	Y	EE and EE-ES : Requires the Oracle Active Data Guard option
Recovering tables and table partitions from RMAN backups	N	Y	Y	N	Y	Y	Y	Y	

Table 1-6 Integration

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Database Gateways	Y	Y	Y	Y	Y	Y	Y	Y	Database Gateway for ODBC is included in all offerings. All other Database Gateway products are available for all offerings, but require a separate product license.
Messaging Gateway	N	Y	Y	N	Y	Y	Y	Y	
Sharded Queues	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Requires the Oracle Partitioning option
Transactional Event Queues (TEQ)	Y	Y	Y	Y	Y	Y	Y	Y	Includes a restricted use license for Oracle Partitioning. Refer to Transactional Event Queues in "Restricted Use Licenses" for more information.

Table 1-7 Manageability

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Oracle Cloud Management Pack for Oracle Database	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Extra cost option
Oracle Data Masking and Subsetting Pack	N	Y	Y	N	Y	Y	Y	Y	EE and EE-ES : Extra cost option
Oracle Database Lifecycle Management Pack for Oracle Database	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Extra cost option
Oracle Diagnostics Pack	N	Y	Y	N	Y	Y	Y	Y	EE and EE-ES : Extra cost option
Oracle Tuning Pack	N	Y	Y	N	Y	Y	Y	Y	EE and EE-ES : Extra cost option, also requires Oracle Diagnostics Pack
Oracle Real Application Testing	N	Y	Y	N	Y	Y	Y	Y	EE and EE-ES : Extra cost option
Database Resource Manager	N	Y	Y	N	Y	Y	Y	Y	
I/O Resource Management	N	N	Y	N	N	N	N	Y	
Instance Caging	Y	Y	Y	Y	Y	Y	Y	Y	

Table 1-7 (Cont.) Manageability

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
SQL Plan Management	Y (See Notes)	Y	Y	Y (See Notes)	Y	Y	Y	Y	<p>SQL Plan Management does not require a license for Oracle Diagnostics Pack or Oracle Tuning Pack</p> <p>SE2 and DBCS SE Summary: Only one SQL plan baseline per SQL statement is allowed and SQL plan evolution is disabled.</p> <p>SE2 and DBCS SE Details:</p> <ol style="list-style-type: none"> SQL plan baselines can be created or captured using the following methods: <ul style="list-style-type: none"> Auto capture (OPTIMIZER_CAPTURE_SQL_PLAN_BASELINE=TRUE) Manual loading from the cursor cache (DBMS_SPM.LOAD_PLANS_FROM_CURSOR_CACHE) Migration from stored outlines (DBMS_SPM.MIGRATE_STORED_OUTLINE) Import using DBMS_SPM.UNPACK_STGTAB_BASELINE All capture and creation methods store only one SQL plan baseline per SQL statement. SQL plan baselines can be exported and imported using DBMS_SPM.CREATE_STGTAB_BASELINE, DBMS_SPM.PACK_STGTAB_BASELINE, and DBMS_SPM.UNPACK_STGTAB_BASELINE. Unused SQL plan baselines are not auto-purged.

Table 1-7 (Cont.) Manageability

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
									<ul style="list-style-type: none"> 5. Alternative SQL execution plans for SQL statements are not added to the SQL plan history. 6. SQL plan baselines can be altered and dropped (DBMS_SPM.ALTER_SQL_PLAN_BASELINE and DBMS_SPM.DROP_SQL_PLAN_BASELINE). 7. The following DBMS_SPM functions and procedures are not allowed: CONFIGURE, LOAD_PLANS_FROM_AWR, LOAD_PLANS_FROM_SQLSET, and all functions and procedures associated with SQL plan evolution.
Automatic SQL Plan Management	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata. Not available on Oracle Database Appliance.

Table 1-7 (Cont.) Manageability

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
SQL Tuning Sets	N	Y	Y	N	Y	Y	Y	Y	EE and EE-ES : SQL Tuning Sets can also be accessed by way of database server APIs and command-line interfaces. Usage of any subprograms in the DBMS_SQLSET package to manage SQL Tuning Sets is part of the EE and EE-ES offerings. In addition, the following subprograms, part of the DBMS_SQLTUNE package, provide an older interface to manage SQL Tuning Sets and are also part of the EE and EE-ES offerings: ADD_SQLSET_REFERENCE, CAPTURE_CURSOR_CACHE_SQLSET, CREATE_SQLSET, CREATE_STGTAB_SQLSET, DELETE_SQLSET, DROP_SQLSET, LOAD_SQLSET, PACK_STGTAB_SQLSET, REMOVE_SQLSET_REFERENCE, SELECT_CURSOR_CACHE, SELECT_SQLSET, SELECT_WORKLOAD_REPOSITORY, UNPACK_STGTAB_SQLSET, UPDATE_SQLSET.
Oracle Fleet Patching and Provisioning (formerly Rapid Home Provisioning)	N	Y	Y	N/A	N/A	N/A	N/A	N/A	EE and EE-ES : When deployed across multiple clusters, each FPP-managed target must be licensed for one of the following: Oracle Database Lifecycle Management Pack, Oracle RAC, or Oracle RAC One Node
Automatic Index Optimization	N	Y	Y	Y	Y	Y	Y	Y	EE and EE-ES : Requires the Oracle Advanced Compression option
Database Resident Connection Pooling Per PDB for Tenancy Management	N	Y	Y	N	Y	Y	Y	Y	Not available on Authorized Cloud Environments .

Table 1-7 (Cont.) Manageability

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Reverse Connection Support Using CMAN Tunnels	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata. Not available on Oracle Database Appliance.
GoldenGate per-PDB Change Capture for Multitenant Database	N	Y	Y	N	Y	Y	Y	Y	Not available on Authorized Cloud Environments .

Table 1-8 Networking

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Infiniband Support	N	Y	Y	N	N	N	N	Y	
Oracle Connection Manager	N	Y	Y	N	Y	Y	Y	Y	Available via a custom install of the Oracle Database client, usually installed on a separate machine or compute instance
Network Compression	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES: Requires the Oracle Advanced Compression option

Table 1-9 Performance

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Automatic Indexing	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata. Not available on Oracle Database Appliance.
SQL Quarantine	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata. Not available on Oracle Database Appliance.
Real-Time Statistics	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata. Not available on Oracle Database Appliance.
High-Frequency Automatic Optimizer Statistics Collection	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata. Not available on Oracle Database Appliance.

Table 1-9 (Cont.) Performance

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
High-Frequency Automatic SPM Evolve Advisor Task	N	N	Y	N	N	N	N	Y	You can enable this feature by setting the <code>AUTO_SPM_EVOLVE_TASK</code> parameter of the <code>DBMS_SPM.CONFIGURE</code> procedure. EE-ES: Available on Exadata. Not available on Oracle Database Appliance.
Client Side Query Cache	N	Y	Y	N	Y	Y	Y	Y	
Query Results Cache	N	Y	Y	N	Y	Y	Y	Y	
PL/SQL Function Result Cache	N	Y	Y	N	Y	Y	Y	Y	
Oracle TimesTen Application-Tier Database Cache	N	Y	Y	N	N	N	N	N	EE and EE-ES: Extra cost option
Database Smart Flash Cache	N	Y	Y	N/A	N/A	N/A	N/A	N/A	EE: Solaris and Oracle Linux only EE-ES: Available on Oracle Database Appliance. Not available on Exadata
Support for Oracle Exadata Storage Server Software	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata. Not available on Oracle Database Appliance.
Adaptive Execution Plans	N	Y	Y	N	Y	Y	Y	Y	
Concurrent Execution of UNION and UNION ALL Branches	N	Y	Y	N	Y	Y	Y	Y	
Oracle Database In-Memory	N	Y	Y	N	N	N	Y	Y	EE and EE-ES: Extra cost option
In-Memory Column Cache on Storage Servers	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata and requires the Oracle Database In-Memory option. Not available on Oracle Database Appliance. Requires Exadata, Supercluster, or Exadata Cloud Service.

Table 1-9 (Cont.) Performance

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
In-Memory Column Store on Active Data Guard standby	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata and requires the Oracle Database In-Memory option and the Oracle Active Data Guard option. Not available on Oracle Database Appliance.
Fault Tolerant In-Memory Column Store	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata and Infiniband-based Oracle Database Appliance. Requires the Oracle Database In-Memory option and the Oracle Real Application Clusters option.
In-Memory Column Store support for External Tables	N	N	Y	N	N	N	N	Y	EE-ES: Available on Exadata. Not available on Oracle Database Appliance.
In-Memory Aggregation	N	Y	Y	N	N	N	Y	Y	EE and EE-ES: Requires the Oracle Database In-Memory option
Automatic In-Memory	N	Y	Y	N	N	N	Y	Y	EE and EE-ES: Requires the Oracle Database In-Memory option
In-Memory Deep Vectorization	N	Y	Y	N	N	N	Y	Y	EE and EE-ES: Requires the Oracle Database In-Memory option
In-Memory Full Text Columns	N	Y	Y	N	N	N	Y	Y	EE and EE-ES: Requires the Oracle Database In-Memory option

Table 1-9 (Cont.) Performance

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Database In-Memory Base Level	N	Y	Y	N	N	N	Y	Y	<p>Allows you to experiment with Oracle Database In-Memory features without purchasing the Oracle Database In-Memory option. The following restrictions apply:</p> <ul style="list-style-type: none"> The size of the In-Memory area (INMEMORY_SIZE) cannot exceed 16 GB for a CDB. In an Oracle RAC environment, the size is limited to 16 GB for each instance. The compression level for all objects and columns is automatically and transparently set to QUERY LOW. The Automatic In-Memory feature is disabled. In-Memory Column Store feature tracking is tracked for "In-Memory Base Level" rather than "In-Memory Column Store." The CellMemory feature is disabled for Oracle Exadata. <p>Not available on Authorized Cloud Environments.</p>
Text Index Support for Sharded Tables (Search Index)	N	Y	Y	N	N	N	Y	Y	EE and EE-ES : Requires the Oracle Database In-Memory option
Memoptimized Rowstore	N	N	Y	N	N	N	N	Y	EE-ES : Available on Exadata. Not available on Oracle Database Appliance.
Attribute Clustering	N	Y	Y	N	Y	Y	Y	Y	
Zone Maps	N	N	Y	N	N	N	N	Y	EE-ES : Available on Exadata and requires the Oracle Partitioning option. Not available on Oracle Database Appliance.
Buffer Cache RDMA-Read	N	N	Y	N	N	N	N	Y	EE-ES : Available on Exadata. Not available on Oracle Database Appliance.

Table 1-9 (Cont.) Performance

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Persistent Memory Database	N	Y	Y	N	N	N	N	Y	Requires Intel Optane Persistent Memory Authorized Cloud Environments: Persistent Memory Database is not available.

Table 1-10 Scalability

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Oracle Real Application Clusters (Oracle RAC)	N	Y	Y	N	N	N	Y	Y	EE and EE-ES : Extra cost option
Automatic Workload Management	Y	Y	Y	N	N	N	Y	Y	EE and EE-ES : Requires the Oracle Real Application Clusters option
Quality of Service Management	Y	Y	Y	N	N	N	Y	Y	EE and EE-ES : Requires the Oracle Real Application Clusters option
Oracle NoSQL Database Enterprise Edition	N	Y	Y	N/A	N/A	N/A	N/A	N/A	

Table 1-11 Security

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Column-Level Encryption	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Requires the Oracle Advanced Security option
Tablespace Encryption	N	Y	Y	Y	Y	Y	Y	Y	EE and EE-ES : Requires the Oracle Advanced Security option
Oracle Advanced Security	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Extra cost option
Oracle Database Vault	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Extra cost option
Oracle Label Security	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Extra cost option

Table 1-11 (Cont.) Security

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Enterprise User Security	N	Y	Y	N	Y	Y	Y	Y	EE, EE-ES, DBCS EE, DBCS EE-HP, DBCS EE-EP, and ExaCS: Enterprise User Security is a feature for directory-based management of database users. It requires a corresponding Oracle Identity Management Directory Services Plus to be licensed.
Centrally Managed Users	N	Y	Y	N	Y	Y	Y	Y	EE, EE-ES, DBCS EE, DBCS EE-HP, DBCS EE-EP, and ExaCS: Centrally Managed Users is a feature for centrally authenticating and authorizing database users with Microsoft Active Directory.
Fine-grained Auditing	N	Y	Y	N	Y	Y	Y	Y	
Privilege Analysis	N	Y	Y	N	Y	Y	Y	Y	
Real Application Security	N	Y	Y	N	Y	Y	Y	Y	
Redaction	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES: Requires the Oracle Advanced Security option
Transparent Sensitive Data Protection	N	Y	Y	N	Y	Y	Y	Y	
Virtual Private Database	N	Y	Y	N	Y	Y	Y	Y	
Keystore for Each Pluggable Database	N	Y	Y	N	Y	Y	Y	Y	Authorized Cloud Environments: Keystore for Each Pluggable Database is not available.
Sharing of TDE Master Encryption Key Across Oracle Processes	N	N	N	Y	Y	Y	Y	Y	
Ability to Set the Default Tablespace Encryption Algorithm	N	Y	Y	N	N	N	N	N	EE and EE-ES: Requires the Oracle Advanced Security option

Table 1-12 Snapshots and Cloning

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Storage Snapshot Optimization	N	Y	Y	N/A	N/A	N/A	N/A	N/A	EE and EE-ES : Requires the Oracle Advanced Compression option

Table 1-13 Spatial and Graph Data

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Oracle Spatial and Graph	Y	Y	Y	Y	Y	Y	Y	Y	Oracle Spatial and Graph no longer requires an extra cost license. See Oracle Database Insider blog post for more information.
Property Graph and RDF Graph Technologies (RDF/OWL)	Y	Y	Y	Y	Y	Y	Y	Y	Property Graph and RDF Graph Technologies (RDF/OWL) no longer requires an extra cost license. See Oracle Database Insider blog post for more information.
Parallel spatial index builds	N	Y	Y	N	Y	Y	Y	Y	
Multimaster replication of SDO_GEOMETRY objects	N	Y	Y	N	Y	Y	Y	Y	EE and EE-ES : Single master/materialized view replication for SDO_GEOMETRY objects is supported
Partitioned spatial indexes	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Requires the Oracle Partitioning option

Table 1-14 VLDB, Data Warehousing, and Business Intelligence

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Oracle Partitioning	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Extra cost option
Oracle On-Line Analytical Processing (OLAP)	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Extra cost option
Oracle Machine Learning (formerly Advanced Analytics)	Y	Y	Y	Y	Y	Y	Y	Y	Oracle Machine Learning no longer requires an extra cost license. See Oracle Database Insider blog post for more information.
Oracle Advanced Compression	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Extra cost option

Table 1-14 (Cont.) VLDB, Data Warehousing, and Business Intelligence

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
Advanced Index Compression	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Requires the Oracle Advanced Compression option
Prefix Compression (also called Key Compression)	N	Y	Y	N	Y	Y	Y	Y	
Hybrid Columnar Compression	N	Y	Y	N	Y	Y	Y	Y	EE : Requires ZFS, Axiom, or FS1 storage
Hybrid Columnar Compression Row-Level Locking	N	Y	Y	N	N	N	N	Y	EE : Requires ZFS or FS1 storage, and the Oracle Advanced Compression option EE-ES : Requires the Oracle Advanced Compression option
Exadata Flash Cache Compression	N	N	Y	N	N	N	N	Y	EE-ES : Available on Exadata and requires the Oracle Advanced Compression option. Not available on Oracle Database Appliance.
Heat Map	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Requires the Oracle Advanced Compression option or the Oracle Database In-Memory option
Automatic Data Optimization	N	Y	Y	N	N	Y	Y	Y	EE and EE-ES : Requires the Oracle Advanced Compression option or the Oracle Database In-Memory option
Basic Table Compression	N	Y	Y	N	Y	Y	Y	Y	
Deferred Segment Creation	N	Y	Y	N	Y	Y	Y	Y	
Bitmapped index, bitmapped join index, and bitmap plan conversions	N	Y	Y	N	Y	Y	Y	Y	
Parallel query/DML	N	Y	Y	N	Y	Y	Y	Y	
Parallel statistics gathering	N	Y	Y	N	Y	Y	Y	Y	
Parallel index build/scans	N	Y	Y	N	Y	Y	Y	Y	
Parallel Data Pump Export/Import	N	Y	Y	N	Y	Y	Y	Y	

Table 1-14 (Cont.) VLDB, Data Warehousing, and Business Intelligence

Feature / Option / Pack	SE2	EE	EE-ES	DBCS SE	DBCS EE	DBCS EE-HP	DBCS EE-EP	ExaCS	Notes
In-memory Parallel Execution	N	Y	Y	N	Y	Y	Y	Y	
Parallel Statement Queuing	N	Y	Y	N	Y	Y	Y	Y	
Parallel capture and apply via XStream	N	Y	Y	N	Y	Y	Y	Y	
Transportable tablespaces, including cross-platform and full transportable export and import	N	Y	Y	N	Y	Y	Y	Y	Import of transportable tablespaces supported into SE2
Summary management— Materialized View Query Rewrite	N	Y	Y	N	Y	Y	Y	Y	

1.4 Oracle Database Options and Their Permitted Features

[Table 1-15](#) lists Oracle Database options, the Oracle Database offerings for which each option is available, and the features that are included with each option. You must be licensed for an option in order to use any of its features.

Table 1-15 Oracle Database Options and Their Permitted Features

Option	Availability	Included Features
Oracle Active Data Guard	Extra cost option: EE , EE-ES Included option: PE , DBCS EE-EP , ExaCS	<p>Oracle Active Data Guard includes the following features:</p> <ul style="list-style-type: none"> • Physical Standby with Real-time Query • Fast Incremental Backup on Physical Standby • Automatic Block Repair • Active Data Guard Far Sync • Global Data Services • Real-Time Cascade • Application Continuity • Rolling Upgrade using Active Data Guard • Active Data Guard DML Redirection (not available in Authorized Cloud Environments) <p>In an Oracle Data Guard configuration:</p> <ul style="list-style-type: none"> • Oracle Active Data Guard must be licensed on any standby databases with any of the above features in use, as well as the primary database. If there are additional standby databases in the Oracle Data Guard configuration that are not using any of the Oracle Active Data Guard features, those standby databases do not require an Oracle Active Data Guard license. <p>Note: For customers who back up standby databases to Zero Data Loss Recovery Appliance (ZDLRA) and wish to use the Fast Incremental Backup on Physical Standby or Real-Time Cascade feature, an Oracle Active Data Guard license is not required. Oracle Active Data Guard must still be licensed on standby databases, if any other of the above features are in use.</p> <ul style="list-style-type: none"> • The container root (CDB\$Root) of the standby database may be opened read-only without requiring an Oracle Active Data Guard license. An Oracle Active Data Guard license is only required if any of the pluggable databases in the standby is opened for read.

Table 1-15 (Cont.) Oracle Database Options and Their Permitted Features

Option	Availability	Included Features
Oracle Advanced Compression	Extra cost option: EE, EE-ES Included option: PE, DBCS EE-HP, DBCS EE-EP, ExaCS	<p>Oracle Advanced Compression includes the following features:</p> <ul style="list-style-type: none"> • Advanced Row Compression • Advanced LOB Compression • Advanced LOB Deduplication • RMAN Backup Compression (RMAN DEFAULT COMPRESS does not require the Oracle Advanced Compression option) • Data Pump Export Data Compression (COMPRESSION=METADATA_ONLY does not require the Oracle Advanced Compression option) • Heat Map • Automatic Data Optimization • Data Guard Redo Transport Compression • Advanced Network Compression • Optimization for Flashback Data Archive History Tables • Storage Snapshot Optimization • Online Move Partition (to any compressed format) • Exadata Flash Cache Compression (This feature can be enabled only on Exadata storage servers, and all database processors that access the Exadata storage servers must be licensed for Oracle Advanced Compression.) • Advanced Index Compression • Hybrid Columnar Compression Row-Level Locking (Requires Exadata, Oracle Database Appliance, Supercluster, ZFS, or FS1 storage)
Oracle Advanced Security	Extra cost option: EE, EE-ES Included option: PE, DBCS EE-HP, DBCS EE-EP, ExaCS	<p>Oracle Advanced Security includes the following features:</p> <ul style="list-style-type: none"> • Transparent Data Encryption (TDE) for tablespaces and columns (including Oracle SecureFiles) • DataPump Export File encryption • RMAN backup encryption to disk • Encrypted Database File System (DBFS) • Data Redaction of sensitive data returned to applications (Full, Partial, Regular Expression, and Random techniques) <p>Oracle Advanced Security includes a restricted use license for certain Oracle Enterprise Manager features. Refer to Oracle Advanced Security in "Restricted Use Licenses" for more information.</p> <p>Note: Network encryption (native network encryption, network data integrity, and SSL/TLS) and strong authentication services (Kerberos, PKI, and RADIUS) are no longer part of Oracle Advanced Security and are available in all licensed editions of all supported releases of Oracle Database.</p>

Table 1-15 (Cont.) Oracle Database Options and Their Permitted Features

Option	Availability	Included Features
Oracle Database In-Memory	Extra cost option: EE, EE-ES Included option: PE, DBCS EE-EP, ExaCS	<p>Oracle Database In-Memory includes the following features:</p> <ul style="list-style-type: none"> • In-Memory Column Store • In-Memory Column Cache on Storage Servers (Requires Exadata, Supercluster, or Exadata Cloud Service) • Fault Tolerant In-Memory Column Store (Requires Exadata, Supercluster, Oracle Database Appliance, or Exadata Cloud Service) • In-Memory Aggregation • Heat Map • Automatic Data Optimization
Oracle Database Vault	Extra cost option: EE, EE-ES Included option: PE, DBCS EE-HP, DBCS EE-EP, ExaCS	<p>Oracle Database Vault includes the following features:</p> <ul style="list-style-type: none"> • Separation of Duties • Realms • Command Rules • Trusted Paths <p>In an Oracle Multitenant environment, an Oracle Database Vault license is required when Oracle Database Vault is enabled in the CDB root, regardless of whether any PDBs are plugged in to the CDB root. An Oracle Database Vault license is not required when Oracle Database Vault is merely installed or configured in the CDB root. The Oracle Database Vault license applies to the entire CDB; you cannot license individual PDBs.</p> <p>When you purchase a license to use Oracle Database Vault on Oracle Database Enterprise Edition (EE or EE-ES), the licensing metrics for Oracle Database Vault must match the licensing metrics for Oracle Database Enterprise Edition.</p> <p>Oracle Database Vault includes special license rights for Oracle Label Security. Refer to Oracle Database Vault in "Special License Rights" for more information.</p> <p>Oracle Database Vault includes a restricted use license for certain Oracle Enterprise Manager features. Refer to Oracle Database Vault in "Restricted Use Licenses" for more information.</p>

Table 1-15 (Cont.) Oracle Database Options and Their Permitted Features

Option	Availability	Included Features
Oracle Label Security	Extra cost option: EE, EE-ES Included option: PE, DBCS EE-HP, DBCS EE-EP, ExaCS	<p>Oracle Label Security includes the following features:</p> <ul style="list-style-type: none"> • Label based access control (LBAC) • Multi-level security (MLS) • Label factors for Oracle Database Vault (Confidential, Sensitive) • User label authorizations (Confidential, Sensitive: PII) • Data labels (Sensitive: PII) <p>In an Oracle Multitenant environment, an Oracle Label Security license is required when an Oracle Label Security policy is created in any container. An Oracle Label Security license is not required when Oracle Label Security is merely installed or enabled in any container. The Oracle Label Security license applies to the entire CDB; you cannot license individual PDBs.</p> <p>When you purchase a license to use Oracle Label Security on Oracle Database Enterprise Edition (EE or EE-ES), the licensing metrics for Oracle Label Security must match the licensing metrics for Oracle Database Enterprise Edition.</p> <p>Oracle Label Security includes a restricted use license for certain Oracle Enterprise Manager features. Refer to Oracle Label Security in "Restricted Use Licenses" for more information.</p>
Oracle Machine Learning (formerly Advanced Analytics)	Included option: SE2, EE, EE-ES, DBCS SE, DBCS EE, DBCS EE-HP, DBCS EE-EP, ExaCS	<p>Oracle Machine Learning includes the following features:</p> <ul style="list-style-type: none"> • In-database algorithms for Oracle Machine Learning for SQL (OML4SQL) (formerly Oracle Data Mining): <ul style="list-style-type: none"> – Model build (accessed via the DBMS_DATA_MINING package) – Data transformations (accessed via the DBMS_DATA_MINING_TRANSFORM package) – Model scoring (accessed via SQL Scoring functions) – Predictive Analytics (accessed via the DBMS_PREDICTIVE_ANALYTICS package) • Oracle Machine Learning for R (OML4R) (formerly Oracle R Enterprise) (integration with open-source R): <ul style="list-style-type: none"> – OML4R Transparency Layer: Allows an R user to explore and prepare database-resident data using R language syntax and functions – OML4R interface to in-database machine learning algorithms – Embedded R Execution: Enables execution of user-defined R functions in database spawned and controlled R engines, also enabling data- and task- parallel execution – All OML4R functionality is invoked using the ORE package
Oracle Multitenant	Extra cost option: EE, EE-ES Included option: PE, DBCS EE-HP, DBCS EE-EP, ExaCS	<p>Oracle Multitenant includes the following features:</p> <ul style="list-style-type: none"> • For EE and PE, the ability to have up to 252 pluggable databases per multitenant container database • For EE-ES, DBCS EE-HP, DBCS EE-EP, and ExaCS, the ability to have up to 4096 pluggable databases per multitenant container database <p>Note: For licensing purposes, one non-CDB instance is equivalent to one user-created PDB inside one CDB.</p>

Table 1-15 (Cont.) Oracle Database Options and Their Permitted Features

Option	Availability	Included Features
Oracle On-Line Analytical Processing (OLAP)	Extra cost option: EE, EE-ES Included option: PE, DBCS EE-HP, DBCS EE-EP, ExaCS	Oracle On-Line Analytical Processing (OLAP) includes the following features: <ul style="list-style-type: none"> • OLAP Cube Definition, Storage, and Querying • OLAP API and Metadata • OLAP Cube Materialized Views • Analytic Workspaces • SQL Access to OLAP Cubes
Oracle Partitioning	Extra cost option: EE, EE-ES Included option: PE, DBCS EE-HP, DBCS EE-EP, ExaCS	Oracle Partitioning includes the following features: <ul style="list-style-type: none"> • Table Partitions and Subpartitions • Global and Local Index Partitions and Subpartitions • Sharded Queues • Zone Maps and Automatic Zone Maps (Available only on EE-ES and ExaCS – require Exadata or Supercluster)
Oracle RAC One Node	Extra cost option: EE, EE-ES Included option: ExaCS	Oracle RAC One Node includes the following features: <ul style="list-style-type: none"> • Database Cold Failover to another node in the cluster in case of server or instance failure • Online migration of the database instance to another server • Support for online rolling upgrades of the database, grid infrastructure, and OS homes • Online upgrade to Oracle Real Application Clusters • Policy-managed Server Pools • Quality of Service Management • Application Continuity • Zero-Downtime Oracle Grid Infrastructure Patching
Oracle Real Application Clusters (Oracle RAC)	Extra cost option: EE, EE-ES Included option: DBC EE-EP, ExaCS	Oracle Real Application Clusters (Oracle RAC) includes the following features: <ul style="list-style-type: none"> • All of the features included with Oracle RAC One Node • Real Application Clusters scaling to multiple servers • Connection Load Balancing • Fast Connection Failover • Hot Cluster Failover

Table 1-15 (Cont.) Oracle Database Options and Their Permitted Features

Option	Availability	Included Features
Oracle Real Application Testing	Extra cost option: EE , EE-ES Included option: PE , DBCS EE , DBCS EE-HP , DBCS EE-EP , ExaCS	<p>Oracle Real Application Testing includes the following features:</p> <ul style="list-style-type: none"> • Database Replay • SQL Performance Analyzer (SPA) • Database Consolidation Workbench <p>Database Replay</p> <ul style="list-style-type: none"> • The Oracle Real Application Testing license is required on both capture and replay systems for Database Replay and is charged by the total number of CPUs on those systems. • Use of Capture and Replay ASH Analytics Reports, Compare Period ADDM Reports, and Replay Compare Period Reports also requires an Oracle Diagnostics Pack license. • An Oracle Real Application Testing license permits you to access Database Replay functionality through Oracle Enterprise Manager, as well as through the following database server command-line APIs: <code>DBMS_WORKLOAD_CAPTURE</code> package and <code>DBMS_WORKLOAD_REPLAY</code> package. The use of the <code>DBMS_WORKLOAD_REPLAY.COMPARE_PERIOD_REPORT()</code> function also requires a license for Oracle Diagnostics Pack. <p>SQL Performance Analyzer (SPA)</p> <p>An Oracle Real Application Testing license permits you to access SQL Performance Analyzer functionality through Oracle Enterprise Manager, as well as through the following database server command-line API: <code>DBMS_SQLPA</code> package, which is part of the Oracle Real Application Testing option.</p> <p>Database Consolidation Workbench</p> <ul style="list-style-type: none"> • Database Consolidation Workbench, introduced in Oracle Enterprise Manager Cloud Control 13c, provides a data-driven and systematic approach to consolidation by eliminating guess work and human errors. Database Consolidation Workbench has three key capabilities: consolidation planning, database migration, and performance validation. • Use of the consolidation planning feature of Database Consolidation Workbench requires an Oracle Diagnostics Pack license. • Use of the database migration feature of Database Consolidation Workbench requires an Oracle Database Lifecycle Management Pack for Oracle Database license. • An Oracle Real Application Testing license permits you to access the following links on the Database Consolidation Workbench page in Oracle Enterprise Manager: <ul style="list-style-type: none"> – From the Enterprise menu, select Consolidation, then select Database Consolidation Workbench. – On the database target home page, select the Administration menu, then select Database Consolidation Workbench. – All features, functions, links, buttons, and drill-downs on this page are licensed as part of the Database Consolidation Workbench.

Table 1-15 (Cont.) Oracle Database Options and Their Permitted Features

Option	Availability	Included Features
Oracle Spatial and Graph	Included option: PE, SE2, EE, EE-ES, DBCS SE, DBCS EE, DBCS EE-HP, DBCS EE-EP, ExaCS	<p>Oracle Spatial and Graph includes the following features:</p> <ul style="list-style-type: none"> • Geospatial Data Features • Graph Database Features <p>Geospatial Data Features</p> <ul style="list-style-type: none"> • SPATIAL_VECTOR_ACCELERATION to significantly improve 2D and 3D spatial vector query performance • Classes in packages other than the oracle.spatial.geometry (sdoapi.jar) and oracle.spatial.util (sdoutil.jar) packages of the Spatial Java API • Linear Referencing System (LRS) support • GeoRaster Storage, Indexing, and Querying • Network Data Model • Topology Data Model • Spatial analysis and mining subprograms (SDO_SAM package) • Spatial Routing Engine • Geocoding Engine • Spatial Web Services including OpenLS support, including support for geocoding, mapping, business directory (Yellow Pages), and driving directions (routing) services, Web feature service (WFS) support (SDO_WFS_PROCESS and SDO_WFS_LOCK packages), and Catalog services for the Web (CSW) support (SDO_CSW_PROCESS package) • 3-D Geometry, Surface, Triangulated irregular network (TIN), and Point Cloud Storage, Indexing, and Querying • GeoJSON <p>Graph Database Features</p> <p>Graph database features include the following models:</p> <ul style="list-style-type: none"> • A property graph to model and analyze relationships found in social networks, cyber security, utilities and telecommunications, life sciences and clinical data, and knowledge networks. Typical graph analyses encompass graph traversal, recommendations, finding communities and influencers, and pattern matching. Its features include: <ul style="list-style-type: none"> – A scalable graph database – PGQL, a SQL-like declarative query language for the Property Graph data model – Data import from relational, CSV, GraphML, GraphSON, GML sources – Parallel bulk load and export of property graph data in Oracle-defined flat files format – A parallel, in-memory graph analytics engine with over 40 built-in analytics that include ranking, centrality, recommender, community detection, path finding – Developer-based APIs based upon Tinkerpop Blueprints, and Java graph APIs – Text search and query through integration with Oracle Text, Apache Lucene, and optionally, SolrCloud – SQL-based Property Graph query and analytics for several popular property graph operations in addition to the analytical functions offered by the in-memory analyst

Table 1-15 (Cont.) Oracle Database Options and Their Permitted Features

Option	Availability	Included Features
		<ul style="list-style-type: none"> – Scripting languages support for Groovy and Python – Manageability through a Groovy-based console to execute Java and Tinkerpop Gremlin APIs • A Network Data Model (NDM) graph to model and analyze link-node graphs to represent physical and logical networks used in transportation, utilities, and telco. Its features include: <ul style="list-style-type: none"> – A storage model to represent graphs and networks in link and node tables – Java APIs to perform analysis in memory – Numerous graph analysis functions including shortest path, within cost, nearest neighbors, traveling salesman, spanning tree, and more – Explicit storage and connectivity of the graph with link- and node-level attributes – Support for directed and undirected graphs with or without cost • An RDF Semantic Graph to model and analyze data represented as triples for social network, linked data, and other semantic applications. Its features include: <ul style="list-style-type: none"> – Graph relationships represented as triples in compressed, partitioned tables – Indexing, querying, and ontology management – RDFS, OWL, and user-defined inferencing (parallel, batch, and incremental) – Support for SPARQL 1.1 and mixed SPARQL and SQL queries – Enhanced Open Source Tools including Jena, Sesame, Joseki Web Services <p>Oracle Spatial and Graph includes a restricted use license for Oracle Partitioning. Refer to Oracle Spatial and Graph in "Restricted Use Licenses" for more information.</p>
Oracle TimesTen Application-Tier Database Cache	<p>Extra cost option: EE, EE-ES</p> <p>Included option: PE</p>	<p>Oracle TimesTen Application-Tier Database Cache includes the following features:</p> <ul style="list-style-type: none"> • Data access using PL/SQL, JDBC, ODBC, ttClasses, OCI, and Pro*C/C++ interfaces • Transaction Log API (XLA) for change notification • Multi-node Cache Grid • Automatic data synchronization with the Oracle database • Transactional replication between the in-memory cache databases • Automated failure detection and database failovers • TimesTen Extension for Oracle SQL Developer • TimesTen Plug-in for Oracle Enterprise Manager

1.5 Oracle Management Packs and Their Permitted Features

[Table 1-16](#) lists Oracle management packs, the Oracle Database offerings for which each pack is available, and the features that are included with each pack. The

features in these packs are accessible through Oracle Enterprise Manager, Desktop Widgets, and APIs provided with Oracle Database software. You must be licensed for a management pack in order to use any of its features.

Table 1-16 Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
Oracle Cloud Management Pack for Oracle Database	Extra cost pack: EE , EE-ES Included pack: DBCS EE-HP , DBCS EE-EP , ExaCS	<p>Features:</p> <p>Oracle Cloud Management Pack for Oracle Database includes the following features:</p> <ul style="list-style-type: none"> • Database-as-a-Service comprising self-service database provisioning on physical or virtual infrastructure • Pluggable Database-as-a-Service (PDBaaS) providing self-service provisioning on a pool of multitenant container databases (CDBs). • Support shared server, shared cluster, and shared database (Schema-as-a-Service) deployment models • Virtual assembly provisioning. For example, if there is an assembly topology of three VMs (two WebLogic Server-managed servers and one database), you will need both packs to cover the respective tiers. • Snap Clone, a fast, storage efficient way of cloning Oracle databases • Full clones using RMAN backups • Role based access and resource control through quotas and retirement policies • Schedule- and performance-based resource management policies • Metering and chargeback based on fixed cost, utilization metrics and configuration parameters of the database • Programmatic access to the Self-Service Portal • Blueprint driven orchestration of cloud operations <p>Prerequisites:</p> <p>Oracle Cloud Management Pack for Oracle Database requires Oracle Database Lifecycle Management Pack for Oracle Database.</p> <p>Licensed Links:</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Cloud Management Pack for Oracle Database.</p> <p>Starting on the Enterprise Summary home page, click the Enterprise menu. Select:</p> <ul style="list-style-type: none"> • Cloud, then Infrastructure Home • Cloud, then Infrastructure Request Dashboard • Cloud, then Infrastructure Policies • Cloud, then Middleware and Database Home • Cloud, then Middleware and Database Request Dashboard • Cloud, then Self Service Portal • Cloud, then Service Instances • Chargeback • Provisioning and Patching, then Database Provisioning. In the Database Provisioning page, in the Related Links section of the left menu pane, click Provision Pluggable Databases. Next, from the PDB Operations section, select Create New Pluggable Databases. Click Launch, and from Pluggable Database Creation Options, select Clone an Existing PDB -> Snap Clone. <p>Starting on the Enterprise Summary home page, click the Setup menu. Select:</p>

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<ul style="list-style-type: none"> • Cloud. Select Infrastructure • Cloud. Select Database • Provisioning and Patching, then Storage Registration <p>On the Multitenant container database's home page, from the Oracle Database menu, select Provisioning, then Provision Pluggable Database. Next, from the PDB Operations section, select Create New Pluggable Databases. Click Launch, and from Pluggable Database Creation Options, select Clone an Existing PDB -> Snap Clone.</p> <p>Licensed APIs:</p> <p>Use of the following APIs requires a license for Oracle Cloud Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • Assembly Operations — Any POST/GET/PUT/DELETE on /em/cloud/iaas URI space for Resources Assembly Template and Assembly Instance • DBaaS Operations — Any POST/GET/PUT/DELETE on /em/cloud/dbaas URI space • DBaaS Setup Operations — Any POST/GET/PUT/DELETE on /em/websvcs/restful/extws/cloudservices/admin/cfw/v1 URI space. <p>Licensed Command Line Interface (CLI) Verbs:</p> <p>The following Enterprise Manager Command Line Interface (CLI) verbs are licensed as part of Oracle Cloud Management Pack for Oracle Database. These verbs operate on a database pool.</p> <ul style="list-style-type: none"> • add_pool_members • create_charge_item • create_dbaas_quota • create_dbprofile • create_pool • create_service_template • delete_charge_item • delete_dbaas_quota • delete_pool • delete_service_template • get_dbaas_quota • get_dbaas_request_settings • get_metering_data • get_pool_capacity_data • get_pool_capacity_summary_data • get_pool_constraints • get_pool_criteria • get_pool_detail • get_pool_instance_data • get_pool_target_type • get_pools • get_service_template • list_charge_item_candidates • remove_pool_members

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<ul style="list-style-type: none"> • update_dbaas_quota • update_dbaas_request_settings • update_pool <p>Licensed Views and Tables:</p> <p>The following objects within the repository schema are licensed under Oracle Cloud Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • Tables starting with EMCT_CBA • Views starting with EMCT\$CBA • The GP_EMCT_CBA_TARGET_CHARGE views • The MGMT\$EMCT_CBA_CHARGE_DAILY view • The MGMT\$EMCT_CBA_CHARGE_HOURLY view <p>Licensed Chargeback Reports:</p> <p>The following BI Publisher reports are licensed under Oracle Cloud Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • Charge Trend Report • Charge Summary Report • Usage Trend Report • Usage Summary Report <p>Also, any report created using the "create-like" feature of BI publisher referring the preceding reports, falls under this license.</p>

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
Oracle Data Masking and Subsetting Pack	<p>Extra cost pack: EE, EE-ES</p> <p>Included pack: DBCS EE, DBCS EE-HP, DBCS EE-EP, ExaCS</p>	<p>Features:</p> <p>Oracle Data Masking and Subsetting Pack includes the following features:</p> <ul style="list-style-type: none"> • Application Data Modeling • Data Masking Formats Library • Data Masking Definitions • Data Subsetting Definitions • Application Data Modeling, Data Masking and Subsetting Enterprise Manager Command Line Interface (CLI) verbs • Application Data Modeling accelerator for select versions of Oracle E-Business Suite • Application Data Modeling accelerator for select versions of Oracle Fusion Applications • Data Masking templates for select versions of Oracle Fusion Applications • Data Masking templates for select versions of Oracle E-Business Suite <p>Oracle Data Masking and Subsetting Pack includes the following restricted use licenses:</p> <ul style="list-style-type: none"> • Database Gateway for APPC • Database Gateway for DRDA • Database Gateway for Informix • Database Gateway for SQLServer • Database Gateway for Sybase • Database Gateway for Teradata <p>If you want to use the Oracle Database Gateways listed above not solely for the purposes of Oracle Data Masking and Subsetting Pack, then you must purchase full-use licenses for the Oracle Database Gateways. When using Oracle Data Masking and Subsetting Pack for non-Oracle databases, the Oracle Database Gateways stage the data in a separately licensed Oracle Database. Oracle Data Masking and Subsetting functionality cannot be executed directly against the non-Oracle database.</p> <p>Oracle Data Masking and Subsetting Pack must be licensed only for the source database server, i.e., the databases from which the data originates.</p> <p>There is no requirement to license the pack for the staging database server on which masking and subsetting operations are executed, or for copies made of the masked database.</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Oracle Data Masking and Subsetting Pack incorporates the previous Oracle Data Masking Pack, Oracle Test Data Management Pack, and Oracle Data Masking and Subsetting Pack for non-Oracle Databases. 2. Application Data Modeling was previously called Data Discovery and Modeling. <p>Licensed Links:</p> <p>All features, functions, links, buttons, and drill-downs on these Oracle Enterprise Manager menus are licensed as part of the Oracle Data Masking and Subsetting Pack.</p>

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<p>Starting on the Enterprise Summary home page, click the Enterprise menu, then Quality Management, then select:</p> <ul style="list-style-type: none"> • Application Data Modeling • Data Masking Definitions • Data Masking Formats • Data Subset Definitions
		<p>From the Oracle database or cluster database target home page, click the Security menu, then select:</p> <ul style="list-style-type: none"> • Application Data Modeling • Data Masking Definitions • Data Subsetting

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
Oracle Database Lifecycle Management Pack for Oracle Database	Extra cost pack: EE, EE-ES Included pack: DBCS EE-HP, DBCS EE-EP, ExaCS	<p>Features:</p> <p>Oracle Database Lifecycle Management Pack for Oracle Database includes the following features:</p> <ul style="list-style-type: none"> • Client system analyzer • Compliance Management • Configuration Collection Extensibility • Configuration Compare • Configuration History • Configuration Instance Browser • Configuration Save • Configuration Search • Configuration Topology • Copy Objects • Database Patching • Database Provisioning • Database Upgrade • Disaster Recovery via Site Guard • Enterprise Data Governance • File Synchronization • Notifications • Pluggable Database (PDB) Clone • PDB Create/Plug/Unplug (Multiple target operations or performed using a customized deployment procedure.) • PDB Migrate • RAC Scale Back • RAC Scale Out • Real-time configuration change detection • Real-time schema change detection • Schema and Data Comparisons • Schema and Data Synchronization • Schema Change Plans • Schema Comparisons • User Defined Deployment Procedures (UDDP) <p>With the purchase of Oracle Database Lifecycle Management Pack for Oracle Database, you also are entitled to the features described in the following sections. These features are restricted to the Oracle Database targets in the Oracle Database Home and the Platform (hardware and operating system) for the CPUs you have licensed.</p> <ul style="list-style-type: none"> • Application Configuration Console • The <code>oplan</code> Utility (The basic OPlan feature is free for everyone that has an Oracle Support contract. Use of OPlan metadata to drive orchestration logic from either Enterprise Manager or custom/third-party scripts is part of Oracle Database Lifecycle Management Pack for Oracle Database.) • Migrate to ASM • Self Update <p>Licensed Parameters:</p> <p>The <code>init.ora</code> parameter <code>ENABLE_DDL_LOGGING</code> is licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database when set to <code>TRUE</code>. When set to <code>TRUE</code>, the database</p>

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<p>reports schema changes in real time into the database alert log under the message group schema_ddl. The default setting is <code>FALSE</code>.</p> <p>Licensed Links:</p> <p>The Licensed Links, features, and functions listed in the following sections apply only to the Oracle Database target and the associated host an Oracle Database is deployed on. For management on non-Oracle Database targets, you must purchase the appropriate management pack.</p> <p>Licensed Links – Database Provisioning Procedures:</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • From the Enterprise Manager home page, click the Enterprise menu, Provisioning and Patching, then Procedure Library. All Procedures that Clone and Provision a Database are licensed with Oracle Database Lifecycle Management Pack for Oracle Database. • From the Enterprise Manager home page, click the Enterprise menu, Provisioning and Patching, then Database Provisioning. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. • From the Oracle database or cluster database target home page, click the Oracle Database menu, then Provisioning. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Database Upgrade:</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • From the Enterprise Manager home page, click the Enterprise menu, Provisioning and Patching, then Procedure Library. All Procedures that Upgrade a Database are licensed with Oracle Database Lifecycle Management Pack for Oracle Database. • From the Oracle database or cluster database target home page, click the Oracle Database menu, then Provisioning. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – User Defined Deployment Procedures (UDDP)</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • From the Enterprise Manager home page, click the Enterprise menu, Provisioning and Patching, then Procedure Library. On the Provisioning Library page, from the list of actions, the Create New option is licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – RAC Scale Out and Scale Back</p>

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> From the Enterprise Manager home page, click the Enterprise menu, Provisioning and Patching, then Procedure Library. All Procedures that Extend or Scale a database or RAC are licensed with Oracle Database Lifecycle Management Pack for Oracle Database. From the Enterprise Manager home page, click the Enterprise menu, Provisioning and Patching, then Database Provisioning. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. From the Oracle cluster database target home page, click the Oracle Database menu, then Provisioning. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Database Patching</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> From the Enterprise Manager home page, click the Enterprise menu, Provisioning and Patching, then Procedure Library. All Procedures that patch a database, Clusterware or Real Application Clusters are licensed with Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Offline Patching</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> From the Enterprise Manager home page, click the Setup menu, Provisioning and Patching, then Offline Patching. From the Online and Offline Setting tab, the Connection, Offline setting is licensed with Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Configuration Instance Browser</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> From the Enterprise Manager home page, click on Targets, Databases, and select a Database. From the database home page, click on Oracle Database, Configuration. All features, functions, links, buttons, and drill-downs on this menu, excluding Topology, are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. If the Target Home Page is accessed directly or by other paths: <ul style="list-style-type: none"> From the database home page, click on Oracle Database, Configuration. All features, functions, links, buttons, and drill-downs on this menu, excluding Topology, are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database.

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<p>Licensed Links – Configuration Search</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> From the Enterprise Manager home page, click the Enterprise menu, then Configuration and Search. All features, functions, links, buttons, and drill-downs on this page are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Configuration History</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> From the Enterprise Manager home page, click the Enterprise menu, then Configuration and History. All features, functions, links, buttons, and drill-downs on this page are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Configuration Compare</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> From the Enterprise Manager home page, click the Enterprise menu, then Configuration, then Comparison & Drift Management. All features, functions, links, buttons, and drill-downs on this page are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Configuration Save</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> From the Enterprise Manager home page, click the Enterprise menu, then Configuration, then Saved. All features, functions, links, buttons, and drill-downs on this page are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Configuration Topology</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> From the Target Home Page, click on Oracle Database, Configuration, Topology. In the View Dropdown, Used By is licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. From the Target Home Page, click on Oracle Database, Configuration, Topology, Customization. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. If the Target Home Page is accessed directly or by other paths: <ul style="list-style-type: none"> From the Target Home Page, click on Oracle Database, Configuration, Topology. In the View drop-down, Used

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<p>By is licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database.</p> <ul style="list-style-type: none"> – From the Target Home Page, click on Oracle Database, Configuration, Topology, Customization. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Configuration Collection Extensibility Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • From the Enterprise Manager home page, click the Enterprise menu, then Configuration and Custom. All features, functions, links, buttons, and drill-downs on this page are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – File Synchronization Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • When viewing comparison results differences as described in the Configuration Compare feature, select the configuration specification in the tree on the left. Select Enable File Synchronization. All features, functions, links, buttons, and drill-downs on this page are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Schema Comparison: Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • From the Enterprise Manager home page, click on Targets, Databases, and then select a Database. From the database home page, click on Schema, Change Management. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. • If the Target Home Page is accessed directly or by other paths: <ul style="list-style-type: none"> – From the database home page, click on Schema, Change Management. All features, unctions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Schema and Data Comparisons: Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • From the Enterprise Manager home page, click on Targets, Databases, and then select a Database. From the database home page, click on Schema, Change Management. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database.

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<ul style="list-style-type: none"> • If the Target Home Page is accessed directly or by other paths: <ul style="list-style-type: none"> – From the database home page, click on Schema, Change Management. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Schema and Data Synchronization: Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • From the Enterprise Manager home page, click on Targets, Databases, and then select a Database. From the database home page, click on Schema, Change Management. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. • If the Target Home Page is accessed directly or by other paths: <ul style="list-style-type: none"> – From the database home page, click on Schema, Change Management. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Copy Objects: Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • From the Enterprise Manager home page, click on Targets, Databases, and then select a Database. From the database home page, click on Schema, Change Management. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. • If the Target Home Page is accessed directly or by other paths: <ul style="list-style-type: none"> – From the database home page, click on Schema, Change Management. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Links – Real-Time Schema Change Detection: Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • From the Enterprise Manager home page, click on Targets, Databases, and then select a Database. From the database home page, click on Schema, Change Management. All features, functions, links, buttons, and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. • If the Target Home Page is accessed directly or by other paths: <ul style="list-style-type: none"> – From the database home page, click on Schema, Change Management. All features, functions, links, buttons,

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<p>and drill-downs on this menu are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database.</p> <p>Licensed Links – Real-time Configuration Change Detection and Compliance:</p> <p>Use of the following Oracle Enterprise Manager pages and links requires a license for Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> From the Enterprise Manager home page, click the Enterprise menu and Compliance. All features, functions, links, buttons, and drill-downs associated with the Library, Results and Real-Time Observations pages are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database. <p>Licensed Reports:</p> <p>The following reports are part of Oracle Database Lifecycle Management Pack for Oracle Database. All reports in each of these sections are licensed as part of this pack. To access the reports go to the Enterprise Manager home page, click the Reports, Information Publisher Reports or BI Publisher Enterprise Reports.</p> <p>The following reporting areas, reports, and sub-reports under Information Publisher Reports are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> Compliance Deployment and Configuration Sample Host reports, Configuration Reports Security <p>The following reporting areas, reports and sub-reports under BI Publisher Enterprise Reports are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> Compliance Deployment and Configuration Sample Host reports, Configuration Reports Security <p>Licensed Command Line Interface (CLI) Verbs:</p> <p>The following Enterprise Manager Command Line Interface (CLI) verbs are licensed as part of Oracle Database Lifecycle Management Pack for Oracle Database.</p> <ul style="list-style-type: none"> associate_cs_targets clone_database config_compare config_db_service_target configure_log_archive_locations confirm_instance create_database describe_instance describe_procedure_input disable_config_history enable_config_history export_compliance_group export_compliance_standard_rule

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<ul style="list-style-type: none"> • export_facet • export_standard • fix_compliance_state • get_config_searches • get_config_templates • get_executions • get_instance_data • get_instance_status • get_instances • get_oms_config_property • get_procedure_types • get_procedure_xml • get_procedures • get_retry_argument • get_saved_configs • ignore_instance • import_compliance_object • list_oms_config_properties • remove_cs_target_association • reschedule_instance • resume_instance • run_config_search • save_procedure • set_config_history_retention_period • stop_instance • submit_procedure • suspend_instance • update_and_retry_step • update_procedure_input • upgrade_database <p>Licensed Repository Views – Compliance Views:</p> <p>The following compliance views within the repository schema are licensed under Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • MGMT\$CCC_ALL_OBS_BUNDLES • MGMT\$CCC_ALL_OBSERVATIONS • MGMT\$CCC_DIAG_ANALYTICS • MGMT\$CCC_DIAG_QUEUEBACKLOG • MGMT\$COMPLIANCE_STANDARD • MGMT\$COMPLIANCE_STANDARD_GROUP • MGMT\$COMPLIANCE_STANDARD_RULE • MGMT\$COMPOSITE_CS_EVAL_SUMMARY • MGMT\$CS_ASM_DISKGRP_SETTINGS • MGMT\$CS_DB_CONTROL_FILE_COUNT • MGMT\$CS_DB_INIT_PARAMS • MGMT\$CS_DB_RBS_IN_SYSTEM • MGMT\$CS_DB_REC_SEG_SETTINGS

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<ul style="list-style-type: none"> • MGMT\$CS_DB_REC_TS_SETTINGS • MGMT\$CS_DB_REC_USER_SETTINGS • MGMT\$CS_DB_REDO_LOG_COUNT • MGMT\$CS_DB_REDO_LOGS • MGMT\$CS_DB_TABLESPACES • MGMT\$CS_DB_TBSP_SEGSPACE_MGMT • MGMT\$CS_EVAL_SUMMARY • MGMT\$CS_FEATURE_USAGE • MGMT\$CS_GROUP_EVAL_SUMMARY • MGMT\$CS_GROUP_KEYWORD • MGMT\$CS_HA_INFO • MGMT\$CS_HIERARCHY • MGMT\$CS_KEYWORD • MGMT\$CS_RQS_HIERARCHY • MGMT\$CS_RULE_ATTRS • MGMT\$CS_RULE_EVAL_SUMMARY • MGMT\$CS_RULEFOLDER • MGMT\$CS_TARGET_ASSOC • MGMT\$CS_TGT_ASSOC_TXF_REQ • MGMT\$CSG_HIERARCHY • MGMT\$CSG_SUBGROUP • MGMT\$CSR_CURRENT_VIOLATION • MGMT\$CSR_TARGET_ASSOC • MGMT\$CSR_VIOLATION_CONTEXT • MGMT\$CSRF_TARGET_ASSOC • MGMT\$EM_CS_RULE_EVENT_ERROR • MGMT\$EM_RULE_VIOL_CTXT_DEF • MGMT\$ICS_TARGET_ASSOC • MGMT\$REPO_RULE_CHK_DETAILS • MGMT\$REPOSITORY_RULE_BIND_VARS • MGMT\$REPOSITORY_RULE_PARAMS • MGMT\$RULE_KEYWORD <p>Licensed Repository Views – Provisioning and Patching Views: The following provisioning and patching views within the repository schema are licensed under Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • EM\$PROV_APPTYPES • EM\$PROVAPP_METADATA • EM\$PROVAPP_METADATA_VERSION • EM\$PROVAPP_TAG_PROPERTIES • EM\$PROVAPP_TAGS • MGMT\$PA_RECOM_METRIC_SOURCE <p>Licensed Repository Views – Patching Views: The following patching views within the repository schema are licensed under Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • GC\$EM_PC_PLAN_PATCHES

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<ul style="list-style-type: none"> • GC\$EM_PC_PLANS • GC\$EM_PC_PLAN_TARGETS • GC_PC_EXECUTION_INSTANCES • GC_PC_PLAN_ANALYSIS_RS • GC_PC_PLAN_REMEDY • GC_PC_PLAN_REMEDY_DETAILS • GC_PC_PLAN_USERS • GC_PC_TARGETS • MGMT\$APPLIED_PATCHES • MGMT\$APPLIED_PATCHSETS • MGMT\$ARU_FAMILY_PRODUCT_MAP • MGMT\$ARU_LANGUAGES • MGMT\$ARU_PATCH_RECOMMENDATIONS • MGMT\$ARU_PLATFORMS • MGMT\$ARU_PRODUCT_RELEASE_MAP • MGMT\$ARU_PRODUCTS • MGMT\$ARU_RELEASES • MGMT\$ARU_TARGETS • MGMT\$PA_AFFTED_HOST_GUID_OH • MGMT\$PA_AFFTED_HOST_OH • MGMT\$PA_AFFTED_TARGETS • MGMT\$PA_FINAL_PATCH_LIST • MGMT\$PA_TARGET_MAPPING • MGMT\$PR_APPL_PATCHES_TO_OH • MGMT\$PR_APPL_PATCHES_TO_OH_TGT • MGMT\$PR_HOME_INFO • MGMT\$PR_HOMES_AFFECTED_COUNT • MGMT\$RECOM_METRIC_SOURCE <p>Licensed Repository Views – Configuration Views: The following configuration views within the repository schema are licensed under Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • GC\$ECM_COMP_PROPERTIES • GC\$ECM_CONFIG_SUMMARY • GC\$ECM_CURR_CONFIG • GC\$ECM_CURR_CONFIG_FLAT_MEMS • GC\$ECM_CURR_CONFIG_SNAPSHOTS • GC\$ECM_CURR_TARGET_SNAPSHOTS • GC\$ECM_DATA_RETENTION_TIME • GC\$ECM_GEN_SNAPSHOT • GC\$ECM_SAVED_CONFIG • GC\$ECM_SAVED_CONFIG_FLAT_MEMS • GC\$ECM_SAVED_CONFIG_SNAPSHOTS • GC\$ECM_SAVED_CONFIG_TARGETS • GC\$ECM_SAVED_TARGET_SNAPSHOTS • MGMT\$CCS_DATA • MGMT\$CCS_DATA_SOURCE

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<ul style="list-style-type: none"> • MGMT\$CCS_DATA_SOURCE_VISIBLE • MGMT\$CCS_DATA_VISIBLE • MGMT\$DB_CONTROLFILES • MGMT\$DB_DATAFILES • MGMT\$DB_DBNINSTANCEINFO • MGMT\$DB_FEATUREUSAGE • MGMT\$DB_INIT_PARAMS • MGMT\$DB_LICENSE • MGMT\$DB_OPTIONS • MGMT\$DB_REDOLOGS • MGMT\$DB_ROLLBACK_SEGS • MGMT\$DB_SGA • MGMT\$DB_TABLESPACES • MGMT\$DB_TABLESPACES_ALL • MGMT\$ECM_CMP_JOB_LAST_RESULTS • MGMT\$ECM_CMP_JOBS • MGMT\$ECM_CMP_RPT_CCS_DS • MGMT\$ECM_CMP_RPT_CCS_DS_DTLS • MGMT\$ECM_CMP_RPT_CCS_PD_ALL • MGMT\$ECM_CMP_RPT_CCS_PD_DIFFS • MGMT\$ECM_CMP_RPT_CI_DIFFS • MGMT\$ECM_CMP_VISIBLE_CONFIGS • MGMT\$ECM_CURRENT_SNAPSHOTS • MGMT\$ECM_VISIBLE_SNAPSHOTS • MGMT\$SERVICETAG_INSTANCES • MGMT\$SERVICETAG_REGISTRY • MGMT\$UNPATCHABLE_DB_TARGETS <p>Licensed Repository Views – Oracle Home Patching Views: The following Oracle home patching views within the repository schema are licensed under Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • MGMT\$APPLIED_PATCHES • MGMT\$APPLIED_PATCHSETS • MGMT\$APPL_PATCH_AND_PATCHSET • MGMT\$CPF_ADVISORY_INFO • MGMT\$CPF_HOMES_INFO • MGMT\$CPF_PATCH_INFO • MGMT\$EM_HOMES_PLATFORM • MGMT\$HOMES_AFFECTED • MGMT\$OH_CLONE_PROPERTIES • MGMT\$OH_COMP_DEP_RULE • MGMT\$OH_COMP_INST_TYPE • MGMT\$OH_COMPONENT • MGMT\$OH_CRS_NODES • MGMT\$OH_DEP_HOMES • MGMT\$OH_FILE • MGMT\$OH_HOME_INFO

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<ul style="list-style-type: none"> • MGMT\$OH_INSTALLED_TARGETS • MGMT\$OH_INV_SUMMARY • MGMT\$OH_PATCH • MGMT\$OH_PATCHED_COMPONENT • MGMT\$OH_PATCHED_FILE • MGMT\$OH_PATCH_FIXED_BUG • MGMT\$OH_PATCHSET • MGMT\$OH_VERSIONED_PATCHV • MGMT\$PATCH_ADVISORIES <p>Licensed Repository Views – Security Views:</p> <p>The following security views within the repository schema are licensed under Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • MGMT\$ESA_ALL_PRIVS_REPORT • MGMT\$ESA_ANY_DICT_REPORT • MGMT\$ESA_ANY_PRIV_REPORT • MGMT\$ESA_AUDIT_SYSTEM_REPORT • MGMT\$ESA_BECOME_USER_REPORT • MGMT\$ESA_CATALOG_REPORT • MGMT\$ESA_CONN_PRIV_REPORT • MGMT\$ESA_CREATE_PRIV_REPORT • MGMT\$ESA_DBA_GROUP_REPORT • MGMT\$ESA_DBA_ROLE_REPORT • MGMT\$ESA_DIRECT_PRIV_REPORT • MGMT\$ESA_EXMPT_ACCESS_REPORT • MGMT\$ESA_KEY_OBJECTS_REPORT • MGMT\$ESA_OH_OWNERSHIP_REPORT • MGMT\$ESA_OH_PERMISSION_REPORT • MGMT\$ESA_POWER_PRIV_REPORT • MGMT\$ESA_PUB_PRIV_REPORT • MGMT\$ESA_SYS_PUB_PKG_REPORT • MGMT\$ESA_TABSP_OWNERS_REPORT • MGMT\$ESA_TRC_AUD_PERM_REPORT • MGMT\$ESA_WITH_ADMIN_REPORT • MGMT\$ESA_WITH_GRANT_REPORT <p>Licensed Repository Views – Client Configuration Views:</p> <p>The following client configuration views within the repository schema are licensed under Oracle Database Lifecycle Management Pack for Oracle Database:</p> <ul style="list-style-type: none"> • MGMT\$CSA_COLLECTIONS • MGMT\$CSA_FAILED • MGMT\$CSA_HOST_COOKIES • MGMT\$CSA_HOST_CPUS • MGMT\$CSA_HOST_CUSTOM • MGMT\$CSA_HOST_IOCARDS • MGMT\$CSA_HOST_NICS • MGMT\$CSA_HOST_OS_COMPONENTS

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<ul style="list-style-type: none">• MGMT\$CSA_HOST_OS_FILESYSTEMS• MGMT\$CSA_HOST_OS_PROPERTIES• MGMT\$CSA_HOST_RULES• MGMT\$CSA_HOST_SW• MGMT\$ECM_CONFIG_HISTORY

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
Oracle Diagnostics Pack	Extra cost pack: EE, EE-ES Included pack: DBCS EE, DBCS EE-HP, DBCS EE-EP, ExaCS	<p>Features:</p> <p>Oracle Diagnostics Pack includes the following features:</p> <ul style="list-style-type: none"> • Performance monitoring and diagnostics (database and host) • Automatic Workload Repository (AWR) • AWR Warehouse • Automatic Database Diagnostic Monitor (ADDM) • Compare Period ADDM • Real Time ADDM • Active Session History (ASH) • ASH analytics • Performance Hub • Exadata Cell Grid Administration • Exadata Cell Grid Performance • Exadata Cell Group Health Overview page • Exadata Resource Utilization • Blackouts • Notifications • Metric and Alert/Event history • User-Defined Metrics and Metric Extensions • Management Connectors • Dynamic metric baselines and Adaptive metric thresholds • Monitoring templates and Template Collections • Replay Compare Period Report • Supporting functionality to perform per stream bottleneck detection and per component top wait event analysis <p>In order to use the features listed above, you must purchase licenses for Oracle Diagnostics Pack. A new initialization parameter, <code>CONTROL_MANAGEMENT_PACK_ACCESS</code>, controls access to Oracle Diagnostics Pack and Oracle Tuning Pack. This parameter can be set to one of three values:</p> <ul style="list-style-type: none"> • DIAGNOSTIC+TUNING: Oracle Diagnostics Pack and Oracle Tuning Pack functionality is enabled in the database server. • DIAGNOSTIC: Only Oracle Diagnostics Pack functionality is enabled in the server. • NONE: Oracle Diagnostics Pack and Oracle Tuning Pack functionality is disabled in the database server. <p>Any and all methods of accessing Oracle Diagnostics Pack functionality, whether through Enterprise Manager Console, Desktop Widgets, command-line APIs, or direct access to the underlying data, requires an Oracle Diagnostics Pack license.</p> <p>Licensed Links:</p> <p>To determine which links in Enterprise Manager are part of Oracle Diagnostics Pack, click the Setup link on the top right-hand part of the Enterprise Manager Home page.</p> <ul style="list-style-type: none"> • When you click the Setup link, the navigation bar contains the Management Pack Access link. Click this link. • This will take you to the Management Pack Access page, which allows you to grant and remove access from all the management packs.

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<ul style="list-style-type: none"> – For Enterprise Manager Database Control, click the Remove Access radio button for the Diagnostics Pack and click Apply. – For Enterprise Manager Cloud Control, click the appropriate check box for the Diagnostics Pack and click Apply. <p>This procedure disables all the links and tabs associated with Oracle Diagnostics Pack in Enterprise Manager. All the disabled links and tabs are part of Oracle Diagnostics Pack and therefore require a pack license.</p> <p>Licensed Command-Line APIs:</p> <p>Oracle Diagnostics Pack features can also be accessed by way of database server APIs and command-line interfaces:</p> <ul style="list-style-type: none"> • The DBMS_ADDM, DBMS_PERF, DBMS_UMF, and DBMS_WORKLOAD_REPOSITORY packages are part of this pack. • The DBMS_ADVISOR package is part of this pack if you specify ADDM as the value of the advisor_name parameter, or if you specify for the value of the task_name parameter any value starting with the ADDM prefix. • The DBMS_WORKLOAD_REPLAY.COMPARE_PERIOD_REPORT function is part of this pack. • The V\$ACTIVE_SESSION_HISTORY dynamic performance view and its underlying table, X\$ASH, are part of this pack. • The DBA_STREAMS_TP_PATH_BOTTLENECK view is part of this pack. • All views beginning with DBA_ADDM_ are part of this pack. • Some data in DBA_STREAMS_TP_COMPONENT_STAT requires Oracle Diagnostics Pack. The following filter clause to any query on DBA_STREAMS_TP_COMPONENT_STAT shows Diagnostics-Pack-dependent data: <pre>where STATISTIC_UNIT = 'PERCENT'</pre> <p>For example, the following query shows Diagnostics-Pack-dependent data only:</p> <pre>SELECT * FROM DBA_STREAMS_TP_COMPONENT_STAT where STATISTIC_UNIT = 'PERCENT';</pre> <ul style="list-style-type: none"> • All data dictionary views beginning with the prefix DBA_HIST_ are part of this pack, along with their underlying tables. The only exception are the views: DBA_HIST_SNAPSHOT, DBA_HIST_DATABASE_INSTANCE, DBA_HIST_SNAP_ERROR, DBA_HIST_SEG_STAT, DBA_HIST_SEG_STAT_OBJ, and DBA_HIST_UNDOSTAT. They can be used without the Oracle Diagnostics Pack license. • All data dictionary views with the prefix DBA_ADVISOR_ are part of this pack if queries to these views return rows with the value ADDM in the ADVISOR_NAME column or a value of ADDM* in the TASK_NAME column or the corresponding TASK_ID. • The following reports found in the /rdbms/admin/ directory of the Oracle home directory are part of this pack: awrrpt.sql, awrrpti.sql, awrgrpt.sql, awrgrpti.sql, awrgdrpt.sql,

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<p>awrgdrpi.sql, addmrpt.sql, addmrpti.sql, ashrpt.sql, ashrpti.sql, awrddrpt.sql, awrddrpi.sql, awrsqrpi.sql, awrsqrpt.sql, awrextr.sql, awrload.sql, awrinfo.sql, spawrio.sql, and spawrrac.sql.</p> <p>Licensed Repository Views – Monitoring Views: The following monitoring views are licensed under Oracle Diagnostics Pack:</p> <ul style="list-style-type: none"> • MGMT\$ALERT_ANNOTATIONS • MGMT\$ALERT_CURRENT • MGMT\$ALERT_HISTORY • MGMT\$ALERT_NOTIF_LOG • MGMT\$AVAILABILITY_CURRENT • MGMT\$AVAILABILITY_HISTORY • MGMT\$BLACKOUT_HISTORY • MGMT\$BLACKOUTS • MGMT\$METRIC_COLLECTIONS • MGMT\$ALERT_CURRENT • MGMT\$METRIC_DAILY • MGMT\$METRIC_DETAILS • MGMT\$METRIC_HOURLY • MGMT\$TARGET_METRIC_COLLECTIONS • MGMT\$TARGET_METRIC_SETTINGS <p>Licensed Repository Views – Template Views: The following template views are licensed under Oracle Diagnostics Pack:</p> <ul style="list-style-type: none"> • MGMT\$TEMPLATES • MGMT\$TEMPLATE_METRIC_COLLECTION • MGMT\$TEMPLATE_METRIC_SETTINGS • MGMT\$TEMPLATE_POLICY_SETTINGS

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
Oracle Tuning Pack	<p>Extra cost pack: EE, EE-ES</p> <p>Included pack: DBCS EE, DBCS EE-HP, DBCS EE-EP, ExaCS</p>	<p>Features:</p> <p>Oracle Tuning Pack includes the following features:</p> <ul style="list-style-type: none"> • SQL Access Advisor • SQL Tuning Advisor • Oracle Database In-Memory Advisor • Automatic SQL Tuning • SQL Profiles • Real-time SQL and PL/SQL Monitoring • Real-time Database Operations Monitoring • Reorganize objects <p>A new initialization parameter, <code>CONTROL_MANAGEMENT_PACK_ACCESS</code>, is introduced to control access to Oracle Diagnostics Pack and Oracle Tuning Pack in the database server. This parameter can be set to one of three values:</p> <ul style="list-style-type: none"> • <code>DIAGNOSTIC+TUNING</code>: Oracle Diagnostics Pack and Oracle Tuning Pack functionality is enabled in the database server. • <code>DIAGNOSTIC</code>: Only Oracle Diagnostics Pack functionality is enabled in the server. • <code>NONE</code>: Oracle Diagnostics Pack and Oracle Tuning Pack functionality is disabled in the database server. <p>Any and all methods of accessing Oracle Tuning Pack functionality, whether through Enterprise Manager Console, Desktop Widgets, command-line APIs, or direct access to the underlying data, requires an Oracle Tuning Pack license.</p> <p>Prerequisites:</p> <p>Oracle Tuning Pack requires Oracle Diagnostics Pack.</p> <p>Licensed Links:</p> <p>To determine which links in Enterprise Manager are part of Oracle Tuning Pack, click the Setup link on the top right-hand part of the Enterprise Manager Home page.</p> <ul style="list-style-type: none"> • When you click the Setup link, the navigation bar contains the Management Pack Access link. Click this link. • This will take you to the Management Pack Access page, which allows you to grant and remove access from all the management packs. <ul style="list-style-type: none"> – For Enterprise Manager Database Control, click the Remove Access radio button for the Tuning Pack and click Apply. – For Enterprise Manager Cloud Control, click the appropriate check box for the Tuning Pack and click Apply. <p>This procedure disables all the links and tabs associated with Oracle Tuning Pack in Enterprise Manager. All the disabled links and tabs are part of Oracle Tuning Pack and therefore require a pack license.</p> <p>Licensed Command Line APIs:</p> <p>Oracle Tuning Pack features can also be accessed by way of database server APIs and command-line interfaces:</p> <ul style="list-style-type: none"> • <code>DBMS_ADVISOR</code>, when the value of the <code>advisor_name</code> parameter is either SQL Tuning Advisor or SQL Access Advisor. • <code>DBMS_AUTO_SQLTUNE</code>

Table 1-16 (Cont.) Oracle Management Packs and Their Permitted Features

Management Pack	Availability	Included Features
		<ul style="list-style-type: none"> • DBMS_PERF • DBMS_SQL_MONITOR • DBMS_SQLTUNE (See Note) • V\$SQL_MONITOR • V\$SQL_PLAN_MONITOR • The following report found in the <code>/rdbms/admin/</code> directory of the Oracle home directory is part of this pack: <code>sqltrpt.sql</code>. <p>Note: If you are licensed for the on-premise Oracle Database Enterprise Edition, then you can use certain subprograms of the DBMS_SQLTUNE package even if you do not have an Oracle Tuning Pack license. See the SQL Tuning Sets entry in Table 1-7 for more information.</p>

1.6 Checking for Feature, Option, and Management Pack Usage

Oracle provides the script `options_packs_usage_statistics.sql`, which enables you to check feature usage, Oracle Database option usage, and Oracle management pack usage on your database. This script lists, in two distinct sections:

- Oracle Database option and Oracle management pack usage
- Features used by each option and management pack

You can obtain the script from My Oracle Support as follows:

1. Use a Web browser to view the My Oracle Support Web site:

<https://support.oracle.com>

2. Log in to My Oracle Support.

If you are not a My Oracle Support registered user, then click **Register** and follow the registration instructions.

3. Search for Document ID 1317265.1, or access it directly with the following URL:

<https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=1317265.1>

You can manually run the script on an individual database or use Oracle Enterprise Manager Job System to automatically run the script on multiple databases. Refer to *Oracle Enterprise Manager Cloud Control Administrator's Guide* for information on Oracle Enterprise Manager Job System.

**Note:**

The information obtained from this script will provide you an overview of the licensable Oracle Database options and Oracle management packs that were identified as used by your organization. This is to be used for informational purposes only and this does not represent your license entitlement or requirement. Please contact the License Management Services representative at <http://www.oracle.com/us/corporate/license-management-services/index.html> to understand your license requirements.

1.7 Special License Rights

Table 1-17 Special License Rights

Feature / Option	Licensing Information
Data Guard Far Sync	The far sync instance can be installed and used on a server different from the server where the Oracle Database is installed and used. It is not necessary to obtain a separate license for the server running the far sync instance.
Enterprise User Security	If you wish to use Enterprise User Security in Oracle Database Enterprise Edition, you no longer need to license the Oracle Advanced Security option for Kerberos and PKI based authentication. It does require a corresponding Oracle Identity Management Directory Services Plus to be licensed. Any Oracle Advanced Security licenses purchased on or before January 31, 2004, have restricted use of the Oracle Internet Directory (OID) component of Oracle Directory Services Plus to support Enterprise User Security.
Global Data Services	The GSM listener can be installed and used on a server different from the server where the Oracle Database is installed and used. It is not necessary to obtain a separate license for the server running the GSM listener.
Infrastructure repository databases	<p>A separate single instance Oracle Database can be installed and used as an infrastructure repository for RMAN, Oracle Enterprise Manager Cloud Control, Automatic Workload Repository (AWR) Warehouse, Global Data Services Catalog, Sharding Catalog, and Grid Infrastructure Management Repository without additional license requirements, provided that all the targets are correctly licensed. It may not be used or deployed for other uses.</p> <p>The infrastructure repositories for RMAN, Oracle Enterprise Manager Cloud Control, AWR Warehouse, Global Data Services Catalog, and Sharding Catalog can be shared in one database, or deployed in separate databases. Enterprise Edition must be used for the infrastructure repository database(s).</p> <p>If Oracle RAC is used for the infrastructure database, then Oracle RAC licenses for all servers, and Enterprise Edition licenses for all but the first server, are required.</p> <p>If Data Guard is used for the infrastructure database for RMAN, Oracle Enterprise Manager Cloud Control, AWR Warehouse, Global Data Services, and Grid infrastructure management Repository, then an Enterprise Edition license for the standby server is required. The Infrastructure Database for the Sharding Catalog can be protected with Data Guard without a second Enterprise Edition license.</p>

Table 1-17 (Cont.) Special License Rights

Feature / Option	Licensing Information
Oracle ASM Cluster File System (Oracle ACFS)	<p>When used with non-Oracle Database files, all Oracle ACFS features are free.</p> <p>When used with Oracle Database files, all Oracle ACFS features are free, with the following exceptions:</p> <ul style="list-style-type: none"> • ACFS Auditing - Not available (use Oracle Audit Vault*) • ACFS Compression - Not available (use Oracle Advanced Compression*) • ACFS Encryption - Not available (use Oracle Transparent Data Encryption, part of the Oracle Advanced Security option*) • ACFS Security - Not available (use Oracle Database Vault*) <p>* Requires appropriate full-use licenses to these products or components.</p> <p>Oracle will provide support services for Oracle ACFS only if the server it operates on also operates an Oracle product, which may include Oracle Linux or Oracle Solaris, which is under an Oracle support contract.</p>
Oracle Automatic Storage Management (Oracle ASM)	Oracle ASM is free to use with all Oracle databases and Oracle ACFS file systems.
Oracle Clusterware	Oracle Clusterware provides cluster membership and high availability monitoring and failover. Oracle Clusterware may be used to protect any application (restarting or failing over the application in the event of a failure) on any server, free of charge. Oracle will provide support for Clusterware only if the server is running an Oracle product, which may include Oracle Linux or Oracle Solaris, that is also under Oracle support.
Oracle Connection Manager	Oracle Connection Manager can be installed and used on a machine different from the machine where the Oracle Database is installed and used. It is not necessary to obtain a separate license for the machine running Oracle Connection Manager.
Oracle Data Guard broker	You can install the broker command line interface DGMGRL and run the observer software on computer systems that are separate from the Oracle Data Guard primary and standby systems. It is not necessary to obtain a separate license for a system hosting the observer.
Oracle Database Backup Cloud Service	<p>Oracle Database Backup Cloud Service includes use of the following two features from the Oracle Advanced Security option or the Oracle Advanced Compression option at no additional cost:</p> <ul style="list-style-type: none"> • RMAN backup encryption • All RMAN backup compression algorithms <p>To use additional features of the Oracle Advanced Security option or the Oracle Advanced Compression option, you must license those options separately. In addition, the Oracle Advanced Security option must be separately licensed when performing RMAN encrypted backups directly to disk.</p>
Oracle Database Gateway for ODBC	Oracle Database Gateway for ODBC can be installed and used on a machine different from the machine where the Oracle Database is installed and used. It is not necessary to obtain a separate license for the machine running Oracle Gateway for ODBC.
Oracle Database Provider for DRDA	Oracle Database Provider for DRDA can be installed and used on a machine different from the machine where the Oracle Database is installed and used. It is not necessary to obtain a separate license for the machine running Oracle Database Provider for DRDA.

Table 1-17 (Cont.) Special License Rights

Feature / Option	Licensing Information
Oracle Database Vault	When Oracle Database Vault is configured and enabled, it configures and enables Oracle Label Security. Oracle Label Security is solely restricted for use by the Oracle Database Vault software. If you want to create Oracle Label Security policies, then you must purchase a full-use license for Oracle Label Security.
Oracle Real Application Testing	<p>The full functionality of Oracle Real Application Testing is available only on Oracle Database 11g Release 1 or higher. Partial functionality of Oracle Real Application Testing is available to customers wishing to upgrade from Oracle9i Database Release 2 or Oracle Database 10g.</p> <p>The functionality available on Oracle9i Database Release 2 is as follows:</p> <ul style="list-style-type: none"> • Database Replay: Only the Workload Capture feature is supported, and the captured workload may only be replayed only on Oracle Database 11g. This feature can be used only to facilitate upgrades from Oracle 9i Database Release 2 to Oracle Database 11g or higher. <p>The functionality available on Oracle Database 10g Release 2 is as follows:</p> <ul style="list-style-type: none"> • Database Replay: Only the Workload Capture feature is supported, and the captured workload may be replayed only on Oracle Database 11g. This feature can be used only to facilitate upgrades from Oracle Database 10g Release 2 to Oracle Database 11g. • SQL Performance Analyzer: Only the Remote SQL Test Execute and SQL Capture into SQL Tuning Set features are supported. These features can be used only to facilitate upgrades from Oracle9i Database Release 2 and Oracle Database 10g Release 1 to Oracle Database 10g Release 2 or higher. When upgrading to Oracle Database 10g Release 2 from earlier releases (Oracle 9i Database or Oracle Database 10g Release 1), Oracle Database 11g is needed to remotely execute SQL on the target database (that is, Oracle Database 10g Release 2). Oracle Real Application Testing licensing is required for both systems, Oracle Database 10g Release 2 and Oracle Database 11g.
Oracle Secure Backup Oracle Secure Backup Cloud Module	<p>For backup of Oracle Database Enterprise Edition, Oracle Secure Backup includes restricted use licenses for:</p> <ul style="list-style-type: none"> • RMAN backup encryption to tape or Amazon S3 • RMAN backup compression leveraging LOW, MEDIUM, BASIC or HIGH algorithms <p>The Oracle Secure Backup special-use licenses apply to RMAN backup encryption, which is a component of the Oracle Advanced Security option, and RMAN backup compression levels, which are components of the Oracle Advanced Compression option. To use additional features of the Oracle Advanced Security option or the Oracle Advanced Compression option, you must license those options separately. In addition, the Oracle Advanced Security option must be licensed when performing RMAN encrypted backups directly to disk whether or not Oracle Secure Backup is the media manager.</p>
Oracle Secure Backup Express	<p>Oracle Secure Backup Express is bundled with the Oracle Database. Support for Oracle Secure Backup Express is provided exclusively through a free Oracle Discussion Forum monitored by Oracle employees as well as community experts.</p> <p>Oracle Secure Backup Express can back up an Oracle database as well as Oracle home files and other file system data requiring tape protection.</p> <p>For more information, refer to <i>Oracle Secure Backup Licensing Information</i>.</p>

Table 1-17 (Cont.) Special License Rights

Feature / Option	Licensing Information
Oracle Spatial and Graph	<p>These Oracle Spatial and Graph components can be installed and used on a server different from the server where the Oracle Database is installed and used without a separate license:</p> <ul style="list-style-type: none">• Spatial Geocoder• Spatial Routing engine• Spatial Web Services• Property Graph client• In-memory analyst (PGX)• Spatial Visualization component• Spatial Studio <p>For more information, see <i>Oracle Spatial Developer's Guide</i> and <i>Oracle Spatial and Graph Property Graph Developer's Guide</i>.</p>
Oracle Wallet	<p>An Oracle Wallet is a PKCS#12 container used to store authentication and encryption keys. The Oracle database secure external password store feature stores passwords in an Oracle Wallet for password-based authentication to the Oracle database. The Oracle Wallet may also be used to store credentials for PKI authentication to the Oracle Database, configuration of network encryption (SSL/TLS), and Oracle Advanced Security transparent data encryption (TDE) master encryption keys. Network encryption (native network encryption, network data integrity, and SSL/TLS) and strong authentication services (Kerberos, PKI, and RADIUS) are no longer part of Oracle Advanced Security and are available in all licensed editions of all supported releases of Oracle Database.</p>
Shard Director	<p>The shard directors can be installed and used on a server different from the server where the Oracle Database is installed and used. It is not necessary to obtain a separate license for the server running the shard directors.</p>
XStream	<p>XStream provides application programming interfaces (APIs) that enable client applications to receive real-time data changes from an Oracle database (using XStream Out APIs) and to send real-time data changes to an Oracle database (using XStream In APIs). These data changes can be shared between Oracle databases and other systems, such as filesystems and non-Oracle databases. XStream is licensed via the Oracle GoldenGate product. You must purchase a license for this product before using the XStream APIs. Please contact your Oracle sales representative for additional information.</p>

1.8 Restricted Use Licenses

Table 1-18 Restricted Use Licenses

Feature / Option	Licensing Information
Oracle Advanced Security	<p>Any Oracle Advanced Security licenses purchased on or before January 31, 2004, have restricted use of the Oracle Internet Directory (OID) component of Oracle Directory Services Plus to support Enterprise User Security.</p> <p>Oracle Advanced Security includes a restricted use license for the following Oracle Enterprise Manager features:</p> <ul style="list-style-type: none"> • Application Data Models (previously called Data Discovery and Modeling) • Sensitive Column Types and Sensitive Data Discovery • Application Accelerators <p>If you want to use the Oracle Enterprise Manager features listed above not solely for the purposes of Oracle Advanced Security, then you must purchase a full-use license for Oracle Data Masking and Subsetting Pack.</p>
Oracle Application Server Containers for J2EE	<p>A restricted use license for Oracle Application Server Containers for J2EE (OC4J) is included with all editions (except for Oracle Database Express Edition). This embedded version is provided solely to support Oracle Enterprise Manager (Database and Cloud Control), Advanced Queuing Servlet, Ultra Search, and Application Express, and may not be used or deployed for other purposes</p>
Oracle Applications Unlimited	<p>An Oracle Database Cloud Service Enterprise Edition (DBCS-EE) instance being used to support an Oracle Cloud deployment of an Oracle Applications Unlimited application has restricted use of the following options: Oracle On-Line Analytical Processing (OLAP) and Oracle Partitioning. These options may be used only to support Oracle Applications Unlimited and may not be used or deployed for any other purpose.</p>
Oracle Big Data SQL	<p>Oracle Big Data SQL includes a Query Server that is used to query data sources including HDFS, Kafka, and NoSQL stores. Oracle Big Data SQL includes a restricted use license of Oracle Database for storing metadata (i.e. external tables and views) maintained by the Query Server. No other objects may be created in this Oracle Database.</p>
Oracle Database Mobile Server	<p>Oracle Database Mobile Server is a powerful tool for controlling networks of mobile or embedded devices from a centralized management console. It provides a secure, scalable method for connecting applications running locally on mobile or embedded devices to an Oracle enterprise backend. The synchronization system is robust and fault tolerant. It is able to successfully synchronize over unreliable or intermittently available networks. Oracle Database Mobile Server provides management for applications, users, and devices. It runs on a variety of application server platforms, including Oracle WebLogic, Oracle Glassfish, and Apache TomEE.</p> <p>On the client device side, it is designed to work with Oracle Berkeley DB as a data store, providing efficient, reliable, and secure data management running locally on mobile and embedded devices. It is also compatible with SQLite, a widely used open source data store. Database Mobile Server supports many popular device platforms including Oracle Java, Linux, Windows (laptop as well as mobile/CE), and Android.</p>

Table 1-18 (Cont.) Restricted Use Licenses

Feature / Option	Licensing Information
Oracle Database Vault	<p>Oracle Database Vault includes a restricted use license for the following Oracle Enterprise Management features:</p> <ul style="list-style-type: none"> • Application Data Modeling (previously called Data Discovery and Modeling) • Application Data Modeling accelerator for select versions of Oracle E-Business Suite • Application Data Modeling accelerator for select versions of Oracle Fusion Applications
Oracle HTTP Server	<p>A restricted use license for Oracle HTTP Server is included with all editions (except for Oracle Database Express Edition) when the HTTP Server is running on the same server as the database. Running Oracle HTTP server on a different server requires that other server be licensed to use the HTTP server, either through an Oracle Database license or an Oracle Application Server license</p>
Oracle Internet Directory	<p>A restricted use license for Oracle Identity Management Directory Services Plus component Oracle Internet Directory (OID) is included with all editions (except for Oracle Database Express Edition) if users use the Directory Naming feature to configure Oracle Net Services. OID may not be used or deployed for other uses.</p>
Oracle Label Security	<p>Oracle Label Security includes a restricted use license for the following Oracle Enterprise Manager features:</p> <ul style="list-style-type: none"> • Application Data Models (previously called Data Discovery and Modeling) • Sensitive Column Types and Sensitive Data Discovery • Application Accelerators <p>If you want to use the Oracle Enterprise Manager features listed above not solely for the purposes of Oracle Label Security, then you must purchase a full-use license for Oracle Data Masking and Subsetting Pack.</p>
Oracle Programmer	<p>Oracle Programmer provides application programmers with a programmatic interface to any edition of Oracle Database. However, in order to use Oracle Programmer, you must purchase a separate Oracle Programmer license.</p> <p>Oracle Programmer includes the following products:</p> <ul style="list-style-type: none"> • Embedded SQL-style interfaces: Pro*C/C++, Pro*COBOL, Pro*Fortran, SQL*Module for Ada, SQLJ • Utilities to generate host-language bindings from database schemas: Object Type Translator and JPub
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Oracle Sharding	<p>Oracle Sharding includes a restricted use license for Global Data Services.</p> <p>If you want to use Global Data Services not solely for the purposes of Oracle Sharding, then you must be licensed for the Oracle Active Data Guard option.</p>

Table 1-18 (Cont.) Restricted Use Licenses

Feature / Option	Licensing Information
Oracle Spatial and Graph	Restricted use of Oracle Partitioning is allowed on all offerings, free of charge, for the sole purpose of supporting the following Spatial, Property Graph, and RDF Graph Technologies (RDF/OWL) features: spatial topology, property graph schema, and RDF Semantic Graph. All other uses of Oracle Partitioning require a license for the Oracle Partitioning option, where available.
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2

Third-Party Notices and/or Licenses

- [Third-Party Notices and/or Licenses for Oracle Database](#)
- [Third-Party Notices and/or Licenses for Oracle Database Components](#)
- [Written Offer for Source Code](#)

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Commercial software products or components distributed in Oracle Database 21c are identified in the following table along with the applicable licensing information.

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MapInfo Corp.	Projections Code 1.0	Portions of this software Copyright 1992-2000, MapInfo Corporation, ALL RIGHTS RESERVED.
RSA	BSAFE Software (CCME, MES, Crypto J, Cert J, and SSL J) 4.1.x, 4.1.x, 6.1.x, 6.1.x, 6.1.x	This product includes code licensed from RSA Data Security. See Figure 2-1 .

Figure 2-1 RSA Secure Logo



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Apache	Commons CSV 1.6	Apache Commons CSV Copyright 2005-2019 The Apache Software Foundation This product includes software developed at The Apache Software Foundation (http://www.apache.org). This product is licensed under the Apache 2.0 license agreement. See The Apache Software License, Version 2.0 .
Apache	Commons Compress 1.20	For a copy of the license, see Commons Compress 1.20 License .
Apache	Commons FileUpload 1.4	Apache Commons FileUpload Copyright 2002-2017 The Apache Software Foundation This product includes software developed at The Apache Software Foundation (http://www.apache.org/). This product is licensed under the Apache 2.0 license agreement. See The Apache Software License, Version 2.0 .

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Apache	Lucene 8.5.0	For a copy of the license, see Lucene 8.5.0 License .
Apache	Mina SSHD 2.2.0	For a copy of the license, see Mina SSHD 2.2.0 License .
Apache	Tomcat 8.5.57	For a copy of the license, see Tomcat 8.5.57 License .
Apache	XML Graphics Commons 2.4	For a copy of the license, see XML Graphics Commons 2.4 License .
Apache	XMLBeans 2.6.0-6	For a copy of the license, see XMLBeans 2.6.0-6 License .
Apache	Xerces2 Java 2.12.1	For a copy of the license, see Xerces2 Java 2.12.1 License .
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Eclipse Foundation	Jakarta Restful Web Services JAX-RS API 2.1.6	For a copy of the license, see Jakarta Restful Web Services JAX-RS API 2.1.6 License .
Eclipse Foundation	jersey-hk2 2.31	For a copy of the license, see jersey-hk2 2.31 License .
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FasterXML, LLC	jackson-annotations 2.10.0	<p>Jackson Annotations</p> <p>Copyright (c) 2019 Tatu Saloranta <tatu.saloranta@iki.fi></p> <p>LICENSE: Apache 2.0</p> <p>This product is licensed under the Apache 2.0 license agreement. See The Apache Software License, Version 2.0.</p>
FasterXML, LLC	jackson-annotations 2.11.2	<p>Jackson Annotations</p> <p>Copyright (c) 2020 Tatu Saloranta <tatu.saloranta@iki.fi></p> <p>LICENSE: Apache 2.0</p> <p>This product is licensed under the Apache 2.0 license agreement. See The Apache Software License, Version 2.0.</p>

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Gisle Aas	IO::String 1.08	For a copy of the license, see IO::String 1.08 License .
GlassFish	hk2 2.6.1	For a copy of the license, see hk2 2.6.1 License .
Google	GoogleMaps API Code Samples	Portions of this code include modifications based on work created and shared by Google and used according to terms described in the Apache 2.0 license. See https://developers.google.com/maps/documentation/javascript/examples/ .
Google	Guava 27.1	For a copy of the license, see Guava 27.1 License .
Google	Guice 4.2.2	For a copy of the license, see Guice 4.2.2 License .
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JS Foundation and other contributors	jQuery 3.5.1	For a copy of the license, see jQuery 3.5.1 License .
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```
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Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type 'show w'.
This is free software, and you are welcome to redistribute it under certain
conditions; type 'show c' for details.
```

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```
Yoyodyne, Inc., hereby disclaims all copyright interest in the program
'Gnomovision' (a program to direct compilers to make passes at assemblers)
written by James Hacker.
```

```
<signature of Ty Coon>, 1 April 1989
```

```
Ty Coon, President of Vice
```

```
That's all there is to it!
```

```
-----
```

```
b) the "Artistic License"
```

```
DESCRIPTION
```

```
This is "The Artistic License". It's here so that modules, programs, etc.,
that want to declare this as their distribution license, can link to it.
```

```
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and/or modified; for the other one, the GNU General Public License, see
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ASM 7.3.1

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2006-Jan-27
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David Turner, Robert Wilhelm, and Werner Lemberg
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FreeType font driver for BDF fonts

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<francesco.zappa.nardelli@ens.fr>

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Credits

This driver is based on excellent Mark Leisher's bdf library. If you find something good in this driver you should probably thank him, not me.

--- end of src/bdf/README ---

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--- src/pcf/README ---

FreeType font driver for PCF fonts

Francesco Zappa Nardelli

<francesco.zappa.nardelli@ens.fr>

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*/
```

```
/
*****
**
*
* This file is based on code from bdf.c,v 1.22 2000/03/16 20:08:50
*
* taken from Mark Leisher's xmbdfed package
*
*/
```

#####

--- src/gzip/zlib.h ---

```
/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.1.4, March 11th, 2002
```

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Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files ftp://ds.internic.net/rfc/rfc1950.txt (zlib format), rfc1951.txt (deflate format) and rfc1952.txt (gzip format).
*/

--- end of src/gzip/zlib.h ---

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gdal/frmts/pcraster/libcsf

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gdal/ogr/ogrsf_frmts/dxf/intronurbs.cpp

This code is derived from the code associated with the book "An Introduction to NURBS" by David F. Rogers. More information on the book and the code is available at: <http://www.nar-associates.com/nurbs/>

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gdal/alg/thinplatespline.cpp

IEEE754 log() code derived from:

@(#)e_log.c 1.3 95/01/18

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gdal/alg/libqhull

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C.B. Barber

Arlington, MA

and

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gdal/frmts/pdf/pdfdataset.cpp (method PDFiumRenderPageBitmap())

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gdal/frmts/mrf/* (apply when MRF driver included in build)

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## A.16 Guava 27.1 License

google guava v27.1 (APACHE)

```
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 */

/**
 * Common annotation types. This package is a part of the open-source <a
 * href="http://github.com/google/guava">Guava</a> library.
 */
```

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=====

Modules:

guava-bom  
guava-gwt  
guava-testlib  
guava-tests  
guava  
refactorings  
util

=====

4P Dependencies:

com.google.code.findbugs » jsr305 3.0.2

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=====

com.google.errorprone » error\_prone\_annotations 2.2.0

```
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```

```
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* WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied.
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*/
```

```
=====
```

### com.google.guava » failureaccess 1.0.1

```
/ *
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* in compliance with the License. You may obtain a copy of the License
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distributed under the License
* is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS
OF ANY KIND, either express
* or implied. See the License for the specific language governing
permissions and limitations under
* the License.
*/
```

```
=====
```

### com.google.guava » listenablefuture 9999.0-empty...

```
/*
*An empty artifact that Guava depends on to signal that it is providing
*ListenableFuture -- but is also available in a second "version" that
*contains com.google.common.util.concurrent.ListenableFuture class,
without
*any other Guava classes. The idea is:
*
*- If users want only ListenableFuture, they depend on
listenablefuture-1.0.
*
*- If users want all of Guava, they depend on guava, which, as of Guava
27.0, depends on
*Listenablefuture-9999.0-empty-to-avoid-conflict-with-guava. The
9999.0-...
```

```
*version number is enough for some build systems (notably, Gradle) to
select
*that empty artifact over the "real" listenablefuture-1.0 -- avoiding a
*conflict with the copy of ListenableFuture in guava itself. If users
are
*using an older version of Guava or a build system other than Gradle,
they
*may see class conflicts. If so, they can solve them by manually
excluding
*the listenablefuture artifact or manually forcing their build systems
to
*use 9999.0-....
*/
```

=====

#### com.google.j2objc » j2objc-annotations 1.1

```
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 *
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 * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied.
 * See the License for the specific language governing permissions
and
 * limitations under the License.
*/
```

=====

#### org.checkerframework » checker-qual 2.5.2

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Version 2, June 1991

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jmx  
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Modules:

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httpclient  
httpmime  
fluent-hc  
httpclient-cache  
httpclient-win  
httpclient-osgi

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4P Dependencies:

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commons-codec » commons-codec 1.11, commons-codec-1.12.jar

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org.apache.httpcomponents » httpcore 4.4.11

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bzip2/libbzip2 version 1.0.8 of 13 July 2019

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\* <https://github.com/eclipse-ee4j/jaxrs-api>

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| js/libs/history/history.iegte8.js                              | MIT |
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| js/libs/knockout/knockout-mapping-latest.js                    | MIT |
| js/libs/oj/v7.0.0/min/ojknockout.js (knockout-fast-foreach.js) |     |

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elements
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 * http://proj4js.org/

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*/  
  
/* This component is based on original code from:  
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"Copyright (c) 2010 Ivan Bozhanov (vakata.com)  
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*/  
  
ES6-Promise v1.0.0  
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/*! jQuery UI - v1.12.1 - 2015-03-18  
* http://jqueryui.com  
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sortable.js  
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```
*/  
  
/!*  
 * jQuery JavaScript Library v3.4.1  
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 *  
 * Includes Sizzle.js  
 * http://sizzlejs.com/  
 *  
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 *  
 * Date: 2014-12-18T15:11Z  
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 * Version: 1.0.0 - Build: 268 (2012/11/29 05:48 PM)  
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/!*  
 * Knockout JavaScript library v3.5.0  
 * (c) Steven Sanderson - http://knockoutjs.com/  
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===== Proj4js =====

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| js/libs/proj4js/dist/proj4.js                                  | Proj4js    |
| js/libs/require/require.js                                     | MIT        |
| js/libs/require/text.js                                        | MIT        |
| js/libs/require-css/css.js (require-css)                       | MIT        |
| js/libs/webcomponents/custom-elements.min.js                   | custom-    |
| elements                                                       |            |
| scss/oj/v8.3.0/3rdparty/normalize/normalize.scss               | MIT        |
| js/libs/touchr/touchr.js                                       | MIT        |

```

/*!
  Knockout Fast Foreach v0.6.0 (2016-07-28T11:02:54.197Z)
  By: Brian M Hunt (C) 2015 | License: MIT
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```

```

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The implementations of GSSAPI mechglue in GSSAPI-SPNEGO in src/lib/gssapi, including the following files:

lib/gssapi/generic/gssapi\_err\_generic.et  
lib/gssapi/mechglue/g\_accept\_sec\_context.c  
lib/gssapi/mechglue/g\_acquire\_cred.c  
lib/gssapi/mechglue/g\_canon\_name.c  
lib/gssapi/mechglue/g\_compare\_name.c  
lib/gssapi/mechglue/g\_context\_time.c  
lib/gssapi/mechglue/g\_delete\_sec\_context.c  
lib/gssapi/mechglue/g\_dsp\_name.c



```
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c
```

and the initial implementation of incremental propagation, including the following new or changed files:

```
include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
slave/kpropd_rpc.c
slave/kproplog.c
```

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analysis/common/src/java/org/apache/lucene/analysis/fi/FinnishLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/fr/FrenchLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/fr/  
FrenchMinimalStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/hu/  
HungarianLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/it/ItalianLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/pt/  
PortugueseLightStemmer.java  
analysis/common/src/java/org/apache/lucene/analysis/ru/  
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VERSION: 2.1 PoliMorf

BUILD: 2016-02-13 19:37:50+01:00

GIT: 6e63b53

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slf4j, v1.7.25,

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Name: dragon4

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Version : 1.17.4

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Version: 0.14.1

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Python Package : numpy

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Python Package : python-dateutil

Version >= 2.5.0

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Python Package : six

Version > =1.5

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Version 1.16.2

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Python Package : python-dateutil

Version 2.8.0

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Maintainer: Paul Ganssle

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dateutil - Extensions to the standard Python datetime module.

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Version 1.12.0

Author: Benjamin Peterson

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Python Package : pytz

Version 2018.9

Author: Stuart Bishop

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##### Mersenne Twister

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A C-program for MT19937, with initialization improved 2002/1/26. Coded by Takuji Nishimura and Makoto Matsumoto.

Before using, initialize the state by using `init_genrand(seed)` or `init_by_array(init_key, key_length)`.

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Sockets

The socket module uses the functions, `getaddrinfo()`, and `getnameinfo()`, which are coded in separate source files from the WIDE Project, <http://www.wide.ad.jp/>.

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Modified by Jack Jansen, CWI, July 1995:

- Use binascii module to do the actual line-by-line conversion between ascii and binary. This results in a 1000-fold speedup. The C version is still 5 times faster, though.
- Arguments more compliant with Python standard

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Original location:

<https://github.com/majek/csiphash/>

Solution inspired by code from:

Samuel Neves ([supercop/crypto\\_auth/siphash24/little](https://github.com/supercop/crypto_auth/siphash24/little))

djb ([supercop/crypto\\_auth/siphash24/little2](https://github.com/supercop/crypto_auth/siphash24/little2))

Jean-Philippe Aumasson (<https://131002.net/siphash/siphash24.c>)

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Jean-loup Gailly  
jloup@gzip.org

Mark Adler  
madler@alumni.caltech.edu

cfuhash

The implementation of the hash table used by the tracemalloc is based on the cfuhash project:

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#### Mersenne Twister

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The :mod:'\_random' module includes code based on a download from <http://www.math.sci.hiroshima-u.ac.jp/~m-mat/MT/MT2002/emt19937ar.html>. The following are the verbatim comments from the original code::

A C-program for MT19937, with initialization improved 2002/1/26. Coded by Takuji Nishimura and Makoto Matsumoto.

Before using, initialize the state by using `init_genrand(seed)` or `init_by_array(init_key, key_length)`.

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<http://www.math.sci.hiroshima-u.ac.jp/~m-mat/MT/emt.html>

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Sockets

-----

The `:mod:'socket'` module uses the functions, `:func:'getaddrinfo'`, and `:func:'getnameinfo'`, which are coded in separate source files from the WIDE Project, <http://www.wide.ad.jp/>. ::

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Modified by Jack Jansen, CWI, July 1995:

- Use binascii module to do the actual line-by-line conversion between ascii and binary. This results in a 1000-fold speedup. The C version is still 5 times faster, though.
- Arguments more compliant with Python standard

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-----

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`Select kqueue`

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-----

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Original location:

<https://github.com/majek/csiphash/>

Solution inspired by code from:

Samuel Neves (supercop/crypto\_auth/siphhash24/little)

djb (supercop/crypto\_auth/siphhash24/little2)

Jean-Philippe Aumasson (<https://131002.net/siphhash/siphhash24.c>)

## strtod and dtoa

-----

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jloup@gzip.org

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Lib/turtle.py

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Lib/logging/\_\_init\_\_.py

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Lib/multiprocessing/\_\_init\_\_.py

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Modules/\_localemodule.c

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Python/getopt.c

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install-sh

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Include/dynamic\_annotations.h

Python/dynamic\_annotations.c

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- R. H. Byrd, P. Lu and J. Nocedal. A Limited Memory Algorithm for Bound Constrained Optimization, (1995), SIAM Journal on Scientific and Statistical Computing, 16, 5, pp. 1190-1208.
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slf4j-simple  
slf4j-nop  
slf4j-jdk14  
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slf4j-ext  
jcl-over-slf4j  
log4j-over-slf4j  
jul-to-slf4j  
osgi-over-slf4j  
integration  
slf4j-site  
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4P Dependencies:

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ch.qos.cal10n call0n-api 0.8.1

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Source code of this package also as other cryptographic technology and computing project related links are available on Brian Gladman's web site: <http://www.gladman.me.uk>

- RAR uses CRC32 function based on Intel Slicing-by-8 algorithm. Original Intel Slicing-by-8 code is available here:

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- RAR archives may optionally include BLAKE2sp hash ( <https://blake2.net> ), designed by Jean-Philippe Aumasson, Samuel Neves, Zooko Wilcox-O'Hearn and Christian Winnerlein.
- Useful hints provided by Alexander Khoroshev and Bulat Ziganshin allowed to significantly improve RAR compression and

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src/test/org/apache/commons/codec/language/DoubleMetaphoneTest.java

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perlgpl

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XML::Simple requires either XML::Parser or XML::SAX.

To generate documents with namespaces, XML::NamespaceSupport is required.

The optional caching functions require Storable.

-----

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AUTHORS

Larry Wall <larry@wall.org> wrote version 1.0.

Clark Cooper <coopercc@netheaven.com> picked up support, changed the API for this version (2.x), provided documentation, and added some standard package features.

Matt Sergeant <matt@sergeant.org> is now maintaining XML::Parser

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AUTHOR

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Storable was written by Raphael Manfredi <Raphael\_Manfredi@pobox.com>

Maintenance is now done by cperl <http://perl11.org/cperl>

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Version 1.1

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librdkafka - Apache Kafka C driver library

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Additional Dependencies:

geojson-rewind

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Earcut

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geojson-vt

<https://github.com/mapbox/geojson-vt/blob/4afc5b022c1fff79af328d4a140cd82670b8252f/LICENSE>

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Pbf

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point-geometry

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vector-tile

<https://github.com/mapbox/vector-tile-js/blob/3efadbbf0e1e0c52a483deb395254dc2ad245e51/LICENSE.txt>

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vt-pbf

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whoots-js

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Csscolorparser

<https://github.com/deanm/css-color-parser-js/blob/master/README>

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feature-filter

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grid-index

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shelf-pack

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#### Unitbezier

<http://svn.webkit.org/repository/webkit/trunk/Source/WebCore/platform/graphics/UnitBezier.h>

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Webworkify

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Unflowify

<https://github.com/leebyron/unflowify/commit/e684276059f9242a9637ab31cb7088910ebe0e4d>

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"name": "unflowify",
+ "version": "1.0.0",
+ "description": "Browserify transform for removing Flow type
annotations.",
+ "author": "Lee Byron lee@leebyron.com> (http://leebyron.com/)",
+ "license": "BSD-3-Clause",
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Unassertify

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-----

Bubleify

<https://github.com/garthenweb/bubleify/commit/57cb9ca96096352c54d7942e8ec6361864d4c1cb>

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-----

## Request

```
https://github.com/request/request/blob/
3153436404fca865a65649d46eb22d9797128c9d/LICENSE
```

## Apache license

ines (28 sloc) 8.93 KB

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-----

## Tinyqueue

```
https://github.com/mourner/tinyqueue/blob/
4506f90a4d5a0521677e47dd97a379486de72c95/package.json
```

## ISC license

```
"author": "",
"license": "ISC",
```

```
"bugs": {
 "url": https://github.com/mourner/tinyqueue/issues
```

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## A.64 perl 5.32.0 License

```
perl-5.32.0/inline.h
```

```
/* inline.h
 *
 * Copyright (C) 2012 by Larry Wall and others
Copyright (c) 2008-2009 Bjoern Hoehrmann <bjoern@hoehrmann.de>
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 * This file contains tables and code adapted from
 * https://bjoern.hoehrmann.de/utf-8/decoder/dfa/, which requires
this
 * copyright notice:
```

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```
*
* This file is a home for static inline functions that cannot go in
other
* header files, because they depend on proto.h (included after most
other
* headers) or struct definitions.
*
* Each section names the header file that the functions "belong" to.
*/
```

## Files:

```
perl-5.32.0/time64.c
```

```
/*
```

```
Copyright (c) 2007-2008 Michael G Schwern
```

```
This software originally derived from Paul Sheer's pivotal_gmtime_r.c.
```

```
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```

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sell
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IN
THE SOFTWARE.
```

```
*/
```



## Files:

perl-5.32.0/perl.h

```
/* The tables below are adapted from
 * https://bjoern.hoehrmann.de/utf-8/decoder/dfa/, which requires this
 * copyright
 * notice:
```

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\*/

## Files:

perl-5.32.0/ebcdic\_tables.h

```
/* This file contains definitions for various tables used in EBCDIC
 * handling.
 * More info is in utfebcdic.h
 *
 * Some of the tables are adapted from
 * https://bjoern.hoehrmann.de/utf-8/decoder/dfa/
 * which requires this copyright notice:
```

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\*/

## Files:

perl-5.32.0/ext/File-Glob/bsd\_glob.h

```
/*
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 * The Regents of the University of California. All rights reserved.
 *
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 * Guido van Rossum.
 *
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 * the
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 * distribution.
 * 3. Neither the name of the University nor the names of its
 * contributors
```

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STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN
ANY WAY
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OF
* SUCH DAMAGE.
*
* @(#)glob.h 8.1 (Berkeley) 6/2/93
* [lots of perl-specific changes since then--see bsd_glob.c]
*/
```

## Files:

perl-5.32.0/ext/File-Glob/bsd\_glob.c

```
/*
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 * The Regents of the University of California. All rights reserved.
 *
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 *
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ANY WAY
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OF
* SUCH DAMAGE.
*/

```

## Files:

```
perl-5.32.0/cpan/Sys-Syslog/fallback/syslog.h
```

```

/*
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ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
OF
* SUCH DAMAGE.
*
* @(#)syslog.h 8.1 (Berkeley) 6/2/93
*/
```

**## Files:**

```
perl-5.32.0/vms/vms.c
```

```
/*
* @(#)argproc.c 2.2 94/08/16 Mark Pizzolato (mark AT infocomm DOT
com)
*

*
*
* Copyright (C) 1989-1994, 2007
by
* Mark Pizzolato - INFO COMM, Danville, California (510)
837-5600
*
*
* Permission is hereby granted for the reproduction of this
software
* on condition that this copyright notice is included in
source
* distributions of the software. The code may be modified
and
* distributed under the same terms as Perl
itself.
*
*
* 27-Aug-1994 Modified for inclusion in
perl5
* by Charles Bailey (bailey AT newman DOT upenn DOT
edu)
*

*/
```

## ## Files:

perl-5.32.0/taint.c

```
/* taint.c
 *
 * Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001,
 * 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and others
 *
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Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/mathoms.c

```
/* mathoms.c
 *
 * Copyright (C) 2005, 2006, 2007, 2008, 2009, 2010,
 * 2011, 2012 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/symbian/PerlApp.cpp

```
/* The PerlApp application is licensed under the same terms as Perl
itself.
 *
 * Note that this PerlApp is for Symbian/Series 60/80/UIQ smartphones
 * and it has nothing whatsoever to do with the ActiveState PerlApp. */
```

## ## Files:

perl-5.32.0/dist/Devel-PPPort/module2.c  
perl-5.32.0/dist/Devel-PPPort/module3.c

```
/

 *
 * Perl/Pollution/Portability
 *

```

```

*
* Version 3.x, Copyright (C) 2004-2013, Marcus Holland-Moritz.
* Version 2.x, Copyright (C) 2001, Paul Marquess.
* Version 1.x, Copyright (C) 1999, Kenneth Albanowski.
*
* This program is free software; you can redistribute it and/or
* modify it under the same terms as Perl itself.
*
*****/

Files:

perl-5.32.0/utfebcdic.h

/* utfebcdic.h
 *
 * Copyright (C) 2001, 2002, 2003, 2005, 2006, 2007, 2009,
 * 2010, 2011 by Larry Wall, Nick Ing-Simmons, and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 * Macros to implement UTF-EBCDIC as perl's internal encoding
 * Adapted from version 7.1 of Unicode Technical Report #16:
 * http://www.unicode.org/unicode/reports/tr16
 *
 * To summarize, the way it works is:
 * To convert an EBCDIC code point to UTF-EBCDIC:
 * 1) convert to Unicode. No conversion is necessary for code
points above
 * 255, as Unicode and EBCDIC are identical in this range. For
smaller
 * code points, the conversion is done by lookup in the PL_e2a
table (with
 * inverse PL_a2e) in the generated file 'ebcdic_tables.h'. The
'a'
 * stands for ASCII platform, meaning 0-255 Unicode.
 * 2) convert that to a utf8-like string called I8 ('I' stands for
 * intermediate) with variant characters occupying multiple bytes.
This
 * step is similar to the utf8-creating step from Unicode, but the
details
 * are different. This transformation is called UTF8-Mod. There is
a
 * chart about the bit patterns in a comment later in this file. But
 * essentially here are the differences:
 *
 * UTF8 I8
 * invariant byte starts with 0 starts with 0 or 100
 * continuation byte starts with 10 starts with 101
 * start byte same in both: if the code point requires N
bytes,
```

```
* then the leading N bits are 1, followed by a 0. If
* all 8 bits in the first byte are 1, the code point
* will occupy 14 bytes (compared to 13 in Perl's
* extended UTF-8). This is incompatible with what
* tr16 implies should be the representation of code
* points 2**30 and above, but allows Perl to be able
* to represent all code points that fit in a 64-bit
* word in either our extended UTF-EBCDIC or UTF-8.
* 3) Use the algorithm in tr16 to convert each byte from step 2
into
* final UTF-EBCDIC. This is done by table lookup from a table
* constructed from the algorithm, reproduced in ebcdic_tables.h as
* PL_utf2e, with its inverse being PL_e2utf. They are constructed
so that
* all EBCDIC invariants remain invariant, but no others do, and the
first
* byte of a variant will always have its upper bit set. But note
that
* the upper bit of some invariants is also 1. The table also is
designed
* so that lexically comparing two UTF-EBCDIC-variant characters
yields
* the Unicode code point order. (To get native code point order,
one has
* to convert the latin1-range characters to their native code point
* value.)
*
* For example, the ordinal value of 'A' is 193 in EBCDIC, and also is
193 in
* UTF-EBCDIC. Step 1) converts it to 65, Step 2 leaves it at 65, and
Step 3
* converts it back to 193. As an example of how a variant character
works,
* take LATIN SMALL LETTER Y WITH DIAERESIS, which is typically 0xDF in
* EBCDIC. Step 1 converts it to the Unicode value, 0xFF. Step 2
converts
* that to two bytes = 11001111 10111111 = C7 BF, and Step 3 converts
those to
* 0x8B 0x73.
*
* If you're starting from Unicode, skip step 1. For UTF-EBCDIC to
straight
* EBCDIC, reverse the steps.
*
* The EBCDIC invariants have been chosen to be those characters whose
Unicode
* equivalents have ordinal numbers less than 160, that is the same
characters
* that are expressible in ASCII, plus the C1 controls. So there are
160
* invariants instead of the 128 in UTF-8.
*
* The purpose of Step 3 is to make the encoding be invariant for the
chosen
* characters. This messes up the convenient patterns found in step 2,
```



so

- \* generally, one has to undo step 3 into a temporary to use them.

However,

- \* one "shadow", or parallel table, PL\_utf8skip, has been constructed that
- \* doesn't require undoing things. It is such that for each byte, it says
- \* how long the sequence is if that (UTF-EBCDIC) byte were to begin it
- \*
- \* There are actually 3 slightly different UTF-EBCDIC encodings in
- \* ebcidic\_tables.h, one for each of the code pages recognized by Perl.

That

- \* means that there are actually three different sets of tables, one for each
- \* code page. (If Perl is compiled on platforms using another EBCDIC code
- \* page, it may not compile, or Perl may silently mistake it for one of the
- \* three.)
- \*
- \* Note that tr16 actually only specifies one version of UTF-EBCDIC, based on
- \* the 1047 encoding, and which is supposed to be used for all code pages.
- \* But this doesn't work. To illustrate the problem, consider the '^' character.
- \* On a 037 code page it is the single byte 176, whereas under 1047 UTF-EBCDIC
- \* it is the single byte 95. If Perl implemented tr16 exactly, it would mean
- \* that changing a string containing '^' to UTF-EBCDIC would change that '^'
- \* from 176 to 95 (and vice-versa), violating the rule that ASCII-range
- \* characters are the same in UTF-8 or not. Much code in Perl assumes this
- \* rule. See for example
- \* <http://grokbase.com/t/perl/mvs/025xf0yhmn/utf-ebcdic-for-posix-bc-malformed-utf-8-character>
- \* What Perl does is create a version of UTF-EBCDIC suited to each code page;
- \* the one for the 1047 code page is identical to what's specified in tr16.
- \* This complicates interchanging files between computers using different code
- \* pages. Best is to convert to I8 before sending them, as the I8
- \* representation is the same no matter what the underlying code page is.
- \*
- \* Because of the way UTF-EBCDIC is constructed, the lowest 32 code points that
- \* aren't equivalent to ASCII characters nor C1 controls form the set of
- \* continuation bytes; the remaining 64 non-ASCII, non-control code points form
- \* the potential start bytes, in order. (However, the first 5 of these lead to

```
* malformed overlongs, so there really are only 59 start bytes, and
the first
* three of the 59 are the start bytes for the Latin1 range.) Hence the
* UTF-EBCDIC for the smallest variant code point, 0x160, will have
likely 0x41
* as its continuation byte, provided 0x41 isn't an ASCII or C1
equivalent.
* And its start byte will be the code point that is 37 (32+5) non-
ASCII,
* non-control code points past it. (0 - 3F are controls, and 40 is
SPACE,
* leaving 41 as the first potentially available one.) In contrast, on
ASCII
* platforms, the first 64 (not 32) non-ASCII code points are the
continuation
* bytes. And the first 2 (not 5) potential start bytes form overlong
* malformed sequences.
*
* EBCDIC characters above 0xFF are the same as Unicode in Perl's
* implementation of all 3 encodings, so for those Step 1 is trivial.
*
* (Note that the entries for invariant characters are necessarily the
same in
* PL_e2a and PL_e2utf; likewise for their inverses.)
*
* UTF-EBCDIC strings are the same length or longer than UTF-8
representations
* of the same string. The maximum code point representable as 2 bytes
in
* UTF-EBCDIC is 0x3FFF, instead of 0x7FFF in UTF-8.
*/
```

### ## Files:

```
perl-5.32.0/cop.h
```

```
/* cop.h
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 by Larry
Wall and others
*
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Public
* License or the Artistic License, as specified in the README file.
*
* Control ops (cops) are one of the two ops OP_NEXTSTATE and
OP_DBSTATE,
* that (loosely speaking) are statement separators.
* They hold information important for lexical state and error
reporting.
* At run time, PL_curcop is set to point to the most recently executed
cop,
```

```
* and thus can be used to determine our current state.
*/
```

**## Files:**

```
perl-5.32.0/opnames.h
```

```
/* -*- buffer-read-only: t -*-
*
* opnames.h
*
* Copyright (C) 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006,

```

**## Files:**

```
perl-5.32.0/perlio.c
```

```
/*
* perlio.c
* Copyright (c) 1996-2006, Nick Ing-Simmons
* Copyright (c) 2006, 2007, 2008, 2009, 2010, 2011 Larry Wall and
others
*
* You may distribute under the terms of either the GNU General Public
License
* or the Artistic License, as specified in the README file.
*/
```

**## Files:**

```
perl-5.32.0/op.c
```

```
/* op.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
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Public
* License or the Artistic License, as specified in the README file.
```

```
*
*/

Files:

perl-5.32.0/symbian/symbian_stubs.h

/*
 * symbian_stubs.h
 *
 * Copyright (c) Nokia 2004-2005. All rights reserved.
 * This code is licensed under the same terms as Perl itself.
 *
 */

Files:

perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/compress.c

/* compress.c -- compress a memory buffer
 * Copyright (C) 1995-2005, 2014, 2016 Jean-loup Gailly, Mark Adler
 * For conditions of distribution and use, see copyright notice in
zlib.h
 */

Files:

perl-5.32.0/proto.h

/* -*- buffer-read-only: t -*-
 *
 * proto.h
 *
 * Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001,
 * 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 by Larry Wall and
others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 * !!!!!!! DO NOT EDIT THIS FILE !!!!!!!
 * This file is built by regen/embed.pl from data in embed.fnc,
 * regen/embed.pl, regen/opcodes, intrpvar.h and perlvars.h.
 * Any changes made here will be lost!
 *
 * Edit those files and run 'make regen_headers' to effect changes.
 */
```

## ## Files:

perl-5.32.0/invlist\_inline.h

```
/* invlist_inline.h
 *
 * Copyright (C) 2012 by Larry Wall and others
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 */
```

## ## Files:

perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/infback.c

```
/* infback.c -- inflate using a call-back interface
 * Copyright (C) 1995-2016 Mark Adler
 * For conditions of distribution and use, see copyright notice in
zlib.h
 */
```

## ## Files:

perl-5.32.0/pp\_hot.c

```
/* pp_hot.c
 *
 * Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
 * 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/perl.h

```
/* perl.h
 *
 * Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001
 * 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 by Larry Wall and
others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
```

```
*
*/

Files:

perl-5.32.0/win32/fcrypt.c

/* Copyright (C) 1993 Eric Young - see README for more details */

Files:

perl-5.32.0/handy.h

/* handy.h
 *
 * Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1999,
2000,
 * 2001, 2002, 2004, 2005, 2006, 2007, 2008, 2012 by Larry Wall and
others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */

Files:

perl-5.32.0/gv.h

/* gv.h
 *
 * Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
 * 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */

Files:

perl-5.32.0/symbian/symbian_proto.h

/*
 * symbian_proto.h
 *
 * Copyright (c) Nokia 2004-2005. All rights reserved.
 * This code is licensed under the same terms as Perl itself.
```

```
*
*/

Files:

perl-5.32.0/cpan/Compress-Raw-Bzip2/bzip2-src/crctable.c
perl-5.32.0/cpan/Compress-Raw-Bzip2/bzip2-src/bzlib.c
perl-5.32.0/cpan/Compress-Raw-Bzip2/bzip2-src/blocksort.c
perl-5.32.0/cpan/Compress-Raw-Bzip2/bzip2-src/compress.c
perl-5.32.0/cpan/Compress-Raw-Bzip2/bzip2-src/randtable.c
perl-5.32.0/cpan/Compress-Raw-Bzip2/bzip2-src/huffman.c
perl-5.32.0/cpan/Compress-Raw-Bzip2/bzip2-src/bzlib.h
perl-5.32.0/cpan/Compress-Raw-Bzip2/bzip2-src/decompress.c
perl-5.32.0/cpan/Compress-Raw-Bzip2/bzip2-src/bzlib_private.h

/* -----
 This file is part of bzip2/libbzip2, a program and library for
 lossless, block-sorting data compression.

 bzip2/libbzip2 version 1.0.8 of 13 July 2019
 Copyright (C) 1996-2019 Julian Seward <jseward@acm.org>

 Please read the WARNING, DISCLAIMER and PATENTS sections in the
 README file.

 This program is released under the terms of the license contained
 in the file LICENSE.
 ----- */

Files:

perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/deflate.c

/* deflate.c -- compress data using the deflation algorithm
 * Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler
 * For conditions of distribution and use, see copyright notice in
zlib.h
 */

Files:

perl-5.32.0/inline.h

/* This is the inlined portion of utf8n_to_uvchr_msgs. It handles the
 * simple cases, and, if necessary calls a helper function to deal with
the
 * more complex ones. Almost all well-formed non-problematic code
points
 * are considered simple, so that it's unlikely that the helper function
 * will need to be called.
 *
 * This is an adaptation of the tables and algorithm given in
 * https://bjoern.hoehrmann.de/utf-8/decoder/dfa/, which provides
```

```
* comprehensive documentation of the original version. A copyright
notice
* for the original version is given at the beginning of this file. The
* Perl adaption is documented at the definition of
PL_strict_utf8_dfa_tab[].
*/
```

**## Files:**

```
perl-5.32.0/op.h
```

```
/* op.h
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/NetWare/Nwpipe.c
perl-5.32.0/NetWare/CLIBstuf.c
perl-5.32.0/NetWare/nwperlsys.h
perl-5.32.0/NetWare/nwstdio.h
perl-5.32.0/NetWare/NWTInfo.c
perl-5.32.0/NetWare/nwhashcls.cpp
perl-5.32.0/NetWare/perllib.cpp
perl-5.32.0/NetWare/interface.h
perl-5.32.0/NetWare/Main.c
perl-5.32.0/NetWare/nw5thread.c
perl-5.32.0/NetWare/nw5iop.h
perl-5.32.0/NetWare/CLIBstr.h
perl-5.32.0/NetWare/nwutil.h
perl-5.32.0/NetWare/nwplglob.c
perl-5.32.0/NetWare/nw5sck.h
perl-5.32.0/NetWare/interface.cpp
perl-5.32.0/NetWare/interface.c
perl-5.32.0/NetWare/CLIBsdio.h
perl-5.32.0/NetWare/intdef.h
perl-5.32.0/NetWare/nwpipe.h
perl-5.32.0/NetWare/CLIBstuf.h
perl-5.32.0/NetWare/nwperlhost.h
perl-5.32.0/NetWare/nwperlsys.c
perl-5.32.0/NetWare/nwtinfo.h
perl-5.32.0/NetWare/nwvmem.h
perl-5.32.0/NetWare/nwplglob.h
perl-5.32.0/NetWare/Nwmain.c
perl-5.32.0/NetWare/nw5sck.c
```



```
perl-5.32.0/NetWare/win32ish.h
perl-5.32.0/NetWare/NWUtil.c
perl-5.32.0/NetWare/iperlhost.h
perl-5.32.0/NetWare/deb.h
perl-5.32.0/NetWare/netware.h
perl-5.32.0/NetWare/nw5.c
perl-5.32.0/NetWare/nwhashcls.h
perl-5.32.0/NetWare/nw5thread.h
```

```
/*
 * Copyright © 2001 Novell, Inc. All Rights Reserved.
 *
 * You may distribute under the terms of either the GNU General Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

### ## Files:

```
perl-5.32.0/patchlevel.h
```

```
/* patchlevel.h
 *
 * Copyright (C) 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2001,
2002,
 * 2003, 2004, 2005, 2006, 2007, 2008, 2009, by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

### ## Files:

```
perl-5.32.0/mg.c
```

```
/* mg.c
 *
 * Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
 * 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/cpan/Digest-SHA/src/sha.c

```
/*
 * sha.c: routines to compute SHA-1/224/256/384/512 digests
 *
 * Ref: NIST FIPS PUB 180-4 Secure Hash Standard
 *
 * Copyright (C) 2003-2018 Mark Shelor, All Rights Reserved
 *
 * Version: 6.02
 * Fri Apr 20 16:25:30 MST 2018
 */
```

## ## Files:

perl-5.32.0/mg.h

```
/* mg.h
 *
 * Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1999,
 * 2000, 2002, 2005, 2006, 2007, 2008 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 */
```

## ## Files:

perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/zconf.h

```
/* zconf.h -- configuration of the zlib compression library
 * Copyright (C) 1995-2016 Jean-loup Gailly, Mark Adler
 * For conditions of distribution and use, see copyright notice in
zlib.h
 */
```

## ## Files:

perl-5.32.0/cpan/Digest-SHA/src/sha64bit.h

```
/*
 * sha64bit.h: placeholder values for 64-bit data and routines
 *
 * Ref: NIST FIPS PUB 180-4 Secure Hash Standard
 *
 * Copyright (C) 2003-2018 Mark Shelor, All Rights Reserved
 *
 * Version: 6.02
```

```
* Fri Apr 20 16:25:30 MST 2018
*
* The following macros supply placeholder values that enable the
* sha.c module to successfully compile when 64-bit integer types
* aren't present.
*
* They are appropriately redefined in sha64bit.c if the compiler
* provides a 64-bit type (i.e. when SHA_384_512 is defined).
*
*/
```

**## Files:**

```
perl-5.32.0/pp_sort.c
```

```
/* pp_sort.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/adler32.c
```

```
/* adler32.c -- compute the Adler-32 checksum of a data stream
* Copyright (C) 1995-2011, 2016 Mark Adler
* For conditions of distribution and use, see copyright notice in
zlib.h
*/
```

**## Files:**

```
perl-5.32.0/embedvar.h
```

```
/* -*- buffer-read-only: t -*-
*
* embedvar.h
*
* Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001,
* 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
```

```
* License or the Artistic License, as specified in the README file.
*
* !!!!!!! DO NOT EDIT THIS FILE !!!!!!!
* This file is built by regen/embed.pl from data in embed.fnc,
* regen/embed.pl, regen/opcodes, intrpvar.h and perlvars.h.
* Any changes made here will be lost!
*
* Edit those files and run 'make regen_headers' to effect changes.
*/
```

**## Files:**

perl-5.32.0/pad.c

```
/* pad.c
*
* Copyright (C) 2002, 2003, 2004, 2005, 2006, 2007, 2008
* by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*/
```

**## Files:**

perl-5.32.0/vms/vmsish.h

```
/* vmsish.h
*
* VMS-specific C header file for perl5.
*
* Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001,
* 2002, 2003, 2004, 2005, 2006, 2007 by Charles Bailey and others.
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
* Please see Changes*. * or the Perl Repository Browser for revision
history.
*/
```

**## Files:**

perl-5.32.0/parser.h

```
/* parser.h
*
* Copyright (c) 2006, 2007, 2009, 2010, 2011 Larry Wall and others
*
* You may distribute under the terms of either the GNU General
```

```
Public
* License or the Artistic License, as specified in the README file.
*
* This file defines the layout of the parser object used by the parser
* and lexer (perly.c, toke.c).
*/
```

```
Files:
```

```
perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/zlib.h
```

```
/* zlib.h -- interface of the 'zlib' general purpose compression library
 version 1.2.11, January 15th, 2017
```

```
Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler
```

```
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warranty. In no event will the authors be held liable for any damages
arising from the use of this software.
```

```
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```

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

```
Jean-loup Gailly
jloup@gzip.org
```

```
Mark Adler
madler@alumni.caltech.edu
```

```
The data format used by the zlib library is described by RFCs
(Request for
Comments) 1950 to 1952 in the files http://tools.ietf.org/html/rfc1950
(zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).
*/
```

```
Files:
```

```
perl-5.32.0/win32/perlhost.h
```

```
/* perlhost.h
*
* (c) 1999 Microsoft Corporation. All rights reserved.
```

```
* Portions (c) 1999 ActiveState Tool Corp, http://www.ActiveState.com/
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*/
```

**## Files:**

perl-5.32.0/utf8.h

```
/* utf8.h
*
* This file contains definitions for use with the UTF-8 encoding. It
* actually also works with the variant UTF-8 encoding called UTF-
EBCDIC, and
* hides almost all of the differences between these from the caller.
In other
* words, someone should #include this file, and if the code is being
compiled
* on an EBCDIC platform, things should mostly just work.
*
* Copyright (C) 2000, 2001, 2002, 2005, 2006, 2007, 2009,
* 2010, 2011 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/regexp.h

```
/* regexp.h
*
* Copyright (C) 1993, 1994, 1996, 1997, 1999, 2000, 2001, 2003,
* 2005, 2006, 2007, 2008 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/hints/linux.sh

```
record the version, formats:
icc (ICC) 10.1 20080801
```

```
icpc (ICC) 10.1 20080801
followed by a copyright on the second line

Files:

perl-5.32.0/symbian/PerlApp.h

/* The PerlApp application is licensed under the same terms as Perl
itself. */

Files:

perl-5.32.0/regcomp.c

/*
 * pregcomp and pregexec -- regsub and regerror are not used in perl
 *
 * Copyright (c) 1986 by University of Toronto.
 * Written by Henry Spencer. Not derived from licensed software.
 *
 * Permission is granted to anyone to use this software for any
 * purpose on any computer system, and to redistribute it freely,
 * subject to the following restrictions:
 *
 * 1. The author is not responsible for the consequences of use of
 * this software, no matter how awful, even if they arise
 * from defects in it.
 *
 * 2. The origin of this software must not be misrepresented, either
 * by explicit claim or by omission.
 *
 * 3. Altered versions must be plainly marked as such, and must not
 * be misrepresented as being the original software.
 *
 * **** Alterations to Henry's code are...
 * ****
 * **** Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999,
 * **** 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008
 * **** by Larry Wall and others
 * ****
 * **** You may distribute under the terms of either the GNU General
Public
 * **** License or the Artistic License, as specified in the README
file.
 *
 * Beware that some of this code is subtly aware of the way operator
 * precedence is structured in regular expressions. Serious changes in
 * regular-expression syntax might require a total rethink.
 */
```

## ## Files:

perl-5.32.0/vms/vms.c

```
/*
** The following routines are provided to make life easier when
** converting among VMS-style and Unix-style directory specifications.
** All will take input specifications in either VMS or Unix syntax. On
** failure, all return NULL. If successful, the routines listed below
** return a pointer to a buffer containing the appropriately
** reformatted spec (and, therefore, subsequent calls to that routine
** will clobber the result), while the routines of the same names with
** a _ts suffix appended will return a pointer to a malloced string
** containing the appropriately reformatted spec.
** In all cases, only explicit syntax is altered; no check is made that
** the resulting string is valid or that the directory in question
** actually exists.
**
** fileify_dirspec() - convert a directory spec into the name of the
** directory file (i.e. what you can stat() to see if it's a dir).
** The style (VMS or Unix) of the result is the same as the style
** of the parameter passed in.
** pathify_dirspec() - convert a directory spec into a path (i.e.
** what you prepend to a filename to indicate what directory it's
** in).
** The style (VMS or Unix) of the result is the same as the style
** of the parameter passed in.
** tounixpath() - convert a directory spec into a Unix-style path.
** tovmspath() - convert a directory spec into a VMS-style path.
** tounixspec() - convert any file spec into a Unix-style file spec.
** tovmsspec() - convert any file spec into a VMS-style spec.
** xxxxx_utf8() - Variants that support UTF8 encoding of Unix-Style
file spec.
**
** Copyright 1996 by Charles Bailey <bailey@newman.upenn.edu>
** Permission is given to distribute this code as part of the Perl
** standard distribution under the terms of the GNU General Public
** License or the Perl Artistic License. Copies of each may be
** found in the Perl standard distribution.
*/
```

## ## Files:

perl-5.32.0/perlio.h

```
/* perlio.h
*
* Copyright (C) 1996, 1997, 1999, 2000, 2001, 2002, 2003,
* 2004, 2005, 2006, 2007, by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
```



```
*
*/

Files:

perl-5.32.0/perlapi.h

/* -*- buffer-read-only: t -*-
 *
 * perlapi.h
 *
 * Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001,
 * 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 by Larry Wall and
others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 * !!!!!!! DO NOT EDIT THIS FILE !!!!!!!
 * This file is built by regen/embed.pl from data in embed.fnc,
 * regen/embed.pl, regen/opcodes, intrpvar.h and perlvars.h.
 * Any changes made here will be lost!
 *
 * Edit those files and run 'make regen_headers' to effect changes.
 */

Files:

perl-5.32.0/sv.h

/* sv.h
 *
 * Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
 * 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 by Larry
Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */

Files:

perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/uncompr.c

/* uncompr.c -- decompress a memory buffer
 * Copyright (C) 1995-2003, 2010, 2014, 2016 Jean-loup Gailly, Mark
Adler
 * For conditions of distribution and use, see copyright notice in
```

```
zlib.h
*/

Files:

perl-5.32.0/perl5dio.h

/* perl5dio.h
 *
 * Copyright (C) 1996, 1997, 1998, 1999, 2000, 2001,
 * 2002, 2003, 2006, 2007, 2008 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */

Files:

perl-5.32.0/embed.h

/* -*- buffer-read-only: t -*-
 *
 * embed.h
 *
 * Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001,
 * 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 by Larry Wall and
others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 * !!!!!!! DO NOT EDIT THIS FILE !!!!!!!
 * This file is built by regen/embed.pl from data in embed.fnc,
 * regen/embed.pl, regen/opcodes, intrpvar.h and perlvars.h.
 * Any changes made here will be lost!
 *
 * Edit those files and run 'make regen_headers' to effect changes.
 */

Files:

perl-5.32.0/symbian/PerlBase.cpp
perl-5.32.0/symbian/PerlBase.h

/* The CPerlBase class is licensed under the same terms as Perl itself.
 */
```

## ## Files:

perl-5.32.0/fakesdio.h

```
/* fakesdio.h
 *
 * Copyright (C) 2000, by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/win32/vmem.h

```
/* vmem.h
 *
 * (c) 1999 Microsoft Corporation. All rights reserved.
 * Portions (c) 1999 ActiveState Tool Corp, http://www.ActiveState.com/
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 * Options:
 *
 * Defining _USE_MSVCRT_MEM_ALLOC will cause all memory allocations
 * to be forwarded to the compiler's MSVCR*.DLL. Defining
_USE_LINKED_LIST as
 * will track all allocations in a doubly linked list, so that the
host can
 * free all memory allocated when it goes away.
 * If _USE_MSVCRT_MEM_ALLOC is not defined then Knuth's boundary tag
algorithm
 * is used; defining _USE_BUDDY_BLOCKS will use Knuth's algorithm R
 * (Buddy system reservation)
 *
 */
```

## ## Files:

perl-5.32.0/deb.c

```
/* deb.c
 *
 * Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1998, 1999,
2000, 2001,
 * 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
```

```
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/universal.c
```

```
/* universal.c
*
* Copyright (C) 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003,
2004,
* 2005, 2006, 2007, 2008 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/regcharclass.h
```

```
/* -*- buffer-read-only: t -*-
*
* regcharclass.h
*
* Copyright (C) 2007, 2011 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
* !!!!!!! DO NOT EDIT THIS FILE !!!!!!!
* This file is built by regen/regcharclass.pl.
* Any changes made here will be lost!
* WARNING: These macros are for internal Perl core use only, and may be
* changed or removed without notice.
*/
```

**## Files:**

```
perl-5.32.0/pp.h
```

```
/* pp.h
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1998, 1999,
2000, 2001,
* 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
```

```
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/reentr.c

```
/* -*- buffer-read-only: t -*-
*
* reentr.c
*
* Copyright (C) 2002, 2003, 2005, 2006, 2007 by Larry Wall and

```

**## Files:**

perl-5.32.0/util.h

```
/* util.h
*
* Copyright (C) 1991, 1992, 1993, 1999, 2001, 2002, 2003, 2004,
2005,
* 2007, by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/av.c

```
/* av.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
```

```
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/utf8.c
```

```
/* utf8.c
*
* Copyright (C) 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008
* by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/symbian/PerlUi.cpp
perl-5.32.0/symbian/PerlUi.h
```

```
/* The PerlUi class is licensed under the same terms as Perl itself. */
```

**## Files:**

```
perl-5.32.0/intrpvar.h
```

```
/* intrpvar.h
*
* Copyright (C) 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004,
2005,
* 2006, 2007, 2008 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/crc32.c
```

```
/* crc32.c -- compute the CRC-32 of a data stream
* Copyright (C) 1995-2006, 2010, 2011, 2012, 2016 Mark Adler
* For conditions of distribution and use, see copyright notice in
zlib.h
*
* Thanks to Rodney Brown <rbrown64@csc.com.au> for his contribution of
```

```
faster
 * CRC methods: exclusive-oring 32 bits of data at a time, and pre-
computing
 * tables for updating the shift register in one step with three
exclusive-ors
 * instead of four steps with four exclusive-ors. This results in
about a
 * factor of two increase in speed on a Power PC G4 (PPC7455) using gcc
-03.
 */
```

**## Files:**

```
perl-5.32.0/vms/vms.c
```

```
/* vms.c
 *
 * VMS-specific routines for perl5
 *
 * Copyright (C) 1993-2015 by Charles Bailey and others.
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 */
```

**## Files:**

```
perl-5.32.0/symbian/PerlUtil.h
perl-5.32.0/symbian/PerlUtil.cpp
```

```
/* The PerlUtil class is licensed under the same terms as Perl itself.
 */
```

**## Files:**

```
perl-5.32.0/dist/IO/poll.c
```

```
/*
 * poll.c
 *
 * Copyright (c) 1997-8 Graham Barr <gbarr@pobox.com>. All rights
reserved.
 * This program is free software; you can redistribute it and/or
 * modify it under the same terms as Perl itself.
 *
 * For systems that do not have the poll() system call (for example
Linux
 * kernels < v2.1.23) try to emulate it as closely as possible using
select()
 *
 */
```

## ## Files:

perl-5.32.0/malloc.c

```
/*
 * malloc.c (Caltech) 2/21/82
 * Chris Kingsley, kingsley@cit-20.
 *
 * This is a very fast storage allocator. It allocates blocks of a
small
 * number of different sizes, and keeps free lists of each size.
Blocks that
 * don't exactly fit are passed up to the next larger size. In this
 * implementation, the available sizes are 2^n-4 (or 2^n-12) bytes long.
 * If PACK_MALLOC is defined, small blocks are 2^n bytes long.
 * This is designed for use in a program that uses vast quantities of
memory,
 * but bombs when it runs out.
 *
 * Modifications Copyright Ilya Zakharevich 1996-99.
 *
 * Still very quick, but much more thrifty. (Std config is 10% slower
 * than it was, and takes 67% of old heap size for typical usage.)
 *
 * Allocations of small blocks are now table-driven to many different
 * buckets. Sizes of really big buckets are increased to accommodate
 * common size=power-of-2 blocks. Running-out-of-memory is made into
 * an exception. Deeply configurable and thread-safe.
 *
 */
```

## ## Files:

perl-5.32.0/unixish.h

```
/* unixish.h
 *
 * Copyright (C) 1993, 1994, 1995, 1996, 1997, 1999, 2000, 2001,
2002,
 * 2003, 2006, 2007, by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/inffast.h

```
/* inffast.h -- header to use inffast.c
 * Copyright (C) 1995-2003, 2010 Mark Adler
 * For conditions of distribution and use, see copyright notice in
```



```
zlib.h
*/

Files:

perl-5.32.0/reentr.h

/* -*- buffer-read-only: t -*-
 *
 * reentr.h
 *
 * Copyright (C) 2002, 2003, 2005, 2006, 2007 by Larry Wall and
others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 * !!!!!!! DO NOT EDIT THIS FILE !!!!!!!
 * This file is built by regen/reentr.pl from data in regen/reentr.pl.
 * Any changes made here will be lost!
 */

Files:

perl-5.32.0/op.c

/* The very first range is marked as adjacent to the
 * non-existent range below it, as it causes things to "just
 * work" (TradeMark)
 *
 * If the lowest code point in this chunk is M, it adjoins the
 * J-L range */

Files:

perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/trees.c

/* trees.c -- output deflated data using Huffman coding
 * Copyright (C) 1995-2017 Jean-loup Gailly
 * detect_data_type() function provided freely by Cosmin Truta, 2006
 * For conditions of distribution and use, see copyright notice in
zlib.h
 */

Files:

perl-5.32.0/toke.c

/* toke.c
 *
 * Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
```

```
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/dump.c
```

```
/* dump.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/regexec.c
```

```
/*
* pregcomp and pregexec -- regsub and regerror are not used in perl
*
* Copyright (c) 1986 by University of Toronto.
* Written by Henry Spencer. Not derived from licensed software.
*
* Permission is granted to anyone to use this software for any
* purpose on any computer system, and to redistribute it freely,
* subject to the following restrictions:
*
* 1. The author is not responsible for the consequences of use of
* this software, no matter how awful, even if they arise
* from defects in it.
*
* 2. The origin of this software must not be misrepresented, either
* by explicit claim or by omission.
*
* 3. Altered versions must be plainly marked as such, and must not
* be misrepresented as being the original software.
*
**** Alterations to Henry's code are...

**** Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
```

```
1999,
**** 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008
**** by Larry Wall and others

**** You may distribute under the terms of either the GNU General
Public
**** License or the Artistic License, as specified in the README
file.
*
* Beware that some of this code is subtly aware of the way operator
* precedence is structured in regular expressions. Serious changes in
* regular-expression syntax might require a total rethink.
*/
```

**## Files:**

```
perl-5.32.0/doio.c
```

```
/* doio.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/regcomp.h
```

```
/* regcomp.h
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999,
* 2000, 2001, 2002, 2003, 2005, 2006, 2007, by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/inflate.h
```

```
/* inflate.h -- internal inflate state definition
* Copyright (C) 1995-2016 Mark Adler
```

```
* For conditions of distribution and use, see copyright notice in
zlib.h
*/
```

**## Files:**

```
perl-5.32.0/symbian/PerlApp.cpp
perl-5.32.0/symbian/PerlApp.h
perl-5.32.0/symbian/PerlBase.cpp
perl-5.32.0/symbian/PerlBase.h
perl-5.32.0/symbian/PerlUtil.h
perl-5.32.0/symbian/PerlUtil.cpp
perl-5.32.0/symbian/PerlRecog.cpp
```

```
/* Copyright (c) 2004-2005 Nokia. All rights reserved. */
```

**## Files:**

```
perl-5.32.0/miniperlmain.c
```

```
/* miniperlmain.c or perlmain.c - a generated file
*
* Copyright (C) 1994, 1995, 1996, 1997, 1999, 2000, 2001, 2002,
2003,
* 2004, 2005, 2006, 2007, 2016 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/symbian/PerlRecog.cpp
```

```
/* The PerlRecog application is licensed under the same terms as Perl
itself. */
```

**## Files:**

```
perl-5.32.0/hv.c
```

```
/* hv.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
```

```
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/pad.h

```
/* pad.h
*
* Copyright (C) 2002, 2003, 2005, 2006, 2007, 2008,
* 2009, 2010, 2011 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
* This file defines the types and macros associated with the API for
* manipulating scratchpads, which are used by perl to store lexical
* variables, op targets and constants.
*/
```

**## Files:**

perl-5.32.0/XSUB.h

```
/* XSUB.h
*
* Copyright (C) 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001,
2002,
* 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/inffast.c

```
/* inffast.c -- fast decoding
* Copyright (C) 1995-2017 Mark Adler
* For conditions of distribution and use, see copyright notice in
zlib.h
*/
```

**## Files:**

perl-5.32.0/thread.h

```
/* thread.h
 *
 * Copyright (C) 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006,
 * by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

**## Files:**

```
perl-5.32.0/perly.h
```

```
/* Bison interface for Yacc-like parsers in C
```

```
 Copyright (C) 1984, 1989-1990, 2000-2015, 2018-2019 Free Software
Foundation,
 Inc.
```

```
This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.
```

```
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
```

```
You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/
licenses/>. */
```

**## Files:**

```
perl-5.32.0/gv.c
```

```
/* gv.c
 *
 * Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
 * 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 by Larry
Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/pp\_sys.c

```
/* pp_sys.c
 *
 * Copyright (C) 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002,
2003,
 * 2004, 2005, 2006, 2007, 2008 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/numeric.c

```
/* numeric.c
 *
 * Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001,
 * 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/symbian/PerlUi.cpp  
perl-5.32.0/symbian/PerlUi.h

/\* Copyright (c) 2005 Nokia. All rights reserved. \*/

## ## Files:

perl-5.32.0/perly.c

```
/* perly.c
 *
 * Copyright (c) 2004, 2005, 2006, 2007, 2008,
 * 2009, 2010, 2011 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 * Note that this file was originally generated as an output from
```

```
* GNU bison version 1.875, but now the code is statically maintained
* and edited; the bits that are dependent on perly.y are now
* #included from the files perly.tab and perly.act.
*
* Here is an important copyright statement from the original,
generated
* file:
*
* As a special exception, when this file is copied by Bison into a
* Bison output file, you may use that output file without
* restriction. This special exception was added by the Free
* Software Foundation in version 1.24 of Bison.
*
*/
```

**## Files:**

perl-5.32.0/util.c

```
/* util.c
*
* Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001,
* 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/INTERN.h

```
/* INTERN.h
*
* Copyright (C) 1991, 1992, 1993, 1995, 1996, 1998, 2000, 2001,
* by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/inftrees.h

```
/* inftrees.h -- header to use inftrees.c
* Copyright (C) 1995-2005, 2010 Mark Adler
* For conditions of distribution and use, see copyright notice in
```



```
zlib.h
*/

Files:

perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/deflate.h

/* deflate.h -- internal compression state
 * Copyright (C) 1995-2016 Jean-loup Gailly
 * For conditions of distribution and use, see copyright notice in
zlib.h
*/

Files:

perl-5.32.0/inline.h

/*

=for apidoc isUTF8_CHAR

Evaluates to non-zero if the first few bytes of the string starting at
C<s> and
looking no further than S<C<e - 1>> are well-formed UTF-8, as extended
by Perl,
that represents some code point; otherwise it evaluates to 0. If non-
zero, the
value gives how many bytes starting at C<s> comprise the code point's
representation. Any bytes remaining before C<e>, but beyond the ones
needed to
form the first code point in C<s>, are not examined.

The code point can be any that will fit in an IV on this machine, using
Perl's
extension to official UTF-8 to represent those higher than the Unicode
maximum
of 0x10FFFF. That means that this macro is used to efficiently decide
if the
next few bytes in C<s> is legal UTF-8 for a single character.

Use C<L</isSTRICT_UTF8_CHAR>> to restrict the acceptable code points to
those
defined by Unicode to be fully interchangeable across applications;
C<L</isC9_STRICT_UTF8_CHAR>> to use the L<Unicode Corrigendum
#9|http://www.unicode.org/versions/corrigendum9.html> definition of
allowable
code points; and C<L</isUTF8_CHAR_flags>> for a more customized
definition.

Use C<L</is_utf8_string>>, C<L</is_utf8_string_loc>>, and
C<L</is_utf8_string_loclen>> to check entire strings.

Note also that a UTF-8 "invariant" character (i.e. ASCII on non-EBCDIC
machines) is a valid UTF-8 character.
```

```
=cut
```

```
This uses an adaptation of the table and algorithm given in
https://bjoern.hoehrmann.de/utf-8/decoder/dfa/, which provides
comprehensive
documentation of the original version. A copyright notice for the
original
version is given at the beginning of this file. The Perl adaptation is
documented at the definition of PL_extended_utf8_dfa_tab[].
```

```
*/
```

```
Files:
```

```
perl-5.32.0/nostdio.h
```

```
/* nostdio.h
 *
 * Copyright (C) 1996, 2000, 2001, 2005, by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

```
Files:
```

```
perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/zutil.h
```

```
/* zutil.h -- internal interface and configuration of the compression
library
 * Copyright (C) 1995-2016 Jean-loup Gailly, Mark Adler
 * For conditions of distribution and use, see copyright notice in
zlib.h
 */
```

```
Files:
```

```
perl-5.32.0/cv.h
```

```
/* cv.h
 *
 * Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1999,
2000, 2001,
 * 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/keywords.h

```
/* -*- buffer-read-only: t -*-
 *
 * keywords.h
 *
 * Copyright (C) 1994, 1995, 1996, 1997, 1999, 2000, 2001, 2002,
2005,
 * 2006, 2007 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 * !!!!!!! DO NOT EDIT THIS FILE !!!!!!!
 * This file is built by regen/keywords.pl from its data.
 * Any changes made here will be lost!
 */
```

## ## Files:

perl-5.32.0/inline.h

```
/*

=for apidoc isC9_STRICT_UTF8_CHAR

Evaluates to non-zero if the first few bytes of the string starting at
C<s> and
looking no further than S<C<e - 1>> are well-formed UTF-8 that
represents some
Unicode non-surrogate code point; otherwise it evaluates to 0. If non-
zero,
the value gives how many bytes starting at C<s> comprise the code
point's
representation. Any bytes remaining before C<e>, but beyond the ones
needed to
form the first code point in C<s>, are not examined.

The largest acceptable code point is the Unicode maximum 0x10FFFF. This
differs from C<L</isSTRICT_UTF8_CHAR>> only in that it accepts non-
character
code points. This corresponds to
L<Unicode Corrigendum #9|http://www.unicode.org/versions/
corrigendum9.html>.
which said that non-character code points are merely discouraged rather
than
completely forbidden in open interchange. See
L<perlunicode/Noncharacter code points>.

Use C<L</isUTF8_CHAR>> to check for Perl's extended UTF-8; and
C<L</isUTF8_CHAR_flags>> for a more customized definition.
```

```
Use C<L</is_c9strict_utf8_string>>, C<L</is_c9strict_utf8_string_loc>>,
and
C<L</is_c9strict_utf8_string_loclen>> to check entire strings.
```

```
=cut
```

```
This uses an adaptation of the tables and algorithm given in
https://bjoern.hoehrmann.de/utf-8/decoder/dfa/, which provides
comprehensive
documentation of the original version. A copyright notice for the
original
version is given at the beginning of this file. The Perl adaptation is
documented at the definition of PL_c9_utf8_dfa_tab[].
```

```
*/
```

```
Files:
```

```
perl-5.32.0/scope.h
```

```
/* scope.h
 *
 * Copyright (C) 1993, 1994, 1996, 1997, 1998, 1999, 2000, 2001,
 * 2002, 2004, 2005, 2006, 2007, 2008 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

```
Files:
```

```
perl-5.32.0/symbian/symbian_dll.cpp
```

```
/*
 * symbian_dll.cpp
 *
 * Copyright (c) Nokia 2004-2005. All rights reserved.
 * This code is licensed under the same terms as Perl itself.
 *
 */
```

```
Files:
```

```
perl-5.32.0/l1_char_class_tab.h
```

```
/* 0xB4 U+A9 I8=DE COPYRIGHT */
```

## ## Files:

perl-5.32.0/form.h

```
/* form.h
 *
 * Copyright (C) 1991, 1992, 1993, 2000, 2004, 2011 by Larry Wall
and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/locale.c

```
/* locale.c
 *
 * Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001,
 * 2002, 2003, 2005, 2006, 2007, 2008 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## ## Files:

perl-5.32.0/win32/win32.h

```
/* WIN32.H
 *
 * (c) 1995 Microsoft Corporation. All rights reserved.
 * Developed by hip communications inc.
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 */
```

## ## Files:

perl-5.32.0/caretx.c

```
/* caretx.c
 *
 * Copyright (C) 2013
 * by Larry Wall and others
```

```
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/EXTERN.h

```
/* EXTERN.h
*
* Copyright (C) 1991, 1992, 1993, 1995, 1996, 1997, 1998, 1999,
* 2000, 2001, by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/loop.c

```
/* loop.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2004, 2005, 2006, 2007, 2008, 2009 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/dist/IO/poll.h

```
/*
* poll.h
*
* Copyright (c) 1997-8 Graham Barr <gbarr@pobox.com>. All rights
reserved.
* This program is free software; you can redistribute it and/or
* modify it under the same terms as Perl itself.
*
*/
```

## ## Files:

```
perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/inftrees.c
```

```
/* inftrees.c -- generate Huffman trees for efficient decoding
 * Copyright (C) 1995-2017 Mark Adler
 * For conditions of distribution and use, see copyright notice in
zlib.h
 */
```

## ## Files:

```
perl-5.32.0/win32/win32.c
```

```
/* WIN32.C
 *
 * (c) 1995 Microsoft Corporation. All rights reserved.
 * Developed by hip communications inc.
 * Portions (c) 1993 Intergraph Corporation. All rights reserved.
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 */
```

## ## Files:

```
perl-5.32.0/inline.h
```

```
/*
```

```
=for apidoc isSTRICT_UTF8_CHAR
```

```
Evaluates to non-zero if the first few bytes of the string starting at
C<s> and
looking no further than S<C<e - 1>> are well-formed UTF-8 that
represents some
Unicode code point completely acceptable for open interchange between
all
applications; otherwise it evaluates to 0. If non-zero, the value
gives how
many bytes starting at C<s> comprise the code point's representation.
Any
bytes remaining before C<e>, but beyond the ones needed to form the
first code
point in C<s>, are not examined.
```

```
The largest acceptable code point is the Unicode maximum 0x10FFFF, and
must not
be a surrogate nor a non-character code point. Thus this excludes any
code
point from Perl's extended UTF-8.
```

```
This is used to efficiently decide if the next few bytes in C<s> is
```

legal Unicode-acceptable UTF-8 for a single character.

Use C<L</isC9\_STRICT\_UTF8\_CHAR>> to use the L<Unicode Corrigendum #9|<http://www.unicode.org/versions/corrigendum9.html>> definition of allowable code points; C<L</isUTF8\_CHAR>> to check for Perl's extended UTF-8; and C<L</isUTF8\_CHAR\_flags>> for a more customized definition.

Use C<L</is\_strict\_utf8\_string>>, C<L</is\_strict\_utf8\_string\_loc>>, and C<L</is\_strict\_utf8\_string\_loclen>> to check entire strings.

=cut

This uses an adaptation of the tables and algorithm given in <https://bjoern.hoehrmann.de/utf-8/decoder/dfa/>, which provides comprehensive documentation of the original version. A copyright notice for the original version is given at the beginning of this file. The Perl adaptation is documented at the definition of `strict_extended_utf8_dfa_tab[]`.

\*/

## Files:

perl-5.32.0/mydtrace.h

```
/* mydtrace.h
 *
 * Copyright (C) 2008, 2010, 2011 by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 * Provides macros that wrap the various DTrace probes we use. We add
 * an extra level of wrapping to encapsulate the _ENABLED tests.
 */
```

## Files:

perl-5.32.0/globals.c

```
/* globals.c
 *
 * Copyright (C) 1995, 1999, 2000, 2001, 2008 by Larry Wall and
others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```



## ## Files:

perl-5.32.0/win32/vdir.h

```
/* vdir.h
 *
 * (c) 1999 Microsoft Corporation. All rights reserved.
 * Portions (c) 1999 ActiveState Tool Corp, http://www.ActiveState.com/
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 */
```

## ## Files:

perl-5.32.0/cpan/Digest-SHA/src/sha.h

```
/*
 * sha.h: header file for SHA-1/224/256/384/512 routines
 *
 * Ref: NIST FIPS PUB 180-4 Secure Hash Standard
 *
 * Copyright (C) 2003-2018 Mark Shelor, All Rights Reserved
 *
 * Version: 6.02
 * Fri Apr 20 16:25:30 MST 2018
 *
 */
```

## ## Files:

perl-5.32.0/symbian/symbian\_stubs.c

```
/*
 * symbian_stubs.c
 *
 * Copyright (c) Nokia 2004-2005. All rights reserved.
 * This code is licensed under the same terms as Perl itself.
 *
 */
```

## ## Files:

perl-5.32.0/vms/vms.c

```
/* rmscopy - copy a file using VMS RMS routines
 *
 * Copies contents and attributes of spec_in to spec_out, except owner
 * and protection information. Name and type of spec_in are used as
 * defaults for spec_out. The third parameter specifies whether
rmscopy()
 * should try to propagate timestamps from the input file to the
```

```
output file.
* If it is less than 0, no timestamps are preserved. If it is 0, then
* rmscopy() will behave similarly to the DCL COPY command: timestamps
are
* propagated to the output file at creation iff the output file
specification
* did not contain an explicit name or type, and the revision date is
always
* updated at the end of the copy operation. If it is greater than 0,
then
* it is interpreted as a bitmask, in which bit 0 indicates that
timestamps
* other than the revision date should be propagated, and bit 1
indicates
* that the revision date should be propagated.
*
* Returns 1 on success; returns 0 and sets errno and vaxc$errno on
failure.
*
* Copyright 1996 by Charles Bailey <bailey@newman.upenn.edu>.
* Incorporates, with permission, some code from EZCOPY by Tim Adye
* <T.J.Ady@rl.ac.uk>. Permission is given to distribute this code
* as part of the Perl standard distribution under the terms of the
* GNU General Public License or the Perl Artistic License. Copies
* of each may be found in the Perl standard distribution.
*/
```

### ## Files:

perl-5.32.0/hv.h

```
/* hv.h
*
* Copyright (C) 1991, 1992, 1993, 1996, 1997, 1998, 1999,
* 2000, 2001, 2002, 2003, 2005, 2006, 2007, 2008, by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

### ## Files:

perl-5.32.0/win32/win32sck.c

```
/* win32sck.c
*
* (c) 1995 Microsoft Corporation. All rights reserved.
* Developed by hip communications inc.
* Portions (c) 1993 Intergraph Corporation. All rights reserved.
*
* You may distribute under the terms of either the GNU General
```

```
Public
* License or the Artistic License, as specified in the README file.
*/
```

**## Files:**

perl-5.32.0/scope.c

```
/* scope.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/opcode.h

```
/* -*- buffer-read-only: t -*-
*
* opcode.h
*
* Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001,
* 2002, 2003, 2004, 2005, 2006, 2007 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
* !!!!!!! DO NOT EDIT THIS FILE !!!!!!!
* This file is built by regen/opcode.pl from its data.
* Any changes made here will be lost!
*/
```

**## Files:**

```
perl-5.32.0/ebcdic_tables.h
perl-5.32.0/ebcdic_tables.h
perl-5.32.0/ebcdic_tables.h
perl-5.32.0/ebcdic_tables.h
perl-5.32.0/ebcdic_tables.h
perl-5.32.0/ebcdic_tables.h
```

```
/* The table below is adapted from
* https://bjoern.hoehrmann.de/utf-8/decoder/dfa/
```

```
* See copyright notice at the beginning of this file.
*/
```

**## Files:**

```
perl-5.32.0/overload.h
```

```
/* -*- buffer-read-only: t -*-
*
* overload.h
*
* Copyright (C) 1997, 1998, 2000, 2001, 2005, 2006, 2007, 2011
* by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
* !!!!!!! DO NOT EDIT THIS FILE !!!!!!!
* This file is built by regen/overload.pl.
* Any changes made here will be lost!
*/
```

**## Files:**

```
perl-5.32.0/l1_char_class_tab.h
```

```
/* 0xB4 U+A9 I8=DD COPYRIGHT */
```

**## Files:**

```
perl-5.32.0/perlvars.h
```

```
/* perlvars.h
*
* Copyright (C) 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006,
2007,
* by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/run.c
```

```
/* run.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
```

```
1999,
* 2000, 2001, 2004, 2005, 2006, by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/dosish.h
```

```
/* dosish.h
*
* Copyright (C) 1993, 1994, 1996, 1997, 1998, 1999,
* 2000, 2001, 2002, 2007, by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/symbian/symbianish.h
```

```
/*
* symbianish.h
*
* Copyright (c) Nokia 2004-2005. All rights reserved.
* This code is licensed under the same terms as Perl itself.
*
*/
```

**## Files:**

```
perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/inflate.c
```

```
/* inflate.c -- zlib decompression
* Copyright (C) 1995-2016 Mark Adler
* For conditions of distribution and use, see copyright notice in
zlib.h
*/
```

**## Files:**

```
perl-5.32.0/op_reg_common.h
```

```
/* op_reg_common.h
*
```

```
* Definitions common to by op.h and regexp.h
*
* Copyright (C) 2010, 2011 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/

Files:

perl-5.32.0/cpan/Locale-Maketext-Simple/t/po_with_i_default/i_default.po
perl-5.32.0/cpan/Locale-Maketext-Simple/t/po_with_i_default/fr.po
perl-5.32.0/cpan/Locale-Maketext-Simple/t/po_with_i_default/en.po
perl-5.32.0/cpan/Locale-Maketext-Simple/t/po_without_i_default/en.po
perl-5.32.0/cpan/Locale-Maketext-Simple/t/po_without_i_default/fr.po

Locale Maketext Simple language translations
Copyright (C) All Perl Hackers everywhere
Ton Voon <ton.voon@opsera.com>, 2009.
#

Files:

perl-5.32.0/mro_core.c

/* mro_core.c
*
* Copyright (c) 2007 Brandon L Black
* Copyright (c) 2007, 2008, 2009, 2010, 2011 Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
* This was 'mro.c', but changed because there is another mro.c in /
ext, and
* the os390 loader can't cope with this situation (which involves
the two
* files calling functions defined in the other)
*/

Files:

perl-5.32.0/perlapi.c

/* -*- buffer-read-only: t -*-
*
* perlapi.c
*
* Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000,
2001,
```

```
* 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
* !!!!!!! DO NOT EDIT THIS FILE !!!!!!!
* This file is built by regen/embed.pl from data in embed.fnc,
* regen/embed.pl, regen/opcodes, intrpvar.h and perlvars.h.
* Any changes made here will be lost!
*
* Edit those files and run 'make regen_headers' to effect changes.
*
*
* Up to the threshold of the door there mounted a flight of twenty-
seven
* broad stairs, hewn by some unknown art of the same black stone. This
* was the only entrance to the tower; ...
*
* [p.577 of _The Lord of the Rings_, III/x: "The Voice of Saruman"]
*
*/
```

**## Files:**

perl-5.32.0/perly.h

```
/* As a special exception, you may create a larger work that contains
part or all of the Bison parser skeleton and distribute that work
under terms of your choice, so long as that work isn't itself a
parser generator using the skeleton or a modified version thereof
as a parser skeleton. Alternatively, if you modify or redistribute
the parser skeleton itself, you may (at your option) remove this
special exception, which will cause the skeleton and the resulting
Bison output files to be licensed under the GNU General Public
License without this special exception.
```

```
This special exception was added by the Free Software Foundation in
version 2.2 of Bison. */
```

**## Files:**

perl-5.32.0/pp\_ctl.c

```
/* pp_ctl.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
```

```
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/symbian/symbian_utils.cpp
```

```
/*
 * symbian_utils.cpp
 *
 * Copyright (c) Nokia 2004-2005. All rights reserved.
 * This code is licensed under the same terms as Perl itself.
 *
 */
```

**## Files:**

```
perl-5.32.0/cpan/DB_File/version.c
```

```
/*

version.c -- Perl 5 interface to Berkeley DB

written by Paul Marquess <pmqs@cpan.org>
last modified 2nd Jan 2002
version 1.802

All comments/suggestions/problems are welcome

Copyright (c) 1995-2002 Paul Marquess. All rights reserved.
This program is free software; you can redistribute it and/or
modify it under the same terms as Perl itself.
```

**Changes:**

```
1.71 - Support for Berkeley DB version 3.
 Support for Berkeley DB 2/3's backward compatibility
mode.
1.72 - No change.
1.73 - Added support for threading
1.74 - Added Perl core patch 7801.
```

```
*/
```

**## Files:**

```
perl-5.32.0/cpan/Digest-SHA/src/sha64bit.c
```

```
/*
 * sha64bit.c: routines to compute SHA-384/512 digests
 *
 * Ref: NIST FIPS PUB 180-4 Secure Hash Standard
```



```
*
* Copyright (C) 2003-2018 Mark Shelor, All Rights Reserved
*
* Version: 6.02
* Fri Apr 20 16:25:30 MST 2018
*
*/
```

**## Files:**

perl-5.32.0/pp.c

```
/* pp.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

perl-5.32.0/util.c

```
/*
* Copyright (c) 1993 Martin Birgmeier
* All rights reserved.
*
* You may redistribute unmodified or modified versions of this source
* code provided that the above copyright notice and this and the
* following conditions are retained.
*
* This software is provided ``as is'', and comes with no warranties
* of any kind. I shall in no event be liable for anything that happens
* to anyone/anything when using this software.
*/
```

**## Files:**

perl-5.32.0/pp\_pack.c

```
/* pp_pack.c
*
* Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
* 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 by Larry Wall and
others
*
```

```
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Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/ll_char_class_tab.h
```

```
/* U+A9 COPYRIGHT */
```

**## Files:**

```
perl-5.32.0/perl.c
```

```
/* perl.c
*
* Copyright (C) 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001
* 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012
* 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020 by Larry Wall and
others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
*/
```

**## Files:**

```
perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/deflate.c
```

```
perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/inftrees.c
```

```
/*
 If you use the zlib library in a product, an acknowledgment is welcome
 in the documentation of your product. If for some reason you cannot
 include such an acknowledgment, I would appreciate that you keep this
 copyright string in the executable of your product.
*/
```

**## Files:**

```
perl-5.32.0/ext/Win32CORE/Win32CORE.c
```

```
/* Win32CORE.c
*
* Copyright (C) 2007 by Larry Wall and others
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
```

```
*
*/

Files:

perl-5.32.0/sv.c

/* sv.c
 *
 * Copyright (C) 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998,
1999, 2000,
 * 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 by Larry Wall
 * and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

```
Files:

perl-5.32.0/cpan/Compress-Raw-Zlib/zlib-src/zutil.c

/* zutil.c -- target dependent utility functions for the compression
library
 * Copyright (C) 1995-2017 Jean-loup Gailly
 * For conditions of distribution and use, see copyright notice in
zlib.h
 */
```

```
Files:

perl-5.32.0/av.h

/* av.h
 *
 * Copyright (C) 1991, 1992, 1993, 1995, 1996, 1997, 1998, 1999,
2000,
 * 2001, 2002, 2005, 2006, 2007, 2008, by Larry Wall and others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

```
Files:

perl-5.32.0/Copying
```

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Version 1, February 1989

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<one line to give the program's name and a brief idea of what it does.>

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<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020 by Larry Wall and others.  
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## Files:

perl-5.32.0/perly.y

```
/* perly.y
 *
 * Copyright (c) 1991-2002, 2003, 2004, 2005, 2006 Larry Wall
 * Copyright (c) 2007, 2008, 2009, 2010, 2011 by Larry Wall and
others
 *
 * You may distribute under the terms of either the GNU General
Public
 * License or the Artistic License, as specified in the README file.
 *
 */
```

## Files:

perl-5.32.0/README.symbian

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## Files:

perl-5.32.0/mkppport

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## Files:

perl-5.32.0/Artistic

For a copy of the license, see [Artistic License](#).

## Files:

perl-5.32.0/overload.inc

```
/* -*- buffer-read-only: t -*-
 *
 * overload.inc
 *
 * Copyright (C) 1997, 1998, 2000, 2001, 2005, 2006, 2007, 2011
 * by Larry Wall and others
```



```
*
* You may distribute under the terms of either the GNU General
Public
* License or the Artistic License, as specified in the README file.
*
* !!!!!!! DO NOT EDIT THIS FILE !!!!!!!
* This file is built by regen/overload.pl.
* Any changes made here will be lost!
*/
```

**## Files:**

```
perl-5.32.0/configpm
```

```
Copyright (C) 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001,
2002, 2003, 2004, 2005, 2006, 2007 Larry Wall and others.
```

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```
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```

```
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```

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at your option, any later version of Perl 5 you may have available.
```

**## Files:**

```
perl-5.32.0/symbian/PerlUiS60.rss
```

```
/* Copyright (c) 2004-2005 Nokia. All rights reserved. */
```

```
/* The PerlUi class is licensed under the same terms as Perl itself. */
```

**## Files:**

```
perl-5.32.0/symbian/README
```

```
The PerlApp* files are a demonstration application for the CPerlBase
class, which is defined and implemented by the PerlBase* files.
The rest of the files are part of the Symbian base port.
```

```
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```

**## Files:**

```
perl-5.32.0/symbian/PerlBase.pod
```

```
=head1 COPYRIGHT
```

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=head1 LICENSE

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## Files:

perl-5.32.0/ext/SDBM\_File/readme.ms  
perl-5.32.0/ext/SDBM\_File/README

The sources accompanying this notice - sdbm - constitute the first public release (Dec. 1990) of a complete clone of the Berkeley UN\*X ndbm library. The sdbm library is meant to clone the proven functionality of ndbm as closely as possible, including a few improvements. It is practical, easy to understand, and compatible. The sdbm library is not derived from any licensed, proprietary or copyrighted software.

The sdbm implementation is based on a 1978 algorithm [Lar78] by P.-A. (Paul) Larson known as "Dynamic Hashing". In the course of searching for a substitute for ndbm, I prototyped three different external-hashing algorithms [Lar78, Fag79, Lit80] and ultimately chose Larson's algorithm as a basis of the sdbm implementation. The Bell Labs dbm (and therefore ndbm) is based on an algorithm invented by Ken Thompson, [Tho90, Tor87] and predates Larson's work.

## Files:

perl-5.32.0/ext/XS-Typemap/README

Tim Jenness <t.jenness@jach.hawaii.edu>

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## Files:

perl-5.32.0/Porting/git-deltatool

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## ## Files:

```
perl-5.32.0/dist/Devel-PPPort/typemap
perl-5.32.0/dist/Devel-PPPort/soak
perl-5.32.0/dist/Devel-PPPort/HACKERS
perl-5.32.0/dist/Devel-PPPort/devel/scanprov
perl-5.32.0/dist/Devel-PPPort/devel/regenerate
perl-5.32.0/dist/Devel-PPPort/devel/mktodo
perl-5.32.0/dist/Devel-PPPort/parts/ppport.fnc
perl-5.32.0/dist/Devel-PPPort/parts/inc/pvs
perl-5.32.0/dist/Devel-PPPort/parts/inc/variables
perl-5.32.0/dist/Devel-PPPort/parts/inc/exception
perl-5.32.0/dist/Devel-PPPort/parts/inc/version
perl-5.32.0/dist/Devel-PPPort/parts/inc/Sv_set
perl-5.32.0/dist/Devel-PPPort/parts/inc/subparse
perl-5.32.0/dist/Devel-PPPort/parts/inc/mPUSH
perl-5.32.0/dist/Devel-PPPort/parts/inc/magic_defs
perl-5.32.0/dist/Devel-PPPort/parts/inc/uv
perl-5.32.0/dist/Devel-PPPort/parts/inc/mess
perl-5.32.0/dist/Devel-PPPort/parts/inc/strlfuncs
perl-5.32.0/dist/Devel-PPPort/parts/inc/01_test
perl-5.32.0/dist/Devel-PPPort/parts/inc/newSVpv
perl-5.32.0/dist/Devel-PPPort/parts/inc/shared_pv
perl-5.32.0/dist/Devel-PPPort/parts/inc/pv_tools
perl-5.32.0/dist/Devel-PPPort/parts/inc/ppphdoc
perl-5.32.0/dist/Devel-PPPort/parts/inc/warn
perl-5.32.0/dist/Devel-PPPort/parts/inc/SvPV
perl-5.32.0/dist/Devel-PPPort/parts/inc/sv_xpvf
perl-5.32.0/dist/Devel-PPPort/parts/inc/sprintf
perl-5.32.0/dist/Devel-PPPort/parts/inc/pphbin
perl-5.32.0/dist/Devel-PPPort/parts/inc/podtest
perl-5.32.0/dist/Devel-PPPort/parts/inc/MY_CXT
perl-5.32.0/dist/Devel-PPPort/parts/inc/snprintf
perl-5.32.0/dist/Devel-PPPort/parts/inc/gv
perl-5.32.0/dist/Devel-PPPort/parts/inc/ppptest
perl-5.32.0/dist/Devel-PPPort/parts/inc/cop
perl-5.32.0/dist/Devel-PPPort/parts/inc/newSV_type
perl-5.32.0/dist/Devel-PPPort/parts/inc/misc
perl-5.32.0/dist/Devel-PPPort/parts/inc/newRV
perl-5.32.0/dist/Devel-PPPort/parts/inc/threads
perl-5.32.0/dist/Devel-PPPort/parts/inc/call
perl-5.32.0/dist/Devel-PPPort/parts/inc/limits
perl-5.32.0/dist/Devel-PPPort/parts/inc/newCONSTSUB
perl-5.32.0/dist/Devel-PPPort/parts/inc/format
perl-5.32.0/dist/Devel-PPPort/parts/inc/HvNAME
perl-5.32.0/dist/Devel-PPPort/parts/inc/SvREFCNT
perl-5.32.0/dist/Devel-PPPort/parts/inc/memory
perl-5.32.0/dist/Devel-PPPort/parts/inc/grok
perl-5.32.0/dist/Devel-PPPort/parts/inc/magic

#####
#####
#
Version 3.x, Copyright (C) 2004-2013, Marcus Holland-Moritz.
Version 2.x, Copyright (C) 2001, Paul Marquess.
```

```
Version 1.x, Copyright (C) 1999, Kenneth Albanowski.

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#####
```

## Files:

perl-5.32.0/dist/Module-CoreList/corelist

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## Files:

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perl-5.32.0/dist/Carp/README

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<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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**## Files:**

perl-5.32.0/cpan/Encode/ucm/koi8-u.ucm

```
#
$Id: koi8-u.ucm,v 2.2 2015/07/31 02:18:28 dankogai Exp $
#
Written $Id: koi8-u.ucm,v 2.2 2015/07/31 02:18:28 dankogai Exp $
./compile -n koi8-u -o Encode/koi8-u.ucm Encode/koi8-u.enc
#
Original table can be obtained at
http://www.unicode.org/Public/MAPPINGS/VENDORS/MISC/KOI8-U.TXT
#
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```
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```

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```
perl-5.32.0/cpan/CPAN/scripts/cpan
```

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**## Files:**

```
perl-5.32.0/cpan/Digest-SHA/shasum
```

```
shasum: filter for computing SHA digests (ref. shasum/md5sum)
##
Copyright (C) 2003-2018 Mark Shelor, All Rights Reserved
##
Version: 6.02
Fri Apr 20 16:25:30 MST 2018
```

**## Files:**

```
perl-5.32.0/cpan/Archive-Tar/bin/ptargrep
```

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**## Files:**

```
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perl-5.32.0/cpan/IO-Compress/bin/zipdetails
```

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```
perl-5.32.0/cpan/podlators/t/data/basic.man
perl-5.32.0/cpan/podlators/t/data/basic.ovr
perl-5.32.0/cpan/podlators/t/data/basic.clr
perl-5.32.0/cpan/podlators/t/data/basic.cap
perl-5.32.0/cpan/podlators/t/data/snippets/README
```

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 *
 */
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