

# **Oracle Utilities Market Settlements Management Cloud Service**

Overview Guide

Release 23B

**F83224-01**

August 2023



---

---

# Contents

## Chapter 1

|                                                                                   |     |
|-----------------------------------------------------------------------------------|-----|
| Oracle Utilities Market Settlements Management Cloud Service Overview Guide ..... | 1-1 |
|-----------------------------------------------------------------------------------|-----|

## Chapter 2

|                                                                                                                    |      |
|--------------------------------------------------------------------------------------------------------------------|------|
| Oracle Utilities Market Settlements Management Cloud Service Overview .....                                        | 2-1  |
| Welcome to Oracle Utilities Market Settlements Management Cloud Service .....                                      | 2-2  |
| Oracle Utilities Market Settlements Management Cloud Service Applications .....                                    | 2-3  |
| Oracle Utilities Market Settlements Management Cloud Service Documentation .....                                   | 2-4  |
| Supported Client Platforms and Browsers .....                                                                      | 2-5  |
| Supported Integrations .....                                                                                       | 2-6  |
| Using Oracle Utilities Testing Accelerator with Oracle Utilities Market Settlements Management Cloud Service ..... | 2-6  |
| High-Level Roles and Responsibilities .....                                                                        | 2-8  |
| Hardware, Storage, Technology, and Application Software .....                                                      | 2-8  |
| Security .....                                                                                                     | 2-8  |
| Database .....                                                                                                     | 2-8  |
| Implementation, Configuration, and Extensions .....                                                                | 2-9  |
| Patching and Upgrading .....                                                                                       | 2-9  |
| Batch Processing .....                                                                                             | 2-9  |
| Cloud Service Delivery and Performance .....                                                                       | 2-10 |
| Support .....                                                                                                      | 2-10 |
| Data Migration .....                                                                                               | 2-11 |
| Integration .....                                                                                                  | 2-11 |
| Performance Guidelines .....                                                                                       | 2-12 |
| User Interfaces .....                                                                                              | 2-12 |
| General Topics .....                                                                                               | 2-12 |
| Functional Limitations and Restrictions .....                                                                      | 2-13 |
| Common Functionality .....                                                                                         | 2-13 |
| Operational Readiness Advisory .....                                                                               | 2-16 |

## Chapter 3

|                                                        |     |
|--------------------------------------------------------|-----|
| Implementation Support and Live Operate Services ..... | 3-1 |
| Implementation Support Services .....                  | 3-2 |
| Live Operate Services .....                            | 3-4 |

## Chapter 4

|                                                                                            |      |
|--------------------------------------------------------------------------------------------|------|
| Oracle Utilities Cloud Services                                                            |      |
| Third Party Software and Licenses .....                                                    | 4-1  |
| Third Party Software Notices .....                                                         | 4-2  |
| Third Party Software Licenses .....                                                        | 4-8  |
| Notice Concerning Use of Software Covered Under the Apache 2.0 License .....               | 4-8  |
| Notice Concerning Use of Software Covered Under the BSD 2-clause or 3-clause License ..... | 4-13 |
| Notice Concerning Use of Google Software .....                                             | 4-13 |
| Notice Concerning Use of Software Covered Under the MIT License .....                      | 4-14 |

---

|                                                                                       |      |
|---------------------------------------------------------------------------------------|------|
| Notice Concerning Use of DOM4J .....                                                  | 4-15 |
| Notice Concerning Use of JSON .....                                                   | 4-15 |
| Notice Concerning Use of OCI SDK for JAVA .....                                       | 4-16 |
| Notice Concerning Use of Python .....                                                 | 4-16 |
| Notice Concerning Usage of Software Covered Under the GNU General Public License..... | 4-31 |
| Notice Concerning Usage of ICU and ICU4J .....                                        | 4-36 |
| Notice Concerning Use of Simple Logging Facade for Java (SLF4J) .....                 | 4-43 |
| Notice Concerning Use of Velocity Engine.....                                         | 4-45 |
| Notice Concerning Use of Bouncy Castle Crypto .....                                   | 4-46 |

# Chapter 1

---

## Oracle Utilities Market Settlements Management Cloud Service Overview Guide

Welcome to the Oracle Utilities Market Settlements Management Cloud Service Overview Guide. This document provides an overview of the Oracle Utilities Market Settlements Management Cloud Service, including:

- [Oracle Utilities Market Settlements Management Cloud Service Overview](#)
- [Implementation Support and Live Operate Services](#)
- [Oracle Utilities Cloud Services Third Party Software and Licenses](#)

# Chapter 2

---

## Oracle Utilities Market Settlements Management Cloud Service Overview

This chapter provides an overview of the Oracle Utilities Market Settlements Management Cloud Service, including:

- [Welcome to Oracle Utilities Market Settlements Management Cloud Service](#)
- [Oracle Utilities Market Settlements Management Cloud Service Applications](#)
- [Oracle Utilities Market Settlements Management Cloud Service Documentation](#)
- [Supported Client Platforms and Browsers](#)
- [Supported Integrations](#)
- [High-Level Roles and Responsibilities](#)
- [Performance Guidelines](#)
- [Functional Limitations and Restrictions](#)
- [Operational Readiness Advisory](#)

---

# Welcome to Oracle Utilities Market Settlements Management Cloud Service

Oracle Utilities Market Settlements Management Cloud Service provides functionality for reconciling the difference between a supplier's energy purchases and its customer's usage.

Oracle Utilities Market Settlements Management Cloud Service comprises the following functional areas:

- **Settlement Units:** Definition of data dimensions for key market settlement processes to define the "lowest common denominator set" of aggregation dimensions for the market settlement processes.
- **Load Forecasting:** Creation and maintenance of usage forecasts and back cast forecasts based on weather data or other variables to make informed estimates of future usages.
- **Aggregation:** Aggregation of complex meter settlement data sets by market participants such as total consumption by supplier for an initial settlement period.
- **Usage Calculation:** Summarization and transformation of usage and settlement calculations.
- **Standalone Data:** Data received from external applications used in settlement calculations such as weather data from a weather station or zonal load data from an independent system operator (ISO).
- **Market Awards and Contracts:** Definition of awards used to allocate load to various market participants and agreements with market operators (such as an Independent System Operator, or ISO) related to how settlement calculation results are sent to the market.
- **Oracle Utilities Cloud Service Foundation:** tools used to orchestrate and automate infrastructure related processes and migrate data from legacy applications into the cloud service.
- **Oracle Utilities Analytics Visualization:** a suite of analytics applications that provides access to data for self service exploration, discovery, visualization, and analysis. It includes rich pre-built analytical data models, metrics, and key performance indicators that allow you to derive strategic insights from your data.

---

# Oracle Utilities Market Settlements Management Cloud Service Applications

Oracle Utilities Market Settlements Management Cloud Service includes the following applications:

- Oracle Utilities Market Settlements Management
- Oracle Utilities Cloud Service Foundation
- Oracle Utilities Analytics Visualization
- Oracle Utilities Testing Accelerator
- Oracle Analytics Publisher
- Oracle REST Data Services



---

# Oracle Utilities Market Settlements Management Cloud Service Documentation

Configuration and use of Oracle Utilities Market Settlements Management Cloud Service is described in the following documentation:

- Oracle Utilities Market Settlements Management Cloud Service User Guides, comprising:
  - Oracle Utilities Meter Solution v2.5.0.1.2 Business User Guide
  - Oracle Utilities Meter Solution v2.5.0.1.2 Administrative User Guide
- Oracle Utilities Cloud Services 23B documentation, including:
  - Oracle Utilities Cloud Service Foundation Administrative User Guide
  - Oracle Utilities Cloud Services Administration Guide
  - Oracle Utilities Cloud Services Database Changes Guide
  - Oracle Utilities Cloud Services Frequently Asked Questions Guide
  - Oracle Utilities Cloud Services Implementation Guide
  - Oracle Utilities Cloud Services Live Operations Guide
  - Oracle Utilities Cloud Services Security Guide
- Oracle Utilities Cloud Services Activation Guide
- Oracle Utilities Cloud Services Cloud Operations Guide
- Oracle Utilities Cloud Services Update Policy Guide
- Oracle Utilities Testing Accelerator documentation
- Oracle Utilities Analytics Visualization User Guide

---

## Supported Client Platforms and Browsers

Users access Oracle Utilities Market Settlements Management Cloud Service via a supported web browser.

Oracle Utilities Market Settlements Management Cloud Service supports the following operating system & web browser combinations:

| Operating System | Web Browser                                                                                                                                                                  |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Windows 10       | Firefox ESR 102+<br>Google Chrome for Enterprise 106+<br>Microsoft Edge (Chromium-based) 106+ (see the <a href="#">Microsoft Edge Release Schedule</a> for more information) |

The recommended monitor resolution is 1920 X 1080 or higher with the browser zoom level set at 100%. The application can be used with lower resolution monitors and/or at a greater than 100% browser zoom level, but users may need to use horizontal scrolling on some pages.

---

## Supported Integrations

Oracle Utilities Market Settlements Management Cloud Service supports integration with a number of other products. See the following sections for details:

- [Using Oracle Utilities Testing Accelerator with Oracle Utilities Market Settlements Management Cloud Service](#)

## Using Oracle Utilities Testing Accelerator with Oracle Utilities Market Settlements Management Cloud Service

Oracle Utilities Testing Accelerator (OUTA) is a testing framework based on Java and Selenium used for automated testing of Oracle Utilities applications and cloud services. It allows for developing, managing and executing web service and user interface based automated tests, using meta-data based approach, without any programming language. Oracle Utilities Testing Accelerator has a user friendly graphical web interface that enables people without much programming knowledge to develop automated test flows.

Along with the automation framework, Oracle Utilities Testing Accelerator includes an accelerator that supports automated testing of Oracle Utilities cloud services, such as Oracle Utilities Customer Cloud Service and Oracle Utilities Work and Asset Cloud Service. The accelerator contains several hundred re-usable components that are the modular building blocks of an automated test flow. The Oracle Utilities Testing Accelerator user interface allows for these components to be laced together to form an automated test flow. The test data can then be coupled to the automated test flow and executed using the browser-based execution engine within the Oracle Utilities Testing Accelerator web application.

The browser-based test execution engine should be used for the execution of web service based test automation flows. In addition to the web interface, Oracle Utilities Testing Accelerator includes an eclipse IDE plugin that supports the execution of tests from local desktops or laptops. This mode should be used for executing user interface based tests that are developed using the Oracle Utilities Testing Accelerator web application. The script generation engine in the Oracle Utilities Testing Accelerator web interface auto generates the scripts for user interface based tests, which can then be executed via the Eclipse IDE (with the Oracle Utilities Testing Accelerator plugin).

The following features of Oracle Utilities Testing Accelerator have been enhanced so that they work with Oracle Utilities cloud services:

1. For executing the web service based test automation flows, the Flow Configuration that contains the web service URL along with additional properties such as smtp server, etc is pre-defined to work with Oracle Utilities cloud services. Users need not create a new Flow Configuration.

See the **Executing Test Flows** and **Executing Test Flows Using a Browser** sections in the *Oracle Utilities Testing Accelerator User Guide* for more information.

2. For generating components using the component generator tool, the complete WSDL URL need not be specified in the field, only the web service end point name needs to be provided.

See the **Development Accelerator Tools** and **Component Generation Tool** sections in the *Oracle Utilities Testing Accelerator User Guide* for more information.

- 
3. For fetching test data from the Oracle Utilities cloud services, the WSDL URL need not be specified, only the web service end point name should be specified.

See the **Fetching Test Data From an Utilities Application** section in the *Oracle Utilities Testing Accelerator User Guide* for more information.

4. Oracle Utilities Testing Accelerator is integrated with Oracle Cloud Infrastructure Identity and Access Management (IAM) when using it with cloud services. The management of users in Oracle Utilities Testing Accelerator web application should be done through IAM. See **Identity and Access Management with Identity Domains** in the *Oracle Utilities Cloud Services Administration Guide* for more information about creating and managing users.

---

## High-Level Roles and Responsibilities

This section outlines high-level roles and responsibilities involved in the deployment, configuration, and maintenance of Oracle Utilities cloud services, and the party responsible for each. The **Owner** column in the tables below indicates the party responsible for each role and responsibility.

### Hardware, Storage, Technology, and Application Software

| Role and Responsibility                                                                                                                  | Owner  |
|------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Provide, deploy and monitor hardware and storage                                                                                         | Oracle |
| Provide, deploy, run and monitor all required technology (e.g containers, operating systems, databases, clustering, monitoring, tracing) | Oracle |
| Provide, deploy, run and monitor all Oracle Utilities base application software                                                          | Oracle |

### Security

| Role and Responsibility                                                              | Owner    |
|--------------------------------------------------------------------------------------|----------|
| Monitor cloud service infrastructure security                                        | Oracle   |
| Administer Oracle network security                                                   | Oracle   |
| Administer customer network security, including integrating with the Oracle networks | Customer |
| Configure & maintain cloud service users and access                                  | Customer |
| Integrate with Oracle networks                                                       | Customer |

### Database

| Role and Responsibility                                                  | Owner  |
|--------------------------------------------------------------------------|--------|
| Database administration services (monitoring, administration, etc)       | Oracle |
| Backup and Restore                                                       | Oracle |
| Backup retention                                                         | Oracle |
| Data replication for Disaster Recovery (where applicable)                | Oracle |
| Disaster Recovery database fail-over                                     | Oracle |
| Refresh of TEST DB from PROD (upon request and within prescribed limits) | Oracle |

| <b>Role and Responsibility</b>   | <b>Owner</b> |
|----------------------------------|--------------|
| Information Lifecycle Management | Customer     |

## Implementation, Configuration, and Extensions

| <b>Role and Responsibility</b>                                                           | <b>Owner</b> |
|------------------------------------------------------------------------------------------|--------------|
| Plan and execute implementation project                                                  | Customer     |
| Perform configuration of enterprise software features and functions                      | Customer     |
| Execute functional, system, load and performance testing of configuration and extensions | Customer     |
| Ensure operational readiness                                                             | Customer     |

## Patching and Upgrading

| <b>Role and Responsibility</b>                                                          | <b>Owner</b> |
|-----------------------------------------------------------------------------------------|--------------|
| Patch and upgrade underlying infrastructure software                                    | Oracle       |
| Patch and upgrade Oracle Utilities base application software                            | Oracle       |
| Decide the cloud service upgrade schedule (within prescribed limits)                    | Customer     |
| Trigger environment upgrades (Development, Test and Production)                         | Customer     |
| Perform regression testing of configuration and extensions after patching / upgrades    | Customer     |
| Make changes as needed in custom configuration and extensions after patching / upgrades | Customer     |

## Batch Processing

| <b>Role and Responsibility</b>                    | <b>Owner</b> |
|---------------------------------------------------|--------------|
| Monitor underlying batch infrastructure           | Oracle       |
| Provide infrastructure logs for batch incidents   | Oracle       |
| Resolve infrastructure batch issues               | Oracle       |
| Determine batch schedule                          | Customer     |
| Monitor batch stream/job completion               | Customer     |
| Perform first level investigation of batch issues | Customer     |

| <b>Role and Responsibility</b>                         | <b>Owner</b> |
|--------------------------------------------------------|--------------|
| Provide customer logs of batch incidents               | Customer     |
| Resolve functional batch issues and stream/job restart | Customer     |
| Resolve data issues                                    | Customer     |

## Cloud Service Delivery and Performance

| <b>Role and Responsibility</b>                                                                                                                                                                                                                                                                                                                                                          | <b>Owner</b> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Provide scalable and elastic cloud services                                                                                                                                                                                                                                                                                                                                             | Oracle       |
| Provide core services and tools, including: <ul style="list-style-type: none"> <li>• Embedded infrastructure and platform services</li> <li>• An extensible application framework</li> <li>• Highly configurable product features and functions</li> <li>• Configuration Migration Assistant</li> <li>• Data Migration Tools</li> <li>• Generalized/Specialized Data Extract</li> </ul> | Oracle       |
| Ensure quality of maintenance packs and updates                                                                                                                                                                                                                                                                                                                                         | Oracle       |
| Resolve performance issues related to core services and tools                                                                                                                                                                                                                                                                                                                           | Oracle       |
| Configure features, and implement extensions                                                                                                                                                                                                                                                                                                                                            | Customer     |
| Perform functional and performance testing of configuration and extensions                                                                                                                                                                                                                                                                                                              | Customer     |
| Perform analysis of performance issues                                                                                                                                                                                                                                                                                                                                                  | Customer     |
| Resolve performance issues related to configuration, extensions and data                                                                                                                                                                                                                                                                                                                | Customer     |
| Subscribe to any additional resources required                                                                                                                                                                                                                                                                                                                                          | Customer     |

## Support

| <b>Role and Responsibility</b>                                                     | <b>Owner</b> |
|------------------------------------------------------------------------------------|--------------|
| Triage, analyze, and resolve issues with the cloud service                         | Oracle       |
| Triage, analyze, and resolve issues with configuration and extensions              | Customer     |
| Raise Service Requests via My Oracle Support and provide all requested information | Customer     |

---

## Data Migration

| <b>Role and Responsibility</b>                                                                                                                                  | <b>Owner</b> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Provide data migration tools (SQL Loader, validation batch controls and so on)                                                                                  | Oracle       |
| Provide guidelines on data migration via online documentation                                                                                                   | Oracle       |
| Triage, analyze, and resolve issues with the data migration tools via My Oracle Support                                                                         | Oracle       |
| Define, review and execute data migration strategy in-line with the provided data migration tools                                                               | Customer     |
| Review and follow documentation on data migration                                                                                                               | Customer     |
| Validate the Cloud Subscription Metrics with data migration scope metrics                                                                                       | Customer     |
| Configuration and development work required for data migration                                                                                                  | Customer     |
| Data cleansing                                                                                                                                                  | Customer     |
| Plan and execute data migration mock runs (Oracle suggests a minimum of three) to confirm successful testing results and ensure a clean data migration process. | Customer     |
| Triage, analyze, and resolve data migration issues                                                                                                              | Customer     |
| Plan, review and execute cut-over activities                                                                                                                    | Customer     |
| Create and execute plug-in driven batch programs to correct data errors during critical project milestones and after go-live, if needed                         | Customer     |

## Integration

| <b>Role and Responsibility</b>                                                    | <b>Owner</b> |
|-----------------------------------------------------------------------------------|--------------|
| Provide productized integrations (where explicitly agreed)                        | Oracle       |
| Integrate Oracle Utilities cloud services with all other services or applications | Customer     |



---

# Performance Guidelines

This section provides a number of performance-related guidelines and recommendations to take into account when implementing Oracle Utilities Market Settlements Management Cloud Service. This includes guidelines related to the following:

- [User Interfaces](#)
- [General Topics](#)

## User Interfaces

- **Zones:** For better performance, user interface zones should be initially collapsed when not required for 90% or more of business processes. The initial state of zones (collapsed or not) can be controlled via the **Portal Preferences** tab on the **User** portal.
- **Number of Records:** The number of records returned to the user interface for a zone should be limited to 50 rows when building custom zones against large transactional tables.
- **Troubleshooting Screens:** To troubleshoot a screen in the user interface, click **Preferences** in the top right corner of the application and choose the **Portal Preferences** tab. Choose the appropriate portal and set all zones to "Initially Collapsed". Navigate back to the screen that has performance issues, expand the zones one by one, and measure the execution time of each zone. This should be an accurate step-by-step representation of the full screen execution.
- **Performance Optimization:** For optimal user interface performance, laptop users should ensure their computer is in high performance mode.

## General Topics

- **Performance Tests:** Performance tests should be performed on all configurations to ensure daily processing windows are adequate. This includes configurations for: aggregations processes and settlement calculations.
- **Solution Changes:** Oracle should be consulted before significant solution changes are made. For example, adding new meter channels, adding a large number of meters, network changes, or new integrations, etc.

---

## Functional Limitations and Restrictions

This section outlines some specific limitations and restrictions regarding the functionality of Oracle Utilities Market Settlements Management Cloud Service beyond those identified in the service description, including:

- [Common Functionality](#)

### Common Functionality

Oracle Utilities Meter Solution Cloud Service includes functionality used by multiple Oracle Utilities cloud services. Some of the functionality provided with Oracle Utilities Meter Solution Cloud Service is restricted, and can only be used if specific cloud services have been licensed. The table below indicates the specific functional areas included with each of the listed cloud services.

- "Yes" indicates that the functional area is included with the product.
- "No" indicates that the functional area is not included with the product.

In order to use functionality listed as “not included”, customers must license the product that includes the desired functionality.

- "C" indicates that customers can develop custom implementations and interfaces to support this functionality.

---

| <b>Functionality</b>                                              | <b>Oracle Utilities<br/>Meter Solution<br/>Cloud Service</b> | <b>Oracle Utilities<br/>Market<br/>Settlements<br/>Management<br/>Cloud Service</b> |
|-------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Measurement and Service Data Model                                | Yes                                                          | Yes                                                                                 |
| Validation and Editing Functionality                              | Yes                                                          | C                                                                                   |
| Estimation and Forecasting Functionality                          | Yes                                                          | Yes                                                                                 |
| Measurement Services and Aggregations                             | Yes                                                          | Yes                                                                                 |
| Consumer Level Usage and Bill Determinant Calculations            | Yes                                                          | No                                                                                  |
| Usage Calculations for Settlement and Wholesale Billing Processes | No                                                           | Yes                                                                                 |
| Usage and Event Upload Statistics Processing                      | Yes                                                          | Yes                                                                                 |
| Smart Meter Command Processing                                    | Yes                                                          | No                                                                                  |
| Outage Integration                                                | Yes                                                          | No                                                                                  |
| Service Order Management                                          | Yes                                                          | No                                                                                  |
| DataConnect                                                       | Yes                                                          | No                                                                                  |
| Settlement Processes                                              | No                                                           | Yes                                                                                 |
| Wholesale Gas Operations                                          | No                                                           | Yes                                                                                 |

---

---

## Functional Areas

The table below describes the functional areas provided with the Oracle Utilities meter solution products.

| Functional Area                                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measurement and Service Data Model                                | The measurement and service data model contains database tables and related functionality used to define and store meters, devices, unmetered items, service points, and measurement data.                                                                                                                                                                                                                                            |
| Validation and Editing Functionality                              | The engine that provides the core functionality used to run validation and editing rules on usage data. This does not include technical validations such as valid format, valid number of readings, and so on.                                                                                                                                                                                                                        |
| Estimation and Forecasting Functionality                          | Processes to estimate missing usage and forecast future energy use.                                                                                                                                                                                                                                                                                                                                                                   |
| Measurement Services and Aggregation                              | Measurement services are used to process meter reading data and manipulate measurements to support billing or other downstream processes.                                                                                                                                                                                                                                                                                             |
| Consumer Level Usage and Bill Determinant Calculations            | The usage engine and usage rules provide the core functionality used to perform usage calculations based on measurement data.                                                                                                                                                                                                                                                                                                         |
| Usage Calculations for Settlement and Wholesale Billing Processes | The usage engine and usage rules provide the core functionality used to perform settlement and wholesale billing calculations based on measurement data.                                                                                                                                                                                                                                                                              |
| Usage and Event Upload Statistics Processing                      | Processing and compiling upload statistics related to upload of usage and device events.                                                                                                                                                                                                                                                                                                                                              |
| Smart Meter Command Processing                                    | Executing smart meter commands and communicating with a head-end system for purposes of issuing commands such as remote connect, commission meter, etc.                                                                                                                                                                                                                                                                               |
| Outage Integration                                                | Communicating with Oracle Utilities Network Management System, including sending/receiving bulk ping commands, receiving device events from Oracle Utilities Meter Solution Cloud Service, and suppression of device event notifications (allowing a suppression activity to be configured for a meter or service point so that specified device event notifications will not be sent to Oracle Utilities Network Management System). |
| Service Order Management                                          | Orchestration of service orders that involve field work and/or smart meter commands through integration with customer information systems, mobile field work systems, and head-end systems.                                                                                                                                                                                                                                           |
| DataConnect                                                       | Components used to extract interval measurements data and master data for integration with external energy management systems.                                                                                                                                                                                                                                                                                                        |
| Settlement Processes                                              | Components used for settlement processes: schedules, unaccounted for energy (UFE) calculations, capacity calculations, procurement, and true up processes.                                                                                                                                                                                                                                                                            |

---

| <b>Functional Area</b>   | <b>Description</b>                                                                              |
|--------------------------|-------------------------------------------------------------------------------------------------|
| Wholesale Gas Operations | Components used for wholesale gas operations: nominations, bids, scheduling and transportation. |
| Forecasting Rules        | Rules used to forecast future energy use.                                                       |

---

# Operational Readiness Advisory

This section outlines suggested validations as part of operational readiness testing:

- Confirm batch stability, day over day execution according to your production schedule, and that performance is within acceptable production window.
- Leverage production converted data, along with actual production files for critical batch inputs
- Review daily To Do entry volumes and confirm them to be acceptable based on available staffing
- Refresh database partitioning prior to go live

# Chapter 3

---

## Implementation Support and Live Operate Services

This chapter describes implementation support and live operate services for Oracle Utilities Market Settlements Management Cloud Service:

- [Implementation Support Services](#)
- [Live Operate Services](#)

---

# Implementation Support Services

Implementation Support Services are services that relate to the initial set up of Oracle Utilities cloud services. If Implementation Support Services are included in your Oracle Utilities cloud service(s), it will be stated in the relevant services descriptions.

The scope of the Implementation Support Services provided by Oracle is limited and currently includes (but it not limited to) the following:

Oracle will work to:

- Provide pre-configured templates (where available). These templates may be limited in scope (and may not completely align with the scope of the implementation project) and may only be available in the English language.
- Provide Utility Reference Model and other documentation describing the business processes that are the basis for the template configuration.
- To the extent necessary and under exceptional circumstances, execute scripts (authored by the customer) to resolve data issues.
  - Scripts submitted for execution to correct data issues will be subject to review for compliance with Oracle's Software Security Assurance standards. Scripts that do not comply will be returned for correction; resubmission will require a further compliance review with approval before execution will be scheduled.
  - There is a limit of four (4) script reviews in any calendar month. Review requests beyond this entitlement may be subject to additional fees.

Customers/Implementers retain complete responsibility for all other aspects of implementing the cloud service, including (but not limited to):

- Overall setup project management, including responsibility for management of the scope, the project plan/schedule and budget.
- End-user training activities and organizational change management.
- Leading and managing the user system review.
- Designing and testing all configurations and extensions to ensure they do not adversely affect performance.
- Identifying, designing, documenting and implementing any business process changes and system operation processes.
- Coordinating with external vendors or service providers to manage dependencies that could impact the overall project scope and schedule.
- Designating a project manager who shall be responsible for coordinating all customer/implementation related activities and responsibilities with respect to provisioning these Oracle Cloud Services.
- Business process change activities including end-user communication (e.g., status updates, newsletters, forums, etc.).
- Planning and executing all testing activities.
- All cut-over and roll-out activities.
- Business intelligence or data warehouse implementation/integration (if required).

- 
- Procuring, setting up or otherwise provisioning any additional hardware, software or services as required.
  - Providing any network hardware and/or software that may be required to connect to the Oracle Utilities cloud service(s).
  - All data conversion/migration/cleansing activities such as:
    - Extracting, transforming and loading data into migration staging tables
    - Using cloud service data conversion tools (where available) to load data into the production environment
    - Creating or updating any required validation scripts
    - Any/all data cleansing activities that may be required (NB: these must be done in the source application(s) and not directly in the cloud service environment(s))
  - Providing all in-scope data conversions and interfaces in formats supported by the relevant Oracle Utilities cloud service(s).
  - The following interface/integration related activities:
    - Building and testing of any interfaces to or from the Oracle Utilities cloud service(s) (unless stated otherwise)
    - Any ongoing synchronization and interface monitoring activities between customer owned Customer Information System(s) (CIS) and Oracle Utilities cloud service(s)
    - Complete end to end integration flows using template interfaces
    - Any configuration of interfaces external to the Oracle Utilities cloud service(s) that are required to match the published specification for interfacing with the Oracle Utilities cloud service(s)

The provision of these Implementation Support Services is contingent on the following:

- Any integration middleware used to implement any integration will not be hosted within any Oracle Utilities cloud service(s).
- Turnaround time will be no longer than two (2) working days unless otherwise agreed. Turnaround time refers to time taken by the customer/implementation team to respond to and confirm design elements and decision points during the performance of the Implementation Support Services.



---

# Live Operate Services

Live Operate services are services that Oracle provides to assist you with the ongoing operation of supported Oracle Utilities cloud services, once live and in production. If Live Operate Services are included in your Oracle Utilities cloud service(s), it will be stated in the relevant services descriptions.

The scope of the Live Operate Services provided by Oracle is limited and currently includes the following:

Oracle will work to:

- Assign a Customer Success Manager ("CSM") to manage delivery of the Oracle Utilities cloud service(s). The CSM will be the primary point of contact, will act as the first point for escalations, will monitor the progress of any related service requests ("SR") and confirm that all Oracle Utilities cloud services are performed in accordance with targets.
- Provide access to information about incidents and changes made to any of your Oracle Utilities cloud service environment(s).
- Upon request, create and deliver a Quarterly Status Report summarizing the activities undertaken over the past quarter and those scheduled as major future events.
- Upon request, offer quarterly meetings with customer/implementation oversight team to present, review and discuss the Quarterly Status Report.
- Monitor infrastructure and application availability and resolve any incident that is within Oracle's scope or responsibility.
- Provide primary Help Desk Services from 08:00 to 17:00 your local time on Oracle working days.
- Respond to severity 1 incidents 24 hours per day, 365 days per year.
- Provide incident management and problem management services for events related to Oracle Utilities Cloud Services, including:
  - Analyzing issues and resolving any incidents that are within Oracle's scope or responsibility
  - Escalating any issues not within Oracle's scope or responsibility to you for resolution
  - Provide infrastructure logs to assist in the diagnosis and remediation of incidents within your scope or responsibility. NB: these logs may be scrubbed for security purposes and other sensitive data.

Customers remain completely responsible for all other aspects of using or otherwise operating the cloud service. Examples of customer obligations in this regard would be to:

- Assign a manager to act as the primary conduit for all issues relating to the delivery of these services.
- Provide Oracle with the dates for key business and technology events (i.e. testing calendar, refresh schedule etc.) at least thirty (30) days prior to the event.
- Assign appropriate resources to support your activities.
- Support scheduling of meetings as required.
- Participate in all scheduled meetings.

- 
- Manage all activities, including:
    - Prioritizing work activities
    - Providing coordination across any teams and/or interested parties external to Oracle.
    - Escalation of issues to the Oracle CSM in a timely manner.
    - Providing any information required to progress service requests. Oracle is not responsible for meeting any agreed (or stated) targets or objectives if required or requested information is not forthcoming in a timely manner.
    - Assigning appropriate resources to conduct all required acceptance testing for all software packages delivered.
    - Accepting all software packages prior to promotion to the Production environment.
    - Maintaining a contact list for all persons performing governance functions.
    - Participating in Oracle's internal quality assurance processes on a mutually agreed schedule.
  - Manage the Oracle Utilities cloud services, including:
    - Defining and (as necessary) modifying batch schedules to meet business needs.
    - Monitoring batch and interface processes to confirm and verify completion.
    - Defining, implementing, testing and deploying any changes to the configuration and extensions required to:
      - Resolve incidents or problems within the customers scope or responsibility
      - Meet evolving business needs
      - Conform with upgrades, patches or any other Oracle Utilities cloud service requirements or prerequisites.
  - Notify Oracle of any incidents detected.
  - Action each SR in accordance with the relevant Oracle Cloud Hosting and Delivery Policies.
  - Establish the method of communication between the incident management team and the Oracle team for each incident.
  - Redirect any SRs to the correct (non- Oracle) support team if the SR is not within the scope of the Oracle Utilities cloud service(s).
  - Assist the Oracle team with SR analysis of data originating outside the applications.
  - Correct business data as reasonably requested by Oracle to achieve closure of an identified problem.
  - Monitor customer network and network connections to ensure sufficient bandwidth and performance.
  - Conduct all functional, regression, performance, system integration, acceptance and/or user acceptance testing as appropriate, and accept and approve all software changes, prior to the production roll out of any change, in accordance with any agreed-on release management process, for any change resulting from:

- 
- An incident remedy or fix, or
  - Any service pack update or upgrade.
  - Provide authorizations and/or validations for data correction and/or adjustments to the supported environments.
  - Apply configuration changes that are within the customer's or implementation's scope as recommended by Oracle to prevent recurring incidents.
  - At Oracle's request, provide approval through the environment change management process for the installation of fixes to prevent recurring incidents.
  - Initiate documented escalation processes when the urgency of the incident has increased due to business requirements.
  - Provide incident support where the remediation is within Oracle's scope or responsibility, specifically:
    - Provide Oracle with access to the user who reported the problem.
    - Provide all information as reasonably requested by Oracle and participate in diagnostics.
    - Provide a test case and access to an environment where the SR incident is reproducible.
  - Provide Oracle, as necessary, with access to any other support teams.
  - Acknowledge that the supplied break-fix resolves the incident or problem and accept the SR closure.
  - Provide internal approvals to Oracle before the migration of any change recommended by Oracle into a production environment.
  - When an incident or problem is determined by Oracle to be unrelated to an Oracle Utilities cloud service or to be caused by data problems arising from data conversion or some other error, a separate, paid contract may be required to cover Oracle's time spent investigating and, if relevant, correcting the problem at Oracle's prevailing time and materials rates, and to reimburse Oracle for all reasonable out of pocket expenses.

# Chapter 4

---

## Oracle Utilities Cloud Services Third Party Software and Licenses

This chapter information regarding third-party software used in Oracle Utilities cloud services, including:

- [Third Party Software Notices](#)
- [Third Party Software Licenses](#)

Refer to the *Oracle Utilities Market Settlements Management v2.5.0.1.1 Licensing Information User Manual* for additional third-party licensing information.

---

## Third Party Software Notices

Required notices for open source or other separately licensed software products or components distributed in this product are identified in the following table along with the applicable licensing information. Additional notices and/or licenses may be found in the included documentation or readme files of the individual third party software.

**Note:** A copy of each license appears in the Third-Party License section, unless otherwise noted.

| Provider                       | Component                   | Version         | License Information                                                                                                        |
|--------------------------------|-----------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------|
| ACE                            | ACE Code Editor for the Web | 1.4.8           | Copyright (c) 2010, Ajax.org B.V.<br>All rights reserved.                                                                  |
| Apache                         | Apache Commons JEXL         | 3.21            | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Apache                         | Commons Codec               | 1.15-744c1c9    | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Apache                         | Commons FileUpload          | 1.4-ce5ce15     | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Apache                         | Commons HttpClient          | 4.1.2           | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Apache                         | commons-cli                 | 1.3.1           | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Apache                         | HttpCore                    | 5.1.3           | Copyright 2005-2020 The Apache Software Foundation                                                                         |
| Apache                         | httpd                       | 2.4.39          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Apache                         | Kafka                       | 2.1.0<br>2.3.0  | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Apache                         | Log4j                       | 2.8.2<br>2.10.0 | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Apache                         | lz4-java                    | 1.4             | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Apache                         | org.yaml/snakeyaml          | 1.19            | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Apache                         | Tomcat Embed                | 9.0.12          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Apache                         | ZooKeeper                   | 3.4.14<br>3.5.4 | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| The Apache Software Foundation | Ant                         | 1.10.11         | Copyright 1999-2021 The Apache Software Foundation                                                                         |
| The Apache Software Foundation | Apache HTTP Server          | 2.4.54          | Copyright 2020 The Apache Software Foundation.                                                                             |

| <b>Provider</b>                | <b>Component</b>              | <b>Version</b> | <b>License Information</b>                                                                                                                                                           |
|--------------------------------|-------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Apache Software Foundation | Apache Portable Runtime (apr) | 1.6.5          | Copyright 2019 The Apache Software Foundation.                                                                                                                                       |
| The Apache Software Foundation | Commons Beanutils             | 2.0.0-ca7cf2c  | Copyright 2000-2019 The Apache Software Foundation.                                                                                                                                  |
| The Apache Software Foundation | Commons Collections           | 4.5-7998208    | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                           |
| The Apache Software Foundation | Commons IO                    | 2.11.0         | Copyright 2002-2021 The Apache Software Foundation.                                                                                                                                  |
| The Apache Software Foundation | Commons Text                  | 1.10.0         | Copyright 2014-2022 The Apache Software Foundation<br>Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>     |
| The Apache Software Foundation | Curator-Framework             | 5.2.0          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                           |
| The Apache Software Foundation | OpenNLP-tools                 | 1.9.1          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                           |
| The Apache Software Foundation | HttpComponents HttpClient     | 5.1.3          | Copyright 1999-2022 The Apache Software Foundation<br>Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>     |
| The Apache Software Foundation | Velocity Engine               | 2.3            | Copyright (C) 2000-2007 The Apache Software Foundation<br>Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| The Apache Software Foundation | XMLBeans                      | 4.0.0          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                           |
| The Apache Software Foundation | XMLSchema Core                | 2.2.5          | Copyright 2004-2015 The Apache Software Foundation<br>Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>     |
| Aslak Helleøy                  | Gherkin                       | 6.0.14         | Copyright (c) Cucumber Ltd, Gaspar Nagy, Björn Rasmusson, Peter Sergeant                                                                                                             |
| cliftonlabs                    | json-simple                   | 3.0.2          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                           |
| Codehaus                       | animal-sniffer-annotation     | 1.14           | Released under the MIT license                                                                                                                                                       |
| Connect2id Ltd                 | Nimbus JOSE+JWT               | 9.23           | Copyright 2012-2022, Connect2id Ltd and contributors<br>Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>   |
| Elasticsearch                  | Curator                       | 5.5.0          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                           |

| <b>Provider</b>                      | <b>Component</b>                       | <b>Version</b>         | <b>License Information</b>                                                                                                                                         |
|--------------------------------------|----------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elasticsearch                        | Logstash (without x-pack)              | 6.2.3                  | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                         |
| FasterXML, LLC                       | jackson-annotations                    | 2.12.2                 | Copyright (c) 2020 Tatu Saloranta                                                                                                                                  |
| FasterXML, LLC                       | jackson-core                           | 2.12.6                 | Copyright (c) 2020 Tatu Saloranta                                                                                                                                  |
| FasterXML, LLC                       | jackson-databind                       | 2.14.0-rc2             | Copyright (c) 2020 Tatu Saloranta                                                                                                                                  |
| GlassFish                            | aopalliance-repackaged                 | 2.5.0-b05<br>2.5.0-b42 | COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL) Version 1.1<br>The GNU General Public License (GPL) Version 2, June 1991                                        |
| Google                               | Common Protos                          | 1.12.0                 | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                         |
| Google                               | Google APIs                            | 1.0.6                  | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                         |
| Google                               | Guava                                  | 29.0                   | Copyright (C) 2012 The Guava Authors<br>Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| Google                               | Protocol Buffers (aka Google protobuf) | 3.21.7                 | Copyright 2008 Google Inc. All rights reserved.                                                                                                                    |
| Grafana Labs                         | Grafana                                | 5.2.3                  | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                         |
| The gRPC Authors                     | grpc-java                              | 1.16.1                 | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                         |
| INRIA, France Telecom                | ASM                                    | 9.3                    | Copyright (c) 2000-2011 INRIA, France Telecom<br>All rights reserved.                                                                                              |
| Joe Walnes                           | XStream                                | 1.4.13                 | Copyright (c) 2003-2006, Joe Walnes<br>Copyright (c) 2006-2020, XStream Committers<br>All rights reserved.                                                         |
| JSON.org                             | JSON                                   | 20200518               | Copyright (c) 2002 JSON.org                                                                                                                                        |
| JS Foundation and other contributors | JQuery                                 | 3.6.0                  | Released under the MIT license<br>Copyright JS Foundation and other contributors                                                                                   |
| Kirill Simonov                       | pyyaml                                 | 5.1                    | Released under the MIT license<br>Copyright (c) 2006-2016 Kirill Simonov<br>Copyright (c) 2017-2019 Ingy dot Net                                                   |
| The Legion of the Bouncy Castle Inc, | Bouncy Castle Crypto API               | 1.70                   | Copyright (c) 2000 - 2021 The Legion of the Bouncy Castle Inc. ( <a href="https://www.bouncycastle.org">https://www.bouncycastle.org</a> )                         |

| <b>Provider</b>        | <b>Component</b>               | <b>Version</b> | <b>License Information</b>                                                                                                                                                                                                                                              |
|------------------------|--------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Marijn Haverbeke       | CodeMirror                     | 5.62           | Released under the MIT license<br>Copyright (C) 2017 by Marijn Haverbeke<br><marijnh@gmail.com> and others                                                                                                                                                              |
| MetaStuff, Ltd.        | dom4j                          | 2.1.1          | Copyright 2001-2016 (C) MetaStuff, Ltd. and DOM4J contributors. All Rights Reserved.                                                                                                                                                                                    |
| neezegee / Pedro Gomes | Apache Exporter for Prometheus | 0.4.0          | Copyright (c) 2015 neezegee<br>Released under the MIT license                                                                                                                                                                                                           |
| Opentracing.Io         | OpenTracing API for Java       | 0.31.0         | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| OpenZipkin             | Brave                          | 4.14.2         | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| Oracle                 | OCI SDK for Java               | 1.2.41         | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a><br>or<br>The Universal Permissive License (UPL), Version 1.0<br>Copyright (c) 2016, 2018, Oracle and/or its affiliates. All rights reserved. |
| The Netty Project      | netty-buffer                   | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| The Netty Project      | netty-codec                    | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| The Netty Project      | netty-codec-dns                | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| The Netty Project      | netty-codec-http               | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| The Netty Project      | netty-codec-http2              | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| The Netty Project      | netty-codec-socks              | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| The Netty Project      | netty-common                   | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| The Netty Project      | netty-handler                  | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| The Netty Project      | netty-handler-proxy            | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| The Netty Project      | netty-resolver                 | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| The Netty Project      | netty-resolver-dns             | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |
| The Netty Project      | netty-transport                | 4.1.52.Final   | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                                                                              |



| <b>Provider</b>             | <b>Component</b>                       | <b>Version</b> | <b>License Information</b>                                                                                                                                                                                        |
|-----------------------------|----------------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Predic8 GmbH                | Membrane SOA Model                     | 1.6.1          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                        |
| The Prometheus Authors      | Prometheus                             | 2.2.0          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                        |
| The Prometheus Authors      | Prometheus AlertManager                | 0.14.0         | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                        |
| The Prometheus Authors      | Prometheus JVM Client                  | 0.2.0          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                        |
| Python Software Foundation  | Python                                 | 3.6.5          | Python License, Version 2                                                                                                                                                                                         |
| Python Software Foundation  | Python                                 | 3.6.8          | Python License, Version 2                                                                                                                                                                                         |
| QOS.ch                      | Simple Logging Facade for Java (SLF4J) | 1.7.30         | Copyright (c) 2004-2017 QOS.ch                                                                                                                                                                                    |
| Rafael Winterhalter         | Byte Buddy                             | 1.11.9         | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                        |
| Red Hat                     | jboss-logging                          | 3.4.3          | Copyright 2010 Red Hat, Inc.                                                                                                                                                                                      |
| Selenium                    | Selenium Server                        | 3.14.0         | Copyright 2011-2016 Software Freedom Conservancy<br>Copyright 2004-2011 Selenium committers                                                                                                                       |
| Shay Banon and ElastiSearch | ElastiSearch                           | 5.5.0          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                        |
| Simon Kelley                | dnsmasq                                | 2.79           | GNU GENERAL PUBLIC LICENSE, Version 2, June 1991                                                                                                                                                                  |
| SnakeYAML.org               | SnakeYAML                              | 1.32           | Copyright (c) 2008, <a href="http://www.snakeyaml.org">http://www.snakeyaml.org</a><br>Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a> |
| squid                       | squid                                  | 5.7            | Copyright (C) 1996-2022 The Squid Software Foundation and contributors<br>GNU GENERAL PUBLIC LICENSE, Version 2, June 1991                                                                                        |
| Taro L. Saito               | snappy-java                            | 1.1.7.1        | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                                        |
| Terence Parr                | ANTLR4                                 | 4.9.2          | Copyright (c) 2012-2017 The ANTLR Project. All rights reserved.<br>BSD License: <a href="http://opensource.org/licenses/BSD-3-Clause">http://opensource.org/licenses/BSD-3-Clause</a> .                           |

| <b>Provider</b>        | <b>Component</b> | <b>Version</b> | <b>License Information</b>                                                                                                                                                                  |
|------------------------|------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Uber Technologies      | Jaeger           | 1.2.0          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                  |
| Uber Technologies      | Jaeger-Thrift    | 1.8.0          | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                  |
| Unicode, Inc.          | ICU              | 63.1           | Copyright © 1991-2018 Unicode, Inc. All rights reserved.<br>Distributed under the Terms of Use in <a href="http://www.unicode.org/copyright.html">http://www.unicode.org/copyright.html</a> |
| The Unicode Consortium | ICU4J            | 64.2           | Copyright © 1991-2020 Unicode, Inc. All rights reserved.                                                                                                                                    |
| Unknown                | docker-java      | 3.0.14         | Apache License, Version 2.0, January 2004<br><a href="http://www.apache.org/licenses/">http://www.apache.org/licenses/</a>                                                                  |

---

# Third Party Software Licenses

This section provides license and copyright information for third party software used with Oracle Utilities cloud services. This includes the following:

- [Notice Concerning Use of Software Covered Under the Apache 2.0 License](#)
- [Notice Concerning Use of Software Covered Under the BSD 2-clause or 3-clause License](#)
- [Notice Concerning Use of Google Software](#)
- [Notice Concerning Use of Software Covered Under the MIT License](#)
- [Notice Concerning Use of DOM4J](#)
- [Notice Concerning Use of JSON](#)
- [Notice Concerning Use of OCI SDK for JAVA](#)
- [Notice Concerning Use of Python](#)
- [Notice Concerning Usage of Software Covered Under the GNU General Public License](#)
- [Notice Concerning Usage of ICU and ICU4J](#)
- [Notice Concerning Use of Simple Logging Facade for Java \(SLF4J\)](#)
- [Notice Concerning Use of Velocity Engine](#)
- [Notice Concerning Use of Bouncy Castle Crypto](#)

## Notice Concerning Use of Software Covered Under the Apache 2.0 License

The following files are covered under the Apache 2.0 license:

- Ant 1.10.11
- Apache Commons JEXL 3.21
- Apache HTTP Server 2.4.54
- Apache Portable Runtime (apr) 1.6.5
- Brave 4.14.2
- Byte Buddy 1.9.7
- Commons Beanutils 2.0.0-ca7cf2c
- Commons IO 2.11.0
- Commons Text 1.10.0
- Commons Codec 1.15-744c1c9
- Commons Collections 4.5-7998208
- Commons FileUpload 1.4-ce5ce15
- commons-cli 1.3.1
- Common Protos 1.12.0
- Curator 5.5.0
- Curator-Framework 5.2.0

- 
- docker-java 3.0.14
  - ElastiSearch 5.5.0
  - Google APIs 1.0.6
  - Grafana 5.2.3
  - grpc-java 1.16.1
  - Guava 26.0
  - HttpComponents HttpClient 5.1.3
  - HttpCore 5.1.3
  - httpd 2.4.39
  - Jaeger 1.2.0
  - Jaeger-Thrift 1.8.0
  - jackson-annotations-2.12.2
  - jackson-core-2.12.6
  - jackson-databind-2.14.0-rc2
  - jboss-logging 3.4.3
  - json-simple 3.0.2
  - Kafka 2.1.0, 2.3.0
  - Log4J 2.8.2, 2.10.0
  - Logstash (without x-pack) 6.2.3
  - lz4-java 1.4
  - Membrane SOA Model 1.6.0-088c7a9
  - netty-buffer 4.1.52.Final
  - netty-codec 4.1.52.Final
  - netty-codec-dns 4.1.52.Final
  - netty-codec-http 4.1.52.Final
  - netty-codec-http2 4.1.52.Final
  - netty-codec-socks 4.1.52.Final
  - netty-common 4.1.52.Final
  - netty-handler 4.1.52.Final
  - netty-handler-proxy 4.1.52.Final
  - netty-resolver 4.1.52.Final
  - netty-resolver-dns 4.1.52.Final
  - netty-transport 4.1.52.Final
  - Nimbus JOSE+JWT 9.23
  - oci-java-sdk 1.2.41
  - org.yaml/snakeyaml 1.19

- 
- OpenNLP-tools 1.9.1
  - OpenTracing API for Java 0.31.0
  - Prometheus 2.2.0
  - Prometheus AlertManager 0.14.0
  - Prometheus JVM Client 0.2.0
  - Selenium Server 3.14.0
  - SnakeYAML 1.32
  - snappy-java 1.1.7.1
  - Tomcat Embed 9.0.12
  - Velocity Engine 2.3
  - XMLBeans 4.0.0
  - XMLSchema Core 2.2.5
  - ZooKeeper 3.4.14, 3.5.4

## **Apache License**

Version 2.0, January 2004

<http://www.apache.org/licenses/>

### TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

#### 1. Definitions.

“License” shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

“Licensor” shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

“Legal Entity” shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, “control” means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

“You” (or “Your”) shall mean an individual or Legal Entity exercising permissions granted by this License.

“Source” form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

“Object” form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

“Work” shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

---

“Derivative Works” shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

“Contribution” shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, “submitted” means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as “Not a Contribution.”

“Contributor” shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

You must give any other recipients of the Work or Derivative Works a copy of this License; and

You must cause any modified files to carry prominent notices stating that You changed the files; and

You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

If the Work includes a “NOTICE” text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices

---

contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an “AS IS” BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

---

## Notice Concerning Use of Software Covered Under the BSD 2-clause or 3-clause License

The following files are covered under the BSD 2-clause or 3-clause license:

- ACE Code Editor for the Web 1.4.8
- ANTLR4 4.9.2
- ASM 9.3
- XStream 1.4.13

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of copyright holders nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL AJAX.ORG B.V. BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## Notice Concerning Use of Google Software

The following files are covered under the Google license:

- Protocol Buffers (aka Google protobuf) 3.21.7

Copyright 2008 Google Inc. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

\* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

\* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.



---

\* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Code generated by the Protocol Buffer compiler is owned by the owner of the input file used when generating it. This code is not standalone and requires a support library to be linked with it. This support library is itself covered by the above license.

## Notice Concerning Use of Software Covered Under the MIT License

The following files are covered under the MIT license:

- Apache Exporter for Prometheus
- Animal-Sniffer-Annotation
- CodeMirror 5.62
- Gherkin 6.0.14
- JQuery 3.6.0
- pyyaml 5.1

### The MIT License (MIT)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN

## Notice Concerning Use of DOM4J

Copyright 2001-2016 (C) MetaStuff, Ltd. and DOM4J contributors. All Rights Reserved.

Redistribution and use of this software and associated documentation ("Software"), with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain copyright statements and notices. Redistributions must also contain a copy of this document.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name "DOM4J" must not be used to endorse or promote products derived from this Software without prior written permission of MetaStuff, Ltd. For written permission, please contact [dom4j-info@metastuff.com](mailto:dom4j-info@metastuff.com).
4. Products derived from this Software may not be called "DOM4J" nor may "DOM4J" appear in their names without prior written permission of MetaStuff, Ltd. DOM4J is a registered trademark of MetaStuff, Ltd.
5. Due credit should be given to the DOM4J Project - <https://dom4j.github.io/>

THIS SOFTWARE IS PROVIDED BY METASTUFF, LTD. AND CONTRIBUTORS "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL METASTUFF, LTD. OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## Notice Concerning Use of JSON

Copyright (c) 2002 JSON.org

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

The Software shall be used for Good, not Evil.

---

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

## Notice Concerning Use of OCI SDK for JAVA

### **The Universal Permissive License (UPL), Version 1.0**

Copyright (c) 2016, 2018, Oracle and/or its affiliates. All rights reserved.

Subject to the condition set forth below, permission is hereby granted to any person obtaining a copy of this software, associated documentation and/or data (collectively the "Software"), free of charge and under any and all copyright rights in the Software, and any and all patent rights owned or freely licensable by each licensor hereunder covering either (i) the unmodified Software as contributed to or provided by such licensor, or (ii) the Larger Works (as defined below), to deal in both

(a) the Software, and

(b) any piece of software and/or hardware listed in the `lrgwrks.txt` file if one is included with the Software (each a "Larger Work" to which the Software is contributed by such licensors), without restriction, including without limitation the rights to copy, create derivative works of, display, perform, and distribute the Software and make, use, sell, offer for sale, import, export, have made, and have sold the Software and the Larger Work(s), and to sublicense the foregoing rights on either these or other terms.

This license is subject to the following condition:

The above copyright notice and either this complete permission notice or at a minimum a reference to the UPL must be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

## Notice Concerning Use of Python

The following files are covered under the Python License, Version 2:

- Python 3.6.5
- Python 3.6.8

---

Copyright © 2001-2018 Python Software Foundation. All rights reserved.

Copyright © 2000 BeOpen.com. All rights reserved.

Copyright © 1995-2000 Corporation for National Research Initiatives. All rights reserved.

Copyright © 1991-1995 Stichting Mathematisch Centrum. All rights reserved.

Terms and conditions for accessing or otherwise using Python

## **PSF LICENSE AGREEMENT FOR PYTHON 3.6.5**

1. This LICENSE AGREEMENT is between the Python Software Foundation ("PSF"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 3.6.5 software in source or binary form and its associated documentation.
2. Subject to the terms and conditions of this License Agreement, PSF hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python 3.6.5 alone or in any derivative version, provided, however, that PSF's License Agreement and PSF's notice of copyright, i.e., "Copyright © 2001-2018 Python Software Foundation; All Rights Reserved" are retained in Python 3.6.5 alone or in any derivative version prepared by Licensee.
3. In the event Licensee prepares a derivative work that is based on or incorporates Python 3.6.5 or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python 3.6.5.
4. PSF is making Python 3.6.5 available to Licensee on an "AS IS" basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 3.6.5 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.
5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 3.6.5 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 3.6.5, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.
6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.
7. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between PSF and Licensee. This License Agreement does not grant permission to use PSF trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.
8. By copying, installing or otherwise using Python 3.6.5, Licensee agrees to be bound by the terms and conditions of this License Agreement.

---

## **BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0**

### **BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1**

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the Individual or Organization ("Licensee") accessing and otherwise using this software in source or binary form and its associated documentation ("the Software").
2. Subject to the terms and conditions of this BeOpen Python License Agreement, BeOpen hereby grants Licensee a non-exclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use the Software alone or in any derivative version, provided, however, that the BeOpen Python License is retained in the Software, alone or in any derivative version prepared by Licensee.
3. BeOpen is making the Software available to Licensee on an "AS IS" basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.
4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.
5. This License Agreement will automatically terminate upon a material breach of its terms and conditions.
6. This License Agreement shall be governed by and interpreted in all respects by the law of the State of California, excluding conflict of law provisions. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between BeOpen and Licensee. This License Agreement does not grant permission to use BeOpen trademarks or trade names in a trademark sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos available at <http://www.pythonlabs.com/logos.html> may be used according to the permissions granted on that web page.
7. By copying, installing or otherwise using the software, Licensee agrees to be bound by the terms and conditions of this License Agreement.

### **CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1**

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895 Preston White Drive, Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in source or binary form and its associated documentation.
2. Subject to the terms and conditions of this License Agreement, CNRI hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise

---

use Python 1.6.1 alone or in any derivative version, provided, however, that CNRI's License Agreement and CNRI's notice of copyright, i.e., "Copyright © 1995-2001 Corporation for National Research Initiatives; All Rights Reserved" are retained in Python 1.6.1 alone or in any derivative version prepared by Licensee. Alternately, in lieu of CNRI's License Agreement, Licensee may substitute the following text (omitting the quotes): "Python 1.6.1 is made available subject to the terms and conditions in CNRI's License Agreement. This Agreement together with Python 1.6.1 may be located on the Internet using the following unique, persistent identifier (known as a handle): 1895.22/1013. This Agreement may also be obtained from a proxy server on the Internet using the following URL: <http://hdl.handle.net/1895.22/1013>."

3. In the event Licensee prepares a derivative work that is based on or incorporates Python 1.6.1 or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python 1.6.1.
4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS" basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.
5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.
6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.
7. This License Agreement shall be governed by the federal intellectual property law of the United States, including without limitation the federal copyright law, and, to the extent such U.S. federal law does not apply, by the law of the Commonwealth of Virginia, excluding Virginia's conflict of law provisions. Notwithstanding the foregoing, with regard to derivative works based on Python 1.6.1 that incorporate non-separable material that was previously distributed under the GNU General Public License (GPL), the law of the Commonwealth of Virginia shall govern this License Agreement only as to issues arising under or with respect to Paragraphs 4, 5, and 7 of this License Agreement. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between CNRI and Licensee. This License Agreement does not grant permission to use CNRI trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.
8. By clicking on the "ACCEPT" button where indicated, or by copying, installing or otherwise using Python 1.6.1, Licensee agrees to be bound by the terms and conditions of this License Agreement.

## **CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2**

Copyright © 1991 - 1995, Stichting Mathematisch Centrum Amsterdam, The Netherlands. All rights reserved.

---

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Stichting Mathematisch Centrum or CWI not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

STICHTING MATHEATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

## **Licenses and Acknowledgements for Incorporated Software**

This section is an incomplete, but growing list of licenses and acknowledgements for third-party software incorporated in the Python distribution.

### **Mersenne Twister**

The `_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)`.

Copyright (C) 1997 - 2002, Makoto Matsumoto and Takuji Nishimura, All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following condition are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The names of its contributors may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR

---

SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Any feedback is very welcome.

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

email: m-mat @ math.sci.hiroshima-u.ac.jp (remove space)

### **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/>.

Copyright (C) 1995, 1996, 1997, and 1998 WIDE Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

### **Floating point exception control**

The source for the `fpectl` module includes the following notice:

Copyright (c) 1996.

The Regents of the University of California. All rights reserved.

Permission to use, copy, modify, and distribute this software for any purpose without fee is hereby granted, provided that this entire notice is included in all copies of any software which is or includes a copy or modification of this software and in all copies of the supporting documentation for such software.



---

This work was produced at the University of California, Lawrence Livermore National Laboratory under contract no. W-7405-ENG-48 between the U.S. Department of Energy and The Regents of the University of California for the operation of UC LLNL.

#### DISCLAIMER

This software was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor the University of California nor any of their employees, makes any warranty, express or implied, or assumes any liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately-owned rights. Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or the University of California, and shall not be used for advertising or product endorsement purposes.

#### **Asynchronous socket services**

The asynchat and asyncore modules contain the following notice:

Copyright 1996 by Sam Rushing. All Rights Reserved

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Sam Rushing not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

SAM RUSHING DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL SAM RUSHING BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

#### **Cookie management**

The http.cookies module contains the following notice:

Copyright 2000 by Timothy O'Malley <timo@alum.mit.edu>. All Rights Reserved

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Timothy O'Malley not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

Timothy O'Malley DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL Timothy O'Malley BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES

---

OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

### **Execution tracing**

The trace module contains the following notice:

portions copyright 2001, Autonomous Zones Industries, Inc., all rights...

err... reserved and offered to the public under the terms of the Python 2.2 license.

Author: Zooko O'Whielacronx

<http://zooko.com/>

<mailto:zooko@zooko.com>

Copyright 2000, Mojam Media, Inc., all rights reserved.

Author: Skip Montanaro

Copyright 1999, Bioreason, Inc., all rights reserved.

Author: Andrew Dalke

Copyright 1995-1997, Automatrix, Inc., all rights reserved.

Author: Skip Montanaro

Copyright 1991-1995, Stichting Mathematisch Centrum, all rights reserved.

Permission to use, copy, modify, and distribute this Python software and its associated documentation for any purpose without fee is hereby granted, provided that the above copyright notice appears in all copies, and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of neither Automatrix, Bioreason or Mojam Media be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

### **UUencode and UUdecode functions**

The uu module contains the following notice:

Copyright 1994 by Lance Ellinghouse

Cathedral City, California Republic, United States of America.

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Lance Ellinghouse not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

---

LANCE ELLINGHOUSE DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL LANCE ELLINGHOUSE CENTRUM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

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

### **XML Remote Procedure Calls**

The xmlrpc.client module contains the following notice:

The XML-RPC client interface is

Copyright (c) 1999-2002 by Secret Labs AB

Copyright (c) 1999-2002 by Fredrik Lundh

By obtaining, using, and/or copying this software and/or its associated documentation, you agree that you have read, understood, and will comply with the following terms and conditions:

Permission to use, copy, modify, and distribute this software and its associated documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appears in all copies, and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Secret Labs AB or the author not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

SECRET LABS AB AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL SECRET LABS AB OR THE AUTHOR BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

### **test\_epoll**

The test\_epoll module contains the following notice:

Copyright (c) 2001-2006 Twisted Matrix Laboratories.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

---

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

### **Select kqueue**

The select module contains the following notice for the kqueue interface:

Copyright (c) 2000 Doug White, 2006 James Knight, 2007 Christian Heimes

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

### **SipHash24**

The file Python/pyhash.c contains Marek Majkowski's implementation of Dan Bernstein's SipHash24 algorithm. The contains the following note:

<MIT License>

Copyright (c) 2013 Marek Majkowski <marek@popcount.org>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

---

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

</MIT License>

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>)

strtod and dtoa

The file Python/dtoa.c, which supplies C functions dtoa and strtod for conversion of C doubles to and from strings, is derived from the file of the same name by David M. Gay, currently available from <http://www.netlib.org/fp/>. The original file, as retrieved on March 16, 2009, contains the following copyright and licensing notice:

The author of this software is David M. Gay.

Copyright (c) 1991, 2000, 2001 by Lucent Technologies.

Permission to use, copy, modify, and distribute this software for any purpose without fee is hereby granted, provided that this entire notice is included in all copies of any software which is or includes a copy or modification of this software and in all copies of the supporting documentation for such software.

THIS SOFTWARE IS BEING PROVIDED "AS IS", WITHOUT ANY EXPRESS OR IMPLIED WARRANTY. IN PARTICULAR, NEITHER THE AUTHOR NOR LUCENT MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND CONCERNING THE MERCHANTABILITY OF THIS SOFTWARE OR ITS FITNESS FOR ANY PARTICULAR PURPOSE.

## OpenSSL

The modules hashlib, posix, ssl, crypt use the OpenSSL library for added performance if made available by the operating system. Additionally, the Windows and Mac OS X installers for Python may include a copy of the OpenSSL libraries, so we include a copy of the OpenSSL license here:

LICENSE ISSUES

=====

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact [openssl-core@openssl.org](mailto:openssl-core@openssl.org).

OpenSSL License

Copyright (c) 1998-2008 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- 
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
  2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
  3. All advertising materials mentioning features or use of this software must display the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (<http://www.openssl.org/>)"
  4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact [openssl-core@openssl.org](mailto:openssl-core@openssl.org).
  5. Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.
  6. Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)"

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

### **Original SSLeay License**

This product includes cryptographic software written by Eric Young ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)). This product includes software written by Tim Hudson ([tjh@cryptsoft.com](mailto:tjh@cryptsoft.com)).

Copyright (C) 1995-1998 Eric Young ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)). All rights reserved.

This package is an SSL implementation written by Eric Young ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)).

The implementation was written so as to conform with Netscapes SSL.

This library is free for commercial and non-commercial use as long as the following conditions are adhered to. The following conditions apply to all code found in this distribution, be it the RC4, RSA, lhash, DES, etc., code; not just the SSL code. The SSL documentation included with this distribution is covered by the same copyright terms except that the holder is Tim Hudson ([tjh@cryptsoft.com](mailto:tjh@cryptsoft.com)).

Copyright remains Eric Young's, and as such any Copyright notices in the code are not to be removed. If this package is used in a product, Eric Young should be given attribution as the author of the parts of the library used. This can be in the form of a textual message at program startup or in documentation (online or textual) provided with the package.

---

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement: "This product includes cryptographic software written by Eric Young (eay@cryptsoft.com)" The word 'cryptographic' can be left out if the routines from the library being used are not cryptographic related :-).
4. If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement: "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"

THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The licence and distribution terms for any publically available version or derivative of this code cannot be changed. i.e. this code cannot simply be copied and put under another distribution licence [including the GNU Public Licence.]

### **expat**

The pyexpat extension is built using an included copy of the expat sources unless the build is configured --with-system-expat:

Copyright (c) 1998, 1999, 2000 Thai Open Source Software Center Ltd and Clark Cooper

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF

---

CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

### **libffi**

The `_ctypes` extension is built using an included copy of the libffi sources unless the build is configured `--with-system-libffi`:

Copyright (c) 1996-2008 Red Hat, Inc and others.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

### **zlib**

The `zlib` extension is built using an included copy of the `zlib` sources if the `zlib` version found on the system is too old to be used for the build:

Copyright (C) 1995-2011 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

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 Mark Adler

jloup@gzip.org madler@alumni.caltech.edu

### **cfuhash**

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



---

Copyright (c) 2005 Don Owens

All rights reserved.

This code is released under the BSD license:

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the author nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

### **libmpdec**

The `_decimal` module is built using an included copy of the libmpdec library unless the build is configured `--with-system-libmpdec`:

Copyright (c) 2008-2016 Stefan Kraah. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF

---

LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## Notice Concerning Usage of Software Covered Under the GNU General Public License

The following files are covered under the GNU General Public License, Version 2:

- aopalliance-repackaged 2.5.0-b05, 2.5.0-b42
- dnsmasq 2.79
- squid 5.7

### GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.

59 Temple Place, Suite 330, Boston, MA 02111, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

#### Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not

---

the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

## **GNU GENERAL PUBLIC LICENSE**

### TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
  - a. You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
  - b. You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
  - c. If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

---

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
  - a. Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
  - b. Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
  - c. Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

- 
5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
  6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
  7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify

---

a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

### **Appendix: How to Apply These Terms to Your New Programs**

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

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

Copyright (C) 19yy <name of author>

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 2 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, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

```
Gnomovision version 69, Copyright (C) 19yy name of author
```

```
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.
```

The hypothetical commands ``show w'` and ``show c'` should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than ``show w'` and ``show c'`; they could even be mouse-clicks or menu items-- whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the program
```

```
`Gnomovision' (which makes passes at compilers) written by James Hacker.
```

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

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

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

## Notice Concerning Usage of ICU and ICU4J

Copyright © 1991-2018 Unicode, Inc. All rights reserved.

Distributed under the Terms of Use in <http://www.unicode.org/copyright.html>.

### Unicode License

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that either

- 
- a. this copyright and permission notice appear with all copies of the Data Files or Software, or
  - b. this copyright and permission notice appear in associated Documentation.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS.

IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.

### **Third-Party Software Licenses**

This section contains third-party software notices and/or additional terms for licensed third-party software components included within ICU libraries.

#### **1. ICU License - ICU 1.8.1 to ICU 57.1**

##### **COPYRIGHT AND PERMISSION NOTICE**

Copyright (c) 1995-2016 International Business Machines Corporation and others All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, provided that the above copyright notice(s) and this permission notice appear in all copies of the Software and that both the above copyright notice(s) and this permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.



---

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

All trademarks and registered trademarks mentioned herein are the property of their respective owners.

## **2. Chinese/Japanese Word Break Dictionary Data (cjdict.txt)**

The Google Chrome software developed by Google is licensed under the BSD license. Other software included in this distribution is provided under other licenses, as set forth below.

The BSD License

<http://opensource.org/licenses/bsd-license.php>

Copyright (C) 2006-2008, Google Inc.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The word list in cjdict.txt are generated by combining three word lists listed below with further processing for compound word breaking. The frequency is generated with an iterative training against Google web corpora.

Libtabe (Chinese)

- [https://sourceforge.net/project/?group\\_id=1519](https://sourceforge.net/project/?group_id=1519)

- Its license terms and conditions are shown below.

IPADIC (Japanese)

---

- <http://chasen.aist-nara.ac.jp/chasen/distribution.html>

- Its license terms and conditions are shown below.

-----COPYING.libtabe ---- BEGIN-----

Copyright (c) 1999 TaBE Project.

Copyright (c) 1999 Pai-Hsiang Hsiao.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the TaBE Project nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 1999 Computer Systems and Communication Lab,

Institute of Information Science, Academia

Sinica. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the Computer Systems and Communication Lab nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,

---

INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright 1996 Chih-Hao Tsai @ Beckman Institute,  
University of Illinois

c-tsai4@uiuc.edu <http://casper.beckman.uiuc.edu/~c-tsai4>

-----COPYING.libtabe-----END-----

-----COPYING.ipadic-----BEGIN-----

Copyright 2000, 2001, 2002, 2003 Nara Institute of Science and Technology. All Rights Reserved.

Use, reproduction, and distribution of this software is permitted.

Any copy of this software, whether in its original form or modified, must include both the above copyright notice and the following paragraphs.

Nara Institute of Science and Technology (NAIST), the copyright holders, disclaims all warranties with regard to this software, including all implied warranties of merchantability and fitness, in no event shall NAIST be liable for any special, indirect or consequential damages or any damage whatsoever resulting from loss of use, data or profits, whether in an action of contract, negligence or other tortuous action, arising out of or in connection with the use or performance of this software.

A large portion of the dictionary entries originate from ICOT Free Software. The following conditions for ICOT Free Software applies to the current dictionary as well.

Each User may also freely distribute the Program, whether in its original form or modified, to any third party or parties, PROVIDED that the provisions of Section 3 ("NO WARRANTY") will ALWAYS appear on, or be attached to, the Program, which is distributed substantially in the same form as set out herein and that such intended distribution, if actually made, will neither violate or otherwise contravene any of the laws and regulations of the countries having jurisdiction over the User or the intended distribution itself.

#### NO WARRANTY

The program was produced on an experimental basis in the course of the research and development conducted during the project and is provided to users as so produced on an experimental basis. Accordingly, the program is provided without any warranty whatsoever, whether express, implied, statutory or otherwise. The term "warranty" used herein includes, but is not limited to, any warranty of the quality, performance, merchantability and fitness for a particular purpose of the program and the nonexistence of any infringement or violation of any right of any third party.

---

Each user of the program will agree and understand, and be deemed to have agreed and understood, that there is no warranty whatsoever for the program and, accordingly, the entire risk arising from or otherwise connected with the program is assumed by the user.

Therefore, neither ICOT, the copyright holder, or any other organization that participated in or was otherwise related to the development of the program and their respective officials, directors, officers and other employees shall be held liable for any and all damages, including, without limitation, general, special, incidental and consequential damages, arising out of or otherwise in connection with the use or inability to use the program or any product, material or result produced or otherwise obtained by using the program, regardless of whether they have been advised of, or otherwise had knowledge of, the possibility of such damages at any time during the project or thereafter. Each user will be deemed to have agreed to the foregoing by his or her commencement of use of the program. The term "use" as used herein includes, but is not limited to, the use, modification, copying and distribution of the program and the production of secondary products from the program.

In the case where the program, whether in its original form or modified, was distributed or delivered to or received by a user from any person, organization or entity other than ICOT, unless it makes or grants independently of ICOT any specific warranty to the user in writing, such person, organization or entity, will also be exempted from and not be held liable to the user for any such damages as noted above as far as the program is concerned.

-----COPYING.ipadic-----END-----

### **3. Lao Word Break Dictionary Data (laodict.txt)**

Copyright (c) 2013 International Business Machines Corporation and others. All Rights Reserved.

Project: <http://code.google.com/p/lao-dictionary/>

Dictionary: <http://lao-dictionary.googlecode.com/git/Lao-Dictionary.txt>

License: <http://lao-dictionary.googlecode.com/git/Lao-Dictionary-LICENSE.txt>  
(copied below)

This file is derived from the above dictionary, with slight modifications.

-----  
Copyright (C) 2013 Brian Eugene Wilson, Robert Martin Campbell. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR

---

SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

#### **4. Burmese Word Break Dictionary Data (burmesedict.txt)**

Copyright (c) 2014 International Business Machines Corporation and others. All Rights Reserved.

This list is part of a project hosted at:

[github.com/kanyawtech/myanmar-karen-word-lists](https://github.com/kanyawtech/myanmar-karen-word-lists)

Copyright (c) 2013, LeRoy Benjamin Sharon. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name Myanmar Karen Word Lists, nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

#### **5. Time Zone Database**

ICU uses the public domain data and code derived from Time Zone Database for its time zone support. The ownership of the TZ database is explained in BCP 175: Procedure for Maintaining the Time Zone Database section 7.

##### **7. Database Ownership**

The TZ database itself is not an IETF Contribution or an IETF document. Rather it is a pre-existing and regularly updated work that is in the public domain, and is intended to remain in the public domain. Therefore, BCPs 78 [RFC5378] and 79 [RFC3979] do not apply to the TZ Database or contributions that individuals make to it. Should any claims be made and substantiated against the TZ Database, the organization that is providing the IANA Considerations defined in this RFC, under the memorandum of understanding

---

with the IETF, currently ICANN, may act in accordance with all competent court orders. No ownership claims will be made by ICANN or the IETF Trust on the database or the code. Any person making a contribution to the database or code waives all rights to future claims in that contribution or in the TZ Database.

## **6. Google double-conversion**

Copyright 2006-2011, the V8 project authors. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## **Notice Concerning Use of Simple Logging Facade for Java (SLF4J)**

Copyright (c) 2004-2017 QOS.ch

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,

---

DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

\*\*\*\*\*

Modules:

\*\*\*\*\*

slf4j-api  
slf4j-simple  
slf4j-nop  
slf4j-jdk14  
slf4j-log4j12  
slf4j-ext  
jcl-over-slf4j  
log4j-over-slf4j  
jul-to-slf4j  
osgi-over-slf4j  
integration  
slf4j-site  
slf4j-migrator

\*\*\*\*\*

4P Dependencies:

\*\*\*\*\*

ch.qos.cal10n call0n-api 0.8.1

COPYRIGHT and LICENSE:

Copyright (c) 2009 QOS.ch

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF

---

CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

## Notice Concerning Use of Velocity Engine

Copyright (C) 2000-2007 The Apache Software Foundation

This product includes software developed at The Apache Software Foundation (<http://www.apache.org/>).

Licensed under The Apache License 2.0 (see [Notice Concerning Use of Software Covered Under the Apache 2.0 License](#)).

The files

- velocity-engine-scripting/src/main/java/org/apache/velocity/script/VelocityScriptEngine.java

- velocity-engine-scripting/src/main/java/org/apache/velocity/script/VelocityScriptEngineFactory.java

are Copyright 2006 Sun Microsystems, Inc., and licenced under a BSD-like licence.

/\*

\* Copyright 2006 Sun Microsystems, Inc. All rights reserved.

\* Use is subject to license terms.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met: Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. Neither the name of the Sun Microsystems nor the names of contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.



---

## DEPENDENCIES

---

Apache Commons IO

Copyright 2002-2017 The Apache Software Foundation

This product includes software developed at The Apache Software Foundation (<http://www.apache.org/>).

Licensed under The Apache License 2.0.

Apache Commons Lang

Copyright 2001-2018 The Apache Software Foundation

This product includes software developed at The Apache Software Foundation (<http://www.apache.org/>).

Licensed under The Apache License 2.0.

SLF4J API

Copyright (c) 2004-2007 QOS.ch

Licensed under The MIT License. All rights reserved.

## Notice Concerning Use of Bouncy Castle Crypto

Copyright (c) 2000 - 2021 The Legion of the Bouncy Castle Inc. (<https://www.bouncycastle.org>)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.