

---

# Release Notes 9.0.00

---

## Symphony Marimba Release Notes

Version: 9.0.00

November, 2015

Marimba version 9.0.00 is released. This document provides information about New Features and Enhancements released in this version. This information supplements and supersedes information in the product documents.

---

### **NOTE**

---



Before you install the product, check the Marimba Channel Store for:

- updated documentation (for example, flashes and technical bulletins)
  - product downloads, patches, and fixes (PTFs)
  - product availability and compatibility (PAC) data
-

---

# Contents

Marimba Product Overview . . . . .	3
Installation Information . . . . .	4
How to obtain the product . . . . .	4
Supported upgrade path . . . . .	4
General important notes . . . . .	4
New features and enhancements . . . . .	5
Dynamic Bandwidth Throttling . . . . .	5
Hybrid Cloud . . . . .	9
Software Request Management . . . . .	11
CMS UI Interface Infrastructure Property . . . . .	15
Custom Discovery . . . . .	19
License Management . . . . .	23
Package Migration for Tenant and Consumer . . . . .	25
Patch Management . . . . .	26
Tuner Enhancements . . . . .	28
SRS Enhancement . . . . .	30
Hybrid and Private Channel Store . . . . .	36
Footprint of the Tuner . . . . .	38
Known Issues . . . . .	39
Related Information . . . . .	39
Accessing the documentation Channel . . . . .	41

# Marimba product overview

The Marimba product reduces the complexity and costs of managing desktops, laptops, and handheld devices, through policy-based automation of application management, inventory, and software usage tracking and software harvesting, as well as Advanced PC Power settings.

By automating these processes, IT departments can proactively and continuously manage the client devices across their enterprise, regardless of their location and connectivity. This automation dramatically reduces costs, improves quality of service, and reduces the business risks associated with system vulnerabilities.

The following features are new and enhanced in this release of Marimba:

- **New features and enhancements**

- Dynamic Bandwidth Throttling
- Hybrid Cloud
- Software Request Management
- CMS UI Interface Infrastructure Properties
- Custom Discovery
- License Management
- Package Migration for tenant and consumer
- Patch Management
- Tuner Enhancements
- SRS Enhancement
- Hybrid and Private Channel Store

These new features and enhancements are described in more detail in their specific sections in this document.

# Installation information

## How to obtain the product

This topic explains how to obtain the product from the Channel Store.

Marimba Client Automation is available for download from the Channel Store and to use it, you must be registered on Channel Store.

If you do not have a current license for the product, contact your Marimba sales representative. If you are unable to download the product, you can request for a physical kit.

## Supported upgrade path

To upgrade to version 9.0.00, you can upgrade from the following tuner versions:

- 8.5.00
- 8.3.03
- 8.2.02.003
- 8.2.01.003

### NOTE:

- Schema upgrade is not directly supported from current 8.2.01 or below versions to 9.0.00 version. You must first upgrade to the current version at 8.2.02, 8.3.00, 8.3.01 or 8.5.00 level and then upgrade to 9.0.00 schema.
- Direct upgrade is supported only from current version of 8.2.02, 8.3.00, 8.3.01 and 8.5.00 to 9.0.00 version.

## General important notes

- If there are processes that are configured to (or automatically) utilize the JRE located inside the tuner installation folder (similar to software like Derby which is used by the Inventory Service component of Marimba), this will impact the upgrade process (for instance, the JRE will not get updated). For this reason, we advise our customers to stop/terminate any such processes before performing the tuner upgrade using Infrastructure Service.
- Defect SW00478766 - In a Multi-Tenant environment, tenant specific logs are not generated.

# New Features and Enhancements

## Dynamic Bandwidth Throttling

### Introduction:

Dynamic bandwidth throttling aims at incorporating a mechanism in the product to automatically detect the available network bandwidth for marimba client server communication and thereby throttle it as per the requirement.

### Purpose of Dynamic Bandwidth Throttling

In order to throttle the bandwidth in the current design, the customer needs to clearly specify either a percentage of the available network or a maximum throughput in kbps of the network where the client tuner is running.

The problem with this design is that marimba admins will not always be aware of the exact type of network (T1 line, 56K modem etc.) being used in a zone/office and also the uplink and downlink rate will always not be the same in a typical network infrastructure which is being shared by other resources. This means the available bandwidth (ABW) at a link will be at its unused capacity. Since at any point, a link is either idle or transmitting packets at the maximum speed, the definition of the available bandwidth will be the average unused bandwidth over some time interval  $T$  for accurate estimation.

Futhermore, if a client subscribes/updates from multiple transmitters located in different networks where the setting is static, to throttle the bandwidth will be of little use.

All this brings in the need to have a mechanism in place wherein we can detect the available bandwidth (as per above definition) on a per request per server basis and subsequently use it to throttle the rate as a percentage of the obtained value.

### Design Details:

To incorporate this feature, the changes will be required in both- client and server side. The client side changes can be done in the tuner itself and for the server side, the changes will need a new channel (RateServer) that can run on the transmitter (mirrors and repeaters or proxies) tuner on a unique port (default: 8005).

Whenever the endpoint initiates an update or subscribes a request to a transmitter (mirrors and repeaters or proxies), it checks to see if auto bandwidth feature is enabled (`marimba.tuner.autobandwidth.detect=true`). If the condition succeeds, it uses the remote rate server details to check if we already have a cached bandwidth value for the given remote server. The cached bandwidth value is valid within the cache delay interval (default 10 mins) set on the client. If the cache delay interval has expired or the earlier cached bandwidth is not a valid rate, we try to detect a fresh bandwidth rate using marimba bandwidth detector.

## Bandwidth Detector and Rate Server:

The client sends an http request to the rate server which then parses the request and responds back with a fixed data byte buffer (default: 20000 bytes). The client keeps a track of the time taken to read from the socket the entire data that is streamed. The transfer rate is then calculated as:

***Transfer-rate = (No. of bytes downloaded/Time taken for download) bytes/sec***

This rate value is then further used by the bandwidth schedule settings to compute the final rate for the request.

**Note:** For any reason if it fails to detect the bandwidth automatically or is unable to use the cached bandwidth, it falls back to the value set in `marimba.bandwidth.max` property.

## How to configure Dynamic bandwidth throttling?

To implement dynamic bandwidth throttling, changes both in the client and server side infrastructure are required. The client side changes require an increase of few end point tuner properties (as described under section Configurable properties). For the server side changes, a new channel is required (RateServer) that will run on all the transmitter (mirrors and repeaters or proxies) tuner on a unique port (default: 8005).

## Configurable properties:

Properties to be configured on the end point tuner:

*marimba.bandwidth.max=<max throughput>(in kilobits per second)| % of specific bandwidth (in bits per second).*

*marimba.bandwidth.schedule=<percentage/bandwidth available>< schedule>;<percentage/bandwidth available>< schedule>*

This property is used to set multiple semi-colon separated time schedules and the corresponding bandwidth to be used in that time period. The bandwidth component can be specified either as an absolute value in Kbps (Kilobits per second) or as a percentage of the “auto detected bandwidth” value in bytes per second.

Use the keyword “**available**” for “**bandwidth available**” parameter. When computing the rate internally, this will be replaced with the auto detected bandwidth value to compute the percentage of the detected bandwidth which will be set as the final rate for the request.

## Format to specify the schedule:

*marimba.bandwidth.schedule=75/available BETWEEN 12:00PM and 5:00PM on mon+tue+wed+thu+fri+sat+sun;45/available BETWEEN 1:00AM and 5:00AM on mon+tue+wed+thu+fri+sat+sun*

**Note:** In this example, available refers to the “detected” bandwidth rate between endpoint and the transmitter.

### ■ *marimba.tuner.autobandwidth.cachedelay=<minutes>*

This property determines the time duration in minutes until which an auto detected bandwidth value once obtained is retained to be used for subsequent requests for the specific transmitter host\_port combination.

Valid value: an integer representing the number of minutes to cache the detected bandwidth.

Default value: 10 (minutes)

### ■ *marimba.tuner.autobandwidth.detect=<true or false>*

This property is used to enable or disable the dynamic bandwidth detection feature on an endpoint.

Valid value: true or false

Default value: false (if property is not explicitly set)

### ■ *marimba.tuner.autobandwidth.port=<an integer>*

This property is used to specify the port that the remote rate server is running on. Valid

Valid value: an integer

Default value: 8005

## Rate server Channel Properties

Following channel properties can be set on the Rate server channel's channel.txt file through Channel copier or Policy Manager.

- ***outputsize=<number of bytes>***

This property specifies the number of bytes to output for each bandwidth detection request.

Valid value: an integer

Default value: 20000

- ***sendBufferSize=<number of bytes>***

This property specifies the receiving buffer size of the RPC port at which the tuner listens for requests.

If this property is not set, the buffer size by default is set to 1024000.

Valid value: an integer

Default value: 1024000

- ***connect.port=<an integer>***

This property is used to specify the port that the remote rate server is running on.

Valid value: an integer Default value: 8005

Default value: 8005

## Known Limitation:

SSL is not implemented for rate server however; the feature can always be enabled and used in a SSL enabled infrastructure without any issues.



# Hybrid Cloud

## Introduction

Prior to 9.0 release, Marimba Cloud required all the customer data to be maintained inside the cloud environment. Since such a requirement would pose difficulties for customers concerned about the safety of their private data, a feature is now being made available to such customers. It will allow them to "segregate" their data inside their network while continuing to use Marimba Cloud features.

This feature is called our **Hybrid Cloud** option and is being made exclusively available to Premium Package customers only at present.

In Marimba , LDAP and DB play major roles in storing the data. From 9.0 onwards, the customers will be allowed to configure their own DB and LDAP in their private cloud environment.

Once he logs into CMS from cloud dashboard page, he can change to hybrid cloud mode.

After configuring their LDAP, they should set the channel permissions by selecting own LDAP for publish, subscription and replication through the transmitter admin.

The screenshot shows a web interface titled "Edit Channel Permissions for "/tenants/truecus1" on <http://clm-pun-006175:6617>". Below the title is an information icon and a note: "Specify the subscribe, replication, and publish permissions for the channel or the folder. Be careful about changing".

The interface contains three main sections for setting permissions:

- Choose directory service:** A dropdown menu set to "myadam" and a "Browse Users" button.
- Subscribe Permission:**
  - Authentication method: "Specific group" (dropdown)
  - Group: "group1" (text input)
  - Subfolder action: "Do not change subfolders" (dropdown)
- Replication Permission:**
  - Authentication method: "Specific group" (dropdown)
  - Group: "group1" (text input)
  - Subfolder action: "Do not change subfolders" (dropdown)
- Publish Permission:**
  - Authentication method: "Specific group" (dropdown)
  - Group: "group1" (text input)
  - Subfolder action: "Do not change subfolders" (dropdown)

## Advantage of private cloud environment:

The customers will readily configure their own DB and LDAP in their private cloud environment as they will be more confident about the security of their private data.

### Note:

Support for AD autodiscovery will be released as **Hotfix**.

## Tested Environments

Below is the list of tested environments:

- 1 AD Non auto discovery
- 2 AD LDS

# Software Request Management

## Introduction:

Software Request Management refers to managing the entire lifecycle of activities linked to the fulfilment of Software Requests made by users. The Software Request Management is an in-build feature of Channel Store through which users can search, request and download softwares. Administrators use it to manage the Software Repository and to manage software requests/approvals. It provides strong administrator capabilities and simplified process. It also maintains strong control over how a user obtains the software.

## Software Request Management users and roles:

Software Request Management has three types of users.

### ➤ The Administrator

- is the CMS administrator
- configures CMS and Channel Store settings.
- manages the software repository (add, modify, and delete softwares that are available for download).
- manages which users and groups can approve requests for specific software titles.
- manages which users and groups are pre-approved for specific software titles.
- manages approval of software(s) published to channel store
- manages approval of users registered with channel store

### ➤ The Approver

- is a registered user with channel store, with any of the roles – “Publisher”, “User” or “Publisher and User”
- has the rights to approve/reject user requests for software if he is configured as an approver by the Administrator.

## ➤ The User

- is a registered user with channel store, with any of the roles – “Publisher”, “User” or “Publisher and User”
- can access Channel Store and requests for a software.

## Background

After you have configured Software Request Management, a user can request software from the Channel Store console.

If the software does not have any approval workflow configured or if the user is preapproved for it, then the software is immediately approved for download to the user and the user can download the it from Channel Store.

If a user requests for a software that is configured to undergo an approval process, the approver either approves or rejects the request and an email is sent to the requesting user. If the request is approved, then the user is allowed to download software from the Channel Store.

The user can follow the below steps to request for software from the Channel Store:

1. End user **logs into** the channel store.
2. Selects the software to download and clicks on '**Request**'.
3. End user receives a request notification and the approver/s (if configured).
4. End user can go to '**My Requests**' and check if the request is created and status of the request.
5. Approver receives an email notification (if enabled) or can see list of requests under '**My Approvals page**'.
6. Approver can reject or approve request.
7. After there is change in state of request, user can download a software that is approved.

---

## Key Features

- Users can easily search for request and download software.
- Manage the complete software request with an approval mechanism.
- Approver can approve the request through Email.
- Automated email notifications sent to the requester and approver notifies the request status.
- Simplified software request process.
- Maintains strong control over how a user obtains the software.

## Pre-requisites

Please ensure that the following channels are installed and configured:

- **Channel Store 9.0.00**

The Software Request Management feature is part of the Channel Store, with version 9.0.00 and above.

- **Transmitter 9.0.00**

The Transmitter hosts the repository of the Channel Store which stores all the published channels.

- **Infrastructure Administration 9.0.00**

The Infrastructure Administration provides you options to rebrand the Channel Store user interface to meet the organization's requirements.

- **Common Management Services 9.0.00**

You can use Common Management Services to control the approval of channels which are published by the publishers. It also helps in controlling the approval of newly registered users and manage channels by allowing movement of approved channels within existing categories.

The Administrators can use the Common Management Services to configure the approval workflow for a software request. This includes, configuring the groups in organization to which user is mapped, assigning approvers for a software and also assigning entitlements for a software.

■ **Report Center 9.0.00**

The Report Center is used to configure the Channel Store.

■ **Schema Manager 9.0.00**

The Schema Manager contains the Channel Store schema which you must install after installing core schema.

■ **Microsoft SQL Server or Oracle database**

■ **Microsoft AD/ADAM**

Ensure that for ADAM users, the following attributes are set. The value of these attributes is used to store user information required for ChannelStore

1. givenName: The value of this attribute is used as the First name of the user
2. sn: The value of this attribute is used as the Last name of the user
3. userPrincipalName: The value of this attribute is used as the EMAIL Address of the user. The e-mail notification if configured is sent to this e-mail address
4. telephoneNumber: The value of this attribute is used as the contact number of the user.
5. company: The value of this attribute is used as the Company name of the user.
6. COMP\_ADDRES: The value of this attribute is used as the Company Address of the user.

**Note:** For more details please refer to "Marimba Software Request Management Guide 9.0.00" .

# CMS UI Interface Infrastructure Properties

## Introduction:

This is an enhancement to Common Management System where some more options are added to the UI to set properties from UI. Earlier all these properties had to be set through policy, command line or manually. You can now set the tuner properties by administer tuner or the properties can be set on profile. All Transmitter and proxy properties can be set by administer Transmitter and proxy.

## Pre-requisite

Infrastructure Administrator should be on 9.0.00 to configure properties from GUI.

## Tuner Administration

There is a list of Tuner properties that can be set through Tuner Administration 'Advanced'. It is an enhancement in 9.0.00 where user can set properties through GUI instead of setting it through Command line or manually.

- 1 Network detection
- 2 Mesh
- 3 Architecture
- 4 Corruption
- 5 JRE
- 6 LWAC
- 7 Marimba Over Internet
- 8 Session Isolation
- 9 Network
- 10 User Centric Deployment
- 11 Inventory Plugin

1. **Network detection**- You can set Network detection policy from the drop-down list and some additional settings for network. You can set following network related property by selecting check box or by providing value.

Configure Network Detection

- Out going host
- Interval
- IP Delay
- Allow channels to update later after exited from sleep mode.

2. **Mesh** - Mesh functionality can be enabled\disabled by selecting check box in GUI. There are some additional settings that an user can do.
  - Mesh Broadcast Addr
  - Mesh Buffer Size
  - Mesh wait Tim
  - Allow tuner skips the File Peer Phase even when there are pending files after Channel Peer Phase
  - Allow files need for mesh.
- Note: Tuner restart is mandatory in order for Mesh settings to be effective.**
3. **Architecture:** Tuner architecture can be changed from 32-bit to 64-bit or vice versa through GUI by enabling\disabling check box at Tuner Administration page. You can also specify channel to user 32-bit segment. If this check box is enabled, tuner architecture will be 64-bit and if it is false, tuner architecture will be 32-bit.
4. **Corruption:** In order to monitor and repair tuner corruption, following settings can be done through GUI.
  - Tuner Repair Filter
  - Allow Infrastructure Service to check tuner workspace directory for corruption.
  - Allow Tuner to force update all corrupted channels.
  - Allow channel to update based on schedule even channel is corrupted.
5. **JRE:** By selecting this check box you can force tuner to use system JRE.
6. **LWAC:** Lite Weight Administration Console can be enabled or disabled by selecting check box. To access console you need to specify port number in “Lite Weight Tuner Administrator port”.
7. **Marimba Over internet:** You can enable\disable check box to allow operations over internet.
8. **Session Isolation:** Session isolation feature can be enabled or disabled from GUI by selecting check box on Tuner Administration page.
9. **Network:** User can Configure Network HTTP Timeout by specifying time in field. The connection will never get timed out only if the value is set to 0. The default value is 90.

All the above properties can be configured from setup & Deployment page while creating any profile.



## Advantages:

1. Property can be set through UI
2. No manual effort is required to set property.
3. There is no need to remember the property to be set, you just need to Enable\Disable property.

## Inventory Plugin

### 1. Enable Inventory Plugin Forward URL

Enable/disable this option to enable plugin insertion or forward report to another inventory plugin URL in LAN(Local Area Network).

### 2. Handle Batch Exception

If this option is enabled, plugin will try to insert the reports failing with primary key exception by forcing full report from the endpoint.

### 3. Dictionary Cache

The memory caching mechanism introduced has the inserter plugins from 8.3.01 version onwards. This will hold all the dictionary objects (along with their ids) in an in-memory cache. Inventory plugin upon processing each node will try to locate the dictionary object by looking-up the cache with the list of field values that are used to locate a record. Check the box to enable this option.

### Advantage:

Database Procedure calls from the plugin can be avoided to a possible extent. With this cache in place, it will have a good impact while processing data to be inserted.

### Disadvantages:

- The memory and CPU load caused by the cache and its relatives. However the data will be limited as the cache holds only dictionary information.
- Plug-in start up will take more time as it has to initialize cache.
- Cache will be refreshed on a periodical basis and will have appropriate memory and CPU consumption.

#### 4. Patch History

This option enables the patch history related table data insertion.

**Warning:** If you enable this property and data is populated in database, performance or upgrade issues will occur during an upgrade in a later version of the database schema.

#### 5. Spilt Checksum Sync

This option splits the checksum file found in Inventory Plugin data directory in specified size in KB and send to lower tier (mirror/repeater). The default value is 4046 KB.

All the above inventory plugin properties can be configured from setup & Deployment page in Transmitter settings advanced tab while creating any profile.

**Note:** Restart the Tuner after setting plug-in property(s).

#### Proxy Administration

A custom property tab is added in proxy administration to set or change property value from GUI.

#### Transmitter

A custom property tab is added in Transmitter administration to set or change property value from GUI.

#### Limitation

This UI change can only be seen with 9.0.00 infrastructure Administration.

# Custom Discovery

## Introduction:

The users can create custom inventory channels however; the related database objects can be created in backend using db client tools to support this case and to ease effort. We are providing an option in schema manager to create the database objects by uploading the scripts.

This option is available for all admins, Primary admins and emergency admins.

**Follow the below steps to create custom database objects using schema manager.**

1. Connect to database using schema manager and select the **Database Tool Tab**.
2. Click '**Import SQL Script**' link, it will open window. Select and upload the .sql file.

**Note:** Ensure to upload file only in **.sql format**.

### Database Schemas



Schema Manager enables you to install or update database access the Database Tools - Export/Import option, Databases

**Database:** 169.254.63.10:1433

**User:** sa

Schema Modules

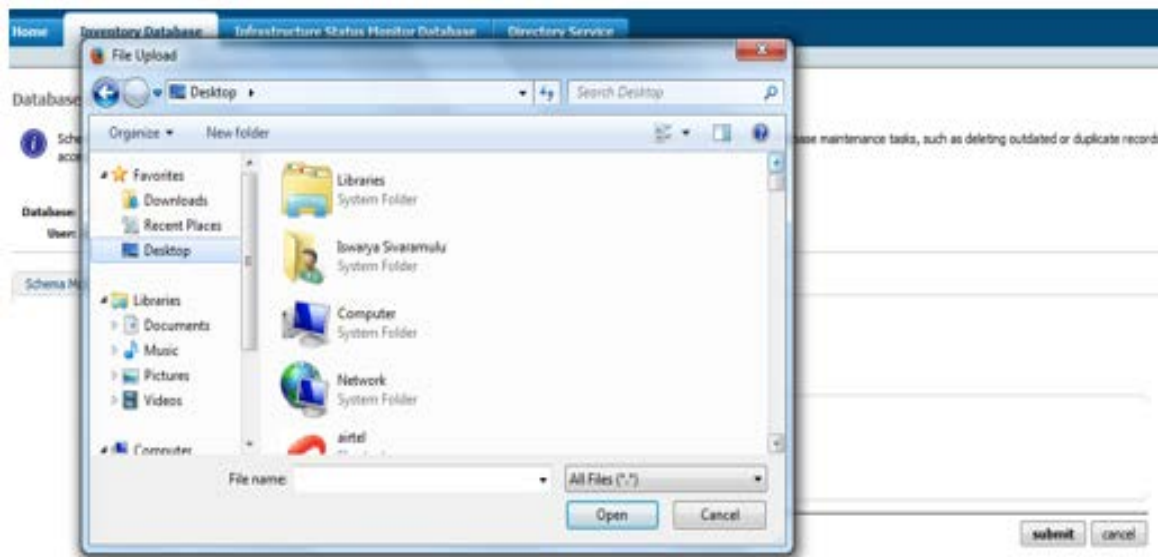
System Maintenance

Database Tools

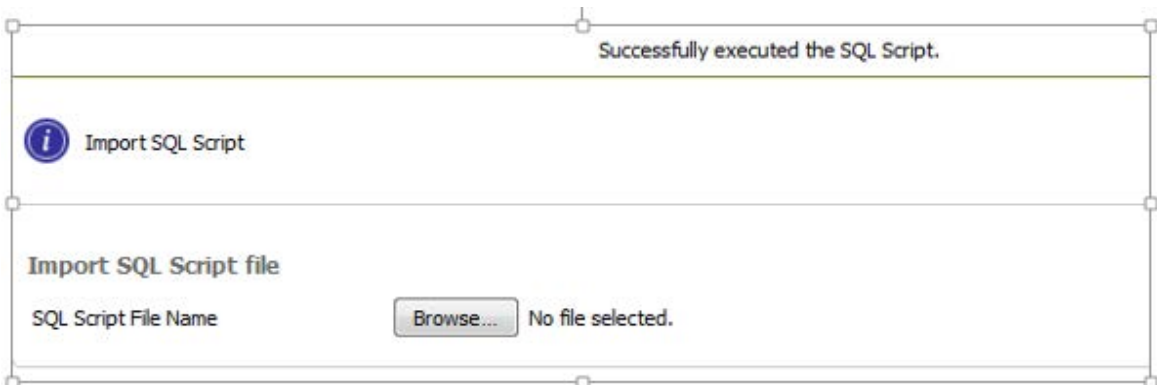


Schema Manager Tools

Import SQL Script



3. You can see the success message when the script is executed successfully as below.



## Sample Custom table creation scripts for SQL and oracle database

### SQL Script,

```
IF EXISTS ( SELECT 1 FROM sysobjects WHERE type = 'U' AND name =  
'dell_battery') drop table dell_battery;
```

```
create table dell_battery  
(machine_id int not null,  
type_id int not null,  
os_id int not null,  
action nvarchar(32),  
action_date datetime,  
CONSTRAINT c_dell_battery_machine_id FOREIGN KEY (machine_id) REFERENCES machine  
(id) on delete cascade);
```

```
IF EXISTS( SELECT * FROM sysobjects WHERE type = 'V' AND name = 'inv_dell_battery' )
```

```
DROP VIEW inv_dell_battery;  
CREATE VIEW inv_dell_battery as select machine_id, type_id, os_id, action from dell_battery;  
GRANT SELECT ON inv_dell_battery TO user_view;  
GRANT SELECT ON dell_battery TO user_view;  
GRANT DELETE, INSERT, REFERENCES, SELECT, UPDATE ON dell_battery TO inventory;
```

## Oracle Script,

```
drop TABLE inventory.dell_battery ;
DROP VIEW inventory.inv_dell_battery ;
create table inventory.dell_battery
(machine_id int not null,
type_id int not null,
os_id int not null,
action nvarchar2(512),
CONSTRAINT dell_battery_fk_mac_id FOREIGN KEY (machine_id) REFERENCES machine (id)
ON DELETE CASCADE);
CREATE VIEW inventory.inv_dell_battery as select machine_id, type_id, os_id, action from
inventory.dell_battery;
CREATE OR REPLACE PUBLIC SYNONYM inv_dell_battery for inventory.inv_dell_battery;
GRANT SELECT ON inventory.inv_dell_battery to user_view;
```

# License Management

## Introduction:

Prior to 9.0 release, all the compliant and non-compliant software license were managed by the customers based on the machines. Now, we are providing an additional option which shows all compliant and non-compliant software license based on the end point logged user.

**Follow the below steps to see User based Software Licenses:**

1. Connect to Software License Compliance and select the Reports tab.  
"Used By" option is available on this page.
2. Select any software and click the "Used By" tab. The user name of the customer who is using this software and the software usage history can be seen under this.

The screenshot displays the Symphonic Teleca License Management web application. The top navigation bar includes 'Overview', 'Reports', 'Email Notifications', and 'Administration'. The 'Reports' tab is active, showing 'Compliance Reporting' options. Below this, the 'All Software Licenses' section lists various software with columns for 'Software Name', 'Version', 'Licenses', 'Installed', and 'Uninstalled'. The '7-Zip' software is highlighted. To the right, the 'Details: 7-Zip 9.20' view is shown, with the 'Used by' tab selected. This view displays a table of users and their usage statistics.

Usage	User	Days not used	No of Times Used	Minutes Used
	inivaram		0	0

## User based Software License Queries:

User based software license queries are available in Report center query library. You can run this query and generate the report for compliance, non-compliance and software title usage. Also, you can configure the Email and FTP schedules for these queries.

**Follow the below step to access this query:**

1. Connect Report Center and select Query Library Choose Software License Compliance

Query Name ▲		
<div> <div>  Select All            Rename            Export            Move            Delete            Edit         </div> <div>           Add:            Folder            Builder            SQL            Form         </div> </div>		
<input type="checkbox"/> <a href="#">User based Software License Compliance</a>	<a href="#">No Email or FTP Schedule</a>	User based Software License Compliance to find the results for single or multiple software title licenses.
<input type="checkbox"/> <a href="#">User based Software License Non Compliance</a>	<a href="#">No Email or FTP Schedule</a>	User based Software License Non Compliance to find the results for single or multiple software title licenses.
<input type="checkbox"/> <a href="#">User based Software title usage reports</a>	<a href="#">No Email or FTP Schedule</a>	User based Software title usage reports to list the usages of titles



# Package Migration for Tenant and Consumer

## Introduction:

This specification is about enabling cloud customers to upgrade or downgrade from their existing package.

The customers can “Modify” from the existing package and also view the subscription details. Please check the below snapshot for the same.

General
User Authentication
Data Source
Access Control
Cloud Dashboard
Tools

Cloud Dashboard

From this page, you can view cloud subscription details and bills.

### Profile Details

Full Name	Iswarya Sivaramulu
Email Address	Iswarya_Sivaramulu_CW@bmc.com
Additional Email Addresses	
Profile Name	psiva
Company Name	Symphony
Address	Chennai
Phone Number	9994677890
Endpoint Range	>5000
Registered On	Mon Oct 26 2015 08:52:10 GMT
Activated On	Mon Oct 26 2015 08:53:53 GMT

### Package Details

Package Name	ADVANCED	Modify	View Change Request	Cancel Change Request
Package Description	Advanced Package			
Cost per Endpoint	\$ 20			

Super administrator will approve and process the customer request and status of the same will be notified to the customer through mail.

After successful migration, customer will be notified with new package services and billing details.

# Patch Management

## Pre-requisites:

Patch Manager should be on 9.0.00 to configure properties from GUI.

## Patch Manager

These are the list of Tuner properties that can be set through Patch Manager. This is an enhancement in 9.0.00 where user can set properties through GUI instead of setting it through Command line or manually.

- Patch packaging
- Patch Scanning
- Scan obsolete patches
- Custom patch return codes

## Patch Packaging

User can check the below properties in repository configuration page. This will avoid repackaging of the patches.

- `cache.needtopackage.check.install.bat`
- `cache.needtopackage.check.pkgfail`
- `cache.skip.repackage`
- `cache.needtopackage.check.sfn`

## Patch Scanning mode

In patch manager page under configuration tab in patch service configuration, User can decide whether the patch scan should happen via HFCLI.exe or stPatchAssessement. Dll. By default it will scan via stPatchAssessement.dll by checking/unchecking patch scan option.

## **Scan obsolete patches**

In the patch manager page under the configuration tab (in patch service configuration), the user can decide whether the obsolete patches has to be reported or not. By default obsolete patches scanning is disabled.

## **Custom patch return codes**

In the patch manager page under configuration tab (in patch service configuration), the user can set return codes for installed/missing custom patch. By default it is set to “1” for missing and “0” for installed.

# Tuner Enhancements

## ■ Tuner should maintain blacklisted channel and should stop them if any attempt is made to start

Channels can be blacklisted by configuring new tuner property '[marimba.tuner.channels.dcap](#)'. You can add one or more channels to this list.

The value of this property should be base64 encoded channel titles separated by semicolon.

e.g. If you have to blacklist Application Packager & Certification Manager channels of version 9.0.00 then you need to put base64 encoded values of their channel titles separated by semicolon as the value of the property.

[marimba.tuner.channels.dcap](#)=QXBwbGljYXRpb24gUGFja2FnZXIgaOS4wLjAw;Q2VydGlmaWNhdGUgTWFuYWdlciA5LjAuMDA=

This means we are putting **Application Packager 9.0.00** and **Certificate Manager 9.0.00** in the blacklist.

We use base64 encoding to make this 'less obvious' for any user to understand what channels are placed here. Also, the property name is intentionally kept as generic. Obvious property name or channel name would make it easier for non admins to understand and then change the values.

### **Note:**

This is case sensitive. And if a channel is once blacklisted, it will be blacklisted till it is removed from the list. And this change will take effect only after tuner gets restarted (even after changing the property).

**This feature is applicable to Windows and UNIX operating systems.**

## ■ Option to add delay in tuner startup

1. Added a property '[marimba.tuner.native.delaystart](#)' for launcher. If this is set to value >0,

launcher would wait for those many seconds at the launch time.

2. Added a property '[marimba.tuner.java.delaystart](#)' for Tuner. If this is set to value >0, Tuner would wait for those many seconds at the launch time.

These properties are added to delay the start routine of tuner (for both launcher and java tuner).

### **Note:**

Feature for launcher (tuner.exe) is applicable only for windows (And that is intentionally designed). The feature for java.exe (main tuner) is applicable for all OSes. **It is not applicable for mini tuner.**

## ■ Option to restrict the number of times a machine can be rebooted in a day

This new property '[marimba.reboot.perday.limit](#)' restricts the number of times a machine can be rebooted in a day. It takes integer value equal to or greater than 0. If the value of this property is set to 0, the machine cannot be rebooted for the day. If the value of this property is set to 1, then the machine can be rebooted only once in a day.

### **Note:**

This property restricts users from rebooting the machine through Marimba application. It does not restrict users to reboot the machine manually. However, CRS keeps a track of such manual reboots and the per day count is handled accordingly.

# SRS Enhancement

## New mechanism implemented in 9.0.00

Starting from 9.0.00, Marimba does not use the full syncing of checksums to the repeater / forwarder plugin, when standalone mode is enabled in the plugin configuration. The inventory plugins perform checksums sync of non-sync endpoints alone. In the standalone mode, by default the Inventory plugins ensure that the endpoints always send full scan reports. However, to insert differential reports, Marimba uses a new Scan Report Server (SRS) to serve a copy of the most recent inserted scan report of any endpoint.

However; in the standalone mode the administrator can also enable endpoints by sending diff reports in the plugin configuration. During this the checksum verification will happen only for endpoints whose different reports were previously in non-sync with the database.

### The new mechanism uses the following components:

#### ■ Scan Report Server (SRS)

A third party embedded HTTP server stores and retrieves the scan reports in binary compressed format. The SRS is used to implement a mechanism which uses a machine id to identify a machine and then deliver the contents of the last stored report pertaining to that endpoint. The SRS syncs the non-sync endpoints in last successfully inserted report checksum from database and maintains a physical copy of the non-sync endpoints checksum list. SRS delivers the physical copy of the above checksum list to the requesting inventory plugins.

#### ■ Standalone inserter

The standalone inserter consist of the following process which runs as a separate process from tuner.exe.

**Pre diff processor:** The inserter plugin notifies this processor about the incoming reports. When the incoming report is full report, it fetches the last inserted report from SRS and performs a diff report generation between the incoming report and last inserted report and send the diff report to the post diff processor. When the incoming report is differential report, the report is directly sent to the post diff processor.

**Post diff processor:** The post diff processor inserts the incoming full report / diff report into the database. Here after the report insertion the full report received is stored in the SRS server. When the endpoints diff report insertion fails because of checksum mismatch the last inserted report checksum is stored in the non-sync checksum cache in SRS.

## Advantages of the new mechanism

The advantages of this feature are:

- Avoids all endpoints checksum synchronization operation across Mirror/Repeater Transmitters.
- Reduces network and CPU processing bandwidth thereby increasing performance of the Marimba infrastructure.

## Limitations

- For better performance, you can host the SRS component on a single standalone server. Since content replication is not available, if multiple instances of SRS are hosted behind a load balancer, the original purpose of it to serve the last good known inserted report when demanded by the plugin will not be accurate.

## Prerequisites for the standalone inserter

- Ensure that the machine where the standalone inserter is deployed has access to the pluginqueue directory.
- Ensure that the machine where the standalone inserter is deployed lies in the same network where the Inventory plugin and the database reside.

## Configuring the Standalone Inserter

### Standalone Inserter

Allow Standalone Inserter to send data to database

---

Scan Repository Type: Remote ▾

☒ Enable Standalone Mode

☒ Allow Endpoint to send differential report

Scan Report Server URL:

Scan Report Repository:

Diff report creator threads:

Report Inserter threads:

Report Inserter batch size:

Report Inserter Thread Capacity:

## To configure the Standalone Inserter

1. In CMS, navigate to Inventory Plugin configuration tab in Report Center.
2. In the Standalone Inserter section, specify the URL of the Scan Report Server and the location of the Scan Report Repository.

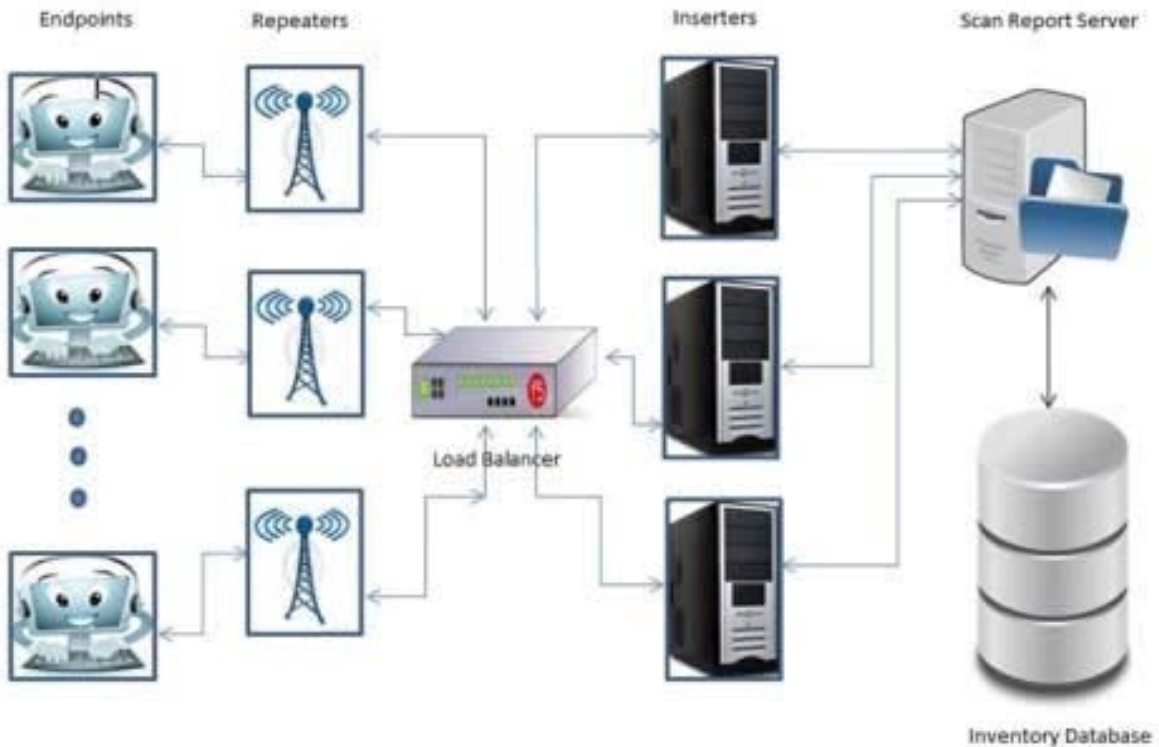
Before you configure the above settings, you must subscribe the SRS channel on the tuner where SRS server will be hosted. Once you have installed the SRS channel you must start it from the command line.

1. Navigate to the <SRS-INSTALL> directory. By default, the directory will be C:\install\SRS\srs.
2. Enable standalone mode.
3. If full report needs to be send from endpoint always, uncheck 'Allow endpoint to send differential report'. If diff report needs to be sent from endpoint, check 'Allow endpoint to send differential report'.
4. If you want to change the port on which SRS listens for HTTP requests, change the value of the server Port property in the srsconfig-override.properties file which you can find in the <SRS-INSTALL> directory. By default, the serverPort property is set to 8080.
5. Start the startup.bat batch file.



## Architecture

The following diagram shows how the SRS handles the scan reports and sends them to the inventory database.



## Workflow

The following steps describe the workflow of the SRS when endpoint sends the full report. The Inventory Plugin and the SRS communicate with each other using JMS messages. The Inventory Plugin sends a message to the queue hosted by the SRS when a scan report arrives. The communication message contains the following information:

- file name of the scan report
- machine Id of the machine

The following workflow describes how the message is saved in the file system: Target folder:

*<data-directory>/standalone-notifications*

1. For each scan report, the following two files are generated:

- A metadata file containing the header of the message
- A report data file containing the body of the message

These two files are named after the machine Id of the machine with the extensions ( .properties and .report) respectively.

2. The SRS captures the information from the message and loads the scan report for further processing.
3. Inserter captures the machine Id of the machine from the message and sends it to the SRS.
4. SRS tries to find a matching report in its repository. If a matching report is found, SRS responds to the HTTP request with the contents of the report. If a matching report is not found, it returns an error code in the response.
5. Inserter checks for the response from SRS. If it receives an error code, it proceeds with the insertion of the full report into the database.
6. If the SRS returns the report contents, SRS extracts the contents and stores it in a temporary location, and compares it against the scan report received from the endpoint, thus generating a differential report.
7. SRS inserts the differential report into the database.
8. Once the report is successfully inserted in the database, the scan report received from the endpoint is uploaded to the SRS server.
9. SRS updates its repository with this uploaded report.

## When Session Isolation is enabled?

There might be a need to enable Session Isolation if there are frequent user login and logoffs on the machine where SRS runs.

For more information on Session Isolation, refer BBKA CMS and Tuner Guide.

When the Session Isolation feature is enabled, all Standalone Inserter components except the SRS component work in the system context.

If you want the SRS component to run when Session Isolation is enabled, ensure that the SRS component runs in the system context. To run the SRS task in system context, you must use Windows Task Scheduler to schedule it to run automatically when the computer starts.

## To schedule the SRS task to run automatically when the computer starts

1. Start **Task Scheduler**.
2. Type the **administrator password** if you are prompted.
3. Click **Action** in the menu.
4. Click **Create Basic Task**. The Create Basic Task Wizard appears.
5. In the Name textbox, **type** the required name for the task.
6. In the Description textbox, **type** the required description, and then click **Next**.
7. Select '**When the computer starts option**', and then click **Next**.
8. To schedule a program to start automatically, click **Start a program**, and then click **Next**.
9. Click **Browse** to find the SRS program, and then click **Next**.
10. Select the **Open the Properties dialog** for this task and click **Finish** check box and click **Finish**.  
In the Properties dialog box, select **Run** whether user is logged on or not, and
11. then click **OK**.

# Hybrid and Private Channel Store

## Introduction

By configuring the Channel Store to operate in Hybrid Mode, it provides the channelstore users a capability to use more than one channel store from same portal i.e. they can view content and make requests for software from more than one channel store.

For instance, if a local channelstore is configured in organization, then by configuring channel store in 'Hybrid' mode users can be granted access to view and raise request for channels/software hosted in local channel store as well as any other channel store for example, Marimba channel store. Users can use same channel store portal to connect to both of these channel store plugins to view and download the content hosted in respective stores. With the hybrid mode enabled, one can configure the default channel store plugin that the user always gets access to the moment channel store is up and rest of the plugins are listed on the Featured page that users can switch to anytime.

With the Hybrid Mode solution-in-place, "Channel Store" can now be executed in any of the two modes,

- Private Mode (existing behavior)
- Hybrid Mode

## Private Mode:

This will be the default mode and it will follow the same existing behavior, where registered users of a channelstore can download the channels from it. In order to download from a different channelstore, he needs to re-login to the second channelstore portal.

## Hybrid Mode

- Hybrid mode will provide registered users with an option to download channels/software from more than one channelstore repository from same portal.
- With "Hybrid" mode, user will see a "drop-down" option, which can be used to toggle between any of the channelstore repositories.
- In order to enable channelstore in "Hybrid" mode, there are few channel store related channel properties that needs to be set on the endpoint. For further details refer to “Hybrid Channel Store” section in Channel Store guide.

**Note:** For more details refer to "Marimba Channel Store Guide 9.0.00" .

# Footprint of the Tuner

## Introduction

A tuner is the interface through which Symphony Marimba Client Automation components communicate. Operations, including product updates, are carried out through tuner connections. Every machine that runs Symphony Marimba Client Automation modules must have a tuner installed.

Below table provides information about the footprint of the tuner and endpoint service channels.

Operating system	Size of installer file	Disk space for installed tuner	Temp directory disk space	Workspace with service channels <sup>a</sup>	Virtual Memory for the Tuner <sup>b</sup>
Linux	192.5 MB	198 MB	73 MB	272 MB	103 MB
Mac OS X 86	242.3 MB	524 MB	7 MB	802 MB	107 MB
Windows x86	95.6 MB	200 MB	247 MB	280 MB	95 MB
Windows x64	97.1 MB	208 MB	380 MB	289 MB	118 MB

<sup>a</sup> Service channels include: Scanner Service, Logging Service, Policy Service, Infrastructure Service, Deployment Service, and Patch Service.

<sup>b</sup> The memory measurement corresponds to the amount of memory required to run only the tuner on an endpoint, and it does not include the memory required for downloading packages, running an inventory scan, or other similar actions.

The tuner and channels also produce log files, but you can configure the amount of disk space these files use.

# Known Issues in 9.0.00

## Known Issues in SRS

Tracking ID	Issue
SW00498482	Standalone Inserter is enabled and running even for disabled Inventory Plugin. Hence, the repository location changes are effected through the disabled plugin.
SW00497936	Version information of SRS should be logged in Inventory Plugin Log.
SW00426311	Software usage of system processes are not reported but they are required for Software Title Usage reporting.

**Note:** Workaround for SW00498482

-disable Standalone Inserter when disabling Inventory Plugin.

## Known Issues in CMS

Tracking ID	Issue
SW00498380	User role is removed for 9.0 fresh or 8.5 upgrade customers if they have migrated from multi-tenant model to single tenant mode.
SW00498148	AD auto discovery is not supported for hybrid cloud since it failed to access tenant folder using LDAP credentials in auto discovery mode.

**Note:** Workaround for SW00498380

-reconfigure the user roles by logging as Emergency admin.

## Related information

Marimba provides documentation on the Channel Store. The following documents support the

The following documents support the Marimba Product:

Title	Description
<i>Marimba Application Packager User Guide</i>	Provides information about packaging software for distribution to desktops or servers. This guide also includes information about command-line usage, policies, XML templates, and Windows system macros.
<i>Marimba CMS and Tuner User Guide</i>	Provides information about the Common Management Services (CMS) and tuner infrastructure components. This guide also describes the tools and features you use to configure these components.
<i>Marimba Configuration Discovery Integration for CMDB Getting Started Guide</i>	Provides instructions about planning, installing, and configuring the Configuration Discovery integration. This guide also includes information about relationship classes and mappings, data exchanges, and reconciliation definitions.
<i>Marimba Deployment Manager Guide</i>	Describes how to use Deployment Management and Content Replicator to control and monitor the distribution of content and applications across heterogeneous server platforms and data centers. Deployment Manager extensions to Report Center and Application Packager are also described.
<i>Marimba Installation Guide</i>	Helps you design an infrastructure for your enterprise, and provides instructions for first-time installations and upgrades.
<i>Marimba Patch Management User Guide</i>	Helps you configure and administer Patch Management and the Patch Service plug-in. This guide also includes working with the patch repository, patches, patch groups, and custom patches, and deploying patches.
<i>Marimba Policy Management User Guide</i>	Helps you configure and administer Policy Management and the Policy Service plug-in. This guide also includes integration procedures for directory services, such as Active Directory, ADAM, and SunOne Java System Directory.
<i>Marimba Concepts Guide</i>	Introduces you to Marimba modules and defines basic concepts about core technology.
<i>Marimba Reference Guide</i>	Provides reference information, such as command-line options, tuner properties, proxy properties, transmitter properties, channel properties, channel parameters, channel states, ports, and log IDs with associated log messages.
<i>Marimba Report Center User Guide</i>	Provides instructions about running queries of inventory information, configuring the Inventory and Logging Service plug-in, configuring endpoints, and integrating Report Center with other product modules.
<i>Marimba Transmitter and Proxy Guide</i>	Provides information about the transmitters and proxy infrastructure components. This guide also describes the tools and features you use to configure these components.



You can also subscribe to Channel Store proactive alerts to receive e-mail messages when notices are issued or updated.

# Accessing the documentation channel

This topic describes how to access the documentation channel.

If you are using a Windows platform, you can subscribe to the Marimba Product Documentation channel. You can download the contents to a Windows computer from the Channel Store.

You can find the latest documentation channel in 9.0.00 category of Channel Store.

## Third-party product terms

The following terms apply to third-party products that are included with or in a BMC Software product as described in the BMC Software, Inc., License Agreement that is applicable to the BMC Software product.

### Apache Software License, Version 2.0

This product includes the Apache software product found at <http://apache.org>, and the Apache software product is distributed to us pursuant to the following terms and conditions:

Copyright (c) 2000-2004 The Apache Software Foundation. All rights reserved.

#### 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:

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

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

(c) 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

(d) 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.

## BSD License

Copyright (c) 2009, Yahoo! 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:

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 name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR 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 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.

## Common Public License Version 1.0

SOME OF THE ACCOMPANYING PROGRAMS ARE PROVIDED UNDER THE TERMS OF THIS COMMON PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

[List each third party software that is included in this release]

### 1. DEFINITIONS

"Contribution" means:

- a) in the case of the initial Contributor, the initial code and documentation distributed under this Agreement, and
- b) in the case of each subsequent Contributor:
  - i) changes to the Program, and
  - ii) additions to the Program;

where such changes and/or additions to the Program originate from and are distributed by that particular Contributor. A Contribution 'originates' from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include additions to the Program which: (i) are separate modules of software distributed in conjunction with the Program under their own license agreement, and (ii) are not derivative works of the Program.

"Contributor" means any person or entity that distributes the Program.

"Licensed Patents " mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Program" means the Contributions distributed in accordance with this Agreement.

"Recipient" means anyone who receives the Program under this Agreement, including all Contributors.

### 2. GRANT OF RIGHTS

a) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare derivative works of, publicly display, publicly perform, distribute and sublicense the Contribution of such Contributor, if any, and such derivative works, in source code and object code form.

b) Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in source code and object code form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

c) Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

d) Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant the copyright license set forth in this Agreement.

### 3. REQUIREMENTS

A Contributor may choose to distribute the Program in object code form under its own license agreement, provided that:

- a) it complies with the terms and conditions of this Agreement; and
- b) its license agreement:
  - i) effectively disclaims on behalf of all Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose;
  - ii) effectively excludes on behalf of all Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits;
- iii) states that any provisions which differ from this Agreement are offered by that Contributor alone and not by any other party; and
- iv) states that source code for the Program is available from such Contributor, and informs licensees how to obtain it in a reasonable manner on or through a medium customarily used for software exchange.

When the Program is made available in source code form:

- a) it must be made available under this Agreement; and
- b) a copy of this Agreement must be included with each copy of the Program.

Contributors may not remove or alter any copyright notices contained within the Program.

Each Contributor must identify itself as the originator of its Contribution, if any, in a manner that reasonably allows subsequent Recipients to identify the originator of the Contribution.

#### 4. COMMERCIAL DISTRIBUTION

Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

#### 5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE PROGRAM IS PROVIDED 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. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

#### 6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), 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 OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

#### 7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against a Contributor with respect to a patent applicable to software (including a cross-claim or counterclaim in a lawsuit), then any patent licenses granted by that Contributor to such Recipient under this Agreement shall terminate as of the date such litigation is filed. In addition, if Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

Everyone is permitted to copy and distribute copies of this Agreement, but in order to avoid inconsistency the Agreement is copyrighted and may only be modified in the following manner. The Agreement Steward reserves the right to publish new versions (including revisions) of this Agreement from time to time. No one other than the Agreement Steward has the right to modify this Agreement. IBM is the initial Agreement Steward. IBM may assign the responsibility to serve as the Agreement Steward to a suitable separate entity. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to distribute the Program (including its Contributions) under the new version. Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement are reserved.

This Agreement is governed by the laws of the State of New York and the intellectual property laws of the United States of America. No party to this Agreement will bring a legal action under this Agreement more than one year after the cause of action arose. Each party waives its rights to a jury trial in any resulting litigation.

## GNU LESSER GENERAL PUBLIC LICENSE (LGPL v2.1) ++

Various media for this product contains Cewolf - Chart TagLib v.1.0 ("Library") and JFreeChart, which is licensed under the terms of the GNU Lesser General Public License, Version 2.1 ("LGPL"). Copies of the LGPL and the source code of the Library are provided on a separate distribution disk for this product.

#### NO WARRANTY

BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "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 LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY

SERVICING, REPAIR OR CORRECTION.

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 LIBRARY 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 LIBRARY (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 LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

The terms and conditions of the BMC Software agreement applicable to this product do not apply to the Library to the extent that any such term or condition imposes any further restriction on the exercise of any right with respect to the Library granted under the GPL. Certain object code of BMC software has been linked with the Library (the "Linked Software"). Although the terms of the LGPL are ambiguous and copyright law is uncertain with respect to application of the LGPL to Software, BMC is producing and distributing the Software in compliance with the LGPL to the extent the LGPL may apply. Accordingly, solely to the extent required by terms of the LGPL, the licensee of Software may modify the Software for the licensee's own use and reverse engineer the Software for debugging the permitted modifications.

## IBM Public License Version 1.0

THE ACCOMPANYING PROGRAM IS PROVIDED UNDER THE TERMS OF THIS IBM PUBLIC LICENSE ("AGREEMENT"). ANY USE, REPRODUCTION OR DISTRIBUTION OF THE PROGRAM CONSTITUTES RECIPIENT'S ACCEPTANCE OF THIS AGREEMENT.

### 1. DEFINITIONS

"Contribution" means: in the case of International Business Machines Corporation ("IBM"), the Original Program, and in the case of each Contributor, changes to the Program, and additions to the Program; where such changes and/or additions to the Program originate from and are distributed by that particular Contributor. A Contribution 'originates' from a Contributor if it was added to the Program by such Contributor itself or anyone acting on such Contributor's behalf. Contributions do not include additions to the Program which: (i) are separate modules of software distributed in conjunction with the Program under their own license agreement, and (ii) are not derivative works of the Program.

"Contributor" means IBM and any other entity that distributes the Program.

"Licensed Patents " mean patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program.

"Original Program" means the original version of the software accompanying this Agreement as released by IBM, including source code, object code and documentation, if any.

"Program" means the Original Program and Contributions.

"Recipient" means anyone who receives the Program under this Agreement, including all Contributors.

### 2. GRANT OF RIGHTS

Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free copyright license to reproduce, prepare derivative works of, publicly display, publicly perform, distribute and sublicense the Contribution of such Contributor, if any, and such derivative works, in source code and object code form.

Subject to the terms of this Agreement, each Contributor hereby grants Recipient a non-exclusive, worldwide, royalty-free patent license under Licensed Patents to make, use, sell, offer to sell, import and otherwise transfer the Contribution of such Contributor, if any, in source code and object code form. This patent license shall apply to the combination of the Contribution and the Program if, at the time the Contribution is added by the Contributor, such addition of the Contribution causes such combination to be covered by the Licensed Patents. The patent license shall not apply to any other combinations which include the Contribution. No hardware per se is licensed hereunder.

Recipient understands that although each Contributor grants the licenses to its Contributions set forth herein, no assurances are provided by any Contributor that the Program does not infringe the patent or other intellectual property rights of any other entity. Each Contributor disclaims any liability to Recipient for claims brought by any other entity based on infringement of intellectual property rights or otherwise. As a condition to exercising the rights and licenses granted hereunder, each Recipient hereby assumes sole responsibility to secure any other intellectual property rights needed, if any. For example, if a third party patent license is required to allow Recipient to distribute the Program, it is Recipient's responsibility to acquire that license before distributing the Program.

Each Contributor represents that to its knowledge it has sufficient copyright rights in its Contribution, if any, to grant the copyright license set forth in this Agreement.

### 3. REQUIREMENTS

A Contributor may choose to distribute the Program in object code form under its own license agreement, provided that: it complies with the terms and conditions of this Agreement; and its license agreement: effectively disclaims on behalf of all Contributors all warranties and conditions, express and implied, including warranties or conditions of title and non-infringement, and implied warranties or conditions of merchantability and fitness for a particular purpose; effectively excludes on behalf of all Contributors all liability for damages, including direct, indirect, special, incidental and consequential damages, such as lost profits; states that any provisions which differ from this Agreement are offered by that Contributor alone and not by any other party; and states that source code for the Program is available from such Contributor, and informs licensees how to obtain it in a reasonable manner on or through a medium customarily used for software exchange. When the Program is made available in source code form: it must be made available under this Agreement; and a copy of this Agreement must be included with each copy of the Program. Each Contributor must include the following in a conspicuous location in the Program:

Copyright (C) 1996, 1999 International Business Machines Corporation and others. All Rights Reserved.

In addition, each Contributor must identify itself as the originator of its Contribution, if any, in a manner that reasonably allows subsequent Recipients to identify the originator of the Contribution.

### 4. COMMERCIAL DISTRIBUTION



Commercial distributors of software may accept certain responsibilities with respect to end users, business partners and the like. While this license is intended to facilitate the commercial use of the Program, the Contributor who includes the Program in a commercial product offering should do so in a manner which does not create potential liability for other Contributors. Therefore, if a Contributor includes the Program in a commercial product offering, such Contributor ("Commercial Contributor") hereby agrees to defend and indemnify every other Contributor ("Indemnified Contributor") against any losses, damages and costs (collectively "Losses") arising from claims, lawsuits and other legal actions brought by a third party against the Indemnified Contributor to the extent caused by the acts or omissions of such Commercial Contributor in connection with its distribution of the Program in a commercial product offering. The obligations in this section do not apply to any claims or Losses relating to any actual or alleged intellectual property infringement. In order to qualify, an Indemnified Contributor must: a) promptly notify the Commercial Contributor in writing of such claim, and b) allow the Commercial Contributor to control, and cooperate with the Commercial Contributor in, the defense and any related settlement negotiations. The Indemnified Contributor may participate in any such claim at its own expense.

For example, a Contributor might include the Program in a commercial product offering, Product X. That Contributor is then a Commercial Contributor. If that Commercial Contributor then makes performance claims, or offers warranties related to Product X, those performance claims and warranties are such Commercial Contributor's responsibility alone. Under this section, the Commercial Contributor would have to defend claims against the other Contributors related to those performance claims and warranties, and if a court requires any other Contributor to pay any damages as a result, the Commercial Contributor must pay those damages.

### 5. NO WARRANTY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE PROGRAM IS PROVIDED 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. Each Recipient is solely responsible for determining the appropriateness of using and distributing the Program and assumes all risks associated with its exercise of rights under this Agreement, including but not limited to the risks and costs of program errors, compliance with applicable laws, damage to or loss of data, programs or equipment, and unavailability or interruption of operations.

### 6. DISCLAIMER OF LIABILITY

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER RECIPIENT NOR ANY CONTRIBUTORS SHALL HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), 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 OR DISTRIBUTION OF THE PROGRAM OR THE EXERCISE OF ANY RIGHTS GRANTED HEREUNDER, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

### 7. GENERAL

If any provision of this Agreement is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this Agreement, and without further action by the parties hereto, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

If Recipient institutes patent litigation against a Contributor with respect to a patent applicable to software (including a cross-claim or counterclaim in a lawsuit), then any patent licenses granted by that Contributor to such Recipient under this Agreement shall terminate as of the date such litigation is filed. In addition, if Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient's patent(s), then such Recipient's rights granted under Section 2(b) shall terminate as of the date such litigation is filed.

All Recipient's rights under this Agreement shall terminate if it fails to comply with any of the material terms or conditions of this Agreement and does not cure such failure in a reasonable period of time after becoming aware of such noncompliance. If all Recipient's rights under this Agreement terminate, Recipient agrees to cease use and distribution of the Program as soon as reasonably practicable. However, Recipient's obligations under this Agreement and any licenses granted by Recipient relating to the Program shall continue and survive.

IBM may publish new versions (including revisions) of this Agreement from time to time. Each new version of the Agreement will be given a distinguishing version number. The Program (including Contributions) may always be distributed subject to the version of the Agreement under which it was received. In addition, after a new version of the Agreement is published, Contributor may elect to distribute the Program (including its Contributions) under the new version. No one other than IBM has the right to modify this Agreement. Except as expressly stated in Sections 2(a) and 2(b) above, Recipient receives no rights or licenses to the intellectual property of any Contributor under this Agreement, whether expressly, by implication, estoppel or otherwise. All rights in the Program not expressly granted under this Agreement are reserved.

This Agreement is governed by the laws of the State of New York and the intellectual property laws of the United States of America. No party to this Agreement will bring a legal action under this Agreement more than one year after the cause of action arose. Each party waives its rights to a jury trial in any resulting litigation.

## MICROSOFT CAPICOM SOFTWARE DEVELOPMENT KIT

These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft

"updates,

"supplements,

"Internet-based services, and

"support services

for this software, unless other terms accompany those items. If so, those terms apply.

BY USING THE SOFTWARE, YOU ACCEPT THESE TERMS. IF YOU DO NOT ACCEPT THEM, DO NOT USE THE SOFTWARE.

If you comply with these license terms, you have the rights below.

1. **INSTALLATION AND USE RIGHTS.** You may install and use any number of copies of the software on your devices to design, develop and test your programs.
2. **ADDITIONAL LICENSING REQUIREMENTS AND/OR USE RIGHTS.**
  - a. **Media Elements and Templates.** You may copy and use images, clip art, animations, sounds, music, shapes, video clips and templates provided with the software and identified for such use in documents and projects that you create. You may distribute those documents and projects non-commercially. If you wish to use these media elements or templates for any other purpose, go to [www.microsoft.com/permission](http://www.microsoft.com/permission) to learn whether that use is allowed.
  - b. **Distributable Code.** The software contains code that you are permitted to distribute in programs you develop if you comply with the terms below.
  - i. **Right to Use and Distribute.** The code and text files listed below are "Distributable Code."
    - "REDIST.TXT Files. You may copy and distribute the object code form of code listed in REDIST.TXT files.
    - "Sample Code. You may modify, copy, and distribute the source and object code form of code marked as "sample."
    - "OTHER-DIST.TXT Files. You may copy and distribute the object code form of code listed in OTHER-DIST.TXT files.
    - "Third Party Distribution. You may permit distributors of your programs to copy and distribute the Distributable Code as part of those programs.
  - ii. **Distribution Requirements.** For any Distributable Code you distribute, you must
    - "add significant primary functionality to it in your programs;
    - "require distributors and external end users to agree to terms that protect it at least as much as this agreement;
    - "display your valid copyright notice on your programs; and
    - "indemnify, defend, and hold harmless Microsoft from any claims, including attorneys' fees, related to the distribution or use of your programs.
  - iii. **Distribution Restrictions.** You may not
    - "alter any copyright, trademark or patent notice in the Distributable Code;
    - "use Microsoft's trademarks in your programs' names or in a way that suggests your programs come from or are endorsed by Microsoft;
    - "distribute Distributable Code, other than code listed in OTHER-DIST.TXT files, to run on a platform other than the Windows platform;
    - "include Distributable Code in malicious, deceptive or unlawful programs; or
    - "modify or distribute the source code of any Distributable Code so that any part of it becomes subject to an Excluded License. An Excluded License is one that requires, as a condition of use, modification or distribution, that
      - "the code be disclosed or distributed in source code form; or
      - "others have the right to modify it.
3. **SCOPE OF LICENSE.** The software is licensed, not sold. This agreement only gives you some rights to use the software. Microsoft reserves all other rights. Unless applicable law gives you more rights despite this limitation, you may use the software only as expressly permitted in this agreement. In doing so, you must comply with any technical limitations in the software that only allow you to use it in certain ways. You may not
  - "work around any technical limitations in the software;
  - "reverse engineer, decompile or disassemble the software, except and only to the extent that applicable law expressly permits, despite this limitation;
  - "make more copies of the software than specified in this agreement or allowed by applicable law, despite this limitation;
  - "publish the software for others to copy;
  - "rent, lease or lend the software; or
  - "use the software for commercial software hosting services.
4. **BACKUP COPY.** You may make one backup copy of the software. You may use it only to reinstall the software.
5. **DOCUMENTATION.** Any person that has valid access to your computer or internal network may copy and use the documentation for your internal, reference purposes.
6. **TRANSFER TO A THIRD PARTY.** The first user of the software may transfer it and this agreement directly to a third party. Before the transfer, that party must agree that this agreement applies to the transfer and use of the software. The first user must uninstall the software before transferring it separately from the device. The first user may not retain any copies.
7. **EXPORT RESTRICTIONS.** The software is subject to United States export laws and regulations. You must comply with all domestic and international export laws and regulations that apply to the software. These laws include restrictions on destinations, end users and end use. For additional information, see [www.microsoft.com/exporting](http://www.microsoft.com/exporting).
8. **SUPPORT SERVICES.** Because this software is "as is," we may not provide support services for it.
9. **ENTIRE AGREEMENT.** This agreement, and the terms for supplements, updates, Internet-based services and support services that you use, are the entire agreement for the software and support services.

### 10. APPLICABLE LAW.

a. United States. If you acquired the software in the United States, Washington state law governs the interpretation of this agreement and applies to claims for breach of it, regardless of conflict of laws principles. The laws of the state where you live govern all other claims, including claims under state consumer protection laws, unfair competition laws, and in tort.

b. Outside the United States. If you acquired the software in any other country, the laws of that country apply.

11. LEGAL EFFECT. This agreement describes certain legal rights. You may have other rights under the laws of your country. You may also have rights with respect to the party from whom you acquired the software. This agreement does not change your rights under the laws of your country if the laws of your country do not permit it to do so.

12. DISCLAIMER OF WARRANTY. THE SOFTWARE IS LICENSED "AS-IS." YOU BEAR THE RISK OF USING IT. MICROSOFT GIVES NO EXPRESS WARRANTIES, GUARANTEES OR CONDITIONS. YOU MAY HAVE ADDITIONAL CONSUMER RIGHTS UNDER YOUR LOCAL LAWS WHICH THIS AGREEMENT CANNOT CHANGE. TO THE EXTENT PERMITTED UNDER YOUR LOCAL LAWS, MICROSOFT EXCLUDES THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.

13. LIMITATION ON AND EXCLUSION OF REMEDIES AND DAMAGES. YOU CAN RECOVER FROM MICROSOFT AND ITS SUPPLIERS ONLY DIRECT DAMAGES UP TO U.S. \$5.00. YOU CANNOT RECOVER ANY OTHER DAMAGES, INCLUDING CONSEQUENTIAL, LOST PROFITS, SPECIAL, INDIRECT OR INCIDENTAL DAMAGES.

This limitation applies to

"anything related to the software, services, content (including code) on third party Internet sites, or third party programs; and

"claims for breach of contract, breach of warranty, guarantee or condition, strict liability, negligence, or other tort to the extent permitted by applicable law.

It also applies even if Microsoft knew or should have known about the possibility of the damages. The above limitation or exclusion may not apply to you because your country may not allow the exclusion or limitation of incidental, consequential or other damages.

Please note: As this software is distributed in Quebec, Canada, some of the clauses in this agreement are provided below in French.

Remarque : Ce logiciel étant distribué au Québec, Canada, certaines des clauses dans ce contrat sont fournies ci-dessous en français.

EXONÉRATION DE GARANTIE. Le logiciel visé par une licence est offert "tel quel". Toute utilisation de ce logiciel est à votre seule risque et péril. Microsoft n'accorde aucune autre garantie expresse. Vous pouvez bénéficier de droits additionnels en vertu du droit local sur la protection des consommateurs, que ce contrat ne peut modifier. La ou elles sont permises par le droit locale, les garanties implicites de qualité marchande, d'adéquation à un usage particulier et d'absence de contrefaçon sont exclues.

LIMITATION DES DOMMAGES-INTÉRÊTS ET EXCLUSION DE RESPONSABILITÉ POUR LES DOMMAGES. Vous pouvez obtenir de Microsoft et de ses fournisseurs une indemnisation en cas de dommages directs uniquement à hauteur de 5,00 \$ US. Vous ne pouvez prétendre à aucune indemnisation pour les autres dommages, y compris les dommages spéciaux, indirects ou accessoires et pertes de bénéfices.

Cette limitation concerne:

"tout ce qui est relié au logiciel, aux services ou au contenu (y compris le code) figurant sur des sites Internet tiers ou dans des programmes tiers; et

"les réclamations au titre de violation de contrat ou de garantie, ou au titre de responsabilité stricte, de négligence ou d'une autre faute dans la limite autorisée par la loi en vigueur.

Elle s'applique également, même si Microsoft connaissait ou devrait connaître l'éventualité d'un tel dommage. Si votre pays n'autorise pas l'exclusion ou la limitation de responsabilité pour les dommages indirects, accessoires ou de quelque nature que ce soit, il se peut que la limitation ou l'exclusion ci-dessus ne s'appliquera pas à votre égard.

EFFET JURIDIQUE. Le présent contrat décrit certains droits juridiques. Vous pourriez avoir d'autres droits prévus par les lois de votre pays. Le présent contrat ne modifie pas les droits que vous confèrent les lois de votre pays si celles-ci ne le permettent pas.

## Daniel Stenberg COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1996 - 2009, Daniel Stenberg, daniel@haxx.se.

All rights reserved.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

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 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.

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.

## The OpenSymphony (and Quartz) Software License

All source code, binaries, documentation, and other files in the distribution of Quartz are subject to the following copyright and license agreement, unless otherwise documented:



Copyright 2004-2005 OpenSymphony

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.apache.org/licenses/LICENSE-2.0>

Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

## Prototype License

(c) 2005-2007 Sam Stephenson

Prototype is freely distributable under the terms of an MIT-style license. For details, see the Prototype web site: <http://prototype.conio.net/>

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.

## SLF4J License

SLF4J source code and binaries are distributed under the following license.

Copyright (c) 2004-2008 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.

These terms are identical to those of the MIT License, also called the X License or the X11 License, which is a simple, permissive non-copyleft free software license. It is deemed compatible with virtually all types of licenses, commercial or otherwise. In particular, the Free Software Foundation has declared it compatible with GNU GPL. It is also known to be approved by the Apache Software Foundation as compatible with Apache Software License.

## Sun Microsystems, Inc. Binary Code License Agreement

- 1. LICENSE TO USE.** Sun grants you a non-exclusive and non-transferable license for the internal use only of the accompanying software and documentation and any error corrections provided by Sun (collectively "Software"), by the number of users and the class of computer hardware for which the corresponding fee has been paid.
- 2. RESTRICTIONS.** Software is confidential and copyrighted. Title to Software and all associated intellectual property rights is retained by Sun and/or its licensors. Except as specifically authorized in any Supplemental License Terms, you may not make copies of Software, other than a single copy of Software for archival purposes. Unless enforcement is prohibited by applicable law, you may not modify, decompile, or reverse engineer Software. Licensee acknowledges that Licensed Software is not designed or intended for use in the design, construction, operation or maintenance of any nuclear facility. Sun Microsystems, Inc. disclaims any express or implied warranty of fitness for such uses. No right, title or interest in or to any trademark, service mark, logo or trade name of Sun or its licensors is granted under this Agreement.
- 3. LIMITED WARRANTY.** Sun warrants to you that for a period of ninety (90) days from the date of purchase, as evidenced by a copy of the receipt, the media on which Software is furnished (if any) will be free of defects in materials and workmanship under normal use. Except for the foregoing, Software is provided "AS IS". Your exclusive remedy and Sun's entire liability under this limited warranty will be at Sun's option to replace Software media or refund the fee paid for Software.
- 4. DISCLAIMER OF WARRANTY.** UNLESS SPECIFIED IN THIS AGREEMENT, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT THESE DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.
- 5. LIMITATION OF LIABILITY.** TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL SUN OR ITS LICENSORS BE LIABLE FOR ANY LOST REVENUE, PROFIT OR DATA, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, HOWEVER CAUSED REGARDLESS OF THE THEORY OF LIABILITY, ARISING OUT OF OR RELATED TO THE USE OF OR INABILITY TO USE SOFTWARE, EVEN IF SUN HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. In no event will Sun's liability to you, whether in contract, tort (including negligence), or otherwise, exceed the amount paid by you for Software under this Agreement. The foregoing limitations will apply even if the above stated warranty fails of its essential purpose.
- 6. Termination.** This Agreement is effective until terminated. You may terminate this Agreement at any time by destroying all copies of Software. This Agreement will terminate immediately without notice from Sun if you fail to comply with any provision of this Agreement. Upon Termination, you must destroy all copies of Software.
- 7. Export Regulations.** All Software and technical data delivered under this Agreement are subject to US export control laws and may be subject to export or import regulations in other countries. You agree to comply strictly with all such laws and regulations and acknowledge that you have the responsibility to obtain such licenses to export, re-export, or import as may be required after delivery to you.

8. U.S. Government Restricted Rights. If Software is being acquired by or on behalf of the U.S. Government or by a U.S. Government prime contractor or subcontractor (at any tier), then the Government's rights in Software and accompanying documentation will be only as set forth in this Agreement; this is in accordance with 48 CFR 227.7201 through 227.7202-4 (for Department of Defense (DOD) acquisitions) and with 48 CFR 2.101 and 12.212 (for non-DOD acquisitions).

9. Governing Law. Any action related to this Agreement will be governed by California law and controlling U.S. federal law. No choice of law rules of any jurisdiction will apply.

10. Severability. If any provision of this Agreement is held to be unenforceable, this Agreement will remain in effect with the provision omitted, unless omission would frustrate the intent of the parties, in which case this Agreement will immediately terminate.

11. Integration. This Agreement is the entire agreement between you and Sun relating to its subject matter. It supersedes all prior or contemporaneous oral or written communications, proposals, representations and warranties and prevails over any conflicting or additional terms of any quote, order, acknowledgment, or other communication between the parties relating to its subject matter during the term of this Agreement. No modification of this Agreement will be binding, unless in writing and signed by an authorized representative of each party.

JAVAHELPTM VERSION 1.1.3

### SUPPLEMENTAL LICENSE TERMS

These supplemental license terms ("Supplemental Terms") add to or modify the terms of the Binary Code License Agreement (collectively, the "Agreement"). Capitalized terms not defined in these Supplemental Terms shall have the same meanings ascribed to them in the Agreement. These Supplemental Terms shall supersede any inconsistent or conflicting terms in the Agreement, or in any license contained within the Software.

1. Software Internal Use and Development License Grant. Subject to the terms and conditions of this Agreement, including, but not limited to Section 3 (JavaTM Technology Restrictions) of these Supplemental Terms, Sun grants you a non-exclusive, non-transferable, limited license to reproduce and distribute those files specifically identified as redistributable in the Software "README" file ("Redistributables") provided that: (i) you distribute the Redistributables complete and unmodified (unless otherwise specified in the applicable README file), and only bundled as part of your Programs, (ii) you do not distribute additional software intended to supersede any component(s) of the Redistributables, (iii) you do not remove or alter any proprietary legends or notices contained in or on the Redistributables, (iv) you only distribute the Redistributables pursuant to a license agreement that protects Sun's interests consistent with the terms contained in the Agreement, and (v) you agree to defend and indemnify Sun and its licensors from and against any damages, costs, liabilities, settlement amounts and/or expenses (including attorneys' fees) incurred in connection with any claim, lawsuit or action by any third party that arises or results from the use or distribution of any and all Programs and/or Software.

2. License to Distribute Redistributables. In addition to the license granted in Section 1 (Software Internal Use and Development License Grant) of these Supplemental Terms, subject to the terms and conditions of this Agreement, including but not limited to Section 3 (Java Technology Restrictions) of these Supplemental Terms, Sun grants you a non-exclusive, non-transferable, limited license to reproduce and distribute those files specifically identified as redistributable in the Software "README" file ("Redistributables") provided that: (i) you distribute the Redistributables complete and unmodified (unless otherwise specified in the applicable README file), and only bundled as part of your Programs, (ii) you do not distribute additional software intended to supersede any component(s) of the Redistributables, (iii) you do not remove or alter any proprietary legends or notices contained in or on the Redistributables, (iv) you only distribute the Redistributables pursuant to a license agreement that protects Sun's interests consistent with the terms contained in the Agreement, and (v) you agree to defend and indemnify Sun and its licensors from and against any damages, costs, liabilities, settlement amounts and/or expenses (including attorneys' fees) incurred in connection with any claim, lawsuit or action by any third party that arises or results from the use or distribution of any and all Programs and/or Software.

3. Java Technology Restrictions. You may not modify the Java Platform Interface ("JPI", identified as classes contained within the "java" package or any subpackages of the "java" package), by creating additional classes within the JPI or otherwise causing the addition to or modification of the classes in the JPI. In the event that you create an additional class and associated API(s) which (i) extends the functionality of the Java platform, and (ii) is exposed to third party software developers for the purpose of developing additional software which invokes such additional API, you must promptly publish broadly an accurate specification for such API for free use by all developers. You may not create, or authorize your licensees to create, additional classes, interfaces, or subpackages that are in any way identified as "java", "javax", "sun" or similar convention as specified by Sun in any naming convention designation.

4. Java Runtime Availability. Refer to the appropriate version of the Java Runtime Environment binary code license (currently located at <http://www.java.sun.com/jdk/index.html>) for the availability of runtime code which may be distributed with Java applets and applications.

5. Trademarks and Logos. You acknowledge and agree as between you and Sun that Sun owns the SUN, SOLARIS, JAVA, JINI, FORTE, and iPLANET trademarks and all SUN, SOLARIS, JAVA, JINI, FORTE, and iPLANET-related trademarks, service marks, logos and other brand designations ("Sun Marks"), and you agree to comply with the Sun Trademark and Logo Usage Requirements currently located at <http://www.sun.com/policies/trademarks>. Any use you make of the Sun Marks inures to Sun's benefit.

6. Source Code. Software may contain source code that is provided solely for reference purposes pursuant to the terms of this Agreement. Source code may not be redistributed unless expressly provided for in this Agreement.

7. Termination for Infringement. Either party may terminate this Agreement immediately should any Software become, or in either party's opinion be likely to become, the subject of a claim of infringement of any intellectual property right.

For inquiries please contact: Sun Microsystems, Inc. 901 San Antonio Road, Palo Alto, California 94303

(LFI#114197/Form ID#011801)

JAVAHELPTM VERSION 1.1.3

### SUPPLEMENTAL LICENSE TERMS

These supplemental license terms ("Supplemental Terms") add to or modify the terms of the Binary Code License Agreement (collectively, the "Agreement"). Capitalized terms not defined in these Supplemental Terms shall have the same meanings ascribed to them in the Agreement. These Supplemental Terms shall supersede any inconsistent or conflicting terms in the Agreement, or in any license contained within the Software.

1. Software Internal Use and Development License Grant. Subject to the terms and conditions of this Agreement, including, but not limited to Section 3 (JavaTM Technology Restrictions) of these Supplemental Terms, Sun grants you a non-exclusive, non-transferable, limited license to reproduce internally and use internally the binary form of the Software complete and unmodified for the sole purpose of designing, developing and testing your Java applets and applications intended to run on the Java platform ("Programs").

2. License to Distribute Redistributables. In addition to the license granted in Section 1 (Software Internal Use and Development License Grant) of these Supplemental Terms, subject to the terms and conditions of this Agreement, including but not limited to Section 3 (Java Technology Restrictions) of these Supplemental Terms, Sun grants you a non-exclusive, non-transferable, limited license to reproduce and distribute those files specifically identified as redistributable in the Software "README" file ("Redistributables") provided that: (i) you distribute the Redistributables complete and unmodified (unless

otherwise specified in the applicable README file), and only bundled as part of your Programs, (ii) you do not distribute additional software intended to supersede any component(s) of the Redistributables, (iii) you do not remove or alter any proprietary legends or notices contained in or on the Redistributables, (iv) you only distribute the Redistributables pursuant to a license agreement that protects Sun's interests consistent with the terms contained in the Agreement, and (v) you agree to defend and indemnify Sun and its licensors from and against any damages, costs, liabilities, settlement amounts and/or expenses (including attorneys' fees) incurred in connection with any claim, lawsuit or action by any third party that arises or results from the use or distribution of any and all Programs and/or Software.

3. **Java Technology Restrictions.** You may not modify the Java Platform Interface ("JPI", identified as classes contained within the "java" package or any subpackages of the "java" package), by creating additional classes within the JPI or otherwise causing the addition to or modification of the classes in the JPI. In the event that you create an additional class and associated API(s) which (i) extends the functionality of the Java platform, and (ii) is exposed to third party software developers for the purpose of developing additional software which invokes such additional API, you must promptly publish broadly an accurate specification for such API for free use by all developers. You may not create, or authorize your licensees to create, additional classes, interfaces, or subpackages that are in any way identified as "java", "javax", "sun" or similar convention as specified by Sun in any naming convention designation.

4. **Java Runtime Availability.** Refer to the appropriate version of the Java Runtime Environment binary code license (currently located at <http://www.java.sun.com/jdk/index.html>) for the availability of runtime code which may be distributed with Java applets and applications.

5. **Trademarks and Logos.** You acknowledge and agree as between you and Sun that Sun owns the SUN, SOLARIS, JAVA, JINI, FORTE, and iPLANET trademarks and all SUN, SOLARIS, JAVA, JINI, FORTE, and iPLANET-related trademarks, service marks, logos and other brand designations ("Sun Marks"), and you agree to comply with the Sun Trademark and Logo Usage Requirements currently located at <http://www.sun.com/policies/trademarks>. Any use you make of the Sun Marks inures to Sun's benefit.

6. **Source Code.** Software may contain source code that is provided solely for reference purposes pursuant to the terms of this Agreement. Source code may not be redistributed unless expressly provided for in this Agreement.

7. **Termination for Infringement.** Either party may terminate this Agreement immediately should any Software become, or in either party's opinion be likely to become, the subject of a claim of infringement of any intellectual property right.

For inquiries please contact: Sun Microsystems, Inc. 901 San Antonio Road, Palo Alto, California 94303

(LFI#114197/Form ID#011801)

## zlib.h

interface of the 'zlib' general purpose compression library, version 1.2.3, July 18th, 2005

Copyright (C) 1995-2005 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 [jloup@gzip.org](mailto:jloup@gzip.org)

Mark Adler [madler@alumni.caltech.edu](mailto:madler@alumni.caltech.edu)

## Sam Stephenson - Individual license

Copyright (c) 2014 Sam Stephenson

Copyright (c) 2014 Josh Peek

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.

## GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 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 Lesser 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 generally.

## 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

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) <year> <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., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 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) year 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 Lesser General Public License instead of this License.

## HAAX

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1996 - 2014, Daniel Stenberg, daniel@haxx.se.

All rights reserved.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

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 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.

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.

© Copyright 2014 Symphony Teleca, Corporation or its subsidiaries. All rights reserved. All information contained in this document is confidential and proprietary to Symphony Teleca, Corporation and may not be disclosed, reproduced, used, modified, made available, used to create derivative works, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise, by or to any person or entity without the express written authorization of Symphony Teleca, Corporation. In consideration for receipt of this document, the recipient agrees to treat this document and its contents as confidential and agrees to fully comply with this notice. This document refers to numerous products by their trade names. In most, if not all, cases their respective companies claim these designations as Trademarks or Registered Trademarks. This document and the related software described herein are supplied under license agreement or nondisclosure agreement and may be used or copied only in accordance with the terms of such agreement. The information in this document is subject to change without notice and does not represent a commitment on the part of Symphony Teleca, Corporation. Contact Symphony Teleca, Corporation Customer Support to verify the date of the latest version of this document. The names of companies and individuals used in the sample database and in examples in the manuals are fictitious and are intended to illustrate the use of the software. Any resemblance to actual companies or individuals, whether past or present, is purely coincidental. Symphony Teleca, Corporation reserves all copyrights, trademarks, patent rights, trade secrets and all other intellectual property rights in this document, its contents and the software described herein.

IBM is the trademark or registered trademark of International Business Machines Corporation in the United States, other countries, or both.

ITIL® is a registered trademark, and a registered community trademark of the Office of Government Commerce, and is registered in the U.S. Patent and Trademark Office, and is used here by BMC Software, Inc., under license from and with the permission of OGC.

Linux is the registered trademark of Linus Torvalds.

Oracle is a registered trademark of Oracle Corporation.

Sun and Sun ONE are trademarks or registered trademarks of Sun Microsystems, Inc., in the U.S. and other countries.

UNIX is the registered trademark of The Open Group in the US and other countries.