

関西支部発表部屋 Feb 26, 2011

AOSPにContributeしてみた 野望篇

C-LIS

有山圭二 (有限会社シリーズ 代表)

AOSP

Android Open Source Project

貢献

Contribute

AOSPにパッチを送る

■ repo - ソースコード取得ソフトウェア

Installing Repo

Repo is a tool that makes it easier to work with Git in the context of Android. For more information about Repo, see [Using Repo and Git](#).

To install, initialize, and configure Repo, follow these steps:

1. Make sure you have a bin/ directory in your home directory, and that it is included in your path:
\$ mkdir ~/bin
\$ PATH=~/bin:\$PATH
2. Download the Repo script and ensure it is executable:
\$ curl http://android.git.kernel.org/repo > ~/bin/repo
\$ chmod a+x ~/bin/repo

Initializing a Repo client

After installing Repo, set up your client to access the android source repository:

1. Create an empty directory to hold your working files:
\$ mkdir *directory*
\$ cd *directory*
2. Run repo init to bring down the latest version of Repo with all its most recent bug fixes. You must specify a URL for the manifest, which specifies where the various repositories included in the Android source will be placed within your working directory.
\$ repo init -u git://android.git.kernel.org/platform/manifest.git
To check out a branch other than "master", specify it with -b:
\$ repo init -u git://android.git.kernel.org/platform/manifest.git -b cupcake
3. When prompted, please configure Repo with your real name and email address. To use the Gerrit code-review tool, you will need an email address that is connected with a [registered Google account](#). Make sure this is a live address at which you can receive messages. The name that you provide here will show up in attributions for your code submissions.

A successful initialization will end with a message stating that Repo is initialized in your working directory. Your client directory should now contain a .repo directory where files such as the manifest will be kept.

■ ソースコードの取得

```
$ repo init -u git://android.git.kernel.org/platform/manifest.git
Getting repo ...
  from git://android.git.kernel.org/tools/repo.git
remote: Counting objects: 1230, done.
remote: Compressing objects: 100% (551/551), done.
remote: Total 1230 (delta 786), reused 1075 (delta 657)
Receiving objects: 100% (1230/1230), 344.65 KiB | 154 KiB/s, done.
Resolving deltas: 100% (786/786), done.
From git://android.git.kernel.org/tools/repo
* [new branch]   maint    -> origin/maint
<中略>
* [new tag]      v1.7.3.1  -> v1.7.3.1
From git://android.git.kernel.org/tools/repo
* [new tag]      v1.0      -> v1.0
<中略>
* [new tag]      v1.7.3    -> v1.7.3
Getting manifest ...
  from git://android.git.kernel.org/platform/manifest.git
remote: Counting objects: 669, done.
remote: Compressing objects: 100% (292/292), done.
remote: Total 669 (delta 258), reused 618 (delta 237)
Receiving objects: 100% (669/669), 177.13 KiB | 93 KiB/s, done.
Resolving deltas: 100% (258/258), done.
From git://android.git.kernel.org/platform/manifest
* [new branch]   android-1.5 -> origin/android-1.5
<中略>
* [new tag]      android-sdk-tools_r7 -> android-sdk-tools_r7
From git://android.git.kernel.org/platform/manifest
* [new tag]      android-1.0 -> android-1.0
```

```
Your Name [Keiji Ariyama]: Keiji Ariyama
Your Email [keiji_ariyama@c-lis.co.jp]: keiji_ariyama@c-lis.co.jp
```

```
Your identity is: Keiji Ariyama <keiji_ariyama@c-lis.co.jp>
is this correct [y/n]? y
```

```
repo initialized in /home/keiji_ariyama/src/android
```

■ ソースコードの取得

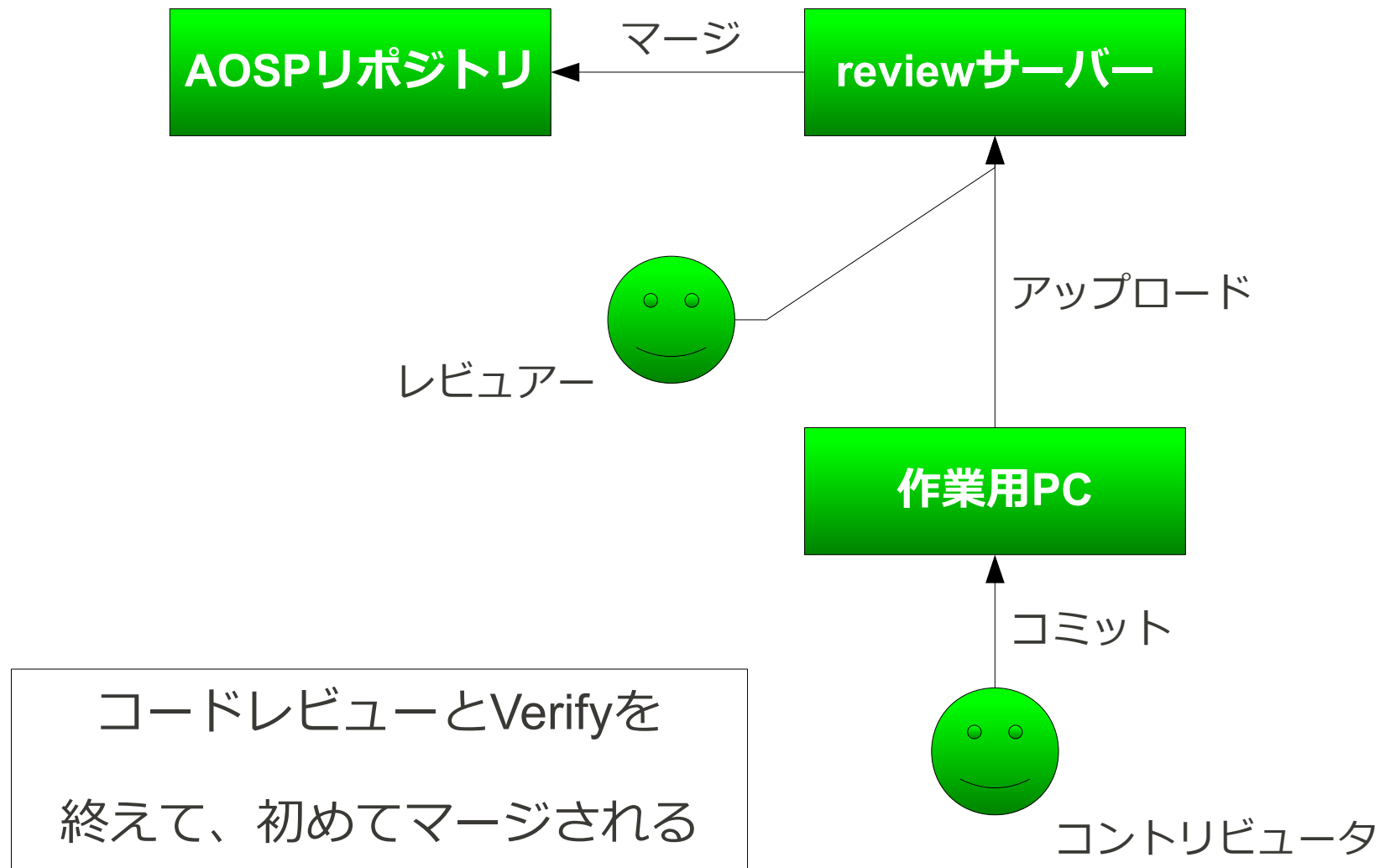
\$ repo init

\$ repo sync

■ ソースコードのアップロード

\$ repo upload

■ reviewサーバーへアップロード



Googleが開発した コードレビューシステム

status:open | review.s... x Get Android Source C... x

https://review.source.android.com/#q,status:open,n,z

All Documentation Register Sign In

Open Merged Abandoned status:open Search

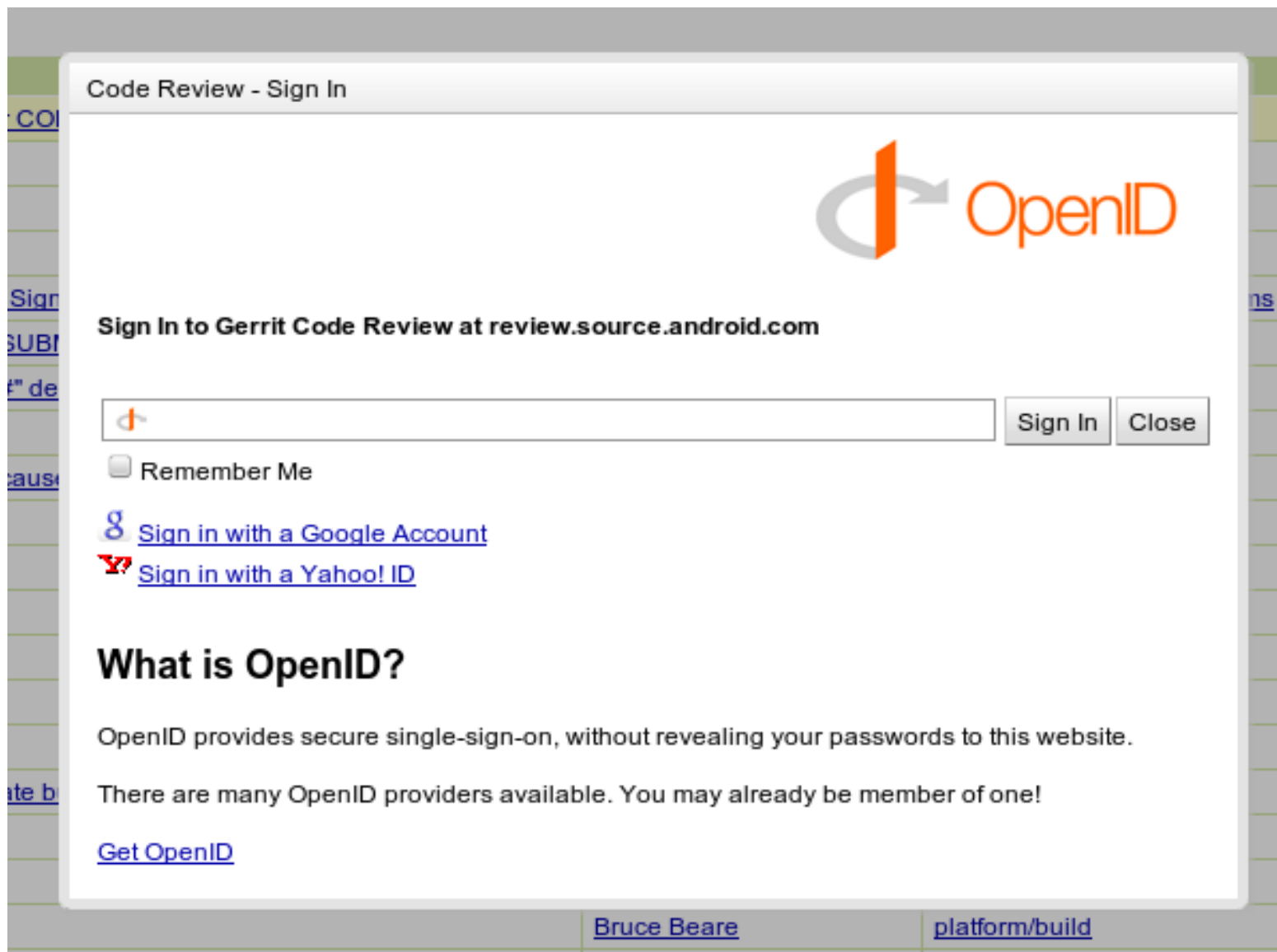
ANDROID
open source project



Search for status:open

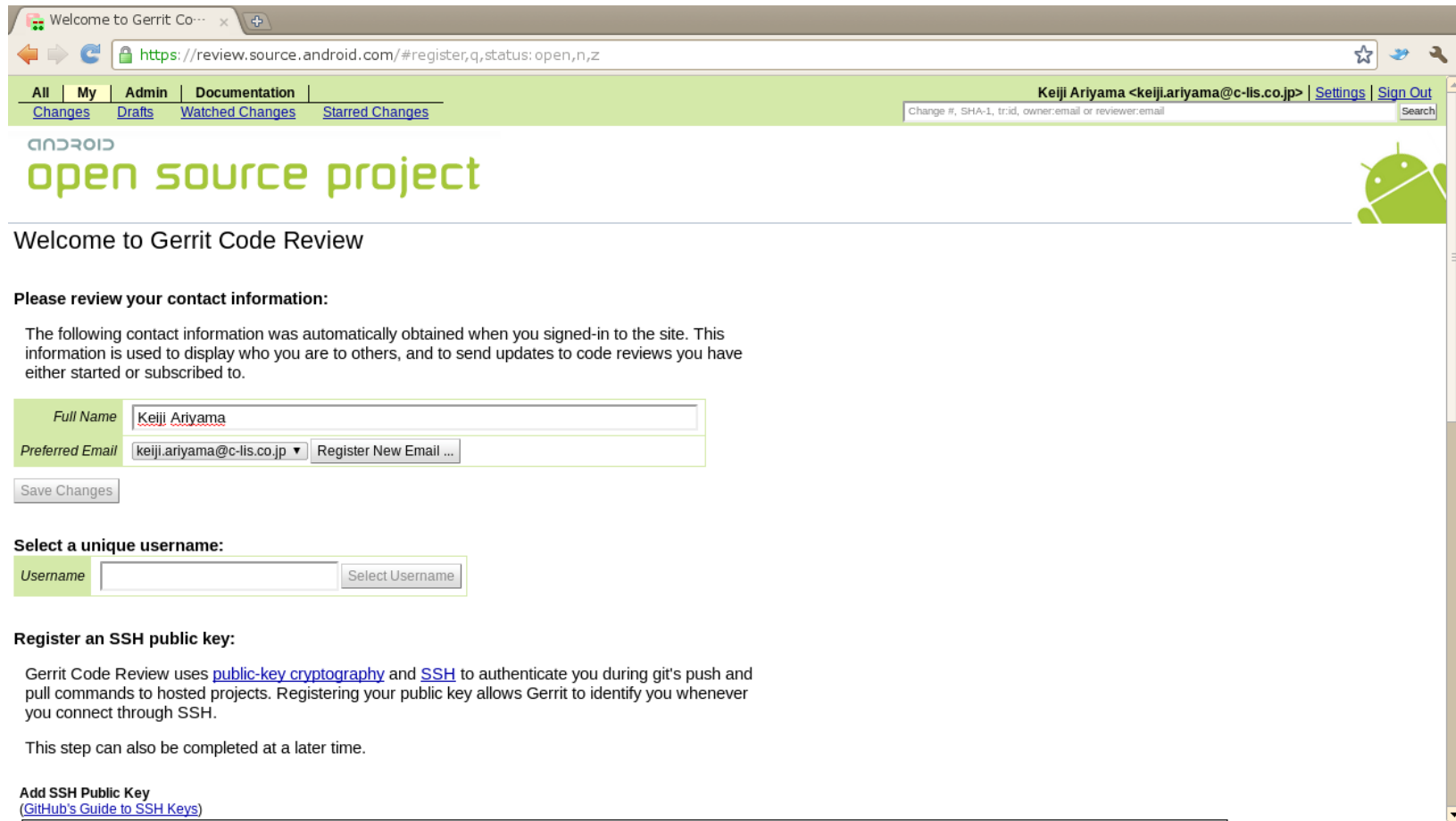
ID	Subject	Owner	Project	Branch	Updated	V	R
▶ Ibee7ab5d	Enable possibility to register for ACTION_HEADSET_PLUG statically	Kenneth Andersson	platform/frameworks/base	master	11:28 PM		
I5196fffc	Adding the format type of FAT12/16 for SD card	Johan Redestig	platform/system/vold	master	11:27 PM		
I400736ea	consoleearlysuspend: Fix compilation break for CONSOLE_EARLYSUSPEND	Dan Murphy	kernel/omap	android-omap-2.6.38	11:10 PM		+1
I9712be09	Add worker thread to DnsProxyListener	Johan Redestig	platform/system/netd	master	10:58 PM		
Iccc131a0	gemu: Document the nvram file format	Jaime A Lopez-Sollano	platform/external/gemu	master	10:07 PM		-1
I7d440488	Bug fixes of DRM framework.	Takeshi Aimi	platform/frameworks/base	master	9:58 PM		
Ib9f0a760	Fixing Korean string for "failed to add media" Signed-off-by: Sang-Jun Park <sj2	SANG JUN PARK	platform/packages/apps/Mms	gingerbread	8:19 PM		
Ib86373d0	Upstream: Cherry-pick TCG bugfixes for PPC (SUBMITTED)	Marcus Comstedt	platform/external/gemu	master	8:05 PM	✓	✓
Id993b5c7	Fix for supporting USSD code that including "#" delimiter like ""400#DIGIT#" An	SANG JUN PARK	platform/frameworks/base	gingerbread	7:42 PM		
Iecd49ca7	The display density between different screens cause the cases RatingBarTest#test	Zhao Binbin	platform/cts	eclair	6:38 PM		
Id5691b43	3D keycode Add	LGE AOSP	platform/frameworks/base	master	4:38 PM		✗
I3884ef7c	Adding the format type of FAT12/16 for SD card	Johan Redestig	platform/system/core	master	4:12 PM		
I252dc53e	3D keycode add	LGE AOSP	platform/frameworks/base	gingerbread	3:40 PM		✗
I7c4c32a6	Fix : NANP on using Japanese Locale.	Nao Tanaka	platform/cts	master	2:03 PM		
I4cd74369	panda: change machine name to omap4430	vikram pandita	kernel/omap	android-omap-2.6.38	1:11 PM		+1
I1fc3cb49	x86: qemu emulator is the default build target	Bruce Beare	platform/build	master	12:10 PM		-1
Icff81a75	x86: Add in the VirtualBox emulator as a separate build target	Bruce Beare	platform/build	master	11:54 AM		-1
Ie1f70a22	x86: Add vold.fstab to mount the SD card	Jun Nakajima	platform/system/core	master	11:09 AM		+1
Icd5d79a8	msm: clock: Support one lock per clock	Stephen Boyd	kernel/experimental	android-msm-2.6.37-wip	11:05 AM		-1
I083c1afc	x86: Use GCC 4.4.3	Bruce Beare	platform/build	master	11:00 AM		+1
I1ca76186	msm: clock-pcom: Don't enable/disable 'always on' clocks	Stephen Boyd	kernel/experimental	android-msm-2.6.37-wip	10:03 AM		✓
I8a7a3cd5	Change test string without a space character	Masanori Ogino	platform/cts	froyo	9:33 AM		
I31bf2031	Command line support for DNS ipaddr and port	rich cunnings	platform/external/gemu	master	9:29 AM		✓
I7586719f	Bump Version Number to 2.3_r2	Brian Muramatsu	platform/cts	gingerbread	7:38 AM		
Ihfr2e6ff	Fix Gingerbread MDPI drawables	Riörn Lundén	platform/frameworks/base	gingerbread	6:58 AM		✓

■ OpenIDでサインイン



The image shows a dialog box titled "Code Review - Sign In". At the top right is the OpenID logo, which consists of a grey circular arrow and the word "OpenID" in orange. Below the logo, the text reads "Sign In to Gerrit Code Review at review.source.android.com". There is a text input field containing a small orange icon, followed by "Sign In" and "Close" buttons. Below the input field is a "Remember Me" checkbox. Underneath are two links: "Sign in with a Google Account" (with a Google 'G' icon) and "Sign in with a Yahoo! ID" (with a Yahoo! 'Y!' icon). A section titled "What is OpenID?" follows, with the text: "OpenID provides secure single-sign-on, without revealing your passwords to this website." and "There are many OpenID providers available. You may already be member of one!". At the bottom of this section is a link "Get OpenID". The dialog box is overlaid on a page with a footer containing the text "Bruce Beare" and "platform/build".

■ 初期登録 - 名前とユーザー名

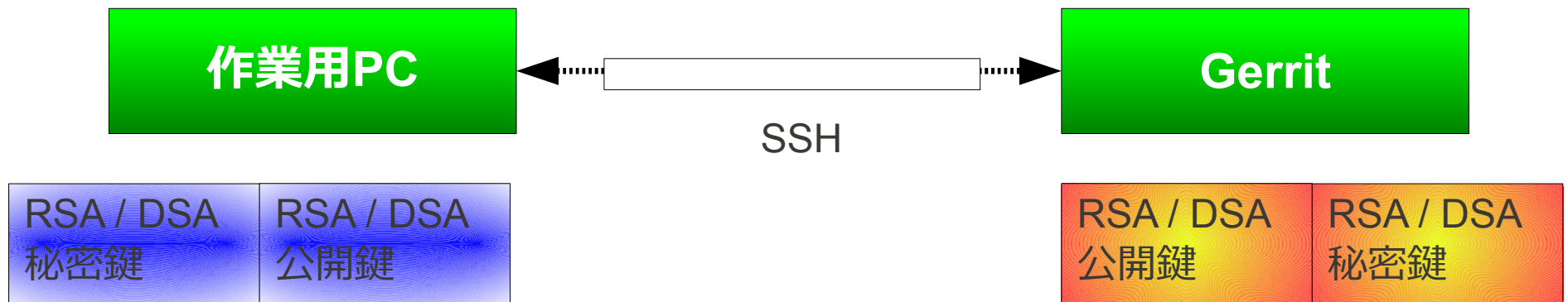


The screenshot shows the registration page for Gerrit Code Review. The browser address bar shows the URL: <https://review.source.android.com/#register,q,status:open,n,z>. The page header includes navigation links: All, My, Admin, Documentation, Changes, Drafts, Watched Changes, Starred Changes. The user is logged in as Keiji Ariyama <keiji.ariyama@c-lis.co.jp> with links for Settings and Sign Out. The main heading is "open source project" with the Android logo. The content area says "Welcome to Gerrit Code Review" and "Please review your contact information:". It explains that contact information is used for displaying the user and sending updates. There are input fields for "Full Name" (Keiji Ariyama) and "Preferred Email" (keiji.ariyama@c-lis.co.jp) with a "Register New Email ..." button. A "Save Changes" button is below. The "Select a unique username:" section has an empty "Username" field and a "Select Username" button. The "Register an SSH public key:" section explains that Gerrit uses public-key cryptography and SSH for authentication and that this step can be completed later. It includes a link for "Add SSH Public Key" and a reference to "GitHub's Guide to SSH Keys".

Usernameは、Gerrit全体に対して一意。なるべく、自分がrepo init時に入力したメールアドレスの名前の部分と合わせる
例えば、**keiji_ariyama@c-lis.co.jp**だとkeiji_ariyama。

SSH鍵交換

■ SSHのpublicキー(公開鍵)を交換する



■ 公開鍵の生成

```
$ ssh-keygen -t rsa -C "keiji_ariyama@c-lis.co.jp"
```

```
$ ssh-keygen -t dsa -C "keiji_ariyama@c-lis.co.jp"
```

<http://help.github.com/linux-key-setup/>

Settings → SSH Public Keys

The screenshot shows a web browser window with the URL `https://review.source.android.com/#settings,ssh-keys`. The page header includes navigation links for 'All', 'My', 'Admin', and 'Documentation', along with a user profile for 'Keiji Ariyama <keiji.ariyama@c-lis.co.jp>'. The main content area is titled 'Settings' and features a sidebar with links to 'Profile', 'Preferences', 'Watched Projects', 'Contact Information', 'SSH Public Keys', 'HTTP Password', 'Identities', 'Groups', and 'Agreements'. The 'SSH Public Keys' section is highlighted, showing a large empty text area for adding a new key, outlined in red. Below this area are buttons for 'Clear', 'Open Key ...', and 'Add'. The 'Server Host Key' section displays the fingerprint `d1:08:4f:37:ea:6a:f2:05:ba:3f:c5:02:b6:67:a1:d3` and the entry for `~/.ssh/known_hosts`: `review.source.android.com:29418 ssh-rsa AAAAB3NzaC1yc2EAAAABIwAAAQEAq0...xqZBu6Iw==`.

Settings | review.sour... x

https://review.source.android.com/#settings,ssh-keys

All My Admin Documentation
[Changes](#) [Drafts](#) [Watched Changes](#) [Starred Changes](#)

Keiji Ariyama <keiji_ariyama@c-lis.co.jp> | [Settings](#) | [Sign Out](#)

status:open Search

ANDROID open source project



Settings

- [Profile](#)
- [Preferences](#)
- [Watched Projects](#)
- [Contact Information](#)
- [SSH Public Keys](#)
- [HTTP Password](#)
- [Identities](#)
- [Groups](#)
- [Agreements](#)

Status	Algorithm	Key	Comment
<input type="checkbox"/>	ssh-rsa	AAAAB3NzaC1yc2EAAAABIwAAQEAwb...SImXsFSQ==	Keiji_Ariyama@gmail.com
<input type="checkbox"/>	ssh-dss	AAAAB3NzaC1kc3MAAACBAJf8r2tb3e...1cp2HYrg==	keiji_ariyama@feynman

Delete Add Key ...

Server Host Key

Fingerprint:
d1:08:4f:37:ea:6a:f2:05:ba:3f:c5:02:b6:67:a1:d3

Entry for ~/.ssh/known_hosts:
review.source.android.com:29418 ssh-rsa AAAAB3NzaC1yc2EAAAABIwAAQEAq0...xqZBu6Iw==

Server Host Key

Fingerprint:
a8:61:90:f7:ed:a0:dc:46:cd:94:d5:a7:f2:47:fc:17

Entry for ~/.ssh/known_hosts:
review.source.android.com:29418 ssh-dss AAAAB3NzaC1kc3MAAACBAMhDf8Eb6b...XI5WMVD/Za

Press '?' to view keyboard shortcuts
Powered by [Gerrit Code Review](#) (2.1.6.1) | [Report Bug](#)

https://www.google.com/accounts/o8/id

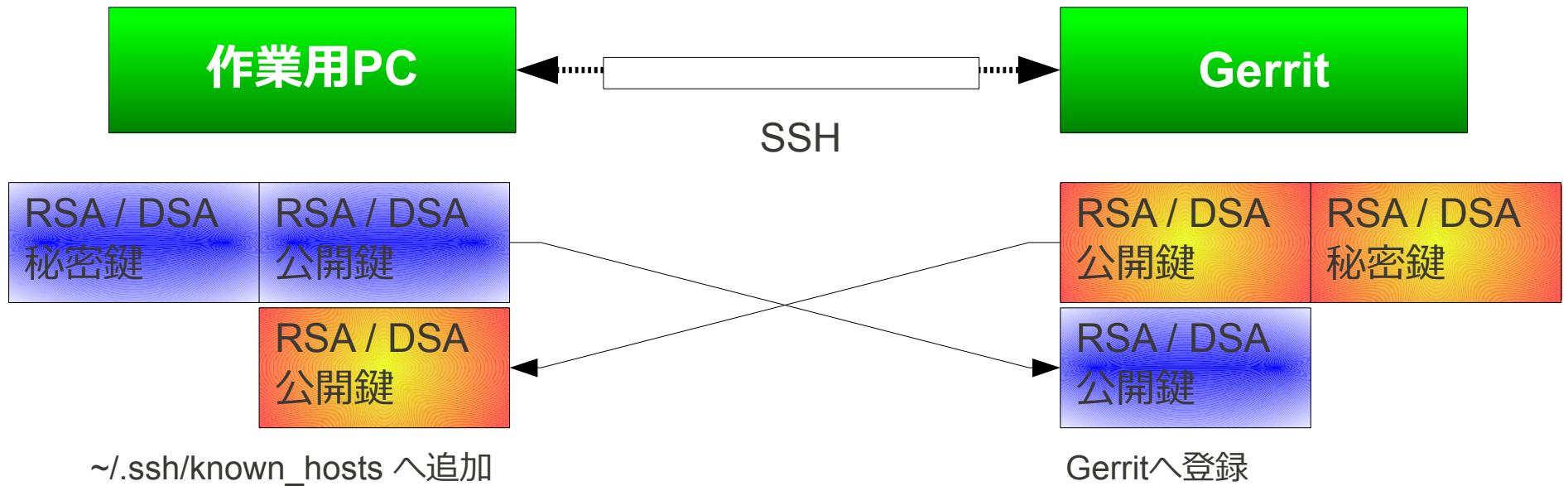
■ reviewサーバーの公開鍵

```
review.source.android.com:29418 ssh-rsa
AAAAB3NzaC1yc2EAAAABIwAAAQEAq0dre0S2WsKfBrK8p+VQZtYKh2BzxWfzJfAbg
VY5OgKrxP2Tuo67GXfcjRmmBErJ39+eJNO6e+AoJSO2BEfTNqsGqvZiafsjMN995WG
0qfKFQnM2Gsc2qLVFA4htSRno2wh5xKXyWFY+FNJp+HHglSoZWnGTCWItQDf/BgS
pKTUnpMHYkvqmwnZ6rSf5Us/ppkC8OtH62YloAWByrSghonUEyXjtARvDMQ8cmVgx
vtMSJm/aNqHPwEHa4nxl5QEcglgj8N+y5wRzsSmaT+zfbtl6p5vcbZHZGk5wWw71aKB
lfbAyF7AlrIXZoSt9GrljHAEcl6trlJ/l8xqZBu6lw==
```

```
review.source.android.com:29418 ssh-dss
AAAAB3NzaC1kc3MAAACBAMhDf8Eb6buV4v+AJhw8f91/CG1tlbsQQYyJljY99ciQKk
NwZL6oi3i1gdD/wLjNWyliUhrk2F1rfxmBBMMt69voDe9XAIWRTIkGcLIbS7CEoogj0W
HvTrXTFQdho+qh9i74nN1yyftg8U5PA2Te8c3Ld3bvrAvCHnZ0jdc/8jPAAAAAFQC7p0Y
OXnidZ6/Kc6SfhmgjduRbqQAAAIEAn4rZm8F08fP0vyRBdTNj8CWfZ0dOlwYX0scuIT8
dLZOiQ5SuY3IJlmUcbgLzrR3ZFB3iZjo9llcybgQ7QF1Nzotv7EWI+lm7FXQKZyH6G1jg
gXweL9/z4hvqxbYYCQw1W3S9Q12gmprYIPQn8jIPD8HJQcb8s1oIlcHp1hZG0LMAAA
CBALxccZxUgR53li7l8ulhZQsvpvFSh/vQcdLOOpvX3lftdVuCdumVCrBhb0JZKCZFiJw
HQsdczIEDU21c9Fa1K+RMJZVYfPzGSiAkFapDIAychHP4bg9p7cF+Sm6LNXjnSHcLR
VV0n3Fh1Lb+p8JFWkdJ2hJWeh1u5/aXI5WMVD/Za
```

~/.ssh/known_hosts ^追加

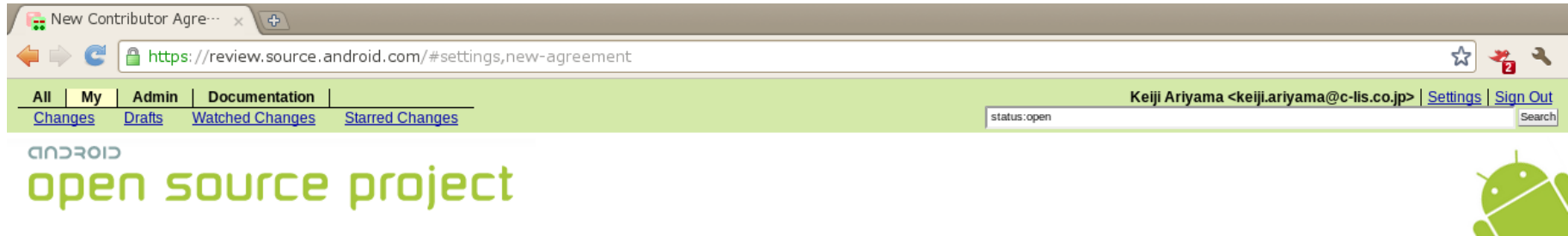
■ 交換完了



Agreementの提出

ソースコードをAOSPへサブミットする
規約を確認して、同意する

■ Agreementの提出



New Contributor Agreement

Select an agreement type:

Corporate

If you are going to be contributing code on behalf of your company, this is the one you want. We'll give you a form that will need to be printed, signed and sent back via post, email or fax.

Individual

If you are going to be contributing code on your own, this is the one you want. You can sign this one online.

Press '?' to view keyboard shortcuts
Powered by [Gerrit Code Review](#) (2.1.6.1) | [Report Bug](#)

Agreementは2種類
Corporate（会社）と、Individual（個人）

■ 個人の場合

6. You are not expected to provide support for Your Contributions, except to the extent You desire to provide support. You may provide support for free, for a fee, or not at all. Unless required by applicable law or agreed to in writing, You provide Your 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.

7. Should You wish to submit work that is not Your original creation, You may submit it to the Project Leads separately from any Contribution, identifying the complete details of its source and of any license or other restriction (including, but not limited to, related patents, trademarks, and license agreements) of which you are personally aware, and conspicuously marking the work as "Submitted on behalf of a third-party: [named here]".

8. You agree to notify the Project Leads of any facts or circumstances of which you become aware that would make these representations inaccurate in any respect.

Review your contact information:

Full Name

Preferred Email

The following offline contact information is stored encrypted.

Contact information will only be made available to administrators if it is necessary to reach you through non-email based communication. Received data is stored encrypted with a strong public/private key pair algorithm, and this site does not have the private key. Once saved, you will be unable to retrieve previously stored contact details.

Mailing Address

Country

Phone Number

Fax Number

Complete the agreement:

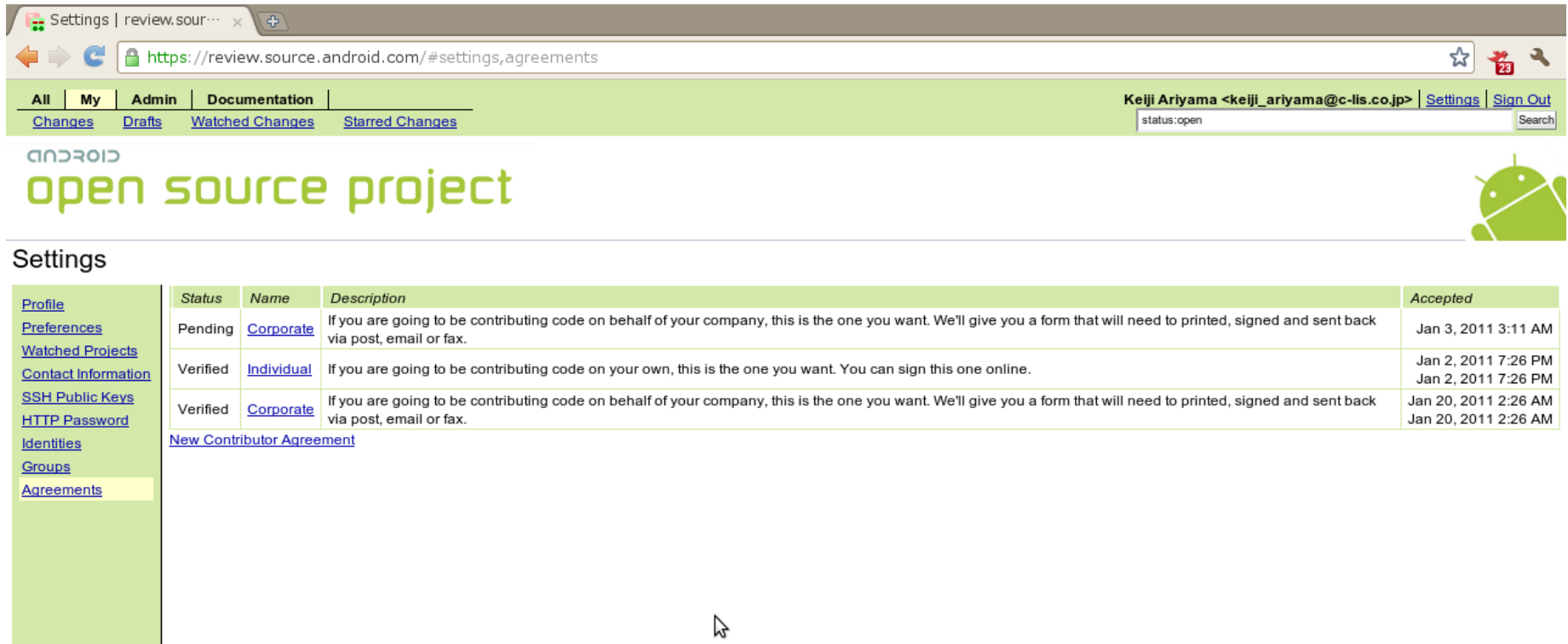
(enter I AGREE in the box to the left)

Complete the agreement:

(enter I AGREE in the box to the left)

Press "?" to view keyboard shortcuts
Powered by [Gerrit Code Review](#) (2.1.6.1) | [Report Bug](#)

■ Agreementの提出完了



The screenshot shows a web browser window with the URL <https://review.source.android.com/#settings,agreements>. The page header includes navigation links for 'All', 'My', 'Admin', and 'Documentation', and a user profile for 'Keiji Ariyama <keiji_ariyama@c-lis.co.jp>'. The main content area is titled 'Settings' and features a sidebar with links to 'Profile', 'Preferences', 'Watched Projects', 'Contact Information', 'SSH Public Keys', 'HTTP Password', 'Identities', 'Groups', and 'Agreements'. The 'Agreements' section contains a table with the following data:

Status	Name	Description	Accepted
Pending	Corporate	If you are going to be contributing code on behalf of your company, this is the one you want. We'll give you a form that will need to be printed, signed and sent back via post, email or fax.	Jan 3, 2011 3:11 AM
Verified	Individual	If you are going to be contributing code on your own, this is the one you want. You can sign this one online.	Jan 2, 2011 7:26 PM Jan 2, 2011 7:26 PM
Verified	Corporate	If you are going to be contributing code on behalf of your company, this is the one you want. We'll give you a form that will need to be printed, signed and sent back via post, email or fax.	Jan 20, 2011 2:26 AM Jan 20, 2011 2:26 AM

Below the table is a link for 'New Contributor Agreement'. The footer of the page includes the text 'Press ? to view keyboard shortcuts' and 'Powered by [Gerrit Code Review](#) (2.1.6.1) | [Report Bug](#)'.

IndividualのAgreementは即座にVerifyに

手続きは全てWebから可能

■ ソースコードのアップロード

\$ repo upload

実 践

会社としてのAgreementの提出とか
最近のContributeの傾向とか
Gerrit上の面白い人たちとか
まだまだ色々お話ししたいけど、、、

もう時間がありません

次回

AOSPにコントリビュートしてみた
風雲編

をお楽しみに！！

■ おまけ

Gerritに登録したUsernameが、
登録メールアドレスの名前部分と異なる場合

```
git config --global review.review.source.android.com.username=[username]
```

ご清聴ありがとうございました。

本資料は、**有限会社シーリス**の著作物であり、
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