Phase II - Completed

Phase ii is the public phase of the pilot running until the end of March 2013. If you want to participate, please, contact the project coordinator at TERENA, Peter Szegedi (szegedi@terena.org).

Discussion mailing list (cloud-pilot@terena.org) has been set up for Phase ii. Pilot participants can subscribe to the list here.

How to participate

There are three ways to participate.

- **Bring your test users and try out the TERENA installation of the service.** The platform is federated, all the national federations are connected as well as the guest federations such us Google, Facebook, etc. So, if you have e.g., a Google account you can try this service out. Please do note that, due to service restrictions, all the actual test users must be whitelisted. For the procedure to be whitelisted please contact Peter Szegedi (szegedi@terena.org)

  Get access to the TERENA installation and go to https://tc2.terena.org

- **Attach your own storage back-end to the platform installed at TERENA Offices.** Currently, the service uses a local file system at TERENA Offices and it has the possibility to store encrypted data in the Amazon S3 cloud. If you want to connect your own storage back-end, you have to develop the bridge between the cloud broker platform and your data storage facility. For the interface/protocol description and detailed technical information please participate in the mailing list discussion.

  Check out the preliminary service delivery scenarios.

- **Get familiar with the code.** The code is open source written in Scala and runs on top of the JVM. You can get familiar with the code step by step. We provide a single downloadable VM image, we also provide the clone of the TERENA system installation (on 2 VMs, with federated access), and you can go to Github for the source code and documentation. Use the Google group for questions.

Get familiar with the code

The aim is to gradually build up a community with developers who will eventually become "co-owners" of the code. It is expected that the potential co-owners' organisations contribute to the code maintenance and development with man-power and/or money. There is a three-step approach to get familiar with the code (it is also a kind of selection process).

STEP 0) Try the service out (the TERENA installation) - Your account must be white-listed.

STEP 1) Downloadable development VMware images (Metadata store, WebDAV server, Website) - Ubuntu 12.04 LTS Server with openJDK 6, MySQL, cadaver (ZIP file) and Readme (TXT file).

STEP 2) Source code and documentation is available on Github under Apache Licenses, Version 2.0. There is limited free support via the Google group. Pilot participants (PSNC, BELNET) also contribute to an Installation Guide. TERENA has its own Github space where the Trusted Cloud Drive project is forked (temporarily) and Github users (developers) can be added to the team https://github.com/terena

Documentation

The full documentation is available at Github (main branch) Wiki.

List of test installations

Organisation	Contact person	Status	Installation
TERENA	Peter Szegedi Dick Visser	Installed on two VMs. **Done by Maarten Koopmans (lead developer), part of the TERENA pilot Phase i.**	(public) https://tc2.terena.org
PSNC	Maciej Brzeniak	Installed on one single server Code security and some performance tests will be done.	(test)
BELNET	Mario Vandaele Jean-Philippe Evrard	Installed on one single server for the moment. *Priority for the on-going national storage infrastructure tendering at BELNET*	(private)

CESNET	Jakub Peisar	Installed on a) one single VM b) multiple VMs (see the Installation Guides) Next on the agenda is performance testing. For this I will try to get the data when using 1-3 WebDAV daemon nodes. I will try to scale the WebDAV daemon, put a load balancer before the nodes and do some performance tests. **Performance tests are done! Results are here.**	(test) http://clouddriveswebserver1.du1.cesnet.cz:8080/ **20/12/2012**
Srce/CARNet	Damir Zagar Nikola Garafolic	*to be planned* Migration form GSS to (maybe) Cloud Drive.	
FCCN	João Pagaime	Installed and tested the software locally, on a Cent OS 6.2 It seems to be working, although it has a few rough edges that I have to look deeper.	(private)
CESCA	Lorenzo J. Cubero	Installed Part of Lorenzo's internship at CESCA and his thesis. Software development efforts can be contributed. **Jclouds API will be implemented at the back-end and performance tests will be done by the end of 2012**	(dev)
RNP	Gui Maluf	Installed Working with prof. Roberto Samarone Araújo and prof. Jeroen Van de Graaf within a similar project, and we're planning to make a bridge between OpenStack Swift and TERENA cloud broker. **OpenStack S3 API development at the back-end.** *Fortunately the aaws library is open source. So I got the code, changed the constant S3_HOSTNAME, regenerate the Constant.class and put it inside the jar, changed the /etc/rightfabric/config.txt to use storage = s3, restart all services, but looks like it is using local filesystem instead of trying to make the s3 connection!* *Am I doing something wrong?* *Handy hint for using s3 libraries to connect to OpenStack Swift. A while back, AWS changed the way the S3 endpoints work. Previously, buckets lived at s3.amazonaws.com/bucket, whereas after the change they now live at a subdomain: bucket.s3.amazonaws.com For this reason, modifying some of the libraries and tools to work with OpenStack Swift's S3 endpoint (which doesn't do the DNS smarts) is not easily possible with current versions.* *This may not be the issue you're experiencing, but if odd things are happening, keep it in mind.* ▪ Basic protocol is working (put. get, delete, etc.) Waiting for employee authorization to publish the code on Github. **OpenStack Java SDK was used for connecting the Swift installation and doing the back-end process to TCD. It is contributed to TERENA Github. TCD integration with RNP's OpenStack Swift based cloud storage infrastructure is planned.**	(dev) 06/02/2013 **06/03/2013**
GRNET	Christos Loverdos	Installed on Pithos+ GRNET will be integrating the Trusted Cloud Drive with the Pithos+ storage service that we have developed. Christos has been working with GRNET on Okeanos, our overall cloud storage service, and more specifically on its accounting components, written in Scala. He is an expert in Scala. **OpenStack / Pithos+ interface to the cloud broker platform.** • The Pithos+ interface is in a very good shape and almost complete. I have stumbled across a few issues with the existing Cloud Drive codebase and I had sent a relevant email a while ago. Live demo of the Cloud Drive integration with GRNET's production Pithos+ service will be done at TF-Storage. **Integration is done, contributed to TERENA Github, demonstrated at TF-Storage** **http://www.terena.org/activities/tf-storage/ws14/slides/20130306-Pithos-CloudDrive.pdf**	(dev) 07/02/2013 **06/03/2013**

List of pilot participants

The following organisations expressed their interest in the pilot (as of 18 June):

Organisation	Contact person(s) ✅ - *accounts provisioned*	Initial interest
NRENs		
AARnet Australia	Guido Aben ✅	Certainly any high latency tests you might want to perform are well entrusted to us.
ACOnet	Kurt Bauer ⚠️ ✅ Christian Panigl ⚠️ Arsen Stasic ⚠️✅	We'll start with - Bring your test users but probably will also try to - Attach your own storage back-end later. ⚠️ access problem
ARNES	Jernej Porenta Peter Kacin ✅	We are interested in Terena Trusted cloud drive pilot. From our side, Peter Kacin (cc) will be the guy to talk to, so please add both of us to the mailing list.
BELNET	Mario Vandaele Jean-Philippe Evrard Dirk Dupont ✅	Ongoing tendering and procurement of storage hardware. Universities might want to install the TERENA Cloud Drive to provide storage service on top of the raw storage capacity.
CARNet	Branko Radojevic Valentin Vidic Marko Furic	
CESNET	Jakub Peisar ✅	CESNET is willing to install an instance of the Cloud Drive for experimental purposes.
CSC	Sami Saarikoski ✅ Sormunen Toni	Try out
DFN	Ralf Groeper ✅	Try out
ERNET India	Praveen Misra	I had been exploring different opportunities of collaborating on the cloud technologies and found interest in cloud pilot. Do let me know if its possible and feasible for us to get involved with this initiative.

FCCN	João Pagaime ✅	At this stage we looking for information for a possible more official commit in the future. As far as the reasons go, we already use filesender and are happy with it, and we see interest from the community on storage services beyond commercial available services. The planned contribution is to test the software, set up a test storage backend and generally participate on the initiative (it's worth to mention that we don't have dedicated resources devoted for this. That is to say that we would have difficulty on doing resource hungry taks. We're evaluating installing the cloud platform at our location for experimental purposes (01/10/2012) I have an idea about how this could work on the NREN (probably on a pilot), but I'm not sure about it's feasibility: - can we have a central installation on the NREN (FCCN) and have the NREN institutions participate with the raw storage? - if so, how would the NREN institutions make available the storage to the central installation? does it make sense to use, for instance, a gluster-fs? does the TERENA Trusted Cloud Drive already have some software module to do that? theoretically we could configure special network conditions for the shared file-system within the NREN (20/11/2012) Saying that, a scala driver that dispatches users to their "home institution" is indeed a very nice feature. Specially after a pilot phase, if things start to scale up.
GRNET	Panos Louridas Christos Loverdos	We are interested in participating, and our focus will be in the following item from the Phase II description: Attach your own storage back-end to the platform installed at TERENA Offices Specifically, to attach our own OpenStack-derived platform as a storage back-end. Concerning GRNET, our efforts will focus on providing a bridge to connect from the GRNET storage service (Pithos+) to the cloud pilot. Right now the Cloud Pilot includes support for Amazon S3 and JClouds; we use an OpenStack compatible API, so we will be going for an OpenStack / Pithos+ interface to the cloud interface.
HEAnet	Glenn Wearen ⚠️ Robert Hackett	We would be interested but resources are a problem and the priority is our own storage project currently. ⚠️ access problem
NIIF	Ivan Marton ✅ Szabolcs Székelyi ✅	An instance might be run by a Hungarian university. To be investigated.
PSNC	Maciej Brzeniak ✅✅ Stanisaw Jankowski ✅ Dariusz Janny ✅✅ Pawel Berus ✅	We might offer some test storage resources controlled by OpenStack Swift and/or plug into your system some WebDAV enabled storage. In addition we might spend some hours on reviewing the code and/or penetration testing of your pilot installation. SECURITY AUDIT; Our current plans regarding the local installation include: - doing some stress / functional testing - checking if your solution will work with S3-enabled OpenStack swift - performing a security audit (I am adding Gerard and Pawel from security department in CC) access problems SOLVED 👍 ***Congratulations to PSNC for the first installation of the tool at an NREN location!***
RedIRIS	Antonio Fuentes Bermejo	Currently we are driving our efforts to bring cloud services, and we are studying what kind of cloud services could be offered to the RedIRIS Research community.
RENATER	Jean-François Guezou ✅ Robert Ferret ✅	We, at RENATER, would like to test the trusted cloud drive. 👍 Access problem solved by adding RENATER IdP to the TERENA wayf page.
RNP Brazil	Roberto Araujo Giu Maluf ✅	Recently, we constructed a cloud storage based on the OpenStack Swift. We took a look on the phase 2 webpage and noted that it is possible to integrate other clouds to the TERENA Trusted Cloud Drive. We are interested in integrating our cloud to your solution. Thus, we would like to know what are the requisites for this. 💡 **OpenStack Swift S3 test/development**

SURFnet	Rogier Spoor Andres Steijaert François Kooman	SURFnet is running a pilot with Unhosted.org. It has the priority to federate the service and make more and more applications available under the service. In a later phase, integration with TERENA Cloud Drive might be considered.
SWITCH	Patrik Schnellmann Christian Rohrer ✅ Alessandro Usai ✅ Michael Stuecheli Alessandra Scicchitano ✅	We are interested for the following reason: Higher Education Users are increasingly asking for a cloud shared storage. I'm thinking about students, but also researchers and teaching staff may be interested in this. We are evaluating which solution could address the need of users best in the future. The TTCD is one possibility and I'm interested about the future developments in that project and the uptake of other NRENs of TTCD, how they see the place of a service based on the TTCD in their portfolio.
Universities		
École Polytechnique Fédérale de Lausanne	Carlos Aguado	I am part of the Blue Brain Project, based at EPFL. Our long-term goal is to build a facility to help the worldwide community of neuroscientists work in the understanding of the brain and its processes. My understanding of this second phase of the pilot is that will enable secure cloud-like sharing based on established federations and this sounds very interesting to me. Especially from the perspective of federations and how insightful could be for us in moving towards our long-term goals.
Newcastle University	Caleb Racey ✅	
University of Melbourne	Tom Fifield ✅	
University of Malta	Dave Mifsud	
University of Porto	Sérgio Afonso ✅ Rui Ramos ✅ José António ✅Sousa Paulo Carvalho✅	We at the University of Porto are very interested in participating in this TERENA Trusted Cloud Drive. For now we would like to have access to it and maybe in the future we can contribute with some storage space, if needed.
Università Roma TRE	Vincenzo Praturlon ✅ ✅	We would be glad to join in, but first we need to discuss our involvement within our it staff. At the moment it is not clear what could be the outcome of a pilot in our university. It could be a federated service offered by us to the IDEM community, or it could be just an experimentation, possibly picked up by the federation itself for production (as happened for filesender). We are trying to have a clue of the efforts required to contribute to the project in a significant amount. The most reasonable target for a pilot within phase II would be to provide a small storage quota on Amazon to a few partner institutions and try to share some data. This would simplify, I guess, the "local" requirements. At that point we would be in position to decide whether to provide a back-end or pass it to the federation. I will try to scout this idea, but before "formally" committing I will have to put together some of the skills required.
Aristotle University of Thessaloniki	Savvas Th. Anastasiades Dimitris Zacharopoulos ✅	Try out access problem SOLVED 👍
University of Vienna	Martin Koelbl	
Other		
Scre	Damir Zagar ✅ Nikola Garafolic ✅	I will get back on Monday with details in what parts we'll get involved (and will find some human-ware available). Srce is running a storage service based on GRNET's GSS. GSS won't be supported by GRNET any more. Srce is looking for migrations options. TERENA Trusted Cloud Drive could be an option (being evaluated).

CESCA	Jordi Guijarro Lorenzo J. Cubero ✅	In this second phase, we can initially collaborate providing feedback from our constituency test users and after attaching our own storage backend. I would really like to collaborate in the project developing some part/s. I thought about connecting the pilot to a cdmi-proxy. Or develop the jcloud missing part. (On 10th October I will attend to an Adrian Cole's [jcloud founder] meeting http://bitethecloud-eorg.eventbrite.com/ in Barcelona) CESCA will provide the infrastructure needed to make a local installation of the cloud platform. 💡**Jclouds API development and test**
CERN	Martin Hellmich Giacomo Tenaglia ✅	To share the information and open source code of the DAV client developed by CERN. The client must be tested with the TERENA Trusted Cloud Drive platform. 💡 **Here is, as promised, a link to our DAV client DAVIX.** This one points to the source https://svnweb.cern.ch/trac/lcgdm/browser/davix (check it out with svn co http://svn.cern.ch/guest/lcgdm/lcg-dm/davix) this one to the documentation https://svnweb.cern.ch/trac/lcgutil/wiki/davix I copied the main developer, Adrien, in, so now you also get his email address for questions and/or bug reports.
TERENA Sec	Peter Szegedi ✅✅ Licia Florio ✅ John Dyer ✅	**Service coordinator**
Vrijheid.net	Maarten Koopmans ✅ ✅	**Lead developer**

Commercial interest

Company	Contact person	Note
PowerFolder	Christian Sprajc	TCD integration...
OwnCloud	Christian Schmitz	TCD integration...
Joyent	Marco Meinardi	Resell Joyent service/infrastructure
Box.net	Valerie Focke	Interest in TCD.
Dell Inc.	Brett Emmerton	General interest
Google	Grainne Emma Phelan	General interest concerning Google Apps for EDU
Amazon	Carly Buwalda	Fall Quarter 2012 Research Grants submission... Resubmission in 2013.