
	<p>OPAALS PROJECT</p> <p>Contract n° FP6-034824</p>
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WP10: Sustainable Community Building

D10.4 – A demonstration implementation of the OKS Technical Platform

	<p>Project funded by the European Community under the “Information Society Technology” Programme</p>
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Contract Number : FP6-034824

Project Acronym : OPAALS

Deliverable N° : 10.4

Due date : Month 12, June 2007

Delivery Date : Month 12, June 2007

Short Description : An overview of the OKS Desktop platform.

Author : TechIDEAS

Partners contributed : Techideas, IITK

Made available to : OPAALS Consortium and European Community

Versioning

Version	Date	Name, organization
1	10/05/2007	Thibaud Desodt - TechIDEAS

Quality check

Internal Reviewers: Paul Krause, UniS, UK

Dependences:

Work Packages	Indicate which WP could benefit from this Deliverables and if possible with planned tasks, including a clear justification
Partners	indicate which partner could benefit from the reading of this deliverable
Domains	specify the scientific domains involved in this deliverables and clarify to which extend they are covered by this report
Targets	specify which is the target of this deliverable (Domain researchers, public administrations, SMEs, Scientific communities on specific domains, etc.)



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The content of this document is available on the Opaals wiki (<http://wiki.opaals.org/WP10-D10.4>)

D10.4 - A demonstration implementation of the OKS technical platform

Author : [Thibaud Desodt](#) (TechIDEAS)

This [deliverable](#) is part of the [10th Workpackage](#) ("[Sustainable Community Building](#)") of the Opaals project. In this article, you can find an overview of the OKS Desktop, the tool that has been developed for collaboration among the participants of the Opaals project. This article is a compilation of several other articles about the OKS, mainly written by [Jordi.Sanchez](#).

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Presentation

Introduction

OKS Desktop is intended to be the single point for accessing to the OKS Community knowledge (tools/data). The main goal to be achieved with the OKS Desktop is to enable the most suitable set of mechanisms to the OKS Community members for collaborating in a very productive way.

Features

In this sense, OKSDesktop has to provide the following features for collaborating:

- Communication, from the casual conversation to the measured discussions
- Sharing information and data
- Sharing processes
- Sharing context
- Presence and activity awareness

All of these features have to be allowed in the following scenarios:

- Anytime: Offline and Online work (Transparent synchronization)
- Anywhere: Behind firewalls, corporate networks and world wide web
- Anyelse: Intuitive and easy to use

Architecture

The OKSDesktop is based on [Eclipse platform](#), this gives to the OKSDesktop a platform independence nature. In this sense, the OKSDesktop is a [Rich Client Platform application](#) which runs on top of different operating systems virtualized through a [Java Virtual Machine](#).

[OKSDesktop Architecture](#) article

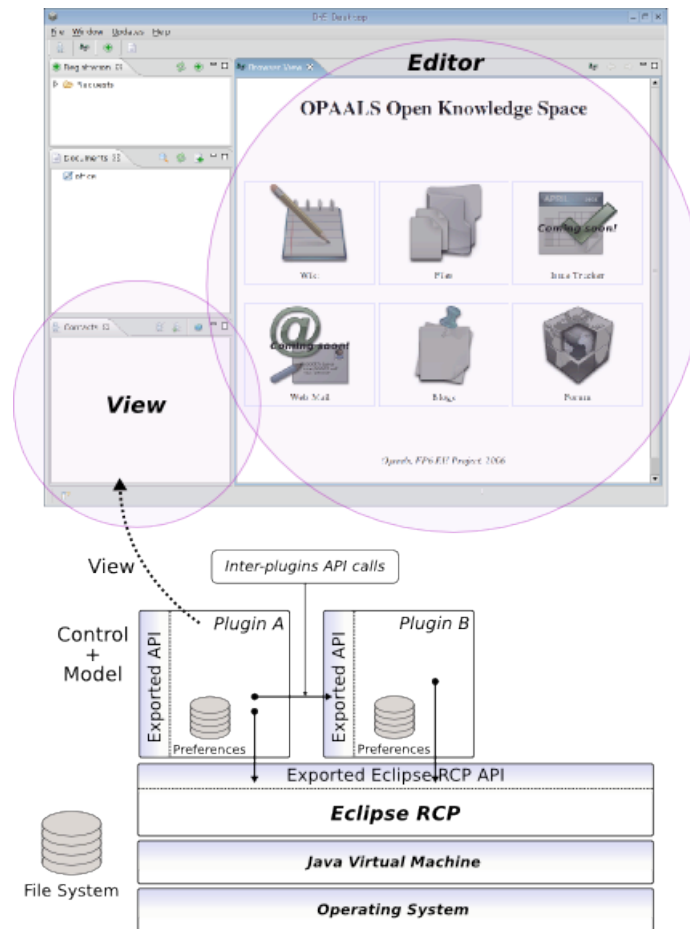


Illustration 1: The OKS Desktop Architecture

This technology provides to the solution the following characteristic per-se:

- Multiplatform (Java based):
- Extensible (based on plugins)
- Common look and feel (improve the intuitiveness)

Implementation

Since OKS Desktop is an Eclipse based tool, this bunch of applications can grow via new **plugins** and **components** which the collaborators can download easily in the OKS Desktop application. The OKSDesktop is divided into two main parts:

- **Base:** The base is composed by the main and required functionality like the Update Manager. . In this group it is present the Communication layer plugin, and the Browser Plugin.
- **Tools:** The plugins that are optional and it are not required for the proper functioning of the OKS Desktop. In this group we have the Documents Plugin, File Manager Plugin, Visualization Plugin, [WorkSpaces](#) Plugin, etc...

There may be **dependencies** between these plugins. Some of "Tools" plugins use the functionality provided by the "Base" plugins. For instance, Documents Plugin, File Manager Plugin or [WorkSpaces](#) Plugin requires the usage of the Communication Plugin in order to talk with the remote repository/tool.

Base Plugins

Update Manager

The Update Manager is in charge to search for new and updated extensions (plugins) and provide to the user the wizards for perform the related actions (search/manage/install)

Communication layer

The communication layer provides the base functionalities for internal and external communications of the application. It is currently based on the [XMPP](#) protocol, which is a XML-based messaging protocol.

Browser plugin

The Browser plugin provides a browser window which is used for using all the web-based OKS Tools (wiki, blog, forums, etc)

[More about the Browser Plugin...](#)

Instant Messaging

This plugin allows the validated user to communicate with other validated users. It is based in the open source jabber technology.

[More about the Instant Messaging plugin.](#)

Extra Plugins

Register Plugin

This plugin allows a new opaals collaborator to gain access to the [Open Knowledge Space](#) by creating a user account that allows him to access all the OKS tools.

[More about the Register plugin](#)

Workspaces / OpenOffice Integration Plugin

This plugin was designed to allow a user to share documents with other users for collaboration among workspaces.

[More about the OpenOffice.org integration plugin](#)

[More about workspaces](#)

Visualization

For visualisation purposes, the OKS also proposes a SVG plugin which allows the user to see SVG images. SVG is an image format based on XML. Therefore, it can be used by machines to generate graphics.

Integration with other OKS tools

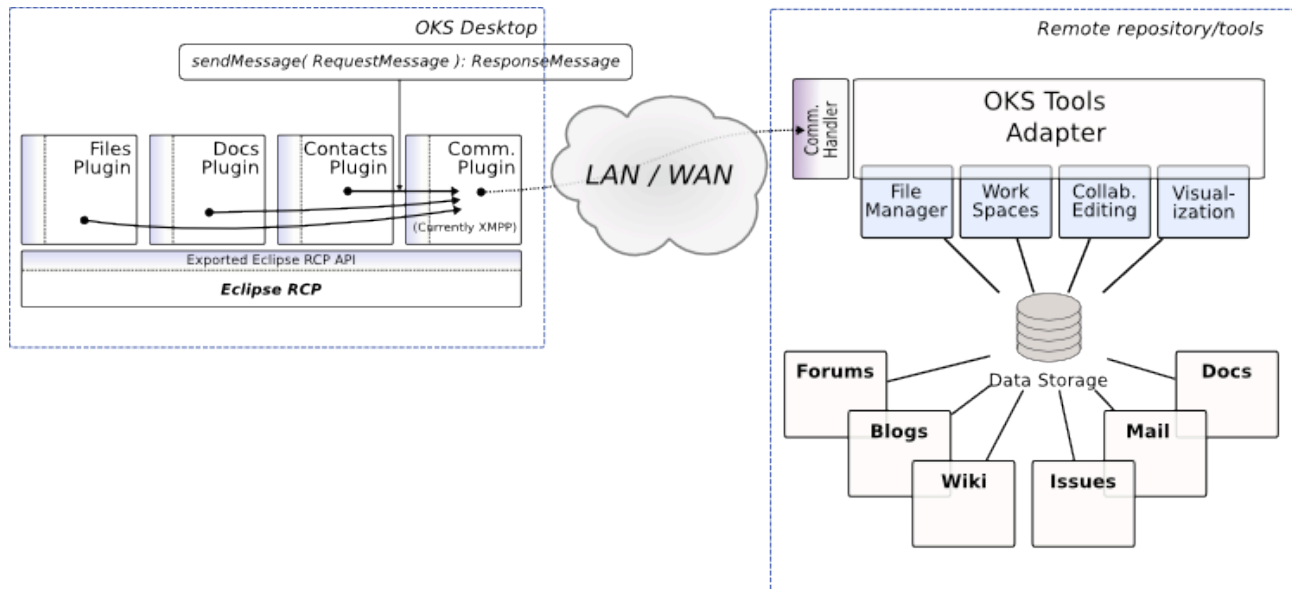


Illustration 2: Integration of the OKS Desktop within the OKS

How to

This section is a compilation of help topics dealing with the use of OKS Desktop.

Installation

First Installation

To download OKS Desktop first you have to select the platform you will install it:

- Linux: [release 1.04](#)
- Windows: [release 1.04](#) (with bundled JRE)
- MacOSX (PPC): [release 1.04](#)

Once downloaded the OKS Desktop zip file you only have to unzip it into the final directory where you want it installed. It is the same for all three distributions.

Once you have it installed, run the oksdesktop application.

After the splash image you'll get the welcome page.

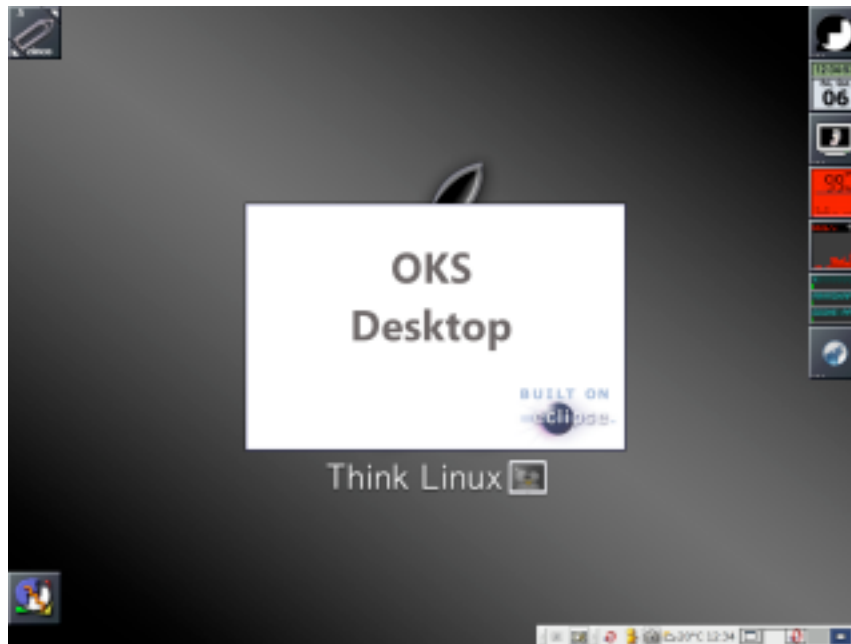


Illustration 3: Splash screen

Updating

At this point you have access to the OKS services such as Wiki, Forums, File Repository, Blogs but only to the public view. If you want to gain full access to the OKS services you must be a registered user. To register you have to download and install the OKS Registration Plugin from the Update menu.

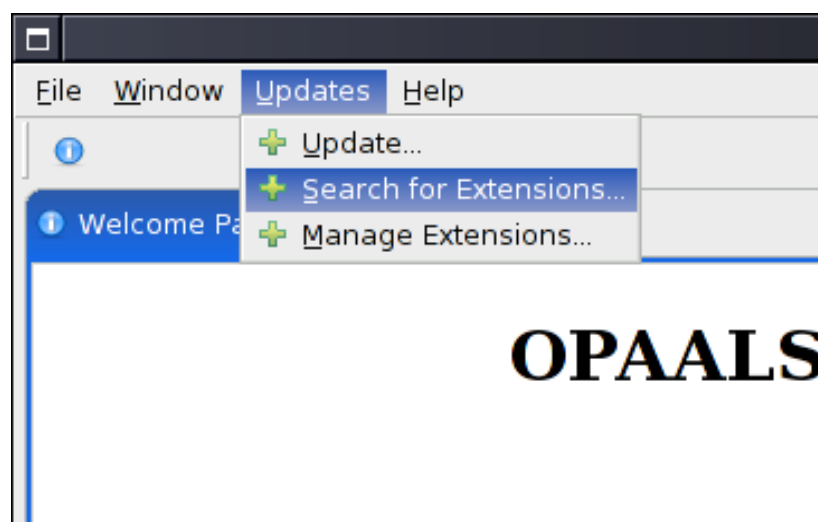


Illustration 4: Updating process

In the update manager dialog, you can choose the updates, plugins and new features you want to install. XMPPLayer will let you communicate via IM with your contacts in opaals.org as in **gaim** or other jabber client. OKSRegistration is the component you need to create an account on the OKS. In [How to use OKS Registration](#) we will explain the steps you must follow to register in the OKS. If you already have an OKS validated account you don't need to download this feature.

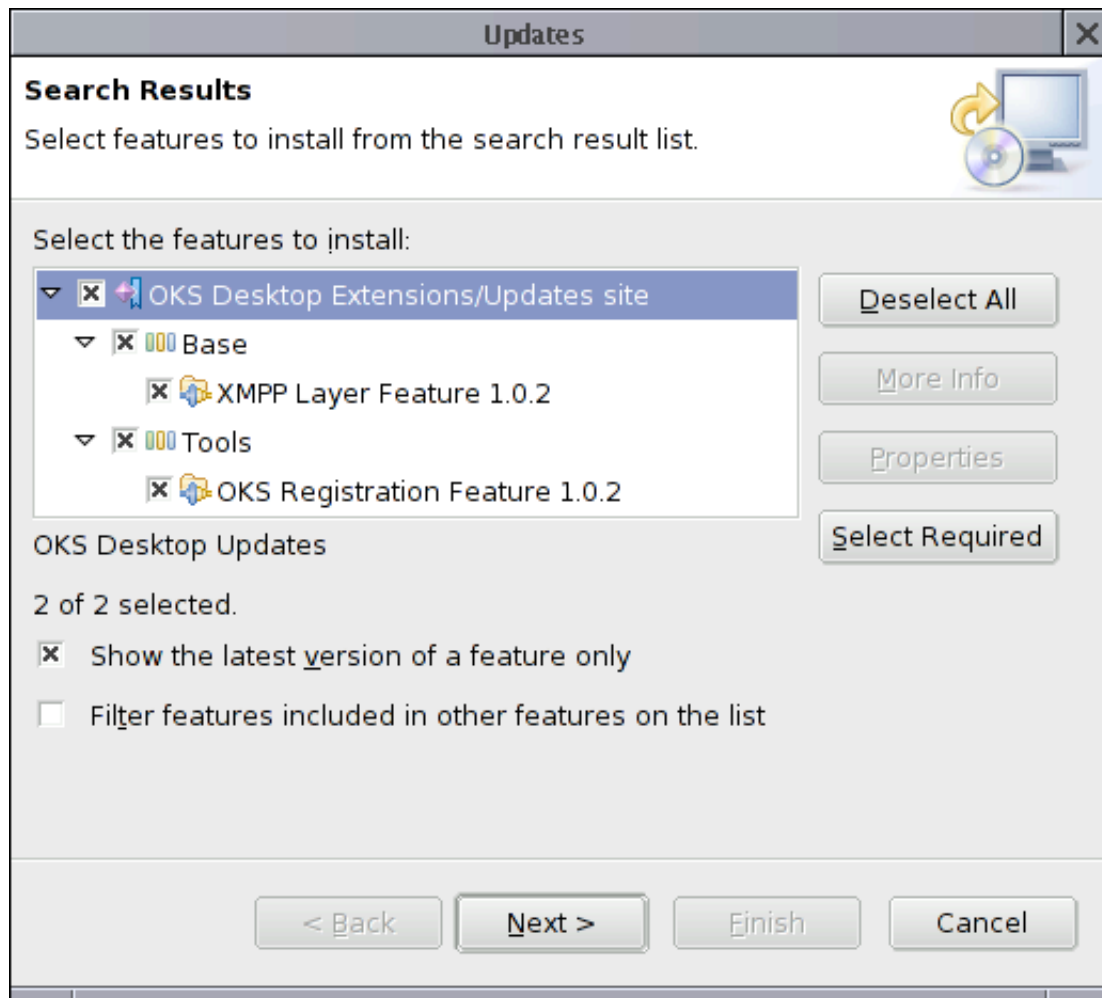


Illustration 5: Searching for updates

Here you must select the features you want to update

The next step is to accept the terms of license agreement.

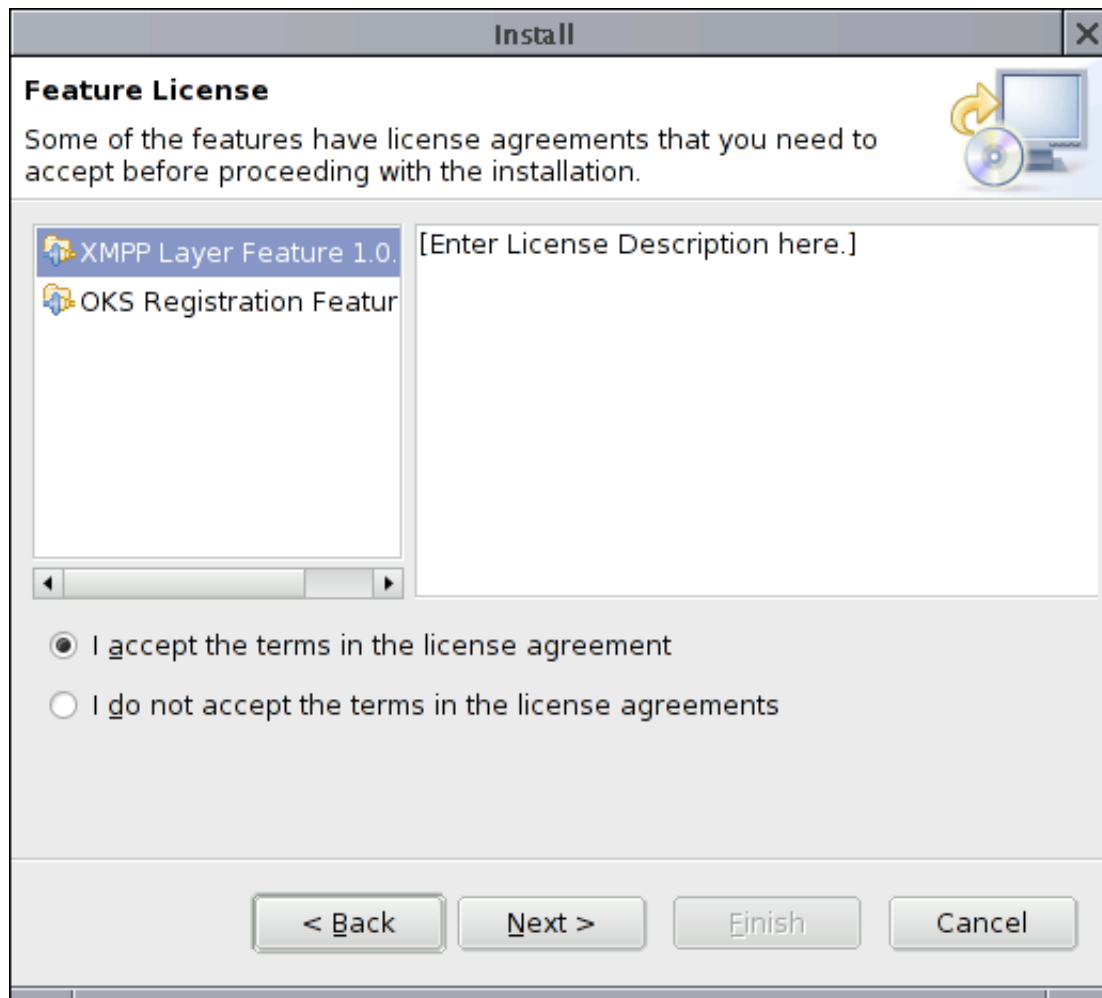


Illustration 6: Licence agreement

Here you must accept the terms and you're ready to download and install

The install location is, by default, the same location where you install the OKSDesktop application. You can change the location where this new features are going to be installed if you wish.

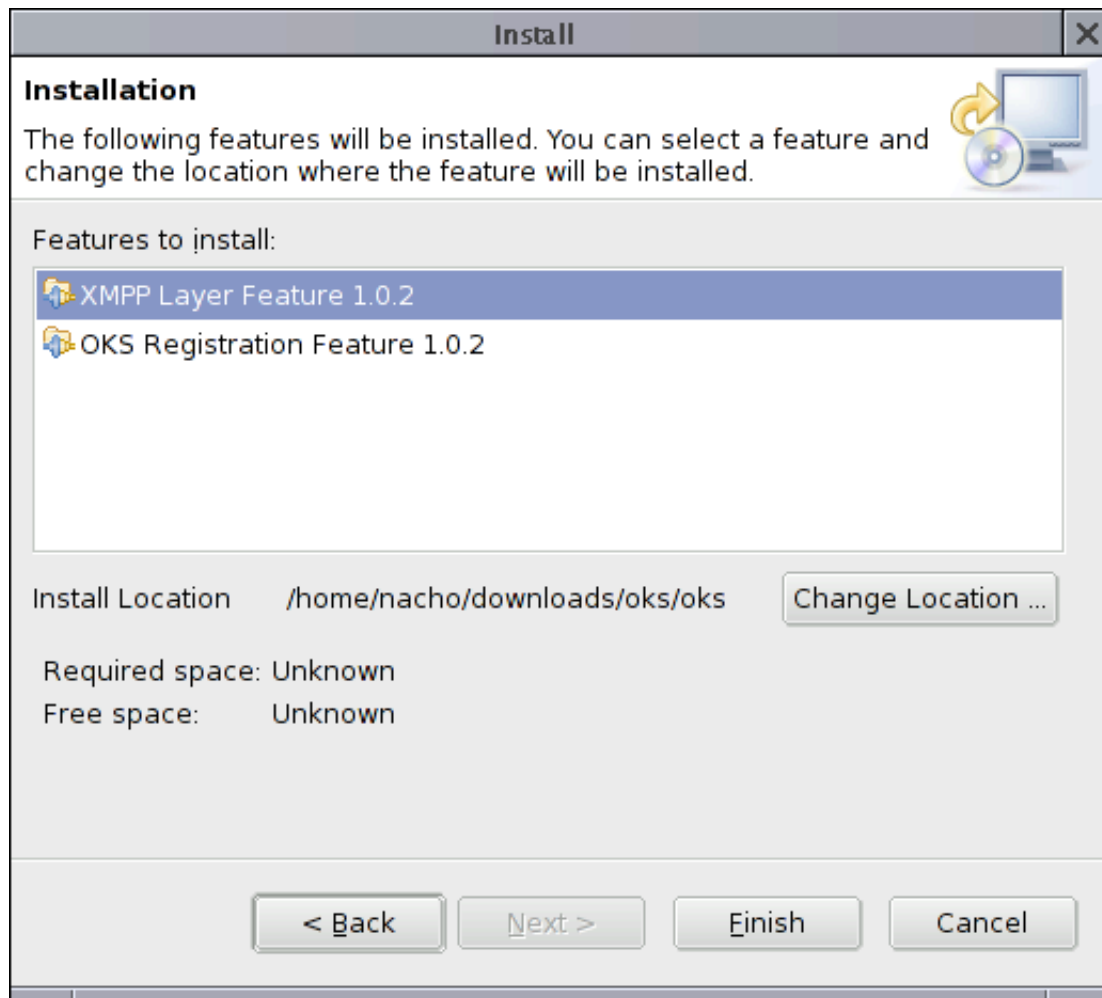


Illustration 7: Installation confirmation

Finally, as the new features you're about to install haven't got a digital signature, you must accept the installation.

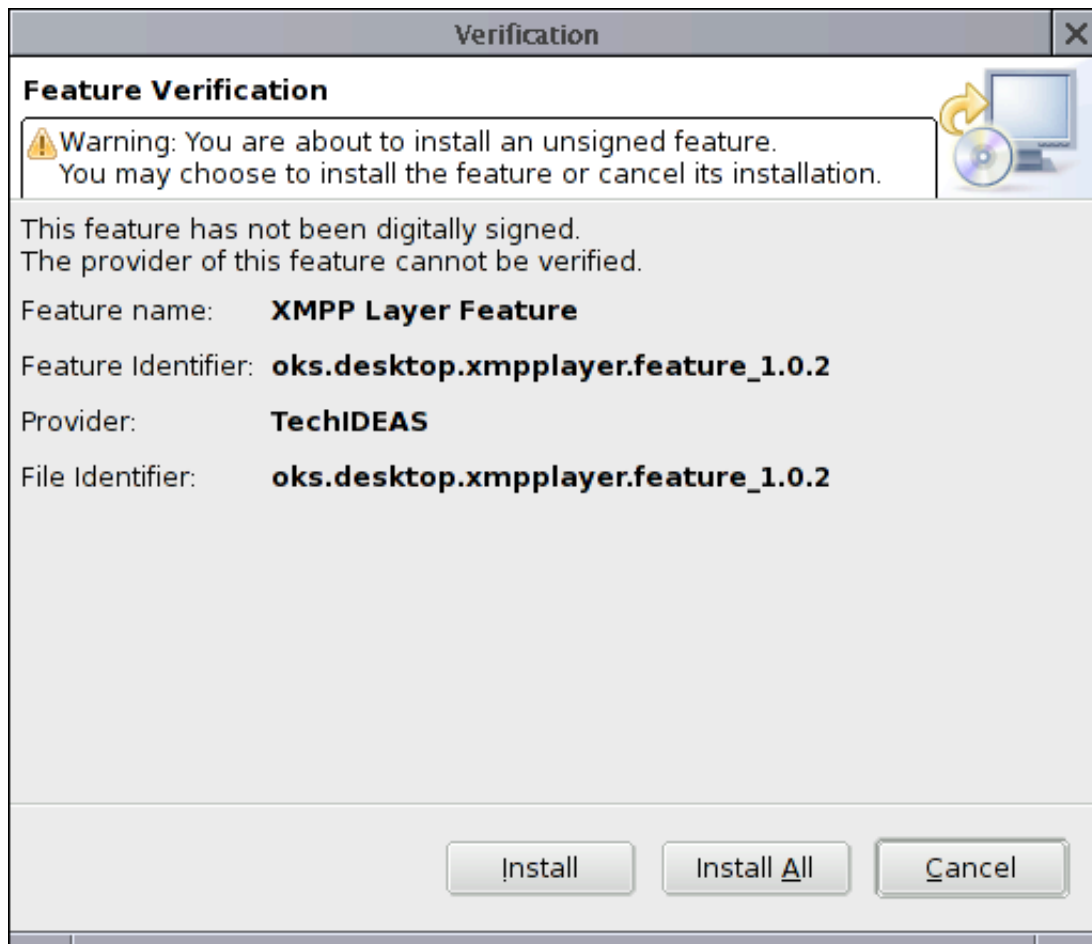


Illustration 8: Installation confirmation

Once the installation is finished, you'll be asked to restart the application. After this words you can see how the OKSDesktop looks like after installing this new features.

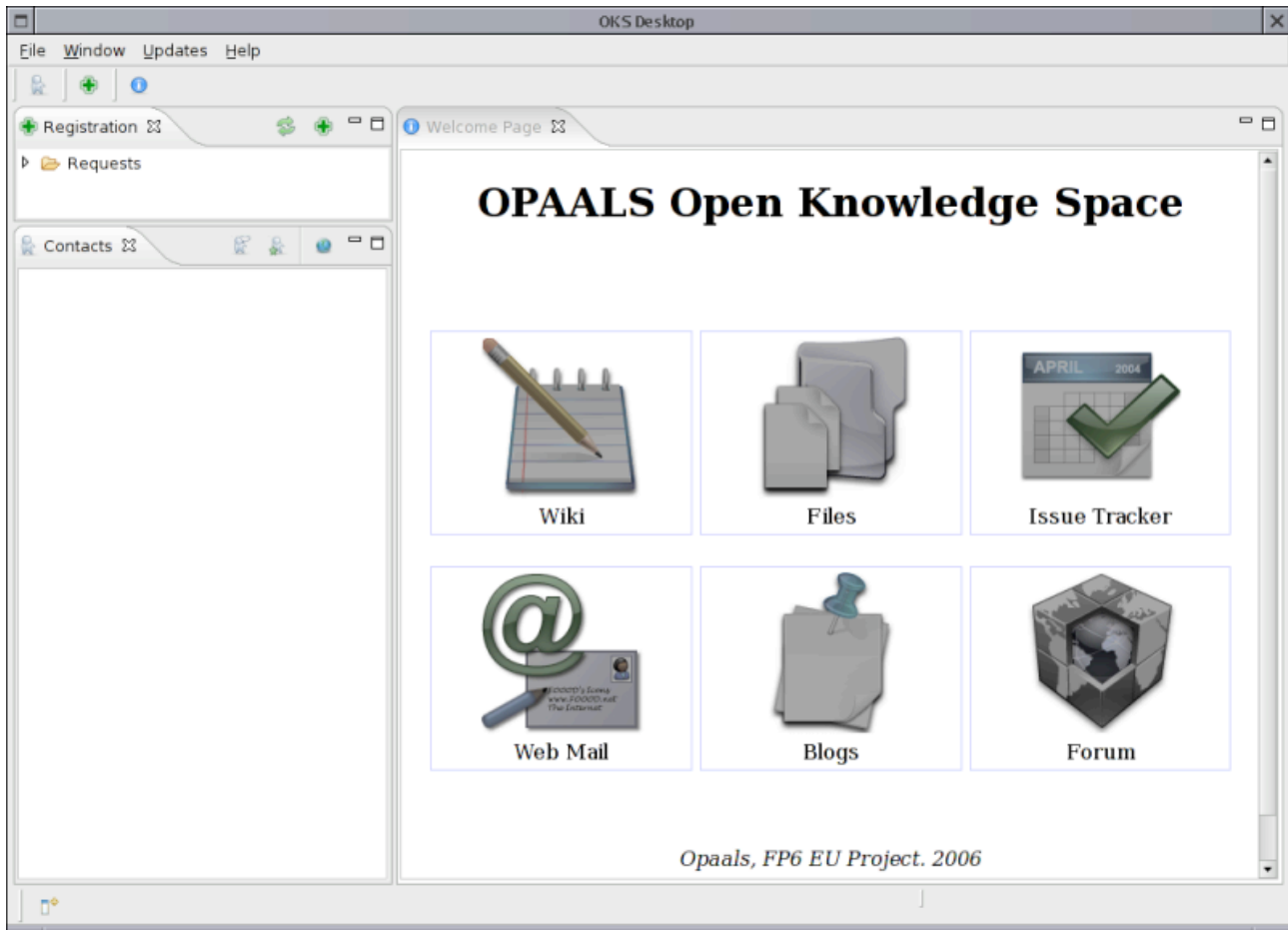


Illustration 9: After the installation

Using the Workspaces plugin

Creating a Workspace

In order to create a new workspace you must simply click in the **add** (plus) button located in *My Workspaces* area.

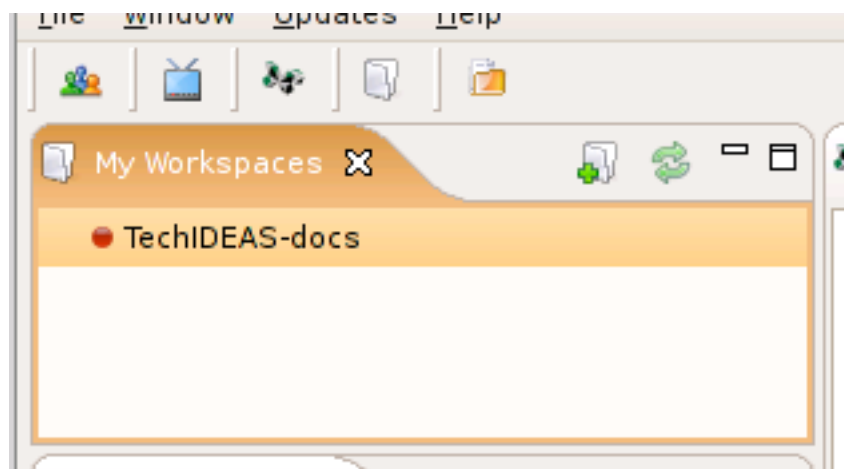


Illustration 10: Worspaces selection

You need to add the name of the new [WorkSpace](#), a short description...

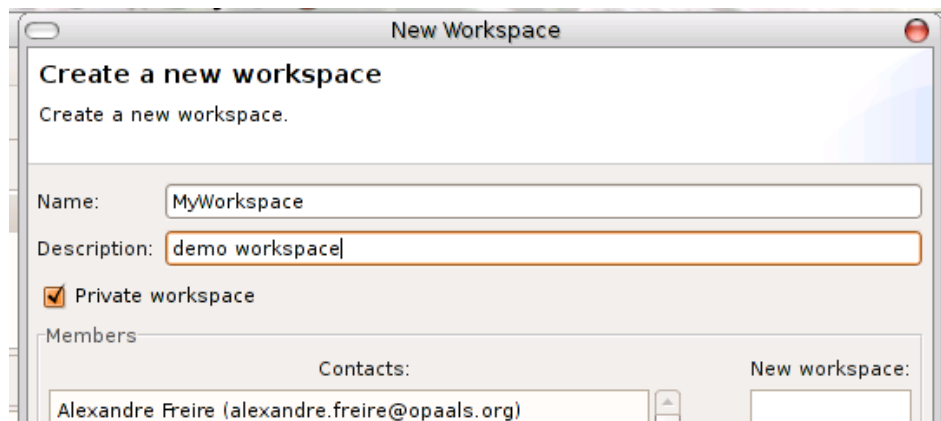


Illustration 11: Creating a workspace

... and the components of the [WorkSpace](#). You can choose among all the Opaals members. You can choose, for instance, the member of a specific Task or Deliverable.

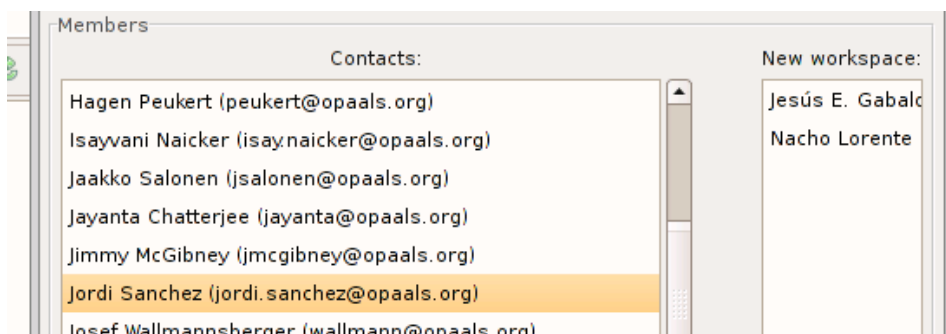


Illustration 12: Adding users to your workspace

If you refresh My [WorkSpaces](#) area, you will be able to see the new [WorkSpace](#). All the member of the [WorkSpace](#) will see the [WorkSpace](#) created in their [OKSDesktop](#)

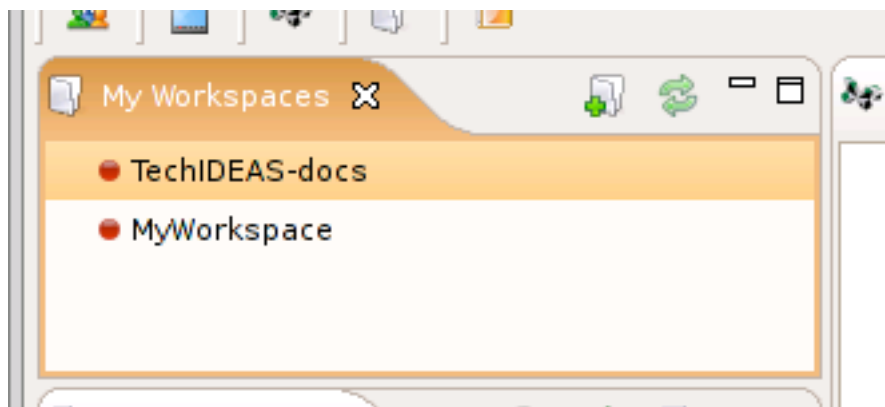


Illustration 13: The created workspace

Adding Content

The first important thing is to activate your new [WorkSpace](#). When you are part of a group, you will only see the files of the activated [WorkSpaces](#) and your own files.

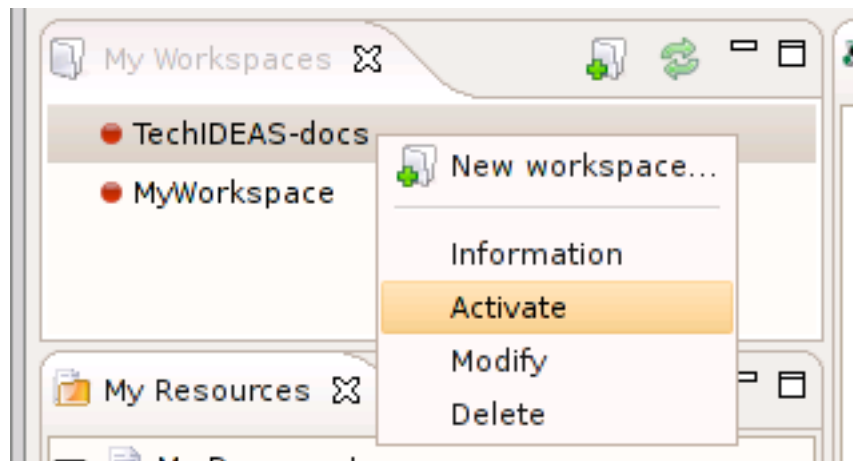


Illustration 14: Activating your workspace

You can press then in the add (plus) button located in the component **My Files**, and choose the type and the file you want to upload to the [WorkSpace](#)

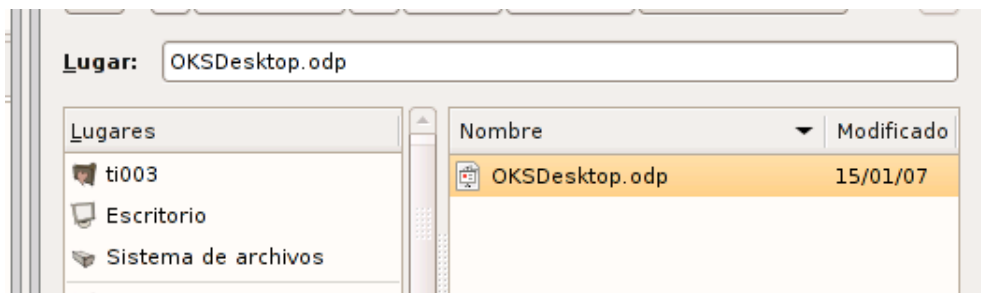


Illustration 15: Selecting files to upload

Don't forget to choose the [WorkSpaces](#) the file belongs. One file can be part of two or more [WorkSpaces](#)

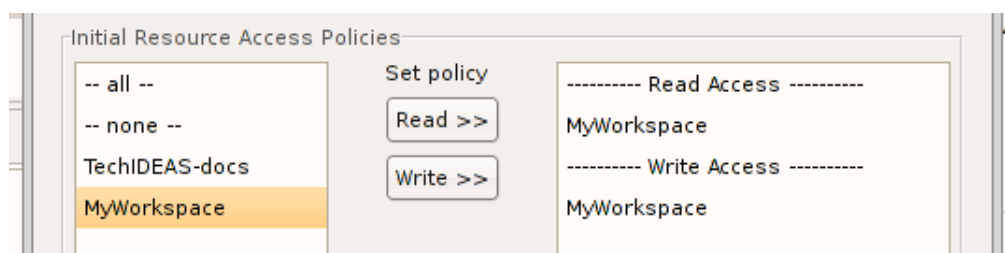


Illustration 16: Selecting the workspaces

*You will see your new file in bold font. This means the file is in your local hard disk (that's OK, because you are the owner of the file). In any case, because it is a new file, you must upload **the file** to the network. You can press the right button of the mouse and choose commit.*

You will need to do this each time the file is modified.

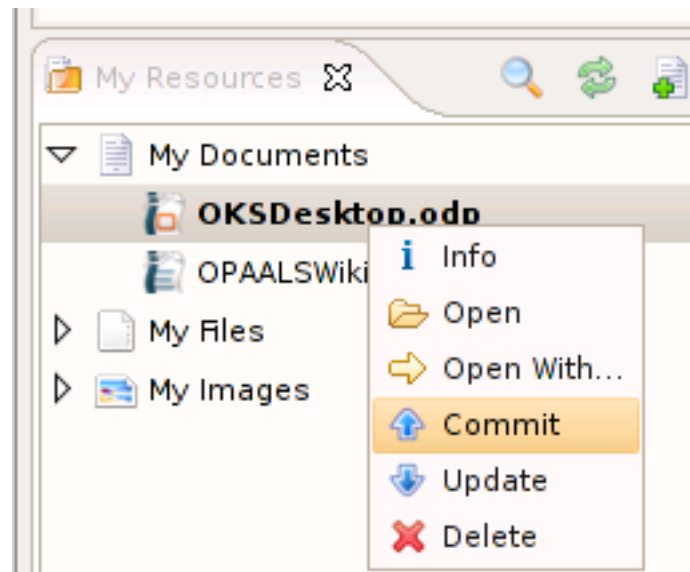


Illustration 17: Committing changes

Downloading Content

After activate the [WorkSpace](#) you have to refresh the My Files view *in order to see all files in the [WorkSpace](#)*.

*If you want to work with any of the files in the [WorkSpace](#) you must first update **the file**, because **some other member of the group could change it**. Remember once updated, the local file will be lost.*

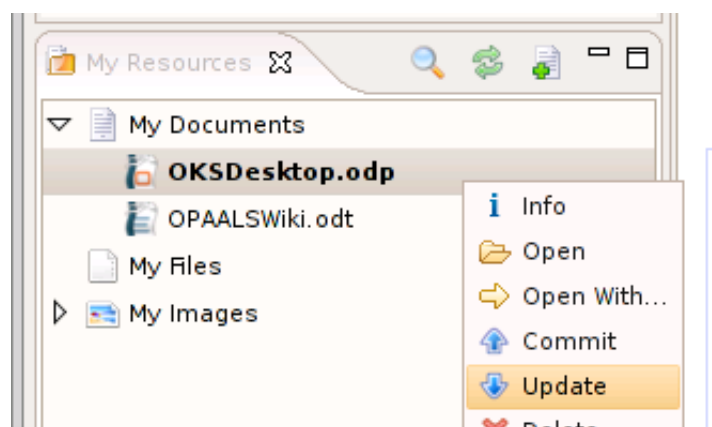


Illustration 18: Updating your local version

Conclusion

Current state : Centralized

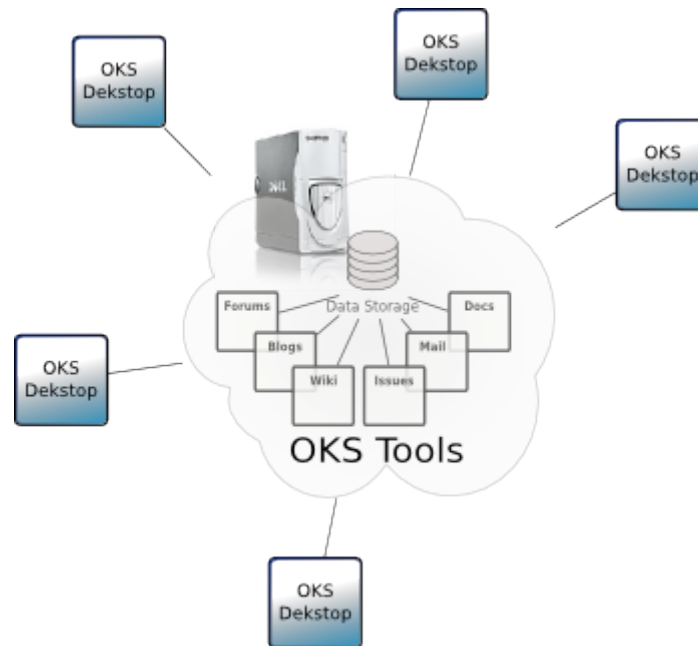


Illustration 19: Phase 1 : Centralized system

In this stage, the system is based on a client-server architecture. The users are using the OKSDesktop (and alternative tools) for accessing to a central server where are placed the OKS Tools. The interaction between users and their resources are made through the central server. This scenario is very useful for testing quickly the set of tools required for OKS community needs. In this sense, there is just one place for installing/uninstalling/configuring and evaluate the result of the usage of them. Other advantage is present in this phase is the availability of the produced data on the OKS. All the tools are using the same physical location for storing the data, so, it is easy third-party tools can use (using aggregation mechanisms or whatever) for exploiting the knowledge gathered by the community. The problem is the scalability (network bandwidth and storage) of the system as well as its robustness (Single Point of Failure)

Next steps

Second Phase: Decentralized

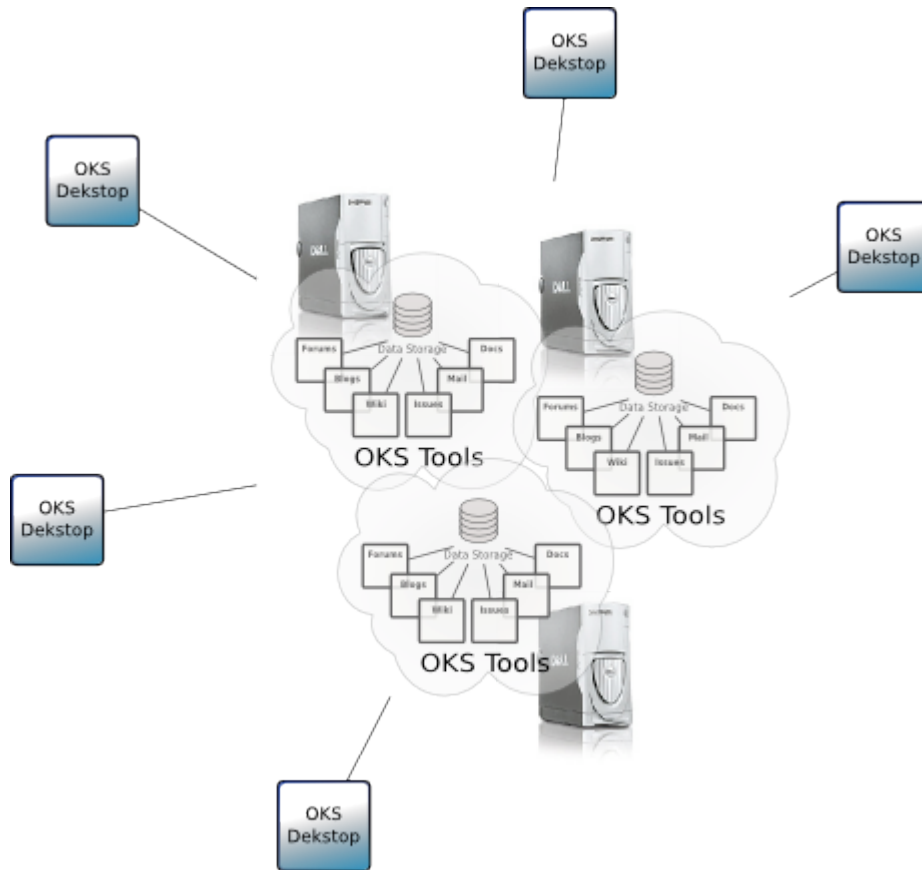


Illustration 20: Phase 2 : Decentralized system

- This stage is almost the same as the previous one, but the scalability and robustness has been improved on the global system. From the user point of view, the system remains equals due they have to connect to a central server in order to access to the OKS Tools. But there is a difference, the OKS Tools and its related data is replicated on different (physical) servers. With this approach, the tools (and/or its data) can be accessed through different servers avoiding problems as single point of failures or in less degree dealing with the network bandwidth scalability.

In this stage, the OKSDesktop is not aware of the changes produced on the server side, in the sense, it continues working as before on the pure centralized system. In the server side, the tools and its data are replicated using low-level synchronization mechanisms and using load balancing soft/hard for dispatching the requests.

Third Phase: Distributed

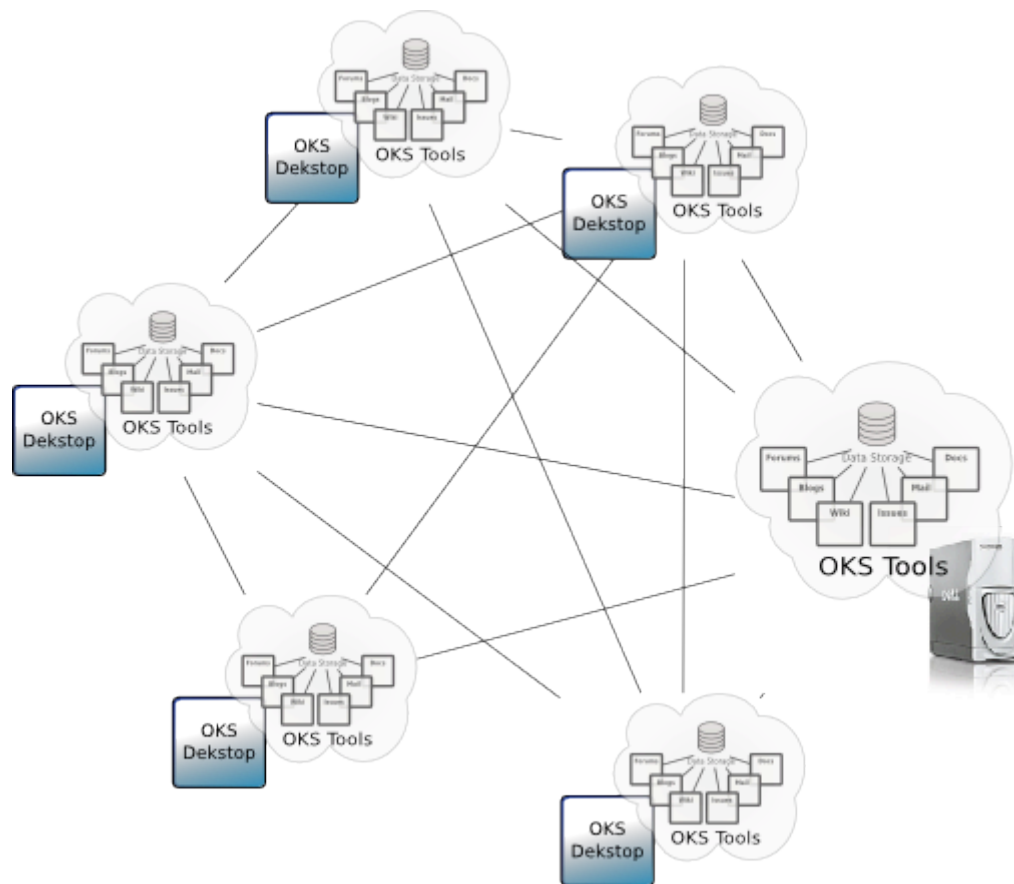


Illustration 21: Phase 3: Distributed system

At this stage, the centralized points almost disappear, and the OKS Desktop and the OKS Tools work together in the same host(*). The data is now placed on each peer, and it will be available for the other peers if they want see it or edit. The idea is to share the information between users and to use some cache mechanism or whatever for making available the useful one even if the "owner" peer (who produces the information) is not connected to the P2P network.

(*) A special peer can appear on this scenario as rendez-vous peers for giving service to all these hosts that are not able to have OKSDesktop and its Tools working together.

See also

OKSDesktop-related pages :

1. [CategoryOKSDesktop](#)
2. [CategoryOKSDesktop/HowTo](#)
3. [CategoryOKSDesktop/Plugins](#)
4. [OKSDesktop](#)
5. [OKSDesktop Architecture](#)
6. [OKSDesktop Architecture/WorkSpaces](#)
7. [OKSDesktop Architecture/WorkSpaces howto](#)
8. [OKSDesktop Browser Plugin](#)
9. [OKSDesktop Contact Plugin](#)
10. [OKSDesktop Installation](#)

11.[OKSDesktop OOoIntegration Plugin](#)

12.[OKSDesktop Register Plugin](#)