# 

KEA\_STUD CHAT MESSENGER

Solution description and baseline cost

[Document information](#h.qwydk7x1nscw)

[Document version](#h.qgvwgi1jjpq)

[Approval List](#h.6r7j8dh65x32)

[Confidentiality Rating](#h.hes98nyepwis)

[General](#h.vsfaotkepuvm)

[Solution summary](#h.obohzlyxwrmy)

[Deliverables summary](#h.l2pd4mvl8bhx)

[Cost summary](#h.uuddz75kzwb4)

[Recommendation and next steps](#h.wcuiy14bok5x)

[Detailed solution description](#h.avkkkztjqpar)

[Technical dictionary](#h.9mwuznd7hrfd)

[Architecture overview](#h.k78al19aaso3)

[Server setup](#h.v8sievqg4cdm)

[Functional requirements](#h.srhnrravenhi)

[Non-functional requirements](#h.cov4a8ojgpfv)

[Capacity recommendations](#h.q4gw0162nchu)

[Impact on other system](#h.ykwmexgv6n1)

[Failover and scalability](#h.ndht1r7b6n3n)

[Technical Implementation](#h.o1bjd21jibx)

[Solution implementation components](#h.7c9cnv780vbj)

[Cost](#h.8x08e4hvqizg)

[Platform cost](#h.28y6hwd99ohr)

[License and support](#h.syha32knd6hd)

[Operational Cost](#h.fm3l13xtid1y)

[Risks](#h.7wc0yv731cjc)

# Document information

## Document version

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| --- | --- | --- |
| Version | Author e-mail | Description |
| 1.0 | Nikolaj B. Hemmeshøj, [nibh@kea.dk](mailto:nibh@kea.dk)  Head of Enterprise Architecture | Initial draft |
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## Approval List

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## Confidentiality Rating

|  |  |
| --- | --- |
| Rating |  |
| Company Confidential | X |
| Non Confidential |  |

# General

KEA\_STUD Chat messenger will provide with the possibility of chat within an institute. It will provide the user with the facility to communicate in-group or private, to exchange small/medium files during conversation, save the chat history. The chat system will work using Local Area Network (LAN).

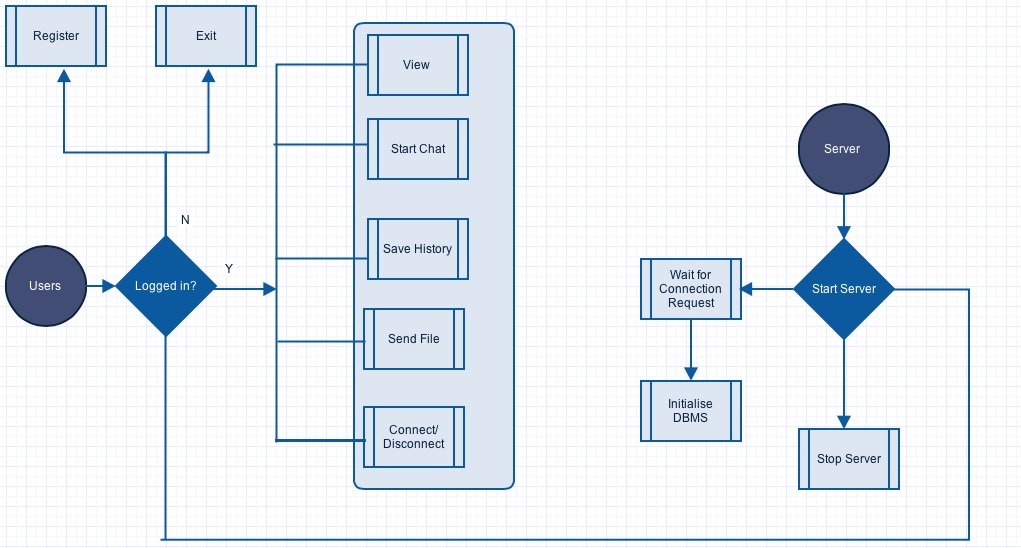


Fig-1

## Solution summary

KEA\_STUD LAN chat messenger will provide ease to users in terms of connection, as it will enable users inside the organisations firewall to connect and communicate to each other using existing resources without being connected to Internet. The communication will be platform independent. Moreover it will reduce the cost of communication (by minimising mobile/text usage) and also the maintenance costs. No centralised server or active internet connection is required for communication.

## Deliverables summary

KEA\_CHAT LAN messenger will deliver following results that can be measured afterwards:

* Ease of communication between KEA students and staff.
* User Login & Signup options.
* Internet less connection between users.
* Facility to send group and private messages.
* Ability to exchange files during conversation.
* Option to save message history for future referral.
* Setup manual

1. How to install server
2. How to setup Database
3. How to get the system going and maintaining

## Cost summary

High level cost elements that the project will carry once implemented or will be running:

* Software development hours in case of further extension of the software
* Maintenance costs in case of break down
* Operations costs

The initial development of KEA\_STUD LAN chat messenger didn’t incur any cost because we utilised already available resources and open source software. High level cost elements that the project will not carry as it can use existing architecture.

* The Server can run on any existing machines so it saves the hosting costs.
* Similarly because of Open source software there will be no licence costs.

# Recommendation and next steps

KEA\_STUD LAN chat messenger can be implemented by using one dedicated machine, which runs the Server and also stores the Database. This will help in communicating people during university hours as all the users within the campus can interact with each other without using Internet/Phone calls. Students can help each other instantly. And administration or teachers can respond to student queries quicker.

Although the private chat option is already available but still the privacy can be improved and an administrator can be assigned for authorizing and assigning access privileges to particular users in specific chat groups. Furthermore the other features like voice/video call can be implemented for enhanced user experience.

As the load increases more servers and load balancer can be added to handle it without compromising user experience.

# Detailed solution description

Normally when a student or a staff member at KEA needs to talk to each other, within campus they call the other person but this acquires costs or if you leave an email then you need to wait for the reply and sometimes it can take up to day or two to get that which wastes lots of times and delays things. So in this way our KEA\_STUD LAN chat messenger provides solution to various communication problems within the institute and save resources like time.

The strength of the system lies in enabling users to communicate without having an internet access. It allows users to save their chat histories and also allow them to exchange the files when required hence no need to hassle about composing a separate e-mail with attachment to transfer the file. KEA\_STUD LAN chat messenger can support both peer-to-peer or centralized server modes. The user information and the history will be saved in MySQL database, which makes system more optimized and secure.

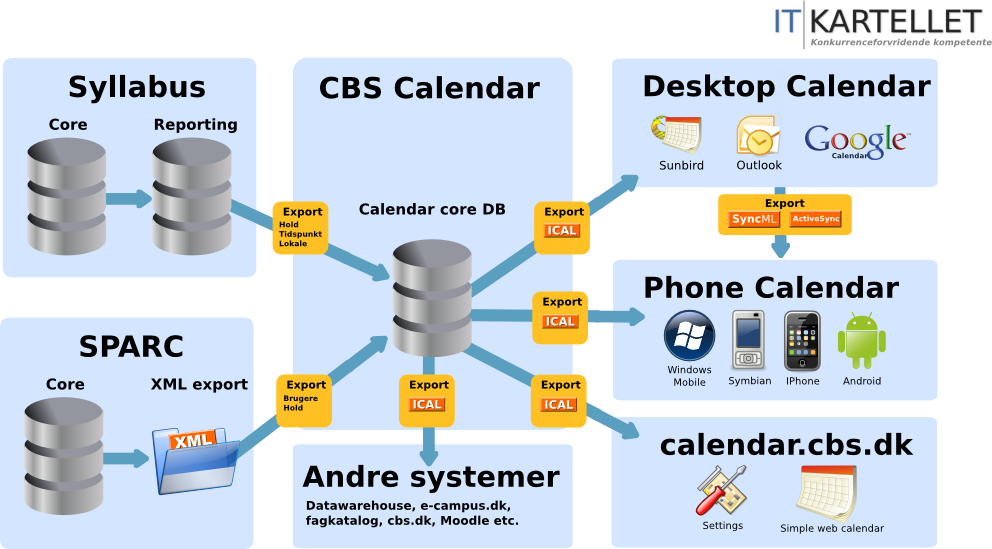
## Technical dictionary

Explain technical terms used so that the business can understand it.

## Architecture overview

Description of components involved and drawing of architecture

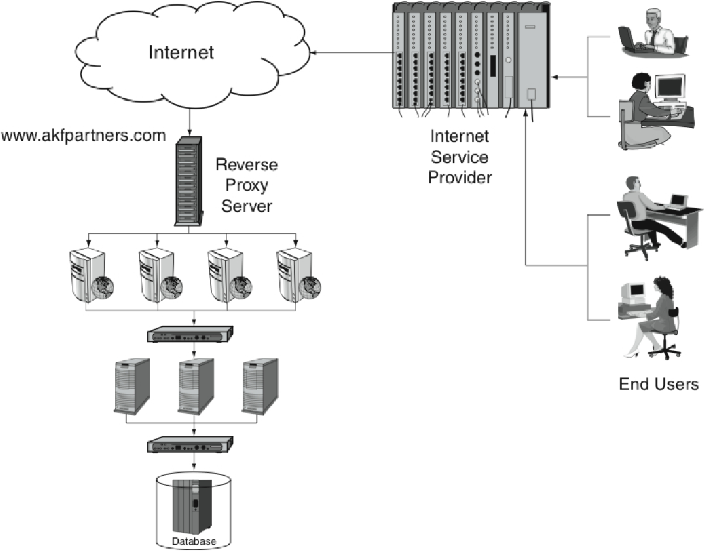
fx. for CBS Calendar



## Server setup

Description of servers setup and sizing, include a drawing of setup

eg.



## Functional requirements

What should the system be able to do. Behavior or functions of the system

## Non-functional requirements

How do we measure that the system works as it should.Specifies criteria that can be used to judge the operation of a system.

fx.

* How many requests/second a system can handle
* Number of users per hour
* Response time for 90% of the requests
* Startup time
* Request size and round trips
* Recovery time from backup

## Capacity recommendations

How does the system scale and how do we measure it under SPT.

# Impact on other system

How does the new system impact other system or infrastructure as the company.

# Failover and scalability

How does the system scale and how does it handle failover.

# Technical implementation plan

How should the system be implemented with timeline.

## Solution implementation components (work breakdown structure)

What steps do you need to do to implement the product or project

eg.

### Preparation

1. Analysis of requirements
2. ...
3. Create installation manuals
4. Performance testing

### Development of software

1. Web service development
2. ...
3. Frontend development

### Hardware setup

1. Install Hypervisor
2. Create VM’s for project
3. Install webservers and databases
4. SPT test of basic setup
5. ...

# Cost

What does the system cost to implement.

## Platform cost

## License and support

## Operational Cost

# Risks

What risks are there in the project.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item # | Area | Description | Rank (RF=i\*p) | Mitigation | Solution |
| #1 | HW | Low capacity | 15=3\*1 | evaluate upgrade options | port application to other host |
|  |  |  |  |  |  |