Work Package Report R7.2:
Support and Help Desk

April 2013
1. Introduction .................................................................................................................................................. 4
2. Advanced Conceptual and Preparatory Work .......................................................................................... 4
   2.1 Implementing the ‘Taxonomy of Support Areas’ .................................................................................. 4
   2.2 Further Structural Considerations .................................................................................................... 5
   2.3 Rethinking Ticketing Workflows ..................................................................................................... 6
3. Implementation and Test ........................................................................................................................... 7
   3.1 Test Installation .................................................................................................................................... 7
   3.2 Example User Queries ...................................................................................................................... 8
4. Workshops, dissemination, and activities in conjunction with other work packages ......................... 8
   4.1 Support and Help Desk Workshop .................................................................................................... 9
   4.2 Cooperation ....................................................................................................................................... 9
5. Outlook and Perspectives ......................................................................................................................... 10
1. Introduction

For an infrastructure project like CLARIN-D, a centralized help desk is an interface to the outside world that both enhances the visibility of the project and offers insight into the way the research community is using it and its components.

This report provides an overview of the work undertaken as part of WP7 between the milestones M12 and M24. Section 2 describes the implementation of the first operating version of the CLARIN-D help desk, including using the OTRS (Open-source Ticket Request) ticketing system. It also describes how this ticketing system has led to a re-evaluation of the ‘Taxonomy of Support Areas’ initially implemented for the help desk. Section 3 describes a test of the help desk system. Section Fehler! Verweisquelle konnte nicht gefunden werden. lists dissemination and workshop activities as well as activities that overlap with other work packages. Section 5 contains a brief overview of upcoming tasks and plans for the next phase.

2. Advanced Conceptual and Preparatory Work

2.1 Implementing the ‘Taxonomy of Support Areas’

A first version of the ‘Taxonomy of Support Areas’ that mirrors and orders CLARIN-D activities and expertise, has been implemented as an integral part of the ticketing system through a set of hierarchically ordered queues. Each centre and centre-specific area of support was assigned to a top-level queue, as were certain non-specified organizational units. Within each top-level queue, sublevels were defined to match the specialized sub-domains associated with each centre. For example, as shown in Figure 1, the UTue queue assigned to the University of Tübingen contains sublevels for treebanks (labelled in German Baumbanken), service-oriented architectures (SOA) and WordNets (Wortnetze). Each sublevel queue is assigned to specific personnel at each centre who act as help desk agents. Help desk agents are organized into agent groups that have exclusive administrative privileges to their centre’s queue and its subordinate queues.

The full taxonomic structure has not been comprehensively defined because we expect actual usage after milestone M24 to reveal which categories are necessary and which are superfluous. One important issue left to the future is determining if support areas that involve several CLARIN-D centres (like for instance spoken language corpora) should be made the responsibility of a single centre or are better served by top-level queues served by multiple centres.

---

1 http://www.otrs.com/
Ultimately, this decision revolves around whether support structures should be focused on individual centres and their specific responsibilities and competencies, or whether they should be built around workflows designed to support specific areas of activity.

### 2.2 Further Structural Considerations

The OTRS help desk system has a strict hierarchical queue structure that does not allow sublevel queues to have more than one parent queue or tickets to be assigned to more than one single queue. This restricts the flexibility of the help desk system, and to handle complex inquiries some more flexible supplementary structures are necessary as described below.

Under the OTRS system, tickets can be assigned to freely definable *ticket types*, which can in turn be assigned to different services and/or help desk agents. Users can also add *dynamic fields* through which free-form information can be inserted into tickets. Dynamic fields are simple HTML based form elements that hold a text, date, a selection of values, etc. and appear in specific interfaces whereas their representation in the respective screens depends on customizable parameters.

![Image](queues.png)

*Figure 2: Queues, ticket types and dynamic fields as additional structural elements*

Figure 3 shows an example structure belonging to the HZSK (*Hamburger Zentrum für Sprachkorpora*), in which the queue contains a sublevel for *tools*, which in turn contains the sub-queues *PE* and *Coma*), and one for *resources* with sub-queues for *support requests*, *access requests* and *bug reports*. Bug reports are a type of ticket than may involve both tools and resources help. When a help desk ticket is created that involves access requests to resources that are hosted by the HZSK, the user of the ticketing system will be asked to fill in a dynamic field asking for information about that resource’s level of accessibility, in order to better assess how the ticket should be handled.
2.3 Rethinking Ticketing Workflows

During the preparatory phase of WP 7, the help desk queue structure was designed to strictly separate the first and second level support, with student assistants performing most first level, frontline support with the help of a well-structured knowledge base (see Figure 4), while the second level support would involve higher level research staff.

Figure 3: Example structure using queues, ticket types and dynamic fields

Figure 4: Original help desk structure implying a strict separation between 1st and 2nd Level Support
At the time, it was assumed that most help desk inquiries required only fairly basic knowledge to resolve, however the test run (described in section 3) has shown that sending issues to the appropriate queue for resolution regularly requires a higher level of knowledge. Since student assistants are usually only employed for one or two years, it is impractical to give them the extensive training necessary to adequately act as first-level support agents.

Consequently, following discussion during the ‘Support and Help Desk’ workshop in November 2012 (see section 4.1), we decided to blur the boundary between first and second level support by having a researcher at each CLARIN-D centre acting as a supervisor for first level support as well as a second level support agent replying to rather complex user inquiries.

**Figure 5: A researcher supervises the process of filtering and assigning incoming requests to first level agents and also acts as an agent for second level support**

### 3. Implementation and Test

#### 3.1 Test Installation

The testing system was implemented as a *Kernel-based Virtual Machine (KVM)*\(^2\) using *QEMU*\(^3\) for emulation on a host running *Scientific Linux*\(^4\). From a technical standpoint, this approach proved very well chosen because it allowed for a quick recovery of the sandbox installation that was used for testing purposes. A virtual implementation will also ease the migration of the help desk system to the *Forschungszentrum Jülich*, where it will be hosted after milestone M24.

---


\(^3\) [http://www.qemu.org](http://www.qemu.org)

\(^4\) [http://www.scientificlinux.org/](http://www.scientificlinux.org/)
3.2 Example User Queries

The test-bed system initially installed was a ‘sandbox installation’ designed to give CLARIN-D members a chance to familiarize themselves with the system and get some idea of its potential. We collected 100 typical user-requests from members of the ‘Discipline-specific Working Groups’ (F-AGs – ‘Fachspezifische Arbeitsgruppen’)\(^5\) and used them to test the system with representative inquiries.

The sandbox installation was intended to meet several purposes:

- To do a technical performance check of the ticketing and queuing software to ensure it was sufficiently flexible and functional.
- To get a sense of whether the planned workflow and inquiry management structures fit the needs and expectations of users and the research community by collecting feedback.
- To train CLARIN-D personnel to use and respond to the help desk system.

The replies given to inquiries in the testing scenario were documented as an FAQ, with the help of the OTRS FAQ-module, so they can serve as a knowledge base for responding to further user queries.

A major result of our test installation was the discovery that requests covered both concrete CLARIN-specific matters, like accessing tools and resources and using the CLARIN-D infrastructure, as well as non-CLARIN specific methodological issues that in turn ranged from rather common to highly specific problems.

One big challenge that we encountered was caused by different discipline-specific terminologies that were used both in the queries coming from users and in the replies from CLARIN-D members. While in practice direct interaction between users and help desks agents might resolve these differences, the artificial nature of this test set-up prevented us from testing this directly.

4. Workshops, dissemination, and activities in conjunction with other work packages

A centralized help desk system depends by its very nature on close functional integration into the infrastructure it supports. The CLARIN-D help desk must mirror the structure of the CLARIN-D infrastructure and the needs of its users. This broad principle applies to everyone who interacts directly with users, including teachers and the authors of technical documentation. The functioning of the help system should also be efficient, and prevent or reduce redundant labour, by keeping its agents in as close contact with each other as feasible. To this end, we have undertaken workshops and cooperate closely with other working groups.

\(^5\) http://de.clarin.eu/en/discipline-specific-working-groups
4.1 Support and Help Desk Workshop

On November 30, 2012 the HZSK conducted a workshop that was dedicated exclusively to concrete work plans for implementing the help desk system between M12 and M24.

- **Frank Binder** (Justus Liebig University - Gießen) gave a comprehensive report on his personal experience providing support to users from the humanities, as well as his preliminary work in the D-Spin project. He pointed out the importance of intuitive, user-friendly interfaces and clear workflows in providing support.

- **Hanna Kermes** (Saarland University - Saarbrücken) gave a status report for the work on CLARIN-D WP8 (“Training and Education”).

- **Erik Ketzan** and **Pawel Kamocki** (IDS Mannheim) presented the latest developments and current status of the legal Information platform, which is not yet available but will soon be integrated into the CLARIN-D help desk system.

- **Axel Herold** (Berlin-Brandenburg Academy of Sciences and Humanities) introduced the CLARIN-D User Guide⁶, created by CLARIN-D WP5 (“Services and Resources”)

- **Timm Lehmbreg** (Hamburg University - HZSK) gave a status report on the conceptual and implementation work going on for WP7 as well as a demonstration of the prototype OTRS-system to be used with the CLARIN-D help desk.

Further issues that were discussed included:

- Cross-linking of knowledge bases to be used with the help desk system
- Interaction between user support-related working packages
- The importance of multilingual support and knowledge resources
- Reconsideration of the ticketing workflows (see section 2.3)

4.2 Cooperation

- **Discipline-specific Working Groups**
  
  Due to their heterogeneous and widespread scientific orientation and their function in representing the link between resource centres and the research community (for instance by the planning and integration of duration projects into the CLARIN-D infrastructure), the Discipline-specific working groups proved to be the ideal candidate for putting the CLARIN-D help desk infrastructure to test.

  An integral component of this task was the collection of the ‘Typical User Queries’ (as described in section 3.2) by Working Group 1 (German Philology - Prof Dr. Thomas Gloning, Gießen)

---

⁶ [http://media.dwds.de/clarin/userguide/text/](http://media.dwds.de/clarin/userguide/text/)
• **CLARIN-D Work Package 6: Legal and Ethical Issues (IDS Mannheim)**

For the implementation of the support area ‘Legal and Ethical Issues’ with the help of the CLARIN-D ticketing system, a separate queue labelled ‘legal issues’ was assigned to the IDS Mannheim staff. Furthermore the bilingual (German/English) guide that addresses frequent legal issues concerning research data that has been made available by the WP6 members was integrated into the FAQ knowledge base.

• **Institut für Germanistik, Angewandte Sprachwissenschaft und Computerlinguistik (Justus Liebig University Gießen)**

Due to its central role in conceptualizing a help desk structure within the CLARIN-D predecessor project D-SPIN (cp. D-SPIN Report R6.2: Help Desk Concept), the ‘Institut für Germanistik, Angewandte Sprachwissenschaft und Computerlinguistik’ took a crucial role in taking part in workshops, reviewing reports and publications and giving input to the work in progress.

• **CLARIN-D Work Package 8: Training and Education (Saarland University)**

Both WP7 and WP8 are pursuing the goal of creating comprehensive knowledge resources, but while the focus of WP8 is the collection of technical documentation and training material, WP7 is concentrating on the creation of an FAQ-style resource to be used with the help desk system. In order to reduce duplication of effort, a sophisticated linking structure was implemented between FAQs and teaching materials.

5. **Outlook and Perspectives**

The importance of the help desk system as an integral part of the CLARIN-D infrastructure has made its rollout a very high priority. We are currently moving the system from its test bed hosting to a permanent server facility at the Forschungszentrum Jülich. It will enter into service by M24. At the beginning only a CLARIN-D wide email address (support@clarin-d.de) and a web based contact form on the CLARIN-D website will be taken as entry points to the system. Prospectively all centres will be encouraged to integrate their local support operations into the CLARIN-D centralized help desk.

We have also identified a need to provide basic information about computational and corpus linguistics methods to users who may not have even a basic familiarity with language processing tools. We will construct an online glossary of common terms and methods in language technology and integrate it into the FAQ knowledge base.

During system testing we found that many user inquiries can only be resolved by direct contact through the telephone and by email. Personal contact is an indispensable element of the help desk system, and we will conduct a support workshop in the near future to train help desk agents from the different centres to deal directly with users.
We are placing a great deal of focus on intuitive and user-friendly support tools, as well as an online expert system in order to reduce the barriers users must face when they first encounter the CLARIN-D infrastructure.