

SERVICE CATALOG

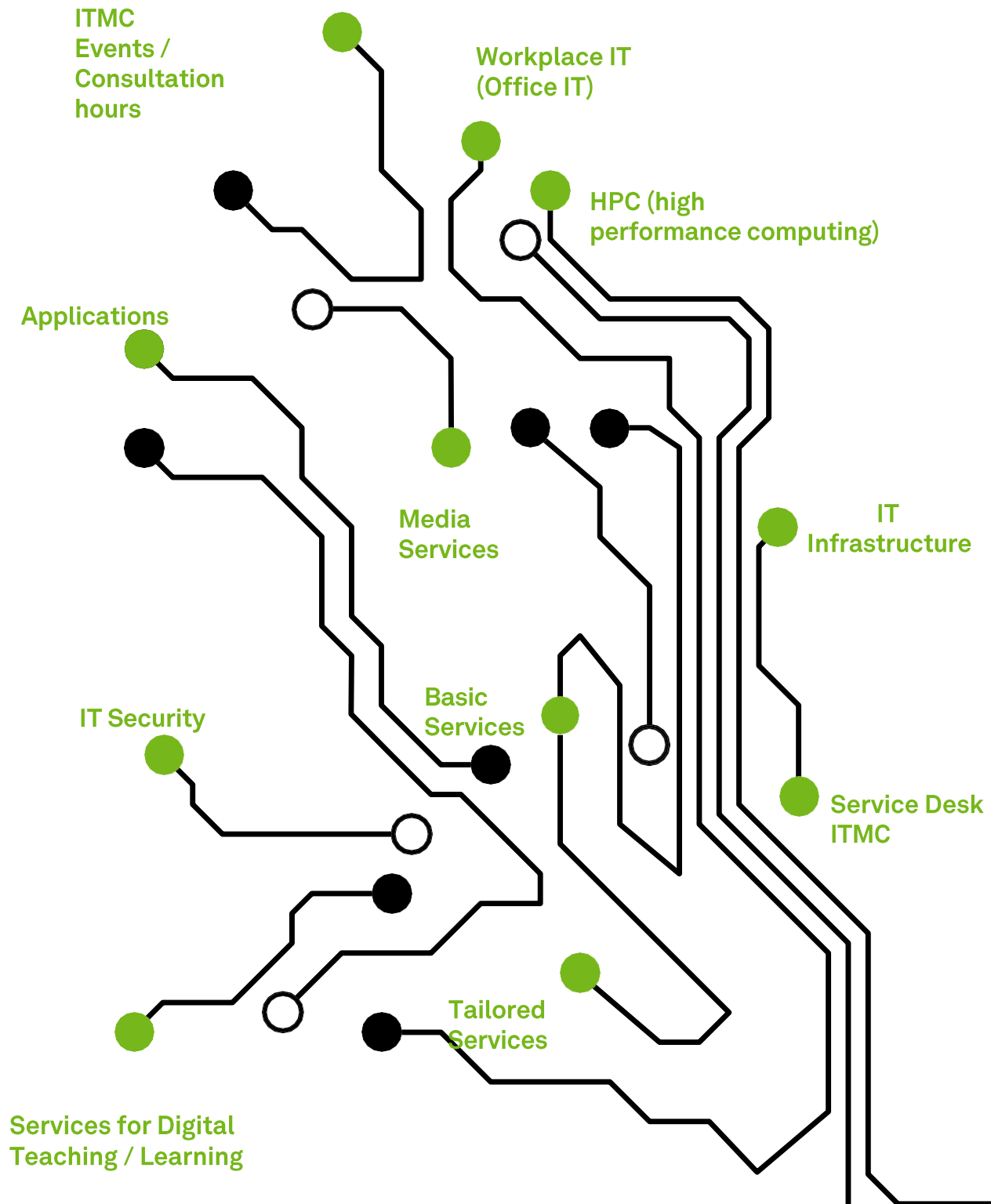
Your IT - Your media - Your ITMC



"

Research - Teaching - Facilities
of TU Dortmund University:
We as IT service provider
meet technical requirements
with innovative solutions.

Not just power on and off:
Colleagues at work in the
server rooms (image)



SERVICES
IT & MEDIA CENTER

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**This is a translation of the original German document for explanatory purposes only.
For all legal purposes, solely the German version of the document shall be considered binding.**

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Dear Readers:

As ITMC, we are your central partner for IT services at TU Dortmund University; our guidelines define the framework and direction for this: "As ITMC, we actively support the areas of research and teaching as well as the facilities of TU Dortmund University in optimally operating their areas of activity and improving them through innovation. Our actions focus on the sustainable support of TU Dortmund University's goals and the satisfaction of its members."

Our service catalog provides you with an overview of the portfolio of IT services that the ITMC has permanently available for you or can tailor to your current needs in order to support you in accordance with the above guidelines. I very much hope that you will also find some interesting offers in it.

You can obtain more information about your ITMC and our services online or by contacting us personally. We are always open to your questions, suggestions and requests regarding current IT services as well as the expansion and optimization of our portfolio, so please do not hesitate to contact us.

Yours sincerely



Martin Kötterheinrich,
Head of ITMC

This Service Catalog provides an overview of the services that the ITMC permanently offers or provides for current requirements.

The offers are also available in a concise form on the ServicePortal of TU Dortmund University:

service.tu-dortmund.de

GENERAL

Use of the services

Authorized users¹ for these services may be:

- " Departments and facilities of TU Dortmund University
- " Members of TU Dortmund University
- " Associates of TU Dortmund University
- " Members and facilities of the UA Ruhr and NRW universities
- " Other universities
- " External institutions, usually affiliated with TU Dortmund University
- " External employees in research networks
- " Participants in special degree programs or training and further education events
- " Representatives of TU Dortmund University for the fulfillment of their official duties

The terms of use and the respective operating regulations apply to the use of ITMC services; these are listed on the ITMC website (<http://www.itmc.tu-dortmund.de>). Whether and to what extent services are also offered to other external users must be decided on a case-by-case basis, unless explicitly listed in this catalog.

Service level

The general service levels apply; any deviations from these are listed with the according service.

Availability: In general, the operated systems, infrastructure and applications are made available 24/7. Defined time windows for maintenance work are excluded.

Support: Managed support is provided 8/5 (response time depending on incident and priority).

Cost of services

The service catalog specifies separately charged services.

Default services: A large part of the services are financed from central funds as default services and are therefore available to the departments, institutions and members of TU Dortmund University free of charge.

Chargeable: For reasons of equal treatment or strategic control, services that go beyond the scope of default services must be charged for. The principles of pricing have been agreed with the Rectorate. These costs are listed in a separate price list, which is regularly adjusted in line with requirements and published on the ITMC website. In cases where no specific price is stated or which are shown as being subject to a charge, the ITMC will provide a written quotation before the service in question is used.

¹ in accordance with Section 2 ITMC Terms of Use (*Benutzungsordnung, BO*).



1. SERVICE DESK ITMC

1.1 First-level support

The ITMC offers first-level support in the form of a Service Desk, which can be contacted by telephone, e-mail or in person during opening hours. Inquiries are recorded with the support of a professional software system and prompt processing of inquiries is ensured.

Outside opening hours, incoming e-mails are stored and assigned to first-level support on the next working day. It is also possible to leave a message by telephone in a voice memory system in order to receive a call back from first-level support.

The Service Desk is the central point of contact for all questions relating to ITMC services. A competent team specially trained to answer your questions is at your disposal here.

The aim is to resolve many issues directly at the Service Desk. Where specialist knowledge is required, enquiries are forwarded to second-level support within the ITMC's specialist departments. Questions, suggestions and requests regarding IT services can also be directed to the ITMC via the Service Desk.

" service.itmc@tu-dortmund.de, tel: +49 231 755-2444

1.1.1 Software offer

The ITMC Service Desk supports the provision and use of software at TU Dortmund University. The latest information about the ITMC software range is available in the ServicePortal. An overview of both free software and that which is subject to a charge can be found at:

" <http://www.itmc.tu-dortmund.de/software>

For software used across departments, the ITMC can take over the supply (procurement and distribution) within the university.

Costs: If license costs are incurred, these must be borne by the organizational units themselves.

WLAN/VPN consultation: The Service Desk offers first-level support for problems with dial-in via wireless network or VPN. Second-level support is also available for complex problems during the special WLAN / VPN consultation hours of the ITMC.

1.1.2 Switchboard of TU Dortmund University

The telephone switchboard at TU Dortmund University is a service of the Service Desk. It can be reached by external callers at +49 231 755-0 and internally via extension -11.

The switchboard receives all incoming telephone calls and transfers them to the relevant contact person at the university.

2. SERVICES FOR DIGITAL TEACHING / LEARNING

2.1 E-learning

2.1.1 Moodle

Moodle is the central teaching and learning platform at TU Dortmund University. Moodle bundles functions for the distribution of multimedia teaching and learning materials, communication between students and lecturers and offers elements for self-directed review of one's own learning progress. From the quick and easy distribution of documents to a closed group of participants to elaborate learning scenarios, Moodle offers extensive design options. Complex learning packages can also be developed with the help of numerous activities and learning modules.

" <https://moodle.tu-dortmund.de/>

2.1.2 Video streaming service for Moodle

The video streaming server integrated in Moodle makes it possible to automatically provide video content for the closed circle of a Moodle course, optimized for different end devices and bandwidths.

2.1.3 Scan exams with EvaExam

EvaExam is a system for the automated support of computerized exams. With EvaExam, exams can be created using a web-based editor, then printed out and scanned and evaluated by the students once they have finished.

" <https://scanklausuren.tu-dortmund.de/>

2.1.4 Surveys with LimeSurvey

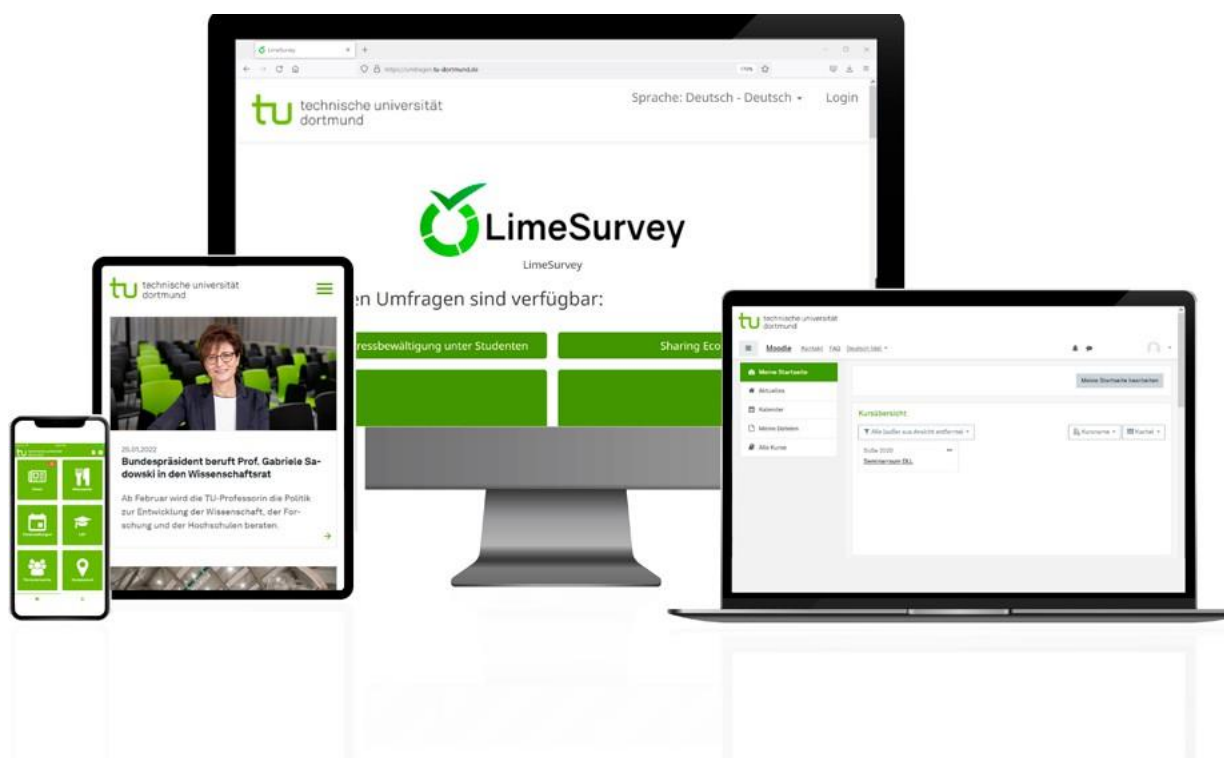
LimeSurvey is a tool for creating and conducting online surveys that includes a wide range of functionalities. More than 30 question types are available. A web-based editor makes it easy to edit text modules, tables and graphics.

" <https://umfragen.tu-dortmund.de/>

2.1.5 Confluence

In Confluence, documents can be created and managed together, automatically versioned and edited directly with Office products. Wikis can be easily created and shared tasks and team calendars can be managed.

" <https://confluence.tu-dortmund.de/>



2.1.6 Plagiarism check

The ITMC operates a professional tool for plagiarism detection which can be used free of charge by interested parties (within the scope of existing licenses) at TU Dortmund University. A short introduction can also be provided. The ITMC provides advice on the procurement and provision of its own plagiarism detection tools for TU Dortmund University.

2.1.7 Voting systems

The ITMC offers members of TU Dortmund University free access to various voting systems. Voting systems enable anonymous voting in courses using smartphones, tablets or laptops.

["https://service.tu-dortmund.de/group/intra/voting-systems"](https://service.tu-dortmund.de/group/intra/voting-systems)

2.1.8 Consultation / Workshops / Office hours

Support: The ITMC offers regular e-learning consultation hours to support all members of TU Dortmund University with questions and problems regarding the use of digital tools for teaching and learning. If required, consultation hours can be offered temporarily on specific key topics. Further appointments are possible by arrangement.

Consultation: The ITMC offers lecturers advice on the possibilities of digital support when designing and running a course. Individual solutions are developed in close cooperation with the lecturers. These consultations are by appointment only.

Costs: (Note: The implementation of the solutions may be subject to charges).

Training courses: The ITMC offers workshops on the e-learning courses that are open to all members of TU Dortmund University. They are designed for groups of between 6 and 15 participants. The dates of the workshops can be arranged individually with the ITMC.

2.2 Media services in teaching

2.2.1 Borrowing media devices

Facilities and employees of TU Dortmund University can borrow media technology equipment for courses. Part of the offer also applies to students for use in studies and teaching. Reservations can be made via the ServicePortal at:

["https://www.rbs.tu-dortmund.de/static/equipmentlending/index.php"](https://www.rbs.tu-dortmund.de/static/equipmentlending/index.php)

2.2.2 Recording of courses

The recording of courses is a special form of the service 3.1.4 "Recording of events":

- " Recordings are made via a laptop with camera or via the lecture hall technology on a USB stick (depending on the equipment of the lecture hall).
- " The teacher/lecturer will be provided with instructions and support only for the first few sessions of the course.
- " A follow-up/debriefing can take place.

Costs: In principal, this is part of the default services, but any additional reworking is subject to a charge.

2.2.3 Broadcasting of courses

If the room capacity in the Audimax is not sufficient for lectures, the PC presentation, the sound and the video image can be transmitted to lecture hall E29 (mathematics). If a lecture hall transmission might be necessary, lecture hall E29 should already be reserved when planning the event.

" There is no transmission (video, sound) from the receiving lecture hall to the Audimax. Other lecture hall constellations can be arranged on request.

Costs: This offer is subject to a charge (The costs include the commissioning and setting up of the video technology and, if necessary, the tracking of the camera by trained ITMC personnel).

2.2.4 Self-recording studio

The ITMC provides teachers with an easy-to-use "self-recording studio" in the rooms of the ITMC itself.

This means that short video sequences (e.g. presentations with own image) can be recorded with little training and prepared for publication on the Internet in a short time. The ITMC can provide brief instructions on how to use the self-recording studio.

2.2.5 Recording of experiments

Recordings of experimental sequences can be made on site or, if suitable, in the ITMC studio. The necessary preparatory work (e.g. creation of a script) is carried out in cooperation with the client.



2.2.6 Media technology for lecture halls / seminar rooms

The ITMC equips centrally managed lecture halls and seminar rooms with media technology. These installations are maintained and updated by the ITMC.

Lecturers can be instructed in the use of media technology in the lecture halls and seminar rooms. Instruction is given in small groups, but can also be given individually after consultation.

The ITMC offers advice on equipping rooms of departments or institutes; the costs for equipping and operating the rooms are then borne by the organizational units themselves.



3. MEDIA SERVICES

3.1 Media technology

3.1.1 Borrowing media devices

Media technology equipment is lent to TU Dortmund University institutions and employees for events. Some devices can also be borrowed by students for study and teaching purposes. This can be initiated via the ServicePortal:

["https://www.rbs.tu-dortmund.de/static/geraeteausleihe/index.php"](https://www.rbs.tu-dortmund.de/static/geraeteausleihe/index.php)

3.1.2 Course supervision

Lecturers can be instructed in the use of media technology in the lecture halls and seminar rooms. Instruction is given in small groups, but can also be arranged to be given individually.

3.1.3 Recording of courses

The recording of courses is a special form of the service 3.1.4 "Recording of events":

- " Recordings are made via a laptop with camera or via the lecture hall technology on a USB stick (depending on the lecture hall).
- " The teacher will be provided with instructions and support only for the first few sessions of the course.
- " A follow-up/debriefing can take place.

Costs: In principal, this is part of the default services, but any additional reworking is subject to a charge.

3.1.4 Recording of events

Events can be recorded in the studio or on site with two cameras using an external source (e.g. digitalization of a PC presentation). A reworking/debriefing is possible.

Costs: In principal, this is part of the default services, but any additional reworking is subject to a charge.

3.1.5 Screencasts

In close cooperation with the client, the ITMC creates short digital films to describe and document processes when using software, so-called *screencasts*. This offered service includes consultation, conceptualization (e.g., creation of a script) and production of a video suitable for online use.

Costs: Subject to a charge.

3.1.6 Image trailers / explanatory films

The ITMC can provide support in the creation of image trailers for facilities or other explanatory films. The necessary preparatory work (e.g., creation of a script) is carried out in cooperation with the client. The filming takes place on location of the facility or in the studio of the ITMC.

Costs: Subject to a charge, but possibly default services (see 2.2.5) if for use in teaching (e.g., test recordings).

3.1.7 Self-recording studio

The ITMC provides teachers with an easy-to-use "self-recording studio", meaning that short video sequences (e.g., presentation with own image) can be recorded with little training and prepared for publication on the Internet in a short time. The ITMC can provide brief instructions on how to use the self-recording studio.

3.1.8 Media technology for lecture halls / seminar rooms

The ITMC equips centrally managed lecture halls and seminar rooms with media technology. These installations are maintained and updated by the ITMC.

The ITMC offers advice on equipping rooms in the departments or institutes, but the costs for equipping and operating them are borne by the institution themselves.

3.1.9 Media library

The ITMC operates its own video streaming server, particularly for the integration of video content into websites of TU Dortmund University. This service makes it possible to provide video content that is automatically optimized for different end devices and bandwidths. Videos are made available via the ITMC. For the closed circle of Moodle users, the service is available to everyone for their own use (see "Digital teaching").

3.2 Web / CMS

3.2.1. Content management system for websites: TYPO3

The ITMC offers the TYPO 3 content management system (CMS) for implementing your own website. This allows websites to be implemented without any knowledge of programming or HTML.

The following services are available to all facilities of TU Dortmund University (further information on request):

- " Operation of the servers in the ITMC,
- " Continuing further development and adaptation of the design and content elements to the corporate design of TU Dortmund University,
- " Daily backup of the entire website,
- " Instructions for administration and maintenance of the website,
- " Regular training courses (basics and detailed specialization training),
- " Support for relaunch processes for websites.

3.2.2. Support and consultation (TYPO3 Café)

The support of editorial staff (first-level support) is usually provided by the web administrators of the facilities. They also manage the website. The ITMC conducts regular training courses to support them.

The ITMC also regularly offers the TYPO3 Café. Here, users can exchange ideas with each other and with ITMC experts and receive informal advice.

The administrative tasks and partly some reactive tasks can also be delegated to the ITMC as part of a fee-based service agreement.

" More information and training dates can be found in the TYPO3 documentation site: <https://typo3-doku.tu-dortmund.de/>

Costs: Default services. However, second-level support (support for web administrators implemented by the ITMC) is subject to a charge.

3.3 Web domains

3.3.1. Namespace of TU Dortmund University

The ITMC is responsible for the operation of TU Dortmund University's name spaces on the Internet and operates a system of redundant servers and services for this purpose. The regulations that apply to the use of names are published in the ServicePortal of TU Dortmund University.

3.3.2. Alias names

In addition to the real computer names, it is necessary to set up separate names for certain services (e.g., web servers). For this purpose, real computer names, e.g., "Server123.fakultaet.tu-dortmund.de" are provided with corresponding alias names (technically: CNAME), e.g., "www. department.tu-dortmund.de". This has the advantage that subsequent moves to new platforms, services, separations or mergers can be carried out more easily (decoupling of real hardware and service).

3.3.3. External domains

There is often the wish and a need to set up services on the Internet under a name other than that specified by the university's naming structure and to operate them within TU Dortmund University's network structures. Reasons for this can be, for example, cooperation with external parties or simply the use of catchy names. The university management decides on the admissibility of such names; informal applications must be submitted to the ITMC. As a rule, university lecturers or heads of facilities and organizational units are eligible to apply. In general, such domain names may not be used as a substitute for official business addresses (in particular e-mail addresses). In the case of websites where such a name only serves the purpose of better memorability, it must be directly apparent that this is an offer of TU Dortmund University.

The contractual aspects for the use of such a domain name must be handled directly by the respective organizational unit with the external service provider of its choice. A centralized service is not offered.

Information on edu domains: The university is one of the few German universities to have a name under the top-level domain ".edu".

The domain "udo.edu" is only used as an alternative e-mail address for users of the university e-mail service.



3.3.4 Web server

The ITMC operates the university's central web server. The facilities and organizational units also have access to (virtual) web servers, in particular for:

- " the hosting of own websites or
 - " the hosting of websites as part of collaborations involving university institutions.
- The users are offered workspaces that they can administer themselves. The individual websites also include additional functions such as
- " script languages,
 - " databases (mysql, PostgreSQL),
 - " secure access for data transmission,
 - " usage statistics.

3.3.5 Web search

The ITMC operates the university's central search engine. Local websites can be referenced by the search engine after registration.

3.4 Graphics / Design

Printing and duplicating

3.4.1. Business cards

Employees of TU Dortmund University can use the ServicePortal to order the creation and delivery of business cards. After entering the personal data, the business cards are ordered from an external service provider (printing company). The delivery time is approx. 2-3 weeks.

Costs: Default services for professors and heads of corporate centers (100 business cards once). As the prices are subject to regular adjustment, they are always shown on the order page in the ServicePortal.

3.4.2. Creation of stamp templates

Employees of TU Dortmund University can simply create a stamp template for a stamp supplier of their choice online in the ServicePortal.

4 COMMUNICATION

4.1 Groupware / Collaboration

4.1.1. Confluence

In Confluence, documents can be created and managed together, automatically versioned and edited directly with Office products. Wikis can be easily created and shared tasks and team calendars can be managed.

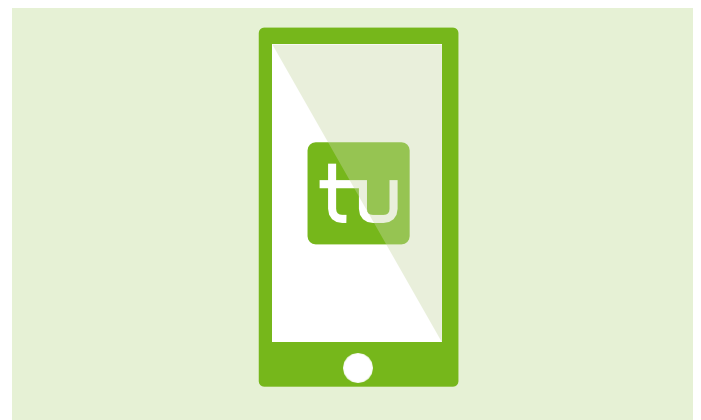
" <https://confluence.tu-dortmund.de>

4.1.2 DFN appointment planner

Members of TU Dortmund University can use the appointment scheduler of the registered association DFN (*Verein zur Förderung eines Deutschen Forschungsnetzes e.V.*) to create appointment polls. The DFN scheduler can be accessed via the following link: <https://terminplaner4.dfn.de/>

4.1.3 TU Dortmund University App

Students and employees can install the TU Dortmund University app on their cell phone or tablet. Devices with Apple and Android OS are supported. The TU App was developed in-house by the ITMC. Students can find information about their timetable and exams, for example. Students and employees can view their library account. Everyone can find out about the cafeteria food and navigate around the campus. Current information about campus activities can also be looked up in the TU App. It is possible to send event-related push messages and display time-controlled action elements in the app interface.



3.4.3 Wall calendar

The current ITMC calendar can be downloaded as a PDF file. It is a landscape-format annual calendar with the official school vacations, public holidays and the lecture-free period. Printing can be ordered from the Central Reproduction Office. It is subject to a charge and is billed per WBS (PSP) element.

Costs: Default services / **printing:** Subject to a charge.

3.4.4 Media design

Design development: A logo, a digital graphic or a print medium is designed on behalf of the customer.

Template creation: A layout can be developed for a wide range of requirements and a corresponding template created in Adobe InDesign. This can then be filled with content by the customer.

Costs: The costs are listed in the price list.

3.4.5 Typesetting and printing of flyers, posters, certificates, brochures, etc.

The ITMC implements a supplied text according to the customer's design proposal. Printing can also be organized on request.

Costs: Default services for offices (*Referate*) and corporate centers if the TU corporate design is adhered to. All other orders are subject to a charge.



4.1.4 SCIEBO

Sciebo (pronounced "skie-boh") or *hochschulcloud.nrw* is a cloud service of the NRW universities for secure data exchange between the universities and their members.

Each user has 30 gigabytes (GB) of free storage space at their disposal. If required, employees can increase their storage space to 500 GB or apply for specific project boxes.

More information in the ServicePortal at:

" service.tu-dortmund.de > IT Services > Groupware > Sciebo (direct link: <https://service.tu-dortmund.de/group/intra/sciebo>)

4.2 Video and web conferences

Video or web conferences enable virtual meetings and webinars with remote participants. In addition to the transmission of video (webcam) and audio (microphone), the exchange of files and screen content is also supported. The ITMC offers different groups of people access to various systems (see below). A current list of the systems with access routes and instructions can be found in the ServicePortal at:

" service.tu-dortmund.de > IT Services > Conferences > Video conferences (direct link: <https://service.tu-dortmund.de/group/intra/video>)

4.2.1 Pexip (via DFN)

Pexip is offered by DFNconf and is available to employees of TU Dortmund University. Pexip places only low demands on the software equipment of the participating devices, as it runs completely in a modern web browser.

4.2.2 Zoom

Zoom is available as part of a campus license for all members of TU Dortmund University and offers unlimited meetings with up to 300 participants. The ITMC can also offer larger formats and webinars on request (as of 2021).

4.2.3 Cisco WebEx

WebEx is a video conferencing system from Cisco. Employees of TU Dortmund University can use it to create virtual meetings and streaming events in which students and non-TU members can also participate (as of 2021).

4.2.4 Adobe Connect (via DFN)

Via the DFN association, employees of TU Dortmund University have access to Adobe Connect as a web conferencing tool within DFNconf.

4.2.5 Telephone conference (via DFN)

A telephone conference can be set up using the self-service functions in the ServicePortal. This is a service provided by the DFN association.

4.3 E-mail

The ITMC operates the central e-mail services (Unimail, TU Exchange) of TU Dortmund University, which can be used by all users.

4.3.1 UniMail

All university members automatically receive a personalized e-mail address and an e-mail inbox; further details (activation, etc.) are described in detail in the ServicePortal. Furthermore, functional or project-related e-mail addresses and mailboxes are made available on request.

4.3.2 E-mail for employees

Employees of TU Dortmund University have the option of setting up their e-mail address on the central groupware system (TU Exchange) to use it for additional services (e.g., TU-wide appointment calendar, TU address book, address distribution list, etc.).

4.3.3 Web mailer

Specific browser-based web clients are available for the central e-mail services: "Web Mailer" for Unimail and "Open Web Access" (OWA) for Exchange.



4.3.4 Change of e-mail service

Migration support is offered for the transfer of local e-mail mailboxes and e-mail servers to the central e-mail service.

Other ITMC services for e-mail

4.3.5 Spam filtering

The ITMC uses e-mail security appliances as mail relays with the aim of minimizing the amount of spam for users at TU Dortmund University and rendering incoming viruses harmless. Positively detected spam is quarantined and can be released by users themselves if required.

4.3.6 Functional e-mail address

Functional e-mail addresses can be applied for, which offer the possibility of ensuring that an organizational area or even a project group or committee can be reached by a "speaking address". This functional mailbox can be made available to several users for both read-only and sending purposes.

A distinction is made between a functional mailbox and a functional mail alias. If, due to technical nomenclature rules, the "name" of the mailbox is difficult to remember or possibly misleading in terms of understanding, a functional mail alias can be used as a more appropriate forwarding address via which the mailbox can be reached. Such aliases can also be used to control incoming e-mail traffic, for example to maintain accessibility via addresses for which there are no longer any mailboxes.



4.3.7 Mailing list

Mailing lists can be set up under dedicated e-mail addresses for group communication. The lists can then be administered by a moderation team from among the participants.

4.3.8 Masse-mails

A web-based interface makes it possible to send an e-mail to a group of people that can be selected according to certain criteria. The addresses are compiled flexibly as required. The generated address list is deleted after the e-mail has been sent; the senders only receive information about the number of addressees. On request, departments receive their own access for sending messages in their area.

4.3.9 Electronic signing and encryption of e-mails

Using the certificates stored on your UniCard, you can send e-mails securely by encrypting and / or electronically signing them.

Another way to set up encryption / signing of e-mails independently of the UniCard is to use software certificates generated via the ServicePortal.

5. IT INFRASTRUCTURE

5.1 DataCenter

5.1.1. Server Housing

The ITMC of TU Dortmund University operates two DataCenters as technical operating/server rooms, both for the operation of its own IT infrastructures and for the accommodation ("hosting") of IT infrastructures of TU Dortmund University scientists. The ITMC, together with the Corporate Center Building and Facility Management, monitors the operation of the premises. The technical equipment is redundant and designed for 24/7 operation.

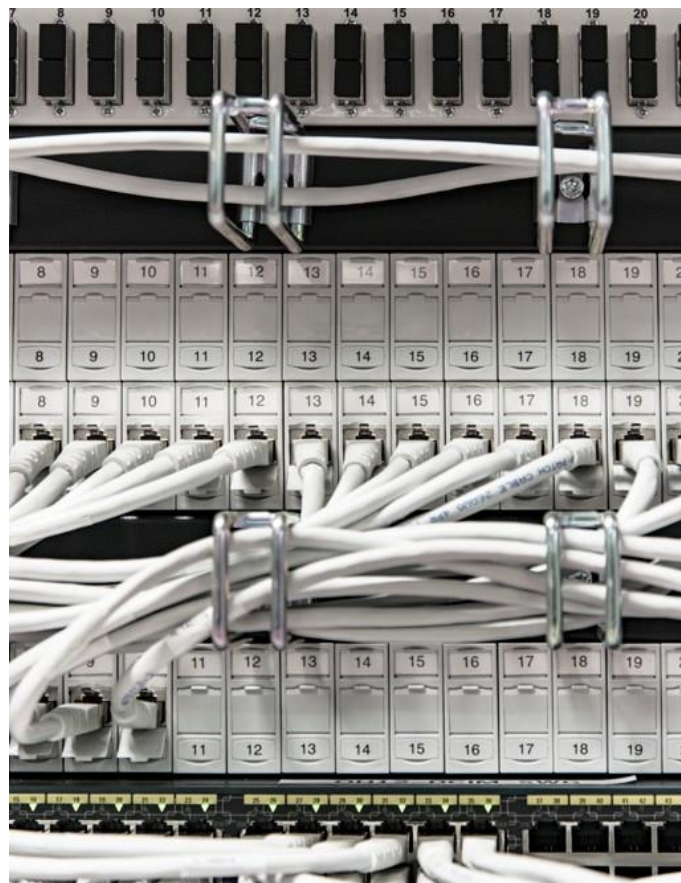
In the case of housing, the hardware and software responsibility for the servers remains with the respective facility of TU Dortmund University. Sufficient time should be allowed for checking the transfer of a computer to an ITMC DataCenter. The application is made via the Service Desk using a web form.

" <https://service.tu-dortmund.de/group/intra/housing-from-server>

5.2 TU Network / DataNet

5.2.1 Firewall

The ITMC operates a network of firewall systems within the university's IT security structures. Within this structure, it provides the local institutions with multi-client capable firewalls for local IP subnets. The institution appoints a person responsible for the configuration who carries out the tasks independently. The ITMC offers regular training courses.



5.2.2 Address and name management (DHCP/DNS)

The ITMC is responsible for the operation of the IP address and name spaces of TU Dortmund University and operates a system of redundant servers and services for this purpose. For the use of names, the regulations published in the ServicePortal have to be applied.

IP address ranges are allocated to the facilities as required and can be adapted or changed by the ITMC if technically necessary.

Furthermore, the ITMC offers TU Dortmund University institutions the option of managing subnets and namespaces (DHCP / DNS) themselves via a multi-client capable administration system. Use of the system is mandatory for newly assigned address ranges.

5.2.3 Time

A dedicated clock system for lecture halls (central clock and subsidiary clocks) is operated throughout the university via the university network.

Telephony

5.2.4 Landline

The ITMC operates and administers the VoIP telephone system at TU Dortmund University. Traditional telephony will be almost completely replaced on campus by the end of 2022. This includes the support of the respective communication network, the provision of new connections as well as the expansion and modification of existing subscriber connections within the university campus and, if necessary, externally (rentals).

5.2.5 Mobile devices / MDM

With MDM, the ITMC offers support for business mobile devices / smartphones. The support includes the initial configuration, delivery and support in the event of technical faults and problems.

5.2.6 Software telephone

The basic functions of IP telephony correspond to the landline telephony mentioned above, supplemented by new convenience functions: The ITMC offers all employees of the university a software telephone for Windows, MacOS, Android or iOS with which they can be reached on the move and independently of the office. The program also offers the option of exchanging instant messages, files and images directly and in encrypted form.

Costs: The default services include the provision of an in-house landline, a standard telephone and the option of using the central voice storage system and the software telephone. The connection charges are borne centrally by the university. Chargeable private calls are not permitted.

5.2.7 WLAN / LAN / WAN / eduroam

LAN: The ITMC operates the intra-university data network, consisting of a physical data network infrastructure and the associated active components for network operation. This network is made available to the facilities in the form of standardized network connections according to 1000BASE-T, IEEE 802.3 as a transfer point. Network connections are logically combined in the form of virtual networks to form facility networks, each with its own address space. See also "Address and name management (DHCP / DNS)".

WLAN / eduroam: The ITMC operates the intra-university wireless network or WLAN as part of the university computer network as part of the university's WLAN concept and is part of the eduroam network of the German Research Network DFN. Members of the university receive personalized access to the wireless network on campus and at all eduroam locations worldwide with their university ID and a separate WLAN password. First and second-level support is available for use and help with problems.

WAN: The ITMC operates the university's network connections to Internet providers as well as connections to university facilities not located on campus.

5.2.8 VPN

The ITMC provides students and employees with secure access via VPN ("Virtual Private Network") to the networks of TU Dortmund University. Clients are provided for common operating systems for this purpose. In addition, the ITMC offers institutions their own VPN access to the institution's network via the same infrastructure. The user administration can be carried out conveniently via our group administration or via a RADIUS server provided by the facility itself.

5.2.9 Infiltration protection

At the transfer point to the Internet, the ITMC operates a separate firewall that uses IPS, URL filters and access lists to keep malicious traffic away from the internal university network as far as possible. The URL filter only blocks categories that are clearly declared as malicious. In addition, well-defined ports of non-secure protocols are blocked for incoming connections.

5.2.10 Transmission system / antenna system

Transmission systems: The ITMC is the university's contact for the Federal Network Agency for Telecommunications and Post (*Bundesnetzagentur für Telekommunikation und Post*).

It operates the university's transmission and antenna systems (e.g., radio technology in lecture halls, radio and TV transmitters) that require official approval.

Costs: Default services in rooms subject to central allocation. All other costs have to be invoiced.

Radio and television technology: The ITMC is the point of contact and coordinator for the broadcasters' fee collection center (*Gebühreneinzugszentrale der Rundfunkanstalten*). Fees incurred in this area are budgeted centrally by the ITMC.

Server / Storage / Backup

5.2.11 Virtual servers (standard image / own image)

As part of TU Dortmund University's virtualized server and storage environment, virtual servers are operated in the ITMC for TU customers. Virtual servers can be provided via an application form in the ServicePortal of TU Dortmund University.

The server and storage infrastructure for creating, using and managing virtual servers is operated at the ITMC. The hardware is located at distributed locations in the ITMC's DataCenters to ensure reliability.

" <https://service.tu-dortmund.de/group/intra/vm-neu>

Costs: Prices are based on the size or configuration of the virtual server according to the price list in the ServicePortal at

" <https://service.tu-dortmund.de/group/intra/antrag-virtual-server>

Standard images: Virtual servers based on VMware are provided with an executable, pre-installed and pre-configured operating system, which are then operated by the customer under their own responsibility.

The following operating systems (VM images) are offered:

- " Windows Server 2019 Enterprise Edition (German), 64-bit
- " Windows Server 2016 (de-en), 64-bit
- " Windows 10 Professional, 64-bit
- " SuSE SLES 12, SP5, 64-bit
- " SuSE SLES 15, SP2, 64-bit
- " Ubuntu Server 18.04 LTS, 64-bit
- " Ubuntu server 20.04 LTS, 64-bit

Own image: A virtual server is made available, which is installed and maintained by the customers on their own responsibility. A VMware-compatible operating system image is required for the installation. Software maintenance by the ITMC does not take place.

Own reference images: Departments and facilities can provide their own individualized and standardized reference images, from which virtual servers are cloned for the corresponding area. Software maintenance by the ITMC does not take place.

VMware appliances in OVF format: VMware appliances provided by customers in OVT/ OVA format are transferred to virtual servers. Software maintenance by the ITMC does not take place.

A snapshot-based backup of the virtual machines is carried out using Veeam software. This does not replace the file backup; the customer is responsible for backing up and checking the data.

Géant Cloud: Géant Cloud services in the OCRE project (Open Cloud for Research Environment) can be obtained more easily via TU's membership of the DFN association. The services include services such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS) from the portfolios of well-known providers such as OVHcloud, Oracle, Exoscale, IBM, Orange, Open Telekom Cloud, Microsoft Azure and IONOS. You can find a catalog of all services offered at



<https://www.ocre-project.eu/services/cloud-suppliers/country/germany>

The ITMC is happy to advise you on how to obtain them.

Costs: Prices are based on the size or configuration of the virtual server according to the price list.

5.2.12 Research data storage

The ITMC offers special storage areas for your research data. The service is currently under construction and is constantly being expanded. Please contact us via our Service Desk for individual advice on this topic.

In principle, the service offers the possibility of being expanded, for example, as part of research applications with funds from the facilities and these storage areas are exclusively available.

Costs: Basic service / individual

5.2.13 File backup

File-based backup of relevant data is offered for servers and workstations. The backup service is based on the software Spectrum Protect (Tivoli Storage Manager / TSM). Individual files or directories are backed up - as specified by the user - in several generations of backup copies on hard disks and then magnetic tapes.

As part of the UA Ruhr cooperation, the service is provided by the University of Duisburg-Essen. The backup takes place in the data center rooms of both Duisburg and Essen. The data to be backed up is always stored in encrypted form on the client side. The respective encryption password is only known to the person initiating the backup.

The client software required for the respective workstations or servers is provided for most of the operating systems, e.g., Linux, Windows and MacOS.

5.2.14 Archiving

Large amounts of data can be stored securely and long-term in the archive. The archived files can be retrieved from different computers. The external service provider in the resource network is RWTH Aachen University. To protect the data against loss, it is stored geo-redundantly.

Costs: Default services - the terms and conditions of the RV NRW apply.

6. WORKPLACE IT (OFFICE IT)

6.1 Desktop support

6.1.1 Fault compression / maintenance

All IT devices must be regularly maintained to ensure that security gaps and bugs are closed for both operating systems and application software. This is now almost exclusively carried out automatically for IT devices managed by the ITMC.

If a device displays malfunctions or anomalies that indicate a fault or defect, remote access is used to troubleshoot and rectify the fault or procure/provide a replacement device.

Costs: Subject to charges - requires a valid service agreement.

Pools / VDI

5.2.15 PC Pools / Managed Service Pools

PC pools: The ITMC provides various services within the university to enable users to access IT resources even without their own hardware.

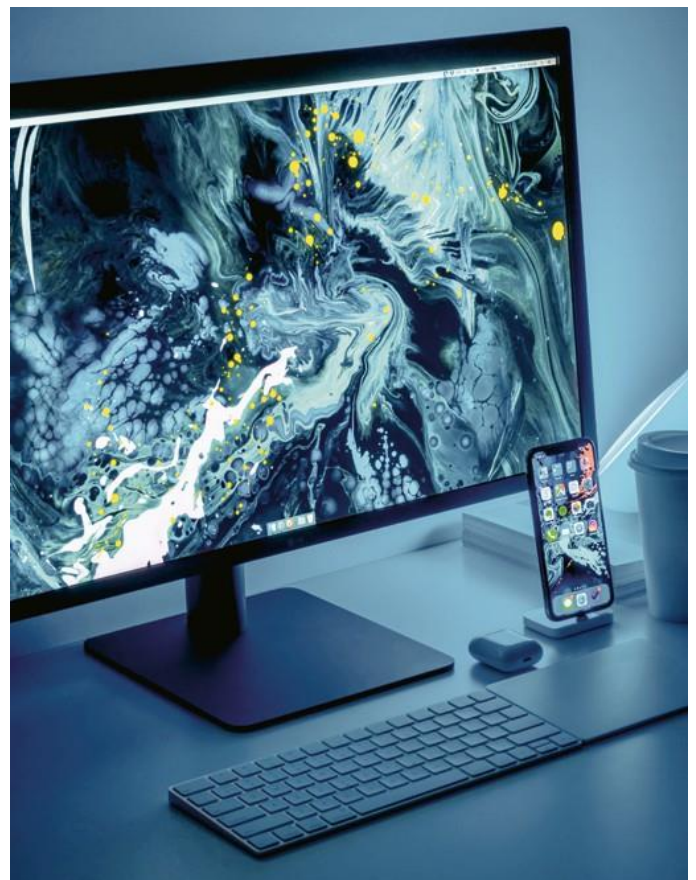
Managed service pools: The ITMC provides public university pools within an overall concept for access to TU IT services. It also advises TU facilities on setting up, procuring and operating their own pools.

5.2.16 VDI - Virtual Desktop Infrastructure

Virtual workstations / virtual applications: The ITMC offers virtual workstations (desktops) or virtual applications, especially for working off-campus (home office, business trips, and projects with external partners). The user logs on to the VDI cluster via the Internet with their work device (business / private) and can use the familiar working environment via a virtual desktop or a streamed application.

This enables members (employees and students) of TU Dortmund University to work more flexibly. At the same time, it is possible to provide students with applications for internships, academic work or seminars that would not be available as a local installation for cost reasons.

Costs: In principal basic service, but chargeable for special requirements (computing-intensive; graphical computing power) depending on the additional expenditure required.



6.1.2 Delivery of workplace equipment

Workstation equipment is obtained by the facilities according to performance requirements - either independently or with advice from the ITMC, as required. The ITMC also determines requirements and places orders for the administration. The ordered devices are usually delivered directly to the ITMC, where they are received and then configured in accordance with policies, structures and specifications of TU Dortmund University. The individual software required for your workstation is also installed before it is transported to the actual workplace. There, the cabling and start of operation is carried out together with the users.

Costs: Subject to charges - requires a valid service agreement.

6.1.3 Printer management

In most cases today, network printers are used instead of desktop printers for economic reasons. These are intended for specific organizational areas and specific user groups. The ITMC is responsible for setting up and operating the corresponding print servers as well as creating and managing the usage groups so that this control can function. The monitoring of toner levels and the timely initiation of reorders are also part of this service.

6.1.4 Office consultation / training

The ITMC offers advisory support for the use of the Microsoft office applications and conducts regular training courses on their use.

Office consultation hours: The ITMC's office consultation hours offer help for students and employees of TU Dortmund University for

- " Word,
- " Excel,
- " PowerPoint,
- " Outlook and
- " Access

Training courses: In addition to the regular training courses on office programs, which are offered in the ITMC training rooms and organized by the ZHB, separate training courses are also available on request if more than 6 people are attending. This service can be requested via the ITMC Service Desk.

The content, objectives and focus can be specially adapted to the needs of the participants or the requesting facility / workgroup.

6.1.5 Virtual applications

The ITMC offers virtual applications for off-campus work (home office, business trips, projects with external partners). Users can connect to the VDI cluster via the Internet using their work device (business/private) and then use a streamed application as if it were installed locally on their work device. This makes it possible to provide employees and students with applications for internships, academic work or seminars that would not be available as a local installation for cost reasons.

Costs: Default services - for special requirements (computing-intensive; graphical computing power) depending on the additional expenditure required.

6.1.6 Virtual desktop

The ITMC offers virtual workstations (desktops) for off-campus work (working from home (whf) a.k.a. "home office", business trips, projects with external partners). Users connect to the VDI cluster via the Internet with their work device (business/private) and are then offered a virtual desktop that allows them to work off campus as if they were logged in on site at a workstation managed by the ITMC.

This enables members (employees and students) of TU Dortmund University to work more flexibly. In the event of operating errors or technical faults, the working environments are also automated and can be made available again very quickly.

Costs: Default services - for special requirements (computing-intensive; graphical computing power) depending on the additional expenditure required.

6.1.7 Hardware procurement / advice on hardware procurement

Advice is offered for both standard components and special hardware to support the product selection and procurement. Equipment recommendations are regularly developed and provided for specific types of workplaces (desktop, laptop, workstation, tablet, smartphone).

The aim is to achieve standardization of equipment in the university by establishing standardized models and thereby exploit the advantages of simplifying workplace support.

Upon request from the university, the ITMC determines the requirements for hardware used across departments. For hardware used across departments, the ITMC, in cooperation with the Section Central Procurement, can take over negotiations with contracting parties with the aim of concluding corresponding framework agreements. Opportunities for cooperation with other universities are taken into account in this process.

6.1.8 Equipment lending

The ITMC has equipment on loan to support research and teaching. They are only available to members of TU Dortmund University and can only be booked online. A mobile laptop trolley with 12 laptops can be reserved by members of the university for teaching and study purposes using an automated booking system.

" https://www.rbs.tu-dortmund.de/static/equipment_lending/index

6.2 SW / license management

6.2.1 Software

The ITMC supports the provision and distribution of software at TU Dortmund University in a variety of ways. Current information on the offers is published on the ITMC website. Software is usually obtained via the ServicePortal.

An overview of free and fee-based software can be found at:

" <http://www.itmc.tu-dortmund.de/software>

Software supply: The ITMC can take over the supply (procurement and distribution) of software used across departments within the university.

Costs: If license costs are incurred, these must be borne by the facilities themselves.

6.2.2 Order software products

Within the scope of campus and state licenses, the ITMC is usually the designated contact for the hotline service of the license issuer. In cases where the ITMC is unable to provide advice on the content, contact is made with the licensor. The ITMC has concluded framework agreements for numerous software products. As a rule, only TU Dortmund University research and teaching institutions can participate in the negotiated contracts. Sometimes employees or students can also participate in the discounts. The software products may only be used for research and teaching purposes and must not be used for private or commercial purposes!

The ServicePortal provides user-specific lists that can be used to order software products directly or information on how to obtain them:

" <https://service.tu-dortmund.de/group/intra/produkte>

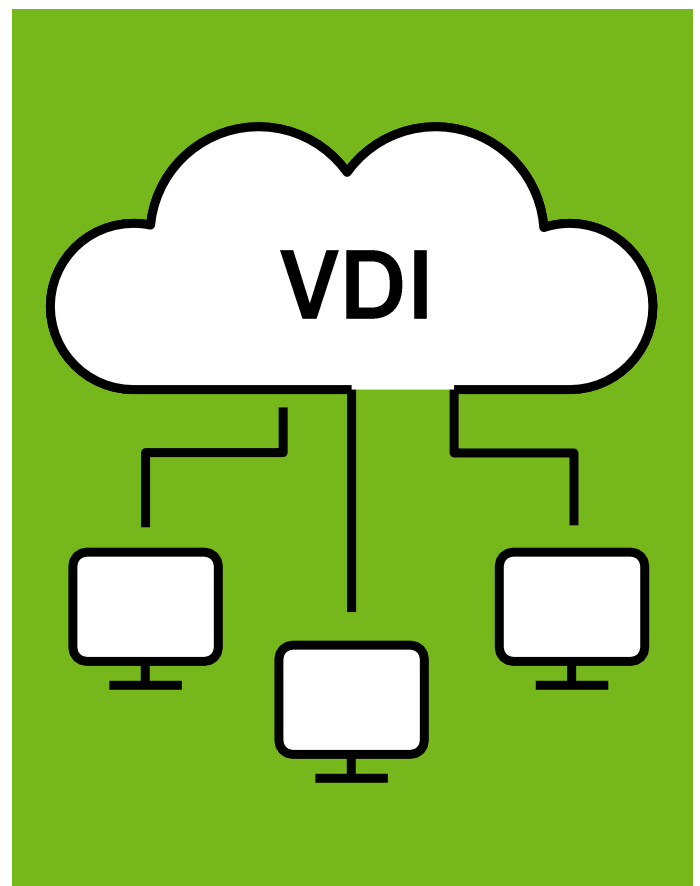
The ITMC Service Desk can be contacted for advice and assistance regarding the options provided by the ServicePortal.

Demand survey and contract negotiations: The ITMC determines the demand for cross-departmental software upon request from the university. For software used across departments, the ITMC can take over the negotiations with the contracting party in cooperation with the Section Central Procurement with the aim of concluding corresponding framework agreements. The possibility of cooperation with other universities will be taken into account.

License management: With the central KMS, the ITMC offers the possibility of automated distribution and activation of Windows and Office products as well as the regular feature and security updates provided by Microsoft within the TU network.

For certain special software, authorization of license distribution via a dongle server is required - the ITMC operates such a dongle server and the dongles of the user's facilities can also use these dongles via this server and do not have to operate their own dongle server.

As some licenses are linked to specific terms, the organizational units of TU Dortmund University can also use Spider as a contract management tool in order to, e.g., be informed in good time when licenses expire and, if necessary, to initiate further licensing - it also shows the history of licenses and renewals without the need to track it manually.





7. DEFAULT SERVICES

7.1 Authorization and access management

7.1.1 UniAccount

A user account (UniAccount) is created for all university members (employees and students) at TU Dortmund University when they are employed or enrolled. Among other things, this account is the central element for authentication for almost all services offered at TU. It can only be issued by post or on site - for security reasons, it cannot be sent by e-mail or telephone. The validity of the UniAccount is linked to active membership of TU Dortmund University and expires when membership ends.

7.1.2 UniCard / Campus ID

The ITMC provides two services for identification (access) and for the use of certain options only available to members of TU (borrowing, discounts in the canteens), especially for students (discounts in public institutions, e.g. universities, museums, etc.).

Students are provided with the Campus ID Student via the TU App. The ID can be accessed as a tile in the personal area of the TU App.

Employees are provided with the UniCard Personal (*i.e. for staff members*), which can be applied for via the ServicePortal. It is usually issued in the service area of the University Library.

The ITMC develops and maintains the technical infrastructure for the UniCard.

7.1.3 SSO - Single Sign-On

The ITMC operates software for realizing the use of various services through a one-time authentication (single sign-on for online content). The software supports federated login procedures in accordance with common standards (e.g. SAML2 or OIDC) and is therefore compatible with a wide range of web services and products.

The installation at TU Dortmund University allows authentication with user ID and password, as well as authentication using other factors.

7.1.4 IDM (AD / LDAP / Shibboleth)

The ITMC operates the identity management of TU Dortmund University. The basic task of this service is to consolidate the identity data of TU Dortmund University members in a central system and to make it available as required for various services within the university. In addition to providing identity data for other services, the ITMC offers support for the data protection-compliant use of personal data when implementing an IDM connection.

Furthermore, the ITMC operates an identity provider based on Shibboleth as part of the DFN-AAI (<https://www.aai.dfn.de>). This enables members of TU Dortmund University to access various services offered as part of the DFN-AAI using their UniAccount with associated password.

7.1.5 IT authorizations for guest researchers

You can apply for a guest researcher via the TU Dortmund University ServicePortal at the Corporate Center Human Resources (<https://service.tu-dortmund.de/gastwissenschaftler-innen>). They receive a UniAccount which allows the use of IT services (e.g., mail account, Exchange server).

7.2 Databases

7.2.1 Oracle country license

A general Oracle platform is provided as a service for use by students, employees and facilities.

As part of the NRW state license, the Oracle database software (DB, Application Server, RAC) is offered free of charge for facilities, employees and students. The use of Oracle support requires activation by the ITMC. There is also the option of free participation in the "Oracle Academy" and to use discounted training courses.

7.2.2 Installation / Operation

The order-related installation of database systems (DBS) for use by facilities on computers of the ITMC and third-party computers is offered. The following systems are currently supported here: Oracle and MySQL.

Specific databases are operated for various university-wide services, e.g: TYPO3 (TU website), IDM, Newsdesk; DB support is also provided for various administrative applications (e.g. SAP, HIS products). In addition, specialist databases can be operated and maintained for the departments of TU Dortmund University.

7.2.3 SFBS (Service for the Blind and Visually Impaired)

Resources for the blind and visually impaired are published in collaboration with the University Library. This service can be used by any visually impaired person worldwide. Further information can be found at

" <https://sfbs.tu-dortmund.de/>

8. HPC (HIGH PERFORMANCE COMPUTING)

8.2.1 LiDO (Linux HPC cluster at TU Dortmund University)

The Dortmund Center for Scientific Computing (*Dortmunder Zentrum für Wissenschaftliches Rechnen, DoWiR*) was founded in May 2012, bringing together more than 50 scientists from several departments at TU Dortmund University, the ITMC and various partner institutions. The center bundles existing competencies and resources in the field of scientific computing and high-performance computing (HPC) at TU Dortmund University in terms of expertise and personnel in order to optimize the efficiency of the development and application of computer-aided processes. The ITMC and DoWiR work closely together to provide IT services in scientific computing.

Housing of HPC and compute clusters: Within the scope of available resources, the ITMC offers space and supply structures for housing HPC computers (clusters). See Housing 5.1.1.

Access to HPC resources - high-performance computing platform LiDO: The central resource for high-performance computing is the HPC cluster LiDO3. LiDO3 is available to scientists at TU Dortmund University, FH Dortmund University of Applied Sciences and Arts and UA Ruhr as a tool for scientific computing.

LiDO3 offers the following features:

- " Linux operating system, SLURM batch system,
- " a compute cluster system based on the "Distributed Memory Computing" architecture,
- " many powerful computing nodes (number of CPUs and -speed and main memory),
- " Compute nodes with GPU accelerator cards,
- " a low-latency communication network (Infiniband),
- " a parallel, high-performance file system,
- " natural sciences and engineering sciences software (especially for FEM methods) for both serial and parallel applications. In some cases, this is additionally applied for as part of a national license and can thus be made available for nationwide use if necessary.

LiDO3 also serves to prepare projects and programs for the use of supercomputers. The LiDO team is supported by the DH.NRW project "HPC.NRW".

" Further information on LiDO3 can be found at:
<https://www.lido.tu-dortmund.de>

Costs: Default services for researchers at TU Dortmund University / FH Dortmund University of Applied Sciences and Arts / subject to charges for the UA Ruhr.



9.APPLICATIONS

9.1 Applications Management

9.1.1. ERP SAP

The SAP software has been in use in Enterprise Resource Planning since 1 January 2012. The following SAP modules are currently used at TU Dortmund University: Finance (FI), Controlling (CO), Budget Management (Public Sector Management PSM), Materials Management (MM) and Human Capital Management (HCM). In addition, self-service is offered for procurement, incoming invoice processing, vacation requests, travel requests and travel expense accounting. The ITMC is responsible for and manages the operation, maintenance and further development of the SAP application.

SAP Basis support: As part of SAP basis support, the ITMC ensures a stable SAP system landscape in terms of performance, availability and security. This includes:

- " installation, maintenance and configuration of the systems,
- " monitoring interfaces from and to non-SAP systems,
- " the preparation and implementation of migrations and release upgrades,
- " error analysis, description and reporting,
- " the import of SAP notes and support packages,
- " user and authorization management.

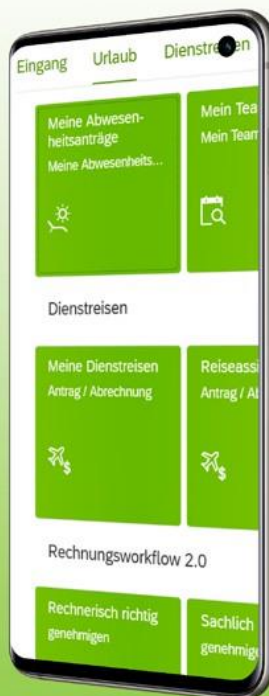
SAP application support: As part of SAP application support, the ITMC supports the SAP applications and self-service functions used.

The ITMC...

- " advises the specialist departments on the development and realization of solution concepts for specialist department requirements,
- " analyzes and clarifies errors or reports them to SAP,
- " carries out necessary customizing adjustments,
- " administers workflows and interfaces.

SAP further development: The ITMC ensures continuous further development of the SAP system through

- " the acceptance and implementation of new requirements from the specialist departments, including as part of the regular SAP company meetings led by the ITMC and active cooperation with the SAP universities in the state of North Rhine-Westphalia,
- " the planning, coordination and implementation of further development projects in consultation with the respective specialist departments or the university management.





9.1.2 Campus management (HISinOne APP / LSF / BOSS / PVP / Exabase)

Event management: The ITMC operates, maintains and configures the university's web-based course directory (LSF).

This service area includes

- " course registration and allocation of places,
- " generation of department-specific course directories,
- " room management, room plans, supply of public monitors,
- " training, support and advice for the departments on the use of LSF.

Examination management: The ITMC operates and maintains the IT infrastructure for the Central Examinations Office and examination management. The IT systems currently used by HIS e. G. are POS-GX and QIS-POS (examination portal BOSS). The portal for the digital submission of final papers EXABASE is an in-house development of the ITMC.

Service areas:

- " Mapping and maintenance of examination regulations: analyze and record for the HIS-POS system. The data structures are recorded and shared with the employees of the Central Examinations Office and the departments (examination boards, study coordinators) and prepared for operational work. Furthermore, technical reports (study overviews) and the necessary study documentation (certificates, grade reports, etc.) are prepared.
- " Coordination: The procedures and processes are discussed and designed together with the departments and the Central Examinations Office
- " The online services (exam registration, grade certificates, grade booking, digital submission of theses) are configured and maintained according to the requirements of the departments and the Central Examinations Office.
- " Database maintenance of student and examination database

IT student services: The ITMC operates and maintains the IT services for the Student Registration Office, offering students various functions for self-administration and control of their study processes. The HIS e.G. IT systems currently in use are SOS-GX, ZUL-GX, QIS-ZUL and HISinOne-APP (campus portal application).

Service areas:

- " Online application and enrollment incl. DoSV,
- " Admission procedure: Allocation of study places and letters of admission,
- " Re-registration process (requests, notifications),
- " Study certificates,
- " Student and examination statistics (IT-NRW),
- " Data exchange with BAföG office and NRWBank,
- " Data exchange with the health insurance companies,
- " Database maintenance of student and examination database

9.1.3 DMS D3

Document management systems (DMS) are database-supported management systems for electronic documents of all kinds. The aim of DMS solutions is to archive documents and make them accessible throughout the organisation. DMS solutions are used to organize and coordinate the development, revision, control and distribution of documents.

The ITMC operates the central document management system d. 3, which enables the archiving of documents (e.g., files).

9.1.4 Business Intelligence

The ITMC operates, maintains and configures the business intelligence solution Cognos for the administration of TU Dortmund University. It is used for systematic central reporting based on centrally provided, validated and historicized data. Cognos selects the data relevant for reporting, e.g., from Campus Management and the ERP system.

BI system and user support includes

- " the installation, maintenance and configuration of the systems,
- " monitoring the interfaces to the data-supplying systems,
- " design and implementation of data extraction, transformation and loading processes,
- " error analysis, description and reporting ,
- " support in the preparation of reports,
- " the user and authorization management.

9.2 Applications TU

9.2.1 ServicePortal

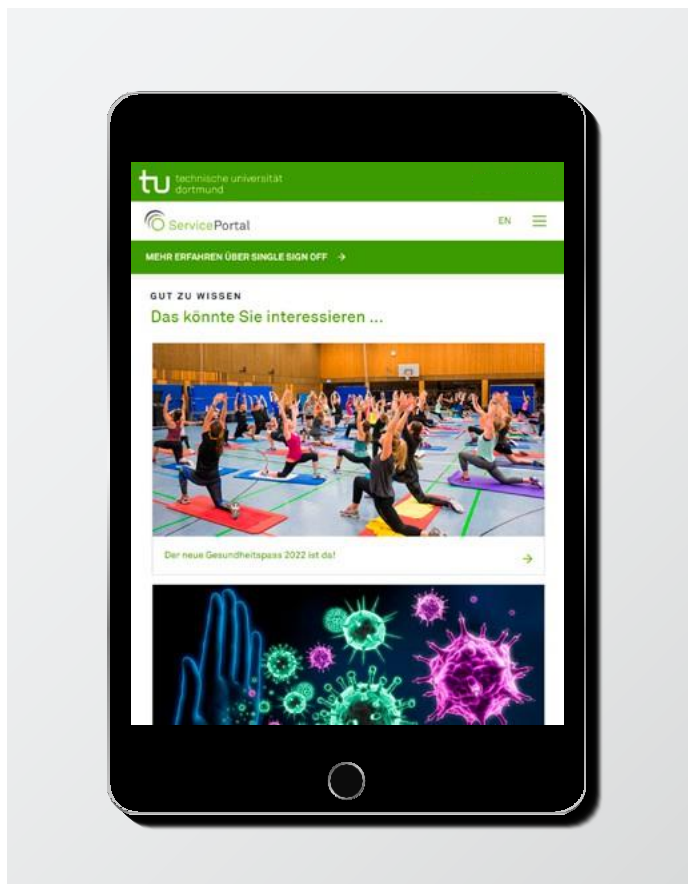
The ServicePortal offers the personalized use of online services under a uniform interface.

The ITMC...

- " develops and maintains the technical infrastructure,
- " provides IT services and information via the ServicePortal,
- " supports the administration and the University Library as well as other facilities in integrating their own services and information content.

For example, students can access the NRW semester ticket or order various software products. Employees can use services such as ordering business cards or editing their own contact details.

The range of services offered via the ServicePortal is constantly being expanded.



9.2.2 TU App

Students and employees can install the TU Dortmund University app on their cellphone or tablet. Devices with Apple and Android OS are supported.

The TU App was developed by the ITMC. Students can find information about their timetable and exams, for example. Students and employees can view their library account. Anyone can find out about the cafeteria food and navigate the campus. Current information about the campus can also be looked up in the TU App. It is possible to send event-related push messages and display time-controlled action elements in the app interface.

9.3 App development

9.3.1 Interface integration / programming

From the leading systems such as SOS and SAP, data can be provided (and processed, if required) for use in third-party systems in order to support the implementation and provision of web services etc.

Based on established standards, electronic mapping and the execution of processes can be realized with the help of a workflow engine.

Data can be entered via form masks as a prerequisite for processing in automated processes and self-service functionalities.

Costs: Case-by-case assessment: Default services or subject to charges

9.3.2 New developments

On the basis of a professional development environment, the ITMC can implement independent portal solutions according to specifications and agreements.

If required, the ITMC designs and develops software components, e.g., for use in the ServicePortal and TYPO3. The development of portlets can only be used in the ServicePortal (Liferay). Web applications written in JavaScript / TypeScript can be integrated into any CMS. The ITMC designs and creates individual software solutions according to customer requirements.

Costs: Case-by-case assessment: Default services or subject to charges

10. TAILORED SERVICES

10.1 IT operations and support

10.1.1 Operation of the IT infrastructure

IT systems (usually server systems) of the facilities can be integrated into the management and operational monitoring systems of the ITMC. In the event of a malfunction, local supervisors are automatically notified.

On request, the ITMC can also take over the overall operation of complete infrastructures, which includes network components, network management and other components in addition to servers. In addition to configuration and monitoring, this also includes maintenance, reactive and proactive troubleshooting and upgrading of the overall infrastructure in line with technical developments.

Costs: Subject to a charge



10.1.2 Desktop Support

The ITMC offers this service as a comprehensively qualified support (managed service), which comprises or can comprise three areas:

One area concerns the standard PC workstations (desktops/laptops, tablets) and includes both the hardware and the software. In addition to initial preparation of the end devices, this also includes the provision of individual software packages and the elimination of faults.

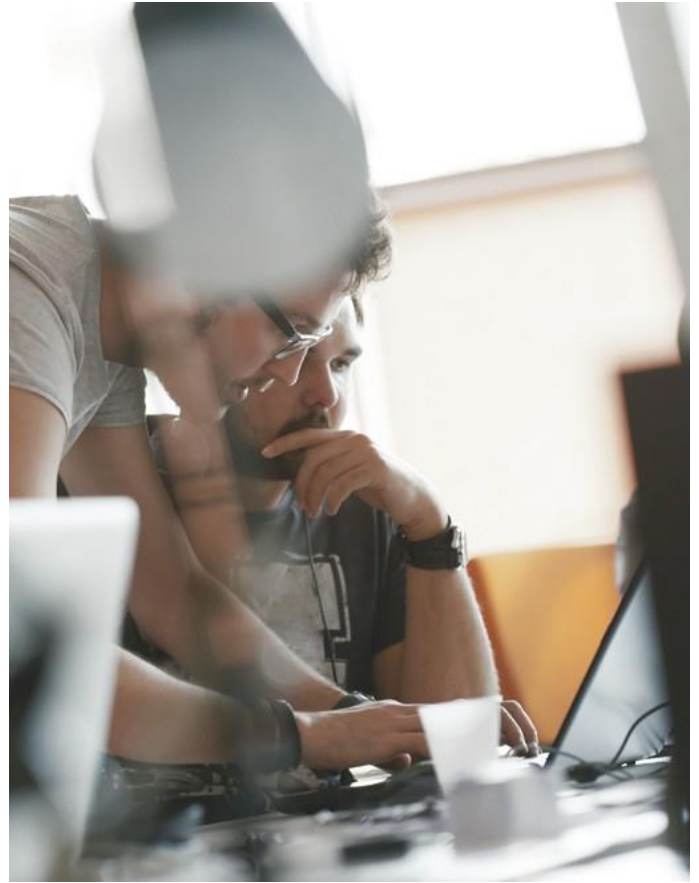
The second area relates to hardware and software for (server) systems, which are generally used to support local infrastructures and applications (e.g. file servers, special software applications) and thus represent the resources available to users for standard activities. Central services such as SAP, e-mail etc. are not included. As a managed service, the ITMC provides operation, data backup, updates (in terms of security and features), monitoring and proactive adaptation of system performance to user requirements.

Qualified support for PC/CIP pools (hardware and software refueling) as well as monitoring and troubleshooting represent the third area of Service Desktop Support.

A permanent desktop support service is not necessarily required; as TU facility can also just use the ITMC's service projects (see 10.1.3) to compensate for peak loads or a lack of know-how and then take care of operation and user support itself.

A service agreement is required for the provision of these services. The fees are based on the incurred expenses. It is also possible not to make use of all three areas of desktop support, but only those that are required or desired.

Costs: Subject to a charge



10.1.3 Projects

Agreements can be concluded between facilities of TU Dortmund University and the ITMC, according to which the ITMC takes over the support (also of parts) of the institution's IT infrastructure or provides the introduction of new services / applications.

Following the usual definitions, the project phase includes consultation on the formulation of technical and functional requirements (requirements engineering), the planning of the activities involved, the implementation - if necessary with the involvement of external partners - the start of operations and any necessary follow-up work. The details are jointly determined on the basis of an analysis of the current situation, taking into account the requirements and wishes of the facility.

This operation is then part of sections 10.1.1 / 10.1.2.

Costs: Subject to a charge

10.2 IT process management

The ITMC offers services for the analysis, documentation and improvement of university-specific business processes. A wide variety of processes and procedures are visualized and documented using standardized methods. The documented results of the analysis form the basis for a holistic and sustainable view of business processes and the identification of potential for improvement.

10.2.1 Database-supported process modelling

The ITMC offers access to a database-supported modelling tool for the design and digitalization of processes. With the support of this tool, processes can be documented and published using the BPMN 2.0 method, among others.

A web-based tool is used which also fulfills the requirements of the E-Government Act of North Rhine-Westphalia (EGovG NRW) for the documentation of administrative processes.

10.3 Requirements management

The ITMC offers support and services in determining, analyzing and specifying properties and framework conditions that software systems must have in order to provide the best possible support for the respective specialist processes. We ensure that the requirements are clearly and unambiguously formulated.



11. IT SECURITY

11.1 SIC (Security Information Center)

The ITMC supports the operational IT security of TU Dortmund University through a variety of preventive and reactive measures. The SIC is the central contact point of the ITMC, which, in close coordination with the CISO of TU Dortmund University, provides preventive information about security-relevant incidents, coordinates further measures if necessary and supports implementation as well as vulnerability and damage analysis. The SIC provides information about security gaps and threats on the ITMC website. Further information on IT security and the SIC can be found at: <https://itmc.tu-dortmund.de/unsere-services/it-sicherheit/sic/>

The ITMC advises and supports the university's facilities in coordination with the CISO of TU Dortmund University, taking into account the IT security concept of TU Dortmund University in the creation and implementation of local IT security and data protection concepts.

11.2 Services

11.2.1 Firewall

The ITMC operates a network of firewall systems within the IT security structures of TU Dortmund University. Within this structure, it provides the local IT managers with self-administrated firewalls for local IP subnets.

The ITMC can take over the administration of a local firewall on the central firewall for the subnet of an institution (as a managed service). The institution appoints a person responsible for parameterization (firewall rules).

The ITMC operates a fail-safe network of web security appliances to make surfing the Internet safer. Malicious websites are blocked and unsafe content (e.g. viruses) is filtered. The appliances can optionally be used from the subnets of TU Dortmund University by configuring the web browsers accordingly.

11.2.2 Endpoint Security - Sophos (Download & Info)

TU Dortmund University provides the Sophos endpoint security solution with various modules to protect workstations as part of a national license. The ITMC provides the downloads and the update service for this.

Facilities, staff members and students can obtain licenses via the ServicePortal.

11.2.3 Encryption of cloud-based data

Data stored in cloud solutions such as sciebo, B2Drop and commercial offers cannot be encrypted using tool/platform-specific mechanisms. However, it is possible to encrypt the files locally before uploading using available open source products, such as Cryptomator or others, and only then upload them. The Service Desk or the SIC will be happy to advise you on how to proceed.

Encryption is especially appropriate for sensitive and particularly sensitive data. Regardless of encryption, the current terms of use must be observed for all cloud services.



11.2.4 Backup

File-based backup of relevant data is offered for servers and workstations. The backup service is based on the Tivoli Storage Manager (TSM) software. Individual files or directories are backed up in several generations of backup copies on magnetic tapes, as specified by the user.

As part of the UA Ruhr cooperation, the service is provided by the University of Duisburg-Essen. The backup takes place on the premises of the computer center in Duisburg and Essen. The data to be backed up is always stored in encrypted form. This encryption password is only known to the person making the backup.

The client software required for the respective workstations or servers is provided for most operating systems, e.g. Linux or Unix, Windows, NetWare and MacOS.

11.2.5 Certificates

To support and as a prerequisite for secure server and individual communication, the ITMC operates registration agencies for issuing X.509 certificates as part of the DFN-PKI. The certification authorities are outsourced to the DFN-PCA.



11.3 Update and patch management

11.3.1 Windows update service

For Windows systems, a central update server is provided for updating Microsoft products (operating systems, Office, Internet Explorer, etc.).

Automatic software updates from the university network ensure fast and reliable downloads and save external connection capacities.

11.3.2 Update service SuSE SLES

A local mirror server has been set up for SuSE SLES from Micro Focus for the distribution of patches and updates, which can be used by members of TU Dortmund University.

11.3.3 Patch management for software

The ITMC offers central patch management for the usual workplace software, with which updates of third-party applications (Firefox, Thunderbird etc.) are controlled and carried out centrally.



12. ITMC EVENTS / CONSULTATION HOURS

The ITMC offers training courses as part of in-house training. Scripts for self-study are offered on a selective and topic-related basis. The offer is supplemented by topic-specific workshops, company and product presentations. These are announced in good time in the ITMC media channels.

Some manufacturers offer courses in the form of special programs for research and teaching. Conditions and contractual arrangements and the cost of implementation must be checked on a case-by-case basis. The ITMC may take on the coordination for TU Dortmund University.

12.1 TYPO3 training and consultation

12.1.1 Training courses

The ITMC offers regular training courses on the use of TYPO3 to design and maintain your own website, each with a different focus. In addition to the basic training courses and in-depth workshops for editorial staff, these are primarily:

Form creation: Experienced editorial staff and web administrators learn how to integrate forms into their website, which they can use to request information from visitors to their website in a structured way.

Multilingualism: With single-tree technology, you can design your own website in multiple languages. In this course, editorial staff learn how to use this technology for their website.

Web administration: People who take on the tasks of web administration in their area learn here, including user administration and the basic configuration of the area presence.

All training courses on web services with TYPO3, including the current dates and requirements, can be found on the web team's documentation site at:

" <https://typo3-doku.tu-dortmund.de/>



12.1.2 Consultation: TYPO3 Café

The TYPO3 Café is a meeting place for all TYPO3 users, from editors to web administrators. In the TYPO3 Café, ITMC experts answer questions about editorial maintenance in TYPO3, the use of content elements and plug-ins and the conversion process. Users can also exchange ideas with each other here.

In addition, wishes and suggestions for the further development of the website can be discussed. Design options and best practices can also be discussed here on the basis of your own website.

You can find all consultation services relating to web services with TYPO3 in the web team's documentation site:

" <https://typo3-doku.tu-dortmund.de/>

12.2 Digital teaching

E-learning consultation hours: The ITMC offers regular e-learning consultation hours in which members of TU Dortmund University are supported with questions and problems regarding the use of digital tools for teaching, learning and testing.

Consultation: The ITMC offers support in the technical implementation of digital teaching and testing scenarios. For a teaching-learning concept, support can be provided in the selection of suitable digital tools and advice and basic training in their use.

Training courses: The ITMC offers workshops on the e-learning courses which are open to all members of TU Dortmund University. They are designed for groups of between 6 and 15 participants. The dates of the workshops can be arranged individually with the ITMC. More information under:

" <https://digitale-lehre.tu-dortmund.de/>

" <https://itmc.tu-dortmund.de/unsere-services/services-for-digital-teaching/learning/>

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