

GWDG INFORMATION

Services for the Max Planck Institutes – Basic Services

09/2019



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Supporting you is our mission! – Challenge us!

Excellent research in the Max Planck Society needs an efficient and innovative IT infrastructure which should exceed standards and surpass your expectation. The GWDG is computing and IT competence centre for the Max Planck Society and the University of Göttingen serving the needs of science. For nearly fifty years, we offer to our customers a broad spectrum of IT and communication services.

On the one hand, the GWDG provides relevant basic IT services which must be reliable, economic and efficient so that you can carry out scientific work productively. On the other hand, there exists an increasing demand for cutting-edge and specific support to enable successful eScience and data management. In both areas we are committed to provide tangible services and practical advice on the basis of years of experience and competence. Our goal is to support you in your IT requirements in the fields of research, teaching, and administration.

Through our own research in the area of applied computer sciences and participation in numerous research projects, we create the foundation for innovative and customer-oriented IT solutions.

Having an extensive service catalogue, we have compiled a selection of interesting services for this brochure. For the Max Planck Institutes, the provision of basic and associated services is typically free of charge as part of our basic support. Moreover, we naturally offer you additional services as well. Please contact us – we will find a suitable solution for your requirements.

Data Archiving



You would like to permanently store and protect files of a completed project or a large collection of data, which will seldom be used or used only after several years. You look for long-term archiving of research data to adhere to good scientific practice and common data policies.

OUR OFFER

We operate tape archive servers to provide long-term storage for large files with hierarchical storage management (HSM) for easy access. Files are migrated to tape storage automatically if not in use, and transparently recovered within minutes when accessed again. In addition we offer services to store structured datasets where metadata should remain searchable even in archived state. We are happy to support your efforts in integrating long-term archiving into your data management process or help you plan migrations of particularly large data collections.

PRECONDITIONS FOR USE

Every user with a valid GWDG account can use the HSM archiving service.

>> www.gwdg.de/archiving

- You do not need an archiving infrastructure of your own, a network connection is sufficient.
- You can permanently and safely store large amounts of data.
- The data is redundantly stored with at least two tape copies in two different locations.
- You can mount the archiving directory as a normal network drive independently of your operating system.





You want to back up your files and combine different devices. You have a lot of data to back up and want a simple configuration. The backup should only contain the changed data and should not burden your mobile data volume. You want access to the backups via the web and from mobile devices. Intervals and retention times should be easy for you to configure yourself. Access by third parties should not be possible.

OUR OFFER

With "IBM Spectrum Protect (TSM)" and "Code42 (CrashPlan PROe)", we offer you two solutions that meet the requirements mentioned above: IBM Spectrum Protect is suitable for backing up servers with several million files and objects. Code42 is aimed primarily at users of devices, like PCs and notebooks. Both services use GWDG hardware, offer encryption and meet the requirements of IT security and data protection.

PRECONDITIONS FOR USE

Both backup services are available to all Max Planck Institutes. For Code42 there is an allocation of the license costs.

>> www.gwdg.de/backup-en

- Storage in the GWDG data centres and thus geographical separation of original data and backup copies
- Client software for all common operating systems
- (E-mail) notifications about the success of the backup
- IBM Spectrum Protect:
 - Magnetic tape robots in the background also allow the backup of large amounts of data (in the range of several 10 TByte per machine).
 - Numerous versions possible due to low-cost storage
 - The outsourcing of further data copies to other MPG computer centres is possible.
- Code42:
 - The combination of several devices and the web interface allow easy access to the secured data, even if the secured device is lost or defective.
 - Extensive configuration options both for the user and the administrators in the institutes and working groups

GWDG ownCloud



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You would like to keep your data in sync on every device and also be able to work offline with it. Additionally you may want to give other persons (inside and outside of the Max Planck Society) access to selected files. You would also like to access and edit them while you are on the road. Your data should be stored in Germany and at a trustworthy partner.

OUR OFFER

With the service "GWDG ownCloud" we offer sync and share functionalities with the software "ownCloud Enterprise". The web-office suite "ONLYOFFICE" can open and edit the usual office types. The service is operated on mass storage in our own data centres.

PRECONDITIONS FOR USE

The service is available to all members of the Max Planck Society who can logon at GWDG's customer portal or by using Shibboleth via the DFN-AAI.

- Trusted cloud storage for sync and share
- Open service for sharing also with external users
- 50 GByte default storage space per user; flexible increase possible upon request
- Clients available for all common desktop and mobile devices
- Web interface for flexible platform-independent access
- Integration of external storage (for example Dropbox, Google Drive, SharePoint, WebDAV or FTP)
- Synchronization of appointments and contacts with CalDAV and CardDAV

Cryptshare



You would like to share files securely and easily with colleagues and external project partners.

OUR OFFER

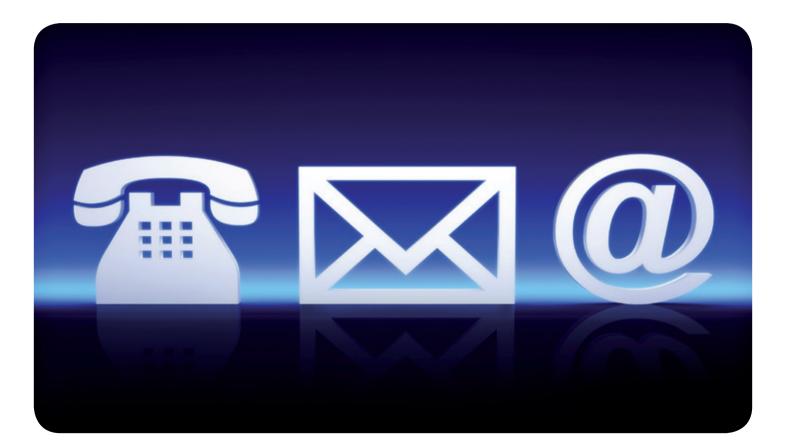
For the Max Planck Society we operate the software "cryptshare®" at GWDG. Only three simple steps and you can share files with your web browser via https://cryptshare. mpg.de.

PRECONDITIONS FOR USE

Required is a valid e-mail address from the Max Planck Society.

- The data will be transferred in encrypted form and stored encrypted on the server.
- No further software installation is necessary. You only need a web browser.
- No additional user account necessary
- User-friendly web interface
- The files are available for 21 days and will be automatically deleted afterwards.
- Password protected download

E-Mail Service (MS Exchange 2016)



You expect a trouble-free and uninterrupted e-mail server operation which reliably delivers your designated e-mails to your inbox. Spam and e-mails with viruses will be filtered out and do not clutter your inbox. You need sophisticated groupware and calendar functionalities.

OUR OFFER

Use our messaging and groupware system based on the renowned Microsoft Exchange 2016. We provide messaging, calendar and addressbook functionalities accross multiple platforms. E-mails are automatically filtered as spam or viruses. Access to the inboxes is possible with all the common e-mail programs as with a browser via the WWW. Your data is stored on premise in our data centres. We will also assist you with the migration of your current mail system to our Exchange platform.

PRECONDITIONS FOR USE

The service is available to all Max Planck Institutes. Setting up the service can take place any time after consultation with the responsible IT person in your institute. A mixed operation with local mail servers in the institute and central server at GWDG for some of your users can also be implemented.

>> www.gwdg.de/exchange2016-en

- You get a reliable and high availability e-mail and groupware service.
- Supports groupware features like organisation of appointments, tasks and address lists not only for individual users but also for groups, syncing contacts and calendars between devices.
- Numerous e-mail clients are supported: amongst others Outlook, Apple Mail and common smartphones.
- Your user account has 15 GByte default capacity, which can be increased if requested.
- Spam and virus-infected e-mails are filtered.
- You can access your e-mails conveniently and easily from anywhere on the Internet.
- Your incoming e-mails and their attachments are easy to find.
- You do not require your own e-mail server system saving costs and human resources.

Spam and Virus Filtering



You would like to maintain your own mail server but keep your incoming e-mails free of viruses. You do not want to invest resources to sort out unwanted e-mails in your inbox.

OUR OFFER

We support e-mail filtering using DFN services. Incoming e-mails will automatically be checked for spam and viruses. Most spam will be rejected before being forwarded to you, unclear but suspicious e-mails are marked so you can decide what should happen to the e-mail in question.

PRECONDITIONS FOR USE

The use of this service is possible at short notice.

- You receive less spam so that you have to filter little manually.
- Your e-mail program can automatically process marked e-mails suspected of being spam.
- When rejecting a virus-infected e-mail, the original recipient may be informed by a separate e-mail if requested.
- You do not require your own filtering system which has to be constantly updated and maintained.
- This way you save costs and personal resources.

Mailing Lists



You would like to communicate via e-mail with a group of selected recipients, possibly also outside your institute. You want to independently manage a mailing list, e.g. add or remove recipients, or open the list, so that list members can independently enter or unsubscribe. Or you want to write to a group of recipients via newsletter, and only communicate one-sidedly.

OUR OFFER

We offer you a list server which reliably ensures that your e-mails are sent to all members entered in the mailing list. The e-mails can also be archived if required. The archive can be searched for keywords by all members of the list. The number of your mailing lists is unlimited.

PRECONDITIONS FOR USE

All you need is a valid e-mail address, which is entered as an administrator in the mailing list. The administrative tasks are easy to learn.

- Powerful, fail-safe system for distributing e-mails even to large number of recipients
- You simply send your e-mail to a mailing list address; the distribution to the members of the mailing list is handled by the list server.
- List members can reply to this e-mail address. Moderation functionality is available which allows you to approve or reject the distribution of an e-mail.
- Full administrative access to the settings of the mailing list and list members
- Obsolete e-mail addresses are recognized by the system and automatically removed.
- If your e-mail domain is hosted at the GWDG, you can also set up the address of the mailing list through this domain.

MS SharePoint



You work as a team. To support your project work you want to set up a web-based platform for your content which is accessible from anywhere. Together you want to plan and manage documents, tasks and processes.

OUR OFFER

We offer you a highly available collaboration and publishing platform based on Microsoft SharePoint incl. Nintex Enterprise Workflow & Forms. SharePoint can be individually adapted to your requirements. You can set up a personal site for your documents or create extensive platforms for your project teams. We offer consulting and support for planning and implementation.

PRECONDITIONS FOR USE

For the use the one-time registration at https://www.gwdg.de/registration or the use of a valid GWDG account is necessary.

- All data is stored on local servers of the GWDG.
- Highly available system
- Central monitoring through the GWDG.
- We offer consulting and support as well as a wide range of training courses.
- You do not need to manage your own SharePoint server environment. This saves costs and human resources.

Managed Services



You want a reliable service without the burden of management. You do not want to worry about hardware, the basic installation, or basic updates.

OUR OFFER

We offer a growing range of managed services like for example web servers, wikis, Git, or databases. We monitor the services and we take care of maintenance tasks like installing updates or security patches for the respective services.

PRECONDITIONS FOR USE

The list of available managed services can be obtained from the GWDG web site. Most of the services are directly available to members of the Max Planck Society. The GWDG can also manage individual services according to your requirements. In this case, please contact us for further information.

- The services are immediately available.
- You can use the services corresponding to your usage profile.
- No further software installation is necessary on your part. You only need a web browser.
- GWDG will carry out the maintenance of the managed services.
- You can individually configure and change your user-specific preferences.

Project Management Service



You want to work in teams on one or several projects and require a range of project supporting tools. You already have experience in project management using online tools or need advice. You expect a reliable service that is available everywhere and can be embedded into your infrastructure.

OUR OFFER

We provide a selection of online management tools for your projects. You can customize your project tools to your requirements as a self-service and embed them into your environment. You can focus on managing your project and we monitor and maintain this service and take care of backing up your data.

PRECONDITIONS FOR USE

The service is available to all members of the Max Planck Society. Every user can create, manage, or participate in projects. Users outside of the Max Planck Society can be invited to existing projects.

- Web-based project management with a wide range of functionality and plugins to support the project lifecycle
- Integrated Git and SVN repository
- API for integration into your own environment
- Project areas where you autonomously create and manage projects
- Advice and support in setting up your projects
- Connection to the central GWDG user management
- Central monitoring, reliability and backup through the GWDG





You would like to work on text documents or presentations on your own or with your team in a simple way, relying on a number of useful features. Your changes should be visible in real time for both you and your colleagues. You would like to be able to restrict read or write access to your documents to protect them from undesired access. Additionally, you would like to be flexible on how to view and edit your documents – both mobile as well as desktop access should be supported.

OUR OFFER

Based on the free software "CodiMD" we offer you a service that allows you to create, share and collaboratively edit documents in a simple and intuitive way.

PRECONDITIONS FOR USE

In order to use GWDG Pad at https://pad.gwdg.de you only need a web browser and no other software installed. If you want to create your own documents, you need a valid GWDG account. Users without a GWDG account can register for one at https://www.gwdg.de/registration.

- Collaborative realtime editor
- Overview of all your documents after login
- Support of UML diagrams, mathematical formulas, syntax highlighting, music notes and many more
- Modes for creating and presenting slide shows
- Embedding external resources like videos, PDF files or SlideShare
- Auto-completion for Markdown expressions
- Access permissions can be modified individually for each document
- Publishing of documents possible
- Only web browser needed for usage, no further software to be installed.

²⁶ ShareLaTeX



You use LaTeX to create complex documents and look for a simple platform to do so, without having to install and maintain LaTeX locally on your laptop or desktop PC. You want to work simultaneously with other people on your documents, independently of different TeX installations and operating systems.

OUR OFFER

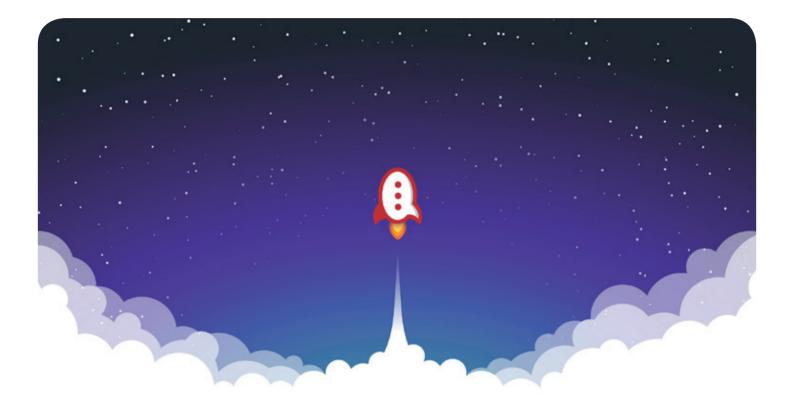
With ShareLaTeX we offer a LaTeX installation on our servers usable through your web browser. Documents can be edited simultaneously in real time with other users during communication through a build-in chat next to the document.

PRECONDITIONS FOR USE

A valid GWDG account, a current web browser and basic LaTeX knowledge are required to use the ShareLaTeX service. Users without a valid GWDG account can register one at https://www.gwdg.de/registration and send a request to support@gwdg.de to have their account approved for the service.

- Easy to use standard ShareLaTeX platform with your web browser, based on TeX Live
- No operating costs or setup time required
- The service produces output as PDF which can be downloaded through the web browser
- Collaborative editing of a LaTeX document and easy communication via chat

Rocket.Chat



You need a professional chat service to enable easy communication with colleagues – either alone or in a group chat with a searchable history. You want to exchange images and files with colleagues.

OUR OFFER

We operate Rocket.Chat as a messaging service with focus on communication in teams and groups. In addition, the service supports emojis, transfering files, images and videos as well as notifications from additional services like GitLab. With several clients for desktop and mobile devices and an easy to use web interface, we offer access from your workplace or on the road.

PRECONDITIONS FOR USE

A valid GWDG account and a current web browser are required to use the Rocket.Chat service. Just visit https://chat.gwdg.de to get started. Users without a valid GWDG account can register one at https://www.gwdg.de/ registration.

- Easy communication in a team
- Persistent, searchable chat history
- Sharing files and images
- Chat with any user with a valid GWDG account
- Integrated bots and APIs for integration of GitLab or RSS-feeds

GWDG Web Office



You would like to work on texts, spreadsheets or presentations fast and collaboratively with other participants without installing additional software on your device. You want to see changes in real time, optionally you want to track your co-workers and accept or reject their edits.

OUR OFFER

We offer the service "ONLYOFFICE" which allows for uncomplicated editing of text, spreadsheets and presentations, it supports the usual Microsoft Office file formats.

PRECONDITIONS FOR USE

The service is integrated in GWDG ownCloud and available to all members of the Max Planck Society who can login at GWDG's customer portal or by using Shibboleth via the DFN-AAI. External users can get access via GWDG ownCloud.

- Web interface for flexible, device-independed access
- Design inspired by well-known Office products
- Extensive functions
- Real time collaboration, can be limited optionally
- Optionally track and accept or reject edits





You want to manage documents collaborativly with the Git version control software, track the progess and issues of your projects or document your projects in a wiki. You expect a reliable service which is available everywhere and can be embedded into your infrastructure.

OUR OFFER

With GitLab we offer a platform which allows you to manage your source code in a convenient way. You can model your development process easily and flexibly into GitLab with the tools provided by the service. You can focus on managing your project and we monitor and maintain this service and take care of backing up your data.

PRECONDITIONS FOR USE

The service is available to all members of the Max Planck Society. Every user can create, manage projects or groups. Users outside of the Max Planck Society can be invited to existing projects.

- Web-based source code management with a wide range of functionality and plugins to support the development lifecycle
- Configuration of Continuous Integration
- Supports the "Merge Request Workflow"
- Advice and support in setting up your projects
- Connection to the central GWDG user management
- Central monitoring, reliability and backup through the GWDG

Virtual Server



For the provision of a service you require an application server or a data base server. You lack physical data centre space, hardware, infrastructure or manpower. Your server should feature high availability and maintain high performance.

OUR OFFER

We offer the hosting of virtual servers for your applications on the basis of VMware ESX. You can manage your own virtual machines. They are hosted in our reliable virtualisation infrastructure which supports different redundancy levels and adheres to best-practice VMware ESX guidelines. You remain administrator of your own virtual servers without dealing with the physical execution environment.

PRECONDITIONS FOR USE

Every user with a valid GWDG account can use our VMware Cluster.

- High-performance VMware Cluster with associated mass storage
- GWDG central monitoring
- High flexibility due to virtualisation technologies like templates (technically possible on request), cloning, and snapshots
- Possibility of automated backup
- Full administrative access to your server with 24/7 self-service
- Availability of all common operating systems for basic installation
- High reliability and availability through redundant locations, network connections, and USV backing
- Protection from virus attacks from the internet by high performance firewall systems

Housing of Servers



You would like to run your own dedicated physical server or storage system without the maintainance overhead and the necessity to operate the respective data centre infrastructure.

OUR OFFER

We operate several data centres in Göttingen with the necessary infrastructure for safe and reliable housing of your systems. We take care of the system management and we support you in procurement and installation of dedicated servers.

PRECONDITIONS FOR USE

The service is available to all Max Planck Institutes. It is necessary to discuss the exact technical details (including size, electrical power consumption and connection types) of the housing systems.

- Safe and reliable infrastructure
- Fast connection to the internet
- Data security and backup as well as monitoring based on your requirement
- USV power supply
- Air- or water cooling
- Access control
- Individually adaptable configuration

Web Hosting



You want to host your own web site for a project or institute, but you lack the necessary technical prerequisites at your institute.

OUR OFFER

We offer you virtual web servers at GWDG. Using a LAMP environment you can create your own web site. Making use of the concept of name-based virtual web servers from Apache the URLs of the server can use names from your institute's domain name space although in reality they are running at a server operated by us.

PRECONDITIONS FOR USE

To operate a virtual web server at the GWDG it is only required to have a valid GWDG account.

- Simple SFTP access to data

Your Advantages

with TSM

 System administration and maintenance (operating systems and central software components) through the GWDG

Backup of all data on regular basis by our backup systems

Provision, operation and maintenance of the hardware and

- Central monitoring through the GWDG
- Own domain possible
- Opportunity of encryption of the virtual web server with SSL on the basis of the GWDG-CA issued certificate
- For the use of wikis a maintained solution is available.

GWDG Cloud Server



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You need dynamic, scalable and flexible computing resources which you can manage as a self-service. You do not want to worry about the operational details and management of the IT infrastructure and focus on your operation system and application. You expect a modern infrastructure and secure data management without the usual maintenance.

OUR OFFER

The GWDG provides you a dynamic, secure and scalable private cloud. You have full access to your computing resources as a self-service. Both simple virtual machine management and advanced management requirements (network, storage, and APIs) are supported. The API gives you access to all the features of the service "GWDG Cloud Server".

PRECONDITIONS FOR USE

Required is a one-off registration or the use of a valid GWDG account. An activation for the self-service can be requested via support@gwdg.de.

- Provide powerfull and dynamic computing resources which fit your needs
- Quick and individual access to computing resources for research and teaching
- Secure data storage through integration into the storage infrastructure of the GWDG
- Complete self-service for the management of virtual machines, network and storage via the Web GUI and API
- Guaranteed quality of service according to your wishes
- Controlled pricing depending on your usage profile
- Individual advice based on your requirements

⁴² FTP Server



You want fast access to a vast selection of Open Source software, centralized in one place. You need handbooks, software manuals, or listings from computer journals. You want to keep your Linux or FreeBSD installation up-to-date with reliable access to updates.

OUR OFFER

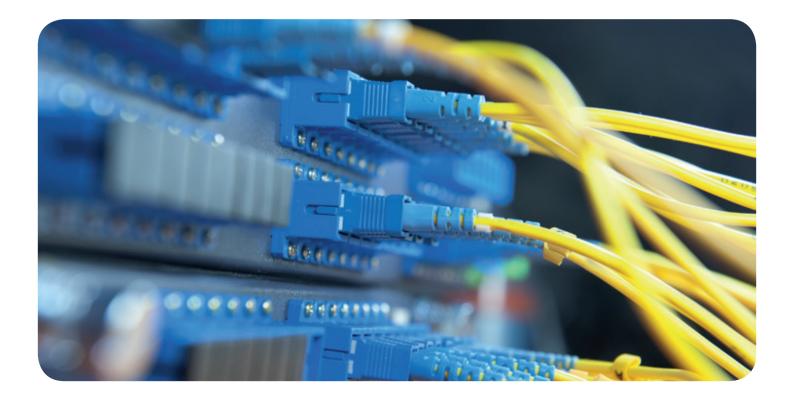
Since 1992 the GWDG provides one of the most prominent FTP Servers worldwide with powerful resources and fast network connectivity. It is the main mirror for many Open Source projects.

PRECONDITIONS FOR USE

The FTP Server can be used by any user. Users within the GÖNET reach the service locally and therefore get the best possible performance.

- Vast selection (65 TByte) of Open Source software, available worldwide
- Especially fast within the GÖNET
- Most recent software, including current updates for the most common Linux distributions
- Efficiently searchable through locatedb
- All common protocols (http, ftp, rsync, and nfs) can be used for access.

Use of an IP Address Management System



You want a central and professional administration of IP address assignments, DNS and DHCP services (IPv4 and IPv6). You want to delegate maintenance of parts of the IP, DNS and DHCP data to your subordinate administrators. You want high available DNS and DHCP services provided by appliance technology.

OUR OFFER

We offer you to use our IP address management (IPAM) system, which provides multi-tenancy support. The address space and DNS name space can be maintained by one or several local administrators. The data synchronization to the responsible DNS and DHCP services takes place periodically or instantaneously on demand. DNS and DHCP can be delivered locally via centrally administered appliances.

PRECONDITONS OF USE

Your institute must name one or more administrators. For local DNS services the integration of an existing DNS server or a local appliance is required. DHCP services always require a local appliance. Locally installed appliances must be purchased by your institute (depending on the institute's requirements).

- The IPv4 and IPv6 address lists are administered in a professional way.
- The consistency of the data in the address and name space is guaranteed.
- The maintenance via the web interface does not need much training and requires less technical expertise on DNS and DHCP services and operating systems from your own staff.
- The administration of parts of the address and name space to various subordinate administrators can be delegated.
- Local DNS and DHCP appliances can provide high available services on site (optional).
- Use of the GWDG DNS server for public DNS databases (without the necessity to operate a server yourself; optional)

System Monitoring



You want to monitor your servers, network components, or other network-connected systems.

OUR OFFER

System monitoring is done at GWDG by a centralized multitenant system. You will have your dedicated workspace within the system to add the hosts and systems you want to monitor. Thus, you will have your own special view of the monitoring system in your web browser. Additionally, if wanted, our staff can be notified about problems concerning your hosts or services to execute further steps.

PRECONDITIONS FOR USE

The service is available to all institutes; however, monitoring over WAN connections requires individual agreements and tests.

- Access to a completely state-of-the-art monitoring system
- Possibility of additional monitoring by GWDG staff
- You save time and have full support by GWDG.
- No maintenance efforts and costs for yourself

Setting up eduroam



You want to use WLAN at several thousand locations in over 100 countries worldwide and offer both your employees and your guests eduroam access.

OUR OFFER

eduroam provides registered users a WPA2-enterprise encrypted, secure access to research oriented networks without additional registration. This applies not only to your particular institution, but also to all participating institutions worldwide. We support you in integrating your user accounts into the eduroam network. You can make use of our authentication server or our configuration examples. We would also be happy to create an eduroam "configuration Assistant Tool" for you so that your users can easily connect to eduroam WLAN.

PRECONDITIONS FOR USE

You need to run a central user directory service (e.g. LDAP or Active Directory) and have to provide wireless infrastructure that supports WPA2-Enterprise (most do).

- All employees of your institute can use their own account to join eduroam at all participating facilities.
- Free wireless Internet without a guest account or reconfiguration
- Free WLAN access without a guest account or reconfiguration in a steadily increasing number of public places and non-university facilities such as restaurants, hotels and airports in Sweden and downtown Tokyo.
- eduroam users will not be confronted with any annoying front pages and are not forced to agree to any terms and conditions from WLAN service providers they do not know.
- WPA2-enterprise encrypted, secure and privacy compliant access to the science network
- Simple eduroam setup on many different end devices (e.g. PCs, MACs, Smartphones, Tablets, Chromebooks) with the "eduroam CAT-Tool".
- On request we can also provide a pre-configured CAT tool for your institution so that your users must only enter their credentials on their end devices.

Client Management for macOS and iOS



You want to keep the macOS devices of your employees up-to-date and secure, without having to take care of the system maintenance, provide certain software packages and/ or preconfigure system settings on the macOS devices for your institute. You want a central software distribution of apps to the macOS and iOS devices of your institute. Your iOS devices should be configured and installed with Zero Touch when switched on.

OUR OFFER

We offer you a central management of your macOS and iOS devices including extensive and group-based expandable self-service, device-based software distribution, where your institute is the owner of the apps and Zero Touch Deployment through the use of the Device Enrollment Program. In addition we offer the provision and installation of configuration profiles, a central overview of the devices in your institutes incl. system overview and the possibility of purchasing apps through Apple's Volume Purchase Program with high educational discounts.

PRECONDITIONS FOR USE

Connection to the Identity Management of the GWDG

>> www.gwdg.de/client-management-mac-en

- Automatic and prompt updates of the software
- Remote support possible (only with explicit consent)
- Monitoring of hardware functionality (e.g. hard drives, memory, etc.)
- Addition and/or deactivation of specific services and functions based on your needs
- Increase security through policy-based prevention of nonauthorized and potential malware
- Deployment of ready-to-use software packages through our self-service app. No administrative privileges are required hereby for the user.
- Self-service packages can be customized to fit the needs of individual groups within an institute.
- Local administrators can manage their institute's devices.

Persistent Identifier (PID)



You want to get permanent references to your research data by Persistent Identifier (PIDs) to enable the refindability and long term accessability of the data in the case of sharing data with other researchers or citing data resources as basis of a publication.

OUR OFFER

We provide a PID service includings prefixes for you, where you can mint and maintain your PID via GUI or REST interface. We run the local resolver and provide as partner in the ePIC consortium access to at least two additional mirror servers, located somewhere else in Europe, to ensure the resolvability of the PIDs with high availibility. If your PID contains all required metadata required by DataCite, also a DOI can be derived from it.

PRECONDITIONS FOR USE

All institutes and customers can use this service. All data resources that shall get a PID need to have a valid URL, such that a resolution is possible. For institutes it is advisable to consult with GWDG to require a dedicated prefix in order to align requirements and service configuration.

- Your data becomes referable inside research groups and scientific communities and citable in scientific publications.
- You are able to adjust yourself the URL of the data resource in case there are changes in the data location.
- Institutes can use a dedicated prefix for the PID.
- As data manager you can enforce policies for the PID management inside of your institution.
- With the PID provided it is possible to assign a link to the metadata of the data resource as a parameter of the PID, and this way to enforce a strong coupling between data and metadata.

High Performance Computing



You need complex model computations or extensive data analysis for your research. The software you use for this purpose has special requirements, and is therefore not suited for standard servers.

OUR OFFER

We offer you a comprehensive range of high performance computing (HPC) resources, i.e., servers with high processing power, large memory or disk space, or a powerful high speed interconnect for parallel applications, along with the corresponding consulting services.

PRECONDITIONS FOR USE

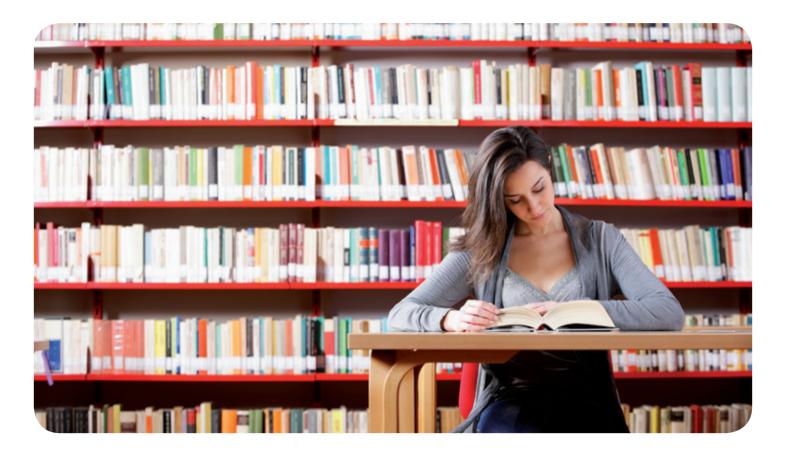
Access to the HPC resources must be activated for your userid.

Your Advantages

- Access to regularly updated state of the art HPC systems
- Suitable resources for a broad spectrum of different application profiles: memory intensive data analysis, multithreading, or massively parallel MPI applications
- Integration with the central storage systems of the GWDG: Your results are available anywhere and are backed up regularly.
- The Slurm resource management system enables you to efficiently control your compute tasks.
- Training courses, for example on application parallelization
- Expert advice on all your HPC questions
- Ready to use preinstalled HPC libraries and applications, for example Gaussian, Turbomole and a wide range of bioinformatics applications. We will be pleased to advise you.
- You can run your own application containers with Singularity.
- The HPC system can be used as a backend for Jupyter notebooks with Jupyter-Hub.
- Apache Spark clusters can be configured as batch jobs

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Library Service Aleph



As a head of a Max Planck Institute library, you are looking for a high performance library system software (ILS) and an online catalogue (OPAC) to present your library's holdings but do not have the necessary technical infrastructure or personnel capacities at your local institute.

OUR OFFER

We offer you the possibility to use the Max Planck Society's Aleph server operated by GWDG. Depending on your requirements, your entire course of business or parts thereof can be transacted here. With the Web OPAC you provide your users with a high performance research instrument. We optionally offer support for system librarians or the complete configuration and maintenance of your library's setup.

PRECONDITIONS FOR USE

Every library on the MPG Aleph server has its own Aleph workspace and data pool. The librarians thus are to a high degree autonomous in choosing their own appropriate Client and OPAC settings The configuration is largely controlled by ASCII files in the file system. The configuration files are developed, tested and maintained by the system librarians at GWDG, at the Max Planck Digital Library (e.g. the Central MPG e-book catalogue) or at the local libraries. Windows GUI clients are available to library staff for their work. **>www.gwdg.de/aleph-en**

- Hosting and infrastructure, hardware and software maintenance and updates are provided by the GWDG.
- Choice of modules to be used by the library (e.g. cataloguing, acquisitions, circulation or inter-library loan)
- Further modules (e.g. self check-out or catalogue enrichment with digital objects) may subsequently be added.
- Choice between building up system librarian's know-how in the local library or using a standardized setup maintained by GWDG
- Regular backup of the server by our backup system using TSM
- Central monitoring by the GWDG

Library Service Koha



As head of a scientific library you are looking for a high performance integrated library system (ILS) and an online catalogue (OPAC).

OUR OFFER

We offer the usage of the Koha Library Service of the GWDG to handle all or parts of your business. With the Koha Web OPAC you provide an efficient search tool for your users. We support you during the whole process of creating and managing your setup or we take on this task with the help of a ready-made setup. Every library gets its own Koha instance in which you can configure all available settings for your library according to your needs.

PRECONDITIONS FOR USE

A valid GWDG account is required to obtain a Koha instance. To use the service interface, you need a current web browser; there is no need to install special client software on library PCs.

- Open source product, i.e. no license fees are charged
- Hosting, infrastructure, maintenance and updates of hard- and software are provided by the GWDG.
- Free decision on usage of Koha for full or only parts of business per instance
- Choice between building up your own system library competence in the library with maximum parametrization options or using a setup maintained by the GWDG
- Regular backups of the Koha servers with TSM to GWDG internal servers
- Maximum control over your data, which is only stored on servers in the data centres of the GWDG.
- GDPR compliant administration, anonymization and deletion of personal data
- Central monitoring by the GWDG

Databases



You want a database but do not have the necessary technical prerequisites in your institute. You lack either the hardware or the appropriate resources for the operation.

OUR OFFER

We offer you the opportunity of the hosting of MySQL and PostgreSQL databases at the GWDG. By request, we also host Oracle databases for you. For the operation of the databases you can use our database service. Your MySQL databases will be kept redundantly on different servers. Your PostgreSQL databases runs on a Server in the VMware Cluster.

PRECONDITIONS FOR USE

The network to which access can be made must be specified and activated. On the user side a MySQL or PostgreSQL client or application software with integrated database driver must be available. Alternatively you can choose a web-based access via phpMyAdmin or respectively phpPgAdmin.

- Quick access to all databases.
- High reliability and availability
- Access to the databases possible via web interface
- Automatic generation of backups of all databases
- Server backup on a regular basis by our backup system using TSM
- Access security via IP limitation
- Central monitoring by the GWDG

Application and Registration Systems with integrated Workflow Support



You would like to implement an application or general registration procedure, e.g. for open positions or meeting management. Applicants should apply online and be able to be automatically notified per e-mail. Evaluators should have access to the applications or registrations via the WWW and be able to render evaluations online.

OUR OFFER

On request we create individual Lotus Notes databases which are open to all candidates or registrants via a web browser. The created documents can only be viewed, processed and evaluated by selected evaluators via the WWW and from specific staff members of your institute. The applications received will be sorted and displayed according to your criteria. Further workflows can be designed individually.

PRECONDITIONS FOR USE

For their applications applicants require merely the internet access and a web browser. Those processing the data sets can use either Lotus Client made available by GWDG free of charge or a web browser. Evaluators can enter their assessments in a web browser. The service, customization support as well as mandatory consulting can be requested via support@gwdg.de.

- High performance, reliable system to receive applications or registrations via the WWW
- Appropriate data protection storage and processing of data
- Distribution of documents on paper is superfluous as access by evaluators or others responsible takes place via the WWW.
- Every workflow is adjustable to your situation
- Candidates can be notified automatically per e-mail (e.g. a rejection)

Online Surveys



You would like to conduct online surveys and store the gathered data at a trustworthy site in Germany. The creation of the surveys should be easy and offer many design options.

OUR OFFER

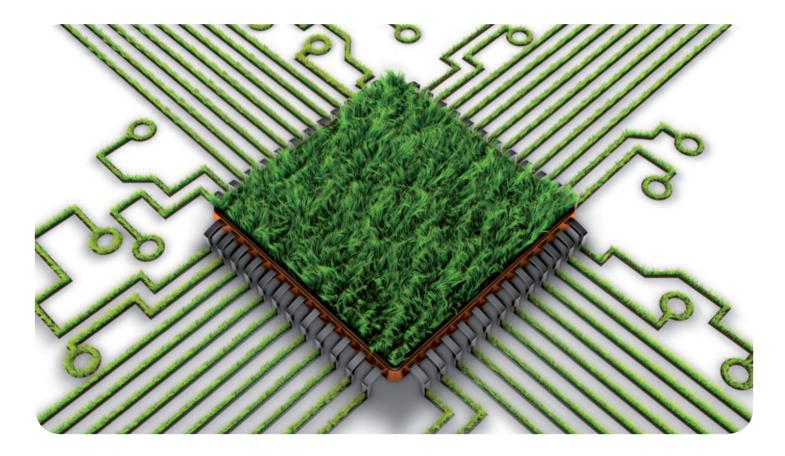
We operate a server hosting the reliable and popular opensource software "LimeSurvey". With LimeSurvey, it is possible to create, conduct and analyze online surveys. The data collected will be stored in the MySQL Cluster of the GWDG.

PRECONDITIONS FOR USE

The service is available to all members of the Max Planck Society. Setting up an account for LimeSurvey is carried out at request. Creation and administration of the surveys are carried out in a web browser.

- Creation of online surveys with LimeSurvey with an easy to use web interface
- No special (programming) skills required (basic HTML and CSS skills are helpful, if you wish to edit the pre-designed survey templates)
- No additional installation of software necessary; a web browser is all you need.
- Execution and evaluation of surveys done with LimeSurvey
- Trustworthy data storage at the GWDG
- Created surveys can be tested in advance.
- Export of the structure of a survey and the data collected from LimeSurvey

Bioinformatics Programs



You are seeking access to sequence analysing software like MASCOT (proteome research), Delta D2D (evaluation of 2D gel-electrophoresis), Geneious Prime (sequence analysis) or you use Next Generation Sequencing technology and do not have available the necessary computing power and storage options in your institute.

OUR OFFER

We offer access to the desired software on our high-powered hardware: For this purpose, far more than 100 bioinformatic programs are available at our bioinformatic compute server and our HPC cluster. For demands across institutions we also operate a license server (e.g. Geneious Prime) for you.

PRECONDITIONS FOR USE

A precondition for use is a valid GWDG account. For Linux based systems small basics in Linux are required.

- High powered hardware with large main memory and harddisk space
- High reliability and availability through redundant systems and network connections
- We will help you to use your own programs at our computers (under Linux and Windows server).
- Simple and encrypted access to your processing and storage area
- Periodic backups (also of big data); long-term archiving

Statistics Programs



For your ambitious statistical computations you need the necessary software and computing power.

OUR OFFER

We offer access to standard software (SAS, SPSS, Statistica, Stata, and R) at our high-powered compute server, our HPC cluster (SAS and R), or our R-Studio web server.

PRECONDITIONS FOR USE

Depending on used hardware a valid GWDG account is required, or just a student account is sufficient. For Linuxbased systems small basics of Linux are necessary.

- Long-running computations at high powered hardware with large main memory
- High reliability and availability through redundant systems and network connections
- We will help you to use your own programs at our computers (under Linux and Windows Server).
- Simple and encrypted access to your processing and storage area
- Periodic backups (also of big data); long-term archiving

Jupyter



You need an easy-to-use platform for data analysis in a web browser with the languages Python, Julia or R.

OUR OFFER

We operate the service Jupyter which allows for live editing and execution of text, graphs, equations and code in a web browser. Possible use cases are data cleaning and transformation, numeric simulations, statistic modelling, machine learning, and coding courses. Jupyter can also be operated on the Scientific Compute Cluster of the GWDG, if larger computing resources are needed.

PRECONDITIONS FOR USE

Every user with a valid GWDG account and a recent web browser can use the service. Access the service at https://jupyter.gwdg.de. User without a valid GWDG account can register for an account at https://www.gwdg.de/ registration.

- Easy web-based environment
- LaTeX and Markdown support
- Kernel available in Python, Julia, and R
- Export to PDF, HTML, and Markdown

Pseudonymisation and Data Trusteeship



To carry out scientific studies on sensitive personal data (e.g. in the context of medical studies), you need a pseudonym generation service. In addition to the Personal Identifier (PID), you also want to generate Subject Identifier Codes (SICs) for different data sources in order to avoid unwanted merging of data records. Last but not least, for the separate storage of study data and the identifying personal data you need an independent data trustee outside of your instruction's authority.

OUR OFFER

We offer PID and SIC generation services and act as data trustee for the identifying personal data. The service is operated applying comprehensive technical and organizational measures that ensure data protection and security even in the context of sensitive studies.

PRECONDITIONS FOR USE

The server is set up in close cooperation with the respective study manager.

- GDPR-compliant pseudonymization service for scientific studies on sensitive personal data
- Generation of a Personal Identifier (PID) and any number of Subject Identifier Codes (SICs)
- We act as a data trustee, study data and personal data are technically and administratively separated in compliance with GDPR.
- Daily backup of personal data, PIDs and SICs
- Suitable for long-term studies (ten years or more)
- Assistance in the preparation of a contract for commissioned data processing

Vulnerability Scans on Networkattached Equipment



You would like to check your network-attached equipment for vulnerabilities open to the internet and resolve these issues, to protect your network from hackers attacks and other IT security risks.

OUR OFFER

With the aid of vulnerability scanners and in close cooperation with your staff we will scan for IT security vulnerabilities of your equipment and document them. On request we will work together with you on improvement of your system's IT security.

PRECONDITIONS FOR USE

As the testing methods – under rare circumstances – could have an impact on IT systems of your institute, the scans must be conducted in close consultation with your institute and be approved of by its directors.

- You get to know the vulnerabilities of your network-attached equipment.
- You get advice, how to eliminate these vulnerabilities as far as possible.
- IT security of your systems is validated and if necessary improved to protect IT security against IT risks due to Internet attachment.

Public Key Infrastructure (PKI)



You would like to secure your web server so that is suitable for confidential data. Your users would like to send signed e-mails or confidential information by means of encrypted e-mails. You would like to sign documents or program code.

OUR OFFER

In cooperation with the DFN, we offer a public key infrastructure (PKI) as the key component of a comprehensive security concept. With this PKI we offer you appropriate services for security issues in communication.

PRECONDITIONS FOR USE

For issuing certificates the applicant can appear personally at GWDG or a local registration authority (RA) is required. A RA can be initiated at the request of the institute directors. For the establishment of a RA an initial contact to GWDG is required.

- Certificate according to X.509 standard with which
 - to sign/encrypt e-mails,
 - to sign documents and program code/Office macros and
- to secure web, e-mail and other server systems per SSL/TLS
- Own RA for the institute in MPG-CA
- For the RA operation you only need
 - one or two people and
 - a Java based RA interface.
- With a RA for your institute if required you can issue certificates for your users and servers autonomously.

Virus Protection (Sophos Update Service)



A powerful and up to date virus protection is additional required to periodical security updates for the operating system and the applications.

OUR OFFER

With Sophos Anti-Virus we provide an efficient and renowned virus protection solution for the platforms Windows, macOS and Linux. The software client can be installed and updated from our central Sophos Update Service.

PRECONDITIONS FOR USE

This product and service are free for the Max Planck Society.

Your Advantages

 Comprehensive proven virus protection for your laptops, desktops and servers running on Windows, macOS, Linux or virtual platforms

Identity and Access Management (IAM)



You want to automate and improve the user management in your institute. You want to connect different directory services or databases with each other, so that users are synchronized in all systems. You want to join easily common resources of the Max Planck Institutes or services of the GWDG by participating in the common directory "MPG-MetaDir". You also want to provide your own services to the Max Planck Society or other reseatch facilities.

OUR OFFER

With "IdM as a service" we help you to implement all your local processes regarding user management according to your requirements and wishes. We provide a common directory for the Max Planck Institutes called "MPG-MetaDir". Every Max Planck Institute can join to it to use or share central services very easily. With the "MPG-MetaDir" the users can get access to many central resources of the Max Planck Society and services of the GWDG. With joining to the "MPG-MetaDir", the institute also achieved a more flexible user management.

PRECONDITIONS FOR USE

An existing directory service, database or identity provider (e.g. based on SAML/Shibboleth) in your institute.

- Implementation of all organizational and technical processes of the user management, roles and permissions
- Aggregation of existing identities and accounts
- Achievement of convergence in the areas of directory services and user accounts
- Building processes for creating and deprovisioning of user accounts
- Implementation of access control and/or user rights in the connected directories
- Creating of roles in the target directories
- Easy and effordless access to common shared resources of the Max Planck Institutes and services of the GWDG, e.g. Exchange, eduroam, ownCloud, VMware or SharePoint
- Easy provision of IT services/resources for other Max Planck Institutes or research facilities
- Simple and flexible access to multiple web services in the DFN-, eduGAIN-, MPG-AAI and Max (see also the SSO/AAI service)

Single Sign-on (SSO) / Authentication and Authorization Infrastructure (AAI)



You would like to access web services of the GWDG, the MPG, the DFN or the eduGAIN Federation via Single Signon. For this purpose, users should be able to use the familiar credentials of your institute. You may also want to provide your institute's web services to certain groups of users (e.g. staff or guest scientists) without the need for additional user administration.

OUR OFFER

Either users can access their desired services via an Identity Provider (IdP) based on our identity management system, or we provide technical support in setting up your own IdP. We can support you in connecting your services to the AAI structures of both the GWDG and the MPG. As your contact partner for the DFN Federation, we will gladly assist you in integrating your own services into the AAI.

PRECONDITIONS FOR USE

Depending on your particular requirements, different options are available. Please let us advise you in a personal conversation.

- Single Sign-on for online services with familiar credentials of your institute
- Technical support for the installation and configuration of AAI components (identity/service providers)
- All AAI components are based on proven technologies (SAML, Shibboleth, OpenID Connect).
- Fast and easy access to shared resources of Max Planck Institutes and GWDG services, e.g. ownCloud, GitLab or ShareLatex
- Easy delivery of IT services or resources to other Max Planck Institutes or research facilities
- Easy and flexible access to the comprehensive web services in the DFN-, eduGAIN- and MPG-AAI as well as the Max (see also the IAM service)





You would like to have further training in particular IT areas for your day-to-day-work and thus like to take part in relevant courses in order to get the necessary qualification.

OUR OFFER

We offer a comprehensive range of courses for the efficient use of hardware, software and networks through which we support you during your daily use of IT in research, teaching and administration of your scientific institution.

PRECONDITIONS FOR USE

For some courses prior knowledge of the subject is required which is mentioned in the respective course advertisements.

- Course covering many IT areas: UNIX/Linux, Windows, Active Directory, SharePoint, Outlook, Networks/Internet, Photoshop, InDesign and SPSS
- Short or introductory courses as well as advanced courses according to previous knowledge and target groups
- Highly qualified and field-tested trainers with many years of experience will provide first hand expert knowledge
- A balanced mix of theory and practice
- A training PC for every participant
- Certificate of participation (on request)
- Also in-house courses in your institute with suitable conditions possible (room and technology)

Software and License Management



You need software for which there is no useful framework agreement. The number of licenses required is not well defined.

OUR OFFER

We maintain a number of framework and campus agreements with major software manufacturers and suppliers from which the software and licenses can be obtained also in smaller numbers. We handle for you the procurement of licenses required. We can engage in contract negotiations and demand analysis. Access licenses can also be managed by license servers.

PRECONDITIONS FOR USE

Information on existing license agreements can be found on the GWDG web site. If you look for specific software which is not yet mentioned on our web site, please approach us. We will investigate whether we can facilitate an agreement and pool the demand with other users.

- You can use the software in many cases immediately.
- You do not have to carry out tendering and procurement procedures.
- You save the time-consuming negotiations with software vendors and suppliers.
- The number of licenses required will be provided flexibly.
- We can pool the demand from different users for new licence agreements.

Scientific Data Management



You want to secure your research data or research results and need a strategy for the management of your scientific resources to ensure their accessibility on a long-term basis.

OUR OFFER

We provide data management interfaces for long-term storage to allow scientists to manage their data, e.g. following the DFG guidelines. In addition, we offer technologies and tools to support the handling of such data, as there are CDSTAR, the ePIC persistent identifier service or clients to use the data management interfaces. These services can be combined to realise more complex, added value services. Among other things, we support you building such solutions, integrating them with your legacy applications within your scientific working environment, or designing data management plans.

PRECONDITIONS FOR USE

All institutes can use this services. It is advisable to consult with the GWDG in order to align requirements and service configuration.

- GWDG operates a number of different data management services with diverse requirements.
- Specialised solutions can be realised for your applications
- Profit from GWDG's experience and existing implementations for a large range of scientific domains

IT Security Consulting



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You would like to be informed about the threats to the security of your IT systems and be supported by the establishment and implementation of IT security measures. You would like the IT security concepts or guidelines of your institution to be put into practice.

OUR OFFER

We offer a comprehensive consultation in regard to IT security. We support you with an analysis of IT security risks as well as the design and implementation of IT security concepts.

PRECONDITIONS FOR USE

The consultation and information are available to all institutes.

- You receive competent and practice-oriented information on IT security.
- You receive a jointly developed analysis of the IT security risks for your IT systems.
- You receive recommendations for adequate IT security measures based on the risk analysis.
- You operate your IT systems with our support compliant with IT security standards and suitably protected against concrete IT security risks.

Apple Consulting and Support Center



You are using Macs at your institute or you are planning to do so in the future and need advice and support. You would like to use your Mac or your iOS device in combination with the GWDG Exchange server. Basic knowledge of Macs and iOS devices is available, but additional specific support is required. You do not have in-house Mac support and do not want to fall back to expensive external companies.

OUR OFFER

We offer advice regarding the application of Macs, help you to develop deployment scenarios and assist you with the implementation. You can contact us via phone or e-mail. Twice a week we offer special telephone consultation to assist you with any questions concerning Mac. If it is not possible to solve your problem on the phone, we may also help you via AnyDesk and/or Remote Desktop. If required, we can offer you on-site training for your employees.

PRECONDITIONS FOR USE

There are no requirements for using this service.

Your Advantages

- Long-term experience in Mac user support
- Fast and straightforward help in urgent cases

>> www.gwdg.de/mac-en

Consulting in Establishing Directory Services (Active Directory, OpenLDAP)

001101010 d1 101001101 101001001

You want to establish a consistent user database to control access to computer-based services. Account data of your users shall be maintained centrally in a single location and provided to applications by directory services. You have to synchronize different directory services or to manage them by a common interface.

OUR OFFER

Years of experience help us to advise you in setting up optimized central directory services. Improvements concerning security and efficiency are our primary goals. We can help you to synchronize different directory services with the means of an identity management.

PRECONDITIONS FOR USE

In case of questions regarding one or more of these topics simply contact us via support@gwdg.de.

- Unique user account management for different operating systems
- Take benefit from years of experience how to set up optimized directory services
- Efficient administration of large Windows-based networks, particularly with respect to security
- Centralized and secure user management for UNIX/Linux systems
- Electronic address books with diverse applications
- Common management of different directory services using an identity management

Consulting in Planning of Data Transmission Networks



You want your data network planned by an engineering office. You would like specific scientific requirement to be considered. You seek consulting on best practice configurations.

OUR OFFER

We will support and advise you and any third party engineering office by taking into consideration the already existing IT structure, the IT environment as well as foreseeable future developments, also in the field of science. We provide consulting on network topology, the hardware, the network structure and security aspects.

PRECONDITIONS OF USE

In order to support and advise on the planning of data transmission networks, knowledge of the local conditions are essential. If these are made available to the GWDG, we can provide consulting services based on your sepecific situation.

- Powerful connection to modern scientific data transmission networks
- Consideration of scientific interests in the network structure
- Adapting to the existing IT infrastructure and the IT environment
- Considering future developments also within science

ABOUT US

GWDG is a shared corporate facility of the Georg-August-Universität Göttingen and the Max Planck Society. It fulfils the function of a joint computing and IT competence centre. The GWDG is also a research centre to advance scientific research infrastructures. Moreover the GWDG promotes the training of professional staff for information technology.

Its main tasks include the operation of basic IT services, data management solutions and computing facilities, as well as the provision of special systems and the supervision of the data network GÖNET which connects the institutes in Göttingen. Via GWDG GÖNET is connected to the national scientific network X-WIN and the internet.

Being an IT competence centre GWDG advises and supports all institutes in all questions related to scientific data processing.

The GWDG operates several data centres in Göttingen which are at different locations with common security mechanisms. The typical data protection requirements are fulfilled.

The GWDG is ISO 9001 certified.



SERVICE OFFERS

GWDG offers its customers a broad spectrum of information and communication services for science. This brochure outlines a selection of its interesting range of services on offer. The complete range of services can be found under www.gwdg.de/service-catalogue.

COSTS

Most of GWDG's services are free of charge for the Max Planck Institutes as part of its basic service catalogue and associated quota system. This also includes all the services listed in this brochure. The calculation is done in so-called units of work (AE) from the respective quota of the institute.

In addition the GWDG can provide individual solutions and services beyond the basic services. For some of these services special arrangements may apply.

OPENING TIMES

The GWDG user rooms and service hotline (information) are open (with the exception of public holidays):

- Monday to Friday from 7.00 21.00 hrs
- Saturday and Sunday from 10.00 18.00 hrs

MAINTENANCE PERIODS

GWDG services are designed to run uninterruptedly on all week days with the exception of the required time for scheduled maintenance of hardware and software. The preferred maintenance period is Thursdays between 17.00 hrs and 19.00 hrs. In case that service interruptions are expected, we inform our customers through our website and news channels. In urgent cases (e.g. important security updates) different times are possible.

OPERATING MESSAGES

Current operating messages can be found under www.gwdg/news.

SERVICE HOTLINE

The service hotline is available during opening times:

- WWW: support.gwdg.de (ticket system)
- E-Mail: support@gwdg.de (ticket system)
- Phone: +49 551 201-1523

INSTITUTE CARER

Every Max Planck Institute has a designated contact person at GWDG. More information about this can be found under www.gwdg.de/mpg-institute-carer.

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