IT possibilities at DTU Nanolab

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2.1   IT solutions for customers at DTU Nanolab

DTU Nanolab wants to supply customers with IT solutions which are adequate for the vast majority of users. DTU Nanolab wants some simple-to-handle solutions to minimize overhead time and maximize the resources available for taking care of the core services of helping customers fabricate Micro- and Nanostructures. The following paragraphs describe the IT solutions provided by DTU Nanolab in close collaboration with DTU AIT.

2.2   Equipment computers

Equipment computers use various operating systems which may be old (DOS, Windows 3.1, 95, 98, 7, Linux …) and unsupported. In most cases the equipment would stop to work if we update the software. For this and other security reasons computers on most of our equipment is not connected directly to DTU's network. In most cases it is however possible to transfer data files (e.g. images and datalogs) by other means. Please ask each tool responsible.

Users are not allowed to permanently store data on equipment computers. User data files on these computers may be deleted at any time.

2.3   Data sources available for DTU Nanolab customers

DTU Nanolab uses the DTU-basen to handle access to DTU's network and all the additional facilities supplied by DTU AIT. This means that any user logging on will automatically have access to DTU Inside and the many possibilities offered by that service (particularly the access to CampusNet may be usefull for DTU users). For specific DTU Nanolab purposes a set of locations are relevant (further description of each drive can be found in the section indicated):

> M: Personal drive, one M-drive for each person
> U:\Nlab\CleanroomDrive: Common cleanroom data area – 1 year old data is deleted on a monthly basis
> O (optional): Group drive

Any DTU Nanolab customer will automatically have a personal M drive for data storage, simply by virtue of having a "DTU-Basen" login.

When the customer is working under a valid contract access is also granted to the U:\Nlab\CleanroomDrive area.

It is possible for DTU Nanolab to set up O drives for customers who wish to closely collaborate – this can only be done with prior warning and for extended projects.

2.3.1   Drive backup and strange behavior

The M, O and U drives are all part of AIT backup program which means that full backup is done every 4 weeks and incremental backups are done daily. If data is lost or drives behave strange, AIT can be contacted directly using 45 25 55 55 and will sort out the issue.

2.3.2   Logbooks - area description and use

The U:\DCH\Logbooks area is only used for logbooks and DTU Nanolab files. Any customer files found on the L drive may be deleted without warning.

Most tools have Logbooks implemented in LabManager.

2.3.3   Common cleanroom data – area description – delete policy

The U:\DCH\CleanroomDrive can be used for any kind of data relevant to fabrication or the DTU Nanolab facility. Any DTU Nanolab customer has access to this drive.

To avoid congestion this area goes through periodic purging of old data. On a monthly basis the data on the drive is evaluated and any data which hasn't been accessed in the past 12 months is deleted. Deleted files which are still needed can be restored by contacting DTU Nanolab's system manager. The work needed to restore the files are charged at DTU Nanolab's standard hourly rate.

A "reasonable amount" of data is acceptable for each user of the area. DTU Nanolab also appreciates that in certain situations it is necessary to work with massive amounts of data. In order to make this manageable, please store your data in a folder with your initials either directly on U:\DCH\CleanroomDrive\ or under a group folder. Do not store more than 10 Gb of data without notifying DTU Nanolab and either acquire additional cap or temporary permit.

2.3.4   Personal – M - drive description

The M drive is a personal drive and only the person it belongs to, and AIT administrators have access to the content.

For non-DTU customers there is a limit of 10 Gb to the M drive, additional storage capacity can be acquired.

For DTU Customers, the department which you belong to determines how much capacity you have and how to handle it if more is required.

2.3.5   Collaborative – O – drive description – creation/deletion policy

It is possible to create a collaboration drive for any size of group who needs it. A customer can have access to several collaborative drives. To make a collaborative drive, an Affiliation Administrator or Sponsor Administrator must send a mail to DTU Nanolab's system manager containing:

1. LabManager sponsor name to bill the drive to
2. Name for the drive (max 15 characters – normal Microsoft Windows rules for folder names)
3. Capacity desired (if more than 50Gb)
4. DTU-basen initials for everyone added to the group initially

DTU Nanolab will then return with a date for when the drive will be available. DTU Nanolab handles administration of collaborative drives, and thus DTU Nanolab administrators will be able to gain access to the data stored on a collaborative drive.

The collaborative drive has a standard size of 50Gb and can be used for up to 3 years (cost is given in table).

The collaborative drive is owned by the LabManager sponsor originally ordering the drive. The group administrators of this group can request addition or removal of persons to the drive (see rate in table). Individual members of the group can request that they themselves are removed, with the owning LabManager group being charged for the change.

2.4 Increase of storage capacity limits

Sometimes it is necessary to go beyond the standard storage capacity per user. Even though the standard storage capacity of 10 Gb per user on N (and M) and 50 Gb on collaborative O drives is expected to be fully adequate for normal users, it may not be enough. To handle these situations the following paragraphs cover permanent increase of storage capacity and temporary increase of storage capacity.

2.4.1 Increase of storage capacity

If additional capacity is required please contact DTU Nanolab's System Manager. Capacity is increased in blocks of 50 Gb to keep administration simple. For collaborative drives (O) the increased capacity applies to the rest of the three year period of the drive, for other drives it applies for a year. The capacity increase is not automatically renewed at the end of the year.
If massive amounts of capacity is needed (>500 Gb) you must expect a 1 month delay before the capacity is fully available from the date the capacity is requested.

2.4.2 Temporary (<1 month) increase of storage capacity

If you only require extra storage capacity for a limited amount of time (<1 month) please contact DTU Nanolab's System Manager who can inform on the possibilities and potentially allow going over the cap. If permission has not been granted and a user still exceeds the limit or does so without asking a cap violation charge will be applied, and a cap increase will be retroactively applied.

2.5 Logging on to DTU's network with DTU Nanolab computers

Computers with access to DTU's network can be used to gain access to DTU Inside (including CampusNet) and data on M, O or U drives.

2.6 Computers at the DTU Nanolab facility with access to DTU's network

A number of computers with standard setup and software are available throughout DTU Nanolab's facilities and can be used to access DTU's network. At regular intervals, the computers are wiped for all local content and Windows is re-installed. All information on network drives remains untouched.

2.6.1 Software always on DTU Nanolab computers with access to DTU's network

Web browser: Microsoft Edge
Spreadsheet program: Microsoft Excel
Text program: Microsoft Word
Presentation program: Microsoft Power Point
PDF reader: Adobe Acrobat Reader

2.7 Logging on to DTU's network using a wireless connection

The DTU wireless network (name) can be accessed from many locations at DTU. DTU Nanolab has made sure that the signal is strong in the Cafe area in 346 and in the lunchroom in 347.

To log on:

1. Activate the wireless adapter on your computer
2. Wait until the DTU network has been located by the computer
3. Open a browser, you will be directed to a logon page
4. Logon with your "DTU-basen" initials and password
5. Now you have access

2.8 Accessing non-DTU data sources from the DTU Nanolab cleanroom

Data sources outside DTU can only be expected to be accessible using a web-browser. All computers on DTU's network have web-browsers installed that may be used for access.

The following list of cloud services may be helpful for inspiration:

www.dropbox.com   a cloud storage solution

www.google.com   Google Docs offers a range of possibilities beyond storage

2.9 VPN access from DTU Nanolab facilities

It is not a supported option to install customer specific VPN clients on DTU Nanolab's computers. In general this means that it is impossible to establish a VPN connection from a DTU Nanolab computer to another computer.

2.10 Data transfer using USB storage keys

USB storage keys can be used with the computer located in the cafe area of building 346. It is possible to log on and thus access M, O and U drives and transfer data from these to a USB storage key.

2.11 Bringing IT-hardware into DTU Nanolab laboratories

Please observe any special cleaning procedures required for the individual labs. Specifically notice that a piece of hardware with a fan is not allowed in cleanroom sections if it has been used at an outside location.

2.12 Non-standard IT solutions

If a non-standard IT solution is desired, it may be possible to establish it, but the process must be expected to take time and resources to establish. A non-standard IT-project needs to go through these stages:

1. The company wanting a non-standard solution must author a project description document containing both a description in common language about what is desired and what hardware/software products are required. Make it clear which acquisitions and services are

to be done by the company and which are to be done by DTU (DTU Nanolab, AIT). This does not need to be a complete implementation project but must provide DTU with enough input to reasonably be able to evaluate the consequences

2. A representative for the company must then forward the project description document to the Head of Fabrication Support of DTU Nanolab

3. The DTU Nanolab Head of Fabrication Support, evaluates the project with the assistance of AIT and the DTU Nanolab Systems Manager

4. The DTU Nanolab Head of Fabrication Support returns to the company with the outcome of the evaluation:
    a. "Yes": it is possible to go on with the non-standard solution, further details will be given
    b. "Further detailing needed": It is unclear to DTU Nanolab what the consequences will be, further work must be carried out to proper evaluate them
    c. "No": It is not a solution DTU Nanolab will accept under any circumstances

5. If the implementation is possible and still desired by the company, the practical work can start. This must be done in close collaboration between, the company, a potential supplier to the company, DTU Nanolab and AIT. DTU Nanolab and AIT will appoint contact persons for the implementation project and may involve additional personnel if the volume of the project requires it

6. After the implementation the DTU Nanolab contact persons sets up a 1 hour (max charge) meeting with a representative from the company as well as the DTU Nanolab and AIT contact persons and the DTU Nanolab Head of Fabrication Support in order to close the project, evaluate the outcome as well as the process based on the following criteria:
    a. Performance of the implementation – are there minor issues to be worked out after the project is closed?
    b. How closely does the implementation match the original project description document?
    c. How well did the cooperation between the Company, the company's supplier, DTU Nanolab and AIT work during the implementation – any significant miscommunication or misunderstandings?
    d. How well did the project definition and evaluation phases work for the different partners?
    e. What learning points are there for future non-standard IT projects?

7. The DTU Nanolab Head of Fabrication Support forwards the minutes of the closing meeting to all involved within 14 days after the meeting.

2.12.1 Payment for non-standard IT solutions

All hours spend by DTU Nanolab and AIT personnel on a non-standard IT project are charged to the customer at DTU Nanolab's standard rate, regardless of the phase of the project and the success of the implementation. For even the smallest projects it is highly unlikely that less than 10 hours is spent by DTU Nanolab and AIT.