



Making IT

Work for You

 **Ollscoil Chathair Bhaile Átha Cliath**
Dublin City University

 **ISS** Information
Systems
Services

Research Data Management IT Considerations

Postgraduates - April 6th, 2016

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Information Systems Services

The screenshot shows the DCU Information Systems Services website. The top navigation bar includes links for 'EXPLORE DCU', 'STUDY AT DCU', 'RESEARCH & ENGAGEMENT', and 'INFO & SERVICES'. The main heading is 'Information Systems Services'. A left-hand menu lists various service categories such as 'News & Events', 'A-Z of Services', 'Support', 'FAQ', 'Student Services', 'Staff Services', 'ICT Policies & Guidelines', 'About', 'People', and 'Contact'. The main content area features several informational cards: 'Students Apps & Links' with an image of a student, 'Log IT Support Ticket' with a 'LOG A TICKET' button, 'IT Transformation' with an image of students using tablets, and 'Staff Apps & Links' with an image of a keyboard. Each card includes a brief description and a 'READ MORE' link.

www.dcu.ie/iss

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Research Data Management

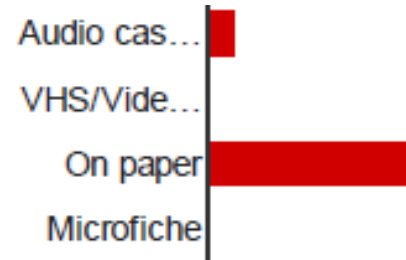
What is Research Data?

EPSRC

“ ... although the majority of such data is created in **digital format**, all research data is included irrespective of the format in which it is created.”

DCU Research Data Survey

- Research Support Office
- January 2016



Data Protection

- Covers data in all forms
- DCU Data Protection Officer - Next

An Coimisinéir
Cosanta Sonraí  Data Protection
Commissioner

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ISS Information
Systems
Services

Data Protection

Data Classification Policy – ISS Website

“Individual staff members are responsible for ensuring that sensitive information they produce is **appropriately protected** and marked with the **appropriate classification**”

<http://www.dcu.ie/iss/policies>

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Data Protection

Data Classification Policy – ISS Website

Security Objective	POTENTIAL IMPACT		
	LOW	MODERATE	HIGH
Confidentiality Preserving authorised restrictions on information access and disclosure, including means for protecting personal privacy and proprietary information.	The unauthorised disclosure of information could be expected to have a limited adverse effect on DCU's operations, assets, or on individuals.	The unauthorised disclosure of information could be expected to have a serious adverse effect on DCU's operations, assets, or on individuals.	The unauthorised disclosure of information could be expected to have a severe or catastrophic adverse effect on DCU's operations, assets, or on individuals.
Integrity Guarding against improper information modification or destruction, and includes ensuring information non-repudiation and authenticity.	The unauthorised modification or destruction of information could be expected to have a limited adverse effect on DCU's operations, assets, or on individuals.	The unauthorised modification or destruction of information could be expected to have a serious adverse effect on DCU's operations, assets, or on individuals.	The unauthorised modification or destruction of information could be expected to have a severe or catastrophic adverse effect on DCU's operations, assets, or on individuals.
Availability Ensuring timely and reliable access to and use of information.	The disruption of access to or use of information or an information system could be expected to have a limited adverse effect on DCU's operations, assets, or on individuals.	The disruption of access to or use of information or an information system could be expected to have a serious adverse effect on DCU's operations, assets, or on individuals.	The disruption of access to or use of information or an information system could be expected to have a severe or catastrophic adverse effect on DCU's operations, assets, or on individuals.
Data Classification	DCU Controlled With this classification protection of information is at the discretion of the custodian and there is a low risk of embarrassment or reputational harm to DCU. <i>Examples:</i> Meeting minutes; unit working & draft documents	DCU Restricted DCU has a legal, regulatory or contractual obligation to protect the information with this classification. Disclosure or loss of availability or integrity could cause harm to the reputation of DCU, or may have short term financial impact on the university. <i>Examples:</i> Student or employee records; grades; employee performance reviews; personally identifiable information.	DCU Highly Restricted Protection of information is required by law or regulatory instrument. The information within this classification is subject to strictly limited distribution within and outside the University. Disclosure would cause exceptional or long term damage to the reputation of DCU, or risk to those whose information is disclosed, or may have serious or long term negative financial impact on the University. <i>Examples:</i> PPS numbers; Physical or mental health record relating to individuals; Critical research data.

Data Protection

Data Handling Guidelines – ISS Website

Electronic Storage	<p>Must be stored in systems accessible only to those covered under access above.</p> <p>Servers which hold this data must be housed in a secure datacenter environment.</p> <p>Storage of this data outside of the source system, for example on a laptop or memory stick; must be approved by the data custodian.</p> <p>Where data is held outside the source system it must be encrypted.</p> <p>Where a mobile device is used to access/store DCU sensitive data or email, appropriate security settings must be configured.</p> <p>USB devices must not be used for</p>	<p>Must be stored in systems accessible only to those covered under access above.</p> <p>Where data is held outside the source system it must be encrypted.</p>	<p>Must be stored in systems accessible to those covered under access above.</p>
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<http://www.dcu.ie/iss/policies/procedures-guidelines.shtml>



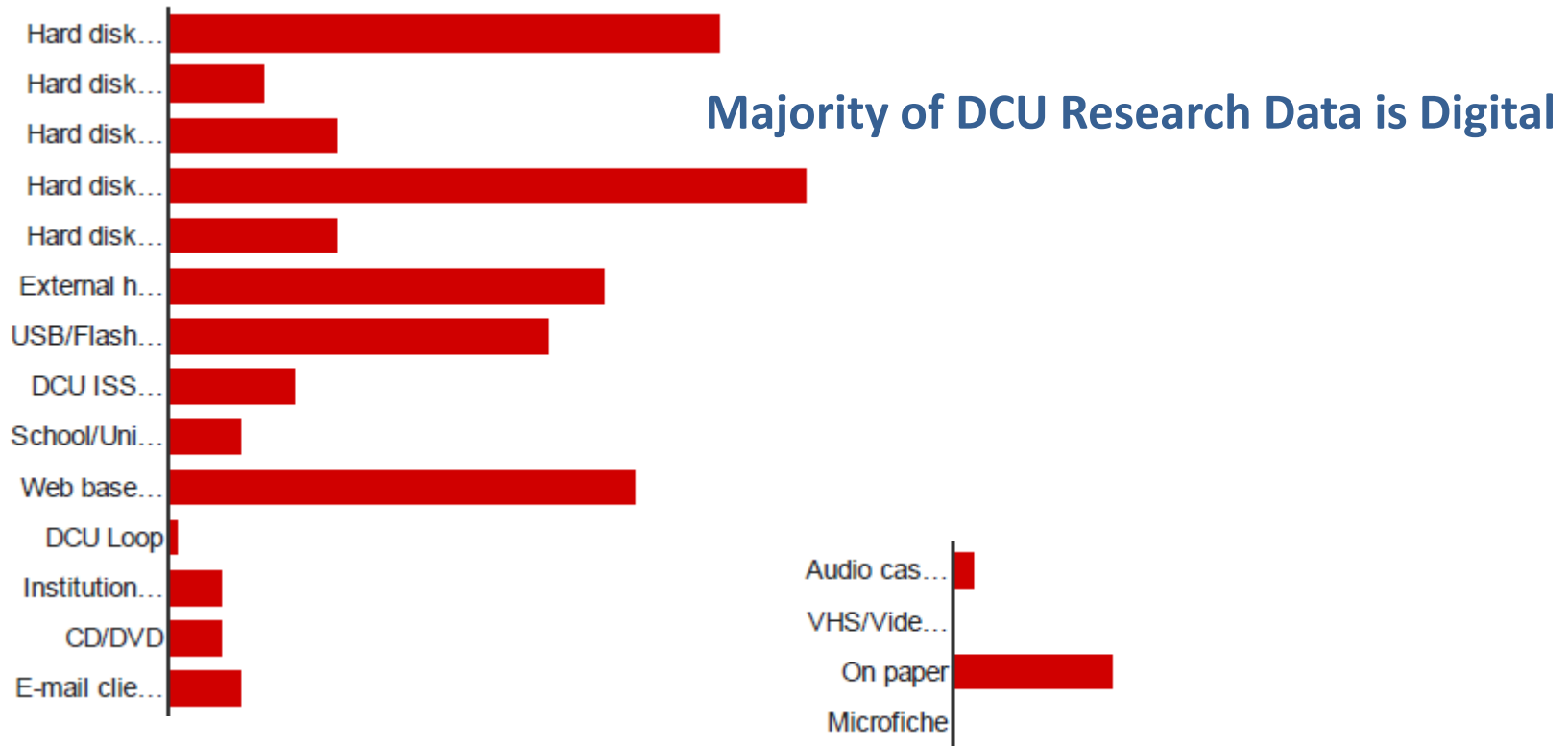
Data Protection

Safe Storage & Encryption of Digital Data



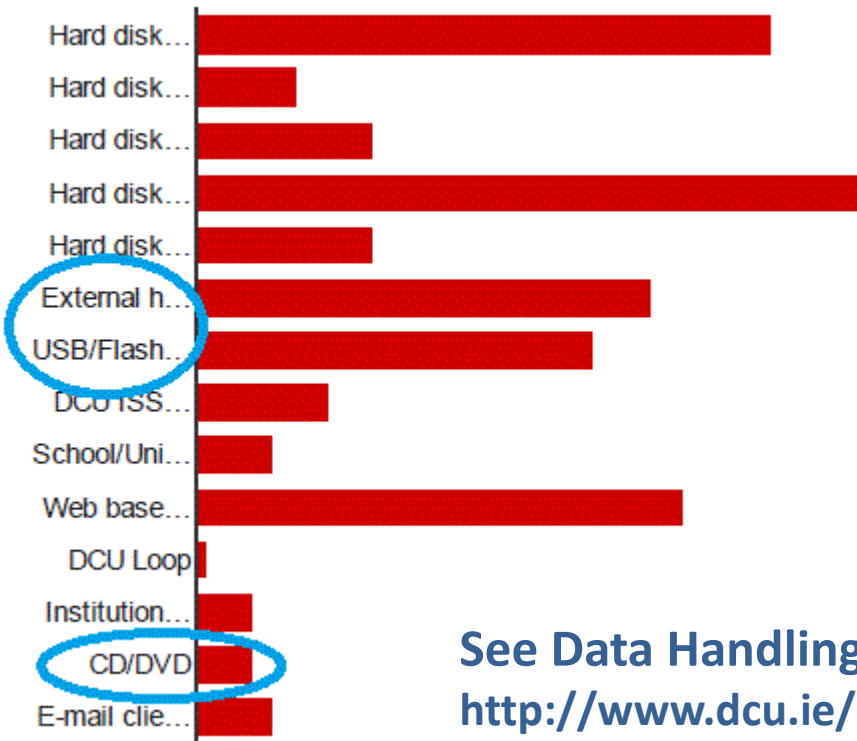
Research Data - Storage

Where is Research Data Stored in DCU?



Research Data - Storage

External Media – Not Recommended



- Lost
- Stolen
- Damaged
- Degrade
- Unauthorised Access

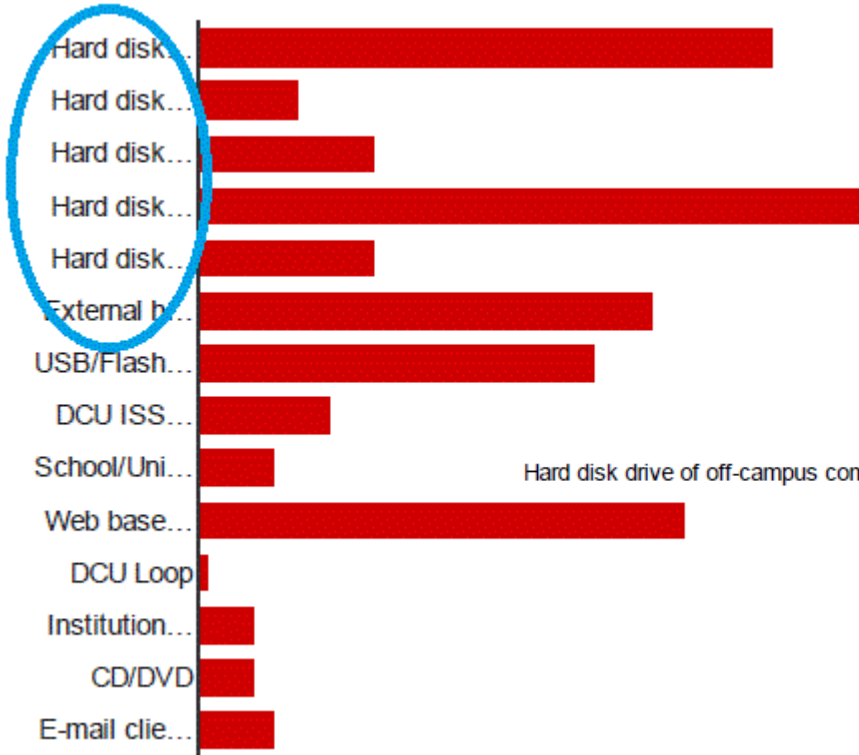
See Data Handling Guidelines

<http://www.dcu.ie/iss/policies/procedures-guidelines.shtml>

Research Data - Storage

Hard Disks – Encrypt Data

<http://www.dcu.ie/iss/encryption>

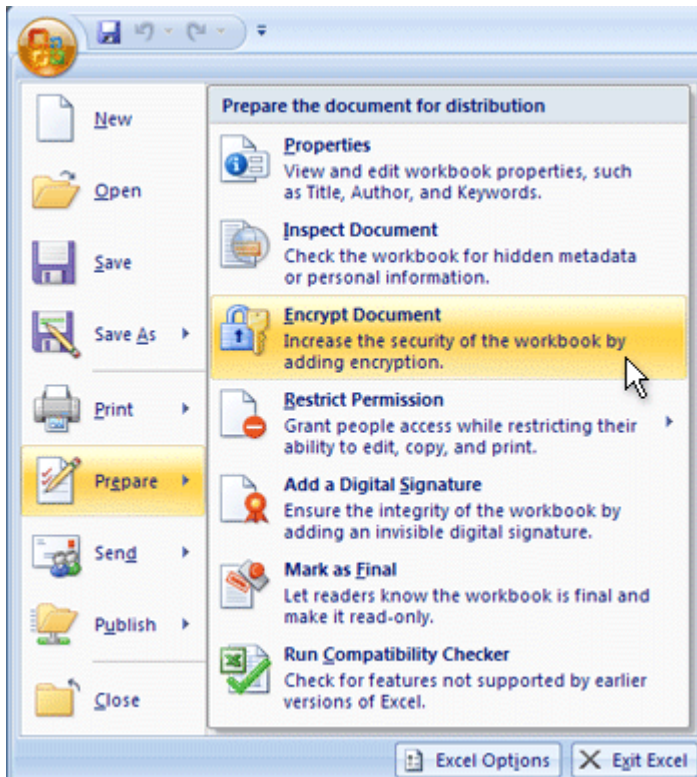


Hard disk drive of campus computer	52	60.5%
Hard disk drive of off-campus computer provided by funder or other partner in an externally funded project	9	10.5%
Hard disk drive of off-campus computer elsewhere	16	18.6%
External hard drive	41	47.7%
USB/Flash drive	36	41.9%

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Research Data - Encryption

Microsoft Office Files



- Encrypts
- Password Protects
- Safe to E-mail
- **Mind Password!**
- **ISS Can Not Recover**

Passwords

Primary method of protecting all our digital data

Weak Passwords

- names, places, words, DOB

Strong Passwords

- Long – use sentences
- e.g. “**Icannneverremembermypassword**”

LastPass...

SOLVE ALL YOUR
PASSWORD PROBLEMS.

Stop wasting time writing, remembering, and resetting passwords. Only remember one master password, and keep the rest locked up and easy-to-find in the LastPass password manager.

<https://lastpass.com>

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Research Data - Encryption

Files and Folders

<http://www.7-zip.org>

<http://www.dcu.ie/iss/encryption>



The main features of 7-Zip

- High compression ratio in [7z format](#) with **LZMA** and **LZMA2** compression
- Supported formats:
 - Packing / unpacking: 7z, XZ, BZIP2, GZIP, TAR, ZIP and WIM
 - Unpacking only: AR, ARJ, CAB, CHM, CPIO, CramFS, DMG, EXT, FAT, GPT, HFS, IHEX, ISO, LZH, LZMA, MBR, MSI, NSIS, NTFS, QCOW2, RAR, RPM, SquashFS, UDF, EFI, VDI, VHD, VMDK, WIM, XAR and Z.
- For ZIP and GZIP formats, **7-Zip** provides a compression ratio that is 2-10 % better than the ratio provided by PKZip and WinZip
- Strong AES-256 encryption in 7z and ZIP formats
- Self-extracting capability for 7z format
- Integration with Windows Shell
- Powerful File Manager
- Powerful command line version
- Plugin for FAR Manager
- Localizations for 87 languages

7-Zip works in Windows 10 / 8 / 7 / Vista / XP / 2012 / 2008 / 2003 / 2000 / NT. There is a port of the command line version to Linux/Unix.

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Research Data - Encryption

Laptops

DCU Laptops

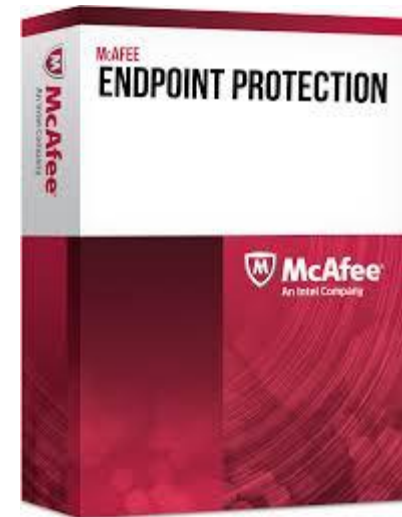
- Free encryption service - ISS
- Protects all files automatically
- Password recovery service
- No problems if lost or stolen – DPC

Non-DCU Laptops

- Should be encrypted if used for sensitive data

Encrypted Laptops

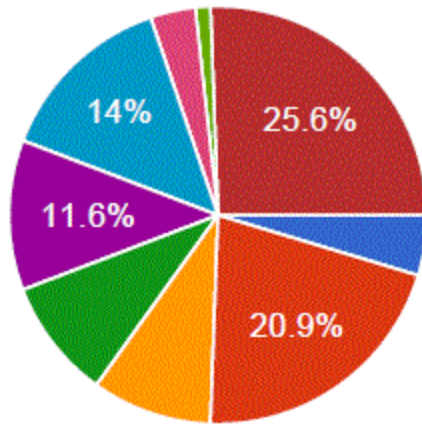
- Files are **not encrypted** once moved/shared
- E.g. attach to e-mail, copy to external drive



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Research Data - Volume

Data Set Sizes in DCU

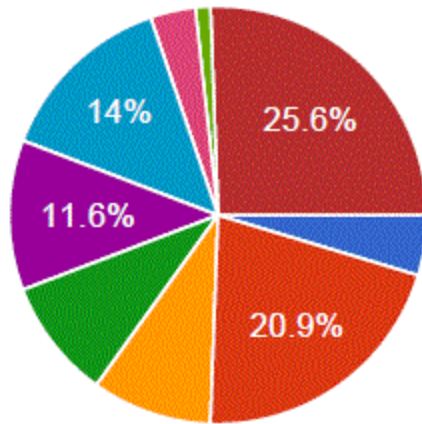


1 GB	4	4.7%
1 - 50 GB	18	20.9%
50 - 100 GB	8	9.3%
100 - 500 GB	8	9.3%
500 GB - 1 TB	10	11.6%
1 - 50 TB	12	14%
50 - 100 TB	3	3.5%
> 100 TBs	1	1.2%
I don't know	22	25.6%

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Research Data - Volume

Large Data Sets in DCU



1 GB	4	4.7%
1 - 50 GB	18	20.9%
50 - 100 GB	8	9.3%
100 - 500 GB	8	9.3%
500 GB - 1 TB	10	11.6%
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I don't know	22	25.6%

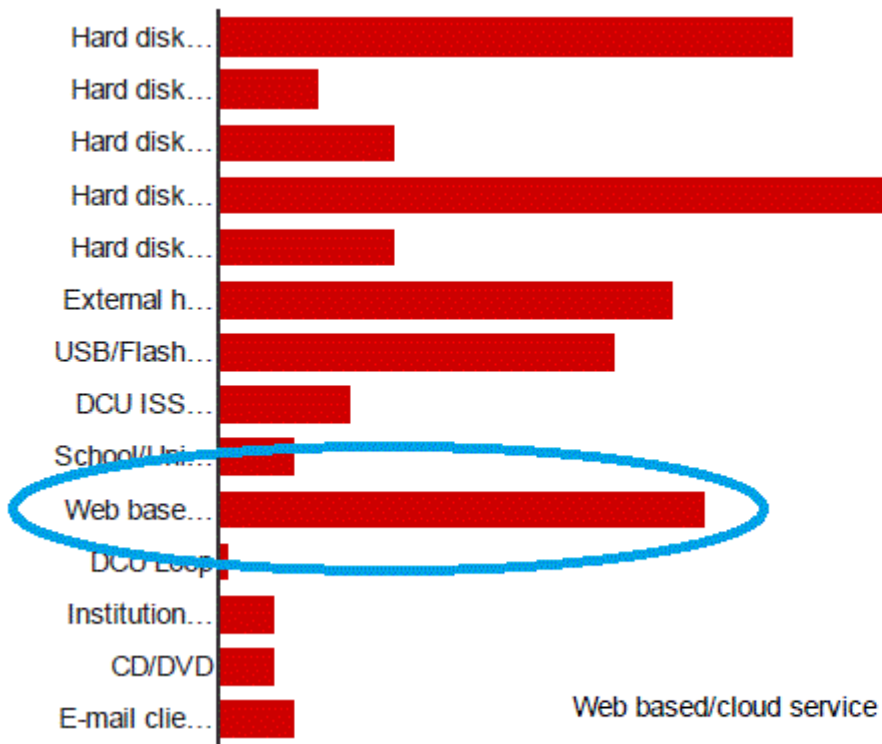
Research Data - Storage

Where is Research Data Stored in DCU?



Research Data - Storage

Cloud Storage - Dropbox

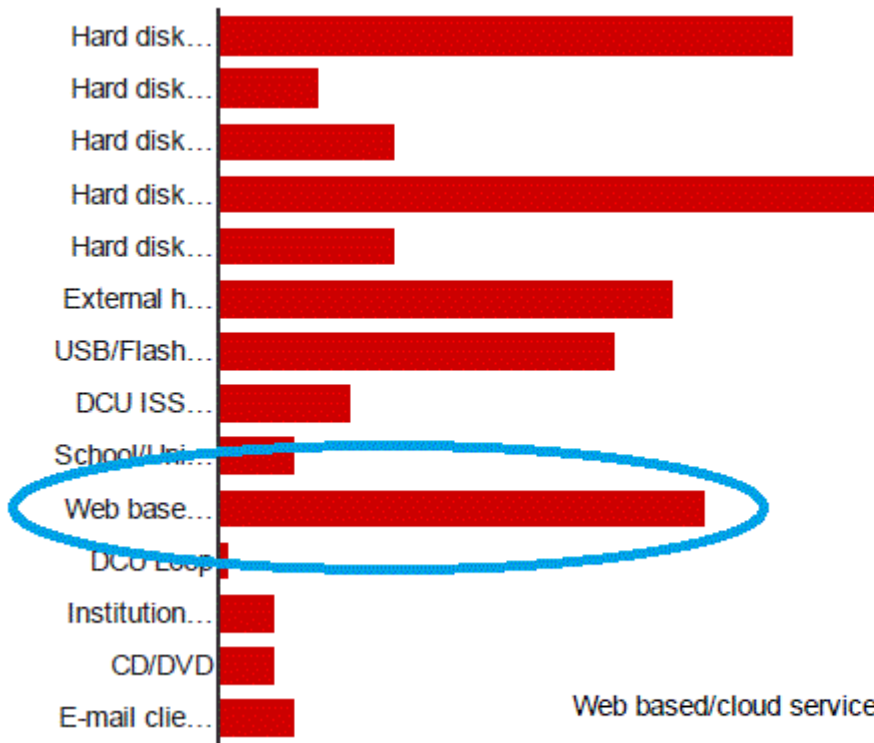


No agreement with DCU
Not approved by DP Officer

Web based/cloud service (e.g Amazon Web Services, Google Docs, Dropbox) 44 51.2%

Research Data - Storage

Cloud Storage - Dropbox

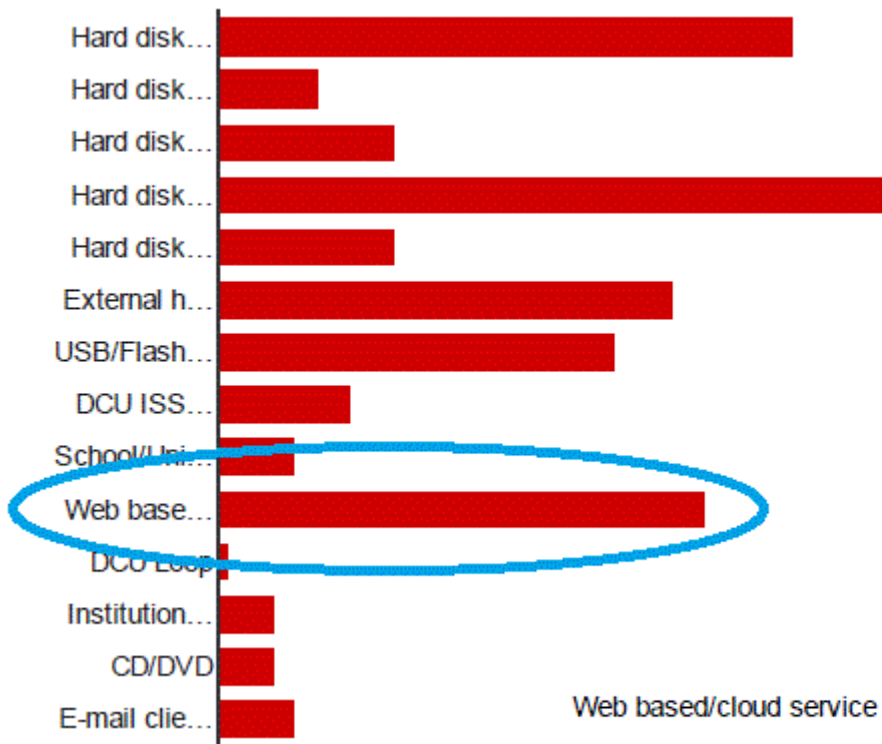


Agreement with DCU
Approved by DP Officer

Web based/cloud service (e.g Amazon Web Services, Google Docs, Dropbox) **44** 51.2%

Research Data - Storage

Cloud Storage – Microsoft Azure

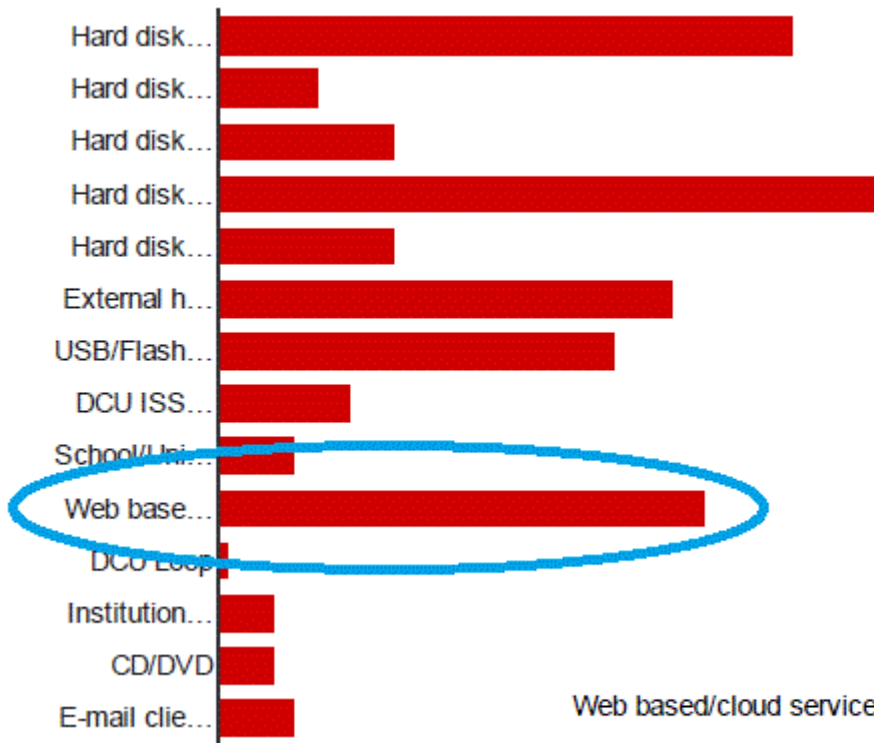


Agreement with DCU
Approved by DP Officer

Web based/cloud service (e.g Amazon Web Services, Google Docs, Dropbox) 44 51.2%

Research Data - Storage

Cloud Storage - Google



Agreement with DCU
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Research Data - Storage

Cloud Storage - Google



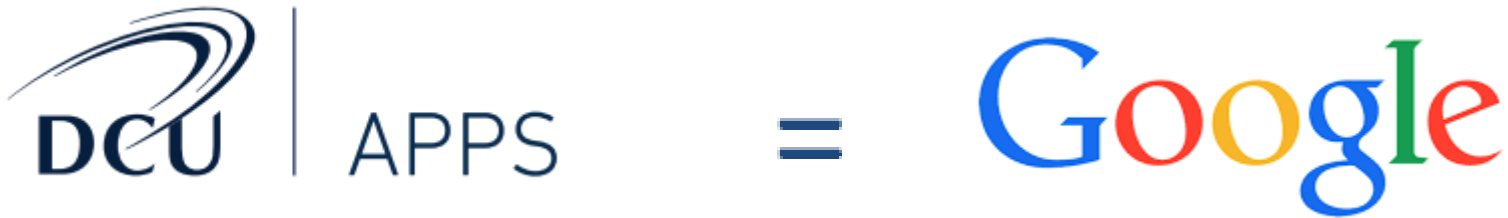
Agreement with DCU
Approved by DP Officer

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Research Data - Storage

Cloud Storage - Google



Agreement with DCU
Approved by DP Officer

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Research Data - Storage

Cloud Storage - Google



Making IT Work for You



Research Data - Storage

Cloud Storage - Google



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Making IT Work for You



Research Data - Storage

Cloud Storage - Google



Data is safe and secure in core apps

Multiplatform

Unlimited Storage

<http://www.dcu.ie/iss/dcuapps>

Can encrypt before store/backup

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Research Data - Storage

Cloud Storage - Google



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Data is safe and secure in core apps

Multiplatform

Unlimited Storage

Can encrypt before store/backup

<http://www.dcu.ie/iss/dcuapps>



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Thank You

Justin.Doyle@dcu.ie

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DCU Glasnevin Campus

Deirdre Thornton Room
Henry Grattan Extension
(Opposite Canteen)
08:30 - 17:30 (Mon-Fri)

Library

Ground Floor
(Beside Photocopiers)
08:30 - 20:00 (Mon-Fri)
12:00 - 15:00 (Sat)

✉ iss.servicedesk@dcu.ie
☎ +353 1 700 5007
🐦 @ISSService
🌐 www.dcu.ie/iss

DCU St. Patrick's Campus

IT Support Desk
Room B132
08:30 - 17:30 (Mon-Fri)

Library

Reception Ground Floor
10:00 - 1800 (Mon-Thurs)
10:00 - 17:00 (Fri)

✉ IT.Support@spd.dcu.ie
☎ +353 1 884 2190
🐦 @SPDITServices
🌐 www.spd.dcu.ie/

DCU Mater Dei Campus

IT Support Desk
Room C13
9.00 - 13.30,
14.00 - 17.00 (Mon-Fri)

✉ mdi.support@dcu.ie
☎ +353 1 8086509
🐦 @ISSService
🌐 www.materdei.ie

DCU All Hallows Campus

IT Support Desk
All Hallows College
Coláiste na Naomh Uille
Gracepark Rd,
Drumcondra,
Dublin 9

✉ ithelpdesk@allhallows.ie
☎ +353 1 8520714
🌐 www.allhallows.ie