ENCRYPTION EXERCISE

RESEARCH DATA MANAGEMENT TEAM
UK DATA ARCHIVE
UNIVERSITY OF ESSEX

LOOKING AFTER YOUR RESEARCH DATA: A WORKSHOP FOR TRAINERS
UK DATA ARCHIVE, COLCHESTER, 22-23 SEPTEMBER 2011
ENCRIPTION

- this exercise allows you to create an encrypted storage space on your drive

- encrypt anything you would not send on a postcard
  - for moving files e.g. transcripts
  - for storing files e.g. shared areas, mobile devices
WHAT IS ENCRYPTION?

- **encryption** transforms data to make it unreadable to anyone except those with a key.

- **encryption** comes in strengths. A higher key size takes exponentially longer to crack.
# WHY KEY SIZE MATTERS

<table>
<thead>
<tr>
<th>Key size</th>
<th>Time estimated to crack using a dedicated super computer</th>
<th>Related experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>0 milliseconds</td>
<td>Far, far less than the time needed to read this</td>
</tr>
<tr>
<td>56</td>
<td>1 second</td>
<td>Blip</td>
</tr>
<tr>
<td>64</td>
<td>5 minutes</td>
<td>Long enough to apologise for accidentally exposing data</td>
</tr>
<tr>
<td>128</td>
<td>150 trillion years</td>
<td>Longer than the history of the universe</td>
</tr>
<tr>
<td>256</td>
<td>Over a quadrillion years</td>
<td>A number greater than the number of atoms in the universe</td>
</tr>
</tbody>
</table>
ENCRYPTION SOFTWARE

- it is easy to use – honest!
- we will show you how

- SafeHouse
  - good for portable storage
  - doesn’t need administrative rights to install
  - 256-bit encryption
- TrueCrypt
  - good for hard drives
  - 256-bit encryption
- AxCrypt
ENCRYPTING A SPACE

- download SafeHouse explorer from www.safehousesoftware.com/ (Windows only)
- install
- open SafeHouse Explorer
CREATE A NEW VOLUME

• click on ‘New Volume’.
• follow the wizard by clicking ‘Next’
CHOOSE A NAME AND LOCATION

Name of Private Storage Area

Please choose a name for the SafeHouse volume file to be created to hold your confidential files.
You may also enter a short description for this volume which will be displayed throughout SafeHouse's dialogs.

Folder:  C:\SafeHouse\  
Filename:  File1  .sdbk  
Description:  My Private Files  

UK DATA ARCHIVE
VOLUME SIZE

- set the size you want in kilo/mega/gigabytes
- remember to leave 5mb for the safehouse.exe file
CREATE A PASSWORD/PASSPHRASE

- incorporate a range of upper and lower case letters, number, and other characters
- don’t forget it!
CREATE VOLUME

• create your encrypted area by clicking on ‘Create Volume’
COPY OVER YOUR FILES

- drag in your files
- when done, press the ‘Close Volume’ icon
COPYING THE .EXE FILE

- final stage is to copy the .exe file so you can open your encrypted space on other Windows machines
- click on ‘Start’, find the SafeHouse Explorer folder, find SafeHouse Explorer, right click, select ‘Properties’
COPYING THE .EXE FILE

- locate the folder location of the .exe file
COPYING THE .EXE FILE

- go to the folder location and locate the .exe file
- highlight SafeHouseExplorer.exe, right click and copy
COPYING THE .EXE FILE

- paste into the area where you are storing your Encrypted files. This will allow you to open your area on other Windows machines that don’t have SafeHouse installed.
OPENING YOUR ENCRYPTED AREA

• click on the padlock icon - SafeHouseExplorer.exe
OPENING YOUR ENCRYPTED AREA

• click on ‘Open Volume’, Select your area - ‘SafeHouse.sdsk’ in this example. Click on ‘Open’
OPENING YOUR ENCRYPTED AREA

• enter your password and click ‘Open’
CLOSING YOUR AREA

• your files should appear. When you’ve finished, click on ‘Close Volume’