

# Introducing the Secure Data Service

A new vision for secure data access in the UK

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## Secure Data Service MISSION

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To promote excellence in research by enabling safe and secure remote access by bona fide researchers to data heretofore deemed too sensitive, detailed, confidential or potentially disclosive to be made available under standard licensing and dissemination arrangements

## Data access at the UK Data Archive before the SDS

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For more than 40 years, the UK Data Archive has operated a number of different data access regimes

- **Open access** / anonymous download – public use
- **End User Licence** – scientific use data
- **Special Conditions** – scientific use data, sensitive
- **Special Licence** / Approved Researcher – restricted data

# The Data Feeding Frenzy

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Data Liberation Front

Cloud Computing

MEABE  
MEABE  
MEABE

Let's Google Map It!

**Publicly funded should mean publicly available**

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**Millions of benefits records lost**

***Laptop with official secrets  
left on train***

***Data CDs sent in post LOST***

***Identity Theft on the Rise***

***Census "resisters" organise***

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## Opportunities

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- Statistics and Registration Services Act (2007)
  - **Rights** (replaces the £1 contract!)
  - Unprecedented **access** to official data about individuals to “approved researchers”
  - **Responsibilities**
  - **Penalties** (hefty fines and custodial sentences)

## Secure Data Service

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- ESRC-funded and **ONS-approved**
- Provides **remote access** for UK academics
- Full launch in Spring 2011
- **ISO 27001 accredited**, other security tests in progress
- Collection will include **confidential micro-data**, currently available only from VML
- Pilot has fully geographic grid-referenced version of British Household Panel Study
- Our partners: **VML, ADLS, CEP**, more coming!

## Working with the ONS

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- Metadata
- Data Preparation
- Systems Compliance
  - Technical
  - Researcher Management
  - Application forms
  - Contracts
- User Transition
  - User Transition Committee
  - Joint workshops, information provision
- Progress
  - SDS Steering Committee



## SDS Security Model (1): Principles

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- anonymisation → Safe data
- valid statistical purpose → Safe project
- trusted researchers → Safe people
- technical controls around data → Safe setting
- disclosure control of results → Safe output

⇒ **safe use**

- *-After Ritchie, 2006*

## SDS Security Model (2): Components

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- Big Carrots
- Even Bigger Sticks
- Active Researcher Management (ARM)
- Technology

### Carrots

- Remote access minimises the likelihood of data removal for convenience sake
- Providing familiar tools and environment reduces the likelihood of breaches
- Allowing both secure and EUL data furthers convenience
- Training includes impressing upon users the unprecedented access SDS provides, contrasted with other countries' far more limited access regimes.

# BIG STICKS!!!

- Penalties policy with **real teeth!**
- From:
  - **Temporary denial of access to SDS**
- To:
  - **Denial of ESRC research funding**
    - (for researcher and their **entire institution!**)
- Breaches of legislation = criminal offence
- Fines and custodial sentences

### Fundamentally about trust

- **Engage** with researchers: ‘buy into’ security
- **Training** is central : how and why to do it right and what the penalties are for doing it wrong
- **Backed up by** appropriate **legal licensing framework** and agreements
- **Backed up by technology** to prevent and identify misuse and provide reliable audit trails
- **Backed up by penalties**

# ARMing Researchers

‘Researcher Management’ vs ‘Data Management’

Example:

	Data Management	Researcher Management
Explaining security policy	“we’re doing this to protect the data (from you)”	“doing this allows us to supply you with more detailed data”

- *Desai and Ritchie (2009)*

## ARMing Researchers

- **More efficient management** (communication, understanding, cooperation, use of RDC resources)
- **Better change management**
- **Better research** ( repeat custom, good 'brand image', more applications to conduct more research).
- *Desai and Ritchie (2009)*

## How it works – back office

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- **Data held securely on firewalled SDS servers**
- Connection via Citrix™ VPN **secure remote access** technology
- User access:
  - **Desktop**
  - **Remote secure room** (standards set and agreed between SDS and data owner)
  - **Remote secure machine**
- **SmartAuditor** allows us to monitor users
- **No data allowed out**; all outputs SDC vetted before release



## User journey – gaining access

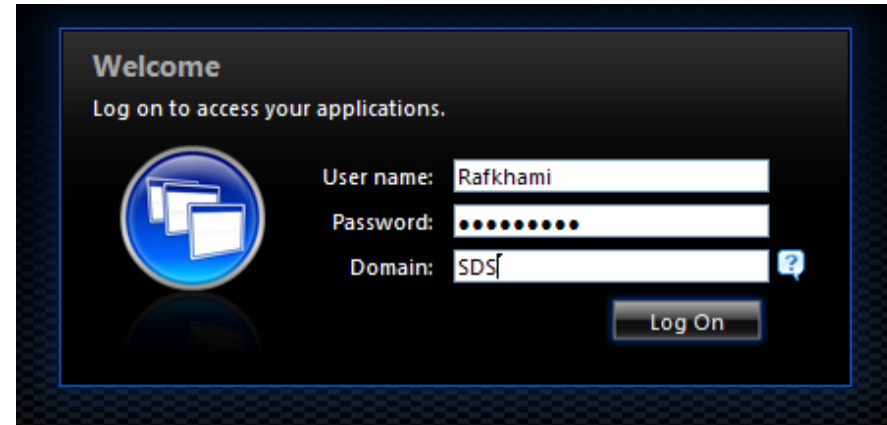
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- User identifies SDS data – drop in '**shopping basket**'
- User applies to become:
  - **Approved Researcher** (for data covered under Statistics legislation) or
  - **ESRC Accredited Researcher** (for other secure data)
- **Data owners** (or designated authority) **grant or deny** permission
- User completes **training session** (Legal, SDC, SDS)
- User signs **agreement to terms and conditions** of use of service and gets user ID and password for remote access

## User journey – using the system

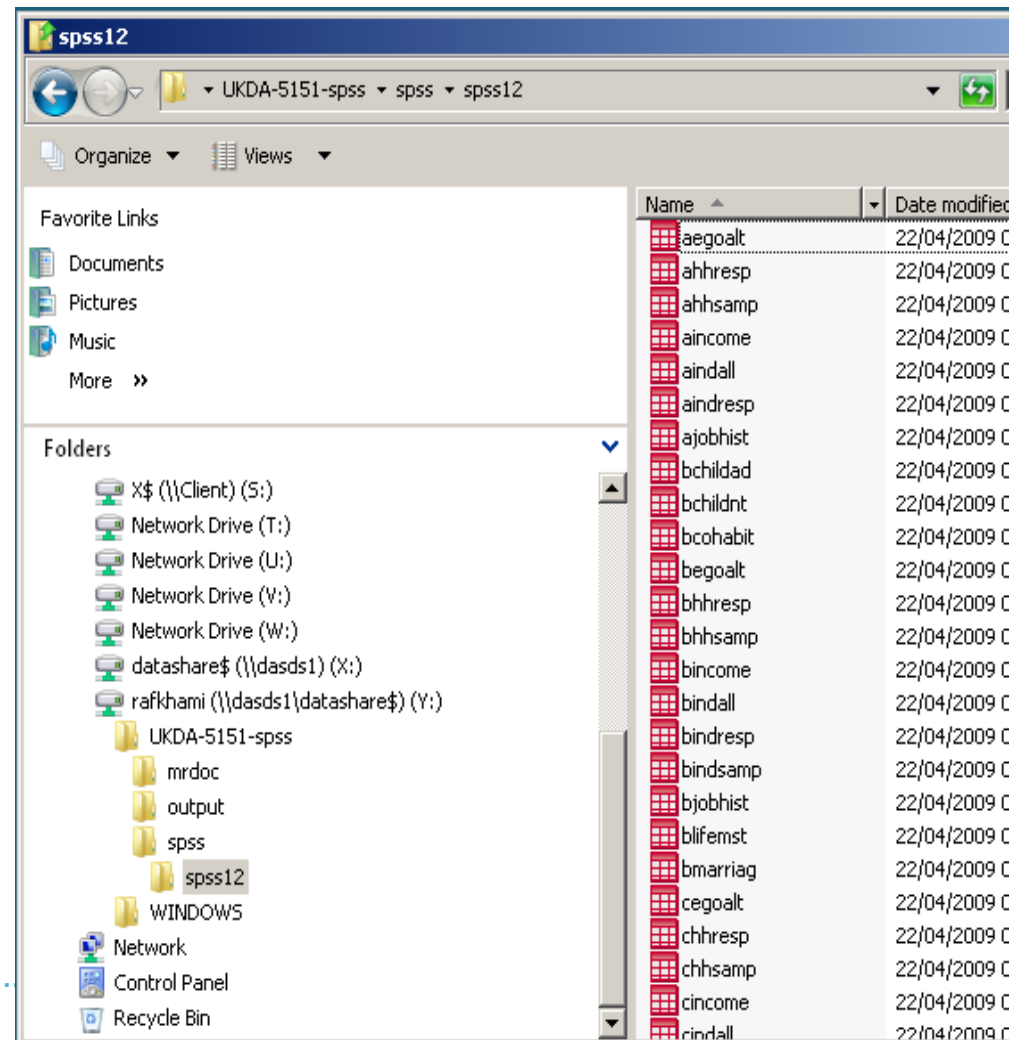
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Users access the system remotely, either from their desktop on an approved network (ie JANET) or, for some data, from a remote secure room



# User journey – using the system

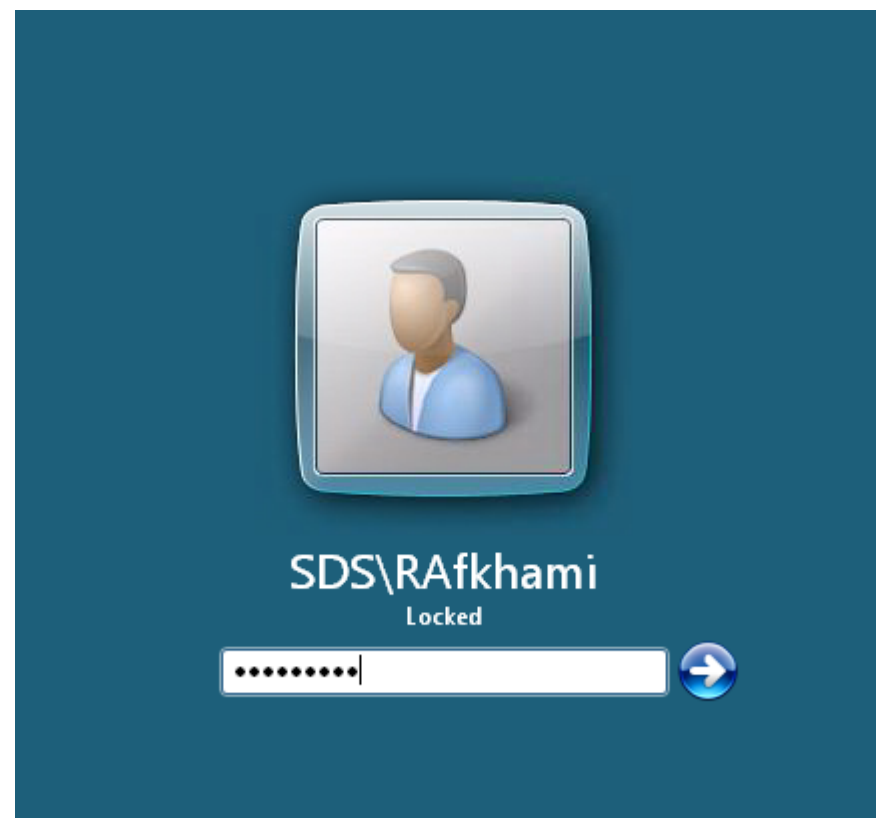
- Projects allotted common collaborative spaces for drafting papers, sharing interim outputs (all project members must be approved for same data sources)
- Users allowed to bring in data from standard Data Archive collection and other data sources (if approved and subject to checks)



## User journey – using the system

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- Users leave everything on the server until final outputs for publication required, which are then vetted by SDS staff (and data owners, if they wish)
- System allows remote locking for inactivity, remote shut down for suspicious keystrokes





## Benefits for all

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- UKDA as an intermediary
- Importance of RDCs:
  - Expertise in managing data
  - Expertise in managing researchers
  - Generally small, leading to better IT provision
  - We understand the research community
- Research that can benefit the ONS
- Provide access to data from more than one agency

Thank you for listening

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**UK DATA ARCHIVE**