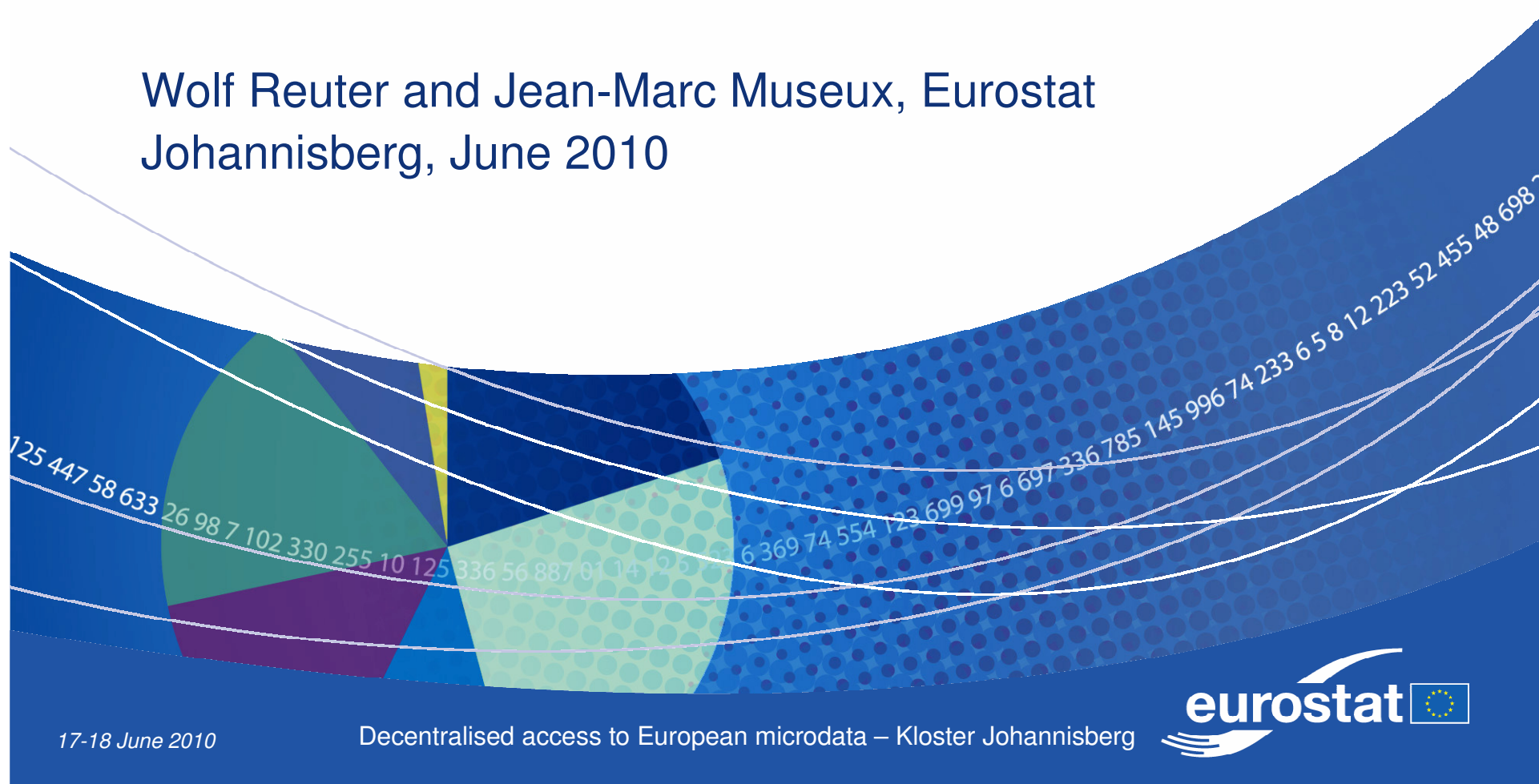


Infrastructure Developments at ESS Level

Wolf Reuter and Jean-Marc Museux, Eurostat
Johannisberg, June 2010



17-18 June 2010

Decentralised access to European microdata – Kloster Johannisberg

Aims

- Widening the access to confidential data for scientific purposes through a networking solution in the ESS
- Restricted access to detailed, indirectly identifiable confidential data for researchers under carefully specified conditions

Supporting Developments

- New risk model regarding disclosure of confidential info.
 - Risk management instead of risk avoidance
- IT innovations
 - Reliable and secure Terminal services solutions, VPNs and biometric / secure identification
- New methodological solutions

Synergies with other “flagship” ESS projects

■ Eurogroups register

- Visualising a common reference confidential data base with MS
- Update of the central data bases through other secure channel (Edamis)

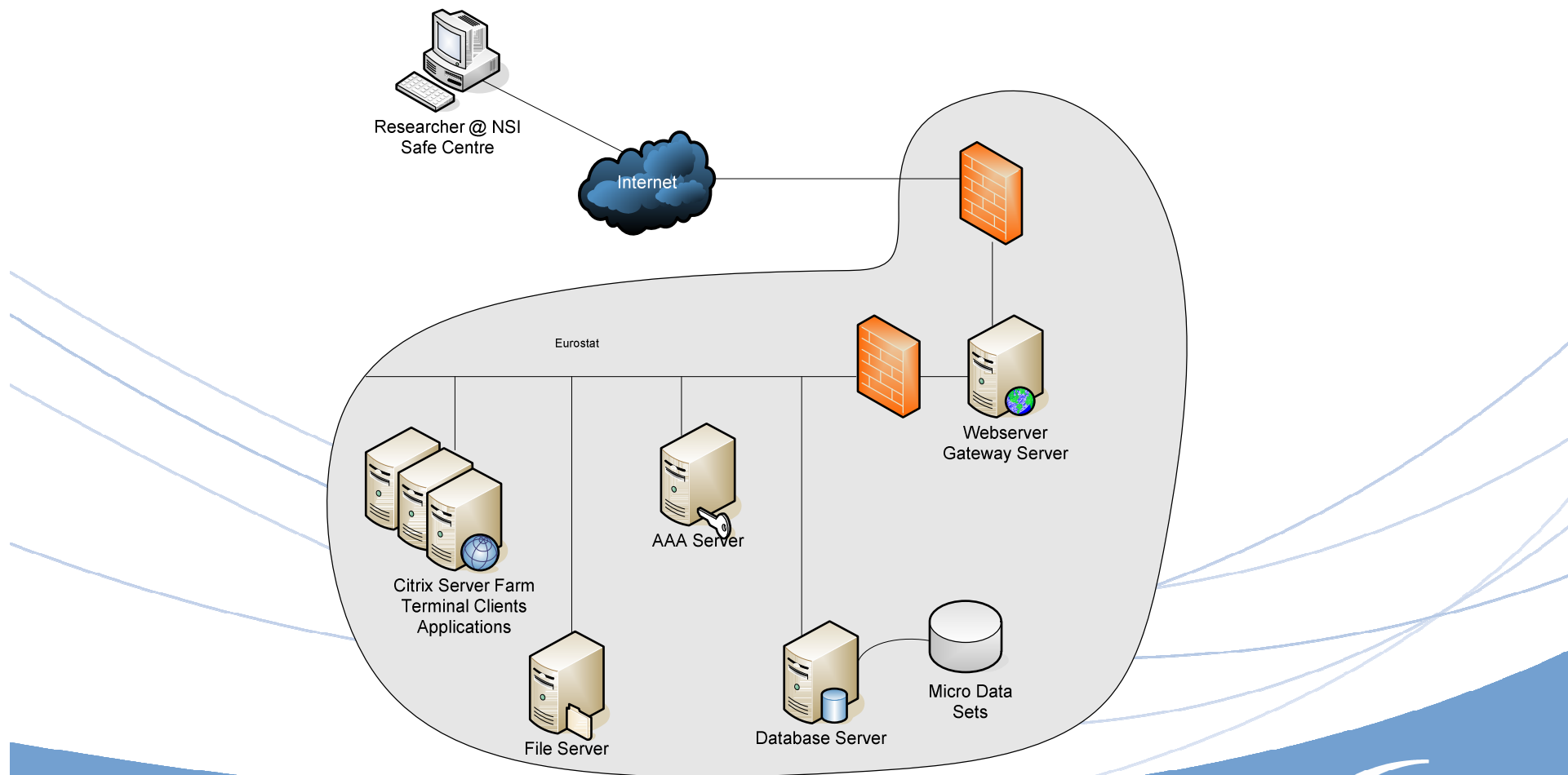
■ Integration Eurostat data validation process in MS process

- Sharing of final validation steps among MS and Eurostat
- Remote execution of the ESS validation rules in the Eurostat safe environment (future ESS data warehouse)
- Visualisation of reports and possibility to correct by uploading new version or remote editing

Design and setting up of an adaptable environment at Eurostat

- Short term: Access from a safe centre at the NSIs
- Medium term: Enabling access from other place (workplace, entrusted partners)
- Long term: ESS data stored decentralised at the national authorities' level, cooperative maintenance and assistance by data archives
- medium and long term are just indicative milestones to be taken into account in the initial design stage: thorough discussions with Member States and significant changes in the legal basis needed – supporting IT developments

Short-term



Short-term (2011 pilot – 2012 operational)

- Researcher comes to NSI and is identified there
- System connects to EUROSTAT servers and gives access through remote access solution
- Issues to solve
 - Organisational issues (how to work together)
 - Procedures to be tuned
 - Defining standards for large scale development
 - Next steps for integration

Requirements – Remote Access System

- Data does not leave the premises of Eurostat or NSIs
- Only a connection to the actual confidential data sets offered
- Secure connection is set up to the secure environment
- Identification devices to replace the direct human control
- Computer configuration to prevent any download / transfer of the data
- Final output is checked for confidentiality

Two competitive solutions available

Terminal services

e.g. Netherlands, Sweden, Denmark, UKDA, NORC (US)

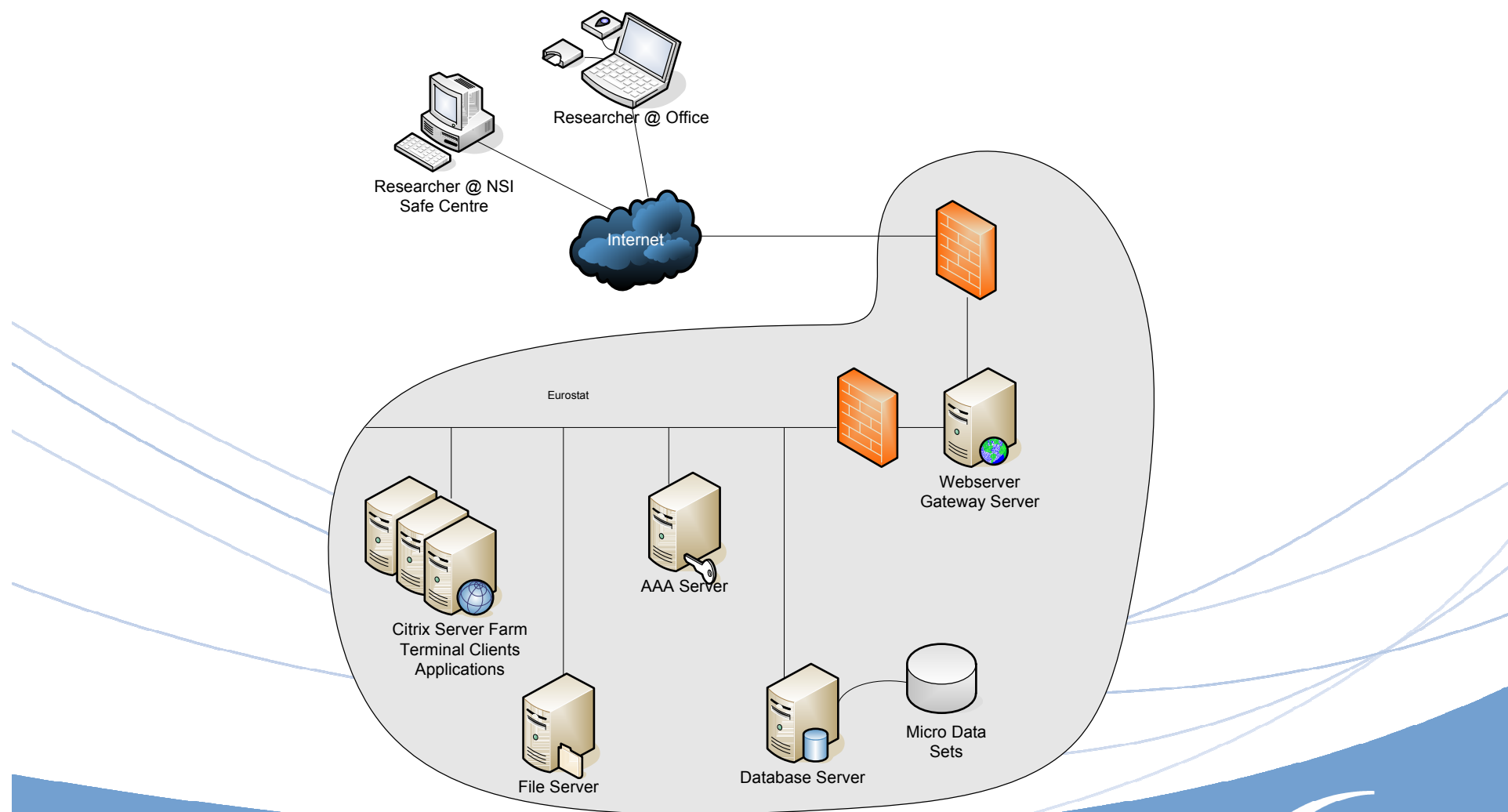
- remote access software installed on any workstation with internet access
- connects to the remote server using secure channel
- within applications started which behave as if installed on the researcher's computer
- only screen output sent to the client, applications run completely at server independently

Distance Network

e.g. France

- researcher's workstation completely integrated into remote network through a secure VPN tunnel
- All network methods can be applied
- applications run either locally on the workstation or on virtual desktops at server in network

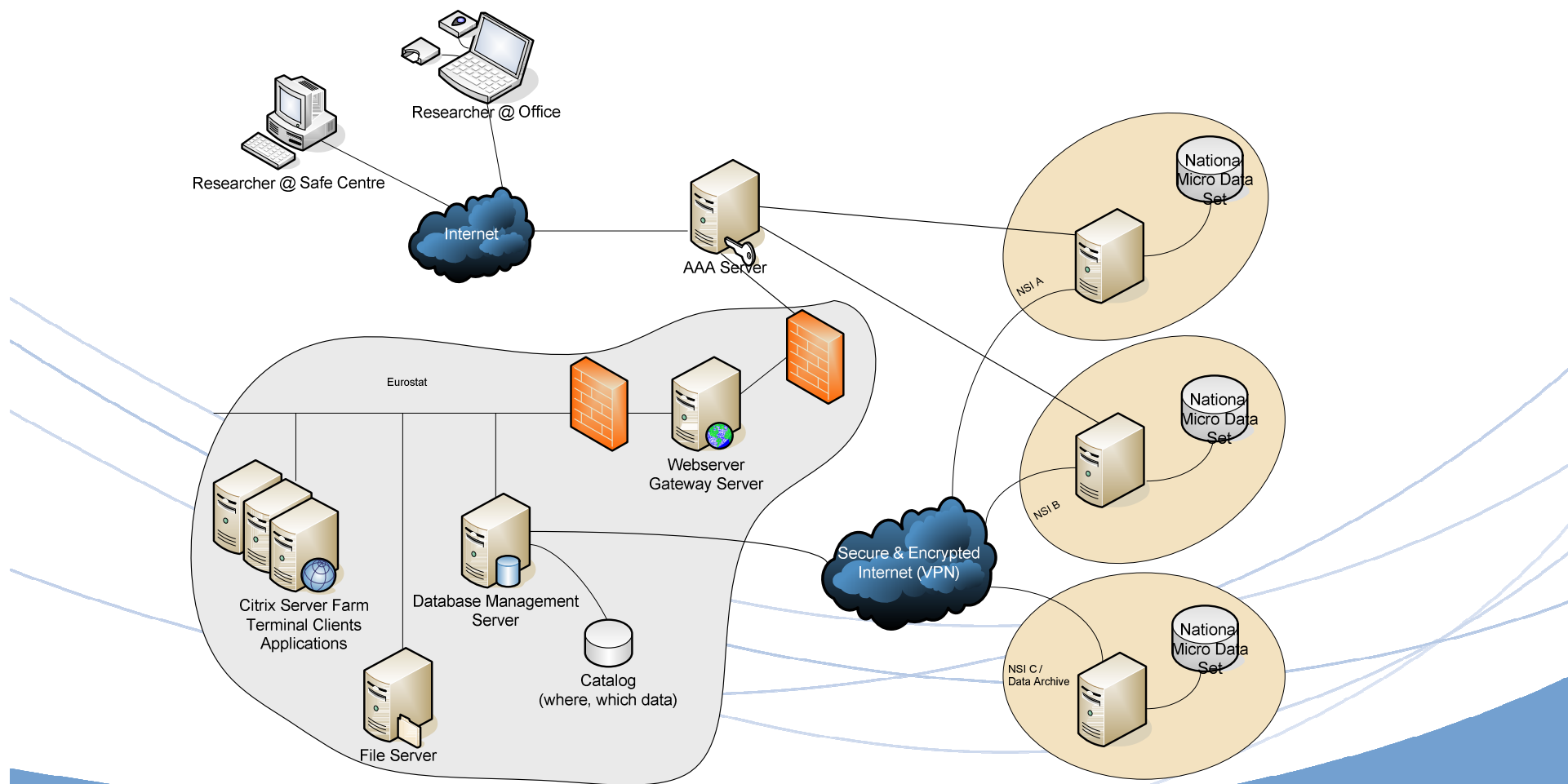
Medium-term – Access from other Institution



Medium-term (from 2013)

- Allow access from EU accredited place inside an accredited institution
- More secure authentication methods are put in place
 - combination of biometrics, smart cards and username / password
- Different configuration possible
 - Institutions / Work place monitored by NSI or EUROSTAT staff (installation of hard- and software at client workstation, access rights, output checking)

Long-term – Distributed Database and accreditation



Long-term

- Just a distributed database management server is run at EUROSTAT
 - Data stays at NSIs but can be accessed centrally
 - Management systems already available e.g. by IBM, Oracle and Microsoft
- Authentication server could be placed in front of the DMZ
 - Researcher would use only one common login for NSI and Eurostat and afterwards choose if works with local or euro data
 - Authorisation process is decentralised. Global consistency is checked by the server

Conclusion – Challenges ahead

- Integration of results of various projects:
 - Vision Implementing Project in EUROSTAT on the DMZ with related services (technical decision for the system)
 - FP7 research infrastructure project “Data Without Boundaries” with Data Archives (CESSDA and NSIs)
 - ESSnet on SDC harmonisation and previous “ESSnet on Statistical Disclosure Controls”
 - Task Force for Revision of Regulation (EC) 831/2002
- New ESSnet with interested MSs
 - Piloting short term solutions
 - Defining standards and procedures in details
 - Design longer term solutions
- Deployment of the infrastructure ESS wide