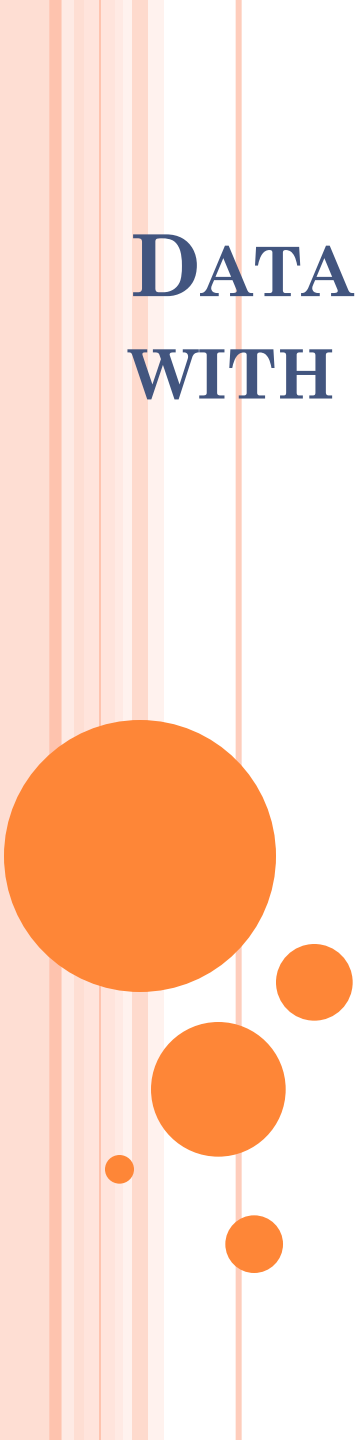


DATA TRANSFER IN BLAISE SURVEYS WITH CAPI COLLECTION METHOD



**Lilya Luria, R&D TL, the Central Bureau of
Statistics, Israel**

**International Blaise Users Conference,
London April 2012**

TABLE OF CONTENTS

- Introduction
- The Generic Broadcast System Component
- Data Transfer via Generic Broadcast System in Blaise Surveys
- Server Side Applications (Statistic Network)
- Client Side Applications (Interviewers' laptops)
- Issues/Problems & Troubleshooting
- Summary



INTRODUCTION

- Using Blaise @ CBS Surveys
- Using CAPI as a most common data collection method
- Two-way data transfer
- Generic Broadcast System Component
- Generic Manipula and .NET Interfaces to Generic Broadcast

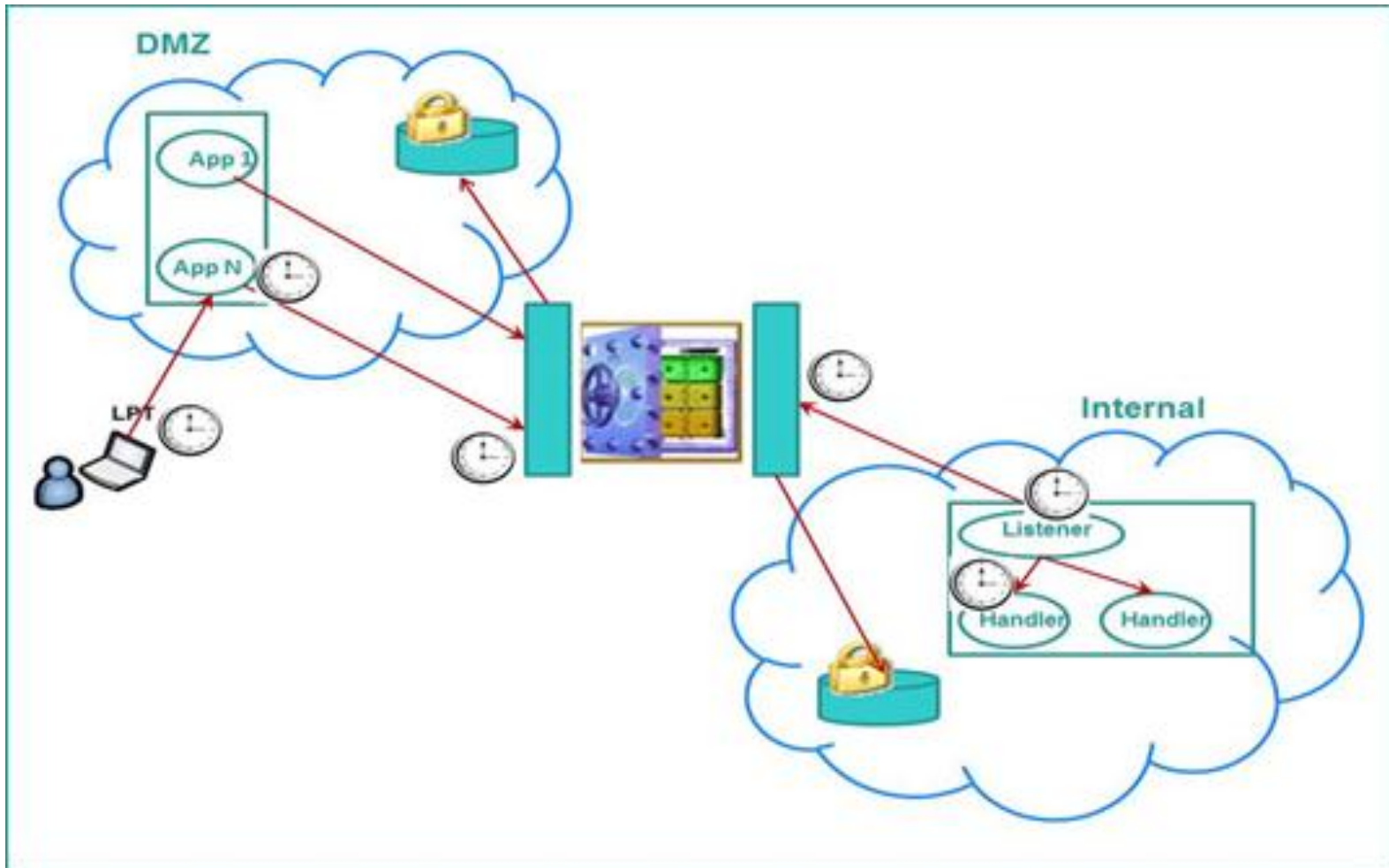


THE GENERIC BROADCAST SYSTEM COMPONENT

- .NET DLL
- Two-way Data transfer between different networks
- Data Transfer through the 'Kasefet' ("Safe")
- Managing processes priorities, users' management and monitoring
- Different work environments: Web systems, laptops (CAPI), PDA's etc.
- Dedicated architecture implementation (client-side / server side)



THE GENERIC BROADCAST SYSTEM COMPONENT



ARCHITECTURE REQUIREMENTS

○ Server Side:

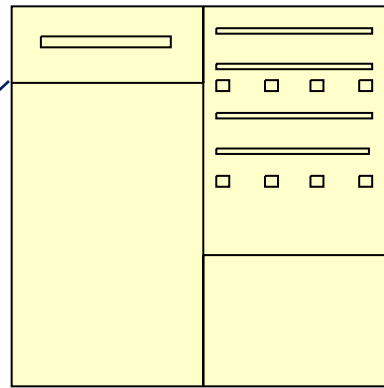
- A dedicated collection server
- Interviewers' folders & sub-folders
- The Download folder contains files that are ready to be sent to the interviewers
- The Upload folder contains files that have arrived from the interviewers
- The Backup folder is used for backup files at the end of each action



ARCHITECTURE REQUIREMENTS

- Server Side:

Collection Server



Interviewer 1

Interviewer 2

Download

Upload

Backup

Download

Upload

Backup



ARCHITECTURE REQUIREMENTS

- Client Side:

- Download, Upload and Backup folders
- Generic usage of folders
- Unique 'identification prefix' for each survey files

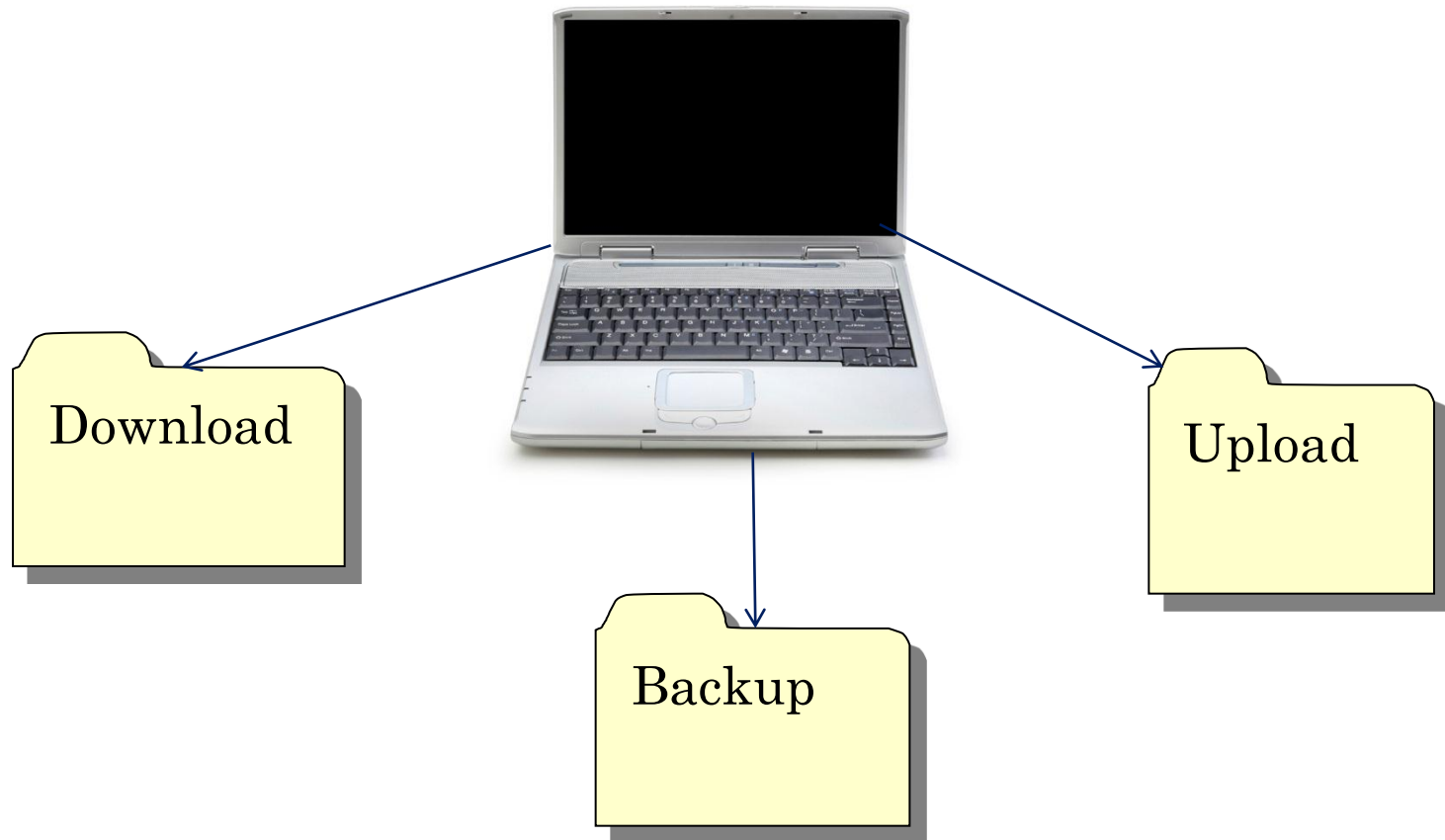
Eg. **Sch** = Saka**Chodshi**

(Monthly Labour Force Survey)



ARCHITECTURE REQUIREMENTS

- Client Side:



DATA TRANSFER

- Server Side Applications (CBS statistic network):
 - Delivery Preparation Application
 - Receiving Questionnaires from the Interviewers

- Client Side Applications (interviewer's laptop):
 - Preparation of Blaise Questionnaires Delivery
 - Data Transmission
 - Blaise DB Update on the laptop
 - Software Version Update



SERVER SIDE APPLICATIONS

- Delivery Preparation Application
- Receiving Questionnaires from the Interviewers Application



DELIVERY PREPARATION APPLICATION (1)

- Data preparation / filtering for delivery
- Generating Blaise questionnaires
- Inserting initial data into the questionnaire
E.g data taken from the Population Registry, property tax files and other sources.



DELIVERY PREPARATION APPLICATION (2)

- Inserting the information produced by the previous interviewer, such as Actions Record Table.
- Generating separate Blaise DB for each interviewer
- Compressing and packaging of all Blaise files



DELIVERY PREPARATION APPLICATION (3)

- The generated RAR file name is composed of the following parts:
 - First 3 letters are representing the name of the survey;
 - The fourth letter is **M** which means the file is sent from the CBS center (**Merkaz**);
 - Partial date composed of the month, day and time.

For example, the file named **SchM01231715** belongs to the Monthly Labour Force Survey (**Saka Chodshi**) sent from the CBS Center (**Merkaz**) to the interviewer on 23/01 at 17:15.



DELIVERY PREPARATION APPLICATION (4)

- Placing the created RAR file in the Download sub-folder of the interviewer's folder in a dedicated collection server.
- Updating Download Date at the Central DB.



DELIVERY PREPARATION APPLICATION (SUMMARY)

Generation of
Blaise
Questionnaires



Inserting initial
administrative
data



Compressing
and packaging
by WinRar



Placing in
the
collection
server



Updating
Download
Date



RECEIVING QUESTIONNAIRES FROM THE INTERVIEWERS APPLICATION (1)

- Retrieving a list of all interviewers working under the coordinator who activated the application.
- For each interviewer's number in the list, searching for files in the Upload sub-folder of the interviewer's folder in the collection server.
- The arrived RAR files can be one of two types:
 - A file containing the questionnaires handled by the interviewer;
 - A file containing the log data (daily work reports each interviewer fills in the laptop).



RECEIVING QUESTIONNAIRES FROM THE INTERVIEWERS APPLICATION (2)

- The received file name consists of the following parts:
 - First 3 letters representing the name of the survey;
 - The fourth letter is **S** (Soker - Interviewer) or **Y** (Yoman - Log);
 - Partial date composed of the month, day and time.

For example, two files found in the Upload subfolder of the interviewer X:

Sch**S**01261825.RAR

Sch**Y**01261825.RAR



RECEIVING QUESTIONNAIRES FROM THE INTERVIEWERS APPLICATION (3)

- The Blaise files are extracted from the RAR file at the collection server.
- Analysis of management information in each questionnaire.
- Updating Central Blaise DB with questionnaires which meet the criteria for updating.
- Updating management data of the survey.

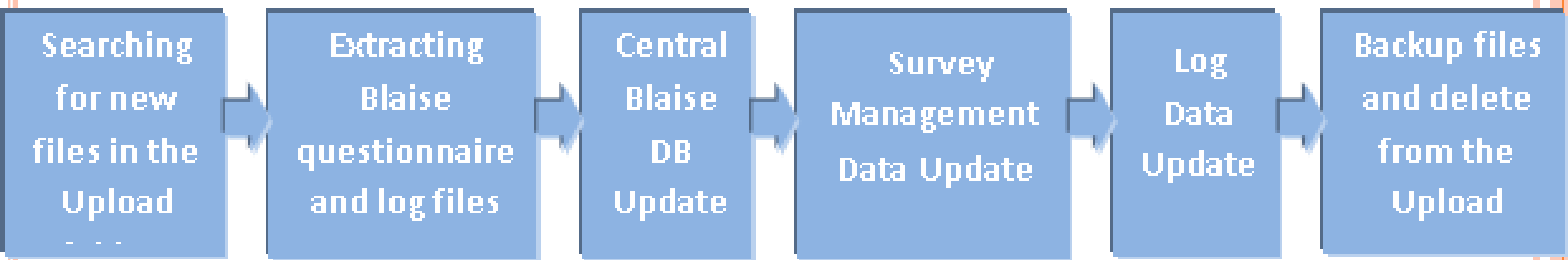


RECEIVING QUESTIONNAIRES FROM THE INTERVIEWERS APPLICATION (4)

- Updating the log data in the survey management system.
- Backup files in the Backup sub-folder of the interviewer's folder.
- Deleting files from the Upload sub-folder of the interviewer's folder.



RECEIVING QUESTIONNAIRES FROM THE INTERVIEWERS APPLICATION (SUMMARY)



CLIENT SIDE APPLICATIONS

- Preparation of Blaise questionnaires delivery ready to be sent to the Central DB.
- Call the 'Generic Broadcast System' DLL which performs data transfer in both directions.
- Updating Blaise DB on the interviewer's laptop with the questionnaires arrived from the Central DB.
- Software Version Update (if relevant).



PREPARATION OF BLAISE QUESTIONNAIRES DELIVERY

- Selecting questionnaires for delivery.
- Compressing files with WinRAR Software.
- Selecting Daily Log records and compressing them.
- Placing files in the Upload folder.



DATA TRANSMISSION VIA GENERIC BROADCAST DLL

- Connecting the Generic Broadcast DLL
- User Identification
- Data Transmission from Download folder on the server to Download folder on the laptop
- Data Transmission from Upload folder on the laptop to Upload folder on the server
- Disconnecting the Generic Broadcast DLL



BLAISE DB UPDATE ON THE LAPTOP

- Checking the RAR file in the Download folder if exists.
- Extracting Blaise files from the RAR file.
- Updating Blaise DB in the laptop with the arrived questionnaires and with the management data.



SOFTWARE VERSION UPDATE (1)

- The interviewer gets a notification about version update, in case the application identifies version update files.
- For version update, 2 files usually sent to the interviewer's laptop:
 - .RAR file containing all the Blaise and Manipula files that must be updated on the laptop;
 - .BAT file containing all the commands to be performed on the laptop.



SOFTWARE VERSION UPDATE (2)

- The BAT file performs the following commands:
 - Extracting files from the RAR Archive;
 - Running Manipula that transfers data from the old structure DB to the new structure DB (if required);
 - Copying files from the Download folder to the questionnaire DB folder in the laptop.
- Backup of all files in the Backup folder and deleting all files from the Upload and Download folders.



ISSUES / PROBLEMS & TROUBLESHOOTING

- System Folders Update
- The need for a collection server as an intermediate stage
- Technical problems on servers



SYSTEM FOLDERS UPDATE

- The hard disk in the laptops is divided into drives C and D.
- All the System files are installed on drive C.
- There is a need from time to time to update Blaise system files.
 - Eg. updating Blaise license every year.
- The Interviewer has no access permissions to drive C.
- Apparent solution:
 - Developing a generic application for software versions updates on all laptops.
 - Running the application under Administrator permissions in order to update system files.



THE NEED FOR A COLLECTION SERVER AS AN INTERMEDIATE STAGE

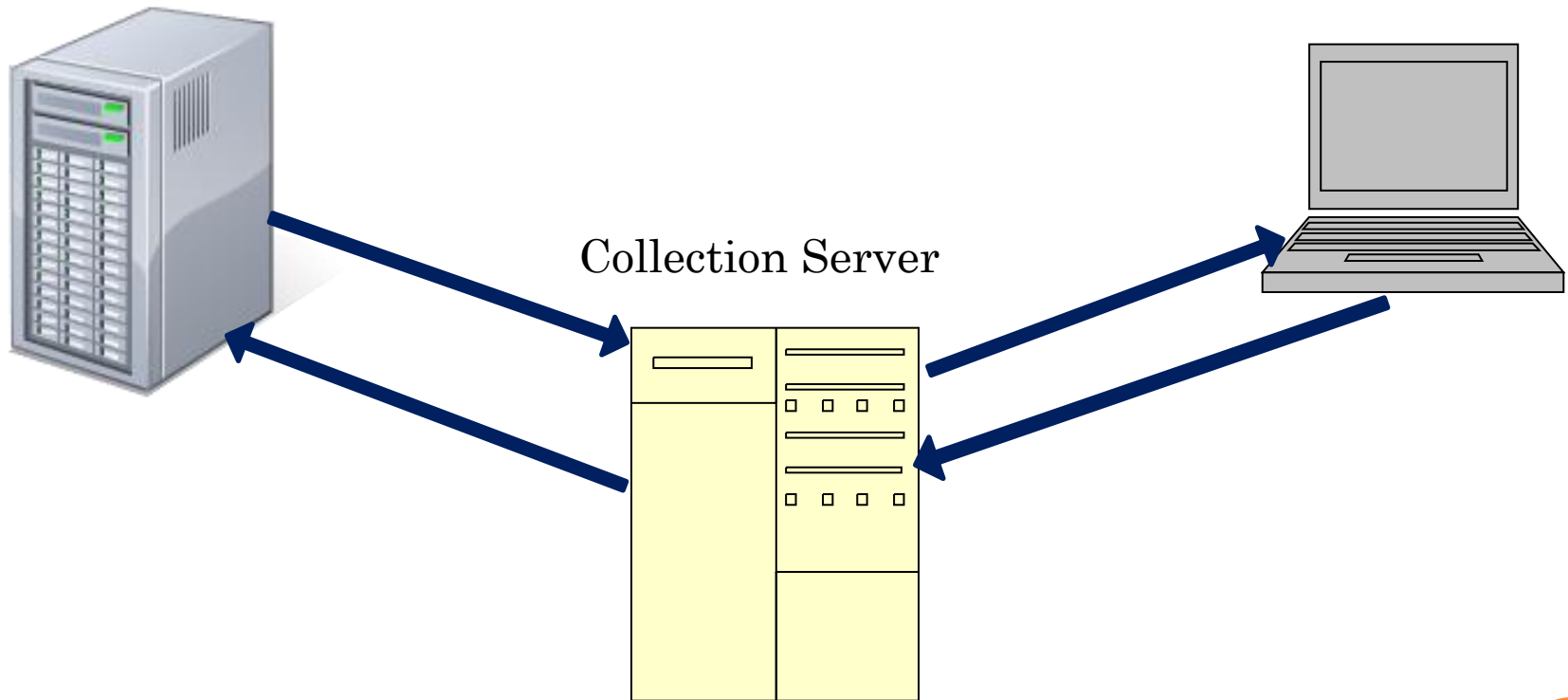
- Information Security
- Shortening the transmission time as much as possible
- Technical difficulties



THE NEED FOR A COLLECTION SERVER AS AN INTERMEDIATE STAGE

Survey Server

Interviewer's Laptop



TECHNICAL PROBLEMS ON SERVERS

- Rarely, various technical problems occur on collecting servers.
- As for today, a specific technical solution is given to any problem that arises locally.
- There are plans in the near future to find more global solutions to common situations.



SUMMARY

- Data transfer from the field to the CBS internal network and back is performed in a generic way, same for all surveys.
- The generality is expressed in using the 'Generic broadcast' DLL on the one hand, and the generic interface on the other hand.
- Each new CAPI survey joins this infrastructure, which enables adding each new survey to the data transfer mechanism in a convenient and relatively simple way.



QUESTIONS?

E-Mail: lilyaz@cbs.gov.il



**THANK YOU FOR YOUR
ATTENTION!**

