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Computer Assisted Personal Interviews using Wireless connectivity

Collection Planning and Management Division
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Objective of the session

- Share our CAPI wireless experience at Statcan

- Why was wireless introduced?
- When was it introduced?
- What and how was it implemented?
- Challenges and Success

- What's next?



CAPI transmission situation

- Interviewers connect using dial-up telephone lines
 - Usually overnight
 - To download their survey application and sample file
 - To transmit their data with Head Office centralized systems
 - Collection is done off line



Business requirements

- Increasing demand for large files to be sent to laptops
- Large audio recordings files for CAPI monitoring
- Increase in speed of transmission (Cost reduction)
- Interviewers moving to other technologies for home telephone service that do not support telephone modem use (e.g. VOIP)
- Phone technology is becoming obsolete



Planning wireless project

Initial research and analysis

- Conducting a threat risk assessment (TRA)
- Contacting security for software and hardware evaluation
- Evaluating risks and mitigation plans
- Technical feasibility and cost related to changes to applications
- Contacting different vendors (Wireless providers)
- Getting coverage information for national interviewers

When project started

- Security review:
 - April 2008 - First Internet Treat Risk Assessment (TRA)
 - March 2009 - External Wireless TRA
 - Software Risk Evaluation (Code review)
 - Risk & Mitigation Plan was presented and approved
 - Contract Access Point Name (APN) and Closed User Group

- Summer 2009 - New laptop deployment
- Summer 2010 - Pilot of 65 interviewers using wireless
- Dec 2010 - Received go ahead from different committees
- 2011-2012 - Phased Production Implementation

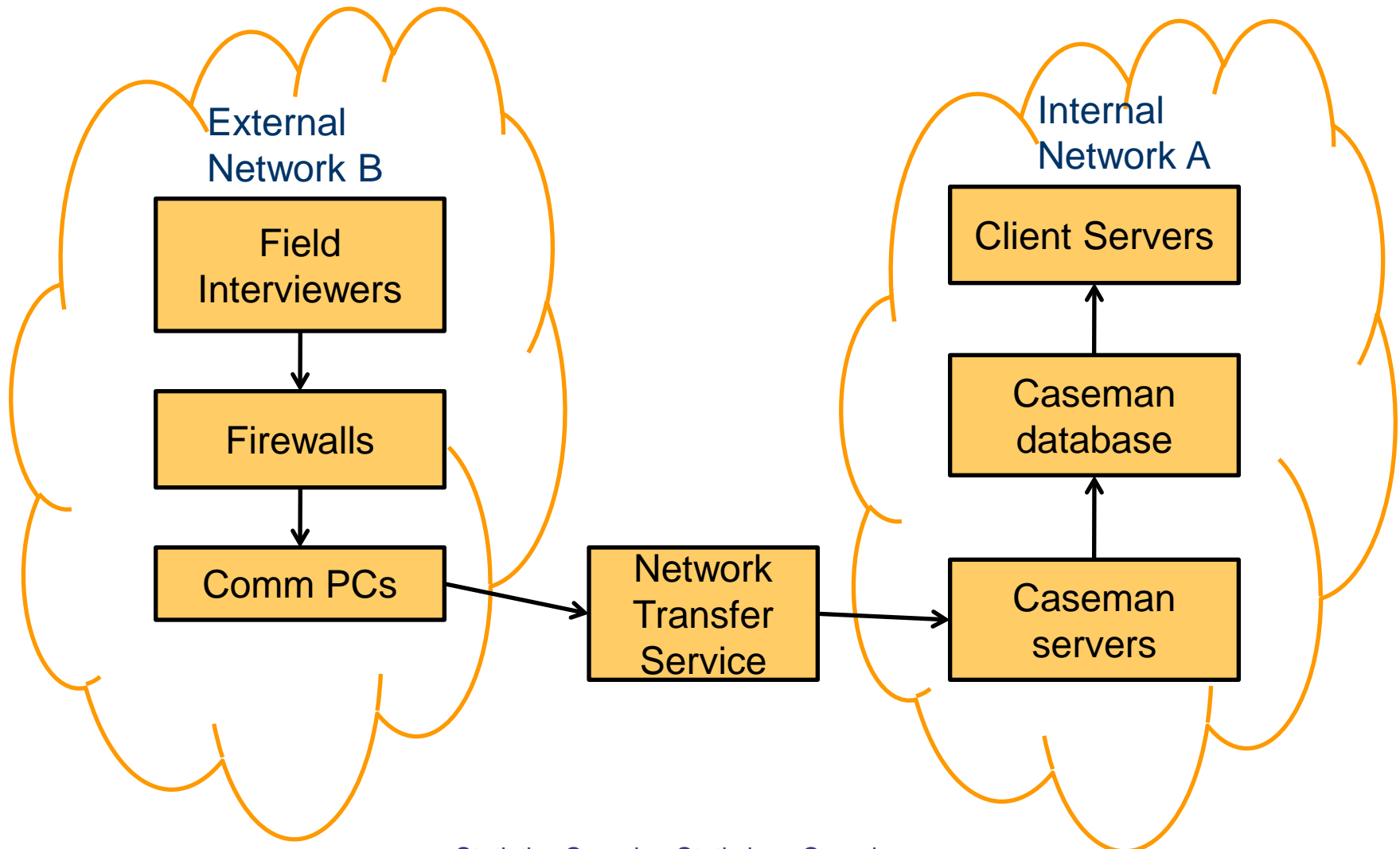


Interviewers Laptop Configuration

- Present interviewers laptop configuration:
 - 1000 Interviewers collect data in unconnected state
 - All application/software managed by Head Office (Ottawa)
 - OS and other critical updates packaged by security groups
 - Antivirus updates during wireless connection
 - Data must be encrypted prior to connecting to wireless network
 - Data is encrypted in transit (double encryption)
 - Wireless Transmission time kept to minimal using Statcan Virtual Private Network (VPN)

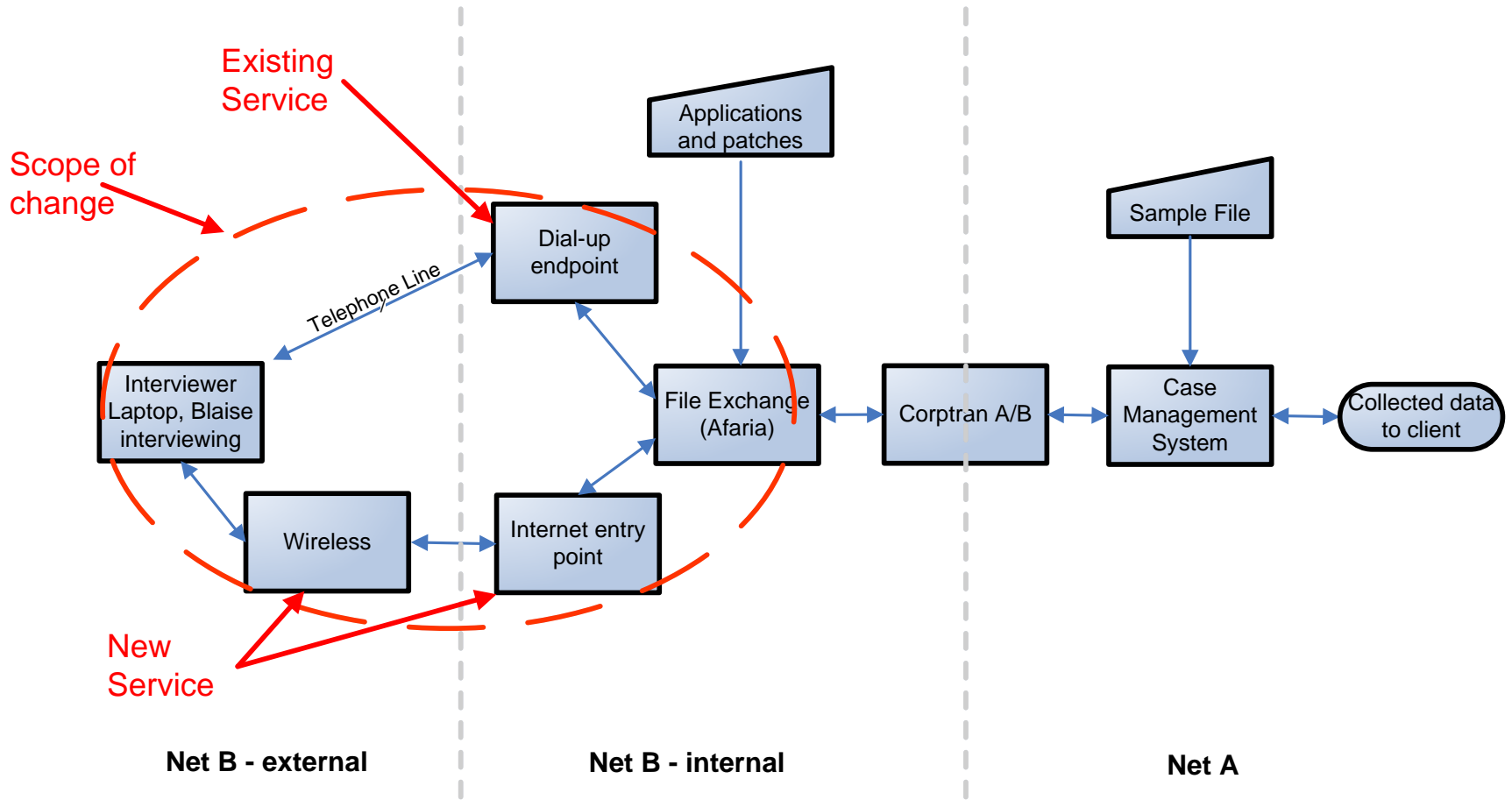


CAPI Infrastructure





Proposed System and Safeguards

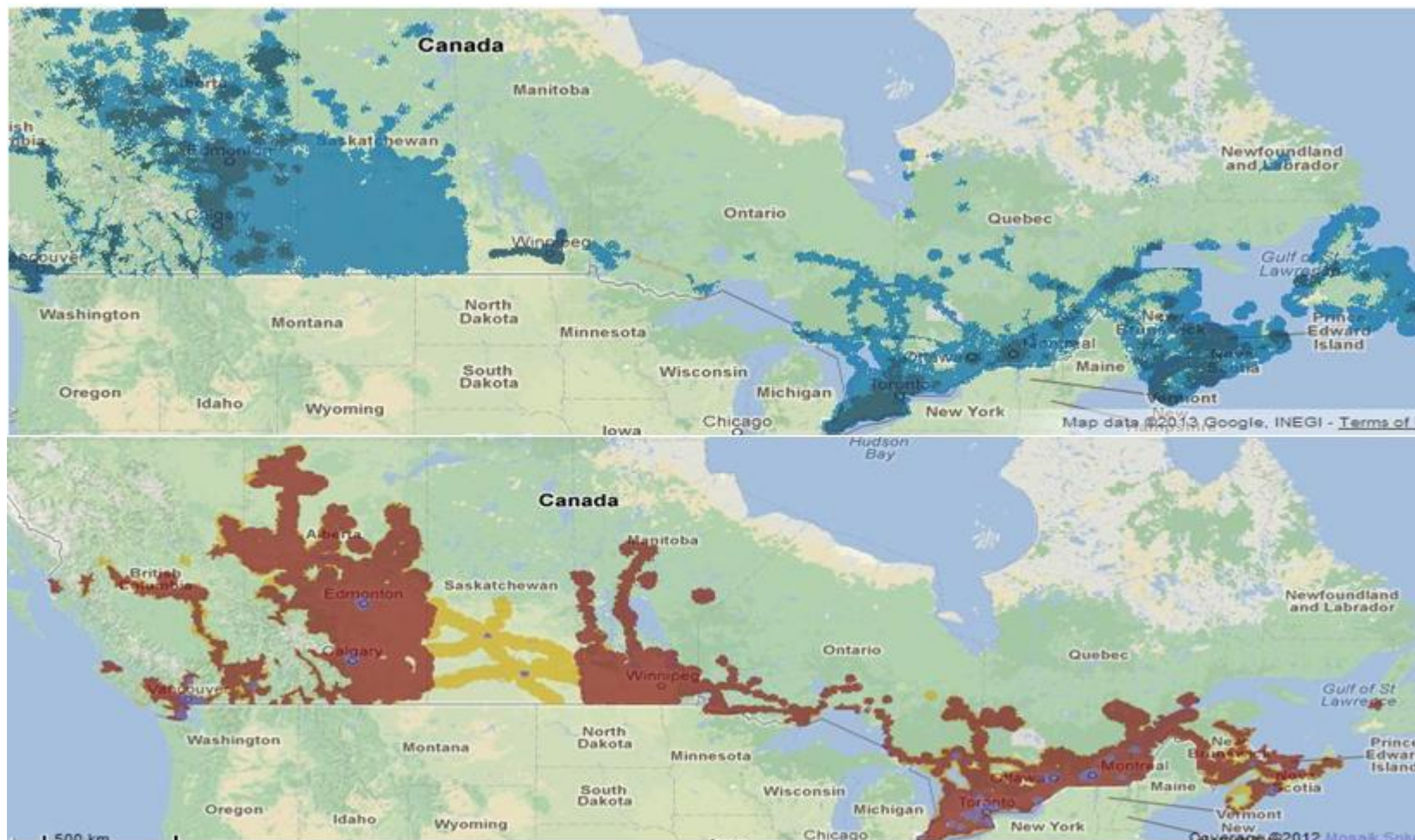


Challenges

- ❑ Last minute changes prior to implementation caused delay
 - ❑ Request For Proposal (RFP) changed wireless service provider
 - ❑ Security Requirements additional challenge for providers
 - ❑ New Antivirus software for the corporation required modification

- ❑ Each provider changes devices frequently:
 - ❑ Development time over each device
 - ❑ Limited documentation from the wireless service providers
 - ❑ Required testing, training and documentation
 - ❑ Frequent device switching confused interviewers

Coverage Across Canada



Challenges

- Coverage not available in all locations desired (North)
- Connectivity issues:
 - The providers show on the map (based on postal codes) where the device works
 - Cellular technologies not always reliable
 - 90% of interviewers can use wireless and today still 10% using dial-up
- New technology
 - Internal support, developers, managers and interviewers
 - Technical issues were initially difficult to troubleshoot
- Management reports are very manual and time consuming
- Training
 - Ensuring interviewer training on the devices were consistent
 - Risk of losing devices
 - Interviewers resisting to change

Success

- ❑ Finalized the implementation of the new technology
 - ❑ Large files are delivered to field interviewers successfully
 - ❑ Large audio recording files are coming back to Head Office
 - ❑ Flexibility of connectivity for interviewers
 - ❑ Better position for new laptop purchase with internal knowledge
 - ❑ Improved overall security knowledge and guidelines for developers
 - ❑ Deployed a survey computer base training

- ❑ Wireless Coverage is improving across Canada on a daily basis

- ❑ Contingency plan ensures that the data is coming back to Head Office

- ❑ The majority of interviewers enjoy doing a transmission with wireless and being able to use their phone lines.



What's next?

Case and Workload Management Upgrade 2013

- The upgrade focuses on specific technical recommendations associated with security risks identified in Security and Code review
- Reducing the user permissions for some applications on laptop
- OS migration (Windows 7)
- Migration to versions of software and minor database changes
- Automated management reports
- New laptops with integrated wireless devices

Working towards real time connectivity



Questions?

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