Deploying an Automated Data Read In Process at the National Agricultural Statistics Service

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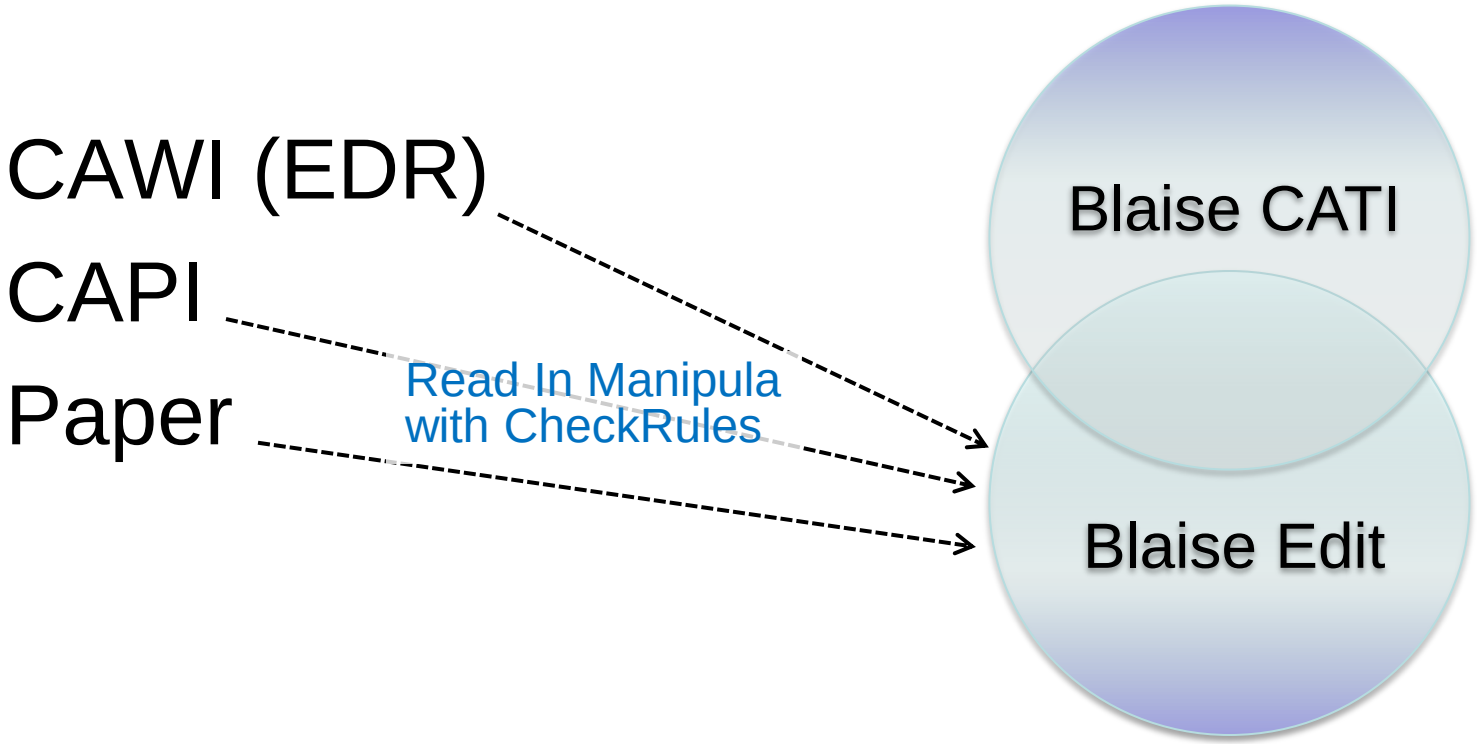
NASS Data Sources



The Old Read In Model

- 46 state field offices
- Read in manipula program ran locally, on demand by users
- LAN based processing
  - Local Blaise datasets (.bdb) containing each office's sample
- Very fast!

Early Centralized Read In Model

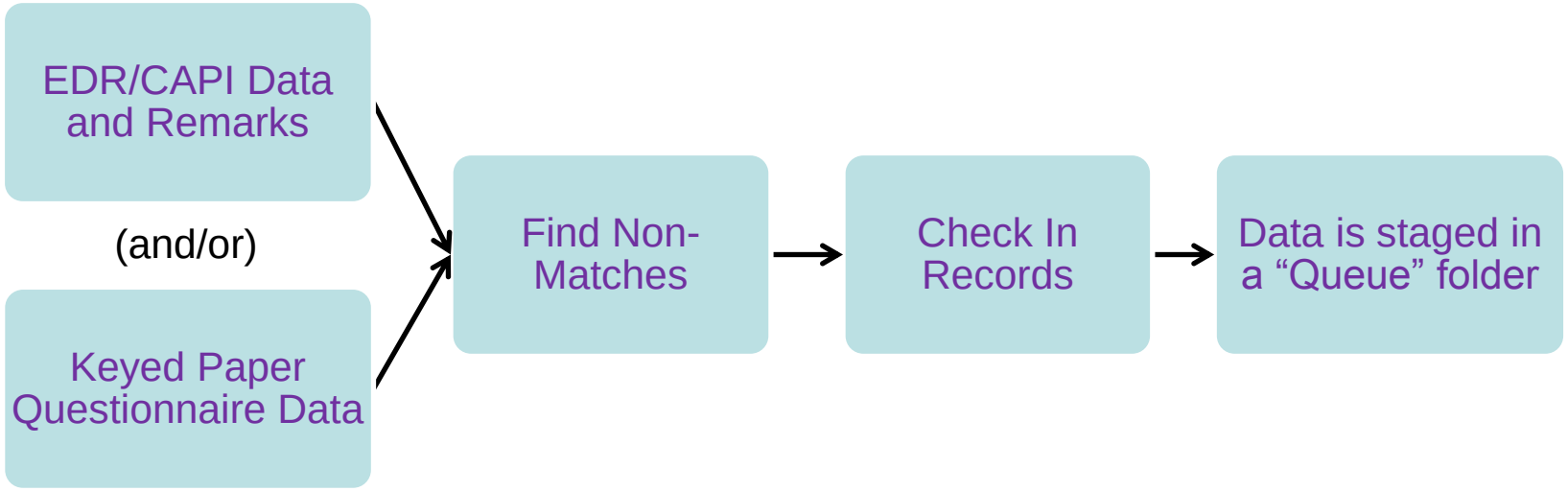
- 46 state field offices, transitioning to 12 regional field offices
- Read in manipula program ran locally, on demand by users, sometimes concurrently
- WAN based processing
  - Centralized MySQL database containing national sample
- Initially not as fast, but still tolerable. After more/larger surveys were added, NOT acceptable!

Current Read In Model

- 12 regional field offices
- Read in manipula program runs on the Blaise data server at set intervals
- Server based processing
  - Centralized MySQL database containing national sample
- Much better!

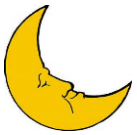
Queuing the Data

- User clicks on “Queue Files for Read In” button



- SurveyInfo.txt file is also created
  - Contains metadata used by read in program

Queue Options

- User has choice of two available queues
  - Overnight (default) 
    - Data is read in overnight at 12:15 am
    - Runs Tuesday - Sunday
    - **Strongly** preferred for large quantities of data
    - DATA\CASIC\<survey name>\HQ\QueueNight
  - Daytime 
    - Data is read in every 15 minutes from 6am-11pm
    - Runs seven days a week
    - Use when data being loaded will be edited today
    - DATA\CASIC\<survey name>\HQ\QueueDay

Trigger Files

- Queuing data creates Trigger files
  - File naming format: <survey>src.TRG, where src = RAW or EDR
  - Saved under DATA\CASIC\TriggerNight or DATA\CASIC\TriggerDay
  - Path names and parameters used by read in manipula are stored in these files

Auto Read In Program

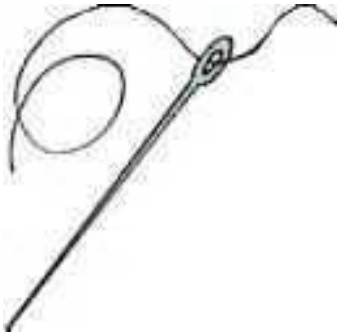
- Created as VB.NET Console Application
- Set up as Scheduled Tasks on each Blaise Data Server
- Logs progress & any errors at server level
- Sweeps appropriate Trigger folder to see if any surveys need to read in data
  - If no, writes to log and exits
  - If yes…

Auto Read In Detects Trigger(s)

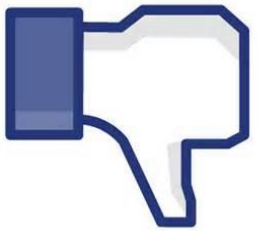
- For each survey with a trigger:
  - Program looks for InUse.txt file
    - If found, indicates a job is already running for this particular survey. Program writes to log and this survey is ignored.
  - Surveys with no InUse.txt file are processed
    - InUse.txt file is created
    - Trigger files move to TriggerStage folder
    - Thread is started for each survey

Auto Read In Threads

- Threads = faster processing
- No degradation for read in jobs run concurrently across surveys
- Thread actions:
  - Queued data files move to QueueStage folder
  - Data is merged together by type
  - Read In manipula program runs
  - Logs at survey & server levels



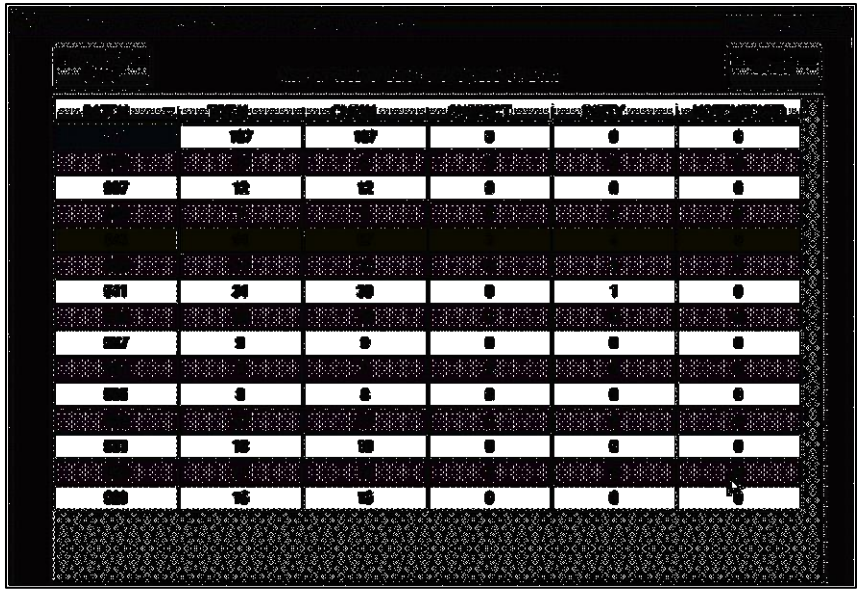
Item Level Rejects



- New fields added to Blaise instruments
  - OPEN field: invalid, blank, or duplicate item codes, or item codes with blank values
  - Enumerated field: “Reviewed”
- Critical error - If not Reviewed then OPEN field must be empty

Batch Assignments & Report

- Users prefer to edit by batch
  - CATI data batches = Julian date (1 – 366)
  - Auto read in batches = Julian date + 500
- Batch Count Report



Other Improvements

- New Interactive Edit sort options
  - Incorporated Capture Source
- Email alerts
- Data automatically re-queued after random COMException error

Conclusion

- Auto Read In program resulted in…
  - Faster read in jobs
  - Better overall system performance
  - Time savings for users and developers
  - Overall increased user satisfaction

Questions

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