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Legacy data migration: Introduction

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Illustrative example: Ifakara Health Institute HDSSs*

Ifakara Health Institute has 2 sites

Ifakara

- Operational since September 1996
- Urban DSS with approx 16,000 households followed via 2 rounds per year
- Rural DSS with approx 58,000 households followed via 2 rounds per year

Rufiji

- Operational since Nov 1998
- DSS with approx 41,000 households followed via 2 rounds per year

*Slides: Tumaini Kilimba, IHI

Migration Process

Transform HRS2 data table from DBF to CSV

1 hours

Import data into MySQL “staging” tables

2 hours

Transfer data from staging tables to OpenHDS tables via OpenHDS web services.

Up to 12 weeks (considering the data cleaning iteration in next slide)

Rejection of any data not conforming with constraints placed on entity attributes.

Migration Process (contd…)

Rejected data is exported into Excel with descriptions of what is wrong with it

This is sent back to data managers who fix the issues

- by going through the relevant paper stored version
- sending a fieldworker to verify/correct the data at source

The amendments are sent back to us and once again tested for consistency

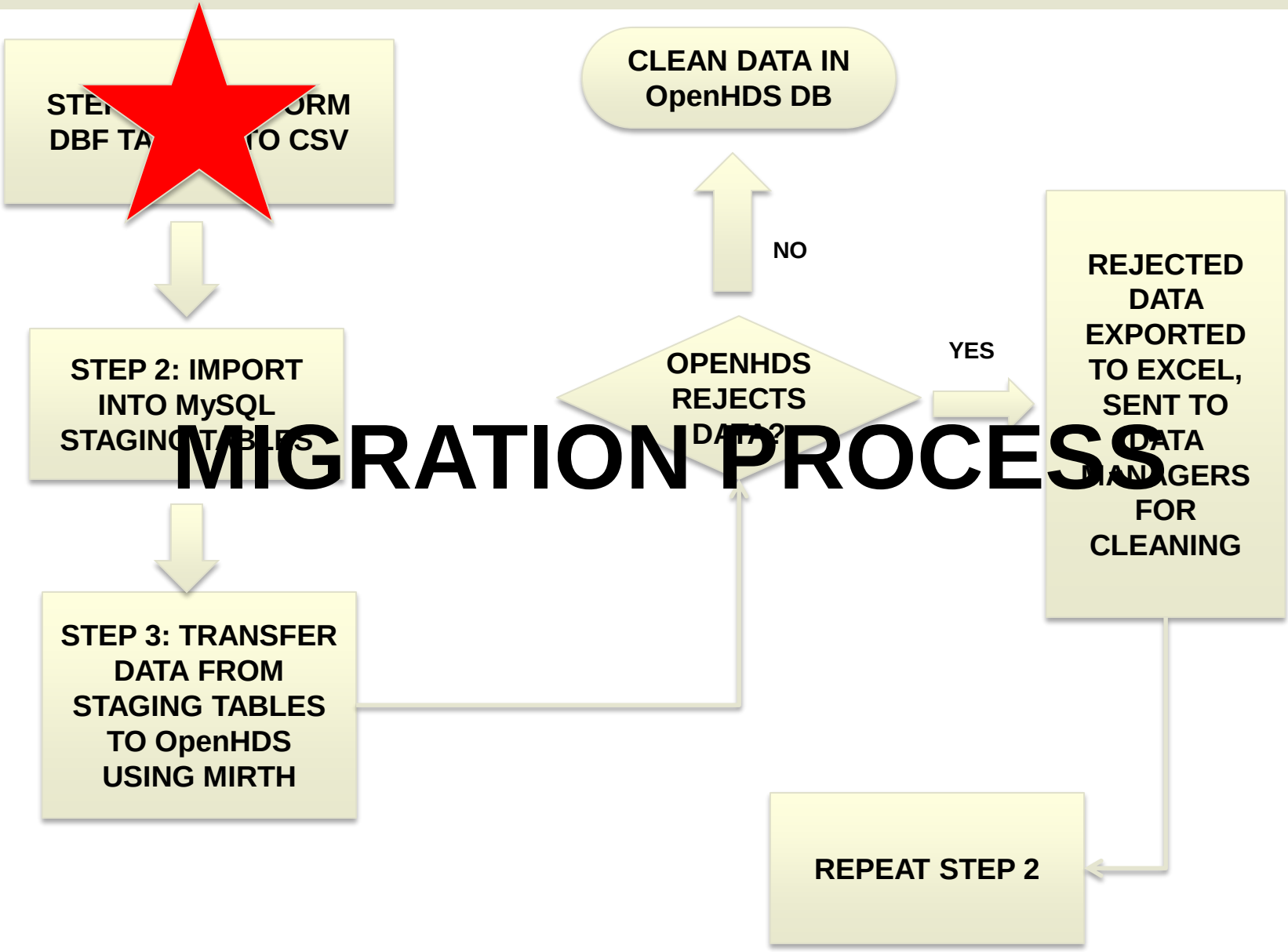
Clean data is let through, inconsistent data is rejected

Rejected data is again exported to Excel and sent back to data managers

Continuous iterative process until no more can be done

Hence a useful by-product of HRS2-OpenHDS migration is cleaner legacy data

MIGRATION PROCESS



Migration Challenges

The “data-migration->data-cleaning->data-migration” cycle is painstakingly slow and laborious (but worth it!).

Some data is beyond recovery (the individuals/ households concerned cannot be traced, and an informed correction becomes impossible)

Available tools and experience

Data migration tools from HRS2 to OpenHDS

Virtualized servers with all necessary pre-requisites installed

Documentation: a section in the OpenHDS manual

A demo/tutorial: https://github.com/SwissTPH/openhds-from-hrs2

Other data systems will need a preprocssing step

Data migration infrastructure: your server instance

Server configuration

Virtual server image (VMWare/Virtualbox)*

Ubuntu 16.04

MySQL 5.7

Tomcat 8

MirthConnect

For training purposes only!

*Thank you Brendan Gilbert, Africa Centre for Population Health!

Additional prerequisites

Server

R

For data migration

Python

For monitoring tools and simulation

Pentaho

For iShare integration

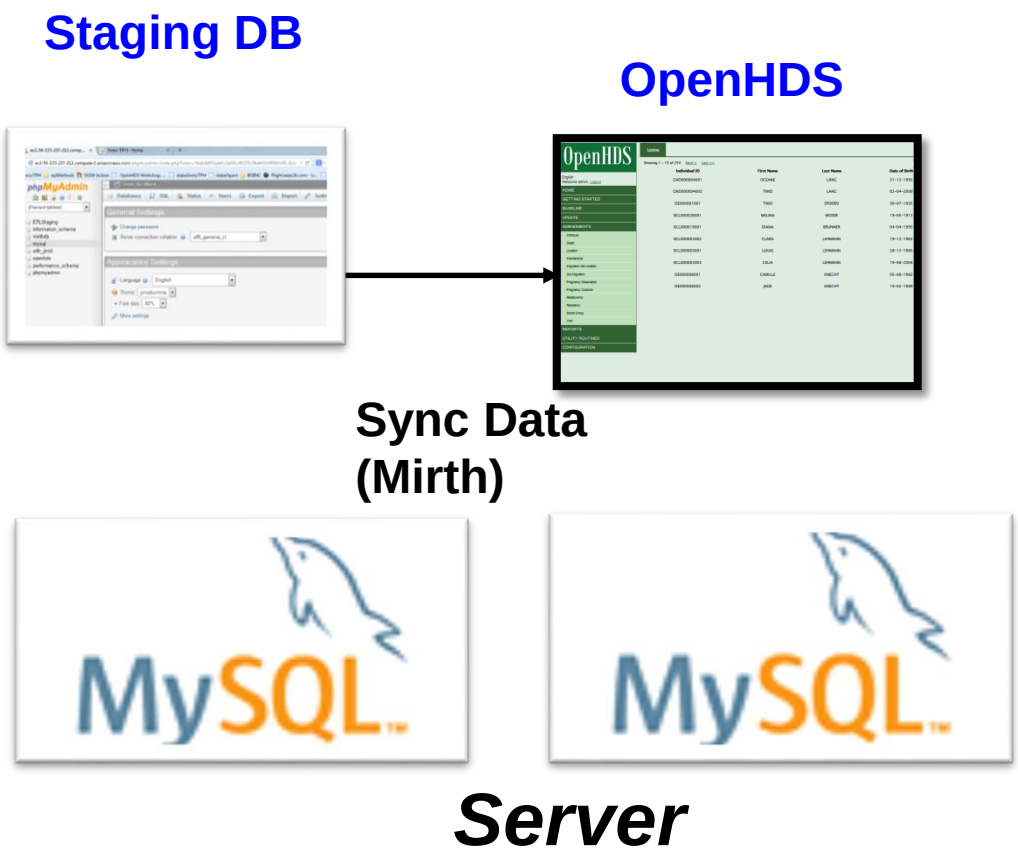
Client

Java

For Mirth Connect Administration

SSH Client

e.g. MobaXterm
(http://mobaxterm.mobatek.net/)



Data connections, including data migration

ODK Aggregate

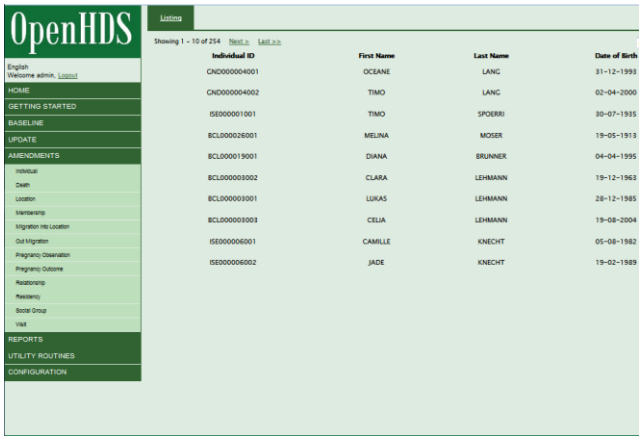
Sync Data (Mirth)

Baseline Channels

Update Channels

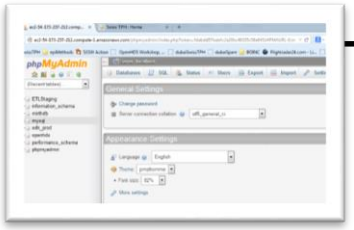
Migration Channel

OpenHDS



HRS2

Staging DB



MySQL

MySQL

Goals for today

Have a running server instance for data migration

Make sure this is network accessible (for tablet connectivity)

Either use your CiB to host your instance (VMWare)

Or use the workshop server (Virtualbox)

Images:

http://tinyurl.com/openhds2016

WLAN:

IDMP_O

openhdsdubai

Set up CiB

Create new vm choose custom, select VM version 7, configure suitable cpu, mem and nic settings.

When asked select disk choose “use existing virtual disk”. Browse to folder where converted vdisk is located and finish installation.

Power on VM and logon

Edit interfaces file e.g. sudo nano /etc/network/interfaces and change enp0s(x) to ens32, e.g.

Add # The primary network interface

auto ens32

iface ens32 inet dhcp

Reboot vm

Configure network interface as desired i.e. dhcp or static.