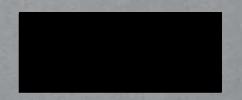
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### REGISTER OF PURCHASING DECISION (ROPD)

| NonStock Requisition | (REF | No.): |  |
|----------------------|------|-------|--|
|----------------------|------|-------|--|

| General description of what is to be pure   |  |
|---|--|
| As part of the Integrated Diagnostic Imaging Sol<br>specialised resources to assist with data migratio  | lution (IDIS) Project, there is a requirement to have  |
| <ol> <li>Purchases under \$25K only require one</li> <li>If over \$25K (3) written quotes must b</li> </ol>   | written quotation, once obtained please proceed to box be obtained. If three quotes were obtained please ustification for not obtaining required number of quotes  |
|   | ders over \$25K (GST Incl) where less than 3 quotes have been sourced.   |
| i. supplier has the necessar  | only available from the one supplier in Australia or only one<br>ry technical expertise to supply and provide satisfactory<br>ntenance, support or warranty.   |
|   | onomy the requirement must be compatible with existing s standardised on a particular item after inviting original equipment.  |
| Other:  | N  |
| 3. Outline quotes obtained and justification  | n for purchasing decision:   |
| Supplier: Oakton  | Quote: SC120781 (\$267,520.00 incl GST)  |
| Supplier:   | Quote:   |
| Supplier:   | Quote:   |
|   |  |
| Contract awarded to Supplier:   |  |
| Contract awarded to Supplier:   |  |
| Comments in support of purchasing decision  | on: These two Oakton resources have been on the IDIS projec  |
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| Comments in support of purchasing decision since inception and hold a great deal of project-  | on: These two Oakton resources have been on the IDIS projectorspecific knowledge. Selected from SS-ICT formed and SS-ICT formed are selected from SS-ICT formed from SS |
| Comments in support of purchasing decision since inception and hold a great deal of project.  4. Source of Funding:  1. Recurrent Expense 2. P&E Program Budget   | -specific knowledge. School from SS-ICT found - Arose from a RFT.  Im 3. Donation 4. Special Purpose Funding   |
| Comments in support of purchasing decisions since inception and hold a great deal of project.  4. Source of Funding:  1. Recurrent Expense 2. P&E Program Budget  Other:Project - 66806 – Integrated Diagnostics.  5. Endorsements: Purchase Requests must be end   | -specific knowledge. School from SS-ICT found - Arose from a RFT.  Im 3. Donation 4. Special Purpose Funding   |
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NOTE: This document is to be attached to the supplier quotations and a non-stock regulation before being sent to the Authorising Officer and ACT Health Supply Services

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| Item  | Records<br>received | Records<br>not<br>provided/<br>excluded | Reason for exclusion  | Reference<br>document   |
|---|---------------------|---|---|-------------------------|
| Procedures(complete<br>d and cancelled)                               | 3572934             | 162                                     | Missing patient<br>details<br>Missing Siemens to<br>AGFA procedure<br>code mapping          | RIS_Exclusions.         |
| RIS<br>Studies(confirmed<br>studies)                                  | 1654494             | 8                                       | Missing procedure details   | RIS_Exclusions.<br>xlsx |
| Results(signed-off results)   | 3412569             | 76                                      | Incorrect report<br>header<br>Purged reports<br>Reports associated<br>to cancelled exams    | RIS_Exclusions.<br>xlsx |
| Scans(excluding deleted scans)  | 850152              | 0                                       | 10  |                         |
| Interactive documents (required document types as per specifications) | 1460880             | 0                                       |   | 3 (34)                  |
| zSegment documents<br>(required documents<br>as per specifications)   | 682279              | 0                                       | 28  |                         |
| PACS Studies  | 1668054             | 195                                     | Study/Series not provided by Siemens Incorrect Series count/Image count provided by Siemens | RIS_Exclusions.<br>xlsx |
| PACS Series   | 5269606             | 0                                       |   |                         |
| PACS Images   | 328611878           | 0                                       |   |                         |

From:

Sent:

To:

Wednesday, 31 January 2018 11:21 AM

(Health); Crossley, Nick;

(Health); Bart De Rammelaere

Cc:

Subject: Attachments: ACT Health Project - Migration Meeting 25/01/2018

ACT Health Project - Migration M (as PDF).pdf

Hi All,

Please find attached notes from the last migration meeting.

Note: I am on annual leave for the remainder of the week and won't attend the meeting this Thursday. However the meeting still should continue as planned.

· · · i

I meant to ask you yesterday, could you please take the lead and takes some notes in my absence?

PS - The Webex should still operate without me starting the meeting.

Kind Regards,

T +61 3 9756 4308 | F +61 2 9647 2742 | M

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# INTEGRATED DIAGNOSTIC IMAGING SOLUTION

### **DATA MIGRATION PROCESS**

**UCPH** DIGITAL SOLUTIONS PROGRAM



# Contents

| Strategy and pre-analysis   |
|---|
| Platform setup6   |
| Source data unloading   |
| Source data   |
| Stage 16  |
| Stage 26  |
| Stage 36  |
| Stage 46  |
| Stage 5   |
| Source structure and data analysis7                                     |
| Source data cleansing7  |
| Data priority lists/criteria7   |
| Delete  |
| Edit7   |
| Elsewhere   |
| Lists/criteria & action   |
| Reproc  |
| Target structure and data analysis8                                     |
| Develop solutions with business areas (subdirectory "2 – Solve")        |
| Execute changes specified by business areas (subdirectory "3 – Apply")8 |
| Data transformation8  |
| Transform8  |
| List/criteria & actions9  |
| Format for list/criteria9   |
| Managing change records10   |
| Vigration run test11  |
| Test data to identify issues with data (subdirectory "1 – Test")11      |
| Appearance test   |
| Completeness & type correspond test11                                   |
| Processability test   |



| Integration test | 12 |
|------------------|----|
| Final rehearsal  | 12 |
| Finalisation     | 12 |



# Purpose

This document contains a series of snippets of information related to the data migration. Much of this document should be read in association with "Error! Reference source not found. flow" on page 1.

Note — this document is based on limited information in that information about the data format requirements of the new RIS and the new environments for excluded data is not yet available. Hence that part of the process has not been developed.

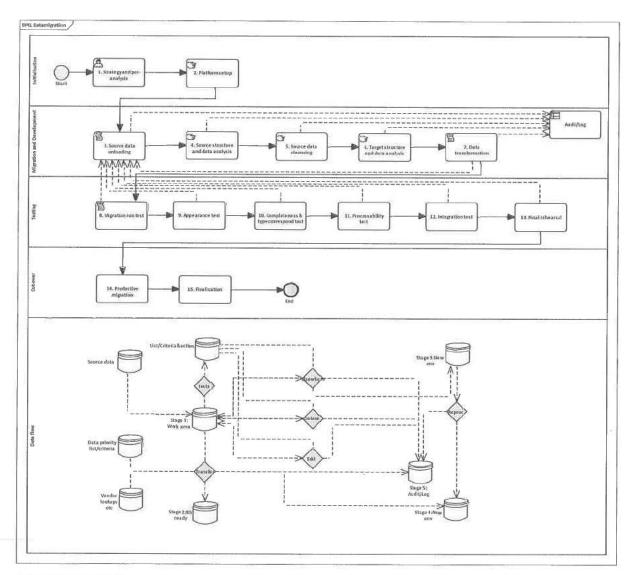


Figure 1: Process flow



# Strategy and pre-analysis

This description is based on the assumption that the data will be managed as complete records. Anecdotal evidence suggests the functionality of the new RISPACS will require some "deletion" of fields or storing of that functionality elsewhere. Should this be the case then this process must be modified to map that part of the process.

Data cleansing is generally a process that loops until all problems are resolved. The loops generate initial and subsequently additional fixes for appending to a record of changes. The fixes must be approved by the relevant business area.

Testing shall produce lists of records that appear to require resolution. The testing will examine the data to check:

- Data plausibility against expectations based on the purpose of the application;
- Data for consistency with current needs under criteria such as age and function; and
- Data integrity against relational database standards as applied to the application schema.

Records identified by the migration team that are of concern shall be communicated to the relevant business area for a decision. The business area shall provide a response detailing the action to be taken (if any). The response for a given table might be:

- Lists (list of records and the action to be taken);
- Criteria (criteria and supporting material for coding and the action to be taken); or
- Both of the above.

The resolution might be:

- Delete the data;
- Migrate the data elsewhere (e.g. an new application or storage environment); or
- Fix the data by changing values.

The resolutions shall be executed by taking a copy of the source data into a working area called Stage 1 and making the changes to that copy. Changes shall be in the order:

- Delete (remove the record from "Stage 1" and record the fact in the audit/log in "Stage 5");
- Migrate elsewhere (copy the record to "Stage 3" and record the fact in the audit/log in "Stage 5") – NOTE – some records/tables that are migrated elsewhere might need to be retained in "Stage 1" for further processing in "Stage 1" or even migration to the new application;
- Edit (make the relevant change to the record in "Stage 1" and record the fact in the audit/log
  in "Stage 5").

Given there are risks that the changes will raise other issues the data in "Stage 1" will be rechecked against all tests. Initial checks are likely to exhaust other issues therefore subsequent checks are more likely to be focussed on "data integrity against relational database standards as applied to the application schema", however integrity checks might also trigger revision of earlier decisions about data. The data set in "Stage 1" shall therefore be regenerated each time a change is made to the



material provided by the business, and will progressively approach the state of ideal data for the migration.

All changes to data (including deletion) to this point shall be logged in audit/log tables.

Once the data in "Stage 1" is clear of issues then:

- The data in "Stage 1" that is to be migrated to the new applications will be transformed as required and stored in suitable tables in "Stage 2";
- Data that is in "Stage 3" shall be transformed as required (e.g. de-normalised) and stored in suitable tables in "Stage 4".

Recording of transformation in audit/log tables may be required. This will be determined when the nature of the transformation is understood.

# Platform setup

Process TBD

# Source data unloading

#### Source data

This is the repository for a copy of the source data from which subsequent runs will be executed. During the development and testing of the migration this repository will store a copy of a recent back-up. During the real migration this repository will store an up-to-date copy of the data.

### Stage 1

The migration process is based on taking a full copy of the data then removing anything that will not be migrated to the new RISPAC and correcting any errors. In removing anything that will not be migrated to the new RISPAC, that material which will be migrated elsewhere is extracted. This is the repository of the original data that is progressively modified by the various cleaning tools until it is free of errors. Once free of errors the data will then be transformed to the format required of the new RISPAC.

### Stage 2

This is the repository of the cleansed copy of "Stage 1" after it is transformed in accordance with the needs of the vendor and the needs of managing the migration process.

### Stage 3

This is the repository of the uncleansed data from "Stage 1" that is being migrated elsewhere.



### Stage 4

This is the repository of the data from "Stage 3" after any transformation for that migration.

### Stage 5

This is the repository of the log of all processing performed on the data in "Stage 1".

# Source structure and data analysis

# Source data cleansing

### Data priority lists/criteria

The migration process might require some prioritisation of the data transfer beyond the order of the tables. This is the repository for lists/criteria that facilitate ordering the sequence of the data transferred.

#### Delete

Executes the Lists/criteria & action processes related to deleting records from "Stage 1". Record of the deletions is placed in "Stage 5".

#### Edit

Executes the Lists/criteria & action processes related to editing records in "Stage 1". Record of the edits ("before" and "after" copies) is placed in "Stage 5".

#### Elsewhere

Executes the Lists/criteria & action processes related to migrating records from "Stage 1" to other storage environments. Record of the migration is placed in "Stage 5".

### Lists/criteria & action

This is the repository for the list/criteria specifying changes that must occur to the data prior to migration (i.e. cleansing).

### Reproc



Executes the processes related to transforming records placed temporarily in "Stage 3" to other storage environments. Record of the transformation is placed in "Stage 4".

The resolution for each table shall be conveyed to the migration team either in the form of:

- The criteria that identify the records (e.g. field name and range of values and the changes to be performed); or
- A list comprising the index field(s) and the changes to be performed (some tables apparently don't have unique indexes so an artificial key might have to be created).

Given resolution of some issues might generate problematic data (generally in related tables) then it might be necessary to execute multiple iterations of this process on some tables.

The resolution for each table shall be incorporated in the processing by the migration team as appropriate. All iterations of changes for each table shall be combined into a single set of changes; however the identity of the iteration will be retained in the combined set for inclusion in the audit/log.

# Target structure and data analysis

### Develop solutions with business areas (subdirectory "2 - Solve")

The relevant output file and supporting text will be conveyed to the relevant business area. This may be by emailing the relevant output or by allowing the business area to read the file within this workspace. Where data must be copied elsewhere, the location must be of sufficient security for the data being copied. The acceptability or otherwise of emails for this sensitive data must be determined. Every effort must be made to minimise the risk of personal data escaping.

All outgoing and incoming communications will be stored here. Where discussion/negotiation has occurred all emails will be stored here.

Incoming data (tables listing changes) will also be stored by the table they affect, and where the incoming data is not in itself adequate for migration to the SQL environment then the incoming data will be transformed into an acceptable form.

# Execute changes specified by business areas (subdirectory "3 – Apply")

Applying changes shall involve SQL code and possibly tables generated from business input. The changes shall be applied to "Stage 1" as depicted in the flowchart, and the "Stage 3" and "Stage 5" outputs retained. The code and any tables will be stored here.

## Data transformation



### Transform

Contains the processes necessary to transform the cleansed data into the form specified by the vendor. This might require the generation of audit trails and/or material that must be put in a new environment. This will be clarified once the new application is better understood.

The migration environment shall maintain a pristine copy of the source data for refreshing the migration process at the start of each test cycle

The migration development process shall:

- 1. Generate an empty copy of the New Environment tables in "Stage 3";
- 2. Generate an empty copy of the audit tables (see section Audit/log table form) in "Stage 5";
- 3. Copy the pristine version of the relevant tables into "Stage 1";
- Extract records that are to be migrated elsewhere to "Stage 3" and record the event in the relevant audit/log;
- Delete records that are to be deleted from "Stage 1" and record the event in the relevant audit/log;
- 6. Edit records that are to be edited in "Stage 1" and record the event in the relevant audit/log;
- 7. Test the relevant data tables to identify problematic records for resolution by the relevant business area;
- 8. Retesting and convey outstanding issues for resolution and restart at step 1 when revised changes have been incorporated in the "Lists/criteria & action" set;
- Once the data is clean then transform the "Stage 1" records into the required format and store in "Stage 2";
- 10. Transform the "Stage 3" records into the required format and store in "Stage 4".

### List/criteria & actions

As stated earlier, the fix shall be specified either as a list of records or a set of criteria to identify records. They shall either be provided by or compiled from information provided by the business. Fixes in the form of lists shall be applied to the data in the form of tables specifying the unique index necessary to uniquely identify the record and the individual MigrateStatus, Fix Cycle and MigrateReason values.

Fixes in the form of criteria shall be applied to the data in the form of SQL code specifying the filter necessary to identify the records (field names and values/ranges) and the MigrateStatus, Fix Cycle and MigrateReason values to be applied to all matching records.

In both instances, where this is "Edit" then the statement must include the field name and the new value of that field. The data type of the field to be changed will have to be considered in the execution of said change.

Editing of records might apply to multiple fields. It is unlikely that this will occur for a significant number of fields however consideration might be needed to change this process in the event we have any records requiring extreme levels of changes.

### Format for list/criteria



#### Audit/Log

The audit table for each source table shall be stored in "Stage 5" and shall contain all the data fields of the original table plus the action fields. For records that are edited there will be an audit/log entry containing the field values before the change and an entry containing the field values after the change.

Beyond the data fields of the original table there will be the fields:

- A field named MigrateStatus (text 10 characters) which can have the values "Elsewhere", "Delete", "Before" and "After";
- A field named Fix Cycle (integer); and
- A field named MigrateReason (text 50 characters) for free-form text explaining the action.

These tables can be fed back to the business to inform them of the details of the changes and for sign-off after the migration.

### Managing change records

Changes to data must be recorded and properly managed so as to facilitate audit and investigate error. To this end all communications must be retained. This includes all outgoing and incoming emails and data sets. Given the magnitude of the overall process and given physical changes relate only to tables (there is impact on the relationships but the actual change is to the tables) then all documentation shall be stored by table (i.e. subdirectory for each table) so as to facilitate understanding by anyone examining the artefacts after the event. Further, given change might require multiple cycles then the table sub-directory will have a lower level directory for each change cycle. Each change-cycle directory shall have subdirectories for each of the stages of change identified below. Where the nature of the table or the changes becomes even slightly complex, consideration should also be given to inclusion of a chronological narrative in MS Word stored in the top directory for each table.

To facilitate this, a directory shall be created on the Shared Drive that provides read/write access to select project staff and read-only access to select business staff. Access shall be provided using standard access control processes but under the control of the project.

Given the data being changed might be personal/confidential then all such information shall be stored in a directory for which access is limited to authorised staff. Further, to ensure minimum risk of unauthorised change to the relevant files, write-access will be available only to a small number of project staff.

Where data conveyed is "public" (e.g. lookup tables that do not contain any data connecting them with patients or staff) then any or all of the relevant records may be conveyed without restriction in terms of privacy, however patient-related or staff-related records shall be limited where possible to at-most the index fields for the table or preferably the list of field values that describe the records (e.g. date range).

Authorisation to make changes to the list of authorised staff shall be limited to:

- Program manager (currently Sarah Norton);
- Project manager (currently
- SSICT Project Manager (currently Crossley); and
- Data Analyst (currently



Emails copied into the Windows directory structure as .msg files will normally adopt the subject line as the name of the email. This can cause issues where emails share a subject line. Therefore emails copied to the Windows directory structure shall be renamed with the data and time the email was sent (in the form "yymmdd hhmm" (meaning that name-sorts will put the emails in order) preceding the name and the default name suitably revised to reflect the content of the email).

Other files shall also have the date-time in the title – particularly where there might be multiple versions of a given file (e.g. lists).

#### The stages of change are:

- Test data to identify issues with data;
- Develop solutions with business areas;
- Execute changes specified by business areas;
- · Repeat until all issues are resolved.

# Migration run test

All testing shall be executed on a copy of the data in "Stage 1". This facilitates retesting of data post the application of current changes.

The data of concern for each table shall be conveyed to the relevant business area either in the form of a copy of the records (or relevant fields) that includes the index field(s) or as a description of those records (e.g. summarised data that conveys the issue).

#### Testing shall include:

- Vetting of all fields within each record for consistency within the field;
- Vetting of all fields across each record for consistency within the record;
- Vetting of all relationships for consistency between the tables for issues such as referential integrity.

### Test data to identify issues with data (subdirectory "1 - Test")

Testing shall involve SQL code to join and/or summarise data with a view to identifying issues for consideration by the business. The SQL code will generally be in the form of short programs that execute a simple join/test or summary that displays a particular aspect. The code and its output will be stored in documents (Word, Notepad, Excel) suitably named to demonstrate the purpose. Supplementary documents (generally descriptive support) can be included.

# Appearance test

# Completeness & type correspond test



# Processability test

# Integration test

### Final rehearsal

The RISPACS is of significant importance to the operation of TCH and Calvary 24/7. As such down-time must be minimised and so the transition from the current RISPAC to the new RISPAC must be managed so as to minimise the impact to the operation of TCH and Calvary.

Given the volume of data involved and the lack of information related to the speed of processing of the migration (possibly both network and server/host issues) it is difficult to determine what level of management might be needed beyond observing referential integrity (if needed). Having said that, some assumptions can be made. They include:

- Lookup tables generally won't vary during the production migration process so they can be pre-populated.
- Assuming that the new RISPAC enforces referential integrity in the database then lookup tables must be migrated first so as to facilitate entries in the dependent tables. Where there are dependencies between lookup tables those dependencies must be accommodated in the sequence of migration.
- Lookup tables related to industry-standard matters such as item-codes are likely to be part
  of the vendor's package. Lookup tables related to customer-specific matters such as hospital
  names, rooms, equipment, etc. might be part of the initial build. Some or all of these might
  be in situ prior to the migration.

Some dynamic data tables are large and so might be time-consuming to migrate. The existence of any such time issues will become clear when the details of the hardware/network are known and testing commences. Should time issues occur then data will be prioritised (including managing the referential integrity issues related to delayed data) with urgent data migrated quickly and the data of a lower urgency possibly migrated after go-live.

Where migration of data within tables is to be so managed then priority lists/criteria will be required. The precise mechanism of this managing of migration of data will depend on the need and functionality (if any) available under the vendor's migration tools. This part of the migration process will be able to accommodate any reasonable needs should they not be available under the vendor's migration tools.

# **Finalisation**

# ACT Health and AGFA Teleconference October 18 2017



ACT Health raised the issue around the lack of deliverables in the project timeline from AGFA, which could result as an additional cost to ACT Health if the timelines aren't being met.

No base line schedule has been provided to ACT Health.

ACT Health noted their concerns for the limited onsite support provided to A space was created onsite for the AGFA team 2 months ago.

 As a result for AGFA's recruitment process, a Service Deliver Manager will commence November 8 2017 and an ACT based Engineer will commence January 2018.

It was agreed that weekly teleconferences will be held to ensure there is clear communication between AGFA and ACT Health. A 1-2 page report will be provided from each party prior to review what needs to be discussed.

ACT Health has received and is currently reviewing the draft data migration plan, the timeline was initially 10 days but has now extended to 25 days.

#### **IPS Document**

In section 6.1.8 of the IPS document, it states there is no risk for data integration.

The section on migration and integration doesn't provide much details.

had worked with to request an update to the document on September 27, no update has been provided as of October 18.

#### Actions items;

- AGFA will follow up on all documents that are not keeping to the projects timelines.
- 2. AGFA will provide a response by C.O.B 18/10/17 in regards to where the project is up to on their end
- 3. AGFA will review and provide other options for data migrations as there were no other option proposed in the draft.
- 4. AGFA to identify any delays which may be result of ACT Health.
- 5. AGFA to follow up on the update of the IPS document
- 6. Sarah to send a list of concerns to AGFA by C.O.B 18/10

A follow up discussion will be held on Monday October 23

From:

(Health)

Sent:

Wednesday, 31 January 2018 11:05 AM

To:

Arsavilli, Dev

Cc:

Norman, Karen (Health); (Health); (Health)

Subject:

RIS Patient data(sample) [SEC=UNCLASSIFIED]

Attachments:

RIS\_Patients\_data.txt

Hi Dev,

Attached is a copy of sample Patient data from RIS.

The total count of patient records in the RIS system is around 1.5 million.

Let me know if you need any further details.

Regards,

| IDIS Data Migration Analyst - UCPH Digital Solutions Program

Mobile:

11:

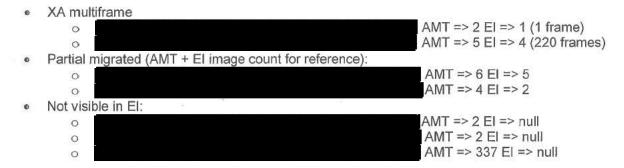
act.gov.au

From:
Sent:
Tuesday, 30 January 2018 4:29 PM
Barrett, Scott (Health)
Cc:
(Health); (Health)
Subject:
Image migration analysis [SEC=UNCLASSIFIED]

#### Hi Scott,

The image migration conducted over last week has been analysed by AGFA and they have come back to us with some studies that have not migrated successfully.

Below are examples of some StudyUIDs that have not validated as expected by AGFA.



The number against 'AMT' are the number of images AGFA expected to have migrated under each of the studies, but what actually has been migrated is the number indicated against 'EI'.

I have validated these numbers against the database that I have access to and each of the study does have the right number of image records as indicated by AMT, could you please verify the actual number of images for each of these studies in the Siemens' image store.

Let me know if you need any further details.

Thanks,

| IDIS Data Migration Analyst - UCPH Digital Solutions Program

From:

Tuesday, 30 January 2018 3:35 PM

Sent: To:

(Health)

Cc:

(Health); Crossley, Nick; Nick

Subject:

ACTH IDIS Project > Migration Analysis Feedback

Hi

Please see feedback below from following the analysis of the studies migrated so far. Could you please perform the checks as requested below and provide feedback to

[KD] - I took a closer look at the migrated studies with this as result:

- We know that the HL7 <> DICOM crosscheck didn't work as expected and we have some studies in the EI DEV that didn't have a migrated order in EI. This crosscheck will be tested on the 20% extract
- In total we had 7871 studies that had to be moved and 166 that had been marked as 'IGNORE' because of the issue with duplicate StudyUIDs (discussed on last call)
  - We had no failed moves (so all studies from Siemens at least moved something to El)
  - 7825 studies have been migrated successfully and are validated (same amount of images for each StudyUID)
  - 46 studies have been migrated, but don't validate correctly (no error codes during migration received).

We have 3 types of problems:

- 5 XA studies don't validate because they are multiframe. In the extract we have the amount of instances as 'DICOM objects'. We always seem to get 1 object less from Siemens, but they are multiframe in EL so hard to match up. Need to know correct amount in Siemens to be
  - are multiframe in EI, so hard to match up. Need to know correct amount in Siemens to be sure.
- 13 studies have images in EI, but the amount doesn't match up with the extracts.
   These are 'partial migrated', but maybe the number of images in the extract is just incorrect.
- 28 studies don't have any images in El

ould you ask the customer to check the actual amount of objects and/or images for these random studies from the 46 studies that don't validate:

XA multiframe

AMT => 2 EI => 1 (1 frame)

AMT => 5 EI => 4 (220 frames)

Partial migrated (AMT + El image count for reference):

AMT => 6 EI => 5 AMT => 4 EI => 2

Not visible in El:

AMT => 2 EI => null
AMT => 2 EI => null
AMT => 2 EI => null
AMT => 337 EI => null

Kind Regards,



Australia Pty Ltd. Unit 18, 52 Holker St, Silverwater NSW 2128 Australia

http://www.agfahealthcare.com http://blog.agfahealthcare.com Click on link to read important disclaimer: http://www.agfahealthcare.com/maildisclaimer

From: Sent: To:

Tuesday, 30 January 2018 3:25 PM (Health)

(Health)

Crossley, Nick; (Health) Cc: Subject:

RE: 20% RIS and PACS data extracts [SEC=UNCLASSIFIED]

Hi

I have completed validating the data from the PACS files and the feedback is as follows:

Image data for the year 2009 seems to be incomplete, many study records with Study\_date in 2009, do not have associated image records in the image file

Example:

Study ref number of images



There are 11,000 odd studies with no images

Series data for the year 2018 seems to be incomplete, some study records with Study\_date in 2018, do not have associated series records in the series file

Example:

Study ref number of series



I am also waiting for the corrected 2014 study file and 2017 series file to complete my analysis.

Also when comparing the StudyUIDs from RIS and PACS, there are 17,000 odd StudyUIDs which exist in the RIS extract, but do not exist in PACS(these StudyUIDS do exist in the PACS database, but they are recorded with a NULL study\_date, which is why I think they get dropped from the PACS extract).

imilarly, there are StudyUIDs in PACS which are not part of the RIS extract even though they exist in the RIS database (again the reason being that the filter datetime value (proc\_dtime) for RIS is out of range)

The way the data has been extracted using 2 different dates for the 2 systems is something that will have to be discussed. We can discuss this in detail during our meeting tomorrow

Also found some minor issues (to be noted and implemented in the following extracts, no need to rework on the current extracts)

Study and Series Description to be mapped to 'unknown' where it does not exist (agreed on, as per our emails

Can Image number be mapped to '0' where it does not exist (it was agreed to map the series number to 0, but I have now found some records with blank image number)

Can Study time be mapped to '000000.000000' where it does not exist?

Let me know if you need any further details.

Thanks,

| IDIS Data Migration Analyst - UCPH Digital Solutions Program | Email:

| From: [mailto]   |
|--|
| Sent: Monday, 29 January 2018 4:31 PM  |
| Crossley, Nick <nick.crossley@act.gov.au>;  Whealth) &lt;</nick.crossley@act.gov.au>   |
| Ok sounds good.  |
| Kind Regards,  |
|  |
| Siemens Healthcare Pty Ltd 160 Herring Road Macquarie Park NSW 2113  |
| Tel: +61 (0) 2 9491 5009  Mobile: Email: Internet: www.healthcare.siemens.com.au   |
| SIEMENS :. Healthineers :  |
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| From: (Health) [mailto act.gov.au]  Sent: Mon, 29 January 2018 4:23 PM  To: Crossley, Nick; (Health)  Subject: RE: 20% RIS and PACS data extracts [SEC=UNCLASSIFIED]   |
| Thank you for getting back. I think it will be easier to discuss this over the phone, we can discuss it during our meeting this Wednesday. Thanks,   |
| Mobile : Email: Email: Mobile : Email: Email |
| From: [mailto]  Sent: Monday, 29 January 2018 4:05 PM  To: [mailto]  [mailto |
| Crossley, Nick <nick crossley@act.gov.au="">:</nick>   |

|              | (Health) | <   |           | act.gov.a | a <u>u</u> > |
|--------------|----------|-----|-----------|-----------|--------------|
| Subject: RF: | 20% RIS  | and | PACS data | extracts  | [SFC=UNCLASS |

will update you know about the PACS extracts.

Also could you please clarify your response - '[ME] Yes, that is correct, but there is no scheduling going on in the system, so most of the visit data is populated when the ADT and ORDERs come in for that patient.'

Our understanding is that, though the exams are not scheduled in RIS, the details for the scheduled exams from the other systems is stored in the RIS database, and as part of migration we need a process to migrate this data to the new system?

The current extracts have been extracting data from the activity tables (completed exams) only, not from the visit tables (scheduled exams), this needs to be discussed and an approach needs to be finalised to include this data in the coming extracts.

Again, could you please have your team pass on any information about scheduled exams and how they are stored, so we can make an informed decision on how it needs to be migrated?

[ME] I am unclear as to what you are trying to achieve. All relevant order messages data is part of the RIS extracts and also part of the images Dicom header and PACS extracts. As pointed out, they are no scheduled exams, only admissions and orders. What fields or data that you see in the visit tables that you feel is relevant for the migration, naybe I can help in getting more clarity around those?

Kind Regards,

Siemens Healthcare Pty Ltd 160 Herring Road

Macquarie Park NSW 2113

Tel: +61 (0) 2 9491 5009

Mobile: Email:

Internet: www.healthcare.siemens.com.au



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(Health) [mailto act.gov.au] Sent: Mon, 29 January 2018 3:32 PM Crossley, Nick;

Subject: RE: 20% RIS and PACS data extracts [SEC=UNCLASSIFIED]

Thank you for the extracts and your response.

I haven't looked at the updated RIS extracts yet, I will send you my feedback as soon as I get to it.

I have loaded all the PACS files into my database for analysis, most of them have loaded successfully but for 2, PACS\_Canberra\_export\_series\_2017JanFeb.txt, PACS\_Canberra\_export\_study\_2014JanFeb.txt.

The above 2 files are comma separated instead of being delimited by a vertical bar '|'.

Could you please get them fixed?

I am still working on validating the data from the other files.

Also could you please clarify your response - '[ME] Yes, that is correct, but there is no scheduling going on in the system, so most of the visit data is populated when the ADT and ORDERs come in for that patient.'

Our understanding is that, though the exams are not scheduled in RIS, the details for the scheduled exams from the other systems is stored in the RIS database, and as part of migration we need a process to migrate this data to the new system?

The current extracts have been extracting data from the activity tables (completed exams) only, not from the visit tables (scheduled exams), this needs to be discussed and an approach needs to be finalised to include this data in the coming extracts.

Again, could you please have your team pass on any information about scheduled exams and how they are stored, so we can make an informed decision on how it needs to be migrated?

| T | ha | n | ks |  |
|---|----|---|----|--|
| _ |    |   |    |  |

| Mobile :     | IDIS Data Migration Analyst - L<br>Email: | JCPH Digital Solutions Progra | am   |
|--------------|---|-------------------------------|--|
| From:        | [mailto                                   |                               |  |
| Sent: Mond   | ay, 29 January 2018 8:51 AM               | = 52.80A - M                  | <del></del>                                  |
| To:          | (Health) <                                | act.gov.au>;                  | (Health)                                     |
| <            |   | a soft a setting              |  |
| Cc:          | <   |                               | Crossley, Nick < Nick. Crossley@act.gov.au>; |
|              | (Health) < act.go                         | v.au>                         |  |
| Subject: RE: | 20% RIS and PACS data extrac              | ts [SEC=UNCLASSIFIED]         |  |
| Hello        |   | 8                             |  |

The below new sets of files have been created.

Result.dat Exam.dat Patient.dat Service.dat

Please review the files and let me know if they are any issues.

Please also see my responses in (blue)

Kind Regards,

Siemens Healthcare Pty Ltd 160 Herring Road Macquarie Park NSW 2113

Tel: +61 (0) 2 9491 5009

Mobile: Email:

Internet: www.healthcare.siemens.com.au



Please consider the environment before printing this email



Email:

Internet: www.healthcare.siemens.com.au

(Health) [mailto act.gov.au Sent: Thu, 25 January 2018 5:35 PM (Health) Crossley, Nick; Subject: RE: 20% RIS and PACS data extracts [SEC=UNCLASSIFIED] .'lease see my response in purple. Regards, | IDIS Data Migration Analyst - UCPH Digital Solutions Program | Email: From: [mailto Sent: Thursday, 25 January 2018 4:11 PM (Health) < act.gov.au>; (Health) Crossley, Nick < Nick. Crossley@act.gov.au>; Cc: (Health) < act.gov.au> Subject: RE: 20% RIS and PACS data extracts [SEC=UNCLASSIFIED] Hello Please find my feedback below. Kind Regards, Siemens Healthcare Pty Ltd 160 Herring Road Macquarie Park NSW 2113 Tel: +61 (0) 2 9491 5009 Mobile:

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| From:       | (Health) [mailto:             | act.go             | ov.au]    |
|-------------|-------------------------------|--------------------|-----------|
| Sent: Thu,  | 25 January 2018 3:33 PM       | 1 272              |           |
|             |                               |                    |           |
|             |                               | Crossley, Nick;    | (Health)  |
| Subject: 20 | 0% RIS and PACS data extracts | [SEC=UNCLASSIFIED] | e un seem |

Hi

Thanks for the extracts, I have done my initial analysis on the RIS data.

My very first question is about the numbers. In our previous emails I have been told that Activity.proc\_dtime is the date time value used for filtering. Total number of activity records with proc\_dtime in the month of Jan or Feb does not match the number of records in the extract received. Count of Activity records (database backup that I have access to) in the month of Jan or Feb – 498393 Count of records in the Service file – 376784

A lot of the missing records are from earlier years (1993 to 2000).

Any reason why these records have been excluded from the extract.

Because the above records have been excluded, the actual extracts do not account for 20%, they are close to 11% only.

[ME] The Agreement was to provide data for the months of JAN and FEB of every year which was assumed to be about 20%. I will raise the missing records with the team and get back to you on that.

[ME] There was a misunderstanding where data was generated up to 2001. Prior data should now be available on the new extracts

Some of the other comments/feedback are as follows:

Activity.ord\_for\_dtime to be mapped to OrderCreationdatetime and Activity.proc\_dtime to be mapped to ScheduledStudydatetime – this was confirmed in the below email trail

[ME] Ok, will take this back to the team

[ME] This should be resolved on the new extracts

pat\_demo.alt\_phone to be mapped to Patient.HomeMobileNumber, this has been mentioned in the mapping document as well.

[ME] Ok, will take this back to the team

[ME] This should be resolved on the new extracts

pat\_info.pt\_death\_dtime to be mapped to Patient.DeceasedDateTime, we understand that this hasn't been consistently recorded, but we would like to migrate the data where available.

[ME] Ok, will take this back to the team

[ME] This should be resolved on the new extracts

Extract includes dummy result records with Body mapped as 'Result does not Exist for this exam', it was confirmed in the below email trail to not include any dummy records for non-existent reports Some of these dummy results records seem to have valid transcriptionist, author and validator details, how is this possible, are these system generated (the mapping info for the result file has not been provided yet, so I couldn't do these checks myself).

If dummy result records have been inserted, why can I still see completed exams without result records?

[ME] Can you please provide some examples

Accession numbers with result body 'Result does not exist for this exam.'

there are many more, just picked 3 as an example)
Accession numbers for completed exams with no results

(there are many more, just

picked 3 as an example)

[ME] Please verify if this is resolved on the new extracts

None of the cancelled exams have results associated, as per the email trail it was decided to retain valid results for cancelled exams.

Example:

Acc\_itn Result\_text.Result(I have used this table for my analysis as I do not have the mapping for the result file yet)

Short of breath. The lungs and pleural spaces are clear. There is focal eventration of the right hemidiaphragm. The cardiomediastinal contours are distorted by technical factors. There is a healed fracture of the right clavicle and a small bony ossicle associated with the right acromioclavicular joint. There is an aortic stent in situ. See findings for detailed report.

[ME] Ok, will take this back to the team

[ME] This should be resolved on the new extracts

We have also spoken to the business about unavailability of valid provider numbers for the Performing physician, author and the validator. It is definitely not acceptable to pick the first provider number against each of these doctors (like it's been done in the extracts), we would like the extracts to be populated with the internal doctor numbers. We will then work with the business and with AGFA to transform and migrate as required.

ME] Can you please confirm that you want the following:

- AuthorId and ValidatorId on the result extract to be the internal doctor number Yes
- PerformingPhysicianId on the exam extract to be the internal doctor number Yes
- RequestingPhylisicianId on the service extract to be the internal doctor number No, the requesting physician ID to be mapped to provider numbers, same as what's been done for the current extract.

The Siemens system does store the provider numbers for the requesting physician but not for performing physician, author and validator, is what we have been told by your team and hence the request.

[ME] This should be resolved on the new extracts

One of the comments in the Mapping document indicates that scheduled exams which have not yet been performed are not part of the Activity and the Activity\_info tables. Are such exams stored in the visit tables?

Our understanding of the process is - Data for ordered or scheduled exams are entered into visit tables and when exam is completed data is moved into the Activity and Activity\_info tables, is this correct. If not, could you please give us a brief explanation of the process?

[ME] Ok, will take this back to the team

[ME] Yes, that is correct, but there is no scheduling going on in the system, so most of the visit data is populated when the ADT and ORDERs come in for that patient.

I haven't looked at PACS yet, I will send through feedback for PACS early next week. Thanks, | IDIS Data Migration Analyst - UCPH Digital Solutions Program Email: act.gov.au [mailto Sent: Thursday, 21 December 2017 3:01 PM (Health) < act.gov.au>; (Health) < act.gov.au>; com>; Crossley, Nick < Nick.Crossley@act.gov.au>; (Health) < Subject: RE: Modified Accession numbers in the report file [SEC=UNCLASSIFIED] Thank you will advise the team. Happy holidays to you and the rest of your team! Kind Regards, Siemens Healthcare Pty Ltd 160 Herring Road Macquarie Park NSW 2113 Tel: +61 (0) 2 9491 5009 Mobile: Email: Internet: www.healthcare.siemens.com.au SIEMENS Healthineers Please consider the environment before printing this email CAUTION - This message may contain privileged and confidential information intended only for the use of the addressee named above. If you are not the intended recipient of this message you are hereby notified that any use, dissemination, distribution or reproduction of this message is prohibited. If you have received this message in error please notify Siemens Ltd. or Siemens Ltd. (NZ) by return email and delete the document. (Health) [mailto act.gov.au] Sent: Thu, 21 December 2017 2:49 PM

Thanks

To:

We are awaiting reply from AGFA and we are also getting in touch with the RIS PACS admin team for some of the questions below.

Subject: RE: Modified Accession numbers in the report file [SEC=UNCLASSIFIED]

But here are a few that I have answers for

Crossley, Nick;

| For records where Series_Number is unavailable default it with '0' (zero).   |
|--|
| I will get in touch with you regarding the other outstanding questions when we hear from AGFA and the admin team.  |
| Have a good break!! Talk to you in the New Year!   |
| Thanks,    IDIS Data Migration Analyst - UCPH Digital Solutions Program   Mobile :   Email:   Email: |
| Sent: Wednesday, 20 December 2017 9:44 AM  To: (Health) < (act.gov.au); (Health)  Cc: (Health) < (act.gov.au); (Health) < (act.gov.au)  Subject: RE: Modified Accession numbers in the report file [SEC=UNCLASSIFIED]  |
| Hello  |
| Please find my response below.   |
| Kind Regards,  |
|  |
| Siemens Healthcare Pty Ltd 160 Herring Road Macquarie Park NSW 2113  |
| Tel: +61 (0) 2 9491 5009  Mobile: Fmail: Internet: www.healthcare.siemens.com.au   |
| SIEMENS :: Healthineers ::   |

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| From:             | (Health) [mailto:                | act.gov.au]                  |
|-------------------|----------------------------------|------------------------------|
|                   | ember 2017 5:51 PM               |                              |
| 10. 10. 10. 10.   | SITIOCI 2017 3.31 FT1            |                              |
| To:               |                                  |                              |
|                   |                                  | Crossley, Nick; (Health)     |
| Subject: RE: Modi | fied Accession numbers in the re | port file [SEC=UNCLASSIFIED] |

Hi

Thanks for the RIS mapping and the extracts.

I haven't had a chance to look at the mapping yet, but the extracts are looking better.

Some outstanding issues from my previous feedback and some issues discovered while I was working on the transformations for AGFA are listed below:

What date time column have the files been filtered on? The only date that I found in the file was the CreatedDateTime in the result file where the date ranges outside the 01-Jan to 20-Jan 2013, some dates are in 2014?(this will help me validate coverage of the extracts on my end).

[ME] field valued: activity.proc\_dtime (This is the time the exam was ended by the technician)

[SS]Thanks, that will help me with my analysis. But is it valid for an exam ended in the month of Jan 2013 to have reports created in 2014(CreatedDateTime ranges from 2013-2014 in the extrcats)

[ME] Reports will need to be read to work out what happened

OrderCreationDateTime and ScheduledStudydateTime(many dates in the Activity and Activity info tables) — which dates correspond to these?? What are our alternatives? (You have suggested using End procedure Date Time, will confirm with AGFA). The exam file has an additional '|', the ScheduledStudyDateTime therefore shows as '|' [ME] Currently these 2 fields have been left empty until further notice. The extra '|' issue has been addressed on the new extracts

[SS]Can we have OrderCreationDateTime mapped to Activity.ord\_for\_dtime and ScheduledStudydatetime mapped to Activity.proc\_dtime

[ME] what if both are purged or no data available.....what is the fall back?

Study UIDs duplicated where same study is associated to linked accession numbers, does PACS have the studies associated to all the accession numbers or just the one linked accession number, we need the Study UIDs to be unique, can this be discussed further?

[ME] In most cases where exams have been linked in RIS, PACS will hold 1 record (chosen SUID depends on order chosen at the modality). we do not have a way to tell which exams have a reference in PACS and which do not, doing this maybe a risk. This should be a task for your team and AGFA as you will have both the RIS and PACS extracts in hand and therefore minimizing any risks to the equation for such scenario.

[SS] Thanks, this will be discussed with AGFA

I think cancelled exams with no results should be excluded from the exam file (will confirm with AGFA). Status 'P' stands for preliminary, which I think will be used for results which have been drafted but not validated yet.

[ME] we left the CM exams with 'P' status on in the report file until further notice

[ME] Please also note that some 'CA' exams have a real report attached to them. We have decided to include these in the extract until further notice

[SS] All result records which are not a real report should be excluded from the extract.

Is it valid to have procedures with no studies but associated reports?

This will be discussed with the business as well.

Activity.ord\_for\_dtime has not been answered, what value does this field store

[ME] it is not activity, it is visit\_activity.ord\_for\_dtime, and that is the time the exam was set to be performed. [SS]Both visit\_activity and activity tables have a column called ord\_for\_dtime. As far as I understand the activity table is a complete copy of all activities (the one which does not get purged and therefore should be used for our extracts)

[ME] what if both are purged or no data available....what is the fall back?

Study\_description and Series\_description is blank for some records.

[ME] No changes until further notice

[SS] where no description available in the system, this can be defaulted to 'unknown'

[ME] Ok

Some Study\_UIDs in the RIS extract do not have corresponding PACS Study records and some Study\_UIDs in PACS have no information in the RIS extract.

[SS]RIS PACS mismatch has not been resolved yet. The most recent extracts have the same number of mismatching records as the previous one.

[ME]Again this should be part of your QA. There is no way for us to tell what is what in either systems as they each are independent. Note that this behaviour is not uncommon. However With the extracts in hand, your team and Agfa should identify these. Using the front end apps should also help in this process. Please also note that not all exams have study uid's or results, not every exam in the system is resulted and may or may not have images attached to them. That is just normal workflows.

#### Some additional feedback:

In the extracts a linefeed has been replaced with '\br.\'. AGFA's specifications indicate the linefeed needs to be replaced with \.br\, can that be corrected

[ME] Ok

The series extract has a few records with a missing Series\_number, I am guessing the reason why they are missing is because they are unavailable in the system, I will confirm with AGFA if this can be defaulted with some value.

Let me know if you need any further details. hanks,

| Mobile :   | Email:                | act.gov.au                       |                |             |
|------------|-----------------------|----------------------------------|----------------|-------------|
| From:      | , [mailto:            |                                  |                |             |
|            | day, 18 December 201  | 7 2:42 PM                        |                |             |
| To:        | (Health) <            | act.gov.au>;                     | (Health)       | Š.          |
| <          |                       |                                  |                |             |
| Cc:        | (Health) <            | act.gov.au>;                     | <              |             |
|            | com>; Crossley, Nicl  | k < Nick.Crossley@act.gov.au >;  | (Health) <     | act.gov.au> |
| Subject: R | E: Modified Accession | numbers in the report file [SEC: | =UNCLASSIFIED] |             |
| Hello      |                       |                                  |                |             |

Please find my responses below.

I will send a separate email to access RIS/PACS extracts and Mappings Document.

As always, please review and advise of any issues.

Kind Regards,

Siemens Healthcare Pty Ltd 160 Herring Road Macquarie Park NSW 2113

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Email:

Internet: www.healthcare.siemens.com.au



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| Fro | (Health) [mailto:                                    | act.gov.au]              |
|-----|--|--------------------------|
| Ser | t: Wed, 13 December 2017 12:13 PM                    |                          |
|     |  |                          |
|     |  | Crossley, Nick; (Health) |
| Sub | ject: RE: Modified Accession numbers in the report f | ile [SEC=UNCLASSIFIED]   |

Hi

Thanks for the extracts and thank you for validating the extracts on your end. The RIS and the PACS extract formats are now looking good.

I do have some feedback/questions on the extracts. We have got the data in the format that we wanted, my feedback is more about the data itself.

#### RIS

What date time column have the files been filtered on? The only date that I found in the file was the CreatedDateTime in the result file where the date ranges outside the 01-Jan to 20-Jan 2013, some dates are in 2014?(this will help me validate coverage of the extracts on my end).

[ME] field valued: activity.proc\_dtime (This is the time the exam was ended by the technician)

Duplicate patient data to be removed from the extract.

[ME] This has been addressed on the new extracts

Leading Os to be removed from PatientID (PatientID from RIS does not match PatientID from PACS) [ME] This has been addressed on the new extracts

Requesting Physician details (missing for most of the services) (We haven't received the mappings yet, but my guess is that the requesting physician details come from the ordering doctor, the system seems to have ordering doctor details for more records than what's in the extract)

[ME] This has been addressed on the new extracts

OrderCreationDateTime and ScheduledStudydateTime(many dates in the Activity and Activity info tables) – which dates correspond to these?? What are our alternatives? (You have suggested using End procedure Date Time, will confirm with AGFA). The exam file has an additional '|', the ScheduledStudyDateTime therefore shows as '|' [ME] Currently these 2 fields have been left empty until further notice. The extra '|' issue has been addressed on the new extracts

| Accession numbers sequencing    | was requested as .0 | 1 and .02(can this be  | e corrected)?   |
|---------------------------------|---------------------|--|---|
| Example                         |                     | and the state of t | TO STATE OF EMPIRE TO THE ASSESSMENT OF THE RESIDENCE OF THE STATE OF |
| Original Accession number:      | <b>Modified</b>     | and  |   |
| [ME] This has been addressed or | n the new extracts  |  |   |

Study UIDs duplicated where same study is associated to linked accession numbers, does PACS have the studies associated to all the accession numbers or just the one linked accession number, we need the Study UIDs to be unique, can this be discussed further?

[ME] In most cases where exams have been linked in RIS, PACS will hold 1 record (chosen SUID depends on order chosen at the modality). we do not have a way to tell which exams have a reference in PACS and which do not, doing this maybe a risk. This should be a task for your team and AGFA as you will have both the RIS and PACS extracts in hand and therefore minimizing any risks to the equation for such scenario.

Some exams are missing a StudyInstance UID, I understand the ones with a Status 'CA' (cancelled) will not have one, but what about the completed (Status - CM) ones?

[ME] Will get back to you on that

Again, I understand cancelled exams with no results but what about the completed exams, why are they missing a result body?

[ME] Exams have not been performed and there could be many reasons for this. Please check with Business I think cancelled exams with no results should be excluded from the exam file (will confirm with AGFA). Status 'P' stands for preliminary, which I think will be used for results which have been drafted but not validated yet.

[ME] we left the CM exams with 'P' status on in the report file until further notice

[ME] Please also note that some 'CA' exams have a real report attached to them. We have decided to include these in the extract until further notice

The TranscriptionistFirstName seems to have been populated with the first and last name and the TranscriptionistLastName seems like a code value or ID for the same, can this be fixed?

[ME] This has been addressed on the new extracts

Will the accession numbers be modified in the results file for the next extract? [ME] This is still on hold

Activity.ord\_for\_dtime has not been answered, what value does this field store [ME] it is not activity, it is visit\_activity.ord\_for\_dtime, and that is the time the exam was set to be performed.

#### PACS

Some Study\_UIDs in the RIS extract do not have corresponding PACS Study records and some Study\_UIDs in PACS have no information in the RIS extract.

The study file specification indicates multiple Modalities to be extracted under the same column 'Modality'. The study extract has different rows for studies under different modalities, this needs to be fixed. The modalities can be Lomma separated. (I will confirm with AGFA if ',' is their preferred separator)

[ME] This has been addressed on the new extracts

There are some records where the study\_ref, modality, Study\_UID has been duplicated, I would have expected the study\_ref to be unique for the study records.

[ME] This has been addressed on the new extracts

The accession numbers in PACS have not been modified (Will confirm with AGFA if the PACS is expected to have the modified accession numbers).

[ME] No changes

Study\_description and Series\_description is blank for some records.

[ME] No changes until further notice

Institution name is the same as the department name in the study file? [ME] Same data in DB

Is the series number meant to be unique for a study? [ME] will get back to you on that

Is the image number meant to be unique for a series? [ME] will get back to you on that

Will the optional fields be included in the next extract? [ME] No, still working on that

We can discuss all of this in detail at our regular meeting today at 2:00pm.

Regards,

| Mobile :    | Email:   | act.gov.au         |             |            |       |        |
|-------------|--|--------------------|-------------|------------|-------|--------|
| From:       | [mailto  | 7 N = 1000         |             |            |       |        |
|             | The state of the s |                    |             |            |       |        |
| Sent: Frida | ay, 8 December 2017 3:18 P   | M                  |             |            |       |        |
|             |  |                    |             |            |       |        |
|             |  |                    |             |            |       |        |
| Cc:         | (Health) <   | act.gov.au         | <u>i</u> >; | <          |       |        |
|             | com>; Crossley, Nick <ni< td=""><td>ck.Crossley@act.ge</td><td>ov.au&gt;;</td><td>(Health) &lt;</td><td>act.g</td><td>ov.au&gt;</td></ni<>   | ck.Crossley@act.ge | ov.au>;     | (Health) < | act.g | ov.au> |
| Subject: R  | E: Modified Accession numl   |                    |             |            |       |        |
|             |  |                    |             | F.*        |       |        |
| Hi          | and and  |                    |             |            |       |        |

I also forgot to mention that PACS extracts will not contain optional fields at this stage as further investigation is required to work out proper mapping with the Agfa spec.

Kind Regards,



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| From:                             | á                |                 |                   |    |          |
|-----------------------------------|------------------|-----------------|-------------------|----|----------|
| Sent: Fri, 8 December 2017 3:05 P | M                |                 |                   |    |          |
| To:                               |                  |                 |                   |    |          |
|                                   |                  |                 | 'Crossley, Nick'; | (1 | Health)' |
| Subject: RE: Modified Accession n | umbers in the re | port file [SEC= | UNCLASSIFIED]     |    |          |

|       | 40.000.000.000 |   |
|-------|----------------|---|
| Hello | and            | 8 |
| Hello | allu           | К |

Please find on a separate email a link to access both RIS and PACS newest extracts.

Extracts Date Range for both PACS and RIS: 01/01/2013 - 20/01/2013

As previously discussed, all efforts were spent making sure the extracts meet as close as possible the Agfa spec document.

We have replaced the FillerOrderNumber by the Accession Number as requested but I was also advised that many exams do contain the FillerOrderNumber from ACT/CAL which seem to have its own combination (i.e.: 1 hence why the IssuerOfFillerOrderNumber was 'Siemens' or 'PAS' depending on where it came from originally. Either way it does not play a role for PACS but maybe something for you and your team to think about.

The ScheduledStudyDateTime is a required field on the procedure file but I was advised that this is data we purge from our side and therefore will be blank. We can set this up to be the 'End procedure DateTime', Please check with Agfa and let me know if the workaround works for you?

inally, Exams where a report do not exist were set with a status 'P' to keep up with the Spec document.

Please thoroughly examine the files and let me know if this works for you or if anything was missed

Thank you kindly for your patience throughout this process!

Kind Regards,

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nternet: www.healthcare.siemens.com.au



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Sent: Thu, 7 December 2017 3:50 PM

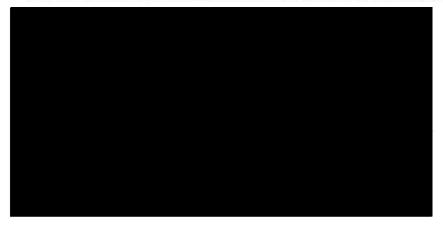
(Health)

Subject: RE: Modified Accession numbers in the report file [SEC=UNCLASSIFIED]

Crossley, Nick; (Health);

Hello

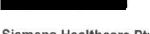
I can confirm that the modified accession numbers will be available on the request file as seen below.



As for the Report file, this will need to be discussed internally but will most likely not be available on the next batch of extracts.

About the FillerOrderNumber topic, what do you want to appear under the IssuerOfFillerOrderNumber? currently 'Siemens' and 'PAS' are the values. I cannot also promise that this will be made available in the next batch but will push for it.

Kind Regards,



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| From:          | (Health) [mailto      | act.gov.au]               |
|----------------|-----------------------|---------------------------|
| Sent: Thu, 7 D | December 2017 3:15 PM |                           |
| To:            |                       |                           |
| Cc:            | (Health);             | Crossley, Nick; (Health); |
| (Health)       |                       |                           |

Subject: Modified Accession numbers in the report file [SEC=UNCLASSIFIED]

Hi

We have discussed this with AGFA and it has been confirmed that the 'requested procedure' and the 'report' files will both need the modified accession numbers.

This will ensure referential integrity on Agfa's side, as accession numbers in both files will directly match up.

Example:

Requested Procedure

Accession number Study UID

## Report

Accession number Report Body

Patient: \*\* Result: Normal Patient: \*\* Result: Normal

Therefore the same result body will be duplicated across multiple rows, when the result is associated to multiple studies.

Though it will be good to have this worked out for the coming extract, if not workable in the given timeframes, I can work with a file with duplicate accession numbers which can then be modified on our end to add the sequencing.

The other thing that we discussed with AGFA was regarding this question that I had raised previously, Question from me - FillerOrderNumber mapped as acc\_itn + ord\_no + seq\_no, is this the same combination used as FillerOrderNumber in PACS as well?

Answer from Siemens: No it is not the case on PACS. Accession number is the ID used between RIS and PACS and therefore should match. The combination was created for the purpose of the RIS extracts as Agfa expects a FillerOrderNumber.

Since the FillerOrderNumber is not used to match RIS and PACS, the filler order numbers can be populated with the accession number only, instead of the acc\_itn + ord\_no + seq\_no.

The FillerOrderNumber will always be the non-modified accession number (all 3 files Service Request, Requested Procedure and Report).

Again though it will be good to have this implemented in the coming extracts, if not possible, I could work on this update as part of my transformations for now.

\_et me know if you need any further details.

## Thanks,

| IDIS Data Migration Analyst - UCPH Digital Solutions Program
| Email: | act.gov.au |
| From: | (Health) |
| Sent: Wednesday, 6 December 2017 2:37 PM
| To: | | (Health) |
| Cc: | (Health) | act.gov.au |
| Cc: | (Health) | (Health) |
| Crossley @act.gov.au |
| Crossley @act.gov.au |
| Subject: RE: PACS Extract [SEC=UNCLASSIFIED]

As discussed today, we will run through the scenario again with Agfa tomorrow at our regular meeting, and confirm the approach that will work best for them. We will then confirm with you in writing.

| Regards | 5 |
|---------|---|
|---------|---|

| IDIS Delivery                   | Manager - UCPH Digital Solutions Program                              |
|---------------------------------|---|
| Phone: 02 6174 8768   Mobile    | Email:  |
|                                 | ce   Digital Solutions Division   Health Directorate   ACT Government |
| Level 10, Building 1, TCH, Garr | an ACT   PO Box 11, Woden ACT 2606   www.act.gov.au                   |

| From:         | [mailto:                     |              |          |                |
|---------------|------------------------------|--------------|----------|----------------|
| Sent: Friday  | , 1 December 2017 3:45 PM    |              |          |                |
| To:           | (Health) <                   |              |          |                |
| Cc:           | (Health) <                   | act.gov.au>; | (Health) |                |
| <             | act.gov.au>;                 | <            |          | Crossley, Nick |
| < Nick. Cross | ley@act.gov.au>;             | <            | ĝ.       |                |
| Subject: RE   | : PACS Extract [SEC=UNCLASS] | IFIED]       |          |                |

Hello

I went back to the team about this and the feedback is that we can generate the necessary records to the request file where multiple Study UID's exist for an accession number. However we are not comfortable with generating these records to the other files such as the result file for dummy accession numbers.

Kind Regards,



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| From: (Health) [mailto                       |                 |
|--|-----------------|
| Sent: Thu, 30 November 2017 11:03 AM         |                 |
| To:  |                 |
| Cc: (Health); (Health);                      | Crossley, Nick; |
| Nick   |                 |
| Subject: RE: PACS Extract [SEC=UNCLASSIFIED] |                 |

| Th   | men | lea  |  |
|------|-----|------|--|
| 1173 | 411 | IK S |  |

The Service request file is OK as is, because it just has the FillerOrderNumber. The one row there is fine.

However, if you can create the additional rows in the Report file that will mean that each accession number in the requested procedure will be linked to a report record, even though it will be the same report for each of the generated accession numbers. For example:

Original accession number , with 3 Study UIDS, and one report 'abc' that covers all 3 studies. In the report file, it will be: Modified: UID 1 Report abc UID 2 Report abc UID 3 Report abc Thanks

| IDIS De                 | livery Manager - UCPH Digita  | al Solutions Program                     |        |
|-------------------------|-------------------------------|--|--------|
| Phone:  Mobile:         | Email:                        |  |        |
| Future Capability & Gov | ernance   Digital Solutions D | Division   Health Directorate   ACT Gove | rnment |
| Lovel 10 Puilding 1 TCH | Garran ACT   DO Boy 11 Mic    | oden ACT 2606 L www act gov au           |        |

| From:   | [mailto                      |              |                         |           |
|---|------------------------------|--------------|-------------------------|-----------|
| Sent: Thurs   | sday, 30 November 2017 12:51 | AM           |                         |           |
| To:   | (Health) <                   |              |                         |           |
| Cc:   | (Health) <                   | act.gov.au>; | (Health)                |           |
| <   | act.gov.au>;                 | <            | - 1000 million (1948) - | Crossley, |
| <nick.cross< td=""><td>sley@act.gov.au&gt;;</td><td>&lt;</td><td></td><td></td></nick.cross<> | sley@act.gov.au>;            | <            |                         |           |
| Subject: RE   | : PACS Extract [SEC=UNCLASSI | FIED]        |                         |           |

Hello

Currently we are creating a record in the service, request and result files per each accession number. For multiple Study UID's per accession number, are you expecting an additional record on all 3 files? This is because the Filler order number and all the other information would stay the same.

Please find below answer to question

FillerOrderNumber mapped as acc\_itn + ord\_no + seq\_no, is this the same combination used as FillerOrderNumber in PACS as well?

Answer: No it is not the case on PACS. Accession number is the ID used between RIS and PACS and therefore should match. The combination was created for the purpose of the RIS extracts as Agfa expects a FillerOrderNumber.

Kind Regards,



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| From: (Health) [mailto]  Sent: Wed, 29 November 2017 2:17 PM  To: Crossley, Nick; Nick   |
|--|
| (Health) Subject: RE: PACS Extract [SEC=UNCLASSIFIED]  |
| Yes, that should be OK for now.  |
| Phone:   Mobile:   Email:   Email:   Email:   Future Capability & Governance   Digital Solutions Division   Health Directorate   ACT Government Level 10, Building 1, TCH, Garran ACT   PO Box 11, Woden ACT 2606   www.act.gov.au |
| From: [mailto]  Sent: Wednesday, 29 November 2017 1:58 PM  To: (Health) < act.gov.au>; < com>; Crossley, Nick < Nick.Crossley@act.gov.au>; < (Health) < act.gov.au>; < subject: RE: PACS Extract [SEC=UNCLASSIFIED]                |
| Thank you  |
| I will pass along the information and will let you know.   |
| If the outcome remains the same from our side, are you happy to keep things as is and use massage the data?  |
| Kind Regards,  |
|  |
| Siemens Healthcare Pty Ltd 160 Herring Road Macquarie Park NSW 2113  |
| Tel: +61 (0) 2 9491 5009  Mobile: Email: Internet: www.healthcare.siemens.com.au   |



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| From: (Health) [mailto] Sent: Wed, 29 November 2017 1:03 PM  |
|--|
| To: Cc: (Health); Crossley, Nick; Nick Subject: FW: PACS Extract [SEC=UNCLASSIFIED] (Health)   |
|  |
| has done some work in this space (see below for her explanation) as part of our own investigations of the issue. While we have been working with an older copy of the database until we install the most recent copy you provided, if you restrict your extract to before July this year then what she has provided should allow you to match the rows and replace with her data.  |
| Let us know if that option will work, otherwise just send the extract with duplicate accession number rows and will look to massage it while she is doing other field transforms prior to sending it to Agfa.  |
| Regards  |
| IDIS Delivery Manager - UCPH Digital Solutions Program   Phone:   Mobile:   Email:   Email: |
| From: (Health)  Sent: Wednesday, 29 November 2017 12:50 PM  To: (Health) <  Subject: FW: PACS Extract [SEC=UNCLASSIFIED]   |
| Hi   |
| I have worked out the sequencing for all accession numbers with multiple Studies.(production backup from July 2017) Attached is a list of all such accession numbers and the associated Study_UIDs. I have used a '.' to separate the acc_itn and the seqno, but will send through an updated list depending on the feedback from AGFA (AGFA yet to confirm the special character to be used as a separator). Will this help, can we get this included in the next extract?  |
| Regards,   |
| Mobile :   Email:   lact.gov.au  |

| From:       | [mailto   |       |
|-------------|---|-------|
| Sent: Wed   | nesday, 29 November 2017 10:41 AM                                 |       |
| To:         | (Health) <  |       |
| Cc:         | <pre></pre> <pre>(Health)</pre>                                   |       |
| <           | act.gov.au>; Duggan, Mark (Health) < Mark.Duggan@act.gov.au>; (He | alth) |
| <           | act.gov.au>; Crossley, Nick < Crossley@act.gov.au>;               | •     |
| <           |   |       |
| Subject: RI | : PACS Extract [SEC=UNCLASSIFIED]                                 |       |
| Hello       |   |       |

I was advised that this can be done but adds a very high level of complexity from our side. This logic will not be applied in the next batch of extracts.

Please advise when you get further information from Agfa about this topic

Kind Regards,



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Internet: www.healthcare.siemens.com.au



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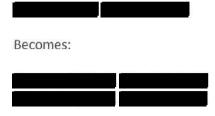
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(Health) [mailto Sent: Tue, 28 November 2017 4:51 PM To: Cc: (Health); Duggan, Mark (Health); (Health); Crossley, Nick; Nick

Subject: RE: PACS Extract [SEC=UNCLASSIFIED]

I have confirmed with Agfa that they do need the Study UID's to be in separate records where there are more than one Study UID for a given accession number. The preferred method of ensuring uniqueness of accession numbers is currently being confirmed by Agfa, but it is expected that it will be something like the following:

Original:



This will ensure that the unique accession numbers generated do not conflict with existing values. We have done a quick analysis of current data and an approach like this will not introduce issues.

I will confirm Agfa's preferred approach as soon as I get their feedback.

| 7.50 |    |    | - 33 |   |
|------|----|----|------|---|
| R    | 00 | a  | rd   | 0 |
| 11   | CE | ,u | 1 4  | * |

| IDIS Del                 | ivery Manager - UCPH I   | Digital Solutions Prop | gram                |           |
|--------------------------|--------------------------|------------------------|---------------------|-----------|
| Phone:   Mobile:         | Email:                   |                        |                     |           |
| Future Capability & Gove | ernance   Digital Soluti | ons Division   Health  | Directorate   ACT G | overnment |

Level 10, Building 1, TCH, Garran ACT | PO Box 11, Woden ACT 2606 | www.act.gov.au

| From: [mailto                                     |     |
|---|-----|
| Sent: Tuesday, 28 November 2017 8:28 AM           |     |
| To:   |     |
| a Li vi de disce e vi l'esc l'incline l'escritedi | 100 |

Subject: RE: PACS Extract [SEC=UNCLASSIFIED]

Hello

I was advised by our headquarters that creating a separate record per Study UID is a major risk as the new accession numbers may already exist in the database. Preferred method would be to separate the Study UID by a delimiter of your choice (, . -) or to create a separate file for records containing multiple Study UID's. Can you please advise on how you want to proceed with this?

Kind Regards,



Siemens Healthcare Pty Ltd 160 Herring Road Macquarie Park NSW 2113

Tel: +61 (0) 2 9491 5009 Mobile: Email: Internet: www.healthcare.siemens.com.au



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| Heland, Rebecca (Health)   |   |
|--|---|
| From:<br>Sent:<br>To:<br>Subject:  | Pearce, Christopher (Health) Monday, 29 January 2018 1:01 PM  (Health); Barrett, Scott (Health)  RE: 20% RIS and PACS data extracts [SEC=UNCLASSIFIED]  |
| Hi & Scott,  | NE. 2070 NO dila Pries data extracts [SEC-SIVELISSINES]   |
| All done.  |   |
| Chris  |   |
| Technology Operations Branch   Digital   | iil: <u>Christopher.Pearce@act.gov.au</u> c & Medication Systems Hub   Phone: 02 6174 8750   Email: <u>DSD.DIS@act.gov.au</u> Solutions Division   Health Directorate   ACT Government  Garran ACT   GPO Box 825, Canberra City ACT 2601   act.gov.au |
| From: (Health)  Sent: Monday, 29 January 2018 1  To: Barrett, Scott (Health) < Scott.  Cc: Pearce, Christopher (Health) <  Subject: FW: 20% RIS and PACS d | .Barrett@act.gov.au><br><christopher.pearce@act.gov.au></christopher.pearce@act.gov.au>   |
| Scott,   |   |
| Can you please include the additi  | onal four files (below) in the copy from the share?   |
| Thanks   |   |
| Phone: 02 6174 8768   Mobile:<br>Future Capability & Governance   Digita   | UCPH Digital Solutions Program   Email: Pederick@act.gov.au   Solutions Division   Health Directorate   ACT Government   O Box 11, Woden ACT 2606   www.act.gov.au  |
| From: [mailto: Sent: Monday, 29 January 2018 8 To: (Health) < Cc: (Health) < Subject: RE: 20% RIS and PACS da  | act.gov.au>; (Health)  Crossley, Nick < Nick.Crossley@act.gov.au>; act.gov.au>  |
| Hello  |   |
| The below new sets of files have   | been created.   |
| Result.dat<br>Exam.dat   |   |

Patient.dat Service.dat Please review the files and let me know if they are any issues.

Please also see my responses in (blue)

Kind Regards,



Siemens Healthcare Pty Ltd

160 Herring Road Macquarie Park NSW 2113

Tel: +61 (0) 2 9491 5009

Mobile: Email:

Internet: www.healthcare.siemens.com.au

Please find my feedback below.

Kind Regards,



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| From: act.gov.au]  Sent: Thu, 25 January 2018 5:35 PM                                    |  |
|--|--|
| Crossley, Nick; (Health)  Subject: RE: 20% RIS and PACS data extracts [SEC=UNCLASSIFIED] |  |
| Hi Please see my response in purple.   |  |
| Regards,   |  |
| IDIS Data Migration Analyst - UCPH Digital Solutions Program   Mobile : Email:   Email:  |  |
| From: [mailto] Sent: Thursday, 25 January 2018 4:11 PM                                   |  |
| Cc: Crossley, Nick < Nick. Crossley@act.gov.au>;   |  |
| (Health) < act.gov.au >  Subject: RE: 20% RIS and PACS data extracts [SEC=UNCLASSIFIED]  |  |
| Hello  |  |

Siemens Healthcare Pty Ltd 160 Herring Road Macquarie Park NSW 2113

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| From:            | (Health) [mailto             | ac                | t.gov.au]  |
|------------------|------------------------------|-------------------|------------|
| Sent: Thu, 25 Ja | nuary 2018 3:33 PM           |                   |            |
| To:              |                              |                   | 2 <u> </u> |
|                  |                              | Crossley, Nick;   | (Health)   |
| Cubineta 200/ D  | TC and DACS data ovtracts [9 | SEC-LINCL ASSIETE | ח          |

Subject: 20% RIS and PACS data extracts [SEC=UNCLASSIFIED]

Hi

Thanks for the extracts, I have done my initial analysis on the RIS data.

My very first question is about the numbers. In our previous emails I have been told that Activity.proc\_dtime is the date time value used for filtering. Total number of activity records with proc\_dtime in the month of Jan or Feb does not match the number of records in the extract received. Count of Activity records (database backup that I have access to) in the month of Jan or Feb – 498393 Count of records in the Service file – 376784

A lot of the missing records are from earlier years (1993 to 2000).

Any reason why these records have been excluded from the extract.

Because the above records have been excluded, the actual extracts do not account for 20%, they are close to 11% only.

[ME] The Agreement was to provide data for the months of JAN and FEB of every year which was assumed to be about 20%. I will raise the missing records with the team and get back to you on that.

[ME] There was a misunderstanding where data was generated up to 2001. Prior data should now be available on the new extracts

Some of the other comments/feedback are as follows:

Activity.ord\_for\_dtime to be mapped to OrderCreationdatetime and Activity.proc\_dtime to be mapped to ScheduledStudydatetime – this was confirmed in the below email trail

[ME] Ok, will take this back to the team

[ME] This should be resolved on the new extracts

pat\_demo.alt\_phone to be mapped to Patient.HomeMobileNumber, this has been mentioned in the mapping document as well.

[ME] Ok, will take this back to the team

[ME] This should be resolved on the new extracts

pat\_info.pt\_death\_dtime to be mapped to Patient.DeceasedDateTime, we understand that this hasn't been consistently recorded, but we would like to migrate the data where available.

[ME] Ok, will take this back to the team

[ME] This should be resolved on the new extracts

Extract includes dummy result records with Body mapped as 'Result does not Exist for this exam', it was confirmed in the below email trail to not include any dummy records for non-existent reports Some of these dummy results records seem to have valid transcriptionist, author and validator details, how is this possible, are these system generated (the mapping info for the result file has not been provided yet, so I couldn't do these checks myself).

If dummy result records have been inserted, why can I still see completed exams without result records?

| [ME] Can you please provide some examples                                 |                            |
|---|----------------------------|
| Accession numbers with result body 'Result does not exist for this exam.' | ,                          |
| ere are many more, just picked 3 as an example)                           |                            |
| Accession numbers for completed exams with no results –                   | (there are many more, just |
| picked 3 as an example)   |                            |
| [ME] Please verify if this is resolved on the new extracts                |                            |

None of the cancelled exams have results associated, as per the email trail it was decided to retain valid results for cancelled exams.

Example:

Acc\_itn Result\_text.Result(I have used this table for my analysis as I do not have the mapping for the result file yet)

Short of breath. The lungs and pleural spaces are clear. There is focal eventration of the right hemidiaphragm. The cardiomediastinal contours are distorted by technical factors. There is a healed fracture of the right clavicle and a small bony ossicle associated with the right acromioclavicular joint. There is an aortic stent in situ. See findings for detailed report.

[ME] Ok, will take this back to the team

[ME] This should be resolved on the new extracts

We have also spoken to the business about unavailability of valid provider numbers for the Performing physician, author and the validator. It is definitely not acceptable to pick the first provider number against each of these doctors (like it's been done in the extracts), we would like the extracts to be populated with the internal doctor numbers. We will then work with the business and with AGFA to transform and migrate as required.

[ME] Can you please confirm that you want the following:

- Authorid and Validatorid on the result extract to be the internal doctor number Yes
- PerformingPhysicianId on the exam extract to be the internal doctor number Yes
- RequestingPhysicianId on the service extract to be the internal doctor number No, the requesting physician ID to be mapped to provider numbers, same as what's been done for the current extract.

The Siemens system does store the provider numbers for the requesting physician but not for performing physician, author and validator, is what we have been told by your team and hence the request.

[ME] This should be resolved on the new extracts

One of the comments in the Mapping document indicates that scheduled exams which have not yet been performed are not part of the Activity and the Activity\_info tables. Are such exams stored in the visit tables?

Our understanding of the process is - Data for ordered or scheduled exams are entered into visit tables and when exam is completed data is moved into the Activity and Activity\_info tables, is this correct. If not, could you please give us a brief explanation of the process?

[ME] Ok, will take this back to the team

[ME] Yes, that is correct, but there is no scheduling going on in the system, so most of the visit data is populated when the ADT and ORDERs come in for that patient.

I haven't looked at PACS yet, I will send through feedback for PACS early next week.

Thanks,

| IDIS Data Migration Analyst - UCPH Digital Solutions Program   Email:   act.gov.au   |
|--|
| From: Sent: Thursday, 21 December 2017 3:01 PM To: Sampath, (Health) < act.gov.au>; (Health)   |
| Cc: act.gov.au>; act.gov.au>; com>; Crossley, Nick < Nick.Crossley@act.gov.au>; (Health) < act.gov.au> subject: RE: Modified Accession numbers in the report file [SEC=UNCLASSIFIED] |
| Thank you will advise the team.  |
| Happy holidays to you and the rest of your team!   |
| Kind Regards,  |
|  |
| Siemens Healthcare Pty Ltd 160 Herring Road Macquarie Park NSW 2113  |
| Tel: +61 (0) 2 9491 5009  Mobile: Email: Internet: www.healthcare.siemens.com.au   |



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