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Dear Mr Malope

REQUEST FOR INPUT TO THE USER REQUIREMENTS SPECIFICATION ON THE MODERNISATION OF THE SOUTH AFRICAN SCHOOL ADMINISTRATION AND MANAGEMENT SYSTEM

As per the communiqué dated 28 September 2015 titled "Provincial participation in the development of User Requirements for the improvement of the South African Schools administration and management system", the Department of Basic Education (DBE) is engaged in a project to modernise the South African Administration and Management System (SA-SAMS).

The first phase of the project was the development of a User Requirements Specification (URS) to define functional, data, reporting and process improvements to the system in line with the vision, strategy and priorities of the DBE and Provincial Education Departments, as well as technological recommendations that will enable the system to become web-enabled, more accessible and integrated within the end-to-end solution for the education sector.

The service provider, Mantrain Solutions was contracted to supply a team of business analysts to elicit these requirements from key stakeholders, including consultation with Provincial Education Departments, to understand the existing system technology, functions, data and processes and also include their vision for the future of Education into the URS.

The team consulted your province in this regard and the URS document was compiled and presented to the Technical Committee of EIS HEDCOM Sub Committee on 10 December 2015. As users and implementers of the system, the role of provinces is of extreme importance and therefore your input to the document will have a significant impact on the finalised URS before commencement of the next phase of the project, and final product of a modernised school administration and management system.

Enclosed, please find a compact disc with a copy of the URS document. It is requested that the relevant units in your province peruse the document. It would be much appreciated if, through your office, inputs on the document are submitted to the DBE as soon as possible.

Your support in this matter, for the strengthening of systems in Basic Education, is most appreciated.

Yours sincerely

MR HM MWELI
DIRECTOR-GENERAL
DATE: 29/01/2016

basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SA–SAMS Modernisation
User Requirements Specification
Version: 1.0

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APPLICABLE REFERENCE DOCUMENTS		
No.	**Document Name**	**Primary Location**
1	SA-SAMS Modernisation Project Scope of Work V1.3	DBE EMIS Repository
2	SA-SAMS Modernisation Workshop Notes (workshop notes from the Requirements workshops)	DBE EMIS Repository
3	Requirements Traceability Matrix	DBE EMIS Repository
4	SA-SAMS Technology Landscape	DBE EMIS Repository
5	eCABE-00004 - Temporary Sollution for Sharing Data (LURITS) and DHA - Version 1.1	DBE EMIS Repository
6	eCABE-00005 - Rev 2.0 - Temp Sollution for sharing data between LURITS and DSD and SASSA	DBE EMIS Repository
7	eDBED98_4 ANA Data Link Specification (2015 Onwards)(Approved)	DBE EMIS Repository
8	Data Driven Districts Dashboard Functional Spec Phase 2015T2 2015-06-29	DBE EMIS Repository
9	DDD - 2015 Term 2 - Valistractor 3 Overview	DBE EMIS Repository
10	DDD - 2015 Term 2 - Valistractor 3 Quality Calculations	DBE EMIS Repository
11	DDD - 2015 Term 2 - Valistractor 3 Specification	DBE EMIS Repository
12	iSAMS_TrainingManual version 3 - Feb 2013	DBE EMIS Repository

1 Executive Summary

Currently the Department of Basic Education owns and supports the South African Schools Administration and Management System (SA-SAMS). This is a relatively old standalone application, with a local database held at each school, which assists in all aspects of school operations. There is a lengthy labour-intensive process to extract all the schools information held in SA-SAMS for management information used at circuit, district, provincial and national levels. In 2012 the Department of Basic Education developed a business case that presented the need to have a more cost effective online real-time, national, transversal School Administration and Management System. The key business drivers were the need for standardisation across South African schools, real-time access to information from a central repository, reduction in the total cost of data extraction processes and the provision of a capability to supply required data to the various stakeholders within the Department.

In the same year, the Michael & Susan Dell Foundation (MSDF) in partnership with the Department of Basic Education (DBE) and with the support of McKinsey & Company, launched an effort to increase the use of data in districts and schools in South Africa. The research found that due to the inaccessibility of SA-SAMS data, multiple information requests made to schools by different officials and institutions are very onerous and time-consuming. Data-capturing across schools is inconsistent and ad hoc, and the standalone nature of SA-SAMS results in multiple, unverified versions of the truth.

In May 2015, the Zenex Foundation agreed to support the development of this User Requirements Specification (URS) that would define the requirements of a modernised SA-SAMS, focusing on enhanced processes and the immediate provision of up-to-date and completely accurate management information to run South African schools more effectively and efficiently.

The decision was taken to evolve the current SA-SAMS in a phased manner, rather than re-develop or purchase a school administration system, based on the following factors:

- Fast time to value of less than 1 year;
- Investment in current system user interface “look and feel”; and
- Implementation of specific South African schools policies within the application software.

Therefore, the approach adopted in this project was to only define improvements to SA-SAMS to meet any new or enhanced information requirements of users. It was not within the scope of this initiative to redefine any user requirement specifications for the existing functionality of SA-SAMS, nor improvements to provincial data warehouses, LURITS, BI Reporting or any system other than SA-SAMS.

In order to ensure data consistency accuracy and completeness, the following principles were adopted:

- Central reference data will be implemented wherever possible and the owners of this data will need to be identified for controlled updates that will be applied consistently across and within all provinces;
- A single master record for each entity has been defined and it is critical that only the master record is ever directly updated by users – changes to master records must

be propagated to any slave records automatically so that there is always only one version of the truth;
- Data will be captured and validated closest to the source of the data, eliminating any requirement to verify or look for data errors at later stages.

Core operational processes that impact schools have been reengineered to:
- Minimise manual form filling and data capture from schedules and forms;
- Ensure data is obtained directly from the operational process and not as an added data capture activity;
- Minimise handoffs between different functional areas; and
- Automate activities and flow of activities.

The core operational processes are related to:
- Learners where, as a result of having a new centralised online repository, the key new requirement is for a single “learner record” that could exist in perpetuity, along with all the information related to the learner including detailed assessment marks and progression decisions. This introduces the need for new processes such as to transfer the learner from one school to another;
- Staff where, similar to the learner, the key new requirement is for a single “staff record” sourced from PERSAL as the master record, with all related SA-SAMS history appended for the staff member from the time the person joined the schooling system;
- Curriculum where the key requirement is for national and provincial policy to be established as critical reference data using an application module where the policies can be configured dynamically by mandated officials. A further requirement is to ensure that curriculum management is consistent nationally so that coverage can be measured and non-compliance to curriculum policy can be identified along with reasons; and
- School infrastructure and assets where these can be under greater control by people that have the appropriate knowledge and skills.

The key technology capabilities that are identified as requirements are:
- The use of laptops and smart devices integrated to SA-SAMS for use by principals and educators in the classroom and at home, especially for mark capture;
- The use of biometric devices integrated to SA-SAMS for attendance recording potentially for both learners and staff;
- Portals for access to, and direct capture of, information by parents, learners, school governing bodies and the general community; and
- Workflow for the management of the flow of activities according to service level agreements (SLAs) and escalation to relevant management when these SLAs are not met, for example for logging of maintenance requests, highlighting incorrect staff master record data, approval of requests for staff transfer, final mark and progression verification etc.

This summary is a very high level conceptual overview of the critical enhancements to SA-SAMS. For all the detailed process, functional, data, reporting and non-functional requirements refer to the relevant section/s of this document.

2 Introduction

2.1 Objectives

This document sets out the user requirements for the improvements to the existing South African Administration and Management System (SA-SAMS) and related processes, focusing on enhanced operational and management information to run the South African schools more effectively and efficiently.

In line with the research conducted the Michael & Susan Dell Foundation (MSDF), the URS looks to fill a number of the recommendations made at the time i.e.:

- Reduce data collected from schools to the minimum necessary to make decisions;
- Create a central function to store, manage and share information;
- Devise methods to verify that the data collected are accurate;
- Design and deliver easy-to-use, automatic analysis for province, district, circuit and school personnel;
- Use new outputs as tools to enhance productivity and improve accountability at district, circuit and school levels; and
- Change the mindset of district staff so they see themselves as agents of change, not inspectors or compliance-driven data conveyors.

A primary requirement is to web-enable the SA-SAMS application. Today, SA-SAMS is designed as a local application residing at the school with each school having its own data store. Moving forward, a web enabled solution (rather than a web based system) will provide for schools and districts to work off line, taking cognisance of the improving but still patchy telecommunication infrastructure which today connects districts and schools to the provinces. This will ensure that there is more immediate access to up-to-date and completely accurate information from the schools to all levels of management. The web enabled SA-SAMS will provide the opportunity to re-engineer many of the existing SA-SAMS business processes whilst providing DBE with the opportunity to relook at the underlying technical and data base architecture of the existing system. The aim must be to provide a resilient and industrial strength solution capable of processing large amounts of volumes in a timely, reliable and secure fashion.

There are also a number of additional business principles that support the delivery of these goals that have been identified that must be adhered to. These are stated in section **4.4 Business Principles.**

2.2 Purpose of this document

The purpose of this document is to explicitly define the new and enhanced business requirements for the modernisation of SA-SAMS in order that the required behavior of SA-SAMS be determined. This URS **will only include the delta between the current SA-SAMS and the desired state** and not the full functionality that will be in the modernized SA-SAMS. The URS specifies:

- New, enhanced and re-organised system function requirements
- New and enhanced data entities/attributes, validations and consolidation requirements
- New and enhanced reports and reporting / enquiry requirements
- Process improvement requirements including data capturing, data transmission and enquiry/reporting processes
- New non-functional and system integration requirements; and
- Training and change management requirements.

The requirements defined in this document may be phased and therefore result in the implementation of multiple projects for execution. With this in mind, this document focuses on identifying the stakeholders' requirements, stated in an explicit list of business requirements, which need to be addressed to achieve the stated business objectives.

2.3 Requirements Gathering

The requirements have been gathered using the following standard business analysis techniques:

Requirements Workshops with multiple stakeholders:

The workshops included:

- DBE central directorates representatives;
- Provincial representatives (all 9 provinces);
- District and Circuit representatives; and
- School representatives.

In order to gather first hand feedback and comments from the broader user community, the requirements workshops were conducted in the Provinces, soliciting inputs from provinces, districts, circuit representatives and selected school super users. Input from a cross section of schools around the country was also solicited.

Document Analysis

Relevant current state and policy documentation that were supplied by various DBE representatives were analysed.

Interviews

Interviews with various SME's within the DBE were performed including with Technical and system representatives from DBE GITO and SITA.

Observations

Observations at school level were performed at pre-selected schools by interviewing principals and users, focusing on issues, concerns, user capability, training and technical proficiency.

2.4 Glossary

Acronym / Abbreviation	Definition
SA-SAMS	South African Schools Administration System
URS	Use Requirements Specification
DBE	Department of Basic education
EMIS	Education Management Information Systems: EMIS is a function and unit in the DBE with the responsibility to develop and maintain an integrated education information system for management of education.
PED	Provincial Education Department
MSDF	Michael & Susan Dell Foundation
Web Enabled	Web-enabled, if it is used at all, usually refers to a program that does some (or all) of its processing on the user's computer before uploading the output to the Web.
DDD	An initiative aimed at increasing the use of data in districts and schools in South Africa to aid in the improvement of the educational outcomes of all learners in the South African school system
DDD Dashboard	This was created from the DDD initiative and it is a dashboard that allows for the visualisation of a broad spectrum of information, in summary as well as in detailed views, to help education officials at all levels to make informed data driven decisions
URS	User Requirements Specification
ANA	Annual National Assessment: The Annual National Assessments (ANA) are standardised national assessments for languages and mathematics in the senior phase (grades 7 - 9), intermediate phase (grades 4 – 6) and in literacy and numeracy for the foundation phase (grades 1 – 3).
NSC	National Senior Certificate: Refers to the school leaving certificate after completing grade 12
Staff	Staff in this document refers to both educator and non educator staff at the school
Reference Data	Reference data is data that defines the set of permissible values to be used by other data fields.
GITO	Government Information Technology Office
SITA	State Information Technology Agency
QA	Quality Assurance
BI	Business Intelligence
DHA	Department of Home Affairs
DSD	Department of Social Development
SACE	South African Council of Educators
Transfer	Refers to the transfer of a learner from one school to another
Admission	Refers to the process of application for placement in a school including the decision regarding the application

3 BUSINESS CONTEXT FOR INITIATIVE

3.1 Business Overview

SA-SAMS is the Schools Administration and Management system that is supplied and supported by the Department of Basic Education for use by schools free of charge. SA-SAMS is primarily aimed at assisting schools in managing the day to day operation of the school. Although the primary purpose of SA-SAMS is school administration, the data that is captured in SA-SAMS can then be used by various levels of the education department to support various mainstream activities including:

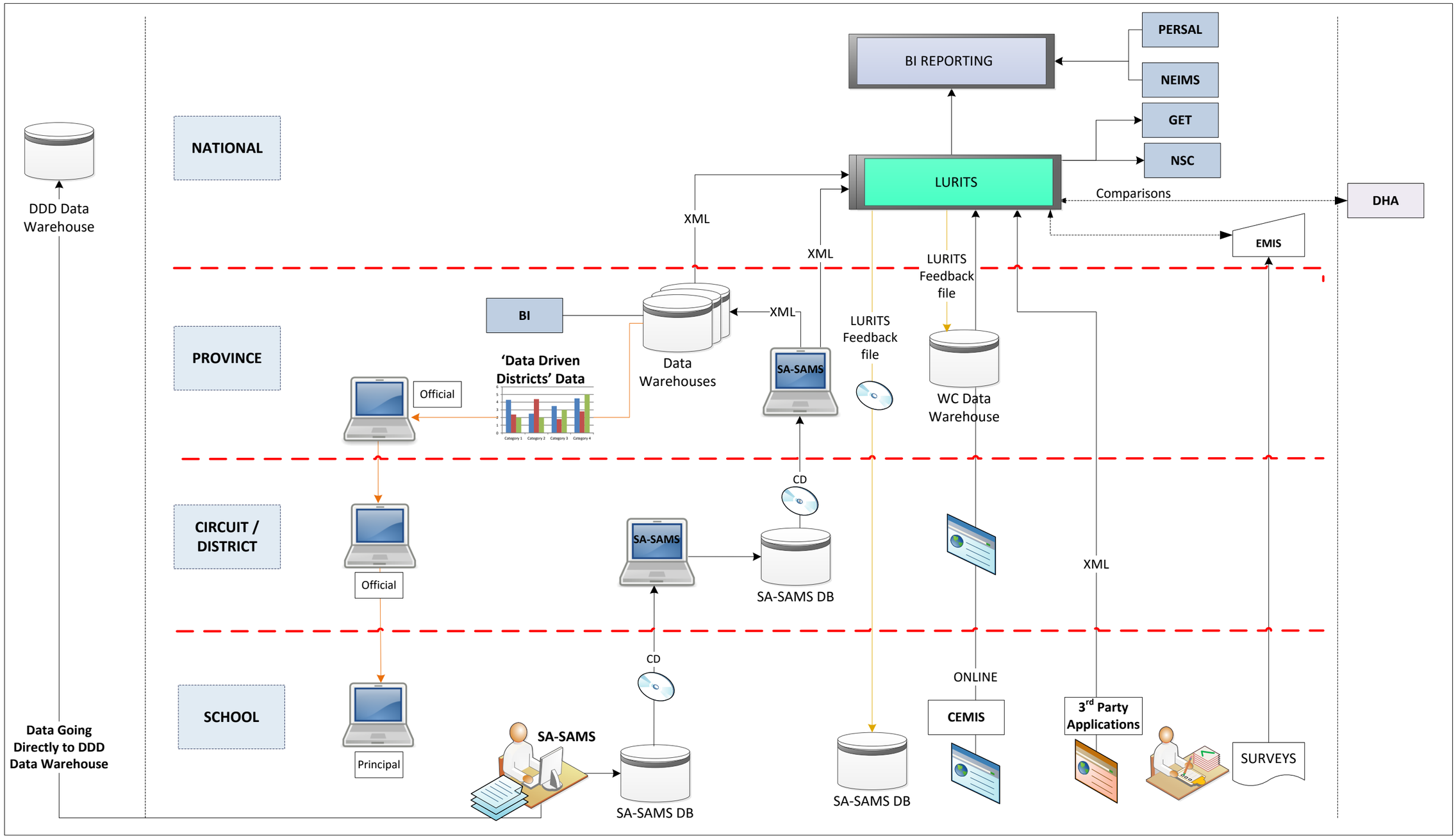
- Planning;
- Monitoring and Oversight;
- Identifying where support to the schools is required;
- Registration for external Assessments (NSC and ANA); and
- Learner Tracking.

Therefore, the need to have accurate data in SA-SAMS is not only important for the day to day running of the school, but also for other processes in the DBE that depend on this data. While SA-SAMS is rich in functionality, there are areas where SA-SAMS can be improved further in terms of modernizing the business processes, enhancing the usability of the functions, validating data and submitting information timeously for use by various levels of management thus removing existing cumbersome manual processes such as the surveys. There are significant opportunities to reengineer the operational processes that impact schools and districts, capturing and validating data at its source, automating processes and providing enabling technology. Such re-engineering will provide significant business benefits as much of the business processes in place today require extensive manual intervention by the schools.

The diagram below shows the current operating model from an end to end perspective, depicting the current manual nature of the SA-SAMS related processes and the various systems that are involved.

3.2 As Is Operating Model

The following diagram depicts the current operating model relating to SA-SAMS.



3.2.1 As Is Operating Model Narrative

The section below provides a high level overview of the systems and the data movement between SA-SAMS and other systems.

The diagram above does **not** represent the various differences at each province and does not display all of the provincial systems that interact with SA-SAMS.

SA-SAMS

The users of the current SA-SAMS are the schools and they focus mainly on the capture of data for operational purposes as well as extracting and submitting of that data to departments that require the data. The process involves:

- Schools capturing various school administration data on SA-SAMS. The data captured on SA-SAMS is stored in an Access database on the school's local machine(s) and used to manage operations relating to the school, staff, learners and parents, finances, library, physical infrastructure, assets and resources.
- At regular intervals specified by the province or nationally, the Access database that contains the data from SA-SAMS is also written onto a CD which the school manually or electronically (depending on the province) sends onto the district, circuit or directly to the province.

PROVINCIAL DATA WAREHOUSES

Some of the provinces currently have data warehouses that are aimed at collecting, uploading and storing various types of information including information from SA-SAMS. This allows the provinces to be able to access information from SA-SAMS and other sources for the purposes of reporting and various types of analyses.

SUBMISSION OF DATA FROM SA-SAMS TO LURITS

The Learner Unit Record Information Tracking system (LURITS) contains data submitted via SA-SAMS and other sources. The information includes information relating to **learners,** learner **grades,** details of **schools,** as well as details of **educators**.

1. **Data is received via CDs or email at District \ Circuit levels**
   - The District \ Circuit receives the data from various schools and performs various QA procedures on the databases to ensure that there are no errors. At this stage, the databases could be sent back to the school to fix if there are major errors. Once the QA procedures have been completed, the Districts \ Circuits then submit the SA-SAMS databases to the province. (Note that the QA procedures vary from province to province and are not always performed at this level).

2. Data is received at the Province

- Data is received at the province level from the District \ Circuit or possibly directly from schools, and then checked using various tools to identify any errors relating to the data. The errors mainly relate to either missing or incomplete information and/or data that has not been completed according to the required format. At this point, there are often attempts to rectify the data errors, but due to the volume of data processed, there are many instances where errors won't be rectified before submission into LURITS. The tools and the QA process used to verify the data vary from province to province.
- Once the QA processes have been completed, the data from SA-SAMS is first submitted to the Provincial Data Warehouse via an upload of an XML file (where the province has a data warehouse). That information is then sent from the Provincial data warehouse to LURITS, using an XML format. Where the province does not have a Provincial data warehouse, the data from SA-SAMS is uploaded to LURITS directly (XML format) using an upload facility.

3. The LURITS feedback file is sent back to the school

- Once the data has been uploaded into LURITS there is a feedback file that is sent back to the schools. The feedback file contains: LURITS numbers that have been generated in LURITS for learners that previously did not have them; and it also contains information relating to any errors with the submitted with the data from SA-SAMS that were identified in LURITS. The feedback file is then imported into SA-SAMS where the LURITS numbers are assigned. In addition, the school would then be expected to rectify the errors that were identified during the LURITS upload.

SUBMISSION OF DATA FROM CEMIS TO LURITS

CEMIS is the system that is used in the Western Cape to submit learner information. The system is online and therefore information is submitted to LURITS in an XML format.

Officials within the Western Cape are able to access data at District, Circuit and Province level using CEMIS. The data that is contained in CEMIS is learner related (facilitating the "Learner Tracking" function) rather than school administration specific.

SUBMISSION OF DATA FROM 3RD PARTY SOFTWARE TO LURITS

3rd Party Applications or LURITS Accredited Software Systems (LASS) refers to a group of various school administration systems used by various schools that are not using SA-SAMS or using them in conjunction with SA-SAMS for their school administration. 3rd party vendors create LURITS-approved interfaces for these systems. These systems also send information to LURITS using XML format files. They perform various functions, including those that are currently available on SA-SAMS.

COMPARISON OF DATA FROM LURITS TO THE NPR

There is currently a process where the DBE is working in partnership with the DHA that is aimed at improving the quality of learner data. The partnership involves manually exchanging data that relates to learners and includes:

- The DBE providing data for learners with ID numbers so that the DHA can verify that information
- The DBE providing information of learners without ID numbers so that the DHA can assist in registering those learners and supply them with ID numbers
- The DHA providing the DBE with information of children of school going age (5 to 18) so that the DBE can identify those that are not in the school system

DATA DRIVEN DISTRICTS DASHBOARD

The data driven districts initiative is aimed at providing various users of SA-SAMS data with key metrics in the form of dashboards that provide pertinent information that will assist in improving the performance of schools. The information can be accessed at District, circuit and school level. The information for the Data Driven Districts is either retrieved from the Provincial warehouse or is fed from SA-SAMS to the DDD warehouse.

ANA

This is the system which contains learner information regarding Annual National Assessments (ANA). The learner information relates to the registration of learners for ANA and also houses the marks that learners achieved in the assessment. The information for ANA is extracted from SA-SAMS and other applications used at schools. There has been much progress in eliminating manual surveys as a means of gathering ANA data. In some provinces, the data requirements for ANA has led to the increased adoption of SA-SAMS.

NSC

The NSC system is a standalone system that houses the information relating to the registration and results data for the National Senior Certificate exams. There is functionality to manually upload data from LURITS to obtain the relevant data that is required.

PERSAL

PERSAL is the Human Resource system for the Government including the Department of Basic Education, with the information in PERSAL being used primarily for payroll purposes. It contains educator information and also other DBE staff but naturally excludes School Governing Bodies (SGB) staff.

NEIMS

NEIMS is a Microsoft Access database that stores school infrastructure data. The data that is stored includes details around the state of school infrastructure, pictures of the school infrastructure etc. It allows the National department to have a view of the state of infrastructure at the various schools which can be used to identify places where interventions are required to ensure that infrastructure adheres to the Norms and Standards for school infrastructure.

The data that relates to infrastructure that is captured on SA-SAMS is not currently fed through to NEIMS. The information that is stored in NEIMS is recorded at school level using manual NEIMS assessment forms which is then captured into NEIMS at national level. Some provinces have also built their own applications provide NEIMS with the required data.

BI REPORTING

BI Reporting is currently in the pilot phase and will be used to produce various reports and management information from LURITS, PERSAL and NEIMS. The information that is extracted consists of regular and ad hoc reports from the systems mentioned above. BI reporting is aimed at improving the ability to access various types of information for both reporting when it is required and analysis of the information from the abovementioned systems.

Note: There are currently issues with the feed from NEIMS into BI reporting that are being resolved.

3.2.1 Key Challenges

As can be seen, the end to end process is highly inefficient, prone to errors and leads to significant inefficiencies. Key challenges include:

- The data captured in SA-SAMS is not validated as it is captured, leading to the need for additional, time consuming Quality Assurance (QA) processes at various levels within the DBE. Once the QA processes have been completed, schools are expected to recapture data that was incorrect or missing. This is a very time consuming exercise;
- There are a lot of manual processes to collect data that is already in SA-SAMS (e.g. templates that are distributed to be completed by schools) as the data is not always available in a timeous manner;
- There is duplication of capture between SA-SAMS and other systems (e.g. PERSAL) which results in misalignment of information in the various systems (more than one version of the truth); and
- Different primary keys for learner data, resulting in the duplication of learner data (e.g. LURITS number, ANA number, NSC number).

3.3 Current SA-SAMS Functionality

SA-SAMS is made up of various modules that are used by schools to capture and also extract various types of information required for schools administration. Each of the modules are described below along with a high level overview of the opportunities that exist to improve the modules. Section 3.3.1 lists additional opportunities for the improvement of SA-SAMS.

Function Name	Description	Opportunities
General School Information	The General School Information sets up the system for the school with information relating to that particular school e.g. address, type of school, subjects offered, the school's logo etc. The information is then used in most of the other modules.	The majority of this information is owned at province level and should be captured at that level.
Human Resources Information	The Human Resource Information Module assists schools in the administration of the educators and staff/ public servants' information. It also contains the processing and the administration of leave, absenteeism, training, appraisals and all human resource related data and processes.	There is currently misalignment between the information that is contained in PERSAL (which is the Government's core source of HR data) and SA-SAMS. This module also has the appraisal process built into it (IQMS), however this is not aligned to the official system used for the appraisal of educators.
Learner and Parent Information	The administration and management functions regarding the learner data and parents information.	The information for learners is localized and available for that school only, which makes it difficult for a full learner record to be available across schools.
Learner Listing	The Learner listing provides a view of the learners and various reports that pertain to the learner. A user can also trigger certain actions that are performed in the Learner and Parent Information module.	There is an overlap between this module and the Learner and Parent Information module which needs to be considered. There is also an opportunity to consider this module in re-engineering the reporting capability within SA-SAMS.
Governance Information	The Governance Information module keeps records of all issues related to the School Governing Body (SGB) as specified by the South African Schools Act (No. 84 of 1996). This module contains information on the membership, their training records, adopted policies and SGB functionalities such as the disciplinary and learner fee exemptions.	This module is not always used, although the required information is available within it. . An opportunity exists to increase the usage of this module by assigning the correct people to complete it.

Function Name	Description	Opportunities
Standard Letters and Forms	This module handles the following functions: • Creation and printing of official letters and labels. • Printing blank and populated registration forms. • Exporting of learner and parent contact details.	There is an opportunity to, wherever possible, promote electronic distribution of various communications (e.g. emailing of letters directly from the system). There is also an opportunity to ensure that information is completed directly on the system and not through forms being printed, completed and then the information captured on the system.
Export Data	This module is divided into 2 sections according to the allocated functions: • Export data for surveys. • Export data for exam registration.	Surveys are conducted because the information that is in SA-SAMS is not available immediately and is not always considered correct. The availability of validated information from a central location where it can be accessed by authorized users would decrease the need to conduct surveys.
Annual National Assessment	The Annual National Assessment (ANA) is a module designed to manage the recording, analysis and reporting of ANA marks for the school.	The availability of learner information in an online central repository would streamline the registration for ANA and the uploading of the marks.
Financial Assistant	This module is a fully integrated financial system and includes functionalities to perform daily finance activities such as payments, receipting, collections, petty cash and banking.	The module is considered useful, however there are many schools that utilize other financial packages. Certain improvements at removing the need to run parallel systems can be introduced. This module uses accounting terminology that school administration staff often find difficult to understand (e.g. Trial Balance, etc.). The requirement to link the provincial funding allocation to the specific schools would significantly enhance financial controls around the budgetary process.
Curriculum Related Data	Manages the recording, analysis and reporting of School Based Assessments (SBA) and is aligned to (CAPS). It also facilitates the recording of formal School Based Assessment (SBA) tasks in order to give automatic result decisions for Term and Year Results per learner.	The curriculum module is the **core of the SA SAMS system** (as it relates to the schools' primary purpose, which is to teach) but it is considered complex by many users of the system. Opportunities exist to ensure that there is flexibility to make updates to curriculum policy without a software release. There is also an opportunity to look at improving the management of curriculum policy from national all the way to school level.

Function Name	Description	Opportunities
Timetabling Assistant	The timetabling assistant uses information captured in other modules (such as learners, educators, subjects etc.) to assist the school in creating timetables.	There exists an opportunity to improve the timetable in terms of aligning to best of breed in the market and also resolve some platform issues that are currently experienced.
Physical Resources	The Physical Resources module assists the school's Procurement or Stock Control Officer to register and manage all the resources belonging to a school, this includes school chairs, desks, computers, etc. Information from the learner module and the human resources module is required for the successful use of this module. The Infrastructure Register has all the details required for the Annual School Survey and exports from SAMS directly into the SA Tool. This data can be printed and handed out to educators to check for current status so that changes can be made to update records	The infrastructure side of the module has information that the consumers of infrastructure data do not use. There exists an opportunity to look at the current sources of that data and whether they are not better suited to this function. On the asset side, there is a lot of manual capture involved, which can potentially be automated.
Library Module	The library module in SA-SAMS was developed to ensure that Librarians or Library Administrators at all schools can administer the day to day running of a school library facility.	The manual capture of the library books is time consuming and introduces the risk of errors being made – this process should be automated. The introduction of scanning devices to automate the process would improve the module for users.
Security and Database functions	The Security and Database module assists the administrator with: • The maintenance of the database to keep it operational. • Access of the users to the different sections of the modules. This is intended to protect the confidentiality of sensitive data as well as integrity and availability of data from unauthorized users.	The manual actions required to maintain the database are left up to users and sometimes lead to a corrupted database. A more robust database solution must be implemented. There have been many instances of corrupt Databases following a recovery from issues such as unexpected power loss. The setup of access by different users is usually not done and the system should prompt users and guide them to set up the different access levels. The system does not promote archiving of old data, thus making DB and file sizes unusually large and cumbersome to process, back up and recover.

Function Name	Description	Opportunities
Lurits Approval Module	The Learner Unit Record Information and Tracking System (**LURITS**) Approval module on SA-SAMS is used to approve the School, Learner and Educator information for submission to the provincial education department and upload on the LURITS system. This data can be used to track learners and educators across the country.	There exists opportunities to validate most data at source and as it is captured, ensuring that data is correct at the point of entry, thus avoiding the need to check data at a later stage in the process. This ought to be done through more built in validations as well as checking data against, or receiving data from, other master systems such as NPR and Persal.

3.3.1 SA-SAMS Opportunities

- **Usability:** Overall, the system is currently organized as a collection of modules (functions) and should ideally be focused on the processes that need to be completed. The way the navigation is currently designed also sometimes leads users to create additional SA-SAMS guides (over and above the SA-SAMS manual) on how to perform certain functions. The modernized SA-SAMS must be intuitive and easy to use making it more user friendly and reducing the need for training
- **Performance** issues are experienced by schools where simple activities (e.g. mark capture) might take a lot longer to process than what should be the case
- **Support:** Schools are currently lacking sufficient support and are looking for a much improved service level including the provision of remote support
- **Lack of knowledge** around the current functionality available on SA-SAMS, leading to users not fully utilizing the system.
- Many schools are using **one password** making auditability of changes made on the system impossible
- **The SA-SAMS database is not sufficiently robust** and often gets corrupted when certain circumstances are experienced (e.g. power cuts, processing of large volumes) which causes major issues for users as their data is sometimes lost
- Since SA-SAMS is a standalone application, it makes it very challenging to achieve certain objectives (e.g. single learner record, single educator record)
- When introducing new versions and new functionality, schools find that regression testing of the “older” functionality is not always done thoroughly, therefore causing issues with data already captured and other existing functionality
- **The roll out of patches and software updates is manual**, with CDs being used to distribute the updated software or users downloading it from the Thutong website. This manual distribution of software makes the process costly (as officials have to drive around to distribute CDs), inefficient (as there might be delays in some of the schools receiving the updated software) and time consuming
- New releases are not always compatible with the operating systems being used by the schools.

4 BUSINESS INITIATIVE SCOPE AND IMPLEMENTATION APPROACH AND ASSUMPTIONS

4.1 Business Initiative Scope

The initiative is limited to producing the URS for a modernised SA-SAMS, the full scope is detailed in the scope document (Listed in the **Applicable Reference documents** section)

4.2 Implementation Approach

The requirements stated in this document will be delivered in phases, the number of phases and the composition of those phases will need to be decided after these requirements and their priorities have been approved.

4.3 Assumptions

The requirements that have been specified in this document were stated as received from the various stakeholders and were not always checked to ensure that they align to current policy. It is therefore assumed that there will be an approval process involving SME's to ensure that the requirements specified in this URS are aligned to policy.

In addition the requirements are also being stated at a point in time whilst l enhancements to SA-SAMS are progressing through the release new versions, meaning that some of the identified gaps may be closed over time.

4.4 Business Principles

There are various principles that have been identified that must be adhered to in the modernisation of SA-SAMS and they are as follows:

ENSURE DATA CONSISTENCY, ACCURACY AND COMPLETENESS

- Create **central reference data** for all data that must be consistent across all schools e.g. education structure of cluster/circuit/district/region/province;
- Establish single **master** record of any data – critical to consistency is to ensure that there is a business owner of each high level data entity and that the "record" is only created once at the appropriate source. **Slave** records must always be created from the master and synchronisation must be enforced;
- Validation at source – at point of record creation the application must not accept any data that is not complete and accurate, eliminating any need to verify or validate data at a later stage;
- Minimise data captured by schools – computer literate staff is a scarce school resource, therefore data capture should be reduced wherever possible - only data that is critical for decision making and cannot be sourced elsewhere should be mandatory for capture by schools.

RE-ENGINEER PROCESSES

- Minimise manual form filling and data capture activities;
- Ensure data is sourced directly from the operational processes and is not an added activity;
- Minimise process handoffs and automate processes wherever possible through system integration;
- End-to-end process analysis could recommend re-engineering beyond the boundaries of DBE where this can generate significant benefit.

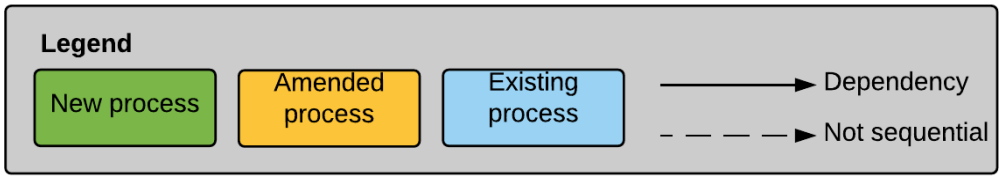
5 Proposed Business Solution

The Proposed Business Solution section contains the following sections relating to the modernisation of SA-SAMS:

- **The High Level process solution:** Which provides a high level overview of the proposed reengineered To-Be processes relating to the modernized SA-SAMS
- **The Conceptual '"To Be"' solution**: Which provides a high level overview of the supporting technology for the modernized SA-SAMS and the key functionality
- **The Reporting solution:** Which contains a high level overview of the proposed reporting capability in the modernised SA-SAMS
- **The Data Solution:** Which provides a high level overview of the proposed solution from data perspective in SA-SAMS
- **The Requirements Traceability Matrix:** Which contains a categorized view of the detailed requirements relating to the Process, Functionality, Reporting and Data. These specify in detail what is required of the modernized SA-SAMS solution.

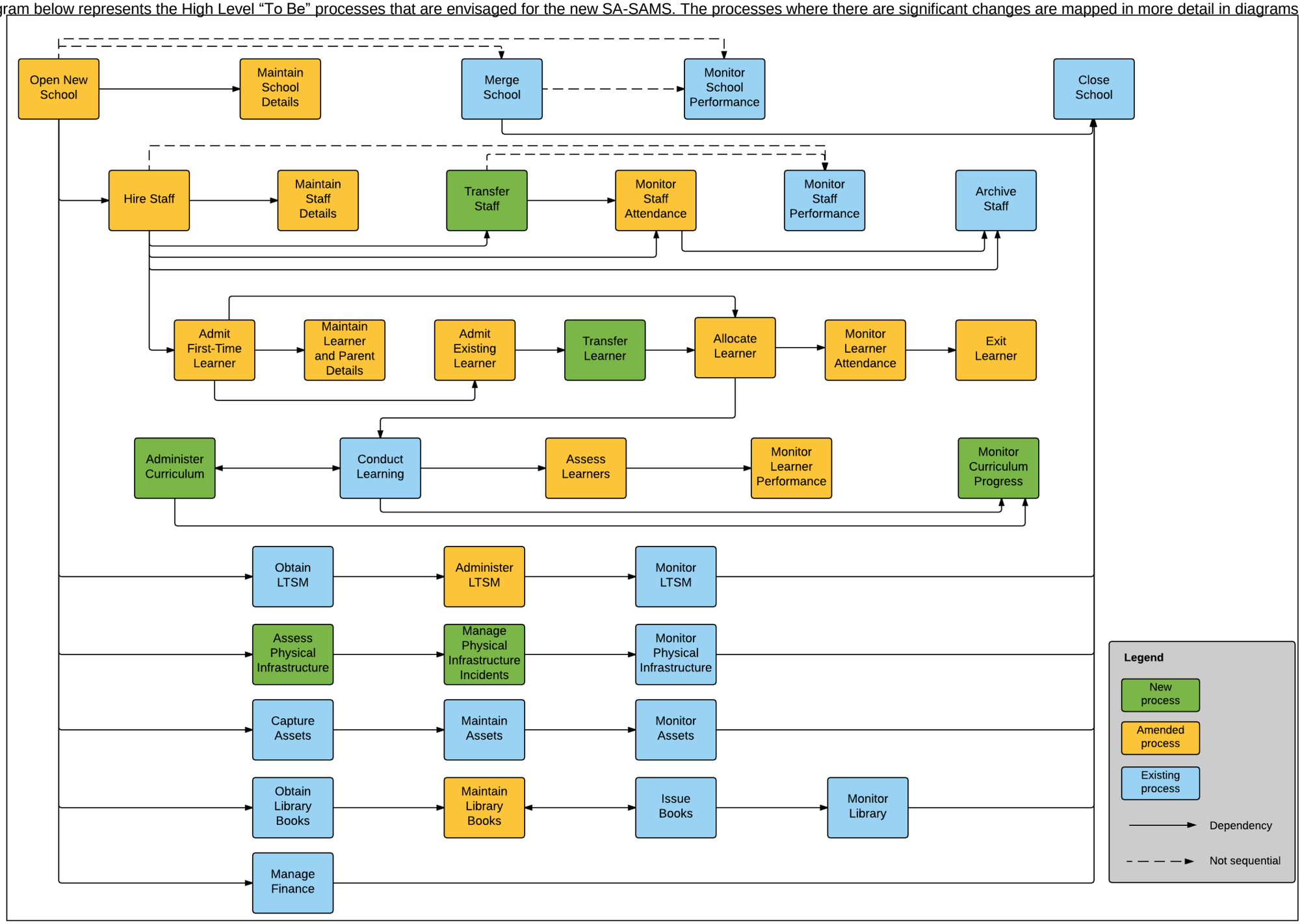
The legend used for the processes depicts new, amended and existing processes, and their relationship to each other:

- New process - Processes that have a significant degree of change and subsequently a high user impact, or processes that have not been catered for on SA-SAMS e.g. automating a paper-based process and introducing workflow capability, introducing a capture function to national, province or district where they have not used SA-SAMS to do so before, raising requests and escalations on SA-SAMS.
- Amended process - Processes with a smaller degree of change and a medium to low user impact e.g. viewing information electronically that was previously viewed on paper, viewing pre-populated information instead of capturing it, receiving automated escalations and alerts, automating communications to parents.
- Existing process – Processes that are already implemented and remain unchanged.
- Connectors with solid lines indicate dependencies.
- Connectors with dotted lines indicate that the processes are not necessarily sequential.



5.1 High Level Business Process Solution

The diagram below represents the High Level “To Be” processes that are envisaged for the new SA-SAMS. The processes where there are significant changes are mapped in more detail in diagrams below.

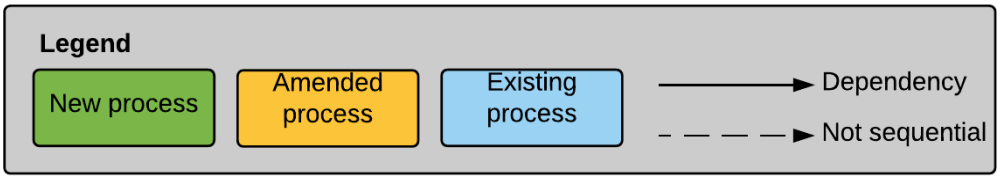


5.1.1 Hire Staff “To Be” Process

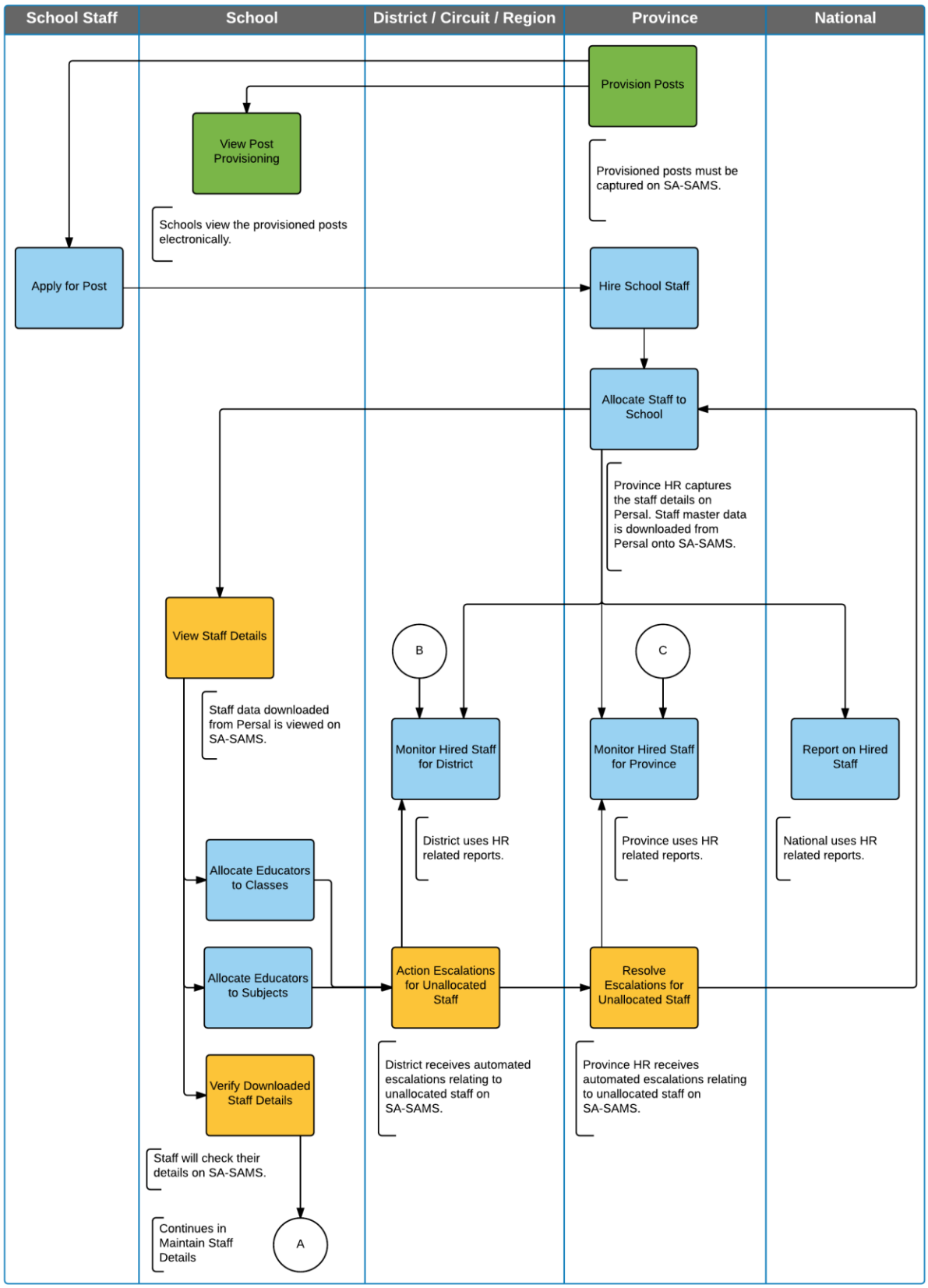
Post provisioning will be captured on SA-SAMS then the existing staff application process will follow. Staff master record details will be downloaded to SA-SAMS from Persal whenever these details change - schools will not capture duplicate information. “Unallocated staff” will identified and escalated for resolution. There are 3 scenarios of “Unallocated staff”:

- Staff downloaded from Persal but not allocated to a school will be escalated automatically;
- Staff downloaded from Persal, allocated to a school, but not allocated to a class / subject will be escalated automatically; and
- Staff not downloaded from Persal, but reporting for duty at a school will be escalated by the school management.

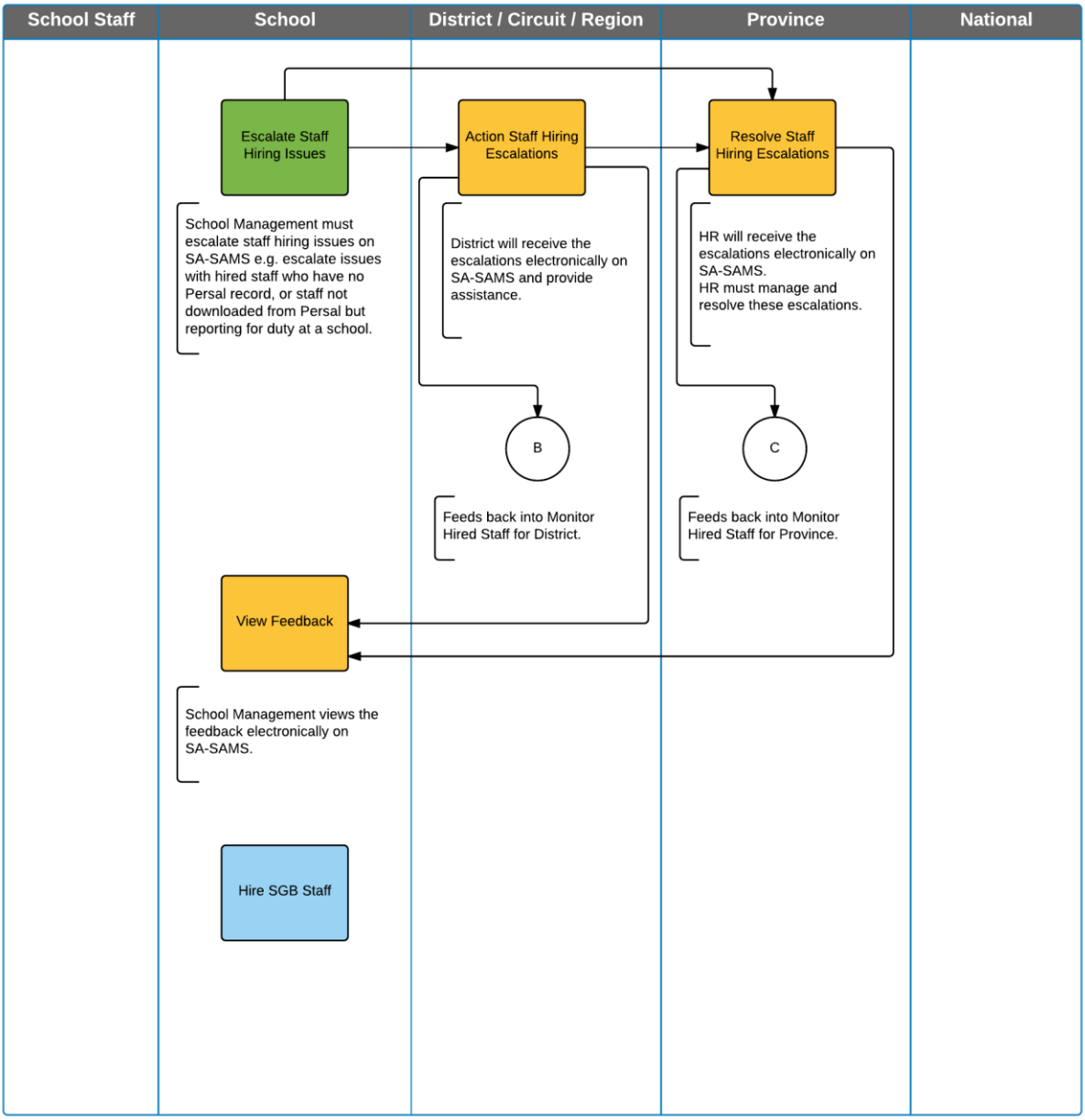
(Refer to process on next page.)



HIRE STAFF


School Staff
School
District / Circuit / Region
Province
National
Provision Posts
View Post Provisioning
Provisioned posts must be captured on SA-SAMS.
Schools view the provisioned posts electronically.
Apply for Post
Hire School Staff
Allocate Staff to School
Province HR captures the staff details on Persal. Staff master data is downloaded from Persal onto SA-SAMS.
View Staff Details
B
C
Staff data downloaded from Persal is viewed on SA-SAMS.
Monitor Hired Staff for District
Monitor Hired Staff for Province
Report on Hired Staff
District uses HR related reports.
Province uses HR related reports.
National uses HR related reports.
Allocate Educators to Classes
Allocate Educators to Subjects
Action Escalations for Unallocated Staff
Resolve Escalations for Unallocated Staff
Verify Downloaded Staff Details
District receives automated escalations relating to unallocated staff on SA-SAMS.
Province HR receives automated escalations relating to unallocated staff on SA-SAMS.
Staff will check their details on SA-SAMS.
Continues in Maintain Staff Details
A

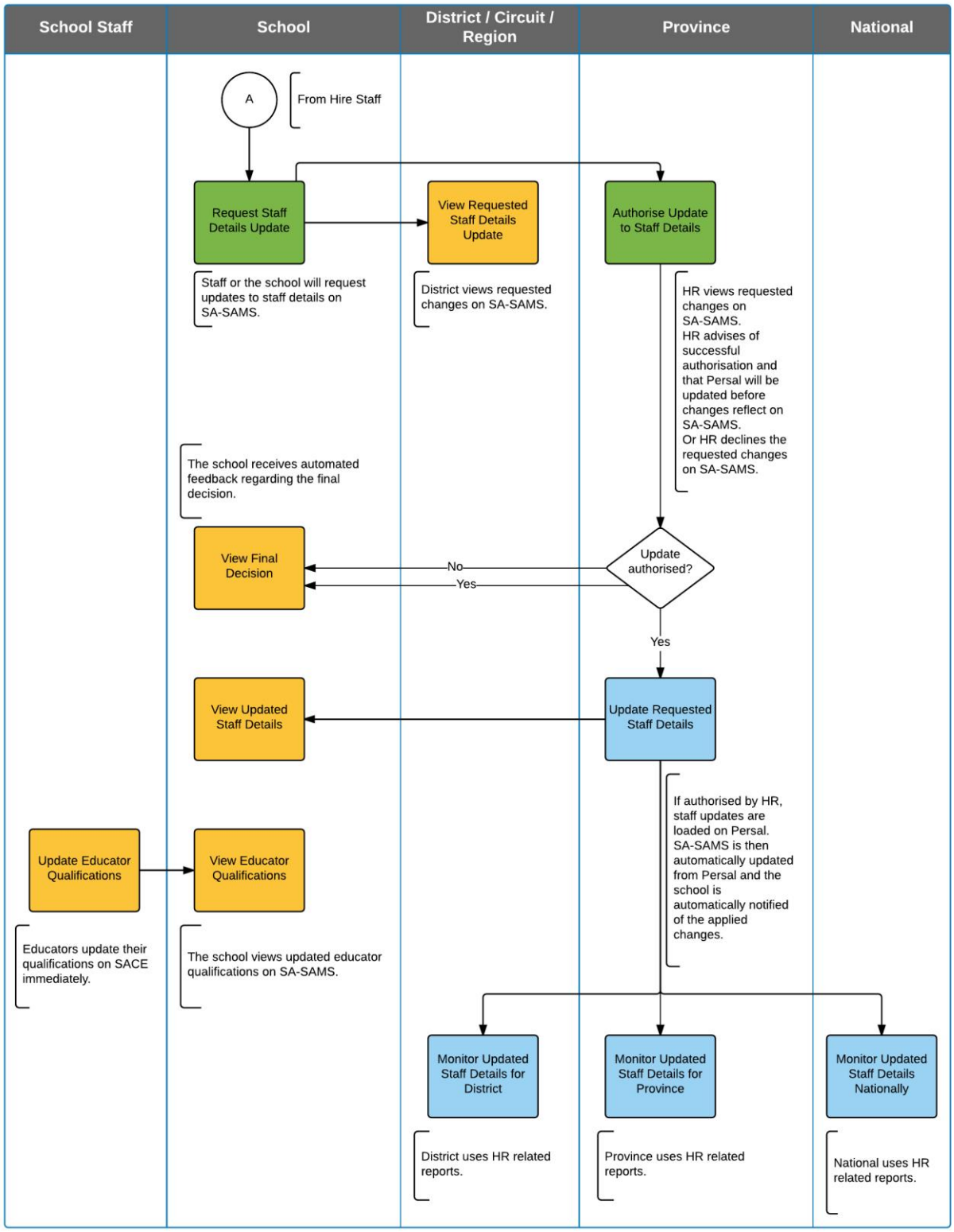
HIRE STAFF continued



5.1.2 Maintain Staff Details “To Be” Process

SA-SAMS will receive staff records from Persal. Where necessary, the school must request updates to the master record of staff details on Persal that will be approved and then updated by Province HR. Updated details will be viewed on the web-enabled system once Province HR updates the source system.
Educators must keep their qualifications up to date on SACE. The school will view this information on the web-enabled SA-SAMS.

MAINTAIN STAFF DETAILS



5.1.3 Transfer Staff "To Be" Process

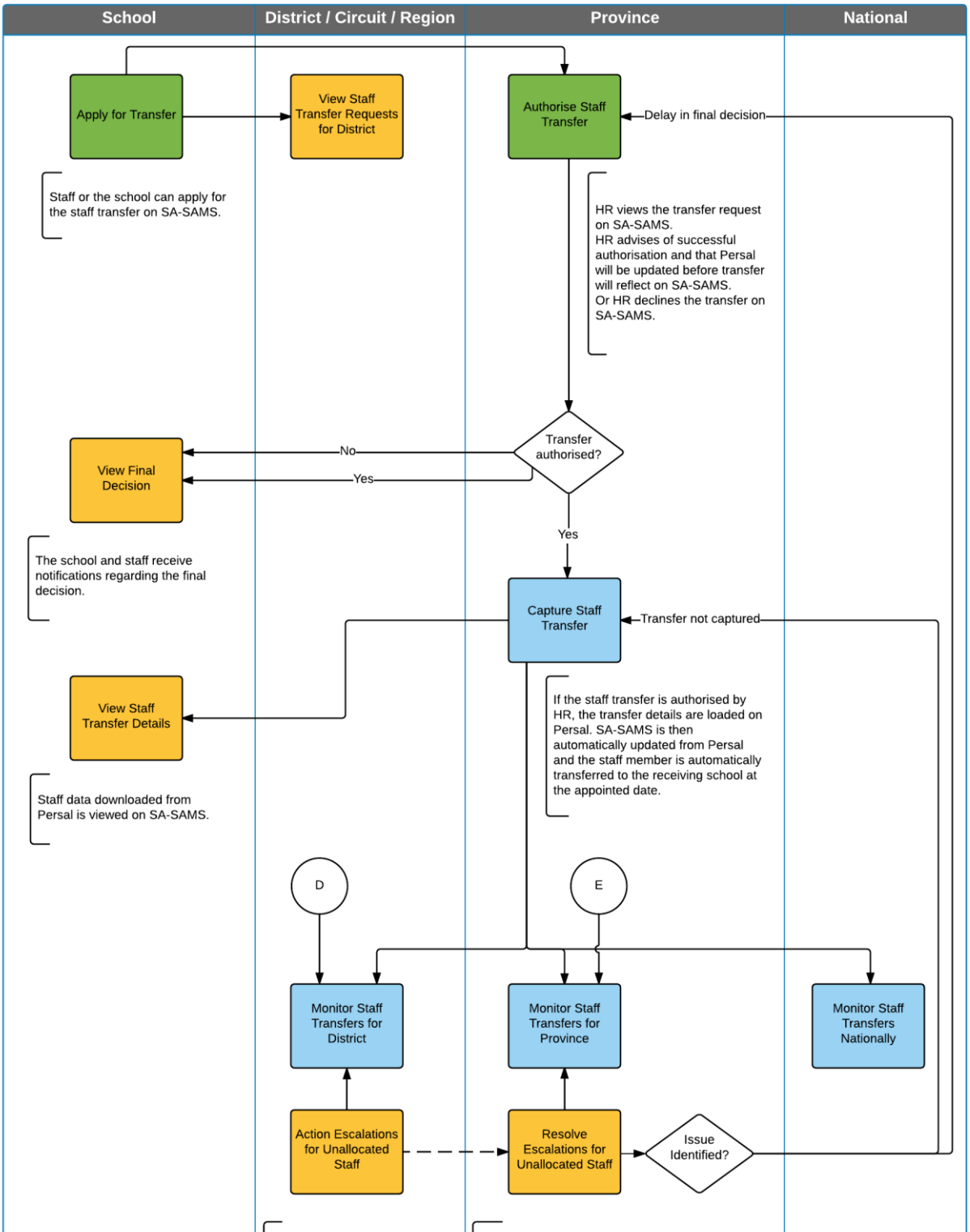
Staff transfers will be automated on the web-enabled SA-SAMS. Transfers must be authorised electronically and the allocations captured on Persal.

Unallocated staff members will be escalated automatically.

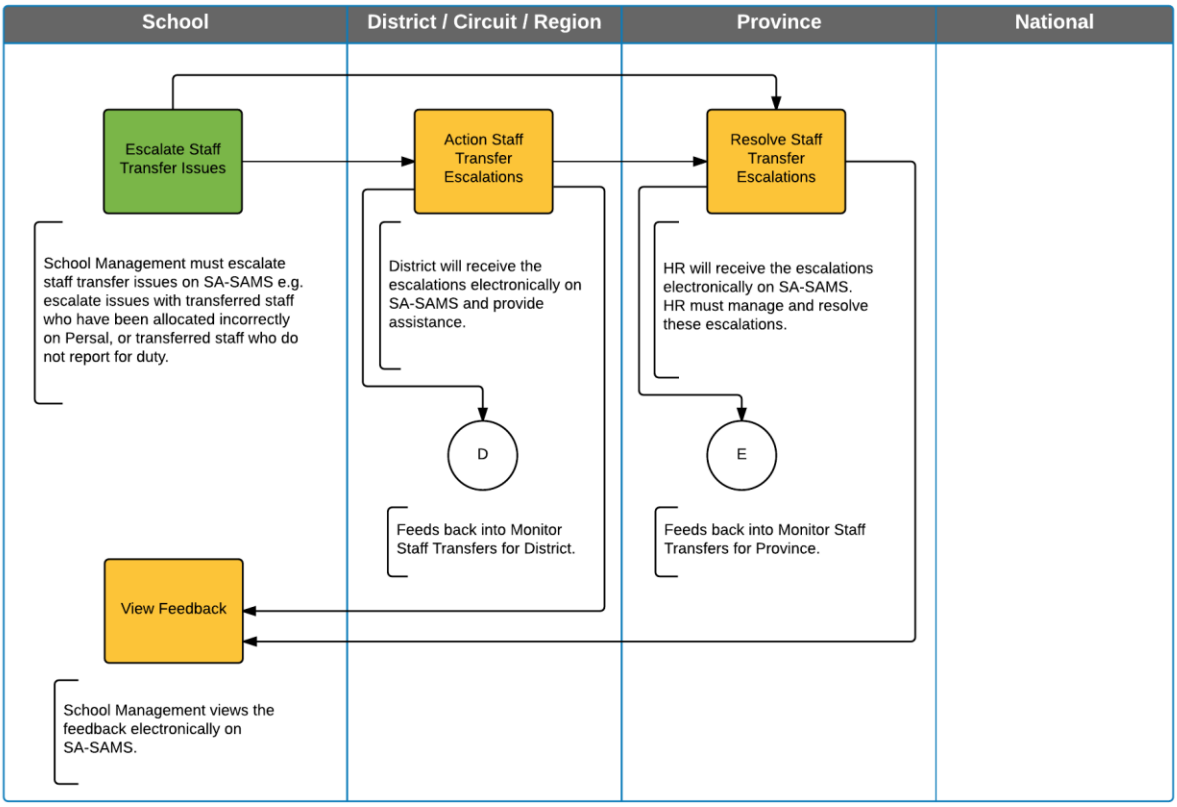
Staff downloaded from Persal who do not report for duty will be escalated by the school management.

Staff downloaded from Persal that have been incorrectly allocated will be escalated by the school management.

TRANSFER STAFF



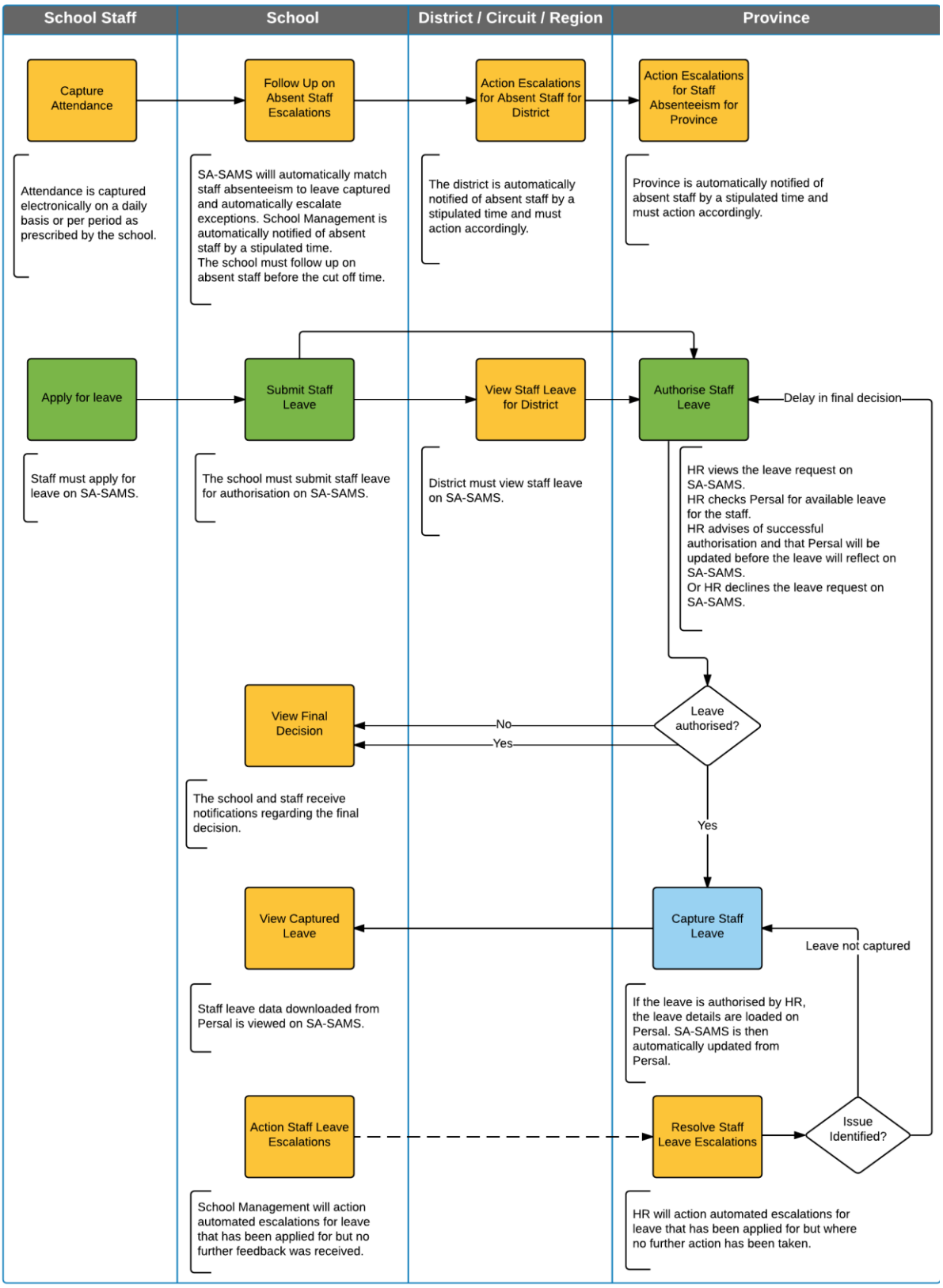
TRANSFER STAFF continued



5.1.4 Monitor Staff Attendance "To Be" Process

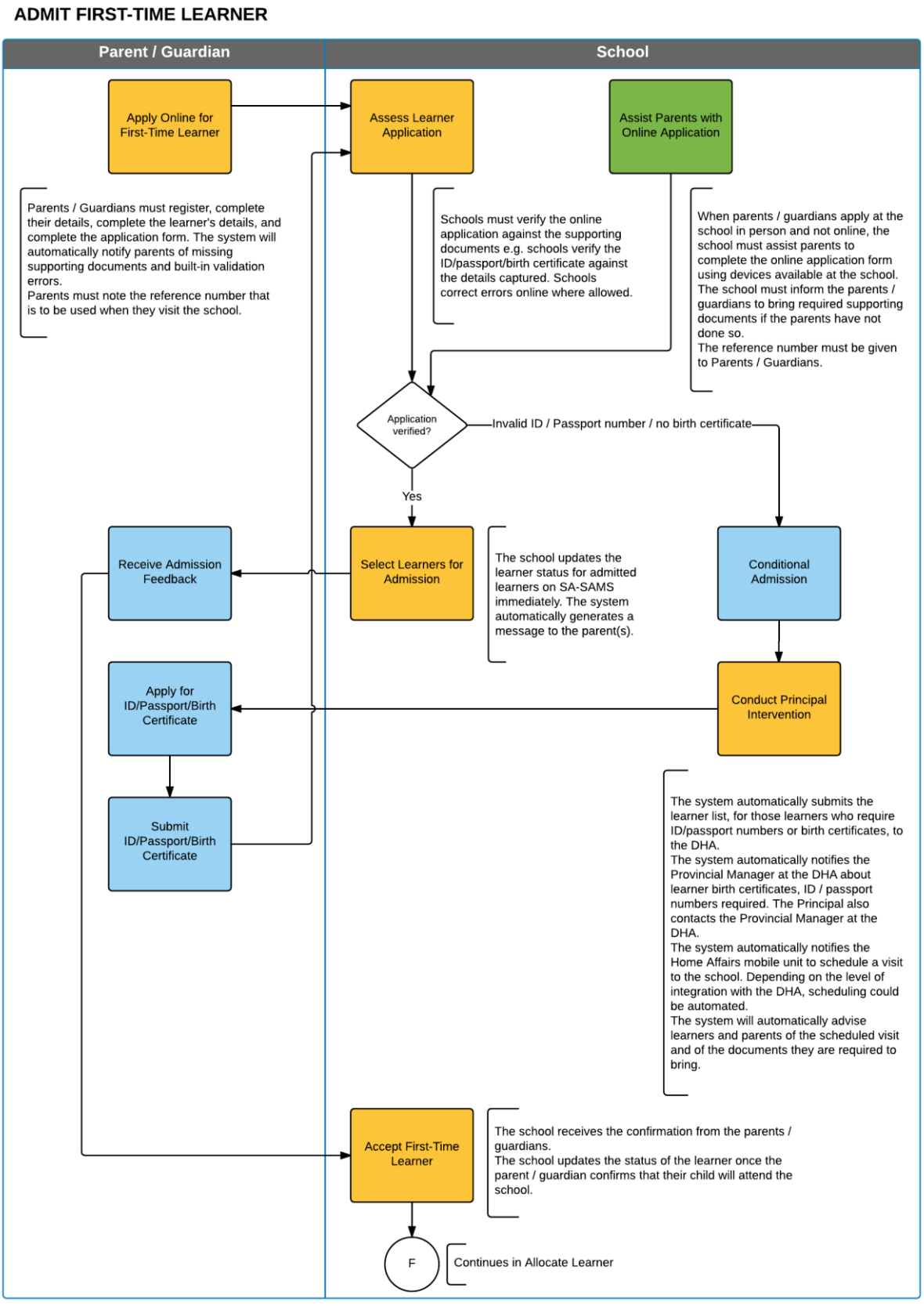
Staff attendance must be captured using biometrics or using smart cards. Automatic escalations will be triggered for absent staff. Leave must be applied for using the web-enabled SA-SAMS for HR to approve. Leave information downloaded from Persal will be available for authorised users on SA-SAMS.

MONITOR STAFF ATTENDANCE



5.1.5 Admit First Time Learner “To Be” Process

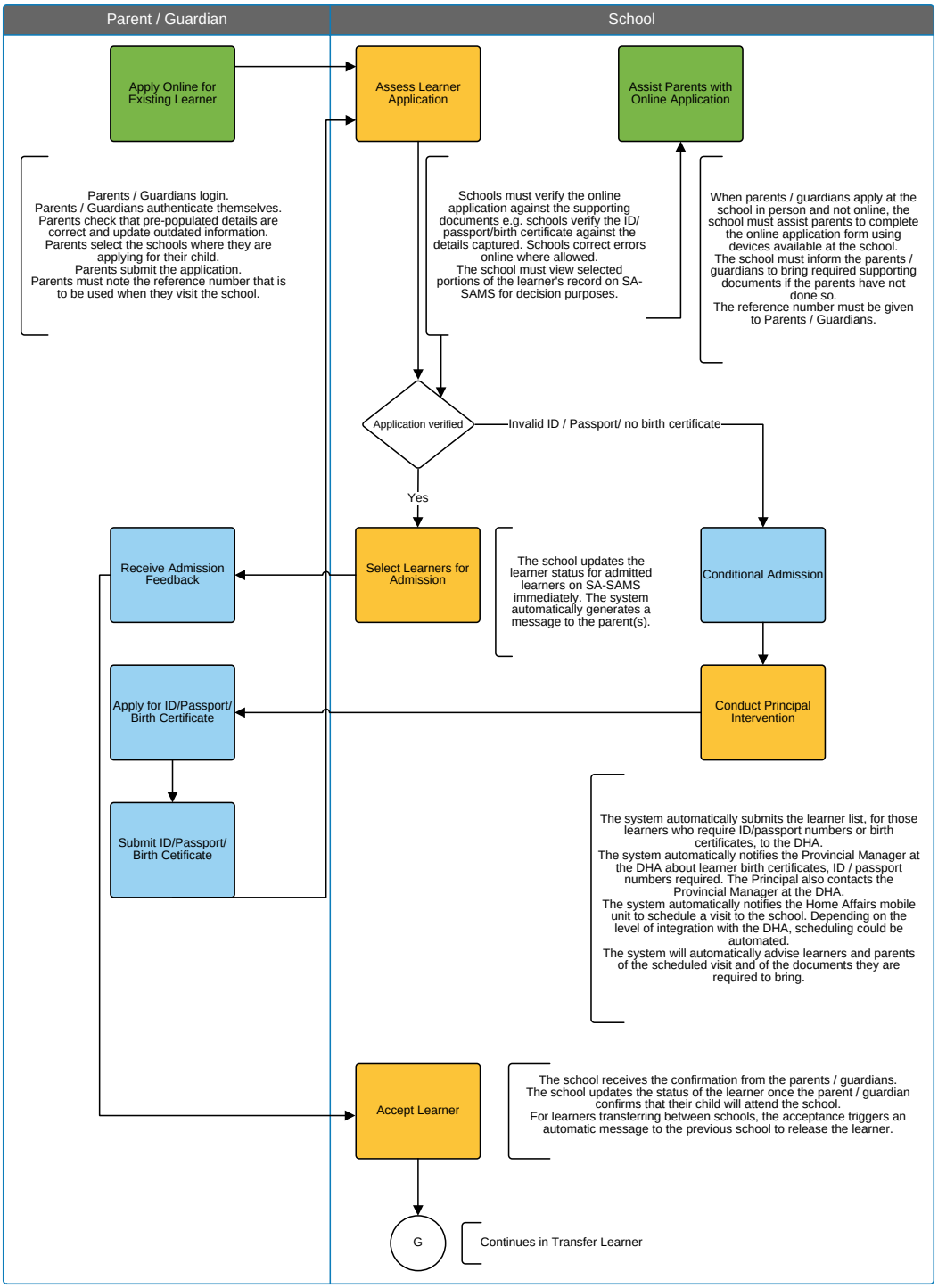
Parents can register on the online portal and apply for the learner online. Alternatively the school should assist the parent using the school facilities. The school must approve or decline the application on SA-SAMS and parents will be automatically advised. The school must take an active role in resolving problems with no, or invalid, learner ID / passports.
Manual and automated processes will run in parallel until all schools have internet connectivity, suitable devices and the desired level of proficiency.



5.1.6 Admit Existing Learner "To Be" Process

Parents can apply to another school online. Schools must manage the process on SA-SAMS and intervene to resolve invalid learner ID / passport issues.
Manual and automated processes will run in parallel until all schools have internet connectivity, suitable devices and the desired level of proficiency.

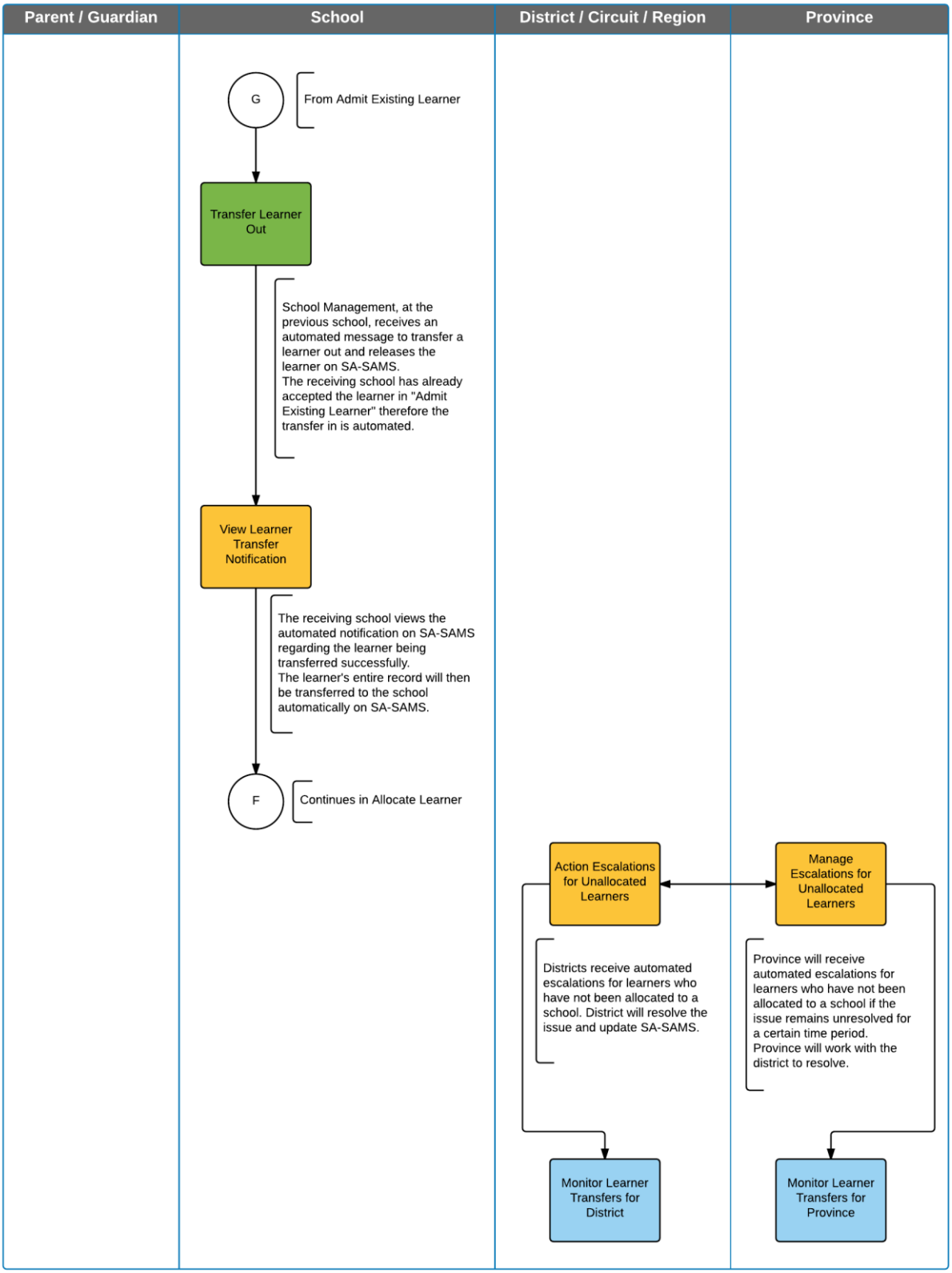
Admit Existing Learner



5.1.7 Transfer Learner “To Be” Process

Learner transfers will be automated on the web-enabled SA-SAMS. Automated escalations for unallocated learners will be sent to management to resolve.

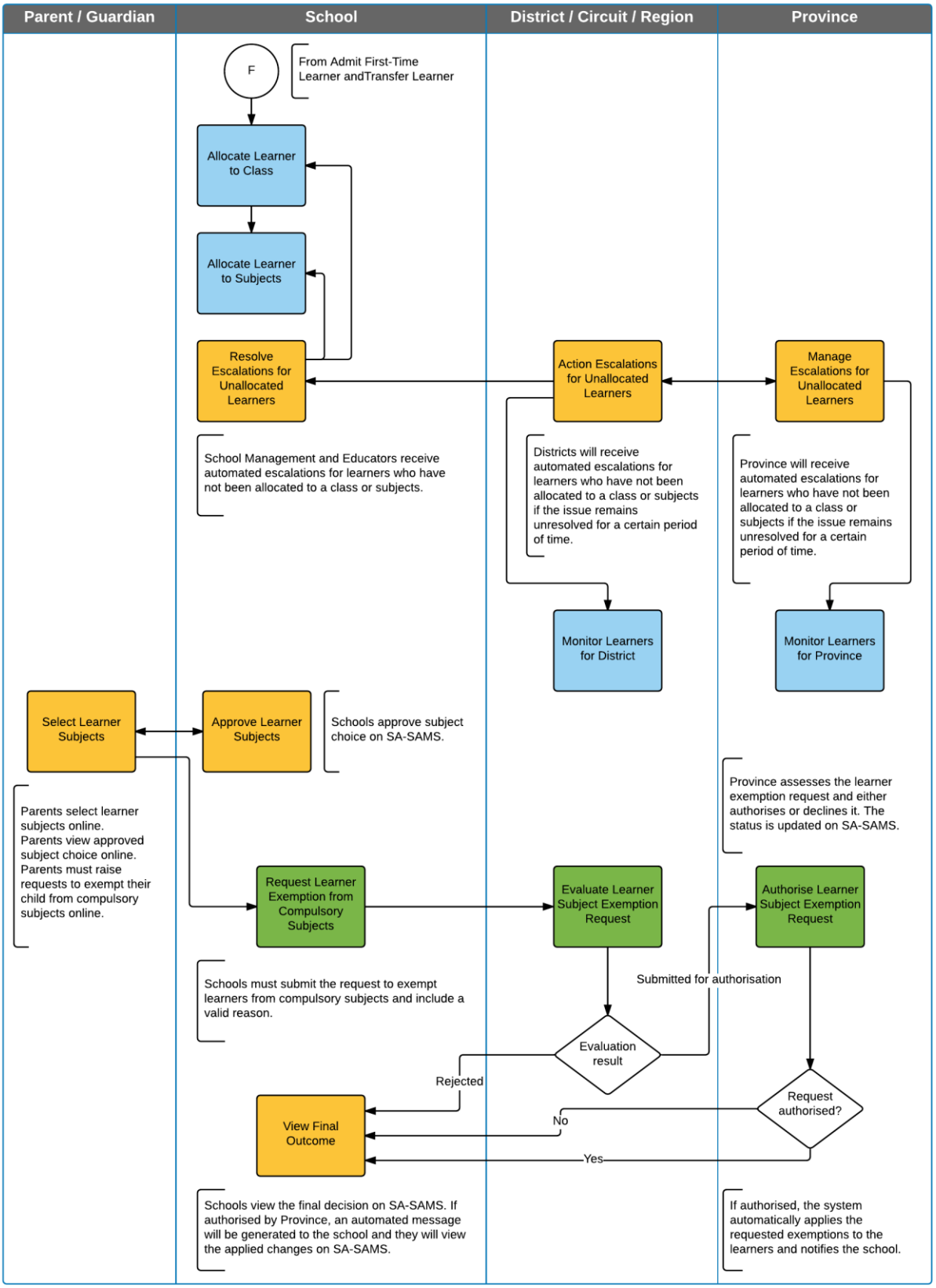
TRANSFER LEARNER



5.1.8 Allocate Learner “To Be” Process

Learners must be allocated to classes and subjects and, depending on the grade; parents will select the learner subjects online. Parents must submit requests to exempt their child from compulsory subjects for Province authorization. Automatic escalations will be sent to the school, district and province for learners that are not allocated to classes or subjects.

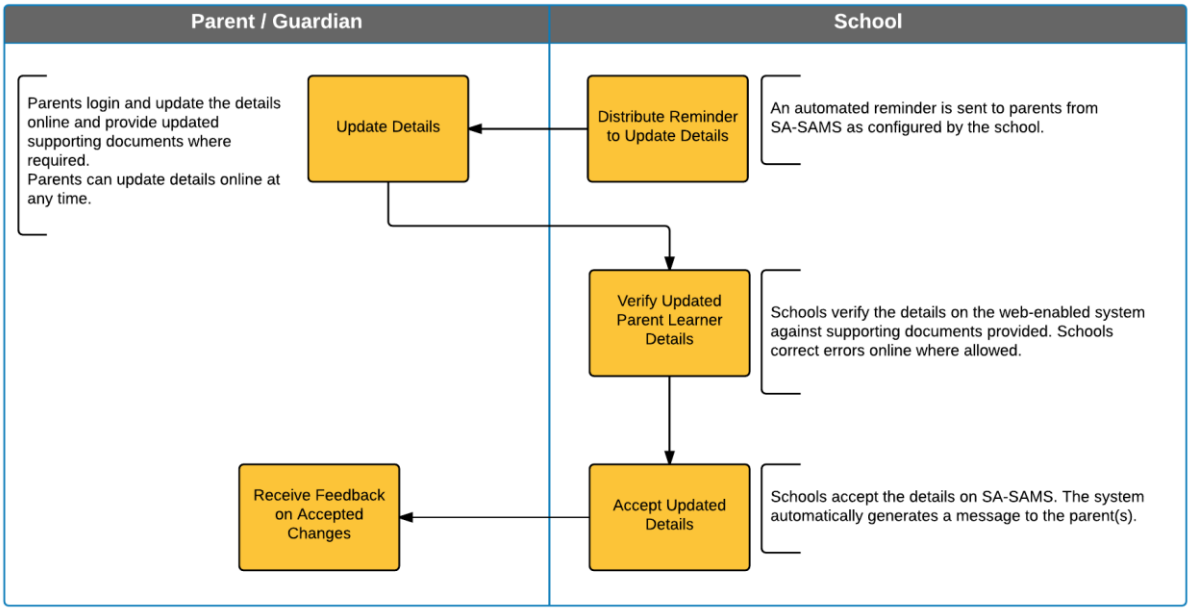
ALLOCATE LEARNER



5.1.9 Maintain Learner and Parent Details “To Be” Process

Schools will automatically notify parents to update their details via SA-SAMS. Parents will login and update the parent and learner details. The school will verify and accept the changes online.

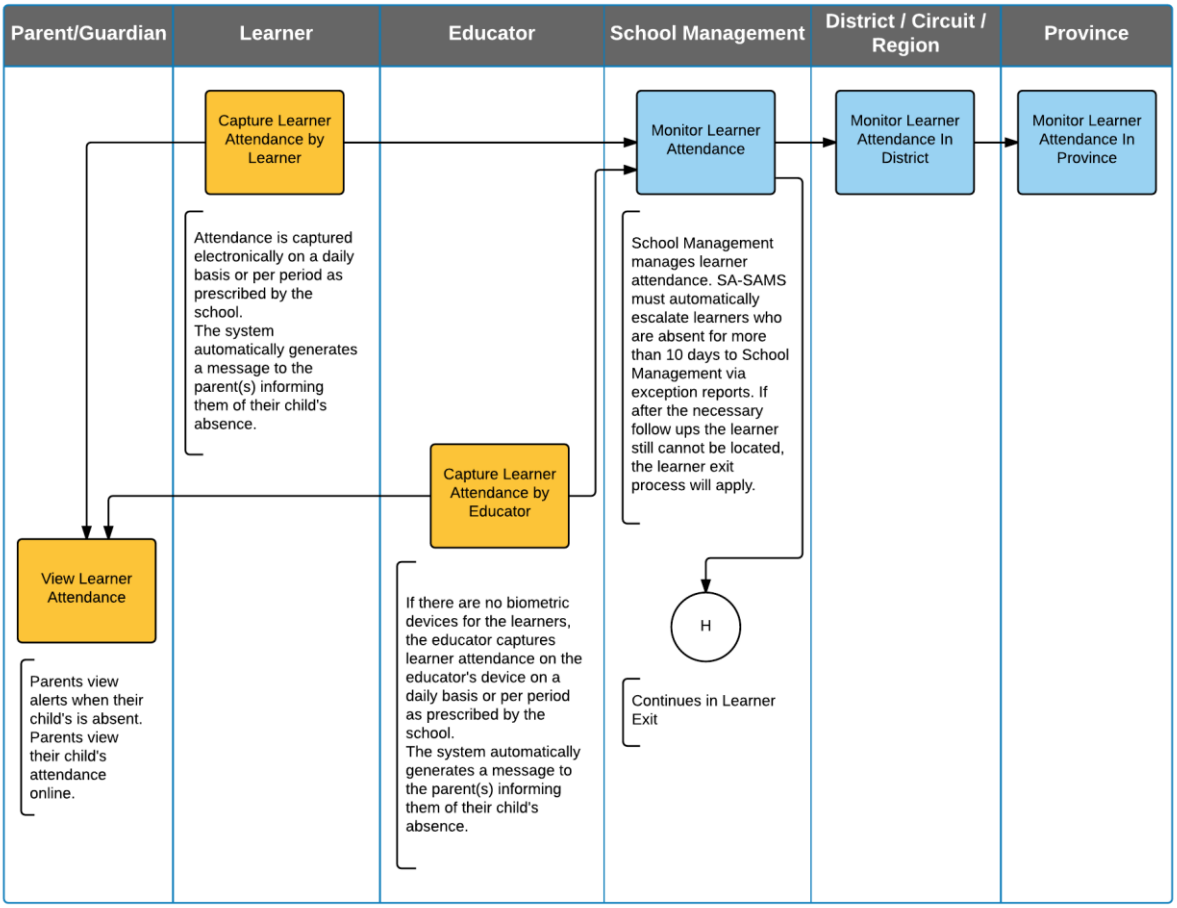
MAINTAIN LEARNER AND PARENT DETAILS



5.1.10 Monitor Learner Attendance “To Be” Process

Learner attendance must be captured using biometrics or electronically on mobile devices. Parents will be automatically notified of learner absence and can view learner attendance details online.

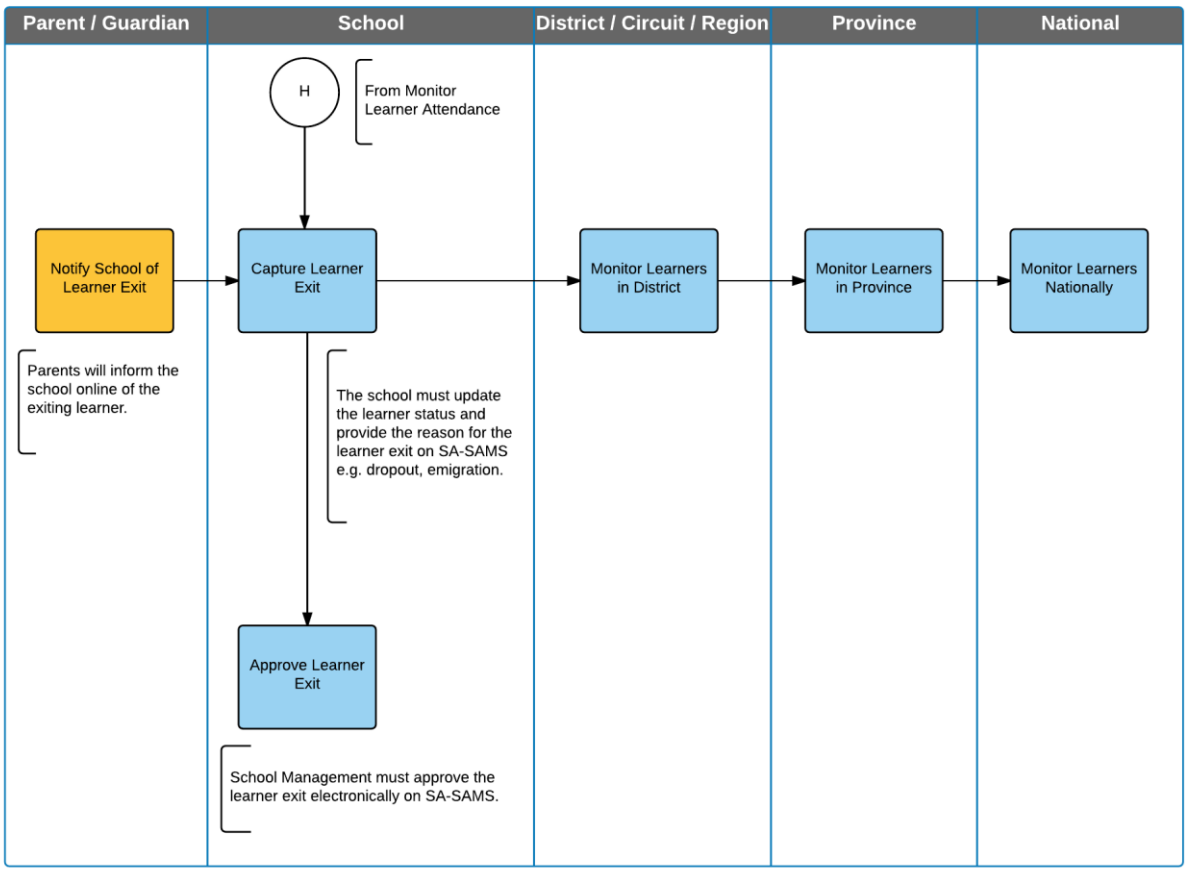
MONITOR LEARNER ATTENDANCE



5.1.11 Exit Learner “To Be” Process

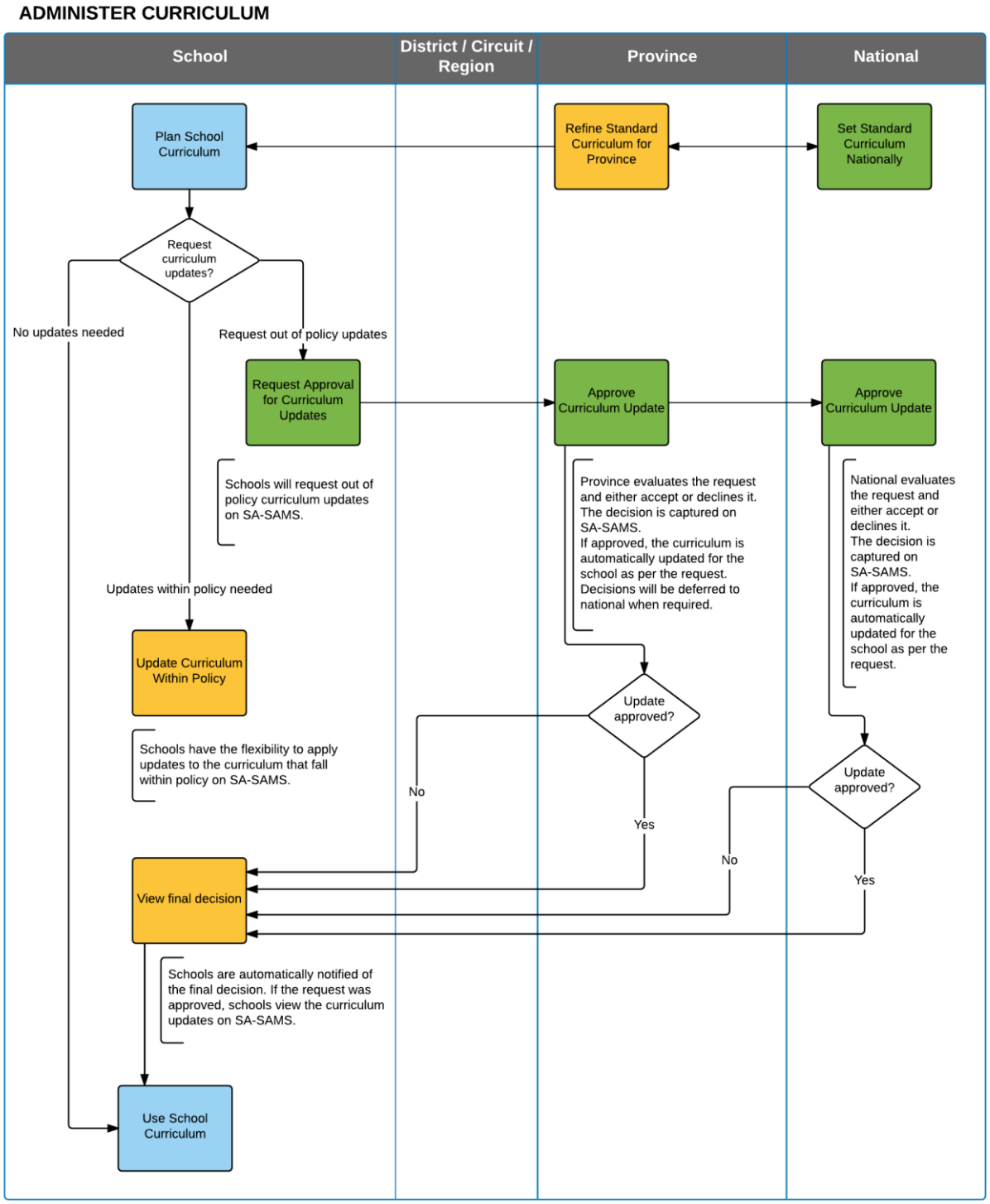
Parents will advise the school of exiting learners or the school will exit learners who have been absent for longer than 10 days and cannot be located. Exiting learners will be captured on SA-SAMS.

EXIT LEARNER



5.1.12 Administer Curriculum “To Be” Process

National must configure the standard curriculum on a console that will access the web-enabled system. Province will refine the standard curriculum within policy. Schools will use the standard curriculum as configured by both National and Province on SA-SAMS, and must request approval for out-of-policy curriculum changes. Province will evaluate and approve these change requests before it can be implemented in schools.

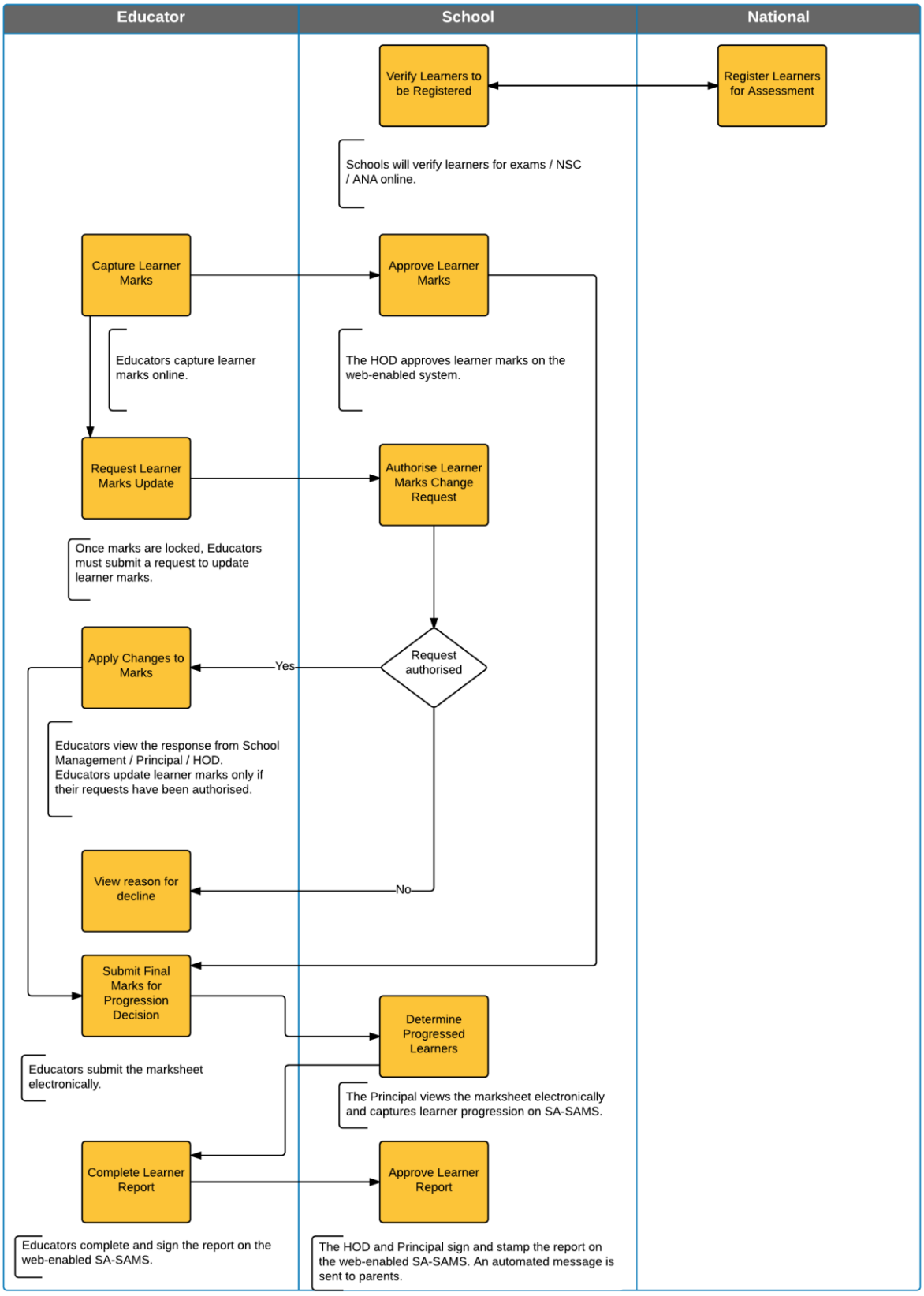


5.1.13 Assess Learner “To Be” Process

Marks must be captured, updated and approved on the web-enabled system. Electronic signatures must be used for final approval of marks and reports.
Learner registration for exams must be done via the system removing the need for paper-based verification.

(Refer to process on next page.)

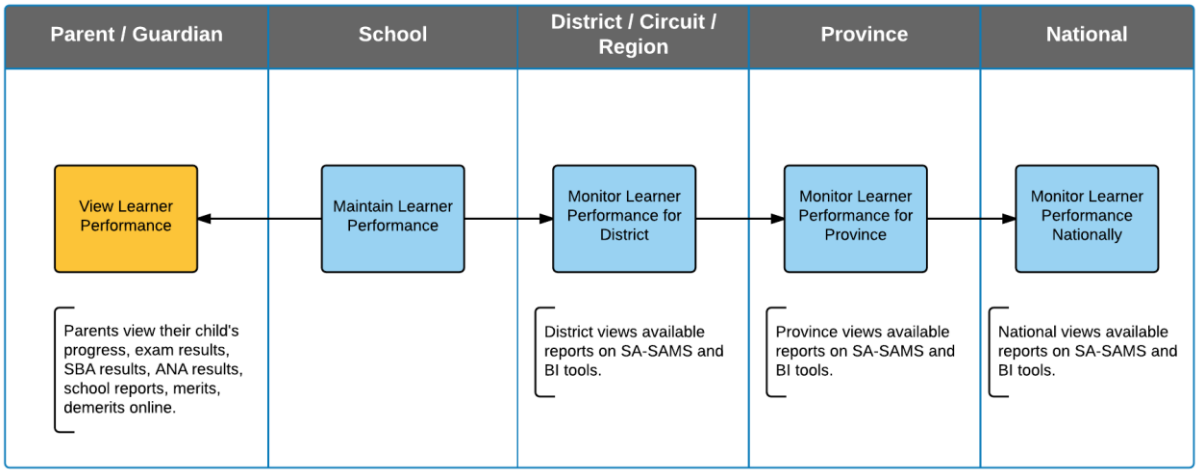
ASSESS LEARNER



5.1.14 Monitor Learner Performance “To Be” Process

Learner performance will be maintained and monitored online leveraging the central database. Parents can view learner performance via an online portal.

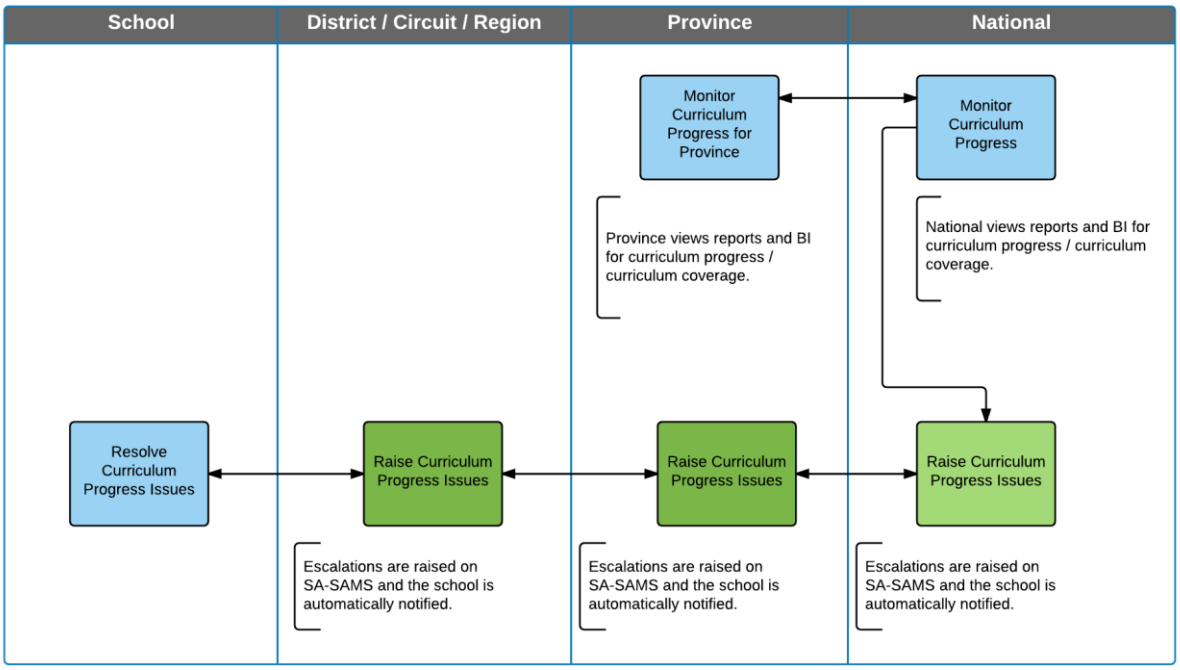
MONITOR LEARNER PERFORMANCE



5.1.15 Monitor Curriculum Progress “To Be” Process

National and province will be able to view curriculum progress at any time. Curriculum progress escalations will be raised via the web-enabled SA-SAMS. Escalations will be raised, tracked and managed via the system.

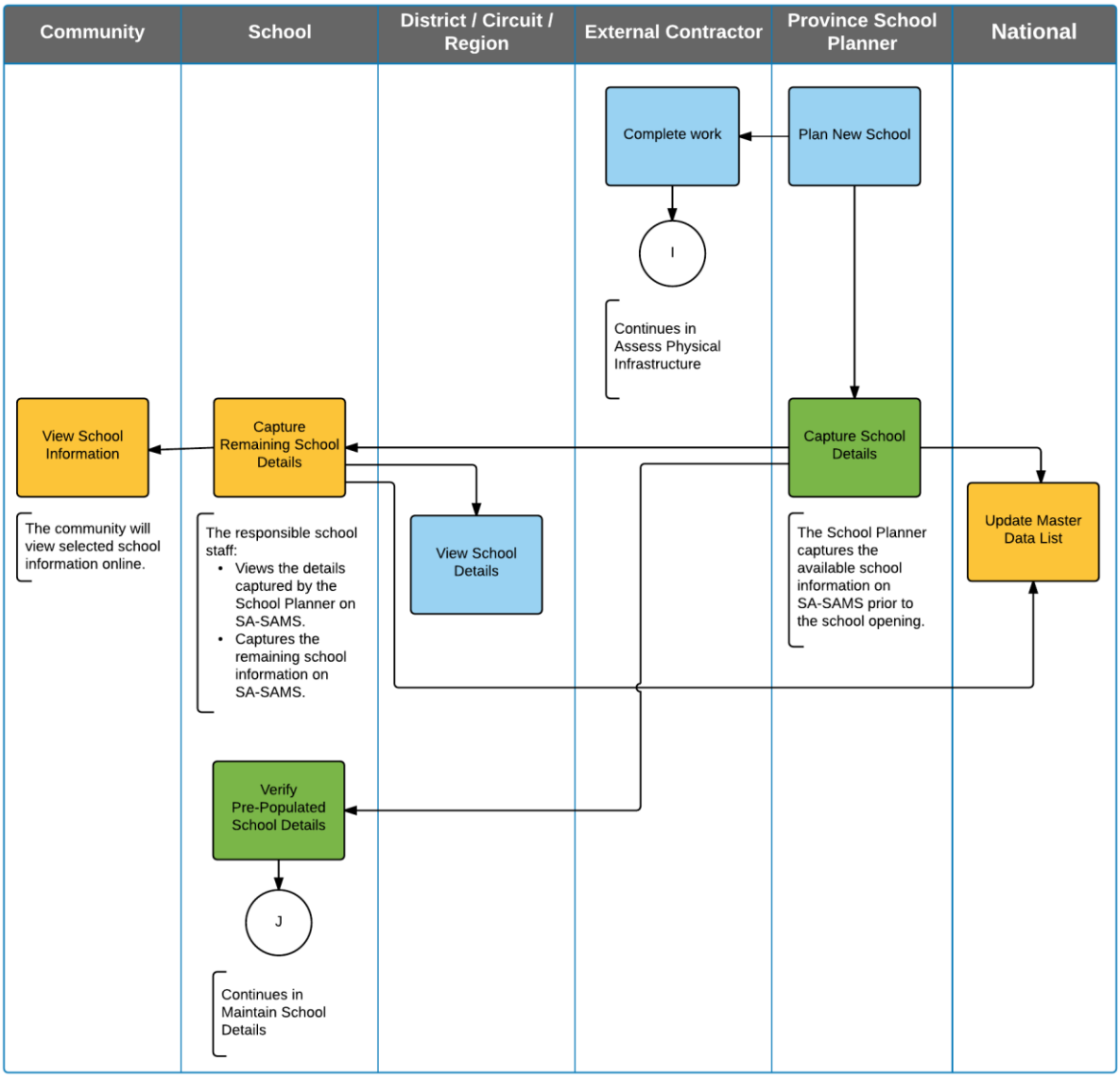
MONITOR CURRICULUM PROGRESS



5.1.16 Open New School “To Be” Process

School information capture will be split between province and schools. The School Planner in the province must capture school information that is available at that time prior to the school being opened. The school will then capture the remaining information when the school is opened.

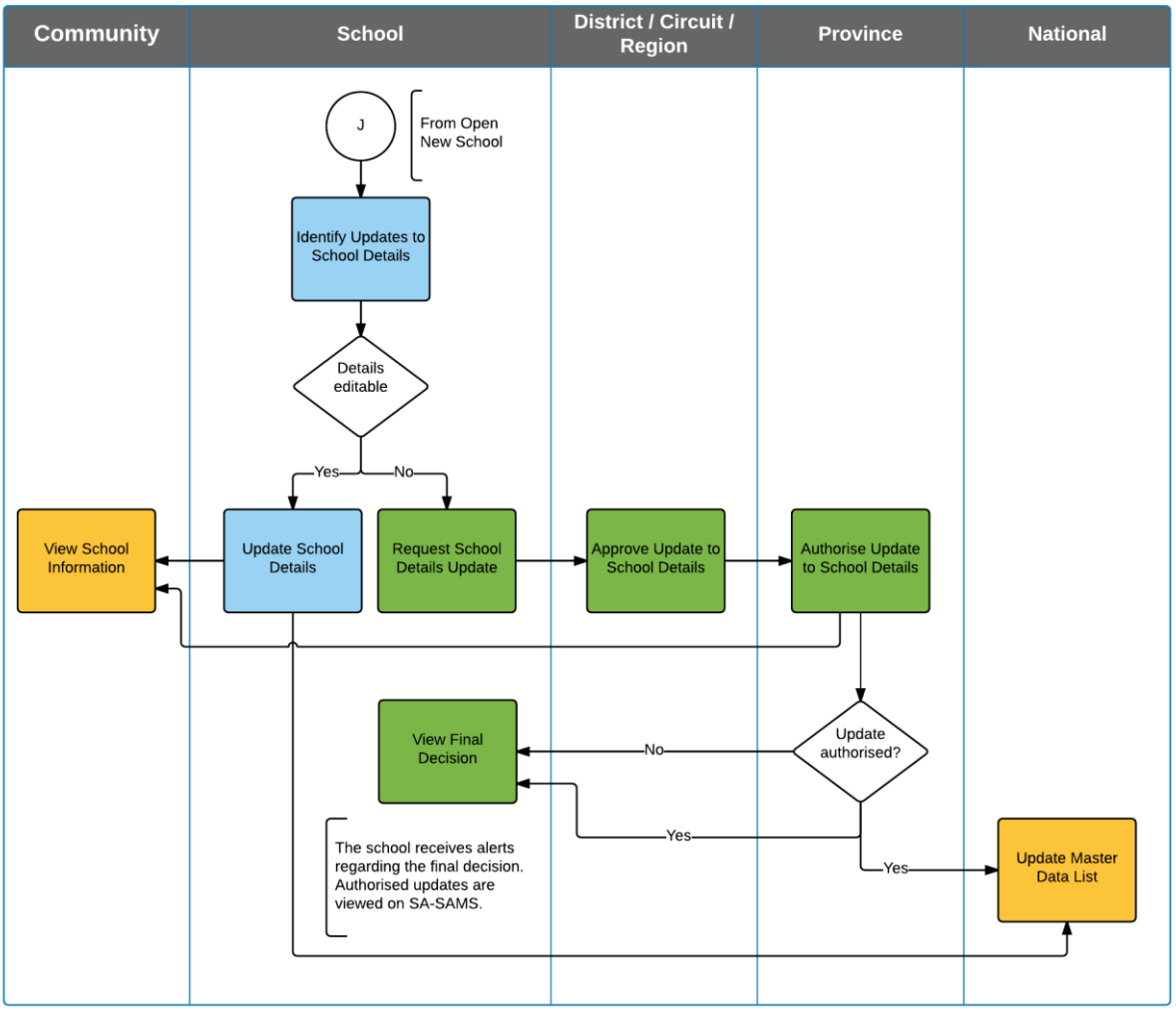
OPEN NEW SCHOOL



5.1.17 Maintain School Details “To Be” Process

Similar to the “Open New School” process, school information will be updated by either provinces or schools dependent on the owner. There will be fields that the school is allowed to edit and those for which they must request authorisation for the Province to update.

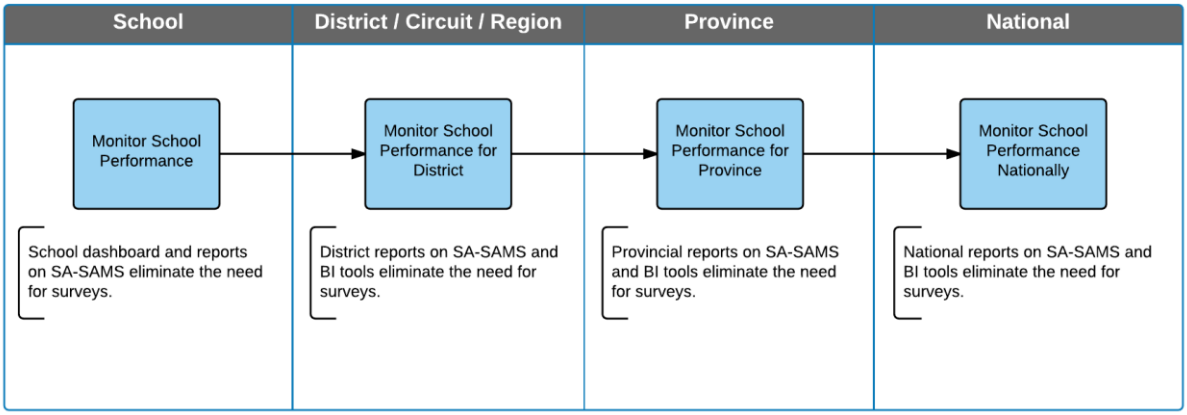
MAINTAIN SCHOOL DETAILS



5.1.18 Monitor School Performance “To Be” Process

Information related to the school’s performance and reports will be available at all levels utilising the central database on the web-enabled system.

MONITOR SCHOOL PERFORMANCE



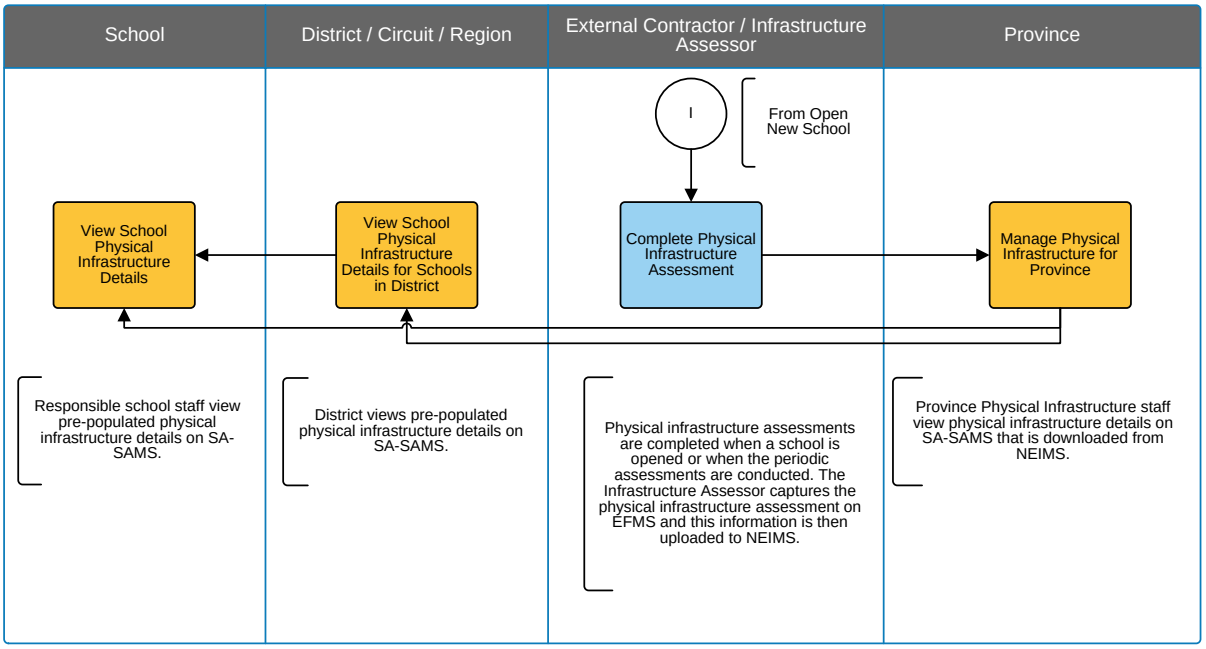
5.1.19 Assess Physical Infrastructure “To Be” Process

Physical infrastructure includes electricity, sewage systems, water, ablution facilities and the physical building. It excludes fixed assets.

The Infrastructure Assessor will complete the physical infrastructure assessment on EFMS when new schools are opened and when periodic assessments must be completed.

Selected physical infrastructure information will be downloaded from NEIMS to be viewed on the web-enabled SA-SAMS.

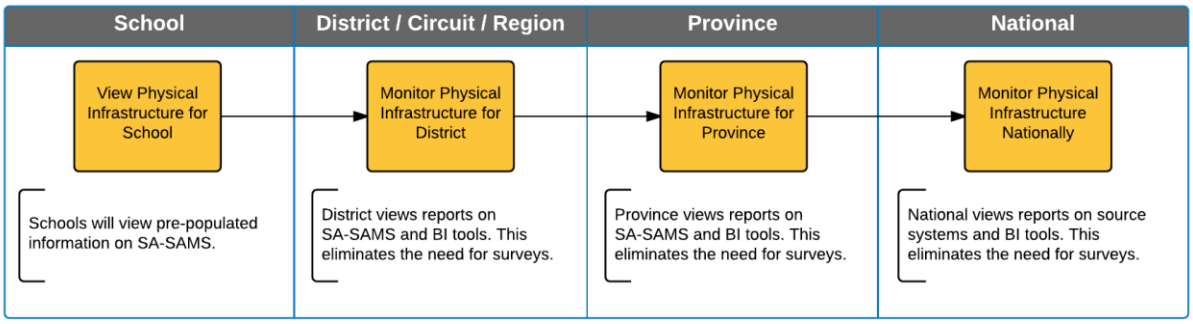
ASSESS PHYSICAL INFRASTRUCTURE



5.1.20 Monitor Physical Infrastructure “To Be” Process

Information related to school physical infrastructure and reports will be available at all levels removing the need for paper-based surveys.

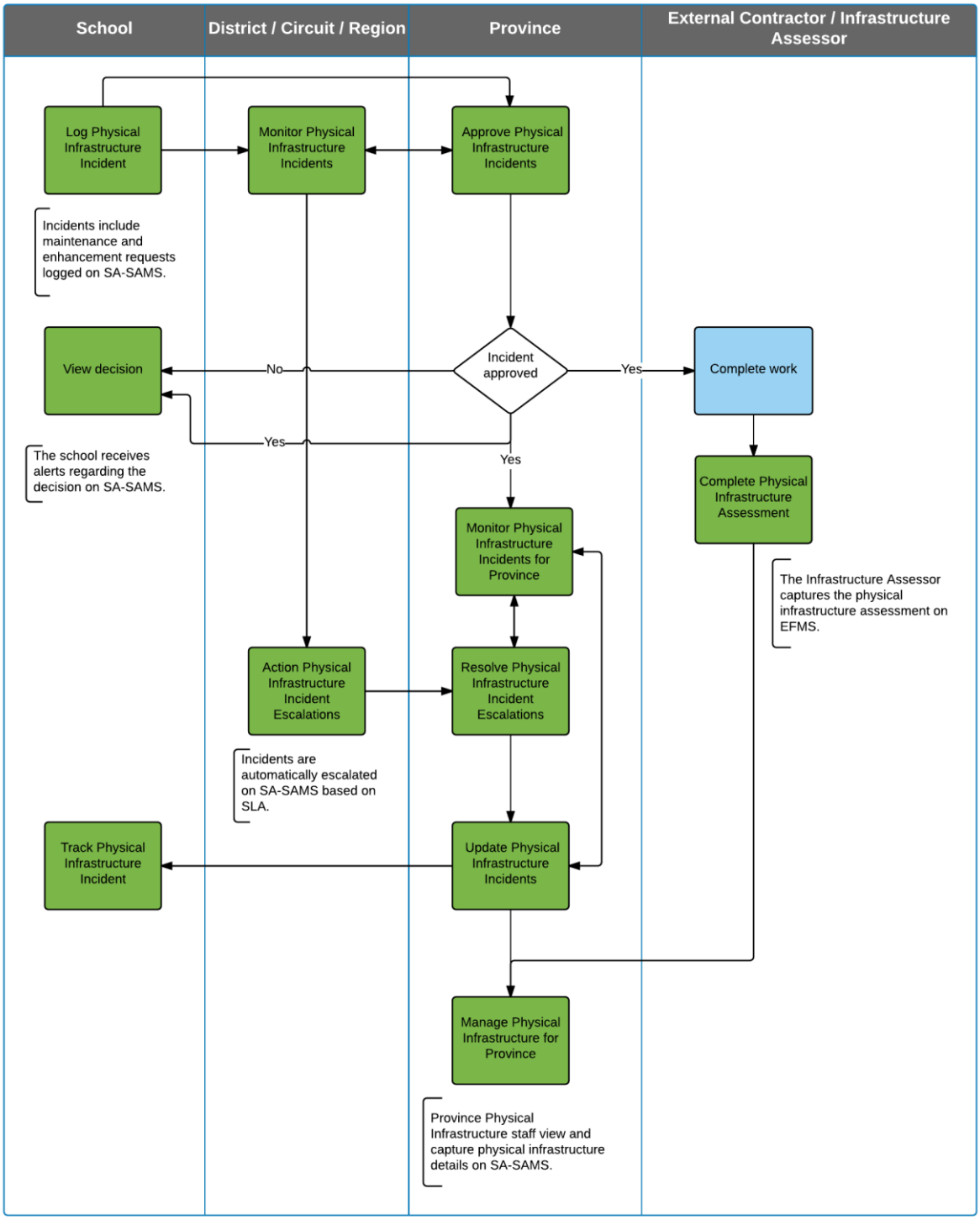
MONITOR PHYSICAL INFRASTRUCTURE



5.1.21 Manage Physical Infrastructure Requests “To Be” Process

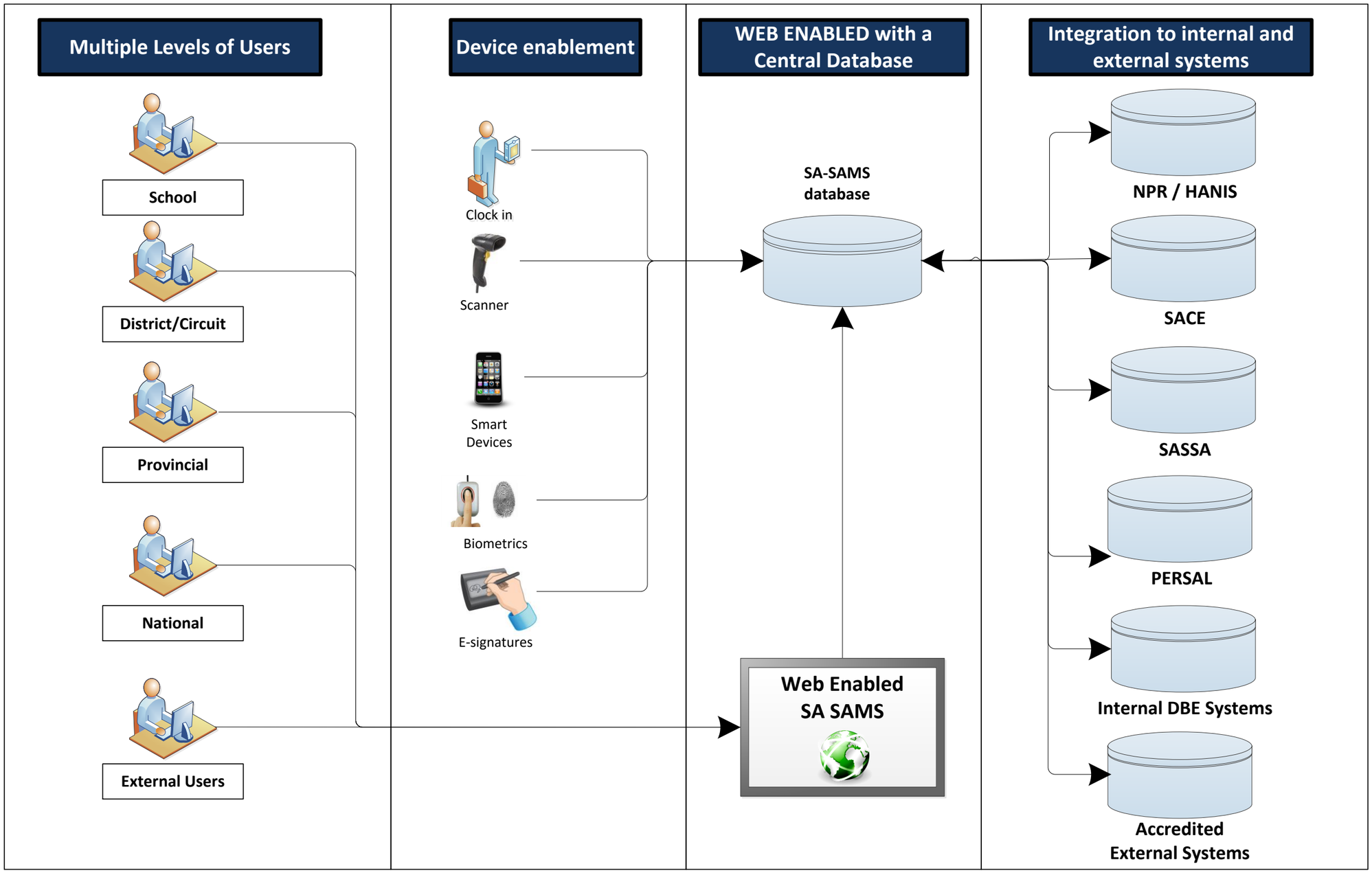
Schools must log physical infrastructure incidents or requests on SA-SAMS that Province will approve and then execute. Schools will track the progress of approved incidents and requests. Management at district and province will monitor progress and action escalations.

MANAGE PHYSICAL INFRASTRUCTURE INCIDENTS



5.2 Conceptual SA-SAMS Solution

The conceptual SA-SAMS solution section discusses the key functionality that will be delivered in the modernized SA-SAMS and is depicted in the diagram below:



5.2.18 Conceptual SA-SAMS Solution narrative

The Conceptual '"To Be"' solution for SA-SAMS from a technology perspective will consist of four main parts:

Multiple Levels of Users

The modernized SA-SAMS will see increased involvement from users at various levels of the DBE (as specified in the defined in Section 5.1 including District/Circuit/Provincial/National and External users). There will be secure portals that are aimed at giving external users access to relevant information.

Device Enablement

Devices such as smart devices, scanners and biometrics devices will be enabled for integration into SA-SAMS to allow for access to SA-SAMS and also enable the automation of certain processes such as the recording and management of assets (including furniture and books) and the recording of attendance. The direct access via devices will also lead to the reduction of paper and reduce printing costs. This capability will make possible principals and teachers working after hours from home when necessary, thus generally improving efficiencies and productivity.

Web Enablement

The Web enabled SA-SAMS will allow for the immediate transmission of SA-SAMS related data which will:

- Enable certain key objectives (such as single learner and educator records);
- Improve certain cumbersome processes (e.g. learner transfers);
- Eliminate the need for manual and time consuming processes (registration for examinations, surveys, etc.); and
- Improve the ability to extract Management information timeously.

Integration to Internal (DBE) and External Systems

The integration into various systems will achieve the following:

- Improved data accuracy due to validations with information in those systems;
- Eliminate the duplicate capture of certain information such as HR data;
- Eliminate the need to perform reconciliation of information between SA-SAMS and other source systems as the data will be sourced directly from those systems.

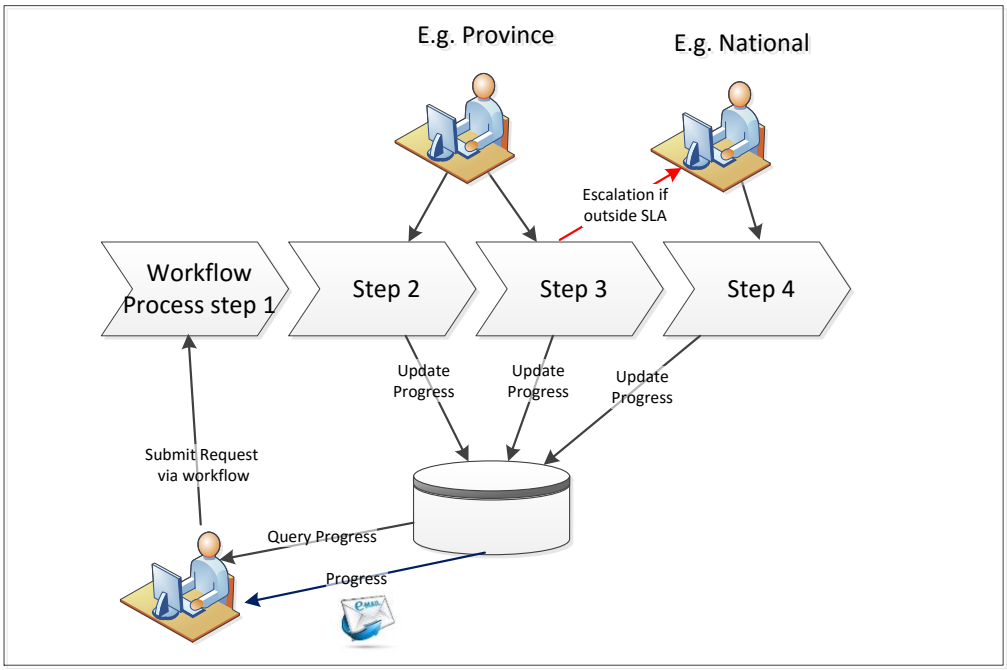
Integration capability (web services) will be established that will allow for an integration capability to other Government external systems. This will be achieved through the provisioning of standard web services from SA SAMS for consumption by other systems such as CEMIS and IFMS.

Interfaces (data replications "master data") will be established to Persal and Home Affairs solutions

5.2.19 Technology Capabilities

The business processes defined in Section 5.1, will be supported by various new technology capabilities in SA-SAMS. These capabilities are described below along with some examples of how those capabilities will support the processes.

Workflow:
The workflow capability will allow for users at various levels to submit requests to higher levels of the hierarchy. The users will then be able to track the progress on those submitted requests and there will be the ability to configure escalations and SLA's for those requests.



Workflow Continued:

Workflow Example: Maintenance Request

An example of how the workflow capability can be utilized would be in the event of a request for the maintenance of physical infrastructure. In this instance the following would occur:

- The school would submit the maintenance request
- The request would be received by the relevant person in the province
- The provincial individual would then be able to acknowledge that they received the request and that they are evaluating it
- Once they have considered the request, they can either approve or decline the request and complete the reasons for declining it on SA-SAMS
- If the request has been approved the progress of fulfilling that request will be updated on SA-SAMS
- Once the request has been completed, then it can be marked as such on SA-SAMS.

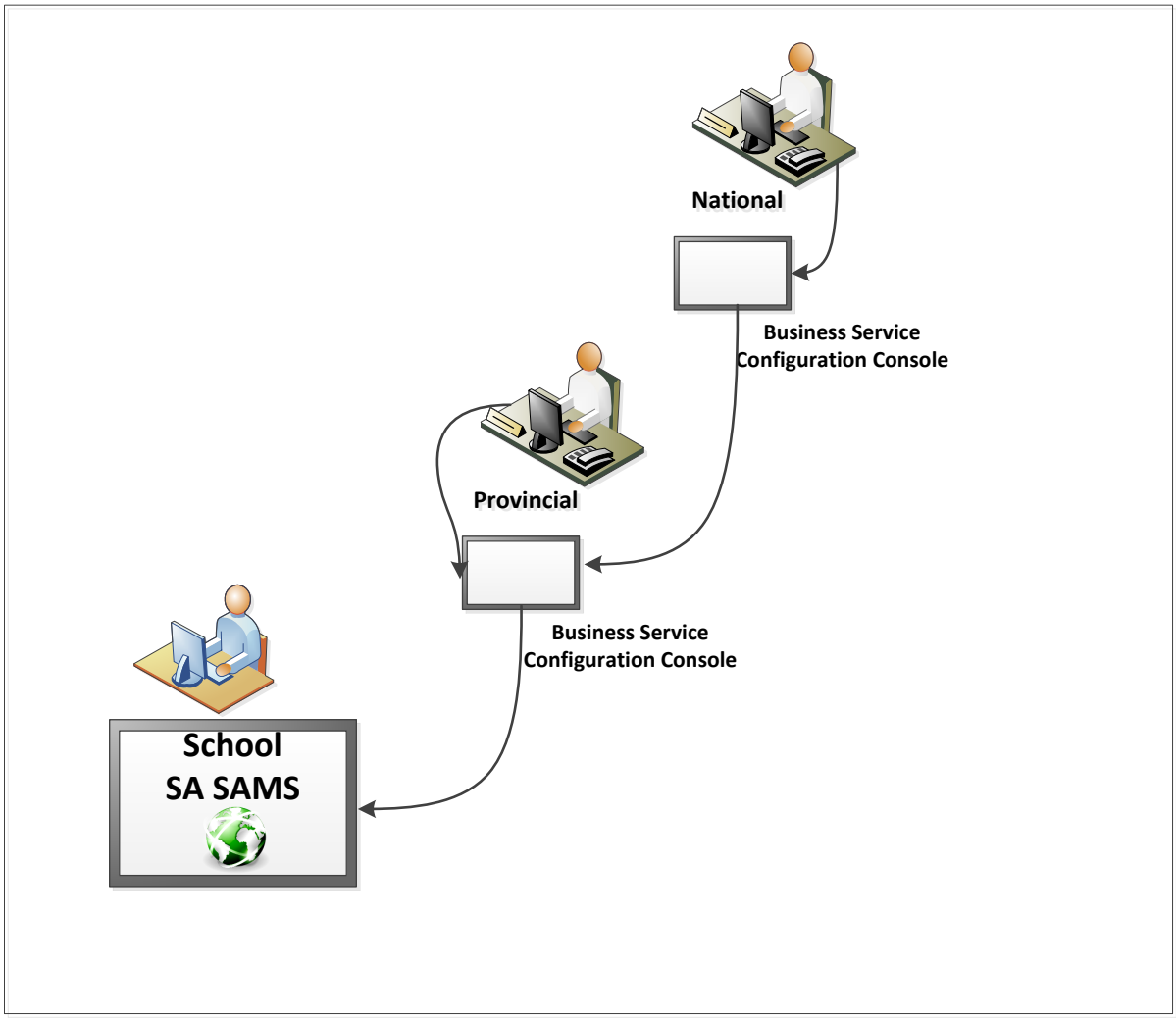
At every stage, where the status of the request has been updated, the requestor will receive a notification both via email and on SA-SAMS informing them of the status of their request.

If the request has not been actioned within the SLA, then the request will be escalated to the next level.

The above is just an example of how the workflow capability can be utilized. Other examples include highlighting of data not updated on source systems, learner mark and result verification and approval, requests to change curriculum etc., the business will be able to configure the business rules for their workflow enabled processes.

Business Configuration Console

The business configuration console will give super users the ability to maintain the business rules within the system without the need for software development. This will allow for the business to be able to make the relevant updates and to execute certain processes without the need for a software release.



Business Configuration example: Curriculum Policy setting

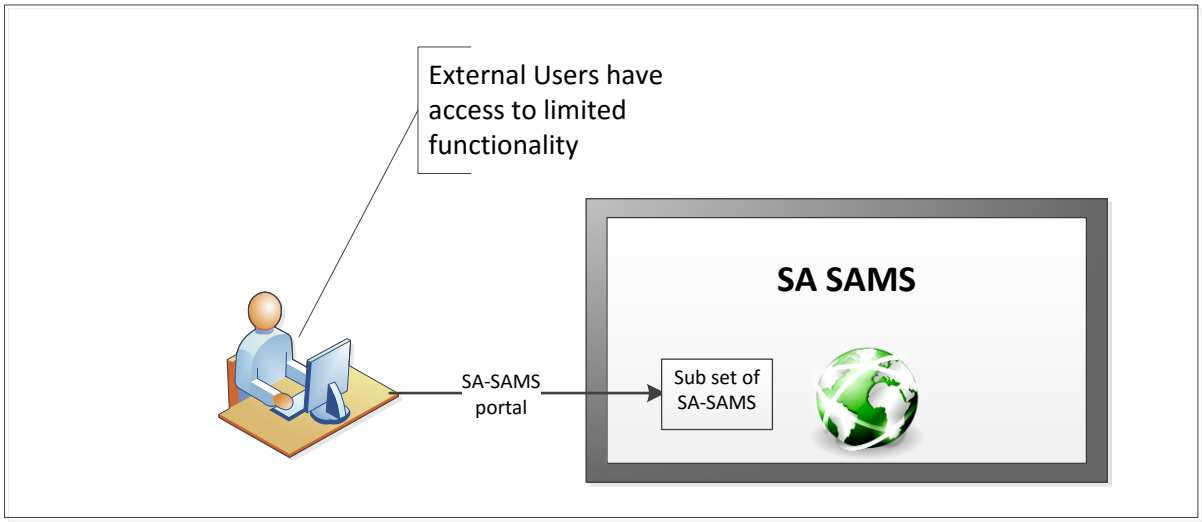
As per the business process depicted in section **Error! Reference source not found.**, **Error! Reference source not found.**:

- The curriculum policy will be set by the National department for the following year for all the subjects, this includes the topics to be covered, the timing of the topics, the number and weights of the assessments etc. The set business rules will then cascade down to the provincial level;
- The provincial department will then be able to either leave the business rules as is (from National) or be able to configure additional business rules (where National has not prescribed). E.g. where national has not prescribed a raw mark for an assessment, the provincial department will be able to prescribe the raw mark;
- The set curriculum that has been revised by the Provincial department will then be cascaded down to the school;
- The Provincial department will be able to suggest changes to the National curriculum which will then either be approved or rejected;
- The school will also be able to submit requests for changes to curriculum that will be submitted for approval.

Portal Access

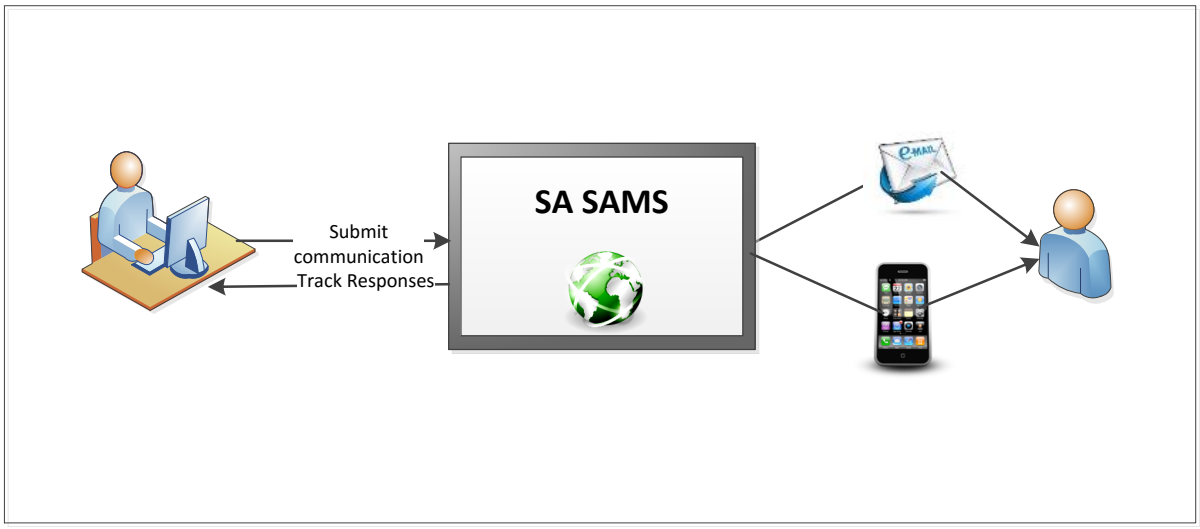
Parents and SGB personnel will have access to a secure portal in order to perform various functions.

- For SGB members, the portal will allow them to complete all SGB related information such as maintaining the members of the SGB or recording the training they have attended etc. They will also be able to view information based on their access rights;
- Parents will also have access to SA-SAMS via a secure portal which will be accessed following a registration process. Parents will have the ability to update their information such as addresses, send and receive communication and apply for admission at schools on behalf of their children etc.



Communications and messaging

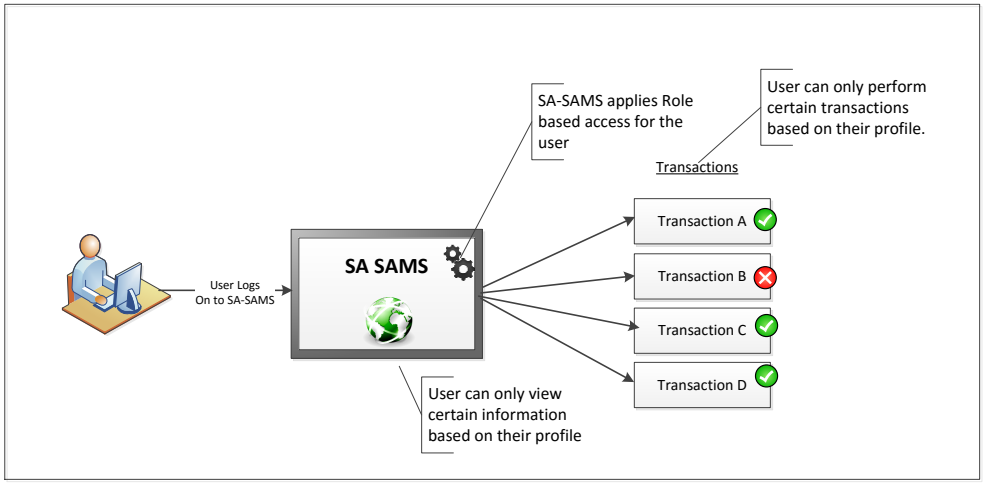
SA-SAMS users will be able to send communications to various stakeholders such as notification of events at school, invoices, statements, school reports and more targeted communication for specific stakeholders (e.g. a specific parent, class, grade, phase etc.).



The modernized SA-SAMS will enable communication to occur either via the portal or through other mediums such as Email and SMS.

- In the first instance (communicating via the portal) the educators will be able to send specific or general communication to parents. Parents will also be able to send their own communication to educators (e.g. a meeting request) or respond to specific communication from the school (e.g. whether they'll be able to attend a school function);
- In the second instance, the school will be able to send communication to various stakeholders via their preferred method of communication (email or SMS).

Direct role-based access



Users at various levels within the DBE will have direct access to SA-SAMS information and functions based on their access rights ensuring that only authorized personnel perform certain transactions and that the ability to view sensitive data is limited to authorized personnel.

The type of users that will be utilizing SA-SAMS include:

- Principal and school management – Management and information
- Secretary – Printing, parent information, incidents
- Admin Clerk – Perform administration functions needed to run various functions
- of school
- Finance Clerk – Perform administration functions for financial management,
- reporting, debt collection and payments
- Educators – Absenteeism, promotions and marks, incidents, extra-murals
- Parents – Viewing of information (notices, announcements), performing certain transactions such as online application for admission, communicating with the school
- SGB secretary: The SGB secretary will be responsible for completing some of the SGB related information.

5.3 Data Requirements

5.3.1 Data Model

There are issues with the current database design due to the system having its database developed over time by various teams. This lead to the design being fragmented with new developers not always considering the existing tables in the database when making changes. It is our view that the database for the modernized SA-SAMS will need to be redesigned.

The current Physical Data Model can be reverse engineered by using tools such as 'Design for Databases' or earlier versions of 'Microsoft Access'. These should be utilized as a basis for a new Logical and Physical data model design.

5.3.2 Key Requirements and Principles

- Data must be validated at source. It is recommended that all of the validations that are currently built into various quality assurance systems be built into SA-SAMS to ensure those validations are done at the point of capture. These tools include the *Valistractor*, *Errors and Omissions* and the *Easy Process Tool*.

- There must be referential integrity for the data that is used in the system;

- No information that can be determined using captured data must be captured manually. Where there is data that can be used to determine a specific variable, this data should not be captured manually. E.g. the number of learners must be determined using the numbers of the learners that have been captured on the system;

- Certain Data must be updated automatically (e.g. teacher experience in years, age of teachers or learners etc.);

- The information that is optional in the system must be tested to ensure that it is not needed in another module in the system;

- A data scrubbing and deduplication exercise will be required and wherever possible, this should be undertaken against approved data stores such as NPR, Persal;

- It is essential that the SA ID number becomes the unique key for both educators and learners. Special care will need to be taken for exception cases such as refugees, foreigners who have not yet gained the status of permanent residents.

Creation of Master Lists

The creation of Master Lists for certain key data within the DBE will ensure that the quality of the data in the system is improved. The master data must be maintained by the business owner of that data. This will also ensure that there is one version of the truth relating to the critical data. The main master list that has been identified is the 'Schools Master List. Which contains all pertinent information relating to a school.

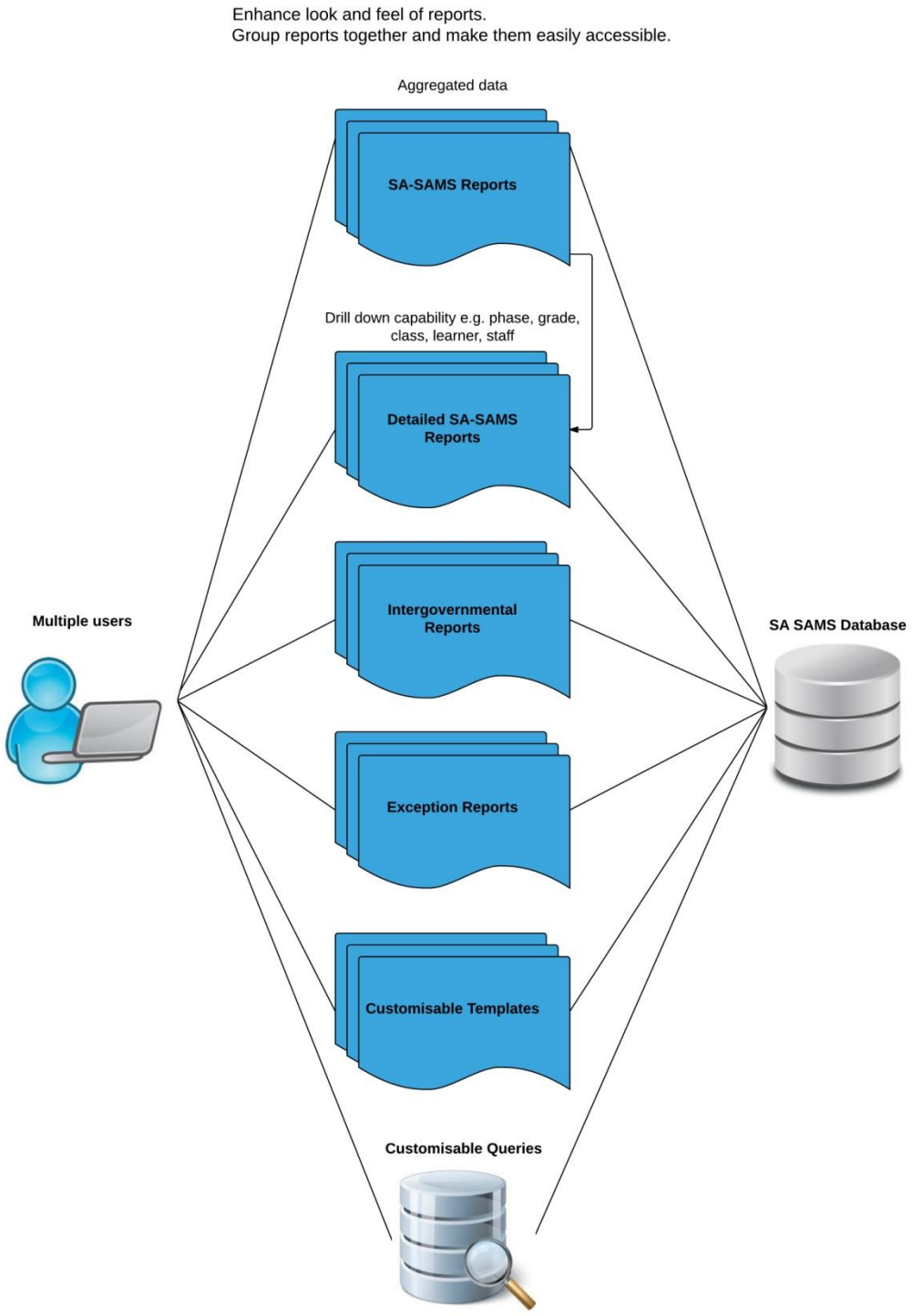
Central Reference Data

Where there are a set of defined values that can be completed, central reference data needs to be implemented in order to ensure consistency in the information that is being captured by the schools.

This includes Asset types (e.g. desks, chairs), Learner types (e.g. Mainstream), Languages, subjects, learner support material etc. This must be a key consideration during the detailed design phase.

5.4 Reporting Solution

SA-SAMS reporting functionality will be updated to



The enhanced reporting capability will include:

- Grouping the reports in a single location on SA-SAMS and making them easily accessible to SA-SAMS users from anywhere in the system.

- Changing the look and feel of the existing SA-SAMS reports to be similar to DDD in format providing aggregated data with drill down capability and representing it graphically and in tables.

- A Standard School Dashboard summary that includes the following:
    - Overall staff attendance percentage.
    - Overall learner attendance percentage.
    - Aggregated learner achievement statistics per phase.
    - Overall percentage of promoted learners.
    - Overall percentage of progressed learners.
    - Curriculum coverage percentage for the school.

- Drill down capability on the Standard School Dashboard as follows:
    - The aggregated staff attendance percentage drills down to educator and non-teaching staff attendance percentages for the selected period. The educator attendance percentage drills down to educator attendance per phase, per grade, per class, per educator.
    - The aggregated learner attendance percentage drills down to learner attendance per phase, per grade, per class, per period (where schools capture attendance per period), per learner.
    - Aggregated learner achievement includes SBA, ANA and NSC achievement for the school. NSC is only applicable to grade 12 while SBA and ANA is applicable to the other grades in the school. The report will drill down per phase, per grade, per learner, per subject and for SBA can be selected by term or for the entire year.
    - Aggregated learner progression and promotion information will drill down per phase, per grade, per subject and for SBA promotion information can be selected by term or for the entire year.
    - Curriculum coverage will drill down to phase, grade and subject.

- Merging the following SA-SAMS reports with the DDD dashboard for schools. The merged reports will be incorporated into the Standard School Dashboard:
    - Summary of results per level per subject
    - Summary of results Grades R - 9
    - Summary of results per Grade
    - Distribution Results per Grade per Subject
    - Averages per subject per Grade
    - Annual Promotion Statistics
    - Annual Promotion Statistics per gender
    - Not Promoted numbers
    - Repeat numbers
    - Learners repeating the grade
    - Learners who dropped out
    - Staff Leave Summary Printout
    - View Attendance Statistics
    - HR Dashboard
    - Learner Aggregate Data Printout

- An indication of the sample size being reported on as a percentage of the total.

- The capability to export reports to other formats e.g. excel, pdf.
- Customisable report templates based on the existing reports on the system.
- Customisable queries that SA-SAMS users will save as report templates.
- Exception reports e.g.
    - Missing, incorrect and unverified learner ID's
    - Educators not allocated to schools, subjects and classes
    - Learners not allocated to schools, subjects and classes
    - Learners not registered for exams
    - Learners absent for more than x days without a note.
    - Staff leave applications awaiting a decision from HR
    - Staff transfer applications awaiting a decision from HR.
    - Curriculum decisions outstanding
- Interdepartmental reports e.g.
    - List of learners without ID numbers for the Department of Home Affairs
    - School-going learners not enrolled at a school for the Department of Social Development (DSD) and the South African Social Security Agency (SASSA).

6 BUSINESS REQUIREMENTS

Below is the requirements traceability matrix for the SA-SAMS Project. The purpose of the requirements traceability matrix is to ensure all product requirements are completed in. This matrix provides a thread from all user requirements through design, testing, and user acceptance. Any approved changes in project scope or requirements will result in changes to the traceability matrix. Based on impacts of the approved changes, the Project Manager will ensure that the necessary changes to the matrix are made and communicate those changes to all project stakeholders.

The requirements traceability matrix location can be accessed in the EMIS Repository as stated in the 'Applicable Reference Documents Section'.

6.1 Requirements Traceability Matrix

Technology Capabilities

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Capabilities	Capability: Business Configuration	SA-SAMS must provide users with the ability to configure business rules and reference data via a console.	A workflow management system manages and defines a series of tasks within an organization to produce a final outcome or outcomes. Workflow management systems allow the user to define different workflows for different types of jobs or processes. At each stage in the workflow, one individual or group is responsible for a specific task. Once the task is complete, the workflow software ensures that the individuals responsible for the next task are notified and receive the data they need to execute their stage of the process. Workflow management systems also automate redundant tasks and ensure that uncompleted tasks are followed up or escalated. The functionality must allow the business owners the ability to maintain the business rules and the reference data in SA-SAMS without the need for a software release. This must be owned by the relevant business data owner and supported by a governance process to govern how the changes are made and deployed. This capability must be available at National and Provincial level.	Must Have	New	Derived	All	Province, National	Configuration Console

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Capabilities	Capability: Business Configuration	SA-SAMS must provide the ability to specify field behaviour (field configuration). The field configuration will specify whether a field in SA-SAMS is: - Mandatory; or - Optional	This must be for fields that are not required in other places within the system. E.g. if a field is captured in the Curriculum module and required in Timetable, then that field should be mandatory for capture at the point of capture. There must be validations whenever these changes are made.	Could Have	New	Derived	All	Province, National	Configuration Console
Functional	Capabilities	Capability: Business Configuration	SA-SAMS must provide the ability to set fields the properties of fields that are captured at school level as: - Read Only - Read/Write (these can be changed at school level) - Submit change for approval	The definition of the fields is as follows: - 'Read Only' means that the information can be viewed at the school level, but cannot be updated - 'Read/Write' means that users can update that information and commit those changes to the database - 'Submit change for approval' means that the information must be approved at the relevant level (District, Province, National) This is aimed at ensuring that information is updated at the source (e.g. an EMIS number should not be updated at the school as the allocation of the number is not a school competency)	Must Have	New	Various	All	Province, National	Configuration Console

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Capabilities	Capability: Workflow	SA-SAMS must cater for workflow capability in the solution that spans across the various levels within DBE.	A workflow management system manages and defines a series of tasks within an organization to produce a final outcome or outcomes. Workflow management systems allow the user to define different workflows for different types of jobs or processes. At each stage in the workflow, one individual or group is responsible for a specific task. Once the task is complete, the workflow software ensures that the individuals responsible for the next task are notified and receive the data they need to execute their stage of the process. Workflow management systems also automate redundant tasks and ensure that uncompleted tasks are followed up or escalated. The workflow must cater for the following: - Submission of requests - Tracking the status of those requests - Approvals or rejection of requests - Escalations when process is outside of SLAs - notifications of key milestones being completed for a request While the capability is primarily within the SA-SAMS system, it must also be enabled where there is integration to other systems	Must Have	New	Province	All	All	N/A
Functional	Capabilities	Capability: Workflow	The solution must trigger progress notifications at various stages of a request that has been submitted.	This would allow the users at school level to be notified of any changes to the status of their requests that they have submitted (e.g. request for an incident)	Should Have	New	Derived	All	All	All
Functional	Capabilities	Central Master Lists	SA-SAMS must provide a capability to administer central Master lists via a console that the relevant business data owner can make updates to without software development	As per requirement	Must Have	Enhanced	All	All	National	All

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Capabilities	Central Master Lists	SA-SAMS must provide the ability to administer a Schools master list. The Schools master list will contain all of the information that relates to the school that is managed at the provincial level	The solution must provide SA-SAMS with information that is on the schools master list (as specified in the LURITS 2 specification).	Must Have	New	Derived	All	Province, National	School Information
Functional	Capabilities	Central Master Lists	SA-SAMS must provide the ability to administer the master list of subjects as per the national curriculum	This will assist in ensuring the data quality (ensuring that there is standardisation in the way that the subjects are specified)	Must Have	New	Derived	All	Province, National	Curriculum
Functional	Capabilities	Central Master Lists	SA-SAMS must provide the ability to administer the Learning and teaching support materials/LTSM as per the national curriculum	This will assist in ensuring the data quality (ensuring that there is standardisation in the way that textbooks are specified)	Must Have	New	Derived	All	Province, National	Curriculum
Data	Capabilities	Central Reference Data	The solution must provide the ability to administer central reference data. This is data where there would be dropdown lists etc.	As per requirement	Must Have	New	Province	Manage Schools	All	School Information
Data	Capabilities	Capability: Business Intelligence	The solution must provide a Business intelligence capability	The solution must integrate into the existing Business Intelligence capability to allow users to access various information. This means that the Business Intelligence capability must integrate into the central repository of SA-SAMS	Must Have	Enhanced	Province, National	N/A	National	N/A
Data	Capabilities	Capability: Workflow	The solution must provide the ability for users to accept or reject changes that have been submitted from the school levels. This relates to the 'District/Province or national SA-SAMS' depending on the information that need approval before it can be updated.	There must be a notification to the user that submitted the change notifying them of the acceptance or rejection of the change with a reason for rejection required.	Must Have	New	Various	All	All	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Capabilities	Portal	SA-SAMS must cater for Portal functionality that will allow users to access information on SA-SAMS	This will allow for: - Users to be involved in certain business processes - Obtain access to information on SA-SAMS that has been published by the data owners The portals that have been identified are the Parent Portal and the SGB Portal (listed as separate requirements)	Must Have	New	Various	N/A	All	N/A
Functional	Capabilities	Capability: Communications and messaging	The solution must provide the ability to provide communications to various stakeholders.	This includes the following: - SMSes - emails - publishing on the public view into SA-SAMS (linked to requirement X) The various stakeholders include parents, staff, SGB members etc. There must be an ability to manage distribution lists	Should Have	New	Various	Various	All	N/A

Staff

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	Staff	Staff data	The details for school staff members (educators and other staff) that are employed by the state must be populated into SA-SAMS from PERSAL.	This is to ensure that the Human Resource information for staff members is only captured at source and that there is no duplication of capture.	Must Have	New	Various	Manage Educator	All	Human Resource Information
Data	Staff	Staff data	Where a staff member has been allocated to a school they must appear as one of the educators for that school on SA-SAMS.	This will allow the school to allocate that educator staff to classes, subjects etc.	Must Have	New	Various	Manage Educator	All	Human Resource Information
Functional	Staff	Staff data	SA-SAMS must allow a user to be able to: - Flag staff information that is incorrect - Submit the correct information so that the suggested change can be submitted to the provincial HR department	The provincial HR department must receive this information and make the update on PERSAL. The updated information must then be fed back into SA-SAMS.	Must Have	New	Various	Manage Educator	School	Human Resource Information

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Staff	Staff data	SA-SAMS must provide users the ability to highlight where an educator that is at the school does not appear for that school as a result of them not being assigned to the school on PERSAL	The provincial HR department must receive this information and make the update on PERSAL. The updated information must then be fed back into SA-SAMS.	Must Have	New	Various	Manage Educator	School	Human Resource Information
Functional	Staff	Staff data	SA-SAMS must provide users the ability to highlight where an educator appears as being at the school (on SA-SAMS), but they are actually not teaching at that school	This is a scenario that would be where an educator is allocated to the school on PERSAL, but they are not actually teaching at the school. The provincial HR department must receive this information and make the update on PERSAL. The updated information must then be fed back into SA-SAMS.	Must Have	New	Various	As per requirement	School	Human Resource Information
Functional	Staff	Staff data	SA-SAMS must provide users with the ability to track the status of a request for staff information to be updated	As per requirement	Must Have	New	Various	Manage Educator	School	Human Resource Information
Functional	Staff	Transfer Educator	SA-SAMS must provide the ability for an educator to submit a request to transfer to the another school	As per requirement	Should Have	New	Various	Manage Educator	All	Human Resource Information
Functional	Staff	Transfer Educator	SA-SAMS must provide the ability for the principal to approve the transfer request that was captured on SA-SAMS	This will serve as the first level of approval of the request, with the province ultimately providing the final approval for the transfer.	Should Have	New	Various	Manage Educator	All	N/A
Data	Staff	Transfer Educator	SA-SAM must trigger a notification that is sent to the destination where the educator is requesting the transfer to.	This information can potentially be sent to the district or circuit. The educator should be able to specify both. The notification should include the educator's basic details and their desired destination.	Should Have	New	Various	Manage Educator	All	Human Resource Information
Functional	Staff	Transfer Educator	Once a transfer request has been approved, the transfer of educator must be executed on PERSAL as the source system for Human resources	This information will then be fed into SA-SAMS and the destination school can confirm the transfer	Should Have	New	Various	Manage Educator	All	Human Resource Information
Functional	Staff	Staff Attendance and Leave	SA-SAMS must provide the ability to automatically record attendance information for staff members	This must be enabled using biometrics, where Educators can use biometrics to clock in and out. Smart Cards must also be enabled	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Staff	Staff Attendance and Leave	The solution must be able to automatically feed attendance data to the HR source system.	This means that the data must be submitted to PERSAL	Future	New	Province	Manage Educator	All	Human Resource Information
Data	Staff	Staff Attendance and Leave	The solution must provide the ability to compare an educator's attendance data to their leave data	As per requirement	Could Have	New	Various	Manage Educator	All	Human Resource Information
Functional	Staff	Staff Attendance and Leave	The solution must provide the ability to capture leave information for staff members	As per requirement	Could Have	Enhanced	Various	Manage Staff	All	Human Resource Information
Functional	Staff	Educator Performance	The solution must provide the ability to configure the business rules relating to educator performance	This includes the scores and their weightings	Must Have	New	National	Manage Educator	All	Console: Human Resource Information
Functional	Staff	Educator Performance	The solution must provide the ability to complete an educator's performance review as per the policy	The SA-SAMS performance management must be aligned to the agreed policy	Must Have	Enhanced	All	Manage Educator	All	Human Resource Information
Functional	Staff	Educator Performance	SA-SAMS must provide educators with the ability to capture their self-evaluation appraisals	This must be aligned to the approved framework	Must Have	Enhanced	National	Manage Educator	All	Human Resource Information
Functional	Staff	Educator Performance	The solution must provide the ability for superiors to capture the performance appraisal of the educator	The information must be linked (i.e. the self-appraisal of the educator and the appraisal from the superior)	Must Have	Enhanced	National	Manage Educator	All	Human Resource Information
Functional	Staff	Educator Performance	The solution must provide the ability for peers to complete an evaluation for an educator	As per requirement	Must Have	Enhanced	National	Manage Educator	All	Human Resource Information
Functional	Staff	Educator Performance	The solution must provide the ability for the relevant officials to view and verify educator performance submissions on SA-SAMS	This would eliminate the need to travel to all the relevant schools to manually verify this information	Must Have	Enhanced	National	Manage Educator	All	Human Resource Information
Functional	Staff	Parent Portal	The solution must provide parents with the ability to submit an appraisal for an educator	As per requirement	Could Have	Enhanced	National	Manage Educator	All	Human Resource Information

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Staff	Staff Performance	The administrative staff have a different model to IQMS for development appraisal and performance measurement which is called PMDS that needs to be incorporated into SA-SAMS	As per requirement	Should Have	New	Province	TBC	School	Human Resource Information
Functional	Staff	Data Integrity	The system must provide the ability of updating an educator's teaching experience automatically.	The system must automatically update educator's experience at the end of each year at a click of a button (e.g. add one year to all)	Must Have	New	Province	Various	All	N/A
Functional	Staff	Data Integrity	The solution must automatically update the age of learners and staff members based on their date of birth	On a learner or staff member's details, their age should be update automatically on their birthdays	Must Have	New	Province	Various	All	N/A
Functional	Staff	Educator Training	The SACE number must be retrieved directly from SACE and stored and viewable within SA-SAMS	As per requirement	Could Have	New	Province	Manage Educator	Province	Human Resource Information
Data	Staff	Educator Training	SACE must be updated as training is attended and then this information must be propagated to SA-SAMS.	Make it part of the process to update SACE as the educator obtains further qualifications. This information must be available as part of the educators full profile	Should Have	New	Province	Manage Educator	All	Human Resource Information
Data	Staff	Post Provisioning	The solution must allow for post provisioning information to be captured on the 'Provincial SA-SAMS'	This information must then be populated on the 'school SA-SAMS' to give the school Principal the ability to view how many posts they have.	Must Have	Enhanced	Province, National	Various	All	Human Resource Information
Data	Staff	Staff Attendance and Leave	The solution must provide the ability to capture leave information for staff members	As per requirement	Could Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Staff Attendance and Leave	The system should indicate the remaining leave days for educators and staff. This should be on Persal and viewable on SAMS.	As per requirement	Could Have	New	School	Manage Educator	All	Human Resource Information
Data	Staff	Staff Attendance and Leave	The information that must be submitted for leave for staff members must be aligned to the 'source system for HR data. (The fields on SA-SAMS must be aligned to PERSAL)	Therefore this needs to align to PERSAL to ensure that the key information that is required is captured on SA-SAMS	Could Have	Enhanced	Province	N/A	All	Human Resource Information

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	Staff	Staff data	The solution must allow the viewing of disciplinary information to be available on a educators record	This must be limited to information relating to discipline that have been concluded, and not allegations	Could Have	Enhanced	Province	N/A	All	Human Resource Information
Functional	Staff	Alerts	Alerts must be sent to the SMT (where educators are not allocated)	As per requirement	Must Have	New	School	Manage Educator	School	Human Resource Information
Functional	Staff	School Staff Management	The 'Human Resource Information' module on SA-SAMS should be renamed to indicate that it is not a Human Resource system, but rather aimed at managing school staff	A potential name that can be used can be 'School Staff Management'. This is a more accurate reflection of what the module is responsible for and will eliminate the impression that it is responsible for Human Resources Management and therefore is a duplication of 'PERSAL/IFMS)	Should Have	Enhanced	Derived	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The solution must trigger an alert when there is no teaching load for an educator after a certain amount of time.	This information must also be sent as an escalation to the SMT.	Should Have	Enhanced	Derived	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The Professional/Academic Qualifications field must be populated from SACE. If it is not received then an alert must be triggered.	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The Qualification Type field must be populated from SACE. If it is not received then an alert must be triggered.	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The Subjects Specialisation field must be completed. If the educator does not possess any, then they must be able to specify that	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The birth date must be completed in the prescribed format which is yyyymmdd	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The country of citizenship must be a dropdown list of countries	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The Teaching experience must not be smaller than or equal to the Age of the educator	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	Staff	Errors and Omissions	SA-SAMS must trigger an alert where there are no SGB Members captured for the school	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The days that Attendance data has been completed must not be for less than 80% of the last 10 school days.	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	When staff data is received from PERSAL, the ID field cannot be empty if an individual has indicated that they are South African citizen.	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	SA-SAMS must check that there are educators that have been populated for that school on the system and trigger an alert if there aren't any.	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	N/A
Business process	Staff	View staff details	The responsible school staff must view staff records as and when needed.	Paper-based staff details forms will be removed from schools. School staff must view the pre-populated staff details as and when needed. School staff must check that their details are correct at that time.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	View staff details	The responsible school staff must view educator qualifications as and when needed.	The responsible school staff must view the educators' training completed as and when needed. The responsible school staff must view the educators' qualifications as and when needed.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	**Update staff details**	**Schools must update staff information as and when needed.**		**Must have**	Enhanced	**All**	**Manage Staff**	School	N/A
Business process	Staff	Update staff details	(A) The responsible staff must request an update to staff information when changes are needed.	The responsible staff at the school must request an update to the staff details when changes are needed.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Update staff details	(B) Province HR must verify the change when by the next working day.	Human Resources management must view the alert received as soon as it arrives. Human Resources management must verify the change in the staff information by the next working day.	Must have	Enhanced	All	Manage Staff	Province	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Staff	Update staff details	(C) Province HR must update staff details immediately after successful verification.	Human Resources management must update the status of the change immediately after successful verification. Human Resources management must update the staff details on Persal immediately after successful verification.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Update staff details	(D) The responsible school staff must view the updated staff information when the alert is received.	The school must view the alert when it is received. The school must view the updated staff information at that time.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff attendance	Automate staff attendance capture daily and per period.	Manual attendance registers must be removed from schools. Staff must capture their attendance electronically when they arrive at school and per period, depending on the frequency prescribed by the school. Staff must capture attendance using the technology devices available at the school Staff must capture their attendance at the locations determined by School Management.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff attendance	Management must view staff attendance as and when needed.	Management (District, circuit, region, cluster, province and national) must view staff attendance as and when needed.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff leave	Staff must view leave information as and when needed.	The school staff must view the types of leave available as and when needed. The school staff must view the number of leave days per type of leave as and when needed. The school staff must not be able to change this leave information.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	**Staff leave**	**Leave must be captured and approved electronically.**		Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff leave	(A) Staff must capture leave when needed.	The school staff must capture leave when needed.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff leave	(B) HR must verify the leave request at the time that the alert is received.	Human Resources management must view the alert immediately. Human Resources management must verify the leave request by the next working day.	Must have	New	All	Manage Staff	Province	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Staff	Staff leave	(C) HR must approve leave after successful verification.	Human Resources management must authorise the leave request after successful verification.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff leave	(D) HR must capture leave immediately after approval.	Human Resources management must update the staff leave on Persal immediately after approval.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff leave	(E) Staff must view the updated leave immediately when they are alerted.	The responsible school staff must immediately view the alert received. The responsible school staff must view the updated staff leave at that time.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff leave	(F) Management must action automated escalations for absent staff.	Management is automatically notified of absent staff by a stipulated time. They must follow up on absent staff before the cut off time.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff training	Educators must updated their training details on SACE within 1 week of completing the training.	Educators must update their training details on SACE within 1 week after completing the training.	Should have	Enhanced	Province, District	Manage Staff	School	N/A
Business process	Staff	**Staff transfers**	**Automate staff transfer between schools as and when it happens.**		Must have	New	All	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(A) Staff or School Management must capture staff transfers at the time that staff apply for it.	Staff or School Management must capture staff transfers at the time that staff apply for it.	Must have	New	All	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(B) HR must verify the staff transfer.	Province Human Resources management must view the staff transfer alert immediately. Human Resources management must verify the staff transfer in order to approve or reject it.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff transfers	(C) HR must authorise staff transfers after successful verification.	Human Resources management must authorise the transfer after successful verification. Human Resources management must advise the school / staff of decision at that time.	Must have	Enhanced	All	Manage Staff	Province	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Staff	Staff transfers	(D) HR must update staff allocation details immediately.	Human Resources management must update staff allocation details immediately.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff transfers	(E) School management must view the alert immediately.	School Management must view the alert immediately.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(F) School management must view the update to staff details after HR captures it.	School management must view the update to staff details after HR captures it.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(G) School management at the receiving school must view the full staff record.	School management at the receiving school must view the full staff record from the date the transfer is effective.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(H) HR must view automated escalations within SLA.	Human Resources management must view automated escalations for staff that have not been allocated to a school or have been allocated incorrectly, within SLA.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff transfers	(I) HR must resolve staff allocation issue within SLA.	Human Resources management must allocate the unallocated staff to a school within SLA.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff transfers	(J) HR must update status of unallocated staff within SLA.	Human Resources management must update the status of staff who remain unallocated to a school and provide the reason within SLA.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff transfers	(K) School management must escalate issues when staff do not report for duty within SLA.	School Management must escalate issues when staff do not report for duty within SLA.	Must have	New	Province	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(L) School management must escalate issues when staff are allocated incorrectly.	School management must escalate issues when staff are allocated incorrectly.	Must have	Enhanced	Province	Manage Staff	School	N/A
Business process	Staff	**Temp staff**	**School must have sight of available temp workers when they need them.**		Could have	New	Schools	Manage Staff	School	N/A
Business process	Staff	Temp staff	(A) Educators must inform the school of their temp availability in advance.	Educators must notify the school of their availability “To Be” temp staff in advance.	Could have	New	Schools	Manage Staff	School	N/A
Business process	Staff	Temp staff	(B) School management must view temp staff details as and when needed.	School Management must view available temp staff as and when needed.	Could have	New	Schools	Manage Staff	School	Learner and Parent Information

Learner

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	Staff	Staff data	The details for school staff members (educators and other staff) that are employed by the state must be populated into SA-SAMS from PERSAL.	This is to ensure that the Human Resource information for staff members is only captured at source and that there is no duplication of capture.	Must Have	New	Various	Manage Educator	All	Human Resource Information
Data	Staff	Staff data	Where a staff member has been allocated to a school they must appear as one of the educators for that school on SA-SAMS.	This will allow the school to allocate that educator staff to classes, subjects etc.	Must Have	New	Various	Manage Educator	All	Human Resource Information
Functional	Staff	Staff data	SA-SAMS must allow a user to be able to: - Flag staff information that is incorrect - Submit the correct information so that the suggested change can be submitted to the provincial HR department	The provincial HR department must receive this information and make the update on PERSAL. The updated information must then be fed back into SA-SAMS.	Must Have	New	Various	Manage Educator	School	Human Resource Information
Functional	Staff	Staff data	SA-SAMS must provide users the ability to highlight where an educator that is at the school does not appear for that school as a result of them not being assigned to the school on PERSAL	The provincial HR department must receive this information and make the update on PERSAL. The updated information must then be fed back into SA-SAMS.	Must Have	New	Various	Manage Educator	School	Human Resource Information
Functional	Staff	Staff data	SA-SAMS must provide users the ability to highlight where an educator appears as being at the school (on SA-SAMS), but they are actually not teaching at that school	This is a scenario that would be where an educator is allocated to the school on PERSAL, but they are not actually teaching at the school. The provincial HR department must receive this information and make the update on PERSAL. The updated information must then be fed back into SA-SAMS.	Must Have	New	Various	As per requirement	School	Human Resource Information
Functional	Staff	Staff data	SA-SAMS must provide users with the ability to track the status of a request for staff information to be updated	As per requirement	Must Have	New	Various	Manage Educator	School	Human Resource Information
Functional	Staff	Transfer Educator	SA-SAMS must provide the ability for an educator to submit a request to transfer to the another school	As per requirement	Should Have	New	Various	Manage Educator	All	Human Resource Information

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Staff	Transfer Educator	SA-SAMS must provide the ability for the principal to approve the transfer request that was captured on SA-SAMS	This will serve as the first level of approval of the request, with the province ultimately providing the final approval for the transfer.	Should Have	New	Various	Manage Educator	All	N/A
Data	Staff	Transfer Educator	SA-SAM must trigger a notification that is sent to the destination where the educator is requesting the transfer to.	This information can potentially be sent to the district or circuit. The educator should be able to specify both. The notification should include the educator's basic details and their desired destination.	Should Have	New	Various	Manage Educator	All	Human Resource Information
Functional	Staff	Transfer Educator	Once a transfer request has been approved, the transfer of educator must be executed on PERSAL as the source system for Human resources	This information will then be fed into SA-SAMS and the destination school can confirm the transfer	Should Have	New	Various	Manage Educator	All	Human Resource Information
Functional	Staff	Staff Attendance and Leave	SA-SAMS must provide the ability to automatically record attendance information for staff members	This must be enabled using biometrics, where Educators can use biometrics to clock in and out. Smart Cards must also be enabled	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Functional	Staff	Staff Attendance and Leave	The solution must be able to automatically feed attendance data to the HR source system.	This means that the data must be submitted to PERSAL	Future	New	Province	Manage Educator	All	Human Resource Information
Data	Staff	Staff Attendance and Leave	The solution must provide the ability to compare an educator's attendance data to their leave data	As per requirement	Could Have	New	Various	Manage Educator	All	Human Resource Information
Functional	Staff	Staff Attendance and Leave	The solution must provide the ability to capture leave information for staff members	As per requirement	Could Have	Enhanced	Various	Manage Staff	All	Human Resource Information
Functional	Staff	Educator Performance	The solution must provide the ability to configure the business rules relating to educator performance	This includes the scores and their weightings	Must Have	New	National	Manage Educator	All	Console: Human Resource Information
Functional	Staff	Educator Performance	The solution must provide the ability to complete an educator's performance review as per the policy	The SA-SAMS performance management must be aligned to the agreed policy	Must Have	Enhanced	All	Manage Educator	All	Human Resource Information
Functional	Staff	Educator Performance	SA-SAMS must provide educators with the ability to	This must be aligned to the approved framework	Must Have	Enhanced	National	Manage Educator	All	Human Resource Information

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
			capture their self-evaluation appraisals							
Functional	Staff	Educator Performance	The solution must provide the ability for superiors to capture the performance appraisal of the educator	The information must be linked (i.e. the self-appraisal of the educator and the appraisal from the superior)	Must Have	Enhanced	National	Manage Educator	All	Human Resource Information
Functional	Staff	Educator Performance	The solution must provide the ability for peers to complete an evaluation for an educator	As per requirement	Must Have	Enhanced	National	Manage Educator	All	Human Resource Information
Functional	Staff	Educator Performance	The solution must provide the ability for the relevant officials to view and verify educator performance submissions on SA-SAMS	This would eliminate the need to travel to all the relevant schools to manually verify this information	Must Have	Enhanced	National	Manage Educator	All	Human Resource Information
Functional	Staff	Parent Portal	The solution must provide parents with the ability to submit an appraisal for an educator	As per requirement	Could Have	Enhanced	National	Manage Educator	All	Human Resource Information
Functional	Staff	Staff Performance	The administrative staff have a different model to IQMS for development appraisal and performance measurement which is called PMDS that needs to be incorporated into SA-SAMS	As per requirement	Should Have	New	Province	TBC	School	Human Resource Information
Functional	Staff	Data Integrity	The system must provide the ability of updating an educator's teaching experience automatically.	The system must automatically update educator's experience at the end of each year at a click of a button (e.g. add one year to all)	Must Have	New	Province	Various	All	N/A
Functional	Staff	Data Integrity	The solution must automatically update the age of learners and staff members based on their date of birth	On a learner or staff member's details, their age should be update automatically on their birthdays	Must Have	New	Province	Various	All	N/A
Functional	Staff	Educator Training	The SACE number must be retrieved directly from SACE and stored and viewable within SA-SAMS	As per requirement	Could Have	New	Province	Manage Educator	Province	Human Resource Information
Data	Staff	Educator Training	SACE must be updated as training is attended and then this information must be propagated to SA-SAMS.	Make it part of the process to update SACE as the educator obtains further qualifications. This information must be available as part of the educators full profile	Should Have	New	Province	Manage Educator	All	Human Resource Information

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	Staff	Post Provisioning	The solution must allow for post provisioning information to be captured on the 'Provincial SA-SAMS'	This information must then be populated on the 'school SA-SAMS' to give the school Principal to view how many posts they have.	Must Have	Enhanced	Province, National	Various	All	Human Resource Information
Data	Staff	Staff Attendance and Leave	The solution must provide the ability to capture leave information for staff members	As per requirement	Could Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Staff Attendance and Leave	The system should indicate the remaining leave days for educators and staff. This should be on Persal and viewable on SAMs.	As per requirement	Could Have	New	School	Manage Educator	All	Human Resource Information
Data	Staff	Staff Attendance and Leave	The information that must be submitted for leave for staff members must be aligned to the 'source system for HR data. (The fields on SA-SAMS must be aligned to PERSAL)	Therefore this needs to align to PERSAL to ensure that the key information that is required is captured on SA-SAMS	Could Have	Enhanced	Province	N/A	All	Human Resource Information
Data	Staff	Staff data	The solution must allow the viewing of disciplinary information to be available on a educators record	This must be limited to information relating to discipline that have been concluded, and not allegations	Could Have	Enhanced	Province	N/A	All	Human Resource Information
Functional	Staff	Alerts	Alerts must be sent to the SMT (where educators are not allocated)	As per requirement	Must Have	New	School	Manage Educator	School	Human Resource Information
Functional	Staff	School Staff Management	The 'Human Resource Information' module on SA-SAMS should be renamed to indicate that it is not a Human Resource system, but rather aimed at managing school staff	A potential name that can be used can be 'School Staff Management'. This is a more accurate reflection of what the module is responsible for and will eliminate the impression that it is responsible for Human Resources Management and therefore is a duplication of 'PERSAL/IFMS)	Should Have	Enhanced	Derived	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The solution must trigger an alert when there is no teaching load for an educator after a certain amount of time.	This information must also be sent as an escalation to the SMT.	Should Have	Enhanced	Derived	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The Professional/Academic Qualifications field must be populated from SACE. If it is not received then an alert must be triggered.	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	Staff	Errors and Omissions	The Qualification Type field must be populated from SACE. If it is not received then an alert must be triggered.	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The Subjects Specialisation field must be completed. If the educator does not possess any, then they must be able to specify that	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The birth date must be completed in the prescribed format which is yyyymmdd	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The country of citizenship must be a dropdown list of countries	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The Teaching experience must not be smaller than or equal to the Age of the educator	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	SA-SAMS must trigger an alert where there are no SGB Members captured for the school	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	The days that Attendance data has been completed must not be for less than 80% of the last 10 school days.	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	When staff data is received from PERSAL, the ID field cannot be empty if an individual has indicated that they are South African citizen.	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	Human Resource Information
Data	Staff	Errors and Omissions	SA-SAMS must check that there are educators that have been populated for that school on the system and trigger an alert if there aren't any.	As per requirement	Must Have	Enhanced	Various	Manage Educator	All	N/A
Business process	Staff	View staff details	The responsible school staff must view staff records as and when needed.	Paper-based staff details forms will be removed from schools. School staff must view the pre-populated staff details as and when needed. School staff must check that their details are correct at that time.	Must have	Enhanced	All	Manage Staff	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Staff	View staff details	The responsible school staff must view educator qualifications as and when needed.	The responsible school staff must view the educators' training completed as and when needed. The responsible school staff must view the educators' qualifications as and when needed.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	**Update staff details**	**Schools must update staff information as and when needed.**		**Must have**	Enhanced	**All**	**Manage Staff**	School	N/A
Business process	Staff	Update staff details	(A) The responsible staff must request an update to staff information when changes are needed.	The responsible staff at the school must request an update to the staff details when changes are needed.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Update staff details	(B) Province HR must verify the change when by the next working day.	Human Resources management must view the alert received as soon as it arrives. Human Resources management must verify the change in the staff information by the next working day.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Update staff details	(C) Province HR must update staff details immediately after successful verification.	Human Resources management must update the status of the change immediately after successful verification. Human Resources management must update the staff details on Persal immediately after successful verification.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Update staff details	(D) The responsible school staff must view the updated staff information when the alert is received.	The school must view the alert when it is received. The school must view the updated staff information at that time.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff attendance	Automate staff attendance capture daily and per period.	Manual attendance registers must be removed from schools. Staff must capture their attendance electronically when they arrive at school and per period, depending on the frequency prescribed by the school. Staff must capture attendance using the technology devices available at the school Staff must capture their attendance at the locations determined by School Management.	Must have	Enhanced	All	Manage Staff	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Staff	Staff attendance	Management must view staff attendance as and when needed.	Management (District, circuit, region, cluster, province and national) must view staff attendance as and when needed.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff leave	Staff must view leave information as and when needed.	The school staff must view the types of leave available as and when needed. The school staff must view the number of leave days per type of leave as and when needed. The school staff must not be able to change this leave information.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	**Staff leave**	**Leave must be captured and approved electronically.**		Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff leave	(A) Staff must capture leave when needed.	The school staff must capture leave when needed.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff leave	(B) HR must verify the leave request at the time that the alert is received.	Human Resources management must view the alert immediately. Human Resources management must verify the leave request by the next working day.	Must have	New	All	Manage Staff	Province	N/A
Business process	Staff	Staff leave	(C) HR must approve leave after successful verification.	Human Resources management must authorise the leave request after successful verification.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff leave	(D) HR must capture leave immediately after approval.	Human Resources management must update the staff leave on Persal immediately after approval.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff leave	(E) Staff must view the updated leave immediately when they are alerted.	The responsible school staff must immediately view the alert received. The responsible school staff must view the updated staff leave at that time.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff leave	(F) Management must action automated escalations for absent staff.	Management is automatically notified of absent staff by a stipulated time. They must follow up on absent staff before the cut off time.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff training	Educators must updated their training details on SACE within 1 week of completing the training.	Educators must update their training details on SACE within 1 week after completing the training.	Should have	Enhanced	Province, District	Manage Staff	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Staff	**Staff transfers**	**Automate staff transfer between schools as and when it happens.**		Must have	New	All	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(A) Staff or School Management must capture staff transfers at the time that staff apply for it.	Staff or School Management must capture staff transfers at the time that staff apply for it.	Must have	New	All	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(B) HR must verify the staff transfer.	Province Human Resources management must view the staff transfer alert immediately. Human Resources management must verify the staff transfer in order to approve or reject it.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff transfers	(C) HR must authorise staff transfers after successful verification.	Human Resources management must authorise the transfer after successful verification. Human Resources management must advise the school / staff of decision at that time.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff transfers	(D) HR must update staff allocation details immediately.	Human Resources management must update staff allocation details immediately.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff transfers	(E) School management must view the alert immediately.	School Management must view the alert immediately.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(F) School management must view the update to staff details after HR captures it.	School management must view the update to staff details after HR captures it.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(G) School management at the receiving school must view the full staff record.	School management at the receiving school must view the full staff record from the date the transfer is effective.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(H) HR must view automated escalations within SLA.	Human Resources management must view automated escalations for staff that have not been allocated to a school or have been allocated incorrectly, within SLA.	Must have	Enhanced	All	Manage Staff	Province	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Staff	Staff transfers	(I) HR must resolve staff allocation issue within SLA.	Human Resources management must allocate the unallocated staff to a school within SLA.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff transfers	(J) HR must update status of unallocated staff within SLA.	Human Resources management must update the status of staff who remain unallocated to a school and provide the reason within SLA.	Must have	Enhanced	All	Manage Staff	Province	N/A
Business process	Staff	Staff transfers	(K) School management must escalate issues when staff do not report for duty within SLA.	School Management must escalate issues when staff do not report for duty within SLA.	Must have	New	Province	Manage Staff	School	N/A
Business process	Staff	Staff transfers	(L) School management must escalate issues when staff are allocated incorrectly.	School management must escalate issues when staff are allocated incorrectly.	Must have	Enhanced	Province	Manage Staff	School	N/A
Business process	Staff	**Temp staff**	**School must have sight of available temp workers when they need them.**		Could have	New	Schools	Manage Staff	School	N/A
Business process	Staff	Temp staff	(A) Educators must inform the school of their temp availability in advance.	Educators must notify the school of their availability to be temp staff in advance.	Could have	New	Schools	Manage Staff	School	N/A
Business process	Staff	Temp staff	(B) School management must view temp staff details as and when needed.	School Management must view available temp staff as and when needed.	Could have	New	Schools	Manage Staff	School	Learner and Parent Information

Curriculum

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Curriculum	Curriculum Administration	SA-SAMS must give the relevant users at the provincial departments the ability to escalate changes to the prescribed curriculum to the national department for approval.	Once approved then these should be applied and cascaded down for that specific province only. (The submission of the approval must include the date at which that change will be implemented to allow the department to assess the impact of the change.)	Must Have	New	Various	Manage Curriculum	Province	Curriculum
Functional	Curriculum	Curriculum	SA-SAMS must give the relevant users at the school level the ability to escalate changes to the prescribed curriculum to the provincial department for approval.	These must always be approved by the school principal first before they are sent to the provincial department. (The submission of the approval must include the date at which that change will be implemented to allow the department to assess the impact of the change.)	Must Have	New	School	Manage Curriculum	School	Curriculum
Functional	Curriculum	Business Configuration	The solution must provide the ability to configure the business rules relating to the curriculum module. These refer to the National and Provincial level	This includes the tasks, the weightings, raw marks etc. This will ensure that what has been prescribed filters down, while allowing the users at the lower level the ability to change what hasn't been prescribed or to add additional things to what has been prescribed.	Must Have	New	Derived	All	Province, National	Curriculum
Functional	Curriculum	Curriculum	A task must be marked as complete on SA-SAMS as soon as the assessment marks for the particular topic have been captured.	As per requirement	Must Have	New	Various	Manage Curriculum	All	Curriculum
Functional	Curriculum	Curriculum	The SA-SAMS curriculum module must cater for the foundation phase	As per requirement	Must Have	Enhanced	School	Manage Curriculum	All	Curriculum
	Curriculum	Curriculum Planning	SA-SAMS must trigger an alert where the plans for a subject have not been completed for the year ascertain time after the start of the school year	As per requirement	Should have	new	School	Manage Curriculum	All	Curriculum
Functional	Curriculum	Curriculum Coverage	SA-SAMS must trigger escalations where curriculum related tasks have not been completed according to the plan	This will involve multiple escalations	Should Have	New	Province	Manage Curriculum	All	Curriculum

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Curriculum	SNE	SA-SAMS must provide principals with the ability to send a request to the province exams department to exempt a Special Needs learner from compulsory subjects.	• Need to be able to exempt learners from certain compulsory subjects and enable the loading of these exemptions at a province level only. • Then principal should be able to send a request to the province (exams) to exempt the learner from the compulsory subject.	Must Have	New	School	Manage Curriculum	All	Curriculum
Functional	Curriculum	Parent Portal	SA-SAMS must provide the ability for parents to electronically select/approve the set of subjects that their child will do, when they are at a grade where they have to select subjects. This information must then be fed into SA-SAMS.	This must be in conjunction with them being able to view their child's performance on the portal	Should Have	New	Derived	Manage Curriculum	All	Curriculum
Data	Curriculum	Curriculum	SA-SAMS must automatically record how much time has been spent on a task	This information will be used in conjunction with curriculum coverage information and will be based on when the assessment marks were to be submitted	Should Have	New	National	Manage Curriculum	All	Physical Resources
Functional	Curriculum	School Based assessment	SA-SAMS must give the users access to the mark capturing functionality in order to allow them to capture marks wherever they are.	This is to cater for situations where users are marking from home.	Must Have	New	School	Manage Curriculum	School	Curriculum
Functional	Curriculum	School Based assessment	SA-SAMS must provide educators with the ability to capture marks for learners on smart devices	This will provide educators with various ways of capturing the marks to eliminate the need for them to first record them manually on paper and then capture them on the system afterwards.	Should Have	New	School	Manage Curriculum	School	Curriculum
Functional	Curriculum	School Based assessment	SA-SAMS must be able to create a report on the subjects and marks that the learner obtained at the previous school as well the ones obtained at the new school.	As the learner will have one record, the marks will be available so that the school can create a full year report for the learner using marks for their previous school. The marks obtained at the different schools must be visible on the report.	Must Have	New	Province	Manage Curriculum	All	Curriculum
Functional	Curriculum	School Based assessment	SA-SAMS must cater for the ability to lock the ability to change marks after a certain time. This will ensure that there is sufficient security relating to the marks.	• Marks security caters for entering a closing date for marks to be captured. O Eliminate the numerous exceptions at school level by setting the date centrally and preventing manipulation of the marks.	Must Have	New	Province	Manage Curriculum	All	Curriculum

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Curriculum	School Based assessment	SA-SAMS must have audit trail of all the capture and changes relating to the marks for learners	As per requirement	Must Have	New	Province	Manage Curriculum	All	Curriculum
Functional	Curriculum	School Based assessment	SA-SAMS must provide the ability to indicate the type of pass for an exit grade	E.g. with merit, or exemption etc.	Could Have	New	Province	Various	All	Curriculum
Functional	Curriculum	School Based assessment	SA-SAMS must provide the ability to produce a 4th term report for Schools based assessment	As per requirement	Could Have	New	Province	Manage Curriculum	School	Curriculum
Functional	Curriculum	Promotion / Progression	SA-SAMS must provide the ability to automatically trigger the promotion of learners based on the rules regarding promotion	If they successfully meet this criteria, then automated promotion should be executed	Must Have	Enhanced	National	Manage Curriculum	All	Curriculum
Data	Curriculum	Curriculum	The contents of the curriculum module must be aligned to policy to ensure that it gives proper guidance on the administering of education according to the National Policy.	This means that all of the business rules in the system must be aligned to policy,	Must Have	Enhanced	National	Manage Curriculum	All	Curriculum
Business process	Curriculum	**Standardise curriculum**	**The curriculum must be standardised every year.**		Must have	New	National, Province	Manage Curriculum	National	N/A
Business process	Curriculum	Standardise curriculum	(A) National must set the standard curriculum at the start of the school year.	Curriculum at national level must capture the curriculum according to policy at the start of the year. Curriculum at national level must capture the weightings according to policy at the start of the year. Curriculum at national level must capture the total marks according to policy at the start of the year.	Must have	New	National, Province	Manage Curriculum	National	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Curriculum	Standardise curriculum	(B) Province must further define the curriculum within policy at the start of the year.	Curriculum at province level must further define the curriculum where policy allows it at the start of the year. Curriculum at province level must capture the curriculum according to policy at the start of the year. Curriculum at province level must capture the weightings according to policy at the start of the year. Curriculum at province level must capture the total marks according to policy at the start of the year.	Must have	New	National, Province	Manage Curriculum	Province	N/A
Business process	Curriculum	Standardise curriculum	(C) Schools must view the standardised curriculum at the start of the year.	Schools must view the standardised curriculum at the start of the year. Schools must view the standardised weightings at the start of the year. Schools must view the standardised total marks at the start of the year.	Must have	Enhanced	National, Province	Manage Curriculum	School	N/A
Business process	Curriculum	Authorise non-standard curriculum changes	(D) Schools must request updates to curriculum where they differ from policy at the start of the year.	At the start of the year schools must request updates to the curriculum where they require an out of policy update. Schools must capture reasons for the requested curriculum updates at the start of the year.	Must have	New	National, Province, Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Authorise non-standard curriculum changes	(E) Approvers must assess curriculum update request received from schools within SLA.	The Approvers must view the alert for the school's curriculum update request within SLA. The Approvers must evaluate the curriculum update request within SLA.	Must have	New	National, Province	Manage Curriculum	Province	N/A
Business process	Curriculum	Authorise non-standard curriculum changes	(F) Approvers must capture their decision within SLA.	The Approvers must capture their decision about the school's curriculum change request within SLA. The Approvers must capture the reasons for their decision within SLA. The Approvers must authorise or reject the school's curriculum update request within SLA.	Must have	Enhanced	National, Province	Manage Curriculum	Province	N/A
Business process	Curriculum	Authorise non-standard curriculum changes	(G) Schools must view the final decision after it is captured and within SLA.	The school must view the alert about the decision reached within SLA.	Must have	Enhanced	Derived	Manage Curriculum	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Curriculum	Authorise non-standard curriculum changes	(H) Schools must view the updated curriculum after approval is received.	The school must view the automatically updated curriculum after their request was approved	Must have	Enhanced	Derived	Manage Curriculum	School	N/A
Business process	Curriculum	Lock curriculum	Province must lock the curriculum by a stipulated cut-off date.	Curriculum at province level must lock the curriculum by a stipulated cut-off date. No further curriculum changes must take place afterwards for the year. This process must occur after schools have been given a certain period of time during which to request changes to the curriculum. This process must occur after curriculum changes have been approved.	Must have	Enhanced	National, Province	Manage Curriculum	Province	N/A
Business process	Curriculum	Unlock curriculum	Province must unlock the curriculum only when needed.	Curriculum at province level must unlock the curriculum to make changes in emergencies. Province must configure at which levels the curriculum will be unlocked e.g. select a specific school to make a change to their curriculum, only allow province to make changes that will then automatically update all the schools, select a phase where curriculum changes are needed.	Must have	Enhanced	National, Province	Manage Curriculum	Province	N/A
Business process	Curriculum	**Curriculum progress**	**Schools must resolve curriculum progress issues**		Must have	Enhanced	Province, District, Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Curriculum progress	(A) National, Province or District must raise escalations for curriculum progress issues as and when needed.	National, Province or District must raise escalations for curriculum progress issues as and when needed.	Must have	New	Province, District, Schools	Manage Curriculum	National	N/A
Business process	Curriculum	Curriculum progress	(B) Schools must resolve curriculum progress issues within the timeframe set my management.	Schools must view the curriculum progress issues raised Schools must provide feedback on the curriculum progress issues within the timeframe set my management. Schools must resolve the curriculum progress issues within the timeframe set my management.	Must have	New	Province, District, Schools	Manage Curriculum	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Curriculum	Learner exam and assessment registration	The responsible school staff must register learners for assessments / exams at registration time.	The manual assessment / exam registration forms must be removed. The responsible school staff must verify and approve registered learners electronically at the time of registration.	Must have	Enhanced	Province, District, Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner exam and assessment registration	National must view registered learners after the school has verified the list.	The manual registration forms must be removed. National must view the approved registered learners after the school has verified and approved the learner list.	Must have	Enhanced	Province, District, Schools	Manage Curriculum	National	N/A
Business process	Curriculum	Learner assessment results	Educators must capture learner marks for their subjects after marking.	Remove the paper-based mark schedule for capturing marks. Educators must capture the learners' marks for their subjects after marking the papers. Educators must capture the learner marks using devices available at school. Educators must capture the learner marks using devices available at home.	Must have	Enhanced	Province, District, Schools	Manage Curriculum	School	N/A
Business process	Curriculum	**Learner assessment results**	**Educators and learners must check provisional marks before they are finalised.**		Could have	Enhanced	Province, District, Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner assessment results	(A) Educators must verify provisional marks with learners online before finalising the marks.	Educators must verify the provisional marks with the learners using available technology before finalising the marks.	Could have	Enhanced	Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner assessment results	(B) Learners must check their provisional marks before educators finalise the marks.	Learners must check their provisional marks using available technology before educators finalise the marks.	Could have	Enhanced	Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner assessment results	(C) Leaners must log change requests to provisional marks before educators finalise the marks.	Leaners must log a change request to their provisional marks before educators finalise the marks.	Could have	Enhanced	Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner assessment results	(D) Educators must verify learner change requests immediately.	Educators must immediately view alerts from learners to change their provisional marks. Educators and School Management must verify the learner change requests on the same day.	Could have	Enhanced	Schools	Manage Curriculum	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Curriculum	Learner assessment results	(E) School Management must approve changes to learner marks on the same day.	Educators and School Management must approve changes to learner marks on the same day. Educators and School Management must capture the reason for the decision on the same day.	Could have	Enhanced	Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner assessment results	(F) School Management must reject changes in learner marks on the same day.	Educators and School Management must reject changes in learner marks on the same day. Educators and School Management must capture the reason for the decision on the same day.	Could have	Enhanced	Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner assessment results	The responsible school staff must approve marks before the cut-off time.	Remove the paper-based mark schedule for marks verification. The responsible school staff must approve the Educators' marks before the cut-off time. The responsible school staff must electronically sign-off the marks before the cut-off time.	Must have	Enhanced	Province, District, Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner assessment results	The responsible school staff must lock the marks after they have been signed off.	The responsible school staff must lock the marks after they have been signed off. No one must change the marks after it has been locked unless authorised to do so.	Must have	Enhanced			School	N/A
Business process	Curriculum	**Learner assessment results**	**Educators must request permission to change marks after they have been locked.**		Should have	Enhanced	Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner assessment results	(A) The Educator must request permission to change locked marks after the cut-off time has lapsed.	Educators must request to make changes to marks after the cut-off time when the marks have been locked. Educators must capture the reason for the change.	Should have	Enhanced	Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner assessment results	(B) School Management must evaluate the request within SLA.	School Management must view the change request within SLA. School Management must evaluate the change request within SLA. School Management must discuss the change request with the educator within SLA. School Management must capture their decision within SLA.	Should have	Enhanced	Schools	Manage Curriculum	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	Curriculum	Learner assessment results	(C) The educator must view the alert immediately.	The educator must immediately view the alert about the change request.	Should have	Enhanced	Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner assessment results	(D) The educator must update the marks immediately.	The educator must immediately update the mark if their request was approved.	Should have	Enhanced	Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner assessment results	(E) School Management must lock the marks after the educator has made the changes.	School management must lock the marks after the educator's updated marks are approved.	Should have	Enhanced	Schools	Manage Curriculum	School	N/A
Business process	Curriculum	LOTTO schedule	Automate the LOTTO schedule at year end.	The responsible school staff must complete the schedule for oral marks at year end. The schedule must align to policy.	Must have	Enhanced	Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner reports	Educators must capture learner report comments electronically every term.	Educators must capture learner report comments electronically every term.	Must have	Enhanced	Province, District, Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner reports	Educators must sign learner reports electronically every term.	Educators must sign learner reports electronically every term.	Must have	Enhanced	Province, District, Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner reports	The responsible school staff must view learner reports electronically every term.	The responsible school staff must view learner reports electronically every term.	Must have	Enhanced	Province, District, Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner reports	The HOD and Principal must sign learner reports electronically every term.	The HOD and Principal must sign learner reports electronically every term.	Must have	Enhanced	Province, District, Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner reports	The Principal must stamp learner reports electronically every term.	The Principal must stamp learner reports electronically every term.	Must have	Enhanced	Province, District, Schools	Manage Curriculum	School	N/A
Business process	Curriculum	Learner reports	The responsible school staff must return incorrect learner reports to educators before the report due date.	The responsible school staff must electronically return incorrect learner reports to the educator before the report due date. The responsible school staff must capture the reason for returning the learner report to the educator before returning it.	Must have	Enhanced	Derived	Manage Curriculum	School	N/A
Business process	Curriculum	Learner reports	Educators must correct errors in learner reports before the report due date.	Educators must view alerts about incorrect learner reports immediately Educators must correct errors in learner reports before the report due date.	Must have	Enhanced	Derived	Manage Curriculum	School	N/A

School

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	School	School Setup	The solution must provide the ability for a school to start preparing for the next year in the current year	This includes information such as class lists etc.	Must Have	New	School	Manage School	All	General School Information
Functional	School	School Setup	The solution must provide the ability to merge or separate schools	This process must allow learners to be re-allocated after the merger or separation of one school into 2	Must Have	New	National	Manage School		General School Information
Data	School	Central Master Lists	The school information must contain a status of the school.	These can possibly be 'Approved', 'In construction', 'To be closed' 'Open' and 'closed'. To be closed must allow the ability to capture the expected date of closure	Must Have	New	All	Manage Schools	Province	School Information
Data	School	Central Master Lists	The information from the School's master list must be transmitted to SA-SAMS and pre-populated in the 'General School Information' module.	As per requirement	Must Have	New	All	Manage Schools	Province	School Information
Data	School	Central Master Lists	The information from the Subjects master list must be transmitted to the 'school SA-SAMS' and be pre-populated to the relevant fields	As per requirement	Must Have	New	All	Manage Schools	Province	School Information
Functional	School	Reminders	SA-SAMS must prompt users to confirm certain details relating to the school on a yearly basis.	The prompt must be followed by an acknowledgement that the information is correct. This is aimed at ensuring that the	Should Have	New	Derived	Manage School	All	General School Information
Data	School	SNE	The information classifying special needs must be aligned to other departments	This includes Department of Health and Stats SA. This will ensure that there is alignment with the data that is published by StatSA	Should Have	New	National	All	All	N/A
Data	School	SNE	The solution must provide the ability to determine the number of Learner Support materials that must be provided for special needs learners	As per requirement	Must Have	Enhanced	National	Manage Learner	All	N/A
Data	School	SNE	The solution must provide the ability to determine the number of assistive devices that must be provided for special needs learners	As per requirement	Must Have	Enhanced	National	Manage Learner	All	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	School	SNE	Information relating to SNE must be governed by strict user roles	This means that only certain individuals (based on their roles) should be able to view certain information relating to SNE learners	Must Have	Enhanced	National	Manage Learner	All	N/A
Data	School	ECD	ECD data (early childhood development) data must be aligned to that from StatsSA	As per requirement	Must Have	Enhanced	National	Manage Learner	All	N/A
Business process	School	**Open new school**	**Province and Schools must capture school information.**		Must have		Province	Manage Schools	Province	N/A
Business process	School	Open new school	(A) The School Planner must capture school information for a new school before the school opens.	Schools will not capture all the school information themselves. The province's School Planner must capture the school information that is available at that time. This information must be captured before the new school is opened.	Must have	New	Province	Manage Schools	Province	N/A
Business process	School	Open new school	(B) The responsible school staff must view the pre-populated school information when they capture the remaining school information.	At the time that the responsible school staff must capture the remaining school information, he/she must view the pre-populated information that the School Planner has captured.	Must have	Enhanced	All	Manage Schools	Province	N/A
Business process	School	Open new school	(C) The responsible school staff must capture school information for a new school as soon as they can login.	The responsible school staff must capture the outstanding school information as soon as they can login.	Must have	Enhanced	All	Manage Schools	Province	N/A
Business process	School	**Open new school**	**Schools must update school information as and when required.**		Must have	Enhanced	Province	Manage Schools	School	N/A
Business process	School	Update school information	(A) The responsible school staff must request an update to non-editable school information as and when required.	There will be school information that must be approved before it is updated. The responsible staff at the school must submit a request to update the school information as and when required.	Must have	New	Province, District	Manage Schools	School	N/A
Business process	School	Update school information	(B) The Approver must verify the school information to be updated by the next working day.	The Approver must view the alert received The Approver must verify the change in the school information by the next working day.	Must have	Enhanced	Province, District	Manage Schools	School	N/A
Business process	School	Update school information	(C) The Approver must authorise the change as soon as it has been successfully verified.	The Approver must authorise the change immediately after successful verification.	Must have	Enhanced	Province, District	Manage Schools	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	School	Update school information	(D) The responsible school staff must view the updated school information as soon as they are alerted.	The school must view the alert immediately when it is received. The school must view the updated school information at that time.	Must have	Enhanced	Province, District	Manage Schools	School	N/A
Business process	School	View school information externally	The community must view school information online as and when required.	The community must view non-confidential school information online as and when required.	Should have	Enhanced	All	Manage Schools	School	N/A
Business process	School	**School Merges**	**The School Planner must capture school merges in advance when the merge is being planned.**		Must have	Enhanced	National	Manage Schools	Province	N/A
Business process	School	School Merges	(A) The School Planner must capture school merges information in advance when the merge is being planned.	The provinces' School Planner must capture school merge information in advance when the merge is being planned.	Must have	Enhanced	National	Manage Schools	Province	N/A
Business process	School	School Merges	(B) The responsible school and district staff must view school merge information when the alert is received.	The responsible school and district staff must view the alert for school merges immediately when it is received. The responsible staff must view the merged school's details at that time.	Must have	Enhanced	National	Manage Schools	Province	N/A
Business process	School	**School Splits**	**The School Planner must capture school splits in advance when the split is being planned.**		Must have	Enhanced	National	Manage Schools	Province	N/A
Business process	School	School Splits	(A) The School Planner must capture school splits information in advance when the split is being planned.	The provinces' School Planner must capture school splits information in advance when the split is being planned.	Must have	Enhanced	National	Manage Schools	Province	N/A
Business process	School	School Splits	(B) The responsible school and district staff must view school split information when the alert is received.	The responsible school and district staff must view the alert for school splits immediately when it is received. The responsible school and district staff must view the split schools' details at that time.	Must have	Enhanced	National	Manage Schools	Province	N/A
Business process	School	**School Closure**	**The School Planner must capture school closure information in advance when the school closure is being planned.**		Must have	Enhanced	National	Manage Schools	Province	N/A
Business process	School	School Closure	(A) The School Planner must capture school closure information in advance when the closure is being planned.	The provinces' School Planner must capture school closure information in advance when the closure is being planned.	Must have	Enhanced	National	Manage Schools	Province	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	School	School Closure	(B) The responsible staff must view school closures when the alert is received.	The responsible staff must view the alert for school closures immediately when it is received. The responsible staff must view the closed schools' details at that time.	Must have	Enhanced	National	Manage Schools	Province	N/A
Business process	School	View alerts at school	The school must view alerts immediately when they are received.	The school must view alerts received at the time they are received.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	School	Resolve alerts at school	The school must resolve alerts received for which the school is responsible.	The school must resolve alerts received where the school's intervention is needed. e.g. 1. The school must view the alert for unallocated educators immediately. The school must allocate these educators to classes immediately. The school must allocate these educators to subjects immediately. e.g. 2. The school must view the alert for unallocated learners immediately. The school must allocate these learners to classes immediately. The school must allocate these learners to subjects immediately. e.g. 3. Management must view the alert for staff absenteeism on their mobile device immediately. Management must action the alert before the daily cut-off time.	Must have	Enhanced	All	Manage Staff	School	N/A
Business process	School	**Distribute school documents**	**Automate distribution of school documents as and when needed.**		Must have	Enhanced	Derived	General	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Business process	School	Distribute school documents	(A) Schools must electronically distribute reports, documents, lists and forms as and when needed.	Remove printing of school documents, lists, forms when they can be electronically distributed and viewed as and when needed. E.g. SGB member list, register of governance records, Performance appraisal records, enrolment lists, Subject Registration Report. The school must electronically distribute school documents via SA-SAMS.	Must have	Enhanced	Derived	General	School	N/A
Business process	School	Distribute school documents	(B) The intended audience must electronically view reports, documents, lists and forms as and when needed.	The intended audience must view the documents, lists, forms electronically after it has been distributed.	Must have	Enhanced	Derived	General	School	N/A
Business process	School	Whole School Evaluation	Management must view whole school evaluation results after it is completed.	All levels of management must view the whole school evaluation results electronically after it is completed.	Should have	Enhanced	Province	General	School	N/A
Reporting	School	School reports	School reports must be grouped in a single place.	School reports must be grouped in a single place.	Must have	Enhanced	Schools	Reporting	School	N/A
Reporting	School	School reports	School reports must be accessible from any module.	School reports must be accessible from any module.	Must have	Enhanced	Schools	Reporting	School	N/A
Reporting	School	**School reports**	**Enhance look and feel of reports. (Applies to all existing, merged and new reports)**		Must have	Enhanced	All	Reporting	School	N/A
Reporting	School	School reports	(A) The reports must be presented in DDD style.	All reports must be presented in DDD style format.	Must have	Enhanced	National	Reporting	School	N/A
Reporting	School	School reports	(B) The reports must aggregate data.	The report must aggregate the data included in the report e.g. staff attendance % for the school, learner attendance % each phase.	Must have	Enhanced	National	Reporting	School	N/A
Reporting	School	School reports	(C) The reports must have drill down capability.	The reports must have drill down capability e.g. drill down from school to phase to grade to class.	Must have	Enhanced	National	Reporting	School	N/A
Reporting	School	School reports	(D) The reports must present data graphically.	The reports must represent the data graphically and not only in tables.	Must have	Enhanced	National	Reporting	School	N/A
Reporting	School	School reports	(E) The reports must have filter criteria.	The reports must be filtered on: Period (from and to dates) Phase Class Grade Subjects Gender	Must have	Enhanced	Derived	Reporting	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Reporting	School	School reports	Existing reports must be enhanced in look and feel unless otherwise specified below.	As per requirement.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	**School reports**	**Merge DDD and SA-SAMS reports that include staff and learner attendance, learner achievement (ANA, SBA, and NSC), learner promotion and curriculum coverage.**		Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(A) The standard school dashboard summary screen must be displayed when the School accesses the reports.	The standard school dashboard must provide aggregated educator attendance information. The standard school dashboard must provide aggregated non-teaching staff attendance information. The standard school dashboard must provide aggregated learner attendance information. The standard school dashboard must provide aggregated learner achievement information. The standard school dashboard must provide aggregated learner promotion information. The standard school dashboard must provide aggregated learner progression information. The standard school dashboard must provide aggregated curriculum coverage information.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(B) The standard school dashboard must show learner achievement per phase.	The standard school dashboard must have learner achievement per phase.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(C) The standard school dashboard must show learner achievement per grade.	The standard school dashboard must have learner achievement per grade.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(D) The standard school dashboard must show learner achievement per subject.	The standard school dashboard must have learner achievement per subject.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(E) The standard school dashboard must show achievement per learner	The standard school dashboard must have achievement per learner.	Must have	Enhanced	Derived	Reporting	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Reporting	School	School reports	(F) The standard school dashboard must show ANA achievement at all levels of aggregation.	The standard school dashboard must have ANA achievement at all levels of aggregation.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(G) The standard school dashboard must show ANA achievement at all levels when drilling down.	The standard school dashboard must have ANA achievement at all levels when drilling down.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(H) The standard school dashboard must show SBA achievement at all levels of aggregation.	The standard school dashboard must have SBA achievement at all levels of aggregation.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(I) The standard school dashboard must show SBA achievement at all levels when drilling down.	The standard school dashboard must have SBA achievement at all levels when drilling down.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(J) The standard school dashboard must show NSC achievement at all levels of aggregation.	The standard school dashboard must have NSC achievement at all levels of aggregation.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(K) The standard school dashboard must show NSC achievement at all levels when drilling down.	The standard school dashboard must have NSC achievement at all levels of drilling down.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(L) The standard school dashboard must show comparative marks for previous periods.	The standard school dashboard must display comparative marks for previous periods.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(M) The standard school dashboard must show detailed staff attendance information.	The standard school dashboard must provide detailed staff attendance information.	Must have	Enhanced	Derived	Reporting	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Reporting	School	School reports	(N) The standard school dashboard must be merged with selected SA-SAMS reports.	Merge the following SA-SAMS reports with the standard school dashboard: - Summary of results per level per subject * - Summary of results Grades R - 9 * - Summary of results per Grade * - Distribution Results per Grade per Subject * - Averages per subject per Grade * - Annual Promotion Statistics - Annual Promotion Statistics per gender - Not Promoted numbers - Repeat numbers - Learners repeating the grade - Learners who dropped out - Staff Leave Summary Printout - View Attendance Statistics - HR Dashboard - Learner Aggregate Data Printout * The school must export these reports for analysis purposes.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	(O) The reports must indicate Special Needs Learners.	The reports must indicate if the learner is a special needs learner.	Must have	Enhanced	Province, District, Schools	Reporting	School	N/A
Reporting	School	School reports	(P) The reports must indicate the sample size used.	The reports must indicate the percentage of staff represented. The report must indicate the percentage of learners represented. The reports must indicate the sample size in percentages depending on the level of management using the report. The reports must indicate the sample size in numbers out of a total depending on the level of management using the report.	Must have	Enhanced	Derived	Reporting	School	N/A
Reporting	School	School reports	All reports must have templates for schools to use.	The existing SA-SAMS reports must also be saved as templates. The school must not delete these templates. The school must not rename these templates. The school must not overwrite these templates.	Must have	Enhanced	Schools	Reporting	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Reporting	School	School reports	The school must customise report templates.	The school must create a copy from the existing templates. The school must select the template. The school must customise the selected template. The school must save the customised template under a new name.	Must have	Enhanced	Schools	Reporting	School	N/A
Reporting	School	School reports	The school must run customizable queries.	The school must select the fields they want to report on using SA-SAMS. The school must save the queries as templates.	Must have	Enhanced	Schools	Reporting	School	N/A
Reporting	School	School reports	Exception reports must be available.	The following exception reports must be catered for: - Missing, incorrect and unverified learner ID's - Educators not allocated to schools, subjects and classes - Learners not allocated to schools, subjects and classes - Learners not registered for exams - Learners absent for more than 10 days without a note. - Staff leave applications awaiting a decision from HR - Staff transfer applications awaiting a decision from HR.	Must have	Enhanced	Schools, Province	Reporting	School	N/A
Reporting	School	School reports	New reports must be available.	New reports: - Curriculum coverage - Intergovernmental reports e.g.1. List of learners without ID numbers for the Department of Home Affairs. E.g.2. School-going learners not enrolled at a school for the Department of Social Development (DSD) and the South African Social Security Agency (SASSA).	Must have	New	National, Province	Reporting	School	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	School	Merit and Demerit	The solution must allow for the central maintenance of demerit codes.	Currently the merit and demerit codes are set up according to policy, however the system must allow for the data owner at directorate level to be able to amend these as the need arises (e.g. where there are policy changes) without a software release. The information that will need to be maintained includes: - Demerit codes - Demerit Action; and - Merit Codes	Must Have	New	All	Manage Schools	Province	School Information
Functional	School	SNE	The solution must cater for the registration of both MID ((mildly intellectually disabled) and SID (severely intellectually disabled) learners in the system	o MID (mildly intellectually disabled) and SID (severely intellectually disabled) cannot be registered in the same system as the criteria is different o “Levels” are applicable to these learners and not grades thus they are registered in the Foundation phase as a work-around.	Must Have	New	National	N/A	School	N/A
Functional	School	School Governance	SA-SAMS must provide the ability for SGB members to access SA-SAMS in order to complete information that is required to be completed by the SGB.	This information must be in line with the governance tools. Currently, this is expected to be performed by school personal. The information includes information around SGB members, meetings by the SGB's etc.	Must Have	Enhanced	National	Manage School	All	Physical Resources
Functional	School	Data Integrity	The solution must provide the ability to acknowledge that information has been checked	This includes the principal and IMG official	Must Have	New	Province	Various	Circuit, District	N/A
Functional	School	Educator	The solution must provide the ability to access SA-SAMS using smart devices	As per requirement	Must Have	New	Various	Various	Circuit, District	N/A
Functional	School	School Governance	Enable online voting for the student council, prefects and SGB voting.	As per requirement	Future	New	School	Manage School	All	School Information
Functional	School	School Setup	The solution must provide the ability to set up 3 terms instead of four.	The request to change these must be submitted for approval to ensure that there is control and standardisation	Should Have	New	Province	Manage Schools	All	General School Information

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	School	School Governance	The solution must provide the ability to capture information around school readiness for the new year	This is at the begin of the year and is aimed at determining whether all is in order for the school to commence with the activities of the new year	Must Have	Enhanced	Various	Manage School	All	ANA

ANA

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	ANA	ANA Registration	The solution must automatically identify the learners that will be submitted for ANA registration	This will be based on various business rules, with the school users having to only verify and then submit the information. The submitted information should then be extracted from the SA-SAMS central database for the registration process.	Must Have	Enhanced	National	All	All	ANA
Data	ANA	ANA Registration	The fields that are required for ANA registration must be mandatory for capture in the other modules	This must be aligned to the 'ANA Link Specification'	Must Have	Enhanced	National	All	All	User Dashboard
Functional	ANA	ANA Registration	The information relating to ANA submission must be built into the user dashboard.	This must include a summary view and a detailed view that will allow for users to pinpoint where the issues relating to the data are.	Should Have	New	National	N/A	School	ANA
Functional	ANA	ANA Registration	The solution must allow the ability to extract information regarding the schools where ANA information is still outstanding.	This should aid the registration and mark capture process.	Must Have	New	National	N/A	School	User Dashboard
Data	ANA	Primary Key	The ANA system and SA-SAMS must utilise an aligned primary key to remove the duplication of learners on the system	This primary key must be the ID number of the student	Must Have	Enhanced	National	All	All	N/A

NSC

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	NSC	NSC Registration	The information relating to NSC registration must be built into the user dashboard.	This must include a summary view and a detailed view that will allow for users to pinpoint where the issues relating to the data are.	Must Have	New	National	N/A	School	School Information
Data	NSC	NSC Registration	The fields that are required for NSC registration and mark capture are mandatory for capture	This must be as per the NSC link specification	Must Have	Enhanced	National	All	All	N/A
Data	NSC	NSC Registration	The information submitted that is used by NSC must be validated for correctness at source	Although this is a principle that will be applied throughout the system, it is especially important for this process, therefore the validation of these fields must be correct. This will ensure the elimination of the 3 year registration process	Must Have	Enhanced	National	All	All	N/A
Data	NSC	NSC Registration	The NSC system and SA-SAMS must utilise an aligned primary key to remove the duplication of learners on the system	This primary key must be the ID number of the student	Must Have	Enhanced	National	All	All	N/A

Central Directorate

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	Central Directorate	Whole School Evaluation	The solution must provide the ability to automatically collect and display all the information relating to the school evaluation that is already on SA-SAMS.	This information will make the process easier and also will ensure the correctness of the information to be submitted for the Whole School Evaluation. Examples of information includes, the average marks (ANA and NSC), completion of attendance registers etc.	Should Have	New	National	Manage Educator	All	N/A
Functional	Central Directorate	Whole School Evaluation	The solution must provide the ability for a principal to acknowledge the Whole school evaluation information	This is to ensure that the principal can take accountability for the submitted information	Should Have	New	National	Manage Educator	All	SGB
Functional	Central Directorate	Nutrition	The solution must provide the ability to submit information relating to their school nutrition programme	This information must be as per the national department's School Monitoring Tool	Future	New	National	Manage Schools	National	N/A

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Central Directorate	Nutrition	The solution must provide the ability to submit basic daily information relating to nutrition school's nutrition programme	The minimum data that must be submitted must include: o Have Learners eaten? o How many Learners were fed? o Was the food compliant in terms of consisting of the required food groups? o When were they fed? This information must be submitted at a specific time on a daily basis (currently 10am)	Could Have	New	National	Manage School	National	N/A
Functional	Central Directorate	Nutrition	SA-SAMS must provide the ability to record which learners have eaten at school by the use of technological devices	This can be either via biometrics or smart cards whenever the food is being served.	Could Have	New	National	Manage School	National	N/A
Functional	Central Directorate	Nutrition	SA-SAMS must provide the ability to submit pictures of the food that was eaten students	This will allow DBE to verify if the food is compliant (in relation to the food groups)	Future	New	National	Manage School	National	N/A
Functional	Central Directorate	Nutrition	The solution must provide the ability to capture the stock of the food received using barcode scanners.	As per requirement	Won't Have	New	National	Manage School	National	N/A
Functional	Central Directorate	Social Cohesion	The solution must provide the ability to extract information that is used to gauge social cohesion within the schooling system	This includes: - Information around academic performance and subjects organised by gender - Information regarding the extra-mural activities that learners are participating in - The make- up of educators in terms of gender	Should Have	New	National	Manage School	National	N/A
Functional	Central Directorate	Social Cohesion	The solution must provide the ability to track the movement of educators	As per requirement	Must Have	New	National	Manage Educator	All	N/A
Functional	Central Directorate	Safety	SA-SAMS must provide the ability to capture incidents on SA-SAMS and escalate them to the district/province level based on the severity of those incidents.	This will allow for the ability to submit these for intervention in real-time for incidents that are of a serious nature. The levels of these incidents must be defined.	Must Have	New	Various	Manage School	All	N/A

Surveys

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Surveys	Surveys	The solution must provide a tool to publish certain surveys with various information. This should be only on an exception basis where the data is not already on SA-SAMS and would eliminate the time consuming process of submitting manual surveys.	This must be configurable to allow the users to design the surveys. To limit the amount of surveys and therefore the burden of the capture of the information that is captured by schools, this must be available only at National level (the design of surveys). The surveys must be similar to survey tools out there. There should be limits on the amount of information that a survey can contain. And these must be planned in advance and there must be a committee that approves these surveys There should be reports on submission statuses for the surveys	Must Have	Enhanced	National	Manage School	All	General School Information

LTSM

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	LTSM	Central Master Lists	The information from the Learning and teaching support materials/LTSM master list must be transmitted to the 'school SA-SAMS' and be pre-populated to the relevant fields	As per requirement	Must Have	New	All	Manage Schools	Province	School Information
Functional	LTSM	LTSM	The solution must allow the ability to capture Learner Support materials using barcode scanners	The information must be catalogued so that it can be recognised and moved into the system using the ISBN number	Must Have	New	All	Manage Curriculum	All	Physical Resources
Functional	LTSM	LTSM	SA-SAMS must provide the ability to make an order where there are not enough Learner Support Materials	The user must choose from the predefined list of the learner support materials. This must be approved by the principal on SA-SAMS	Must Have	New	All	Manage Curriculum	All	Physical Resources

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	LTSM	LTSM	SA-SAMS must provide the ability to issue learner support materials to a specific learner	This includes being able to record the issue of learners support materials to a specific learner and also indicating when that learner has returned the learner support material. Currently the materials are issued to an educator This must be supported by the barcode scanning facility	Must Have	New	All	Manage Curriculum	All	Curriculum

Public Information

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Public Information	Community	The public must have the ability to view certain information from SA-SAMS	This must be public information that is deemed not to be confidential and must be published by the school. There must be limitations on what the school can publish directly from SA-SAMS to ensure that confidential information is not published.	Should Have	New	Derived	Various	School	N/A

Timetable

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Timetable	Timetable	The timetable must be fully integrated into the solution	This means that it must be able to utilise all of the data that has been captured into the system. This can include information on learners, educators, classes etc.	Must Have	New	Province	Various	All	Timetable Assistant
Functional	Timetable	Timetable	The timetable functionality must guide the user through the process of completing the timetable	Where there are issues in producing the timetable, the system must guide the user in the resolving of those issues.	Must Have	New	Province	Various	All	Timetable Assistant
Functional	Timetable	Timetable	The solution must provide users with a robust timetable that is able to cater for complex scenarios	This includes scenarios where schools do not have subject sets but allow learners to choose whichever subjects they would like to do in addition to the languages	Must Have	New	Province	Various	All	Timetable Assistant
Functional	Timetable	Timetable	The solution must provide the ability to produce personalised timetables per learner	This would be required when schools are allowed to choose individual subjects and not a set of subjects.	Could Have	New	School	Manage Schools	School	Curriculum

Physical Resources

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Physical Resources	Managing of fixed assets	The solution must provide the ability to scan in schools fixed assets and link it to the order process, enabling tracking of the asset from ordering to implementation at the school	As per requirement	Could Have	New	Various	Manage School	School	Library

Library

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Library	Library Management	The solution must provide the ability to use barcode scanners in order to: - record books for the first time - Issue those books to learners - Record the returning of those books	This must use the ISBN number of the book to prepopulate the information about the book.	Should Have	Enhanced	School	Manage School	School	Library
Data	Library	Library Management	This must be supported by a catalogue which will already have information relating to the books to eliminate the need for users to manually capture that information	E.g. LIBWIN	Could Have	New	School	Manage School	School	Library
Functional	Library	Library Management	SA-SAMS must allow users to configure the fines for library books.	This includes being able to set fines at different levels for different grades	Could Have	Enhanced	School	Manage School	School	Library
Functional	Library	Library Management	SA-SAMS must cater for a Stock taking facility for the library	As per requirement	Could Have	New	School	Manage School	School	Library

Finance

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Finance	Invoices and Statements	The solution must provide the ability to email invoices and statements to parents.	As per requirement	Must Have	Enhanced	School	Manage Finance	School	Finance
Functional	Finance	Manage Finance	SA-SAMS must allow users to view funding allocation visible through SAMs: Allocation per item, loaded by provincial admin. o Each school can see how much is allocated but cannot change it	As per requirement	Could Have	New	All	Manage Finance	School	Finance
Data	Finance	Finance	The solution must provide the ability to monitor the spending of public funds at school level using the information that is in SA-SAMS	As per requirement	Should Have	Enhanced	Various	Manage School	All	N/A

Integration

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Integration	CEMIS	The solution must cater for the integration of SA-SAMS into CEMIS	The data that should be captured into CEMIS should not be duplicated in SA-SAMS and vice versa. Data that will be required from CEMIS will be: - Learners - Classes - Languages - GET Languages - ANA Results The data that will be captured from SA-SAMS will be: - Learner attendance - Curriculum - Assessments - Promotions & Progressions The full data will then encompass all data that is required for submission and for school administration	Must Have	New	Province, National	Various	All	N/A

Archiving

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	Archiving	Data Integrity	The solution must not update historical data when changes are made to business rules, but only apply those to data that will be produced going forward	e.g. weightings	Must Have	Enhanced	Various	Various	All	N/A
Data	Archiving	Data Integrity	The solution must cater for the archiving of data that is no longer required on the 'live' SA-SAMS system.	This includes both automated archiving and manually triggered archiving. - Automated archiving would be triggered by an instance where for example there is a time based trigger. - A manual archive, might be manually triggered, e.g. archiving the applications of learners that applied but were not admitted to the school	Must Have	Enhanced	Various	Various	All	N/A

Data Integrity

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	Data Integrity	Data validation	The solution must provide the ability to indicate when last key sets of information was last updated	As per requirement	Should Have	New	province	All administration processes	All	N/A

Dashboards

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Dashboards	User Dashboard	The solution must provide a dashboard at the school level that highlights overdue activities	This must incorporate the functionality from tools such as the Valistractor	Must Have	New	Various	Various	All	
Functional	Dashboards	User Dashboard	The solution must provide a dashboard at the management level (principal, circuit, district, province) to monitor overdue activities	As per requirement	Could Have	New	School	Manage School	All	User Dashboard

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	Dashboards	User Dashboard	The user at district/province level should be able to drill down to the specific schools that have issues with their data	This capability must be limited to the critical processes (i.e. NSC and ANA registration process) etc. This is in line with the focusing on school administration.	Must Have	New	Circuit, District	N/A	All	User Dashboard
Functional	Dashboards	User Communication	The solution must allow certain users at provincial and national level to publish various messages which users will be able to view on SA-SAMS	This can include deadlines, any changes to SA-SAMS, and other information that users need to be aware of. This information must be published on the landing page after a user logs on to ensure that they are more likely to see those announcements.	Must Have	New	Derived	All	Province, National	Landing Page

General

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Functional	General	Existing Functionality	The modernised SA-SAMS solution must incorporate all of the current functionality that is in SA-SAMS unless there are requirements to change or remove the functionality.	The current functionality in all of the modules in SA-SAMS must be incorporated into the new SA-SAMS solution unless the following is applicable: - A specific requirement to change that specific functionality has been specified - A requirement to remove that specific functionality has been specified This is to ensure that all of the current functionality that is available in the current SA-SAMS will still be available to users in the new solution	Must Have	Enhanced	All	All	All	All
Functional	General	Support	The support personnel must be able to remotely access SA-SAMS in order to assist users with any issues they might be having with SA-SAMS	As per requirement	Should Have	New	School	Various	School	N/A
Functional	General	Support	The solution must cater for a configurable user guidance functionality that can be updated as required	As per requirement	Future	New	Derived	All	All	All

Requirement Category	Topic Group	Topic	Requirement	Requirement Description	Priority	Status	Requirement Source	Applicable Process	Business Area	Related Module
Data	General	DBE Levels	The various levels of the education department must be included as an attribute for all data	This includes the aggregation of data and the functionality that is available to users. The levels will be: - National - Province - District - Circuit	Must Have	Enhanced	All	All	All	N/A
Data	General	Data Integrity	The solution must validate the structure of the email addresses to ensure that they are correct	E-mail addresses should be valid and mandatory. Field validation required on e-mail addresses to prevent users from entering URLs or not applicable. Would like to be able to test if the e-mail address is valid.	Could Have	New	Province	N/A	All	N/A

7 Interface Requirements

Interfaces										
System	**Interface Name**	**Data Element and Description**	**Type**	**Internal or External**	**Direction**	**Existing?**	**Complexity**	**Comments**	**Data size**	**Frequency**
PERSAL	HR Data	Various HR data for staff that is entered in PERSAL	Asynchronous	Internal	Inbound	No	Medium	The exact data structure and data is still to be confirmed	Large	seconds
SACE	Training and Development	Training and development data relating to educators	Asynchronous	External	Bidirection	No	Medium	The exact data structure and data is still to be confirmed	Large	seconds
NPR / HANIS	Personal Details verification	Learner, Staff and Educator data for the purposes of verifying their personal details	Asynchronous	External	Bidirection	No	Medium	The exact data structure and data is still to be confirmed	Large	seconds
SASSA	Student Data Comparison	Learner data with the aim of identifying learners that are not in the schooling system and also those that are in the schooling system and receive social grants.	Asynchronous	External	Bidirection	No	Medium	The exact data structure and data is still to be confirmed	Large	seconds
ANA	ANA	Data for registering learners for ANA and also results that have been achieved on the assessments.	Asynchronous	External	Outbound	No	Medium	The exact data structure and data is still to be confirmed	Large	seconds
NSC	NSC	Data for registering learners for the NSC and also results that have been achieved on the examinations	Asynchronous	External	Outbound	No	Medium	The exact data structure and data is still to be confirmed	Large	seconds
NEIMS	Infrastructure Data	Data relating to the infrastructure at the school.	Asynchronous	External	Inbound	No	Medium	The exact data structure and data is still to be confirmed	Large	seconds

8 Non-Functional Business Requirements (QUALITY OF SERVICE REQUIREMENTS)

8.1 Human Factors

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
User Types - Type of system users i.e. transactional, managerial, administrative, etc.	User Types - The information system must incorporate role based DBE transactional, managerial and administrative users. This user base must comprise of the standard school based -, district/circuit based-, provincial based-, DBE national -, SITA- and other government department users which will access specific components of the SA SAMS solution depending on the roles they are assuming. The user base must also allow the creation and administration of public users for the use of specific components of the SA SAMS self-help solution.	Possible user types are: o School Teacher o School Administrator o School Management o District/Circuit Manager o National Manager of National Administrator o Policy Owners of National Executive (MIS) o Public User (Parents/Guardian) o Administrator o Developer o Integrator o Other Government and Non Government systems	Must Have	Enhanced	Derived

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Solution Type - Type of envisaged solution i.e. Client based, Web based, Web enabled, etc.	Solution Type - It is required that an enhanced SA SAMS web enabled solution must be developed.	Web enabled in SA SAMS context refers to a product or service that can be accessed through a web browser, over the World Wide Web, over a Local area network (LAN) or deployed locally on a user's (teacher/scholar, etc.) PC/laptop. This solution must be able to connect to the Governments NGN (WAN) when on line in order to synchronize data to the Central Data Centre database. The self-help solution for a public user (parent/scholar) must be able to connect to SA SAMS at the Central Data Centre or at the school level as a Web application. It also must be possible to communicate (integrate/interface) to other Web applications (i.e. CEMIS, ANA, SASSA, NSC, SACE, IFMS) through web services. The enhanced SA SAMS solution must have the capability to operate on line as well as off line where data synchronisation will be done in an asynchronous manner to the Governments NGN (WAN Data replication can be done in two operational deployed options. **Option 1:** 3 Tier Architecture (Distributed hosted application / centrally managed with distributed managed data architecture, Database repositories and application installations at school/, provincial and central data centre) Master Data (DBE national department policy) master data will be pushed down from the central data centre to the provincial level data base repository. At provincial level the master data will be updated for provincial policy and then be pushed down to the school level data base repository as well be pushed up to the central data centre to ensure consistent and one master data record.. Operational Data will be pushed up from the school to the provincial data base repository and then from the provincial data base repository pushed up to the central data centre. District/Circuit level users will access the system directly through the intranet at provincial level. Provincial data ware houses will be updated from the provincial data base repository. National data ware houses (i.e. LURITS) will be updated from the central data base repository. **Option 2:** 2 Tier Architecture (Distributed hosted application / centrally managed with central managed data architecture, Database repositories and application installations only at school level and central data centre. No hosting at provincial level.). All Master Data (DBE national department and provincial department policy) master data will be accumulate, defined, managed and populated at the central data centre data base repository. The master data will then be pushed down to the school level data base repository. Operational Data will be pushed up from school to the central data centre. Provincial/District/Circuit level users will access the system directly through the intranet at the central data centre level. National and Provincial data ware houses will be updated from the central data base repository. Application installations and releases management will be performed centrally from the central data centre for all application installations at provincial and school level. A possible solution development strategy will be to migrate current SA SAMS Access data base to MS SQL data base as first priority where after a full web enabled application development will be pursued in a stage approach. The diagrams for the options described above can be viewed in section **10 Appendices**.	Must Have	New	Derived
Presentation Layer - The presentation layer is responsible for the delivery and formatting of information to the application layer for display to the user.	Presentation Layer - The presentation layers must be portal and web page.	The standard presentation layers that have to be accommodated are portal and web page run-time services. Specialist gateways might be required for the other device/channel combinations such as those connecting via the mobile channels.	Must Have	New	Derived

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Client Devices - Technology devices interacting with the information system	Client Devices - Technology devices to interact with the information system must include standard desktop infrastructure that includes standard desktop and laptop, standard cell phones (SMS capability), smart phones and PABX infrastructure, as well as specialised devices such as swipe card readers, bar code readers and biometrics.	The system must cater for interacting the information system with various technology devices utilising keyboard, mouse and touch screen abilities on standard desktop infrastructure that includes standard desktop and laptop domains. It must run compatible browser service which are provided by user interfaces presented on Portals and Portlets, web clients and mobile clients, having interfaces to and from various technical devices (such as bar code readers, GIS, etc.) and 3rd party software. It must cater for the ability that users will also interact via non-standard devices such as mobile and other land-line based devices including standard cell phones (SMS capability), smart phones and PABX infrastructure, as well as specialised devices such as swipe card readers, bar code readers and biometrics.	Must Have	New	Derived
Access Channels - Communication channels between user devices, applications and infrastructure	Access Channels - Communication channels between user devices, applications and infrastructure must accommodate intranet, internet, SMS, E-mail and Fax communication.	The system must accommodate intranet, internet, SMS, E-mail and Fax communication channels between the user/device and the SA SAMS applications and infrastructure. The infrastructure is envisaged “To Be” the Governments NGN (WAN), Provincial/Districts Circuits/Schools LAN and public internet infrastructure. The information system must also allow for direct connected networks (cable/telephone line/fibre) and wireless (mobile, radio, satellite) channels.	Must Have	New	Derived

8.2 Physical Environment

Topic	Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Physical Environment	Infrastructure architecture - Technology Infrastructure and architecture required to run applications	Infrastructure architecture - The information system must accommodate an architecture that provide agility needed for a DBE-wide integrated schools administration and management system with the ability to be scaled out horizontally across all DBE Departments (National, Provincial, District, Circuit and School level) as well as vertically through the functional domains of Learner Management and Business Intelligence.	The information system must be able to accommodate centralised (Central Data Centre) and de-centralised (Schools and Provincial) hosting infrastructure supported by a fully redundant disaster recovery centre at Central Data Centre. Primarily a de-centralised hosting infrastructure will be deployed at schools and provincial level and a central hosting infrastructure at the central data centre. This will allow schools and provincial SA SAMS user access to SA SAMS via a web browser access through their respective Local school or provincial LAN and district/circuit SA SAMS users access to SA SAMS through the intranet and WAN to the provincial hosted application infrastructure. Remote school users will access the system through the internet to the schools hosted infrastructure. Provincial data ware houses will be updated from either the provincial or central data centre repository. National data warehouses (i.e. Lurits) will be updated from the central data base repository. The operational deployment architecture options (refer to “Solution Type” above) is proposed due to potential performance issues created by large data volumes and limited channel bandwidth. The computing infrastructure will involve a hybrid combination of mainframe and non-mainframe technologies. The information system will be operated in an integrated but distributed environment as a front and back office system which implies multi DBE organisations with hierarchical locations situated in various geographical areas.	Must Have	Enhanced	Derived

8.3 Infrastructure Services

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Technology Environments - Technology environments required to developed and run applications	Technology Environments - The information system that must cater for environments that will be utilised within the full life cycle process being: Information system development; Installation; Configuration; Administration; and Utilisation.	It is required to provide the following environments: o Development environment including system, mobile, web, report, and integration development Environment (IDE) o Test Environment o Production environment o Training Environment o Disaster Recovery Environment.	Must Have	Enhanced	All
Development Environment - Technology environment for development of application	A Development Environment for the development of the application must be established.	The development infrastructure will be part of the primary DBE common hosting infrastructure environment at the central data centre (SITA Centurion) but the development environment must be separated from the production environment (allow for virtualisation). The user interface applicable to the development environment must be connected to the development infrastructure, with the additional ability to localise the user interface from the developer until deployed. The infrastructure platform used for development must be similar to the production environment to ensure ease of distribution amongst the infrastructure. Hosting infrastructure must be based on identical technologies for the production domain. This not only includes the hardware infrastructure but software and systems management infrastructure with relevant audit and control mechanisms. The Development Environment shall be configured to support manageability of the development artefacts by implementing and enforcing strong baseline and configuration management across all development artefacts. A logically integrated central repository for all development rate acts must be implemented to easily define and manage the inter-relationships between artefacts.	Must Have	Enhanced	Derived
Testing Environment - Technology infrastructure environment for testing of application	A Testing Environment for the testing of the application must be established.	The test infrastructure must be integrated in the primary hosting infrastructure at the central data centre and part of the development environment. The user interface will be connected to this primary infrastructure. The infrastructure platform used for testing must be similar to the production environment to ensure ease of distribution amongst the infrastructure. Hosting infrastructure must be based on identical technologies for the production domain. This not only includes the hardware infrastructure but software and systems management infrastructure with relevant audit and control mechanisms. The testing environment shall be configured to support manageability and effective execution of software and system integration testing. Dedicated testing environments must be established for the various levels of testing where test cases, test scripts, and test scenarios can be executed in a controlled environment and processes and procedures for the preparation of those environments must exist.	Must Have	Enhanced	Derived
Production Environment - Technology infrastructure environment for production operations of application	A Production Environment for the deployment of the application must be established.	The production infrastructure will be part of the primary DBE central data centre hosting infrastructure environment at SITA with data bases/repositories and application servers at Provincial and Schools level that must be separated from the development and testing environment (allow for virtualisation). The user interface will be connected to this infrastructure. The infrastructure platform used for production must be similar to the primary DBE central data centre hosting environment intended to be utilised as promulgated from the testing environment to ensure ease of distribution amongst the infrastructure. Hosting infrastructure must be based on identical technologies for the training and testing domains. This not only includes the hardware infrastructure but software and systems management infrastructure with relevant audit and control mechanisms.	Must Have	Enhanced	Derived

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Training Environment - Technology infrastructure environment for training on the application	A Training Environment for the training on the application must be established.	The training environment must provide optimal potential for knowledge transfer and learning. The training infrastructure must be integrated in the primary hosting infrastructure at the central data centre, data repositories and data centre's provincial and schools level. The user interface will be connected to this primary infrastructure. The infrastructure platform used for training must be similar to the production environment to ensure ease of distribution amongst the infrastructure. Hosting infrastructure must be based on identical technologies for the production domain. This not only includes the hardware infrastructure but software and systems management infrastructure with relevant audit and control mechanisms.	Should Have	New	Derived
Disaster Recovery Environment - Technology infrastructure environment for disaster recovery of the application	A Disaster Recovery Environment for the disaster recovery of the application must be established.	A full disaster recovery environment as an off-site infrastructure and data centre must established i.e. SITA B Site. All data must be made available within acceptable RPO (recovery point objectives) and RTO (recovery time objectives). No data loss and fast recovery time will be required according to the RPO which states the amount of data that the user is willing to loose in a disaster situation. The RTO is the amount of time the user is willing to allow for the recovery on the remote disaster recovery centre in case of a disaster. A centralised infrastructure will offer this to a significant minimum.	Should Have	Enhanced	Derived

8.4 Performance Characteristics (Efficiency & Speed)

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Efficiency - A set of attributes that bear on the relationship between the level of performance of the software and the amount of resources used, under stated conditions. (ISO 9126: 1991, 4.4) - Resources may include other software products, hardware facilities, materials, (e.g. print paper, floppy disks) and services of operating, maintaining or sustaining staff. (ISO 9126: 1991, 4.4)	Efficiency - To ensure efficiency business rules must be automated (work flow) as far as possible in order to ensure processing time reduction and good governance.	The principle must be followed whereby business rules are automated (work flow) as much as possible pending the state or scenario that is applicable, in order to ensure processing time reduction and good governance. Business rules must be configurable to accommodate department/role specific work flow needs by enabling appropriate administrators to change where appropriate user role templates including work flow rules.	Must Have	New	Derived
Speed (Time behaviour)/Throughput "Response time constraints" - Attributes of software that bear on response and processing times and on throughput rates in performing its function. (ISO 9126: 1991, A.2.4.1)	Speed (Time behaviour)/Throughput "Response time constraints" - The software response and processing times and on throughput rates in performing its function must be comparable to modern internet web solutions.	Opening a portal form that has dynamic data access portlets linked - 2 sec Open a web client enabled window during a peak load - 2 sec Activating a web query form on during a peak load - 2 sec Selecting an occurrence from a query during a peak load - 1 sec Retrieving occurrences for a web form during a peak load - 1 sec Navigating from one web window to another during a peak load - 1 sec Mathematical calculation process 2 sec Field Population process - 1 sec Field Validation process - 1 sec.	Should Have	New	Derived

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Frequency - Rate of occurrence of transactions	Frequency - All synching of data will be asynchronous and of line transactions must be up loaded (synchronise) at least once a week).	All synchronization of data will be asynchronous. Off line transactions must be up loaded (synchronised) at least once a week from school/district and provincial level to provincial or national level. Batch processing will be done after working hours if on-line connectivity during office hours is a limitation. Frequency for high volume transactions such as major report runs are expected to be a monthly occurrence (at end of month).	Should Have	Enhanced	Derived
Data size or capacity constraints - Average data size for application data base and records per annum	Data size or capacity constraints - Average data size for application data base and records will be exceeding 300 000 records per school per annum.	Data Entities: It is foreseen that the information system would be based on an ERM that exceeds 200 entities based on a relational data base. Attributes: It is foreseen that the entities will include attributes that exceeds 3000. Data: Data occurrence volume will be determined by departmental size as well as the volume of transversal transactions that is processed within. The following data would be determined by: Scholar Data => exceeding 300 000 records per annual per school.	Should Have	Enhanced	Derived

8.5 Functionality

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Suitability - Attribute of software that bears on the presence and appropriateness of a set of functions for specified tasks. (ISO 9126: 1991, A.2.1.1).	Suitability - Refer Functional requirements section.	Refer functional requirements.	Must Have	Enhanced	Derived
Interoperability - Attributes of software that bear on its ability to interact with specified systems.	Interoperability - The information system must comply with standards that are relevant to	The information system must comply with standards that are relevant to systems interconnectivity, data interoperability and information access as mandated by the minimum interoperability standard of Government namely MIOS.	Must Have	New	Leading Practice

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
(ISO 9126: 1991, A.2.1.3)	systems interconnectivity, data interoperability and information access as mandated by the minimum interoperability standard of Government namely MIOS. It must allow for web client and portal, portal configuration and mobile clients.	With reference to the above, the information system must provide an intuitive user interface whose flow of logic is driven by the business and/or functional process. The user interface must be provided in a set of presentations through which the user interacts with the information system that supports specific data to be displayed, and tasks to be done. This must ensure a generic look and feel very near to current SA SAMS look and feel throughout the information system recognisable in all the user interface utilised and must work in a uniform way. The presentations must be limited to: Web Client and Portal SA SAMS Web and Portal presentation must be an easy-to use interface to users. The look and feel must reflect a true Internet interface, configurable for each individual or role. The pages can be made up of ASP.Net, JSTL, and HTML. Both Internet Explorer, Firefox and Chrome browsers must be supported that will enable a straightforward client management from a security and deployment perspective, making it possible to extend access to user/employee, public, etc. The Web must be a Rich Web Client providing the richness and versatility of a regular Windows client. The Portal client must provide an overview of functions that is applicable to the everyday activities from which users must be able to open the specific detail pages/forms to perform business activities. Portals must be configurable by roles and schools to see the information required as a private interface, which can be customized and changed as role and schools requirements change. To support Portal configuration, portlets must exist that can be linked to a portal client. Standard portlets must exist that contains functions such as mailbox, calendar, calculator, ability to link to web pages by linking URL shortcuts and allow you to access SA SAMS information system functions directly i.e. remote users to schools.	Must Have	New	Derived
		Portal Configuration The ability must exist to design a personalised portal per user and role template (i.e. schools template) governed (set-up) by administrator roles. The configuration must allow the user to decide on the portal layout and what to display on the specific layouts. Within the portal layout, the ability must be provided to select portlets to be displayed. This selection must display a library of portlets that can be selected, having a variety of grouping or classification criteria to query from.	Should Have	New	Leading Practice
		Mobile Client Mobile Client must provide ability to provide information and services available to users through a mobile remote client i.e. teachers working from home. It must be device independence and allowed to run on the major device types used today as well as on new devices emerging tomorrow. The mobile client must communicate directly with services in the information system, restricting the complexity of intermediate synchronization software. It must support unique features such as multiple users per device, automated installations and upgrades, and encrypted local storage and communication and must be safe to use in large enterprise deployments.	Should Have	New	Leading Practice

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Compliance - Attributes of software that make the software adhere to information system related standards or conventions or regulations in laws and similar prescriptions. (ISO 9126: 1991, A.2.1.4)	Compliance - The architecture of SA SAMS must be developed and deployed within the broader context of GWEA framework. Interoperability must be achieved through government interoperability standards (MIOS) compliance throughout hardware platforms. Development must be managed through a formal SDLC (Iterative, Agile, V mode, RUP, ISO 12207, etc.) and appropriate change control process. The information system must comply with standards that are relevant to systems security and information access as mandated by the Government Security Standard MISS.	The architecture of SA SAMS must be developed and deployed within the broader context of the GWEA Framework. Interoperability must be achieved through government interoperability standards (MIOS) compliance throughout hardware platforms. Development must be managed with a formal SDLC (Iterative, Agile, V mode, RUP, ISO 12207, etc.) and change control process. The information system must comply with standards that are relevant to systems security and information access as mandated by the Government Security Standard MISS. To support Government MIOS standard, the user interface must be a W3C-compliant web-browser supporting HTTP and HTTPS over TCP/IP. The information system must comply with a list of browsers within their minimum hardware technology specifications required to support the solution. The solution must be capable of exposing services for use by other information systems and make use of exposed services in turn, to allow for integration with the service-oriented architecture of SA SAMS. Non-functional requirements must support Web Services and comply with UDDI, SOAP, and XML-based standards and utilise communication protocols as defined in the technical architecture (such as SMTP, POP3). The client window functionality of the user-interface must be hosted by the industry-standard features of the browser itself (scripting engine, graphics rendering, etc.). If the user-interface functionality is implemented by browser scripting languages (such as JavaScript), it must support any plug-ins, add-ons or runtime environments which may be required. The information system must support the use of network resources within the network footprint per transaction between the server and the client (i.e. the average bandwidth requirement for typical transactions in a standard implementation). It should support business-to-business messaging standards such as those defined by UN/EDIFACT or ANSI ASC X12. To deliver IT value, the proposed solution must: increase productivity; be cost effective; and improve service delivery by providing: interoperability using internationally-recognised open standards to allow for automatic sharing and exchange of data; IT security for data integrity, availability and prevention of access by unauthorised individuals; economies-of-scale; and elimination of duplication of data, functions and systems.	Must Have	New	Leading Practice

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Security - Attributes of software that bears on its ability to prevent unauthorized access, whether accidental or deliberate, to programs and data. (ISO 9126: 1991, A.2.1.5)	Security - The information system must comply with standards that are relevant to systems security and information access as mandated by the Government Security Standard MISS.	Security includes Compliance: MISS adherence and User Privacy (POPI act), Authentication, - Authorisation, password Protection & Role Base Security (segregation of Duties), Data level Security & - Database Security, Network Level Security i.e. Firewalls, DMZ and Audit trails. SA SAMS security within the information system needs to be designed with modularity and flexibility in mind, allowing the capability for business to select the level of security that is applicable, balancing threat prevention with simplicity and ease of use. The architecture needs to enforce a uniform role-based security model across the entire information system. The role-based authorization model must ensure that only authorized users have access. Authorization can be performed by presentation (Which client window?), function (What can I do?) and data (What ranges of data may I see?). As a sub ordinance to role-based security, the information system must be able to apply data-level security that restricts access to data accordance to ownership and rights defined per ownership. The information system must be capable of restricting user access based on data content criteria, for example, restricting user's access to data for a specific department or specific data owner. The SA SAMS system must rely on standard network, operating system, and database security without a proprietary layer established technologies with known security properties such as Oracle database, J2EE information system servers, Apache and IIS web servers, Active Directory®, LDAP, http, SSL, and PKI. The information system must be based on standard technology to be used with network-level security solutions such as firewalls, proxies, SSL encryption, VPN-networks, Demilitarized zone (DMZ), hardened perimeter defence, and other firewall strategies. It is required that the information system must have a built-in log function that tracks all modifications to data, including details of what was modified by whom and what the previous values were, creating a clear audit trail of all changes or removals of data. The information system must support session time-out. Inactive sessions should shut down after a user-defined period of inactivity. System integrity must be maintained by providing the capability to configure to lock-out account after predefined number of failed authentication attempts. System integrity must be maintained by providing the capability to configure to lock-out account after predefined number of days of non system use. The information system must support encryption of sensitive classified data to stored, archived or in transit to protect against unauthorised access, disclosure or modification. The disaster recovery features inherited within the database and relating information system functionality must provide disaster recoverable capability.	Must Have	Enhanced	Derived
Scalability - The capability of a system, network, or process to handle a growing amount of work, or its potential to be enlarged in order to accommodate that growth.	Scalability - It must be ensured that the standards selected have the capacity to be scaled to satisfy changed demands made on the system, such as changes in data volumes, number of transactions or number of users.	Hosting infrastructure must be scalable to cater for small implementations (users, database, and application set) to large increase in users, workload or transactions, implementations and integrated systems. Hardware must be able to scale easily as capacity requirements grow. It must incorporate virtualisation of infrastructure to create a shared architecture where new services can be defined in hours. This in conjunction with clustering technology must be provided to allow for rapid expansion with limited impact. Additionally, the information system should be able to execute on multiple platforms. The information system must be developed to scale from a small implementation (users, database and infrastructure) to large implementations. Implementation size must be able to scale easily upwards as user counts and system acceptance grows. DBE departments range drastically in size and transverse systems utilisation requirements. Scalability goes hand in hand with adaptability—information systems become more scalable as platform independence increases. Application code must be written and tested to handle extreme loads. Particularly database access must be tuned to provide optimised performance under load. Purchased software must provide service-based interfaces to internal functionality. Where this is not possible, all software APIs should be wrapped within the SA	Must Have	Enhanced	Derived

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
		SAMS project so that use of these functions can be via the service bus and services interfaces.			
Documents - Supporting documents to ensure effective utilisation of application	Documents -In order to assist the information system in all its life cycle, a set of guidelines and help documentation is required.	The following training guidelines are required: Development guide; Installation Guide; Configuration guide; Administration guide; and user help documentation. Documents are required to describe abilities within the framework as a guide for the information system. This implies the generic characteristics according to which the information system must comply with. These guides will be utilised by typical information system developers, technicians, configuration consultants, administrators, and information system users.	Should Have	Enhanced	Derived

8.6 Reliability

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source	Requirement Definition
Reliability	Reliability - A set of attributes that bear on the capability of software to maintain its level of performance under stated conditions for a stated period of time. Wear or ageing does not occur in software. Limitations in reliability are due to faults in requirements, design and implementation. Failures due to these faults depend on the way the software product is used and the program options selected rather than on elapsed time. (ISO 9126: 1991, 4.2)					
	Maturity - Attributes of software that bear on the frequency of failure by faults in the software. (ISO 9126: 1991, A.2.2.1)	Maturity - The application must be reliable with a low and acceptable frequency of failure by faults in the software.	It is expected that the application must be reliable with an expectation of 1 critical, 2 major and 10 medium faults per quarterly period.	Should Have	Enhanced	Derived
	Fault Tolerance - Attributes of software that bear on its ability to maintain a specified level of performance in cases of software faults or of infringement of its	Fault Tolerance - The application should have the ability to maintain a specified level of performance in cases of software faults or of infringement of its	The ability to recover from failure and continue with operation must be provided and is based on the design principles of the hardware infrastructure. Depending on the type of failure, software and applications must be considered with regards to the underlying technologies that offer these functions. The use of standard infrastructure recoverability and continuity functions must be utilised.	Should Have	Enhanced	Derived

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source	Requirement Definition
	specified interface. (ISO 9126: 1991, A.2.2.2)	specified interface.				
	Back up & Recovery - To back up and recover the system application transactions and data	Back up & Recovery - Backup and recovery will be performed at central data centre (hosting) and any provincial data centre's possible deployed as well as schools level. Schools back-up and recovery must be managed from provincial level.	Specific responsibilities will be allocated to execute back-up or backup recovery. It is required to allocate backup and recovery to a role base security principle with regards to the operation thereof. The database user profile for such ability would be that of a data base administrator, database roles with relating functions would be allocated to support this ability. Back-ups need to be performed according to a user definable criterion. The back-up to be initiated by a simplistic command, which will back-up the information system data according to a configurable set-up in terms of when, what, how and where. Recovery of backups needs to be performed according to a user definable criterion. The recovery to be initiated by a simplistic command, which will recover the information system data according to a configurable set-up in terms of when, what, how and where. Back & Recovery capability will be need to be implemented at School, Provincial (for option 1 of operational deployment architecture) and Central Data Centre level.	Must Have	Enhanced	Derived
	Archive and Restore - Attributes of software that bear on the capability to re-establish its level of performance and recover the data directly affected in case of a failure and on the time and effort needed for it. (ISO 9126: 1991, A.2.2.3)	Archive and Restore - Archiving and restore will be performed at only the central data centre.	Archiving is required for moving data from the production database to another media. Archive consists of one or more database tables that hold transactional data for specific criteria. It should be possible to archive selectively for a specific criteria: Data object e.g. Specific asset, Date range, e.g. data older than 5 years, Scheduled. It must be able to configure the destination medium of archived data. Options should be tables or files. Archive logs must be recorded to indicate archive content, destination, criteria and relating information Archive restoring capability needs to be provided that can extract data according to archive log definition. New software releases need to be applied sequentially to the archives as well, to ensure accessibility with the latest application structure.	Must Have	Enhanced	Derived

8.7 Usability

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Usability - A set of attributes that bear on the effort needed for use, and on the individual assessment of such use, by a stated or implied set of users. (ISO 9126: 1991, 4.3)					
Learnability - Attributes of software that bear on the users' effort for learning its information system (for example, operation control, input, output). (ISO 9126: 1991, A.2.3.2)	Learnability - The system should support the users' effort for learning the information system using context sensitive help and on-line training documentation.	It is required to provide and automatically generate context sensitive online help files (form and field level), training material and procedure manuals.	Should Have	New	Derived

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Understand ability - Attributes of software that bear on the users' effort for recognizing the logical concept and its applicability. (ISO 9126: 1991, A.2.3.1)	Understand ability - The system must use DBE specific terminologies.	The terminology used on screens, fields, help dialogues, menus and printouts must be configurable to reflect DBE specific terminology.	Must Have	Enhanced	Derived
Operability - Attributes of software that bear on the users' effort for operation and operation control. (ISO 9126: 1991, A.2.3.3)	Operability - The system should support the users' effort for operation and operation control through work flow.	The SA SAMS information system operation and operation control must allow for user interfaces whose flow of logic is driven by the business and/or functional process (work flow). The business process must comply according to a process methodology and standard according to the architecture principles for SA SAMS.	Should Have	New	Derived
Usability - Describes the ease with which the information system can be learned or used.	Usability - The system must be modern Web based technology solution but it's require to endeavour to keep as near as possible to the current SA SAMS look and feel but allowing for more modern web technology features.	Although it is recognised that the transformation of the current SA SAMS client technology solution to a more modern Web based technology solution will bring about changes to the look and feel of the current application view, due to the different technologies and approaches, it's require to endeavour to keep as near as possible to the current SA SAMS look and feel but allowing for more modern web technology features. The user presentation shall be designed to be user friendly and include to allow for the following functions: - Specific set-up information profile "screen layout" as per user role. The configuration must be able to be fully governed and secure per user role template by relevant configuration administrators and not to allow any user just to configure the profile screen layout. - Configure "customise" the SA SAMS screens i.e. hide/add fields, move fields sequences, etc. - Work flow approval routings set-up - Provide short cut keys to add, delete, undo, etc. - Navigation between screens - Have favourites as in web solutions - Query or interrogate data occurrences that can be selected. - On-line help - Reporting set-up and building - Exporting and controlled (against business rules and validations) importing data to/from MS Word, spreadsheets, etc. - Manipulation and validated import of data from spreadsheets i.e. Data Spreadsheet Manager - Scheduling of tasks to performed i.e. batch tasks, etc. - Printer set-up.	Should Have	New	Derived

8.8 Effectiveness

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Effectiveness is the capability of producing a desired result/productivity.	Effectiveness - The application must support business process management ensuring desired productivity.	The application must support business process management at departmental workflow in which workflow was provided in terms of electronic forms, in combination with image & document routing ability as well a multi-departmental workflow which includes portal, integration brokers and rules engines as additional capabilities of managing a business process. The following will also be required to support a complete enterprise BPM; Business process management (BPM) is the automation and coordination of the countless assets and tasks that make up the business processes. Business activity monitoring (BAM) refers to the aggregation, analysis, and presentation of relevant and timely information about business activities.	Could Have	New	Leading Practice

8.9 Maintainability

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Maintainability - A set of attributes that bear on the effort needed to make specified modifications. NOTE -- Modifications may include corrections, improvements or adaptation of software to changes in environment, and in requirements and functional specifications. (ISO 9126: 1991, 4.5) Modifications. The ease with which a software system or component can be modified or adapt to a changed environment.	Maintainability - Development and modifications must managed with a formal SDLC process.	Development and modifications must managed with a formal SDLC (Iterative, Agile, V mode, RUP, ISO 12207, etc.). and change control process. Modifications may include corrections, improvements or adaptation of software to changes in environment, and in requirements and functional specifications.	Should Have	Enhanced	Derived
Install ability - Attributes of software that bear on the effort needed to install the software in a specified environment. (ISO 9126: 1991, A.2.6.2)	Install ability -The software must be able to be installed and managed as far as possible automatically and also be able to be remotely managed.	Deployment of releases shall be under the control of a release manager and automated as far as possible. The complexity and size of each release will determine the level of automation and time period involved in the deployment of the release. Accountability for the deployment of releases must be allocated to the release manager. SA SAMS releases must be automatically monitored at all installations either at school/district/provincial/National DBE environments and when a new release is available the releases must be automatically uploaded through synchronisation when connectivity with central centre is established.	Should Have	Enhanced	Derived

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Testability - Attributes of software that bear on the effort needed for validating the modified software. (ISO 9126: 1991, A.2.5.4)	Testability - All software releases including modifications must be validated (tested) according to specific phases, processes and procedures.	The information system needs to be qualified according to specific phases within the software development and for a specific purpose. The following must be provided as part of quality assurance, testing and execution: o Programming code must be automatically analysed in terms of coding standards during the coding stage. o Testing and test scripts must be automatically generated and executed. o Functionality for the management of test data must be available o When automated test scripts execute in the testing environment they must automatically create a change request for any errors and pass the error report and detail back to the development environment. o The toolset must support the generation of embedded “instrumentation” code within the generated application in support of performance monitoring and problem solving. o The toolset provides application monitoring functionality to analyse and report on performance. o Load testing must be available. o The ability must be provided to perform testing at three levels namely white box, grey box and black box. White box testing will provide both data and source code manipulation at run-time to test the system. Grey-box testing will provide the tester with the ability to set up or manipulate the testing environment, like populating the database and viewing the states of the data after executing certain system functions. Black-Box testing will allow the tester to perform testing only through the user interface. Test Phases must include unit testing, Software Integration Testing (Test Environment), System Integration Testing and User Acceptance Testing. Regression testing must be performed on all modifications before production releases to limit unexpected application failures.	Should Have	Enhanced	Derived
Operations-, Support- and Troubleshooting Requirements - Ability to perform troubleshooting and support for a deployed information system	Operations-, Support- and Troubleshooting Requirements - Support will be primarily rendered in office hours with exceptions of 24 hours in critical peak periods i.e. year-end examination results consolidation, etc. and a Centre of Excellence (COE) must be established.	System upgrades must be formally managed by release manager and upgrades must be govern, configuration managed and installed from central centre. SA SAMS releases must be automatically monitored at all installations either at school/district/provincial/National DBE environments and when a new release is available the releases must be automatically uploaded through synchronisation when connectivity with central centre is established. New software releases need to be applied sequentially to the back-up data as well, to ensure accessibility with the latest application structure. New software releases need to be applied sequentially to the archives as well, to ensure accessibility with the latest application structure. Errors that result from information system operation must be handled to avoid system errors which are not understandable by the user. Within the concepts of error handling, the information system must make distinction with regards to error message displays between soft and hard errors. The error management and support process must be performed through a Centre of Excellence (COE) with a formal process and support the ITIL standard including a call centre, 1st Line, 2nd line and 3rd line support levels as well as infrastructure/communication error level of support. It is foreseen that support organisations (COE) will be established and support will be done from provincial as well as from a central national organisation i.e. SITA. It must be possible to get remote access (be it from provincial and national central support organisations) to a SA SAMS installation to perform fault analysis or perform on line support such as can be done with tools like Team Viewer.	Should Have	Enhanced	Derived

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Availability - Availability measures the proportion of time the system is up and running.	Availability - The information system must be available 24h/day, 7 days per week.	Online maintenance of system software must be possible to minimise downtime (including updates, fixes, start/stop, configure and performance optimising).The solution must be capable of performing on-line data backup and restore without reducing the availability of the information system. In the event that the information system experienced downtime, it must automatically restart.	Should Have	Enhanced	Derived
Stability - Attributes of software that bear on the risk of unexpected effect of modifications. (ISO 9126: 1991, A.2.5.3)	Stability - To ensure unexpected effect of modifications regression testing must be performed.	Regression testing must be performed on all modifications before production releases to limit unexpected application failures.	Should Have	Enhanced	Derived
Analysability - Attributes of software that bear on the effort needed for diagnosis of deficiencies or causes of failures, or for identification of parts to be modified. (ISO 9126: 1991, A.2.5.1)	Analysability - It must be able to diagnose deficiencies or causes of failures of the system, or to identify parts to be modified through on line support and remote access.	It must be possible to get remote access to a SA SAMS installation to perform fault analysis or perform on line support such as can be done with tools like Team Viewer. A fault and corrective action tree must be defined and support personnel must be trained accordingly to ensure efficient support.	Should Have	New	Leading Practice

8.10 Flexibility and Portability

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Flexibility and Portability - A set of attributes that bear on the ability of software to be transferred from one environment to another. The environment may include organizational, hardware or software environment. (ISO 9126: 1991, 4.6)	Flexibility and Portability - The system software must be able to be transferred from one environment to another by adhering to a SOA. The environment may include organizational, hardware or software environment.	The information system must satisfy the definition of a Service Oriented Architecture (SOA), requiring a structured management approach to ensure success. This implies a strict monitoring of SOA implementation must be ongoing. All software components must be loosely coupled being the relationship in which one module interacts with another module through a stable interface where modules are independent of each other and pass messages using a public interface. In SA SAMS, this public interface will be implemented by the ESB. The modules shall be designed to have high cohesion being a measure of how strongly related and focussed the responsibilities of a single module are. High cohesion indicates that the module is highly focussed. The information system shall be designed and implement according to the n-tier paradigm requiring that presentation, business process, business rules and data layers of the application be kept separate, thereby avoiding problems associated with combining these layers into monolithic code blocks, in order to provide the following: o Presentation layer modules shall be designed to invoke business rule modules as separate entities. Coding business rules into presentation layer modules shall be avoided wherever possible. o Business process modules shall be implemented to create flows between business rule modules, thereby enabling separation. o Business rules shall be implemented in business service modules with high cohesiveness. o Data shall be stored in a separate data layer consisting primarily of the SA SAMS database.	Must Have	New	Leading Practice

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Conformance - Attributes of software that make the software adhere to standards or conventions relating to portability. (ISO 9126: 1991, A.2.6.3)	Conformance - Applications and infrastructure software will be standards-based to achieve interoperability, manageability, integrity, longevity and security compliance throughout software development and acquisition. It must adhere to Government MIOS and MISS standards.	Where industry standards are not applicable, internal standardisation must be created to enhance interoperability and maintainability. Open standards must be sought out, verified for applicability and applied. 'Open standards' shall be defined as stated in the MIOS. Where open standards do not exist or where these are inadequate, de facto industry standards may be adopted after due consideration of implications or standards may be internally developed. Data standard formats must be defined and adhered to and must be implemented across the SA SAMS and between SA SAMS. Data format and content transformations are required to enable interoperability. Wherever possible, industry-standard XML schemas shall be used e.g. the ebXML standard. Where external standards do not exist, message layout design will be strictly monitored, centralised and standardised within the SA SAMS. Service applications must be designed to produce and to consume messages that are compatible with other consumers / producers. Where data must be exchanged with external producers / consumers, transformations should be minimised, even if this requires change to external data sources.	Must Have	New	Leading Practice
Adaptability - Attributes of software that bear on the opportunity for its adaptation to different specified environments without applying other actions or means than those provided for this purpose for the software considered. (ISO 9126: 1991, A.2.6.1)	Adaptability - The system architecture and application software shall be optimised for platform-independence both for hardware and software.	As both the hardware and software scenario rapidly changes, flexibility in the face of this change is imperative. The information system must be able to survive being able to move from one platform to another by ensuring that all application software is reasonably easily moved to alternate platforms. Some SA SAMS user communities have specific needs that may be impossible to accommodate in a single hosting environment. Additionally, technical realities such as operational or network issues may force some elements of SA SAMS to execute on other platform configurations such as of line solutions.	Should Have	New	Leading Practice
Reusability - The system's structure or some of its components can be reused again in future information systems.	Reusability - The system's structure or some of its components could be reused again in future information systems and as such must be designed and managed for optimise reuse.	The system's structure or some of its components can be reused again in future information systems. System components must be designed and managed to optimise reuse of Government IT assets providing measurable benefits to the development process and, ultimately, to business: o Reduced duplication of code, thereby supporting the IT House of values, and, by implication, Reduced cost of development; o Reduced cost of maintenance because a change is applied in fewer places, ideally only one; o Improved responsiveness to business and technology change. The SA SAMS reuse strategy focuses on reuse at the component level—all artefacts arising out of the development effort must potentially be reusable. Executable component reuse implies reuse of the services offered by the components. A formal reuse strategy, including reuse management practices, policy, methodology and structures, must be defined.	Should Have	New	Leading Practice
Evolvability - Support for new capabilities or ability to exploit new technologies	Evolvability - The system should support for new capabilities or ability to exploit new technologies.	As the new web technologies i.e. mobile, etc. are continuously evolving the system must be architecture and design with consideration of future technology roadmaps to support possible new capabilities or be able to exploit new technologies	Should Have	New	Leading Practice

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Integration - System interfacing and integration to other systems	Integration - The solution must be capable of being integrated with others systems which provide document image processing, electronic document management and content management as well as provide open interfaces for data exchange with other systems.	The solution must be capable of being integrated with systems which provide document image processing, electronic document management and content management. The information system must provide open interfaces for data exchange with other systems. This must be done with specific mention of systems using the SQL database of choice. The system must be able to make use of message oriented middleware (MOM). The system must be able to connect to an Enterprise Service Bus (ESB). System integration will be mainly performed as web services through ESB technologies and layers. SA SAMS will publish Web services and in future business services for consumption by other systems. Other systems that will be required to interface or integrate with are CEMIS, ANA, SASSA, NSC, SACE, IFMS.	Should Have	New	Leading Practice
Localisation - Ability to make adaptations due to regional differences	Localisation - SA SAMS language option will be only South African English.	No additional ability to translate text into different languages is required.	Should Have	Enhanced	Derived

8.11 Data Management

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Database type - proprietary, NoSQL and object-oriented databases, relational database management systems (RDMS)	Database type - A modern and robust relational database management systems (RDMS) which features excellent performance for managing data and data security must be implemented.	The database must allow multiple users (even thousands!) to work with the data at the same time, creating advanced security for access to the data such as; authentication, complex passwords and limiting permissions. It must enforce the concept of a database object schema. A schema is a distinct namespace to facilitate the separation, management, and ownership of database objects. It must have built in functionality for the replication of data, replication is a set of technologies for copying and distributing data and database objects from one database to another and then synchronizing between databases to maintain consistency. It must contain database backup utilities as well as scheduling capabilities for database tasks and procedures. RDMS's includes for example; MS SQL Server, Oracle DBMS 12c, Sybase Adaptive Server.	Must Have	Enhanced	Derived
Data Migration - The process of transferring data between storage types, formats, or computer systems. It is a key consideration for any system implementation, upgrade or consolidation.	Data Migration - It must be possible for migrating data between the current SA SAMS and future SA SAMS and other systems.	It is required that a complete data migration strategy, plan, procedures, tool sets (ETL) and templates must be designed, developed and configured to allow for efficient data migration from the legacy SA SAMS. A strategy will be pursued to migrate current SA SAMS Access data base to SQL data base of the customer’s choice as first priority where after a full web enabled application development will be pursued.	Should Have	New	Derived

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Master Data Management - (MDM) is a technology-enabled discipline in which business and IT work together to ensure the uniformity, accuracy, stewardship, semantic consistency and accountability of the enterprise's official shared master data asset	Master Data Management - A complete master data management ability must be established to manage all DBE defined master data at National and Provincial level as well as master data provided from other government and external systems i.e. Home Affairs, Persal.	It is required that a complete master data management ability must be established to ensure master data definition, governance and control at DBE national policy level as well as at DBE provincial policy level. Selected Master data defined at National level can be changed at provincial level, but full visibility must be allowed for changes and governance must be performed. Hierarchical master data management must be accommodated from a national to provincial level where master data values can be added at different hierarchical levels. The enhanced SA SAMS solution must have the capability to operate on line as well as off line where data synchronisation will be done in an asynchronous manner to the Governments NGN (WAN. Data replication can be done in two operational deployed options. **Option 1:** 3 Tier Architecture (Distributed hosted application / centrally managed with distributed managed data architecture, Database repositories and application installations at school/, provincial and central data centre) Master Data (DBE national department policy) master data will be pushed down from the central data centre to the provincial level data base repository. At provincial level the master data will be updated for provincial policy and then be pushed down to the school level data base repository as well be pushed up to the central data centre to ensure consistent and one master data record.. **Option 2:** 2 Tier Architecture (Distributed hosted application / centrally managed with central managed data architecture, Database repositories and application installations only at school level and central data centre. No hosting at provincial level.). All Master Data (DBE national department and provincial department policy) master data will be accumulate, defined, managed and populated at the central data centre data base repository. The master data will then be pushed down to the school level data base repository. Master data could also be provided from other government and external systems i.e. Home Affairs, Persal.	Must Have	New	Derived
Data Distribution/Replication - Replication involves data changes that have been identified, the replication process makes all the databases look the same. Duplication basically identifies one database as a master and then duplicates that database.	Data Distribution/Replication - The system must allow that SA SAMS operational data can be replicated in upwards hierarchical organisationally manner and in a downwards hierarchical manner for the DBE organisations. Duplication or replication of data from other government or external systems such as Home Affairs, Persal must also be possible.	The enhanced SA SAMS solution must have the capability to operate on line as well as off line where data synchronisation will be done in an asynchronous manner to the Governments NGN (WAN. Data replication can be done in two operational deployed options. Option 1: 3 Tier Architecture (Distributed hosted application / centrally managed with distributed managed data architecture, Database repositories and application installations at school/, provincial and central data centre) Master Data (DBE national department policy) master data will be pushed down from the central data centre to the provincial level data base repository. At provincial level the master data will be updated for provincial policy and then be pushed down to the school level data base repository as well be pushed up to the central data centre to ensure consistent and one master data record.. Operational Data will be pushed up from the school to the provincial data base repository and then from the provincial data base repository pushed up to the central data centre. District/Circuit level users will access the system directly through the intranet at provincial level. Provincial data ware houses will be updated from the provincial data base repository. National data ware houses (i.e. LURITS) will be updated from the central data base repository. Option 2: 2 Tier Architecture (Distributed hosted application / centrally managed with central managed data architecture, Database repositories and application installations only at school level and central data centre. No hosting at provincial level.). All Master Data (DBE national departmental and provincial departmental policy) master data will be accumulated, defined, managed and populated at the central data centre data base repository. The master data will then be pushed down to the school level data base repository. Operational Data will be pushed up from school to the central data centre.	Must Have	New	Derived

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
		Provincial/District/Circuit level users will access the system directly through the intranet at the central data centre level. National and Provincial data ware houses will be updated from the central data base repository. Master data could also be provided (duplicated/replicated) from other government and external systems i.e. Home Affairs, Persal.			
Data Visibility - To allow for data that can be viewed.	Data Visibility - The system must allow that data can be visible/viewed as per hierarchical DBE organisation.	It is required that all data must be indicated in terms of who are allowed to view the data as per hierarchical organisation (DBE national. Provincial. District and School) and combination of a user role.	Must Have	New	Derived

8.12 Training

Requirement Definition	Requirement	Requirement Description	Priority	Status	Requirement Source
Training - User training to be provided to enable ease of use and effective usage of applications.	Training - User training should be provided to enable ease of use and effective usage of SA SAMS. Notwithstanding the need for a training environment, users are looking for intuitive on-line help capability to help them navigate more complex processes.	User training capability must be provided to enable ease of use and effective usage of the functional applications to inform the user how to perform business functions. Areas and training in which the on line user documentation must be available are: o Functional Training - on-line user documentation that can be re-produced for class room training o System training - on-line user documentation that can be re-produced for class room training o General computer skills - on-line user documentation that can be re-produced for class room training o Application training as part of direct user support - on-line user documentation that can be re-produced	Should Have	New	Derived

9 Change Management

This initiative will lead to significant changes in users' involvement, responsibilities and accountability relating to SA-SAMS. A full change management exercise is required to ensure the successful implementation of the modernised SA-SAMS and that includes:

- An Organisational Design exercise to look at roles, responsibilities and accountabilities;

- A broad involvement of all affected department must be adopted (this includes the various directorates, e.g. Curriculum at Provincial level); and

- Champions of SA-SAMS must be identified at the various levels within DBE (National, Provincial, District / Circuit, School) that will aid in the adoption of SA-SAMS and also act as subject matter experts on the system.

However certain change management considerations have been identified during this investigation, elicitation and analysis phase of the project. They are as follows:

<u>Standardisation</u>

- Enforce the use of critical components of the new SA-SAMS to achieve the completeness and accuracy of information and ability to compare performance at all levels
- Province structures need to be fully aligned
- Province IT areas affected as a result of there being there only one version of SA-SAMS without capability to build other add-ons / applications for operational functionality that overlap with SA-SAMS.
- Single negotiated common view of development priorities across the provinces

<u>Roles and Job Descriptions</u>

- New processes and use of SA-SAMS by a number of areas at National / Provincial / District level outside of EMIS
- School Champions and Circuit / District / Provincial systems support staff (technical and user)
- Reduced requirement for data collection roles

<u>Resistance by Schools</u>

- Typically schools allocate SA-SAMS capture to administrator and now it will be necessary for all staff in the school to use SA-SAMS and minimal need for a data administration function
- Computer literacy of older staff
- Real or Perceived additional administration burden : not in my job description and "don't want to do it"
- School executive commitment to change
- Initial effort to adopt – other priorities, limited capacity, requires someone that goes "above and beyond"

<u>Resistance by Circuits and Districts</u>

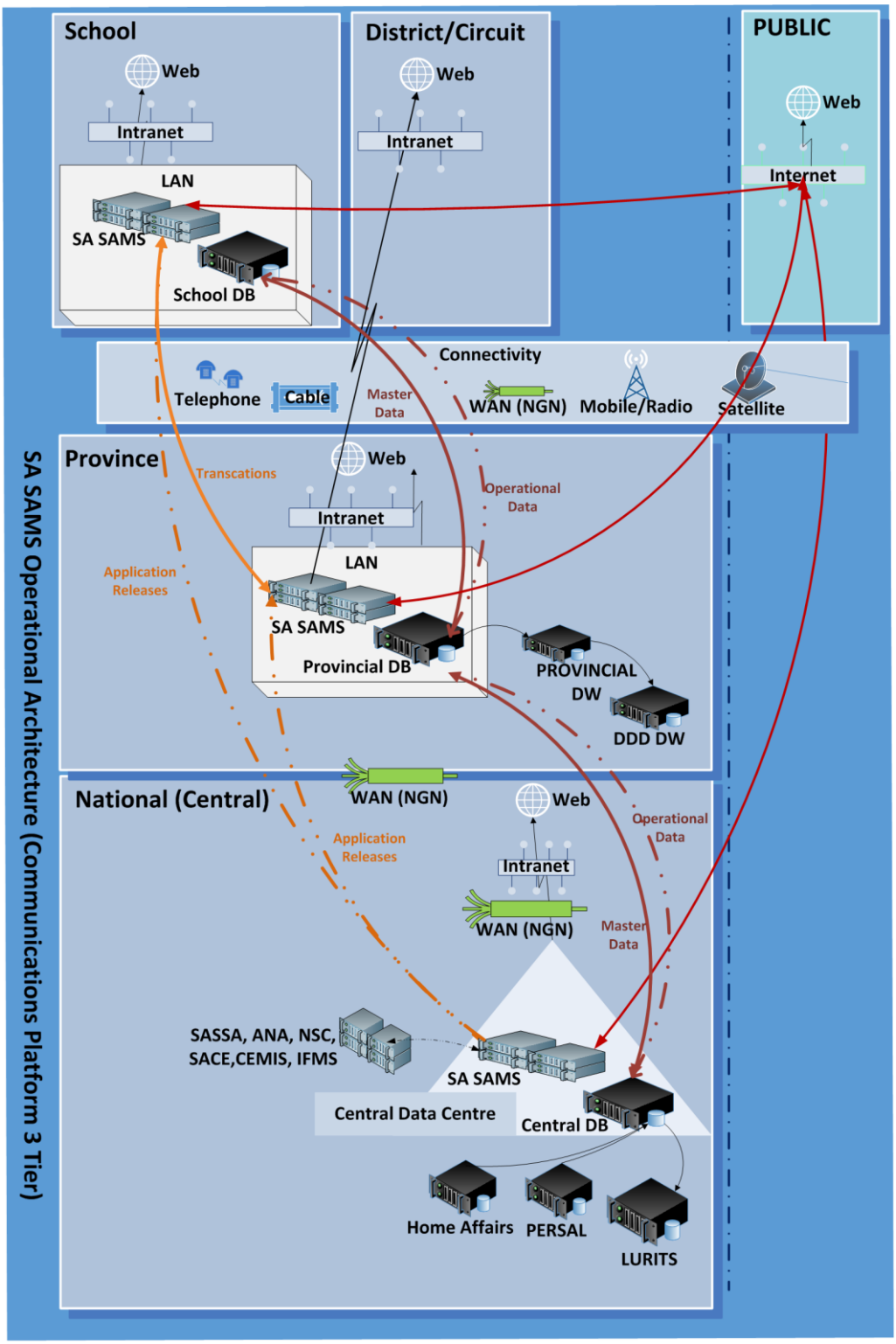
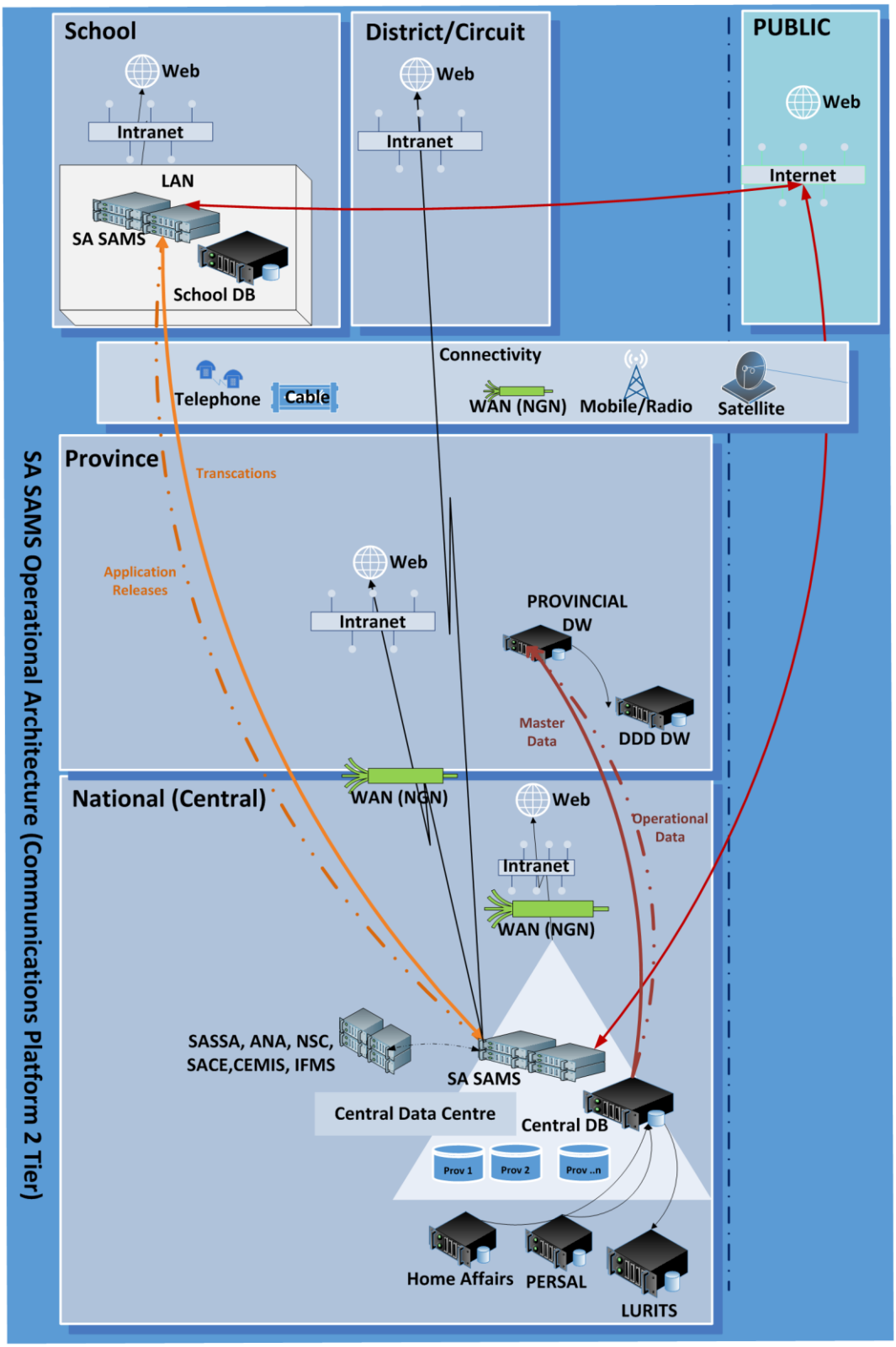
- Ignore the modernised SA-SAMS and continue to do the current manual operational data and data collection processes
- Elimination of current “perks” or financial benefits – e.g. ghost learners, travel allowances and time
- Willingness to access information directly themselves

Provinces

- Trust of SA-SAMS system and perceived loss of control
- Commitment to change and improve processes e.g. efficiently deal with escalations
- Accountability for process performance and data accuracy / completeness
- Willingness to access information directly themselves

10 Appendices

APPENDIX A: OPERATIONAL ARCHITECTURE OPTION 1



APPENDIX B: OPERATIONAL ARCHITECTURE OPTION 2