One Washington Integration Implementation Plan

ONE WASHINGTON

A Business Transformation Program

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1.0 Executive Summary and Introduction

1.1 Executive Summary

The integration strategy outlined in the One Washington Program Blueprint provides a high-level description of the approach for interfaces between the One Washington enterprise resource planning (ERP) functions of Finance, Procurement, Budget and HR/Payroll and the other systems with which the ERP will interface. The approach is to utilize open architecture to facilitate data exchange and application interoperability with multiple legacy and external systems while supporting various technologies, ensuring that state security requirements are met.

This integration approach is based on the principle of leveraging service-oriented architecture (SOA) to provide automated real-time interfaces. SOA will allow agencies to send and receive data in a variety of formats and methods that support standard specifications. For One Washington to successfully execute and implement this integration approach, it is necessary to understand the scope of interfaces and conversions. The Integration Implementation Plan describes the process involved in determining the necessary integration points, the development process, timelines and list of necessary interfaces and conversions, future state recommendation for integration, and the roles and responsibilities of agencies and One Washington during and post implementation.

Information regarding 314 agency systems was gathered through 43 agency interviews. These agency interviews included collaboration between the agencies and One Washington to document current system functionality and data exchange with enterprise administrative systems. Based on the information gathered during these interviews, the initial recommendation is to retire 118 systems and keep 175 agency line of business systems. Disposition recommendations for the remaining systems will depend on the ERP solution selected. From the 314 agency systems, a list of 41 unique interfaces and 50 unique data conversions were defined for the ERP. One Washington subject matter experts and agency functional and technical owners collaborated to complete this analysis. These will be further refined during the implementation design phase.

One of the guiding principles of the One Washington program is to provide a unified system of record (SOR) for Finance, Procurement, Budget and HR/Payroll. To support this guiding principle, One Washington will incorporate leading industry standards to consolidate and standardize interfaces to and from the ERP solution. Based on the initial list of ERP interfaces identified during agency interviews, a list of interfaces has been identified which the enterprise can consolidate and standardize in order to streamline integrations. This list is provided in section 2.4 of this document. This will ensure quality and consistency of data integrating between the ERP solution and agency systems, thereby providing a unified SOR. Consolidation and standardization of interfaces also provide the following benefits for the state:

- Reduced number of unique interfaces to develop
- Less time spent maintaining interfaces
- Easier addition of new receiving entities to the distribution list
- Reduced system processing time to generate interface files

Analysis of extraction and loading of data to the enterprise systems revealed that currently multiple methods are used by agencies. For example, point to point integration, Web Intelligence (WebI), SFTP and Informatica. Informatica was purchased by the state in an effort to modernize the integration infrastructure. However, it is being currently used in limited capacity. To enable the SOA architecture, One Washington plans to leverage a single integration layer that will be able to replace most of these data exchange methods.

An integration layer can provide added flexibility in terms of ability to integrate with data sources outside of the ERP. It can also provide additional capabilities such as legacy data crosswalk, data transformation and ability to enforce business rules. To align with the guiding principle of a unified approach for selecting ERP software, One Washington

will consider using the Integration Platform as a Service (iPaaS) solution delivered by the ERP vendor. However, if that does not meet the state's need, the Strategic Partner has recommended a best-of-breed approach.

The Integration Implementation Plan also provides a detailed description of a typical implementation lifecycle for interfaces and conversions, and the tasks that must be completed in each phase of the implementation lifecycle. For interfaces, agencies will be responsible for modifying their systems to accommodate new chart of accounts (COA) and other ERP data, creating an interface file in the One Washington format, sending the interface file to the integration layer, making modifications to their systems for inbound and outbound interfaces, and making any other downstream agency system modifications.

One Washington will be responsible for developing inbound and outbound interfaces and enterprise business rules, and loading inbound interfaces from agencies. For data conversions, agencies will be responsible for extracting data from their systems that will be retired, cleaning up the data, cross walking their data to new ERP values and providing it to One Washington in the required format. One Washington will be responsible for building the data conversion rules and loading the data to the ERP. Both entities will work together during the various aspects of testing and phases. Figure 1.1 shows a summary of the data that will be converted to the ERP.

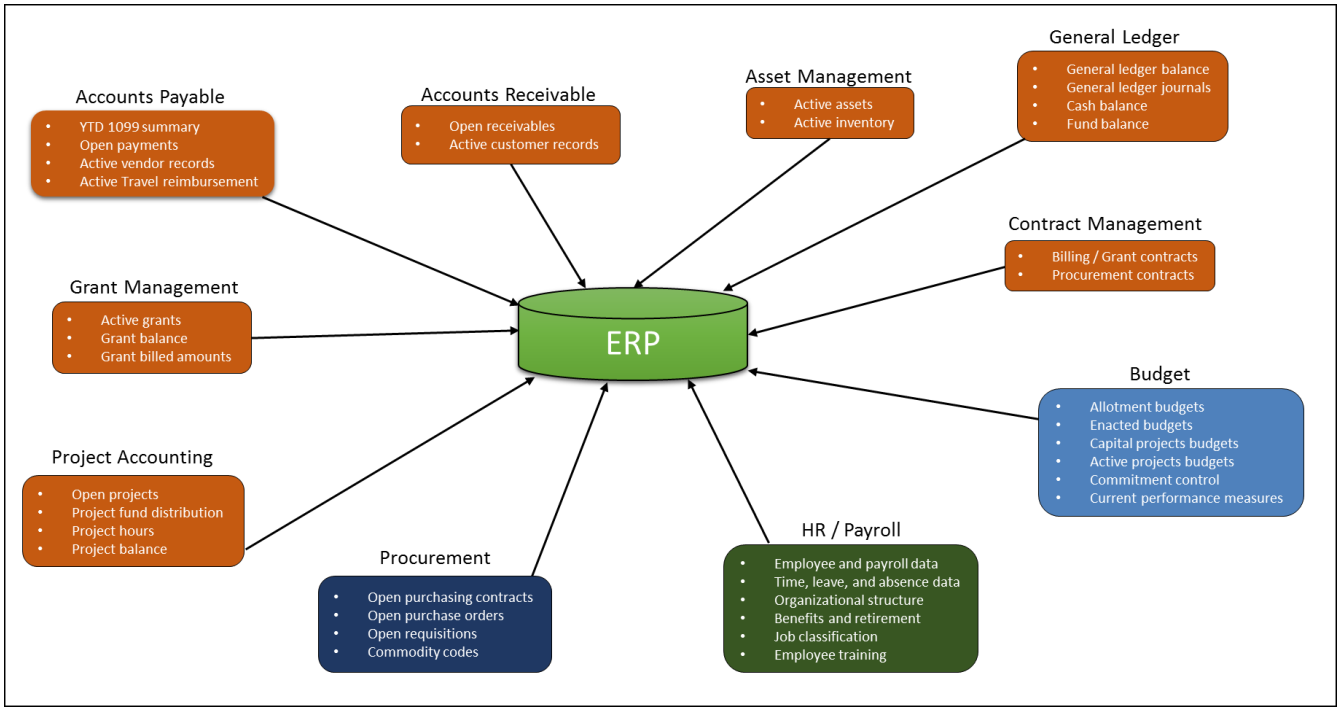

Figure 1.1: Summary Conversions.

1.2 Introduction

The Integration Implementation Plan builds on the Integration Approach presented in the One Washington Program Blueprint, and follows the Blueprint's guidelines and approach. This plan describes the methodology used by One Washington to identify current agency systems and their functionality in order to make disposition recommendations. It also describes the process used for identifying interfaces and data conversions, and provides initial lists of consolidated and standardized interfaces and conversions. It should be noted that these lists will be further refined and updated during the implementation phase.

A typical implementation lifecycle of interfaces and data conversions using an integration layer is also outlined in this document along with the timeline of each development phase, and the roles and responsibilities of agencies and One Washington. Agencies will have a key role during the planning, implementation and post implementation of the ERP/BI solution. One Washington will provide information and guidance to help agencies in their planning and budget process.

Subsequent sections of the Integration Plan describe the process and detailed activities specific to implementing interfaces and data conversions. Each agency can leverage this information to determine the resources and work effort needed to implement their interfaces and data conversions (summarized in Section 2.3.)

Further, as discussed in the subsequent sections of this document and the Program Blueprint, the integration approach is to leverage SOA with one integration layer in order to automate real time interfaces.

To ensure compliance with the Office of Cyber Security, One Washington will adhere to state development and testing standards.

2.0 Integration Implementation Plan

2.1 Scope

2.1.1 *Future State Recommendations and Interfaces*

The vision of the One Washington program includes selection and implementation of a modern ERP to modernize and support Finance, Procurement, HR/Payroll and Budget functions for the state enterprise. The ERP will replace current aging enterprise administrative systems (AFRS, HRMS, TALS, CICS, etc.) as well as their interfaces. Many state agencies have shadow systems that currently integrate with the enterprise's aging administrative systems.

One Washington conducted an initial assessment of all the agency systems that currently integrate with enterprise administrative systems, during Q2 and Q3 of FY18. Based on this assessment, a future state disposition recommendation is provided for these systems.

For agency administrative function systems or shadow systems that perform functions included in scope for One Washington, the recommendation is to replace them with the ERP. These agency interfaces can either be retired completely or replaced by new ERP interfaces. For agency line of business (LOB) systems that perform functions which are beyond the capabilities of a modern ERP, the recommendation is to not replace them with the ERP. However, these systems may require integrations with the ERP so that they can continue to support agency lines of business. For example, Department of Licensing uses the DRIVES system to administer the registration and renewal of driver and vehicle licenses which cannot be done in the ERP. However, DRIVES will continue to transmit revenue and refund transactions to the ERP daily.

Below is a list of factors that may affect the initial assessment and recommendations regarding agency shadow systems.

- Discovery of additional information: If the full functionality of the system is not available at the time of the assessment, the future state recommendation of the system may change when additional information is discovered during implementation
- Change in scope: During the implementation there could be scope constraints or changes that might impact the list of agency administrative systems to be retired, and new interfaces may need to be added to keep legacy systems operational
- Implementation of new agency systems: The list of interfaces determined during the initial assessment may need to be updated if new systems are implemented by agencies prior to One Washington ERP implementation

2.1.2 *Legacy System Data Conversions*

As part of the initial assessment of agency systems, One Washington collaborated with agencies to identify a list of potential data conversions that will be required before the eligible agency systems can be retired. These data conversions are necessary to ensure that agencies can continue to perform administrative functions in the ERP.

During the initial assessment, it was discovered that some data may be duplicated in several enterprise and agency systems. For example, employee retirement plan selection is stored both in HRMS and the Department of Retirement Services system. The data that is duplicated in multiple systems will be converted out of the system of record (SOR) identified by the enterprise and agency Subject Matter Experts (SMEs). More details on historic data reporting is provided in the BI strategy document, additionally the conversion scope and approach is provided in the Program Blueprint Appendix Data Conversion.

2.1.3 *Integration Layer*

The Integration Strategy outlines the approach of utilizing open architecture to facilitate data exchange and application interoperability with multiple legacy and external systems while supporting various technologies. This integration approach is based on the principle of leveraging service-oriented architecture (SOA) to provide automated real-time interfaces. SOA will allow agencies to send and receive data in a variety of formats and methods that support standard interfacing protocols. The integration layer is the foundation that will enable SOA architecture for One Washington.

This approach will enable the Program to perform data transformation, crosswalk legacy data, and enforce business rules that ensure the accuracy of data flowing in and out of the ERP. In addition, the integration layer provides technical tools that enable the Program's Master Data Management strategy to support the guiding principle of providing a unified system of record for Finance, Procurement, Budget, and HR/Payroll. For detailed information on Master Data Management strategy, refer to section 2.6 of the One Washington Program Blueprint

Figure 2.1 shows how the integration layer will be leveraged throughout the implementation phase and during production to perform the following functions:

- Interface data between the ERP and agency LOB systems
- Interface data between the ERP and the BI solution
- Interface data between historic data sources and the BI solution

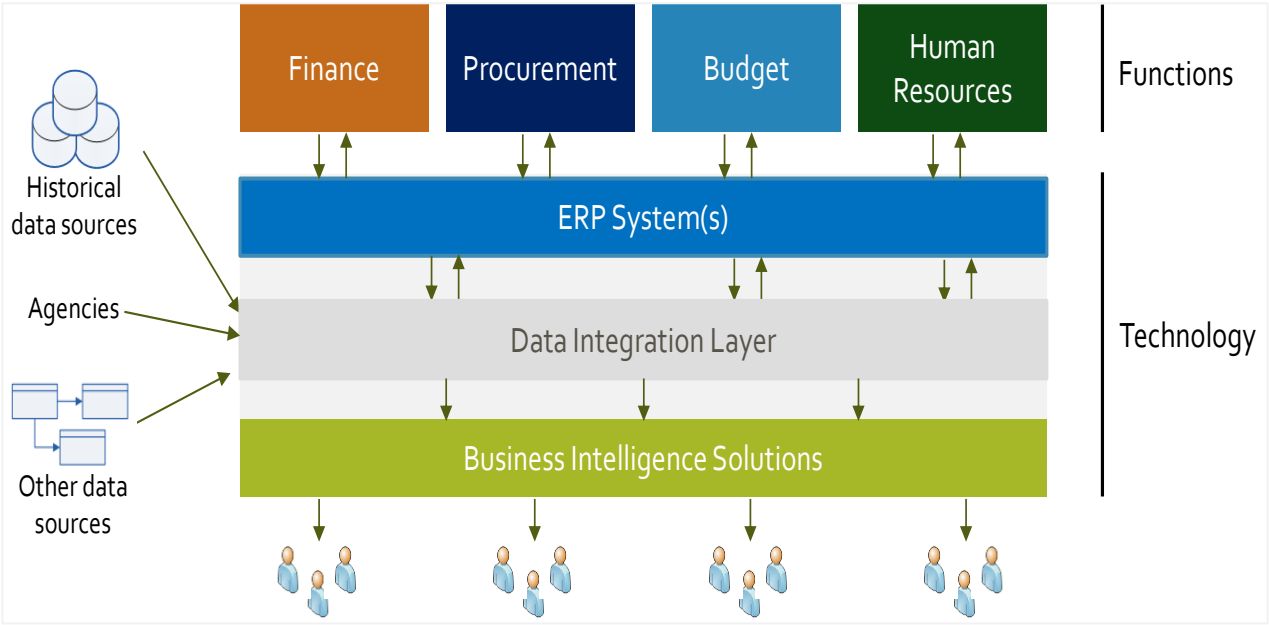

Figure 2.1: Data Integration Layer.

The state currently uses an Informatica integration layer to facilitate some of the newer data transfers. One Washington held discussions with the WaTech Integration team and Informatica users to better understand how it is currently being used, its capabilities, and its limitations. Current state findings and future state recommendations for the integration layer are outlined in section 2.5 of this document.

2.1.4 *Assumptions*

Table 2.1.1 outlines the assumptions made in the development of the Integration Implementation Plan.

Table 2.1.1: Assumptions for Integration Implementation Plan.

Assumption
• One Washington will leverage an integration layer to integrate ERP with agency line of business system and an enterprise BI solution
• One Washington will leverage an integration layer for data conversions from enterprise and agency legacy systems
• One Washington will consolidate and standardize common interfaces to and from agencies
• Agency systems will be able to accommodate new interface file formats
• Agency systems will be able to accommodate new COA elements
• One Washington will be responsible for creating the data mapping crosswalk rules
• Agencies will provide the conversion files in the One Washington format
• The list of interfaces is based on the information documented from agency interviews and is not final
• The list of conversions is based on the information documented from agency interviews and is not final
• The list of recommended systems to retire is based on the information documented from agency interviews and is not final
• Future agency systems that are not currently in production may require additional interfaces from the ERP
• Development and testing processes are based on best practices and may change as needed
• Current timelines are not final and may change during the implementation phase
• One Washington will integrate with public works procurement systems for DES and WSDOT
• One Washington will define a date after which major agency system modifications and implementations should be halted

2.2 Integration Interviews

2.2.1 *Agency System Selection Process*

Over the years, agencies have either developed or purchased their own systems in an attempt to modernize and support their business processes because of limitations in the current enterprise. In an effort to compile the list of agency systems that may be impacted by the ERP, One Washington started with the 2017 OCIO administrative systems survey report. The survey requested all state agencies to identify all their applications as well as associated integrations with AFRS or HRMS. One Washington analyzed the initial list and added additional systems based on the functionality information that was available in the OCIO survey.

One Washington presented the selected list of agency systems at an OCIO forum, and requested input from agencies to further refine the list. Systems were added or removed from this list based on input from agency techincal and business owners. Table 2.2.1 shows the total number of systems reviewed by agencies. This list is current as of May 16, 2018, and will continue to be refined throughout the implementation phase.

Table 2.2.1: Number of Agency Systems.

Agency Name	Number of Systems
AGR - Department of Agriculture	2
AOC - Administrative Office of the Courts	1
ATG - Office of the Attorney General	22
COM - Department of Commerce	1
CWU - Central Washington University	2
DCYF - Department of Children, Youth and Families	3
DES - Department of Enterprise Services	13
DFW - Department of Fish and Wildlife	11
DNR - Department of Natural Resources	8
DOC - Department of Corrections	6
DOH - Department of Health	13
DOL - Department of Licensing	18
DOR - Department of Revenue	7
DOT - Department of Transportation	22
DRS - Department of Retirement Systems	4
DSB - Department of Services for Blind	1
DSHS - Department of Social and Health Services	17
DVA - Department of Veterans Affairs	1
ECY - Department of Ecology	12
ESD - Employment Security Department	3
HCA - Health Care Authority	4
JLS - Joint Legislative Systems Committee	3
L&I - Labor and Industries	25
LOT - Lottery Commission	4
OCIO / CTS / WaTech - Consolidated Technology Services	19
OFM - Office of Financial Management	58
OSPI - Office of the Superintendent of Public Instruction	5
OST - Office of the State Treasurer	1
RCO - Recreation and Conservation Office	1
SAO - Office of the State Auditor	3
SBCTC - State Board for Community and Technical Colleges	2
SES - Office of the Secretary of State	2
SIB - State Investment Board	1
TESC - The Evergreen State College	1

Agency Name	Number of Systems
UTC - Utilities and Transportation Commission	5
UW - University of Washington	2
WHS - Washington State Historical Society	2
WSAC - Washington Student Achievement Council	1
WSP - Washington State Patrol	4
WSSB – Washington State School for the Blind	2
WSU - Washington State University	1
WWU - Western Washington University	1
Total	**314**

2.2.2 *Data Gathering Process*

After the list of agency systems were confirmed, One Washington worked with agencies to gather functionality and interface information about agency systems for the initial assessment through a series of integration interview sessions. These sessions included collaborative discussions between the One Washington program, WaTech, and agency system owners. System Impact Summary spreadsheets (see Figure 2.2) were used to facilitate and gather information about agency systems.

The list of questions in this spreadsheet were developed by a collaborative effort of One Washington and WaTech. The purpose of the System Impact Summary Spreadsheet is to gather as much information as possible about discrete agency systems functionality, how the systems serve the agency's business processes, interface details, and various functional and technical details.

System	Description / Function
•	•
Functional and Technical Questions	
Agency code	
Agency name	
Who is the Functional business owner, contact information, position?	
Who is the IT business owner, contact information, position?	
What is the interface file name?	
What type of interface is it?	
What is the interface job name?	
How often is the interface run (daily, monthly, quarterly)?	
What business process does the system support and does it meet your current needs?	
What data is included in the interface?	
Does the system implement and support current regulatory requirements and legal mandates?	
Who are the current users of the system? How many current users?	
What other systems does this system integrate with?	
Is there limited or no integration with other systems that prohibits full functionality or results in data input duplication?	
Indicate the ease with which it is possible to change (e.g., current or new requirements, configuration changes, etc.) this system and the effect this will have on other programs/systems. (Easy, Medium, Hard)	
Does your agency have the skills required to support and/or develop improvements to this system?	
What are the technologies used to build and support the system?	
What is the current phase in lifecycle of the technology of this system (Sunset, Declining, Mature, Invest)?	
When was the last time the interface was reviewed?	

Figure 2.2.1: System Impact Summary Questions.

Three different approaches were taken to gather the information needed for the System Impact Summary:

- The first approach was an in-person detailed interview. One Washington held interview sessions with the agency business and technical systems owners during which the group walked through each question in the spreadsheet together and recorded the answers for every system.
- The second approach was less hands on than the first approach. One Washington met with agencies and walked through the process for a single system, modeling how to complete the analysis. Agencies then independently completed the spreadsheets for the remaining systems. Agencies returned completed work products to One Washington for review.
- The third approach was a workshop. During the workshop One Washington discussed the approach that should be taken when reviewing a system and the level of detail needed when answering the questions in the System Impact Summary spreadsheets. A “How to Guide” was also created and provided to agencies to assist in completing the spreadsheets.

Based on system functionality and existing interface details gathered in the System Impact Summary spreadsheets, One Washington worked with agency system owners to determine the future state recommendations. These recommendations will continue to be refined during the implementation process as new information becomes available. Figure 2.3 shows the recommendation section of the System Impact Summary spreadsheet.

Functionality replaced by One Washington ERP (Yes / No)	Retire / Keep	Data Conversion		Data Integration	
		Automated / Manual / None	Conversion Scope	Inbound / Outbound / None	Interface Description
Yes					
No					

Figure 2.2.2: System Impact Summary Recommendation.

2.3 System Impact Summary

This section of the document summarizes the key findings and commonalities that were discovered during the agency integration interviews along with a list of systems that could be retired and replaced by the One Washington ERP, a list of agency systems that will be kept, and a list of systems that are solution dependent. Based on these lists, One Washington prepared a list of interfaces and conversions which is summarized in section 2.3.3 of this document. A detailed list of conversions and interfaces is available in Appendix 3.1 of this document.

2.3.1 *Findings*

Agency integration interviews covered a broad range of agency systems. These systems are built on different platforms (mainframe, .net, SaaS, etc.), and fulfill different business needs (operations, reporting, reconciliation, etc.). Despite the differences between these systems, One Washington has discovered some common themes across agencies.

- Multiple agencies use AFRS Financial Toolbox to upload large amounts of transactions to be processed. Agencies have created system functionality to automatically generate files for users to upload to AFRS Financial Toolbox
- Multiple agencies use the Statewide Titles file to add new chart of accounts to their systems from AFRS
- Multiple agencies use the AFRS Vendor file to add vendor records to their systems
- Flat file is the only file format for interfacing with AFRS
- Multiple agencies have developed an AFRS Data Download System (ADDS) to receive AFRS transactional data. The data received and processed by ADDS is then distributed to other downstream agency systems (including agency data warehouses and data marts), instead of interfacing directly with AFRS
- Multiple agencies use reports built in the state's Enterprise Reporting application (ER) or Web Intelligence (WebI) to extract data from AFRS and upload it to their systems
- A small number of more recently implemented agency systems use real-time interfaces to integrate with HRMS or daily feeds with AFRS through Informatica
- Smaller agencies rely on manual double entry in their systems and AFRS
- Higher education institutions do not interface detailed transactions to AFRS. Summary general ledger transactions are interfaced to AFRS
- For agencies with older systems, most of the technical knowledge resides with employees that are close to their retirement

In total, One Washington interviewed 43 agencies and reviewed 314 systems. A System Impact Summary document was created for each system reviewed. Key information for each agency system is provided in Appendix 3.1 of this document.

2.3.2 *Recommendations for Future Application Dispositions*

Leveraging the information gathered during integration interviews, One Washington collaborated with SMEs from WaTech and agencies to assess each system and provide initial future state recommendations. The future state recommendations include a list of systems that could potentially be retired and replaced by the ERP. These agency systems include systems that currently perform business functions similar to those in scope for the One Washington ERP, e.g. TRAINS for WSDOT, and systems that were created as shadow systems for agencies to store enterprise data for reporting purposes e.g. ADDS for OSPI.

Agency systems that are LOB oriented, e.g. Provider One for DSHS/HCA, are listed as "Keep" and will continue to integrate with the ERP. One Washington also identified a subset of systems that may support functions in scope for the ERP, but also include functionalities that may not be available in all ERPs on the market. These agency systems are listed under the "Solution Dependent" category for further discussion once the ERP solution is selected and functionalities are confirmed. Table 2.3.1 shows the total number of systems with a Retire, Keep or Solution Dependent recommendation. These numbers are current as of May 16, 2018, and will continue to be refined throughout the implementation phase.

Table 2.3.1: Number of Systems with Retire, Keep, and Solution Dependent Recommendations

System Counts by Recommendation		
Retire	**Keep**	**Solution Dependent**
118	175	21

2.3.3 *List of Interfaces, Data Conversions and Complexity*

Data conversion is a key activity required for successful transition to the ERP. Once all agencies are live in the ERP, the state's new system will be the single SOR. Data elements for Finance, Procurement, Budget and HR/Payroll functions that are deemed relevant for data conversion were defined by collaborative subject matter expertise of One Washington as well as agency functional and technical business owners.

This list of data conversion is not final and may change based on the selected ERP solution. Further discussions and analysis during the design phase of the Program will be required. As the Program approaches implementation, further research will be done to gather data conversion specifications for the ERP. An initial list of activities that will occur throughout the implementation are defined in section 2.6.6 of this document. Relevant stakeholders will be actively engaged in these discussions and their inputs will be considered during analysis and in finalizing the scope.

For more details of data conversion strategy and approach for the One Washington program, please refer to the Program Blueprint Appendix Data Conversion.

The tables below show a list of data conversions by module and some of their sources. The detailed list of conversion items and their sources by agency is available in Appendix 3.1 of this document.

Accounts payable includes the review and approval of requests for payment. For example, the matching of purchases to receipt to invoicing for vendors and approval for payment and disbursement. Table 2.3.2 shows the accounts payable conversions that will be necessary so an agency can start making payments in the ERP once they are live.

Table 2.3.2: Accounts Payable Conversion.

Item	Description	Source
Year to Date (YTD) vendor payment summary (for 1099s)	Conversion of 1099 reportable transactions from the legacy system into ERP to enable 1099 reporting with IRS for vendors at the end of each tax year	Acumatica Check Writing Electronic Voucher Form JFS Financial Expenditure Systems Accountability
Vendor records - active suppliers with activity in the last 26 months	Conversion of legacy vendor information into the ERP Vendor tables to support business processes in the Accounts Payable and Purchasing modules	AFRS Contracts Application Automated Purchasing System Purchase Tracking System Provider One
Payment voucher	Conversion of open payment vouchers that have not been closed	Check Writing Electronic Voucher Form JFS Financial Expenditure Systems Accountability TM$
Travel reimbursement	Conversion of open travel and adjustments that have not been completed	TEMS

Accounts receivable consists of all types of revenue from sources other than taxes (e.g. fees, fines, rents, sales, assessments, gifts, grants, reimbursements, interagency transactions, etc.), this includes the chain of activities from the revenue event, e.g. determination of amount, through accounts receivable, billing, collections, or write off from both external entities (from customers) and internal entities (from other departments). Table 2.3.3 shows the accounts receivable conversions necessary so that agencies can invoice customers and process revenue transactions.

Table 2.3.3: Accounts Receivable Conversion.

Item	Description	Source
Customer records – active customers with activity in the last 26 months	Conversion of customers from the legacy system into ERP	Computron AR Enterprise AR Agency Billing System Revenue Tracking Accounts Receivable Collection System
Open accounts receivable items (including credit balances)	Conversion of open receivables from the legacy system to ERP	EH Invoicing QuickBooks Pro Agency Billing System TM$

Asset management is the management and accounting of fixed and capital assets. For example, land, buildings, and equipment. Table 2.3.4 shows the asset conversions that will be necessary for an agency to manage their capital, small and attractive assets, and inventory in the ERP once they are live.

Table 2.3.4: Asset Management Conversion.

Item	Description	Source
Asset	Conversion of active assets including depreciation from legacy system	Capital Asset Management AMS ATS
Inventory	Conversion of active inventory items	Consumable Inventory System

Contract management is tracking, monitoring, and updating contracts throughout their lifecycle to proactively manage supplier and user adherence to negotiated terms and conditions. Developing and management of contract templates and boilerplates, including terms and conditions, is part of this process. Contracts include grant/billing and procurement contracts for the state. Table 2.3.5 shows the contract conversions that will be necessary so that agencies can manage their active contracts in the ERP once they are live.

Table 2.3.5: Contract Conversion.

Item	Description	Source
Billing / Grant contracts	Billing / Grant contracts (aka agreements) will be used to represent an agreement between the state and the customer that they are billing, which could be a federal agency, a local government, company or individual. This will also include tax liability information that is associated with the contracts module in order for the state to continue billing related to agreements	CMS NatureE
Procurement contracts	Conversion of active state procurement contracts	ECMS Purchasing and Contract Management System SSCD ACD

General ledger is the definition of the chart of accounts and the accounting of transactions to the general ledger for each department and the enterprise as a whole. Table 2.3.6 shows the general ledger conversions that will be necessary so that agencies can process accounting transactions and generate reports in the ERP once they are live.

Table 2.3.6: General Ledger Conversion.

Item	Description	Source
General ledger balances	Conversion of ledger balances and transactions from the legacy system into the general ledger module	AFRS
General ledger journals	Conversion of budget journal entries from the legacy system into the ERP general ledger commitment control journal tables	AFRS TM$
Cash balance	Conversion of current cash balances	TM$ AFRS
Fund balance	Conversion of fund balances for state, federal, and local funds	TM$ AFRS

Grant management is managing the full lifecycle of a grant. For example, applying, receiving, managing, reporting, and closing federal grants. Table 2.3.7 shows the grant conversions that will be necessary so that agencies can manage their grants, spend against them, and draw down reimbursements in the ERP once they are live.

Table 2.3.7: Grant Management Conversion.

Item	Description	Source
Active grants	Conversion of open active grants from legacy system into ERP Grants Management	Grants Management system Grants Receivable System
Grant balance	Load expenditure and revenue balances for active grants from legacy system to ERP	Grants Management system
Grant/project life to date billed amounts	Conversion of grant/project life to date (LTD) billed amounts from the legacy system	AFRS TRAINS Enterprise Reporting

Project Accounting includes the setup, maintenance of projects, as well as managing the accounting for projects. Projects can be related to various contracts, interdepartmental work orders, capital projects, etc. In some agencies, e.g. WSDOT, grants are accounted for using project accounting. Table 2.3.8 shows the project accounting conversions that will be necessary so that agencies can continue their projects once they are live in the ERP.

Table 2.3.8: Project Accounting Conversion.

Item	Description	Source
Open Projects	Conversion of active projects	NTAR AFRS Enterprise Reporting

Item	Description	Source
Project fund distribution	Conversion of specialized payroll and fund distribution requirements for projects	NTAR
Project hours	Conversion of historic hours for active projects	TCP / VCP
Project balance	Conversion of open project expenditures	AFRS TRAINS

Procurement is the chain of activities starting from identifying appropriate buying channels, through issuing and managing a purchase order with the supplier, to matching purchase orders with receipt, and handoff to accounts payable. It also includes requisitions that become purchase orders, the issuance of legally binding orders to suppliers, and submission of paper or electronic invoices. The topic also includes the policies and procedures for the business domain. Table 2.3.9 shows the procurement conversions that will be necessary so that agencies can purchase goods and services in the ERP once they are live.

Table 2.3.9: Procurement Conversion.

Item	Description	Source
Open purchasing contracts	Conversion of procurement contracts from the legacy system	ECMS PCMS SSCD
Open purchase orders	Conversion of procurement purchase orders from the legacy system	Purchasing Acumatica Tracks Purchase Tracking System Contracts and Grants Payable
Open requisitions	Conversion of procurement requisitions from the legacy system	Purchase Tracking System
Commodity	Conversion of the NIGP commodity codes	WEBS

Budget is the promulgation of policy and process guidance to develop budget requests, the analysis and recommendations pertaining to such requests, and the decision making and approval of budgets. Table 2.3.10 shows the budget conversions that are necessary so that agencies can build and manage their budgets in the ERP once they are live.

Table 2.3.10: Budget Conversion.

Item	Description	Source
Allotment budgets	Conversion of current allotment budgets for agencies	TALS-EA TALS-AMR
Enacted budgets	Conversion of approved and enacted budgets	Winsum
Capital projects budgets	Conversion of budgets for active capital projects	BuildSum CBS

Item	Description	Source
Active projects budgets	Conversion of budgets for non-capital projects	Transportation Projects
Current performance measures	Conversion of established agency performance measures	RPM
Commitment control (including appropriations, operating, and allotment balances)	Conversion of budget balances (commitment control). Operating budgets, chart fields and amounts (journal entry)	AFRS TALS-AMR

HR/Payroll is the talent acquisition process, learning and development plans, time and attendance, and payroll processing that occurs in the enterprise for all employees. Table 2.3.11: HR/Payroll shows the conversions that are necessary so that agencies can engage in employee management, time and attendance tracking, and payroll processes in the ERP once they are live.

Table 2.3.11: HR/Payroll Conversion.

Item	Description	Source
Current position data record and position control data	Conversion of position data and position control data from the legacy system into the ERP Human Resources module	HRMS
Employee bank	Conversion of employee bank data for payroll processing	HRMS Financial
Organization structure	Conversion of personnel data from the legacy system into the Human Resources module	HRMS HR Admin
Applicants for active job postings	Conversion of active applicants associated with open job postings	PAR PDF
Leave balance	Conversion of leave accruals data from the legacy system into the Benefits Administration module	HRMS HR Café
Leave transactions	Conversion of future leave that has not been taken	HR Café
Work schedules	Conversion of schedule data to the Time and Labor module	Leave and Attendance System HR Admin
Current employee data	Conversion of employee records from the legacy system into the Human Resources module	HRMS
Salary schedule	Conversion of salary schedule data from the legacy system into the ERP Human Resources module	CCJobs
Benefit plan	Conversion of health, life, and pension benefits data from the legacy system into the Benefits Administration module	Pay1

Item	Description	Source
Current general deduction	Conversion of General Deduction data from the legacy system into the ERP Payroll module	HRMS
Current tax data enrollment	Conversion of tax enrollment data from the legacy system into the ERP Payroll module	HRMS
Employee location	Conversion of employee location and mailstop information	HR Admin
Employee purchase authority	Conversion of employee purchase authority rules	HR Admin
Employee agreements	Conversion of employee remote and telework agreements	Remote Agreement Telework Agreement
Training plan	Conversion of current employee training plans	In Training Plan
Job classification	Conversion of the currently established job classifications	CC Admin
Open garnishments	Conversion of open garnishments that have been established in the legacy system	Payroll Garnishment HRMS
Employee retirement plans	Conversion of the current employee retirement plans established with DRS	Financial System

As part of the integration interviews, One Washington worked with agency functional and technical system owners to identify and document current interfaces in the System Impact Summary spreadsheets. Based on the current interfaces identified in the System Impact Summary spreadsheets, One Washington assessed and compiled a list of interfaces needed to integrate the ERP with interfacing systems. The interfacing systems include:

- Agency systems that are recommended as "Keep" e.g. Provider One for DSHS/HCA, TM$ for OST, etc.
- External systems that currently interface with an agency system that can potentially be replaced by the ERP, e.g. FMIS/FHWA for WSDOT

Agency systems are based on different technology platforms which include Mainframe, COTS, SaaS, etc. Therefore, the level of efforts required for agencies to integrate with One Washington ERP vary. Throughout the integration interviews, One Washington asked agencies to estimate the degree of complexity involved with modifying existing systems to integrate with or extract data to convert to the ERP. There are three degrees of complexity that agencies have categorized their systems in:

- Low – Modifications to meet ERP specifications are part of routine maintenance for the system, e.g. configuration update
- Medium – Modifications to meet ERP specifications are not part of routine maintenance for the system, and will require additional development effort and time
- High – Modifications to meet ERP specifications will require significant effort and time because of the complexity of the system or lack of technical knowledge in the agency

Additional considerations that will impact the level of efforts for agencies include:

- Technical skill level: agencies should ensure that they have the appropriate technical resources to meet the One Washington integration work effort

- Resource schedules: agencies should ensure effective capacity planning within their staff to meet this effort

Tables 2.3.12 and 2.3.13 show the number of interfaces and conversions by agency and complexity. This information combined with the responsibilities in section 2.6.6 and the timelines in section 2.7 will provide guidance to agencies when they are creating level of effort estimates for budget requests.

Table 2.3.12: Number of Low, Medium, High Interfaces by Agency.

	Complexity			
Agency Name	**Low**	**Medium**	**High**	**Total**
AGR - Department of Agriculture			4	4
AOC - Administrative Office of the Courts		1		1
ATG – Office of the Attorney General		11		11
COM – Department of Commerce		1		1
CWU - Central Washington University		3	1	4
DCYF - Department of Children, Youth and Families		5	3	8
DES - Department of Enterprise Services	16	2		18
DFW - Department of Fish and Wildlife		7	21	28
DNR – Department of Natural Resources	1	2	15	18
DOC - Department of Corrections		4	6	10
DOH - Department of Health	3	6	5	14
DOL - Department of Licensing	2	19	25	46
DOR - Department of Revenue		6		6
DOT – Department of Transportation		16	3	19
DRS - Department of Retirement Systems	1		9	10
DSB - Department of Services for Blind		3		3
DSHS - Department of Social and Health Services		6	36	42
DVA - Department of Veterans' Affairs	3			3
ECY - Department of Ecology	1	17	8	26
ESD - Employment Security Department	3		3	6
TESC – The Evergreen State College			1	1
HCA - Health Care Authority			15	15
JLS - Joint Legislative Systems Committee		1		1
L&I - Labor and Industries	24	8	8	40

	Complexity			
Agency Name	**Low**	**Medium**	**High**	**Total**
LOT - Lottery Commission			2	2
OCIO / CTS / WaTech- Consolidated Technology Services	16	9	5	30
OFM – Office of Financial Management	41	108	17	166
OSPI – Office of the Superintendent of Public Instruction		5	9	14
OST – Office of the State Treasurer		5		5
RCO - Recreation and Conservation Office		2		2
SAO - State Auditor's Office		8		8
SBCTC - State Board for Community and Technical Colleges		2		2
SES - Office of the Secretary of State			1	1
SFB – Washington State School for the Blind			1	1
SIB - State Investment Board			3	3
UTC - Utilities and Transportation Commission		1	4	5
UW - University of Washington		3	2	5
WHS – Washington State Historical Society	4			4
WSAC - Washington Student Achievement Council		4		4
WSP – Washington State Patrol		8		8
WSU - Washington State University		2		2
WWU - Western Washington University			1	1
Total	**115**	**275**	**208**	**598**

Table 2.3.13: Number of Low, Medium, High Conversions by Agency.

	Complexity			
Agency Name	**Low**	**Medium**	**High**	**Total**
AGR - Department of Agriculture			2	2
COM – Department of Commerce		1		1
DES - Department of Enterprise Services	7	2		9
DFW - Department of Fish and Wildlife		2		2
DNR - Department of Natural Resources	4	1	1	6
DOC - Department of Corrections			2	2

	Complexity			
Agency Name	**Low**	**Medium**	**High**	**Total**
DOH - Department of Health	1	3		4
DOL - Department of Licensing	4	2	2	8
DOR - Department of Revenue	1	2	3	6
DOT – Department of Transportation		5		5
DRS - Department of Retirement Systems	1		1	2
DSHS - Department of Social and Health Services		4	2	6
ECY - Department of Ecology		4	5	9
ESD - Employment Security Department			1	1
HCA - Health Care Authority	3		1	4
JLS - Joint Legislative Systems Committee		2	1	3
L&I - Labor and Industries	3	2		5
LOT - Lottery Commission		1		1
OCIO / CTS / WaTech- Consolidated Technology Services	5	5	2	12
OFM – Office of Financial Management	12	14	4	30
OST – Office of the State Treasurer		1		1
SFB – Washington State School for the Blind			2	2
UTC - Utilities and Transportation Commission	2		1	3
WSP – Washington State Patrol		1		1
Total	**43**	**52**	**30**	**125**

2.4 Integration Consolidation and Standardization

Currently, agency systems are not integrated efficiently with enterprise systems. Many agency systems rely on point to point integrations or pre-built reports used to integrate with enterprise administrative systems like AFRS. In addition, interfaces with agency systems often contain different interface layouts and formats, and require extensive effort by enterprise and agency staff to maintain. For example, there are currently 142 unique enterprise interfaces that are maintained. One of the guiding principles of the One Washington program is to provide a unified SOR for Finance, Procurement, Budget, and HR/Payroll. To support this guiding principle, One Washington will incorporate leading ERP implementation best practices to consolidate and standardize the interfaces to and from the ERP solution. Streamlining of integration will ensure quality and consistency of data integration between the ERP solution and agency systems, thereby providing a unified SOR. A unified SOR will provide the following benefits for agencies:

- Accurate, more comprehensive, and timely data for decision makers
- Reduced risk of major system failure
- More staff time devoted to delivering the mission rather than maintaining systems
- Critical business capabilities maintained without having to own all the technology

- Process efficiencies as many routine, supporting tasks are automated

In addition, consolidation and standardization of interfaces will also provide the following benefits for the state:

- Reduced number of unique interfaces to develop
- Less time spent maintaining interfaces
- Easier addition of new receiving entities to the distribution list
- Reduced system processing time to generate interface files

2.4.1 *List of Consolidated and Standardized Interfaces*

Based on the current list of inbound and outbound interfaces captured in the integration interviews, One Washington recommends a list of 41 unique standard interfaces for the ERP solution. These interfaces will use delivered APIs from the ERP solution and the integration layer as middleware for data verification, transformation and traceability. The tables below (Table 2.4.1 – Table 2.4.10) show the list of consolidated and standardized interfaces by module. This list does not include specialized agency interfaces like the interfaces between the ERP and OST.

Table 2.4.1: Consolidated Accounts Payable Interfaces.

Interface Name	Description	Inbound / Outbound
Payment voucher	This interface will bring in ACH and warrant information from agency systems for the payment to be disbursed by the ERP	Inbound
ACH transactions	This interface will bring in ACH payments information from agency systems for the payments to be disbursed by the ERP	Inbound
Payment register	This interface will give agency systems the status of processed payments	Outbound
Payable balance	This interface will give agency systems the outstanding payment balance on open payments	Outbound
Vendor records	This interface will give agency systems the statewide vendor records	Outbound

Table 2.4.2: Consolidated Accounts Receivable Interfaces.

Interface Name	Description	Inbound / Outbound
Cash receipts	This interface will bring in deposit transactions to account for incoming cash, including ACH transactions, that have been received by an agency system	Inbound

Interface Name	Description	Inbound / Outbound
Receivables	This interface will bring in transactions that will be recognized as revenue including invoices	Inbound
Receivable balance	This interface will give agency systems the open receivable balance	Outbound
Customer records	This interface will give agency systems the statewide customer records	Outbound

Table 2.4.3: Consolidated Asset Management Interfaces.

Interface Name	Description	Inbound / Outbound
Asset information	This interface will give agency systems current asset information including depreciation and disposed assets	Outbound

Table 2.4.4: Consolidated Contract Management Interfaces.

Interface Name	Description	Inbound / Outbound
Procurement contract	This interface will bring in new agency procurement contracts that have been initiated in agency systems	Inbound
Billing/Grant contracts	This interface will bring in new billing and grant contracts that have been initiated in agency systems	Inbound
Procurement contract	This interface will give agency systems the current state of procurement contract information	Outbound
Billing/Grant contracts	This interface will give agency systems the current state of billing and grant contract information	Outbound

Table 2.4.5: Consolidated Cost Allocation Interfaces.

Interface Name	Description	Inbound / Outbound
Cost allocation statistics	This interface will bring in cost allocation statistics (hours, headcount, rate, etc.) that will load into the cost allocation configuration tables	Inbound

Interface Name	Description	Inbound / Outbound
Cost allocation results	This interface will give agency systems cost distributions that resulted from processing cost allocation	Outbound

Table 2.4.6: Consolidated General Ledger Interfaces.

Interface Name	Description	Inbound / Outbound
Journal voucher transactions	This interface will bring in journal voucher transactions that are used to update all general ledger balances	Inbound
Chart of accounts	This interface will give agency systems the current chart of accounts in the ERP	Outbound
General ledger balance	This interface will give agency systems the current balances for all general ledger accounts	Outbound

Table 2.4.7: Consolidated Grant Management Interfaces.

Interface Name	Description	Inbound / Outbound
Reimbursement transactions	This interface will bring in transactions that will be used to update the grant balances	Inbound
Grant information	This interface will give agency systems the current grant information, status, and balance	Outbound

Table 2.4.8: Consolidated Procurement Interfaces.

Interface Name	Description	Inbound / Outbound
Purchase orders	This interface will bring in purchase orders that have been initiated in agency systems	Inbound
Purchase order status	This interface will give agency systems the status of purchase orders and the outstanding balance	Outbound

Table 2.4.9: Consolidated Budget Interfaces.

Interface Name	Description	Inbound / Outbound
Agency budget requests	This interface will bring in agency budget requests	Inbound

Interface Name	Description	Inbound / Outbound
Activity description	This interface will bring in agency specific activity descriptions that will be used during budget development	Inbound
Allotment budgets	This interface will bring in agency allotment budgets that have been developed by agencies	Inbound
Final budgets	This interface will give agency systems the final budgets that have been approved	Outbound
Proposed budgets	This interface will give agency systems the governor's proposed budgets	Outbound
Budget versions	This interface will give agency systems completed budget versions	Outbound

Table 2.4.10: Consolidated HR Interfaces.

Interface Name	Description	Inbound / Outbound
Time and leave activity	This interface will bring in time and leave activity from agency time tracking systems	Inbound
Job Class	This interface will give agency systems the job classification information for their employees	Outbound
Employee master data	This interface will give agency systems all the employee information	Outbound
Position data	This interface will give agency systems the position data for each employee	Outbound
Payroll deductions	This interface will give agency systems the payroll deductions for each employee	Outbound
Retirement plan	This interface will give agency systems the retirement selection plans for each employee	Outbound
Leave summary	This interface will give agency systems the leave balances for each employee	Outbound
Organizational structure	This interface will give agency systems the organizational structure and hierarchy	Outbound
Quota balance	This interface will give agency systems the quota balance for each employee	Outbound
Payroll accounting details	This interface will give agency systems the payroll accounting and funding details for each position	Outbound

Interface Name	Description	Inbound / Outbound
Labor distribution	This interface will give agency systems the labor fund distribution information	Outbound
Pay steps and salary information	This interface will give agency systems the pay steps for employees	Outbound

2.4.2 *Development Standards*

While One Washington has selected a Software as a Service (SaaS) approach, also described as a "cloud" approach to technology deployment, some development standards are still required for interfaces and data conversions. Development standards are the rules and guidelines that the Program will follow during the design and build stages of the development phase. Consistent and good development standards ensure that coding is consistent and easy to understand and transfer to others. They also help ensure that the code is flexible and sustainable. The One Washington program will collaborate with state technical resources during the implementation phase to create enterprise development standards that will align with current state standards and guidelines.

An effective development standard should include the following elements:

- Class structure and organization
- Class headers
- Method headers
- Indentation
- White space and blank lines
- Alignment assignment statements
- Variable declarations
- Line lengths and line breakers
- Method size
- Bracing and nesting
- Switch/case layout
- Conditions
- Loops

Consistent naming standards are also key to ensure code flexibility and long-term maintenance. Each class, attribute, and method name must be meaningful and descriptive of the information it contains or the behavior it performs. This includes the following elements:

- Package names
- Class names
- Abstract class names
- Interface names
- Interfaces and implementations
- Method names
- Variable names
- Instance variable names
- Local variable names
- Constant names

Apart from the development standards mentioned above, there are certain coding practices that are crucial to ensure that the code will be easy to maintain and update. The Program will take the following considerations:

- Methods should be kept to 25 statements in length
- Variability will be emphasized
- Code will be written as readable in English, as possible
- Long statements will be broken up
- Abbreviations will not be used
- Comparison to "true" in conditionals will not be used
- "this" will be used to specify receivers
- White space readability will be taken into consideration

The detailed development standards for One Washington will be developed during the implementation phase of the ERP solution, and the integration layer selected.

2.5 Integration Layer

As discussed in the Integration Approach section of the One Washington Program Blueprint, one of the fundamental assumptions is to incorporate an integration layer into the infrastructure of the ERP to facilitate and streamline data exchange. The integration layer enables a seamless bi-directional exchange of data between an ERP, agency systems, and the BI solution. The sections below discuss the current state of enterprise integration layer resources and provide recommendations for the future state.

2.5.1 *Current State*

Currently, multiple methods are used to facilitate the extraction and loading of data to enterprise systems. Below is a list of the current methods:

- Point to point integrations: Used to read data directly from the source database, extract it, transform the data to a new layout and/or format, e.g. SQL, and load the data to a destination database or file location.
- Enterprise reporting (ER) / Business Objects (WebI) integrations: Reports that are extracted and loaded into systems as an interface
- Secure file transfer protocol (SFTP): Used to transfer flat files that are loaded to systems
- Middleware (Informatica): An integration product used to extract, transform, and load data, and to manage interfaces

WaTech has purchased licenses for Informatica (a middleware tool) in an effort to modernize the integration infrastructure for the state One Washington met with the WaTech and OFM stakeholders of Informatica to learn more about the technical specifications, limitations, and how it is currently being used.

Table 2.5.1 summarizes the technical specifications for the different modules within Informatica, including current licenses, available environments, and current users.

Table 2.5.1: Informatica Current State.

Informatica Master Data Management (MDM)	
Licenses	• Multidomain edition - 10.2 HF1 • One production hub • IDD • Active VOS

Environments	• Development • Test • Production
Users	• OFM Education Research and Data Center (ERDC) • OFM State HR
Notes	• Depending on resource requirements and the availability of resources, N number of process (cleanse) servers can be associated with the hub • Depending on the business requirements, N number of operational resource stores are available • MDM is a separately licensed product and is not dependent on the other Informatica tools • The development, test and production environments are mirror images of each other • Licenses are on-premises
Informatica Platform	
Licenses	• PowerCenter Enterprise / Real Time Edition - 10.1.1 HF1 • Eight production CPU cores • PowerCenter • Data Quality • Informatica Developer • Metadata Manager • Reporting Services • MQ Adapter • Embarcadero Bridge • VSAM CDC PowerExchange • SAP PowerExchange
Environments	• Development • Test • Production
Users	• OFM Education Research and Data Center (ERDC) • WaTech • WWA • OFM State HR
Notes	• The license supports grid, HA, and push down optimization • Licenses are on-premises
Informatica Data Integration Hub	
Licenses	• Data Integration Hub - 10.2.0 • Four production CPU cores • PowerCenter – 10.2 HF1

Environments	• Development • Test • Production
Users	• WaTech
Notes	• Licenses are on-premises

Informatica is currently being used by multiple agencies e.g.:

- WWA: Informatica is used to extract data from HRMS and transfer it to a database where analytics are overlaid and reports are generated
- ERDC: Informatica is used to extract and manage education data that is used in reports for the legislature. They are currently the only stakeholder group who is using the MDM functionality in Informatica to manage and merge the data that is being extracted from multiple sources
- WaTech: Informatica is currently being used to replace agency interfaces. For example, the Department of Fish and Wildlife (DFW) currently uses ER to extract AFRS COA and load them to their agency systems. This data exchange is being replaced with an Informatica connection that will allow their systems to consume the AFRS COA. Another example is the Department of Ecology (ECY) which uses Informatica to interface employee information between HRMS and eTime

Additionally, the following issues have been identified by One Washington stakeholders:

- There is no central unit governing the design, development, testing, and production scheduling. This is causing resource stress and performance issues
- There is no diagnostic tool in place. This makes it difficult to troubleshoot and identify the root cause of a problem.
- There are no clear performance requirements or testing tools
- There is a shortage of Informatica administrators at WaTech

Due to these issues, One Washington does not believe that the current on premises instance of Informatica will be able to support the future ERP solution.

2.5.2 *Future State Recommendation*

After reviewing the capabilities of Informatica and the interface information that was captured during the agency interviews, One Washington's recommendation is to implement a data integration layer that can replace most of the data exchange methods described in the current state (see Figure 2.4 below).

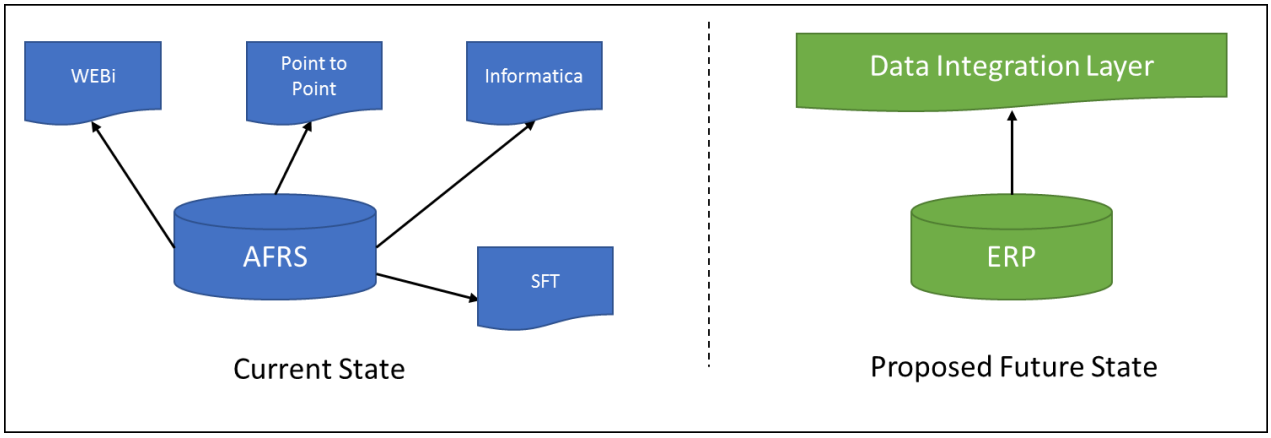

Figure 2.4: Data Integration Layer Proposed Future State.

As described in the One Washington Integration Approach, an integration layer can provide added flexibility by removing limitations imposed by the ERP solution. An integration layer can also provide added capabilities such as data transformation, legacy data crosswalks (mapping legacy data sources to new solutions) and the ability to enforce business rules. Additionally, an integration layer could provide a solution for the following scenarios for the state:

- Business needs are not met within the ERP application
- Data processing that has complex functions, rules, or requirements
- Interfaces that require complex functions or calculations
- ERP applications that do not deliver an API function for integration purposes

Some ERP vendors offer Integration Platform as a Service (iPaaS), which is a cloud platform that allows customers to develop and manage integrations and applications to support the ERP. Table 2.5.2 shows the four biggest cloud ERP vendors, their preferred iPaaS solution, and a sample of some of the features they offer. The list of sample features is not intended to be the complete list of features for a given iPaaS solution.

Table 2.5.2: Cloud ERP Preferred iPaaS.

Cloud ERP Vendor	Preferred iPaaS solution	Sample Features
Infor	Infor ION	• Flexible integration endpoints • Custom workflow and alters • Unified monitoring tool
Oracle Cloud	Oracle Cloud Platform	• Easily integrates and extends SaaS • Multi-layered security • Data encryption default • Open and standards-based
SAP	SAP Cloud Platform Integration	• Custom adapters • Prepackaged integration content • Flexible integration endpoints

Cloud ERP Vendor	Preferred iPaaS solution	Sample Features
Workday	MuleSoft	• Unified design, test, and implementation tools • Pre-built application connectors • Visibility and control from a single application • Flexible scalability options

The Program Blueprint outlines the vision of having a unified approach for selecting ERP software. The same approach will be used for identifying the integration layer. Once the ERP vendor is confirmed, One Washington will evaluate the iPaaS solution recommended by the ERP vendor. There are many advantages for using a unified approach instead of a best-of-breed. Listed below are the key factors that contributed to this rationale:

- Pre-built Integrations – Each preferred iPaaS solution has pre-built integrations with their respective ERP solution. The pre-built integrations reduce time consuming and costly development cycles that are required to integrate with the ERP. These production-ready integrations can jump start integrations for the implementation, and allow One Washington to focus on integration effort that involves legacy data crosswalks and transformation.
- Industry Knowledge Base – During the integration interviews, One Washington captured the type of data that is being exchanged in existing integrations. The Program has discovered that the majority of these data elements are common across industries and organizations. For example, an interface that sends payment voucher requests from one agency LOB systems to the ERP should be similar regardless of industry or organizations. By having a unified solution, One Washington will be able to leverage lessons learned, bug fixes and software updates from other organizations or industries.
- Improved Data Access for BI – ERP solutions provide pre-built integrations with their preferred iPaaS solution that allow for easier data mining and management of data references. This ensures consistency and quality of data in Business Intelligence reports.

If the selected ERP integration layer does not satisfy the state's needs, then the best-of-breed approach can be considered as an option for the state. One Washington will assess the options based on the defined business capabilities and technical specifications.

2.6 Integration Development Process

The implementation lifecycle for interfaces and conversions is shown in Figure 2.5. The implementation lifecycle takes a conversion or interface item through the functional and technical specifications, then through the development and testing phases, and lastly to deployment. The integration with the BI solution will also follow this implementation lifecycle. Section 2.6 provides a detailed description of each step in the process and explains how they build upon each other. Each phase of the implementation lifecycle will include a stage gate process that will include a review, feedback, and validation effort.

Figure 2.5: Implementation Lifecycle.

2.6.1 *Functional and Technical Specifications*

2.6.1.1 Functional Specifications

Functional specifications are documents that outline the logic behind the interfaces and conversion items to be developed, and how they will impact the ERP from a functional and business process point of view. The purpose of these documents is to communicate to the functional business owners how their functional area will be impacted by an interface or conversion item. These specifications describe the business rules, test conditions, and development approach so that the functional owner can review and approve the specifications.

Functional specifications will be completed during the design phase by the One Washington program and will include the following:

- Functional business logic (including processing rules, transaction volumes and frequency)
- Impacted objects (pages, records and menus)
- Assumptions
- Impacted areas (configuration, security, change management and conversion)
- Test conditions

The Program will engage agencies to review and finalize the functional specifications to ensure that agencies are fully aware of how a conversion or interface item will impact the ERP. This will provide agency visibility for data elements required from their legacy and LOB systems.

2.6.1.2 Technical Specifications

Technical specifications are documents that outline how the interfaces and conversions will be developed and how they will impact the ERP from a technical process point of view. The purpose of these documents is to provide the technical development details of an interface or conversion item. These specifications expand upon the functional specifications and provide the technical specifications that are used by the developers during the build phase.

Technical specifications will be completed by One Washington as part of the design phase and will be written after the functional specifications have been approved. As part of the technical specifications, the interface team will create interface and conversion manuals. These documents will summarize the description for each conversion and interface item.

Data mapping will also be completed during the design phase and will identify the fields in the new ERP, the corresponding fields in the interface or conversion files, and any business rules that must be applied to the data in the field to convert it to its new layout. The following four data mapping methods will be used to convert identified values:

- Direct Move - External system fields map directly to an ERP field (reformatting may be required)
- Translation Rules - External system data requires logic or translation rules before moving it into the corresponding ERP field

- Defaulting - In instances where the ERP requires a data field that is not available in the external system, the ERP field will be populated with an appropriate valid value
- Crosswalk Tables - Where there is a one-to-many or a many-to-one relationship between the external system data fields and the ERP data fields, the functional team must assist in defining Crosswalk Tables to be used in the interface process. Crosswalk Tables should be designed and built within the integration layer with data provided by the functional team. The interface process should refer to these Tables during processing to derive the correct new value

The data mapping methods above are detailed in the Program Blueprint Appendix Data Conversion section 4.2.2. The technical specification document will include the following:

- Detailed data uploads
- Data extract details
- Processing logic
- File structure
- File layouts
- Table layouts
- Pseudo-code
- Data types
- Detailed unit test conditions

The review process with agencies will be similar to that of the functional specifications. The technical specifications will provide agencies with the data mapping methods and initial file layouts necessary for each interface or conversion item. This will help agencies know what type of modifications they need to make to their systems from a technical standpoint to accommodate the new interfaces.

2.6.2 *Interface / Conversion Build and Unit Test*

2.6.2.1 Development Process

The development process will use the functional and technical specification documents to build the interfaces and conversions based on these specifications.

The development team will take the data mapping that is available in the technical specifications document and build the logic behind the interfaces. This, combined with data crosswalks, will be the basis for interface development.

Once the interface data elements have been identified the next step is to determine the direction of the interface, outbound or inbound.

- Outbound interfaces: Where the data is extracted from the ERP, transferred through the integration layer and sent to the receiving system
- Inbound interfaces: Where data originates from an external system, transferred through the integration layer and loaded to the ERP

From the agency interviews the Program identified a cumulative list of inbound and outbound interfaces as well as the type of data being transmitted. The consolidated list of interfaces is available in section 2.4.1 of this document.

For conversions, the development team will review the data conversion requirements to understand the data requirements and determine and define any additional requirements, such as null ability, for target data. Then they will identify the sources of existing data, list the new data required when the ERP begins operating, and identify a corresponding data source for each piece of new data.

During this process they will identify data elements that require a one-time load into the new ERP. Once this is complete, the development team will specify any major properties associated with the data and the environment. The source may be an existing file or database table, a calculation derived from several pieces of existing information, or manual data entry. The final task is to design the mapping of the data from the data sources to the new ERP. For more details on the conversion development process refer to the Program Blueprint Appendix Data Conversion.

The combined functional and technical specifications will provide agencies with sufficient information to commence modification efforts to their systems including interfaces and data extractions. The Program will provide agencies with timelines for milestones as well as development standards that will help drive the development process.

This section defines the architecture and processing standards for inbound and outbound interface files. It includes definitions for file structure, file formats, file processing, error processing, and interface security. The interface processing standards will be used as a reference guide for developers during the development process.

File Structure

The interface file structure will contain Header Records, Line Records, and Trailer Records:

- Header Records: The header record will contain general information regarding the file or in some cases high level transaction data. Header records will only be included as needed by specific interfaces and will be noted as such in the record layouts. Header records are used to indicate the beginning of the file in some interfaces and can contain row counts, total dollar amounts and other summary data. In other instances, the header record will contain information specific to an individual transaction; an order placed to a supplier would be contained in the header, whereas information specific to individual items contained within that order would be in lower level records
- Line Records: Line records contain detailed transactional information. Line records are often considered child segments of the header record as the summary information on the header record applies to the information contained in the line record
- Trailer Records: Trailer records will indicate the end of a file. Trailer records will only be included as needed by specific interface requirements. These requirements will be noted in the design specifications and file layouts

File Formats

The ERP interfaces will be designed to process and create various file formats, e.g. XML, flat, and Excel. The limitations of the external system will determine which file format is used. The Program will consider the selection of one format for all inbound and outbound interfaces, or as few formats as practical, to streamline processing.

File Processing

File Volume: The ERP will be able to process multiple files from a single source and process multiple sources for each interface. The requirements of the interface will determine when it is processed (direct, indirect or integration layer). For more details about the Integration Methodologies refer to Section 4.0 of the Integration Strategy document.

File Transfers: The transfer procedures handle the physical movement of the file to a location where it is accessible by the target system. A secure file transfer protocol process will be used to transport files from the source system to a secure landing area on the target interface system. For more details about file transfers, refer to Section 4.0 of the Integration Strategy document.

File Validation/Reconciliation

Interfaces will be validated based on functional and technical specifications. The Program team will create informational logs to support the reconciliation between the ERP system and interfacing source files. Specific data used to validate the interface will be gathered during interface development.

Error Processing

This section describes the types of errors that could be encountered during interface processing. Error information will be contained in online message logs that will be available to the Program technical team who have access to view the logs.

Transaction Level Error:

Most interfaces will evaluate and process errors at the transaction level. A transaction is one or more records that complete a single unit of data entry. All transactions will be edited and validated based on functional and technical specifications. When an error is encountered during the interface process, the transaction which caused the error will be written to the message logs and an error file or loaded into the system for online correction. The error processing logic will be determined based on the design specifications for the interface.

File Level Error:

File level error is caused by an invalid file format, or special characters that should not be included in a file. The ERP system will reject the file in its entirety if an error of this type is detected. Details will be captured in the message log for the system support team's reference.

Interface Security

The Program will work with the Office of Cyber Security (OCS) to ensure that the data encryption and transfer methods align with the approach to current and future policies and guidelines. For more details on encryption and interface security, refer to Section 4.0 of the Integration Strategy document.

2.6.2.2 Unit Test Process

After development of an interface or conversion item is complete, it must pass unit test by the development team before it can be moved to system test. The unit test is done with a small sample of production like data, by the developer, to make sure that there are no code issues.

Agencies will be responsible for completing their own unit testing for modifications performed on their systems. One Washington recommends agencies use their current unit testing approach and issue resolution. For conversions, agencies should test the extraction protocols that will be used during the mock conversion process. Throughout this phase, One Washington may need agency support to validate some of the development work performed by the Program.

Before execution, One Washington will ensure that the test environments are setup appropriately and that technology infrastructure and support personnel are allocated to support the environment.

The following items will be made available to developers:

- A database for common test data
- Individual test databases
- Debugging tools
- Test execution tools
- Tools for addressing errors, defects, and fixes

Once the test environment has been setup, unit tests can be executed for the interfaces. This will entail running the interfaces and conversions with a sample of production like data to validate that the interfaces and conversions are setup appropriately. If any problems result from the unit test, then the developer will find the root cause of the problem, fix the element responsible for the problem and retest.

Below are some standards and best practices for unit testing code:

- All functionality within each mapping should be unit tested
- Developers are responsible for unit testing their code
- Development team members are responsible for peer reviewing code
- Development leads are responsible for verifying unit tests and peer review checklists
- Expected results should be verified in target Table and stored in the performance test log
- Unit testing involves all the functionalities[1] listed below:
    - inserts only
    - updates only
    - inserts and updates
    - deletes – where applicable
    - inserts, updates and deletes - where applicable
    - error/exception handling

2.6.3 *Integration / Conversion System Test*

Testing is one of the most important phases of the development process, because it confirms the quality of the developed interface and conversion items. After unit testing is complete, the development team has signed off on the

[1] If any of the above are done in a mapping, they will need to be tested. If there is more than one functionality, then they will first be tested separately and then in conjunction.

work, and the exit criteria defined in the detailed test plan is met, the system test process may proceed. The system test process will check to make sure the data coming in from interfaces and conversions is mapped appropriately and can be used throughout the system in end to end business scenarios.

One Washington is planning for three mock conversions. More may be added if needed. The first mock conversion will consist of data that is mocked up at the Program and will be used to validate the configuration of the system. For the second mock conversion, One Washington will work with agencies to get a sample of production like data which will be used during the system and integration test processes to validate the interface and conversion items. The third mock conversion will be used by the user acceptance testing process in end to end business scenarios and the Program will work with agencies to obtain production like data.

2.6.3.1 Mock Conversion Test Process

The mock conversion test validates the programs and procedures defined to convert data from the legacy systems for use in the ERP. This process will test the extract, transform, and load process. Figure 2.6 shows the steps taken throughout the conversion process. Agencies that have conversion items will participate in the conversion testing process along with the Program conversion team. More details on the mock conversion testing process are provided in section 4.5 of the Data Conversion Appendix of the Program Blueprint.

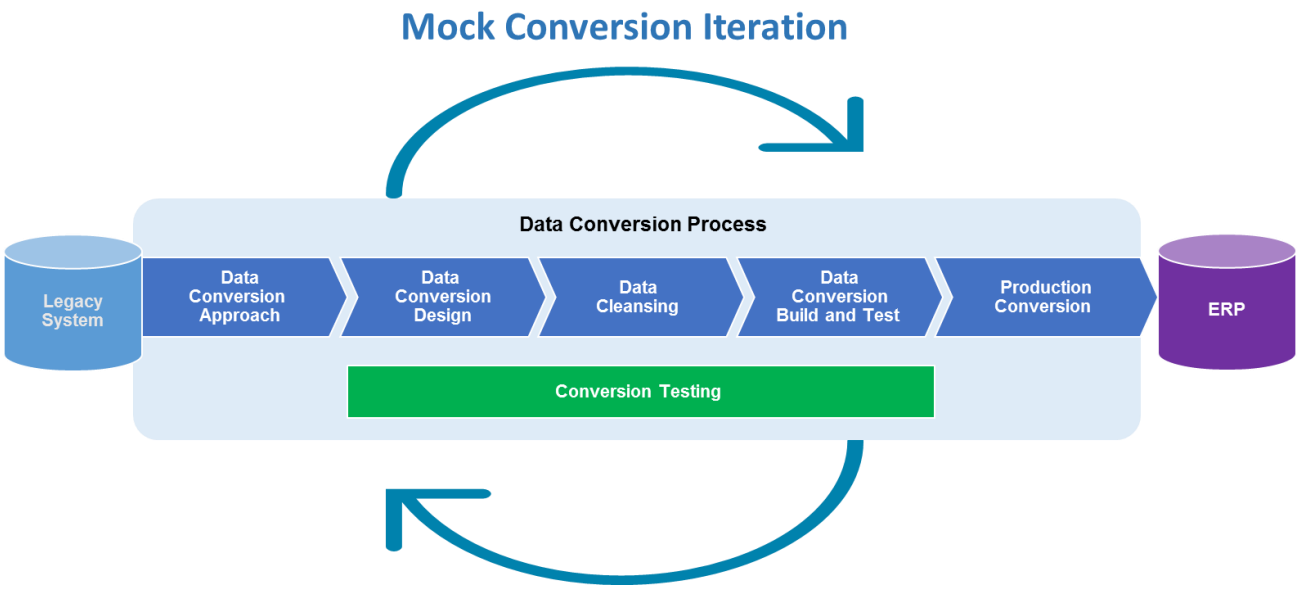

Figure 2.6: Mock Conversion Process.

During the mock conversion testing process agencies will be responsible for extracting the data from their legacy systems and populating the data in the One Washington templates. One Washington recommends that known data

issues such as duplicates, error records, and data integrity are resolved prior to the start of mock conversion testing. Once the data has been loaded into the ERP the Program will work with agencies to validate the converted data.

2.6.3.2 System Test Process

The system test process validates that the data mapping for the interfaces and conversions was correct, while using the integration layer to facilitate the data transfer. As mentioned previously, One Washington will work with agencies to obtain a sample of production like data that will be used to test inbound and outbound interfaces. In the case where an interface is outbound from the ERP to an agency system being tested, the agency will be responsible for validating that the mapping is done correctly in their system. The Program will also conduct performance tests with simulated interface transaction volume to ensure that the online application will not be affected when processing large interfaces.

If any issues are discovered during this phase of testing, the root cause will be determined and the item will be sent back to the developer to be fixed. This item will then need to pass unit test before it is ready to go back to system test. If the root cause is with the agency system, then the agency will resolve the issue and work with One Washington to conduct the system test until it passes.

Figure 2.7 shows an example of a system test. In this scenario the agency maintains their own facility management system from which they can create purchase orders (PO). Once the PO is created, it will be interfaced to the ERP via the integration layer and loaded into the ERP's Procurement module to be processed. The system test for this scenario will validate that the data elements included in the PO interface are mapped to the appropriate fields in the ERP and the transaction is able to process successfully. Agencies will be responsible for validating that the generated interface file is in the correct format to be processed by the ERP. One Washington will validate that the purchase orders are able to load and process successfully in the ERP.

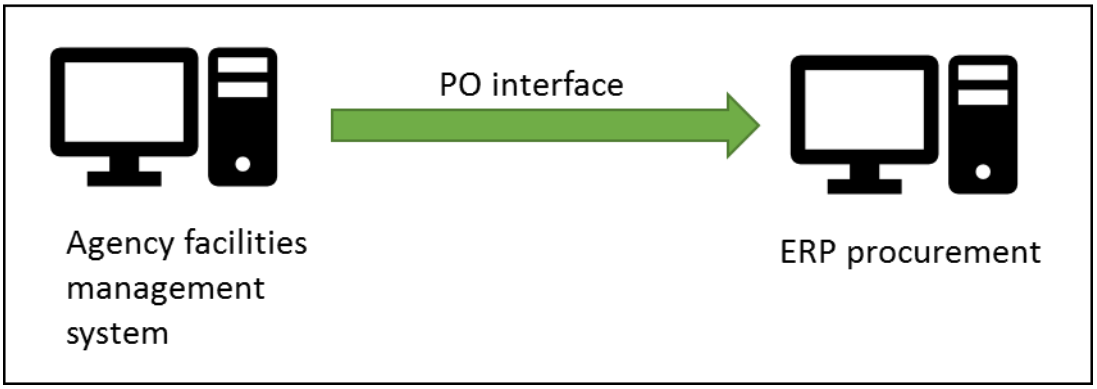

Figure 2.7: System Test.

2.6.3.1 End to End Integration Test Process

After the system testing process and the mock conversion data is available, One Washington will start the integration testing process. The integration testing process will confirm the functionality and business capabilities of the system with integrated data through end to end business scenarios. This testing phase enables scrutiny of internal business process as well as critical inbound and outbound interfaces. This will give the Program the opportunity to validate the data flow between external systems and the ERP, as well as between the different modules within the ERP and the business processes that have been created. The Program will work with agencies to develop and test the interface between the ERP and agency LOB systems. However, agencies will be responsible for development and testing of the interface between their LOB systems and any external systems. Figure 2.8 depicts the data transfer from the ERP to external systems. Agencies will also be responsible for making

modifications to their LOB systems to accommodate new interfaces with the ERP, this is further explained in section 2.6.4 of this document. The Issue resolution process will be similar to that described for system test.

Figure 2.8: External Agency Interfaces.

Figure 2.9 shows an example of an integration test. This scenario builds upon our previous system test scenario. After the PO has been loaded and processed by the ERP, a payment can be made against the PO. When the payment transaction is processed, the PO information will carry forward to the disbursement that is generated by the ERP. After the asset is received, the procurement and payment information will carry forward to the asset record which will then be interfaced back to the agency facilities management system via the integration layer. In this example this process will be the complete end to end business process.

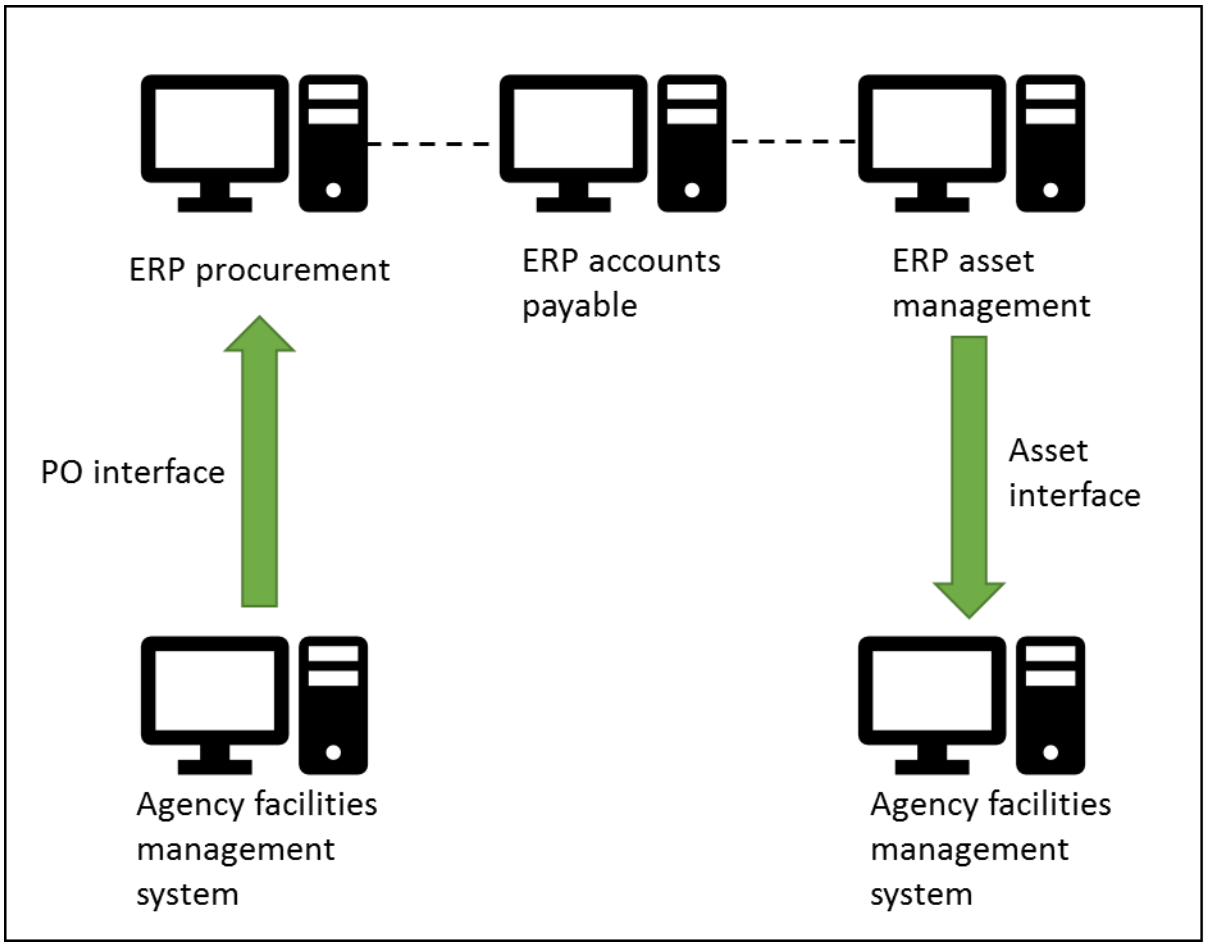

Figure 2.9: Integration Test.

2.6.4 *User Acceptance Test*

After the system testing process is completed and the user acceptance test (UAT) environment is configured, the Program will perform the third mock conversion and start the UAT process. UAT gives agency end users an opportunity to conduct production like end to end scenarios to ensure the capabilities and accuracy of system configuration, interfaces, and conversions.

User Acceptance is the last phase of testing performed by end users. This effort validates that the final solution aligns to defined business capabilities. UAT will simulate the entire business process as if it was being run in production. Agencies will be responsible for ensuring that mock conversion data is as real as possible and that testing scenarios are as real as possible. Agencies will be responsible for validating how their LOB systems interact with the ERP in these scenarios. Again, the issue resolution process will be similar to that described for system test.

2.6.5 *Deploy*

Once UAT has been completed, the development life cycle can be wrapped up with the deploy phase. At this point in the development life cycle, components have been rigorously tested in end to end scenarios with production like data and they are ready to be deployed to the production environment.

Prior to the items being released to the production environment, a deployment plan will be created to validate that the items are ready to be deployed. This plan should include the following areas:

- A list of items that will be deployed.
- A checklist with timeline of when deployment activities will occur and who will be responsible for each activity.
- A communication plan for who will be affected by this deployment.
- A technical readiness assessment.
- A functional readiness assessment.
- A transition plan for how the items will be migrated.

One Washington will develop a readiness plan and checklist to assist agencies with the deployment of the ERP. Agencies will support the program by reviewing, validating, and implementing the readiness plan. It is expected that agencies may also need to create additional deployment plans for detailed agency tasks. One Washington will work with agencies to ensure that deployment timelines and communications are coordinated.

More details of the communications plan and readiness activities are provided in sections 4.4 and 6.8 of the One Washington Organizational Change Management Strategy document.

2.6.6 *Responsibilities*

This section outlines the specific tasks that both One Washington and agencies are responsible for throughout the implementation of the Program regarding interfaces and conversions. These tasks will adhere to the development standards described in this document. The list of tasks is not final and is subject to change during the implementation phase of the Program.

2.6.6.1 One Washington Responsibilities

Table 2.6.1: One Washington Responsibilities.

Task	Task Description	Interface / Conversions	Implementation Phase
• Confirm list of systems to be retired with agencies	• The Program has an initial list of systems that are recommended for retirement. When the vendor is onboarded and system functionality is confirmed, the Program will work with agencies to confirm and finalize the list of systems to be retired	• Interface / Conversion	• Design
• Produce a list of interfaces	• Once the list of systems to be retired is finalized, the list of unique interfaces can be finalized	• Interface	• Design
• Produce a list of conversions	• Once the list of systems to be retired is finalized, the list of unique conversions can be finalized	• Conversion	• Design
• Consolidate interfaces	• The Program will review the list of interfaces and consolidate inbound and outbound interfaces based on functional area	• Interface	• Design
• Standardize conversions	• The Program will review the list of conversions and standardize when possible	• Conversion	• Design
• Confirm list of consolidated interfaces with agencies	• The Program will work with agencies to review the list of consolidated interfaces and confirm that it will meet agencies' needs so their LOB systems can continue to function	• Interface	• Design
• Confirm list of standardized conversions with agencies	• The Program will work with the agencies to review standardized conversions and confirm that the Program is providing agencies with the necessary data to operate in the ERP	• Conversion	• Design
• Prioritize interface and conversion items	• The list of interface and conversion items to be developed will be prioritized based on which wave the agency is in and legacy system functionality	• Interface / Conversion	• Design
• Provide agencies with scope of work	• The Program will provide each agency with the final number of interfaces and conversions that will be developed	• Interface / Conversion	• Design
• Provide agencies with timeline	• The Program will provide agencies with a detailed timeline for when key milestones will occur and when participation from them is expected	• Interface / Conversion	• Design
• Create functional specifications	• The Program will create detailed functional specifications for each interface and conversion item	• Interface / Conversion	• Design
• Provide agencies with functional specifications	• After the functional specifications have been finalized, the Program will provide agencies with a copy	• Interface / Conversion	• Design

Task	Task Description	Interface / Conversions	Implementation Phase
• Create technical specifications	• The Program will create detailed technical specifications for each interface and conversion item	• Interface / Conversion	• Design
• Provide agencies with technical specifications	• After the technical specifications have been finalized, the Program will provide agencies with a copy	• Interface / Conversion	• Design
• Provide agencies with development standards	• After the functional and technical specifications have been completed, the Program will provide agencies with the development standards	• Interface / Conversion	• Design
• Stand up integration layer	• The Program will stand up, configure, and test the integration layer that will facilitate ERP data transfer	• Interface / Conversion	• Build
• Develop interfaces and conversions	• The Program will develop the consolidated interfaces and standardized conversions	• Interface / Conversion	• Build
• Unit test interfaces and conversions	• The Program will conduct unit tests for the interfaces and conversions to confirm the data mapping and integrity of the items developed	• Interface / Conversion	• Build
• Load agency crosswalks to the integration layer	• After the agency crosswalks pass the initial review, they will be loaded to the integration layer	• Interface / Conversion	• Build
• Review agency crosswalks	• An initial review of the crosswalks will be conducted to validate the data mapping before they are loaded to the integration layer	• Interface / Conversion	• Test
• System test interfaces and conversions	• The Program will use mock data provided by the agency to conduct system tests for the interfaces and conversions. This will validate agency crosswalks and data maps	• Interface / Conversion	• Test
• Coordinate with agencies for mock conversions	• The Program will also work with agencies to conduct mock conversions with real data	• Conversion	• Test
• Coordinate with agencies for user acceptance testing of interfaces	• After the system tests are complete the Program will work with agencies to conduct user acceptance tests for the interfaces with production like data	• Interface	• Test
• Deploy Interfaces	• Once all interface testing has been finalized, the interfaces will be deployed to the production environment	• Interface	• Deploy
• Deploy Conversions	• Once all conversion testing has been finalized, the interfaces will be deployed to the production environment	• Conversion	• Deploy

2.6.6.2 Agency Responsibilities

Table 2.6.2: Agency Responsibilities.

Task	Task Description	Interface / Conversions	Implementation Phase
• Confirm the list of systems to be retired with One Washington	• Agencies will work with One Washington to confirm the list of systems to be retired based on ERP functionality and current system capabilities	• Interface / Conversion	• Design
• Confirm the list of consolidated interfaces to be developed with One Washington	• Once its list of systems to be retired has been finalized, each agency will work with One Washington to confirm the list of consolidated interfaces and confirm that it will meet their needs to keep their LOB systems operating	• Interface	• Design
• Confirm the list of standardized conversions with One Washington	• Once the list of systems to be retired has been finalized, the agency will work with One Washington to confirm the list of standardized interfaces and confirm that they will have the necessary data in the ERP	• Conversion	• Design
• Review scope of work and timelines with One Washington	• One Washington will provide each agency with the final number of interfaces and conversions and their associated timelines	• Interface / Conversion	• Design
• Evaluate the level of effort required	• Based on the scope of work and timelines, the agency will need to determine the level of effort required form them to complete the tasks they are responsible for	• Interface / Conversion	• Design
• Review functional specifications	• Agencies will review the functional specifications to understand the impact of each item	• Interface / Conversion	• Design
• Review technical specifications	• Agencies will review the technical specifications to understand the impact of each item	• Interface / Conversion	• Design
• Coordinate with external contractors or vendors if needed	• Agencies are responsible for coordinating and hiring contractors or vendors that are needed to complete the tasks described in the scope of work	• Interface / Conversion	• Design
• Modify systems to accommodate new interfaces and new COA	• Agencies will be responsible for modifying their systems to accommodate new interface file formats, or delivery methods, e.g. web services, as well as a new COA structure	• Interface	• Build
• Unit test agency system modifications	• Agencies will be responsible for unit testing their LOB and any downstream systems to validate the modifications made are correct	• Interface	• Build
• Create data crosswalks	• Agencies will be responsible for creating their own data crosswalks, for interfaces and conversions, that will be loaded to the integration layer	• Interface / Conversion	• Build

Task	Task Description	Interface / Conversions	Implementation Phase
• Extract data from legacy systems	• Agencies will be responsible for extracting the data from their legacy system(s)	• Conversion	• Build
• Clean up data from legacy systems	• Agencies will be responsible for cleaning up the data extracted from their legacy system(s)	• Conversion	• Build
• Provide One Washington with mock data for testing	• Agencies will provide One Washington with mock data for testing	• Interface / Conversion	• Test
• Conduct system test	• Agencies will work with One Washington to conduct system tests and validate that their systems are able to function appropriately/accurately	• Interface / Conversion	• Test
• Work with One Washington to conduct user acceptance testing	• Agencies will work with One Washington to conduct User Acceptance Testing to validate that the interfaces are developed appropriately/accurately	• Interface / Conversion	• Test
• Provide One Washington with production like data for mock conversions	• Agencies will provide One Washington with production like data for mock conversions, and validate the results of the mock conversions	• Conversion	• Test
• Mock conversion validation	• Agencies will validate that the mock conversion data is correct	• Conversion	• Test
• Mock conversion issue resolution	• Agencies will resolve any issues that result from the mock conversion validation	• Conversion	• Test
• Provide One Washington with final conversion data	• Agencies will provide One Washington with the final production data that will be loaded in the production environment	• Conversion	• Deploy
• Create deployment plan	• Agencies will be responsible for creating their own internal deployment and communications plans	• Interface / Conversion	• Deploy

2.7 Interface and Conversion Timeline and Staffing

As discussed in the Program Blueprint document, Finance and Procurement will be implemented in two waves (initial release and full deployment). With each wave, additional agencies will be onboarded to the ERP, and the third wave of the implementation will be for expanded functionality. HR/Payroll and Budget will be separate initiatives of the Program that will occur at the same time starting FY25. This timeline is shown in Figure 2.10.

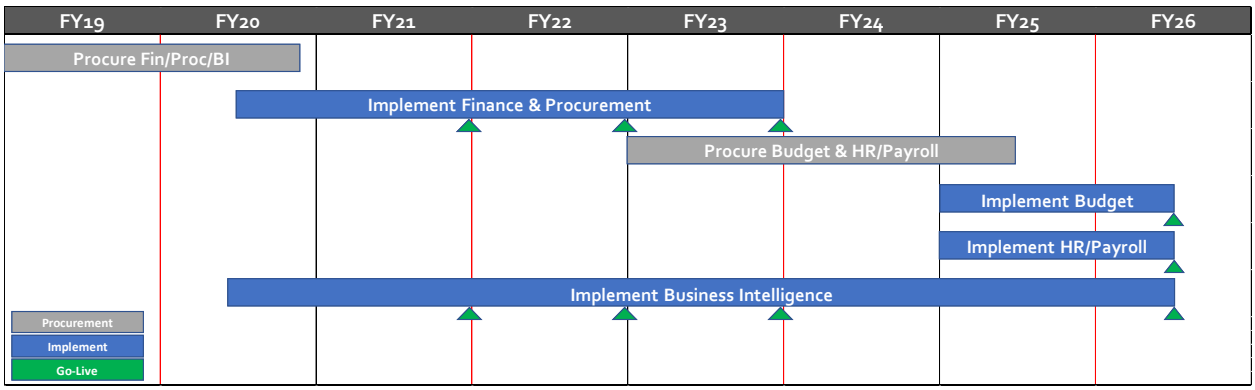

Figure 2.10: One Washington Program Implementation Timeline FY19-26.

The development process described in this document will occur throughout the implementation phase of the functional areas. Once the list of interfaces and conversions has been consolidated and standardized, the Program can initiate the development process. Our fundamental assumption throughout this development process is that consolidation and standardization efforts will greatly reduce the number of unique interfaces and conversions that will need to be developed, and most them will be leveraged for initial release wave agencies. This means that the development process for the full deployment wave agencies will not be as challenging or time consuming, as they will leverage existing interface and conversion specifications from the initial release. However, the number of agencies that will need to be tested will be larger in the full deployment wave.

After the list of systems to be retired is finalized and the list of interfaces and conversions is prioritized, high priority items will be scheduled for development throughout initial release and full deployment waves. When agencies are scheduled to go live will also indicate when an item is to be developed. The initial number of Finance and Procurement interfaces and conversions and when they are scheduled to be developed, is shown in Tables 2.7.1 and 2.7.2. Wave assignments are based on the timelines defined in the Program Blueprint document.

Table 2.7.1: Interface Wave Numbers.

Number of Build items	Number of agencies to test for	Wave
21	9	Initial release
2	34	Full deployment
0	0	Expanded functionality

Table 2.7.2: Conversion Wave Number.

Number of Build items	Number of Test items	Wave
20	9	Initial release
2	34	Full Deployment
0	0	Expanded Functionality

The year between when Finance and Procurement go live and before HR/Payroll and Budget start, FY24, will be when the procurement activities occur for the next phase of the Program. During this period no new interfaces or conversions will be scheduled for development by the Program.

2.7.1 *Interface and Conversion Timeline*

Figure 2.11 shows the main activities that occur during the interface and conversion implementation lifecycle and Figure 2.12 shows when they will occur during the implementation phase of the Program. The design, build, test, and deploy phases for Finance and Procurement are longer in the initial release wave than the full deployment wave. As mentioned above this is due to the consolidation and standardization efforts which will front load most of the interface development. These timelines correspond to the staffing plan as well as timelines in the Program Blueprint. The timelines for Budget and HR/Payroll will run concurrent to each other and are shown in Figure 2.13.

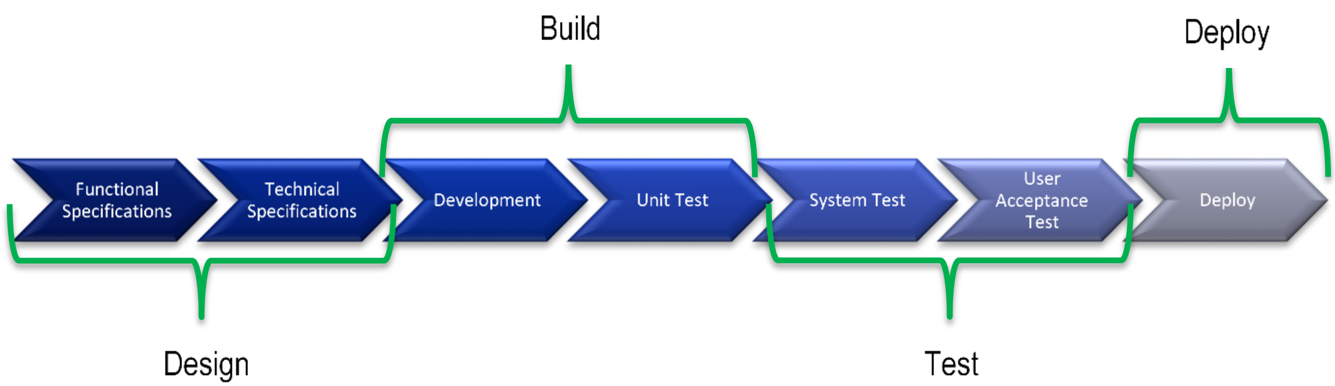

Figure 2.11: Implementation Lifecycle Main Activities.

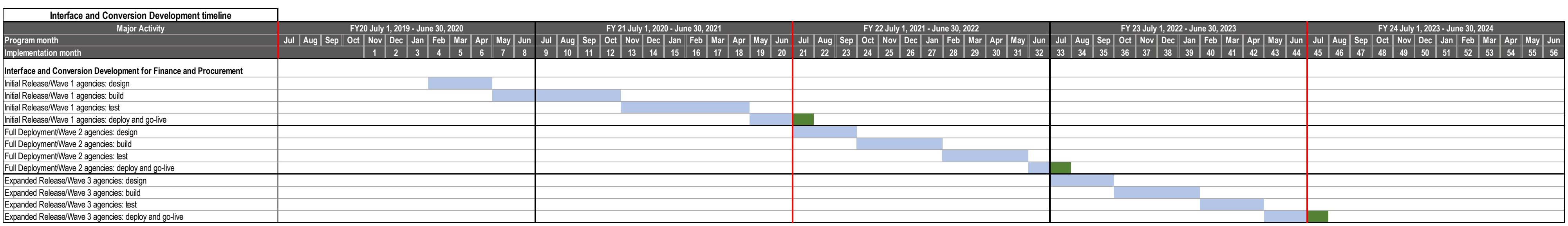

Figure 2.12: Finance and Procurement Timelines.

Interface and Conversion Development timeline																								
Major Activity	FY 25 July 1, 2024 - June 30, 2025												FY 26 July 1, 2025 - June 30, 2026											
Program month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Implementation month	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Interface and Conversion Development for Budget																								
Full release all agencies: design																								
Full release all agencies: build																								
Full release all agencies: test																								
Full release all agencies: deploy and go-live																								
Interface and Conversion Development for HR/Payroll																								
Full release all agencies: design																								
Full release all agencies: build																								
Full release all agencies: test																								
Full release all agencies: deploy and go-live																								

Figure 2.13: Budget and HR/Payroll Timelines.

2.7.2 *Staffing*

The fundamental assumption regarding staffing is to have at least one state counterpart for each contractor role. Table 2.7.3 shows the One Washington staffing plan roles and their descriptions.

Table 2.7.3: Roles and Description.

Role	Description
Conversion lead	Will be responsible for coordinating and managing conversion items through the implementation lifecycle
Developer – conversion / integration / configuration	Will be responsible for build activities in the implementation lifecycle
Developer – reports / extensions	Will be responsible for establishing the connection between the ERP and BI solution and developing BI data models
Integration lead	Will be responsible for coordinating and managing interface items through the implementation lifecycle
Technical analyst	Will be responsible for coordinating and managing interface items through the implementation lifecycle

The expectation is that they will perform the tasks listed in section 2.6.6.1 of this document. Additionally, the expectation is that agencies will provide their own staff to perform the tasks listed in section 2.6.6.2 of this document and will be responsible for creating their own staffing plan. The details of the roles are provided in the Program Blueprint staffing plan. The Program will provide decision package guidance to agencies to assist with staffing and budget requests that will be needed to support the One Washington implementation.

3.0 Appendices

3.1 System Impact Summary Spreadsheet

System Impact Summary - Appendix.:

4.0 Key Terms/Glossary

Term	Definition
LOB	Line of business systems
The Program	Refers to the One Washington program
SaaS	Software as a Service
iPaaS	Integration Platform as a Service
SME	Subject matter expert
UAT	User Acceptance Testing
ERP	Enterprise Resource Planning
BI	Business Intelligence
SOA	Service-Oriented Architecture
API	Application Programming Interface
COA	Chart of Accounts