NAVA STP REFERENCE ARCHITECTURE

SOA SERVICE MODEL DECOMPOSITION

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NAVA SOA DECOMPOSITION DOCUMENT CONVENTIONS

Specification States/Status:

Draft – An unofficial working copy of the next specification version, typically under deliberation by a NAVA WG.
Proposed – A completed draft ready for final review and consideration by NAVA Members.
Published (Initial) – This is the first official spec version; labeled "Version YYYY-1"
Published (Amended) – This is an updated official spec version; labeled sequentially from 1 "Version YYYY-#"

The next version of the Specification is indicated with the words 'DRAFT' after the version; 'Version 2007-2 DRAFT'.
In any DRAFT version the following document contribution, reviewing, and decision conventions are used (all should be removed from a published version.
Any text in normal (clear) font is to be considered the current definitive normative 'standard' specification.
Text in Green is new since the last draft version and is open for review, discussion and ultimately decision.
Text in Yellow is work-in-progress and under discussion, or in question within the appropriate the NAVA WG.
Text in Red has been marked for removal/deletion in the next iteration of the specification.
Text mark with a ~~strikethrough~~ means it is deprecated, but left for reference.

DOCUMENT HISTORY

Document Version	Status	Date	Editor	Comment
Initial	Draft	2008-06-29	Brian Bokor Tim Meyer Don Buddenbaum	Initial Draft to begin collecting architectural materials for decomposition

It is the intention of NAVA at some point to migrate the information contained in this document to the NAVA STP Portal and to create an interactive, searchable, continually updatable knowledge base to access resource information contained within. The STP Project Office will create a means of generating functionality for 'rendering on demand'.

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CHAPTER ONE – INTRODUCTION & REFERENCE MATERIAL

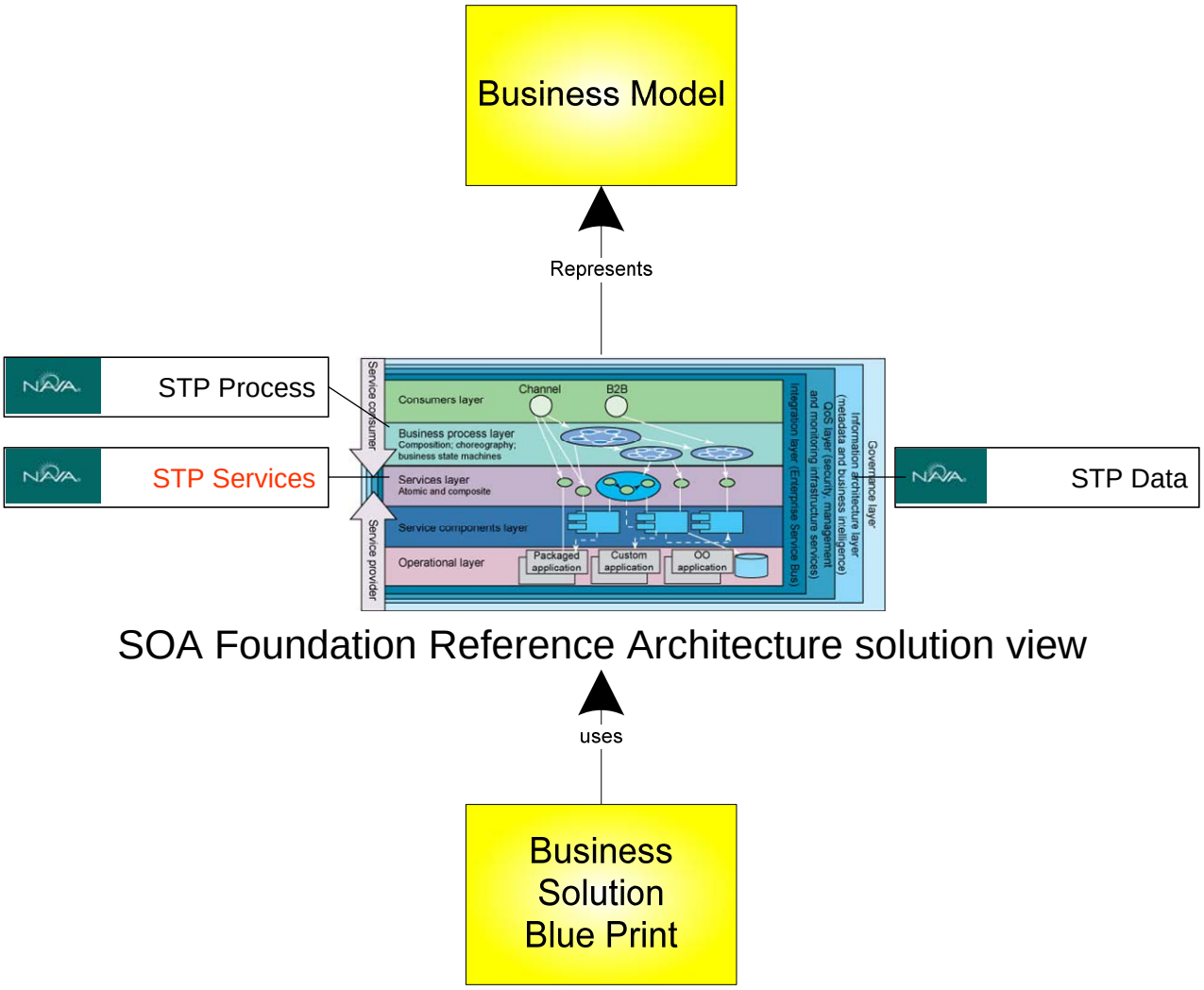
The purpose of this document is to provide a Reference Architecture view of the NAVA Straight-Through Processing (STP) initiative. A Reference Architecture is defined as "a template/blueprint solution for architecture for a particular domain that also provides a common vocabulary with which to discuss implementations, often with the aim to stress commonality." The STP Reference Architecture described in this document is meant to provide a technical reference view which compliments the business process view. The architecture was created on the basic tenets laid out by the NAVA Process Framework group, including but not limited to concerns for:

a) Remain technology neutral
b) Use open standards
c) Support the concept of a Service Oriented Architecture (SOA)

To satisfy these tenets, the open standard collaboration format of Service Component Architecture (SCA) was chosen to describe the Reference Architecture. Additional information on SCA is provided within this document but it is important to point out that this specification stresses that business functions be provided as a series of services aggregated or wired together to perform a particular business function.

NAVA STP Reference Architecture Overview

Enabling a reference architecture based on SOA that delivers a blueprint for NAVA STP requires the definition of a set of standardized business-aligned IT services in addition to standardized process and data requirements. These services can then be used collectively to fulfill an organization's business objectives, when invoked via standard protocols and data models and choreographed in the context of business processes designed to support business model specific use cases with their associated functional and nonfunctional requirements, while still delivering on NAVA STP requirements. One example reference architecture that provides sufficient separation of concerns between layers for standards based aspects like process, data, service models and member differentiating aspects like service implementation, channels, governance, etc such that it can enable the reuse that delivers on NAVA reference architecture objectives is the solution architecture from IBM Developer works that is used below to illustrate linkage between NAVA STP standards, member business objectives and SOA:



The new aspects in this reference architecture are represented by the set of NAVA STP Services presented in the following chapters as a part of the service model decomposition, and the SOA reference architecture solution view used to achieve an appropriate layering of capability to achieve service reuse across the membership as further illustrated by example use cases in chapter 4.

Service Oriented Architecture (SOA)

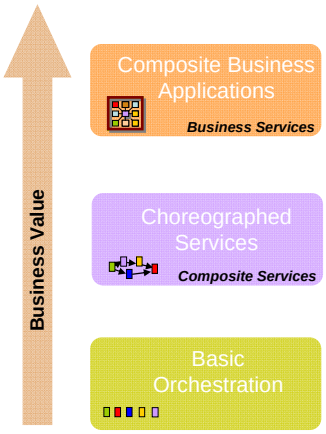
Service Oriented Architecture (SOA) is defined as "a software architecture where functionality is grouped around business processes and packaged as interoperable services. SOA implies a style of development with an increased focus on modularity and reuse. One basic goal of SOA is the 'loose coupling' of services which means each service makes its requirements explicit and in turn makes few assumptions about other services involved in the process. In essence it fosters the relative independence of services. Another goal is interoperability of services regardless of implementation platform, transport protocol, or programming language. To achieve this goal the NAVA use of Service Oriented Architecture will be implemented using open standards.

The previous diagram illustrates the separation of concerns across 9 layers of an SOA architecture. Not all layers are germane to NAVA standards, but all layers will be addressed by a member leveraging NAVA STP for enterprise architecture, and clearly Data, Process and Service standards are key to NAVA STP. While a complete analysis of the layers is beyond the scope of this document, the diagram illustrate how NAVA standards content can be refactored to achieve alignment

between NAVA STP and an SOA. One important reason for doing this is to create linkage between industry best practices for SOA design and implementation and NAVA STP standards content. A thorough discussion of SOA best practices is beyond the scope of this document.

From a NAVA STP perspective, the key is to achieving a service model that supports various composition models for the choreography of the services in the context of meeting business objectives. The reason for this is that SOA solution architectures are built on the notion of choreography, but not all enterprises are at the same level of SOA maturity, thus to meet current implementation requirements in a fashion that still supports reuse for future implementations, the service modeling is designed with the flexibility to support the following notions of composition.

Service Composition patterns are used to increase the business value of your SOA



	WHAT	WHY	HOW
	Discreet business compositions assembled from business services	*Pulls business-level usage information into one place*	*Easier change, greater flexibility by dynamically selecting business function*
	Process automation using basic services	*Pull process functionality out of underlying systems*	*Externalized process for simplified management and control*
	Interface to a simple task	*Well-accepted technical standards*	*Simplified integration*

While there are business value differences among the three models, all support the key notions of services virtualization and aspect-oriented connectivity. Service virtualization means that connected services do not need to use the same protocol or interaction pattern, they do not need to agree on an interface, and they do not need to know each others identity. Aspecto-oriented connectivity means that services are only responsible for their primary capability, that cross cutting capabilities like logging, security, transport, governance etc are external and handled in the context of the solution architecture; meaning that these notions can be added or removed on behalf of specific requirements associated with specific partner service interactions.

References and materials

Several major organizations are involved with the development and over site of open standards for SOA:

- Organization for the Advancement of Structured Information Standards (OASIS; http://www.oasis-open.org)
- Web Services Interoperability Organization (WS-I; http://www.ws-i.org)
- World Wide Web Consortium (W3C; http://www.w3.org)
- Open Service Oriented Architecture (OSOA; http://www.osoa.org)

Examples

IBM Developer Works , including examples used in this document.

- http://www.ibm.com/developerworks/
- Solution Reference Architecture
  - http://www.ibm.com/developerworks/library/ar-archtemp/
- Key aspects of and ESB
  - http://www.ibm.com/developerworks/architecture/library/ar-esbpat1/?S_TACT=105AGX04&S_CMP=ART

Service Component Architecture (SCA)

Service Component Architecture (SCA) is a set of open specifications which provides a programming model for building applications and systems based on a Service Oriented Architecture (SOA). The basic idea is that a business function can be provided as a series of services which, once assembled together, can create solutions to server a particular business need. These composite services can contain new services as well as business functions from existing systems all reused as part of a composition. The components and composites can be defined by the SCA Assembly Model which describes the assembly of components into packages of function, including the connections between components and describing how services and references are exposed for use.

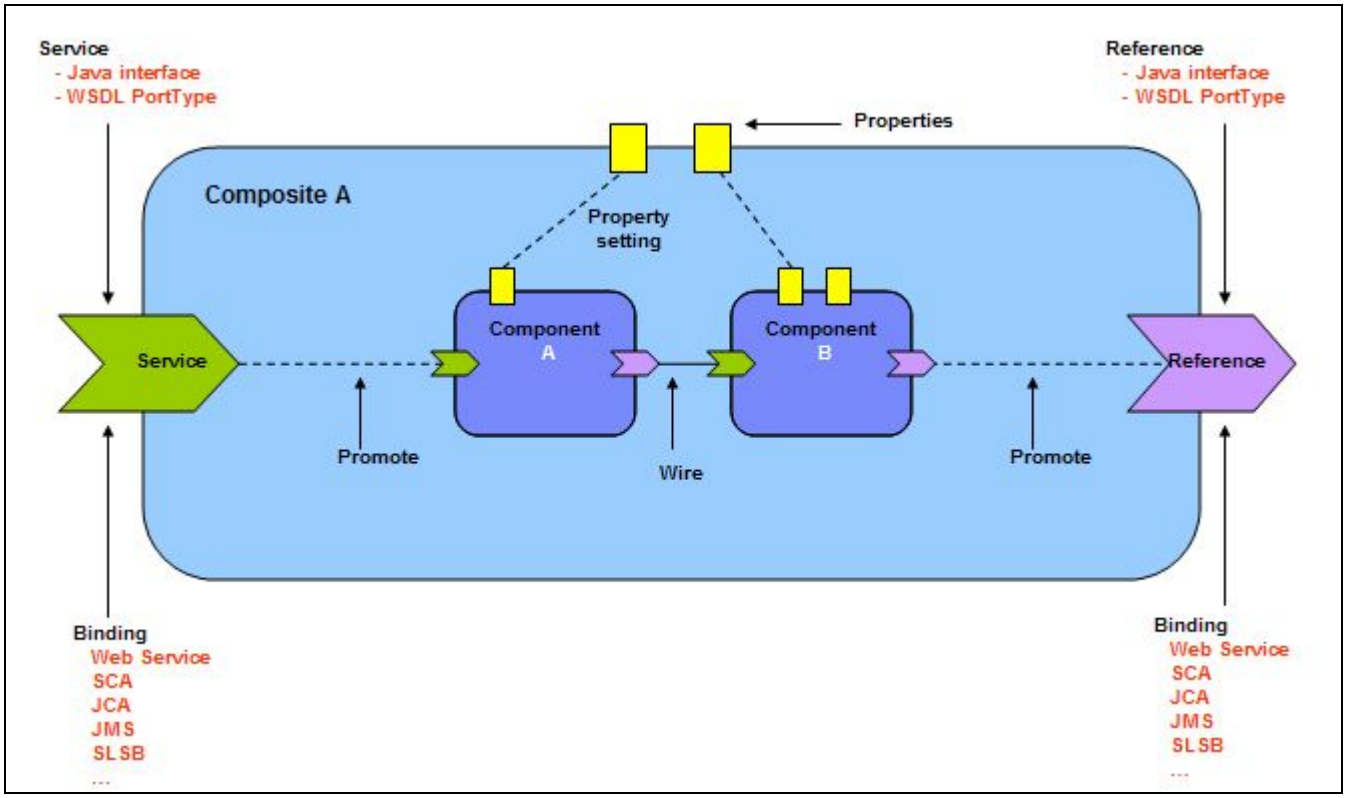


Figure 1: An SCA Composite, showing Components, Services, References, Wires and Properties.

For more information on SCA and how to interpret the models:

- Open Service Oriented Architecture (OSOA; http://www.osoa.org)

Related STP Technical Artifacts

Technical Artifacts may be provided will be TBD as this document becomes published

SCA Composites

TBD

XML Schemas (Messages)

TBD

WSDL

TBD

BPEL

TBD

OWL

TBD

UML

TBD

Additional Important Supporting Documentation

There are other documents which are valuable reference materials to be used in conjunction with this specification.

ACORD Life and Annuity Specification documentation (public) containing full Life Data Model schemas as well as complete life and annuity specification document (ACORD Life Standard Public Doc 2.##.##). ACORD members may also find the dynamic hyperlinked Help file version of this document easier to navigate and use. These materials are not required but may be helpful.

STP Process Model expresses the business requirements on which the Reference Architecture is based upon.
http://synthis.amcanet.com/standards/content/pages/processModel

Industry Standards and Technical Standards

Relationship of Industry Standards, Guides, and Implementations – 'Standards Stack'
The perspective we use to understand and describe how various standards, guides, and actual implementations inter-operate, relate to, and leverage one another is that there is an implicit 'Standards Specification' stack where the work of one builds on the previous level – with the ultimate beneficiary being the individual organizations implementing the standards. Each builds on, refines, and uses a subset of the previous level.

It begins with the broad ever-expanding spectrum of XML based technology standards, then to broad industry standards, and then NAVA's specific usage case defined STP Message Specifications through to actual solution provider, service provider, and individual organizations implementations of the available standards.

Level 1 – Technical Standards Group: Provides detailed broad, horizontal based technical specification; e.g. XML, XSD, WSDL, BPEL, SCA, SOA, OWL, UML (W3C, OASIS, OSOA, ISO,etc)
Level 2 – Industry Standards Group: Provides broad industry wide vocabularies and taxonomy within the insurance industry (ACORD Life and Annuity Data Model Standard, XBRL Standards)
Level 3 – Industry Trade Groups (NAVA): Provides detailed, use case/scenario defined process and message specifications
Level 4 – Service Consumers, Service Providers, Vendors: Implement Levels above as appropriate for their solution(s)
Level 5 – Individual Organization Implementation: Implement 1,2,3,4 and self-developed as appropriate within their organization.

Each is a subset of the other, providing great detail and specificity as you move up the 'Standards Stack' towards actual, real process and systems implementation.

CHAPTER TWO – SOA BUSINESS DECOMPOSITION – BUSINESS SERVICES

This chapter details all the Business Services necessary for usage within a NAVA Reference Architecture.

In this chapter you'll find the following detailed sections:

- Overview – details and descriptions.
- STP Alignment – Details the Business Services allocated for usage in each section of STP process flow.
- Business Services – The Logical Grouping of STP Functions.
- Business Service Properties – This is the "master" list of properties that should be applied to each Business Service.

Overview

Business Services are logical groupings of Business Tasks. One can think of a Business Service as a core Business Function or Business Activity that needs to take place in order for a Business to be successfully implemented. The use of a Business Service is derived from a "Business Decomposition" to group and classify what Business Services need to take place. Further breakdowns of Business Services can formulate a "Technical Decomposition" which is the Technical Reference and Service Decomposition. Business Services not only should contain tasks but also should contain Roles, Assertions, Policies, and Channels.

STP Alignment

This section outlines the alignment of STP to Business Services to provide a Business Functional and Business Activity Oriented Breakdown of the current STP Architecture. This is the first step in SOA Service Decomposition and the key role in providing a technical reference and technical artifacts to align with the process flow.

While there are many best practices around business service modeling, this effort intentionally aligned the service modeling with the existing NAVA STP process definitions, using this as the scope for defining packaging and reuse. This enables a consistent representation and understanding for use in advancing NAVA STP, unencumbered by member specific functional and non-functional requirements. It is expected that members will extend this model to meet their own specific business and IT differentiators. In case where it is determined that there is additional member commonality, these aspects can and should be incorporated in subsequent versions of the service model.

ACCOUNT OPENING (1.0)

Description – Update existing brokerage account to include STP attributes and collect information required to complete the Customer profile as defined in NAVA Standards 2006-11. The general use case is a customer authenticating into a site and consenting to do an annuity order in an electronic fashion. The signed consent needs to be stored and the customer profile needs to be updated to reflect the customer's wishes.

Business Activities

- Customer Profile– set credentials for online delivery of documents for STP
- Authenticate Customer – for online delivery site
- Credential Customer – for online delivery site
- Signing Ceremony – denote customer receipt and agreement with e-consent
- Event Logging
- Document Management – provide e-consent document
- Records Management (archive) – save signed e-consent

PRODUCT PRESENTATION (2.0)

Description – This is an automated process that identifies products suitable for presentation to a Customer based on comparing information from the Insurer provided product profile to relevant information contained in the Customer's profile.

Business Activities

- Customer Profile – customer data is needed for determining suitable product during screening
- Product Screening – process for determining a suitable list of products for presenting to the customer
- Product Profile – used for product screening process
- Producer Profile – provides data for validating license and appointments
- License & Appointment Check – used in product screening for suitable product list.
- Validate Consents – validate the customer has a signed e-consent on record
- Customer Presentation
- Deliver Documents via Distributor Portal – disclosures and prospectus
- Event Logging
- Authenticate Customer – when picking up delivered documents
- Document Management – disclosures, prospectus
- Records Management – for validating saved e-consent

SELECTION & ORDER ENTRY (3.0)

Description – The Producer enters required order information into an Order Entry System to generate an Insurer specific application package.

Business Activities

- Customer Profile – provides customer data for order entry
- Authenticate Customer – when picking up disclosures
- Application Entry – selection of product and features
- Signing Ceremony – customer signs for receipt of disclosures
- Product Profile – used to validate application entry data against product rules
- Validate Customer Funding
- Deliver Documents - disclosures
- Event Logging
- Document Management – disclosures, e-consents, privacy notice

APPLICATION PROCESS (4.0)

Description – This process collects all required information, forms, documents and authorizations needed to assure that the application is 'In Good Order'.

Business Activities

- Customer Profile - provides customer data for order entry
- Reg 60 Process – for NY applications
- Application Entry – selection of product and features
- Generate Replacement Package – generate any necessary forms or paperwork for a replacement sale
- Generate Application Package – render application entry data to a signable document
- License and Appointment Check
- Producer Profile – for License check
- Product Profile – vetting of application data

- Deliver Documents – annuity application, replacement documents
- Funding Authorization
- Document Management
- Event Logging
- Signing Ceremony – customer and producer signature on annuity application

PRINCIPAL SUITABILITY REVIEW (5.0)

Description – This process addresses the need for a 'Suitability Review' which can be automated or performed by a Principal or a designated compliance officer. This is an Insurer responsible assigned to the Distributor to ensure the suitability of the annuity product based on information on the Customer's profile.

Business Activities

- Customer Profile – customer data needed for suitability reviews
- Product Profile – rules for suitability determination
- Application Data – reviewed by automated and heightened
- Automated Suitability Review
- Perform Heightened Suitability Review
- Transmit Application Data and Documents to Insurer – provide application data and signed documents to insurer
- Document Management – provide signed documents
- Signing Ceremony – reviewer signing
- Event Logging

INSURER APPLICATION (6.0)

Description – The annuity application package is transmitted to the Insurer for processing which includes an 'in good order' review and policy issue.

Business Activities

- Receive Application Data
- Receive Signed Application Documents
- Money Settlement – receive funds
- Replacement Process
- Validate License and Appointment – of producer
- Producer Profile – provide data for determining licensing or any restrictions
- OFAC Check – of customer
- Release Funds
- Funding Verification
- Process Application Data
- Notify Distributor of NIGO
- Issue Contract
- Deliver Documents to Distributor Portal – welcome package, prospectus
- Signing Ceremony
- Authenticate Customer – into distributor portal
- Customer Profile – provides credentials
- Event Logging
- Document Management – provides documents for portal
- Records Management – store completed transaction record
- Transmit Transaction Record to Insurer

Business Services

This section provides information of the Business Decomposition into Business Services. It provides a list of Business Services with a definition of what the Business Service's Capabilities are. It also defines other properties (Roles, Channels, Assertions, Polices) that should be utilized for each of the Business Services to bring focus and responsibility into each Service.

CUSTOMER PROFILE

Description – Record, Retrieve and Maintain the Customer Profile using this service. The Customer Profile is used to determine suitability and provide data for the application entry (name, address, SSN, etc.).

Roles – Customer, Primary Owner, Primary Annuitant

Channels – To do

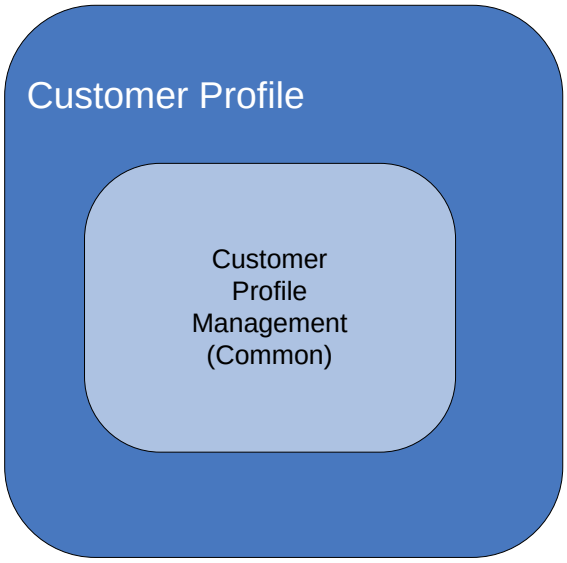


Figure 1 – Customer Profile Business Service Diagram

PRODUCER PROFILE

Description – Record, Retrieve and Maintain the Producer Profile using this service. The Producer Profile is used to determine suitability (through license and appointments) and provide data for the application entry (TaxID, email, etc).

Roles – Producer

Channels – To do

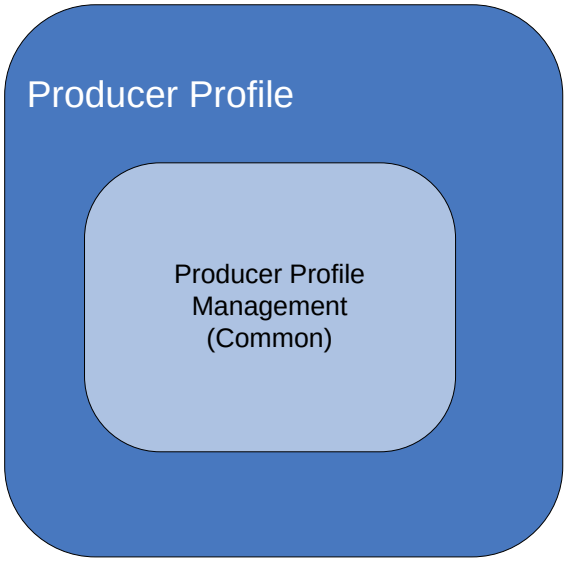


Figure 1 – Producer Profile Business Service Diagram

PRODUCT PROFILE

Description – Record, Retrieve and Maintain the Product Profile using this service. The Product Profile is used to determine suitability and provide product data and rules for the application entry.

Roles – To do

Channels – To do

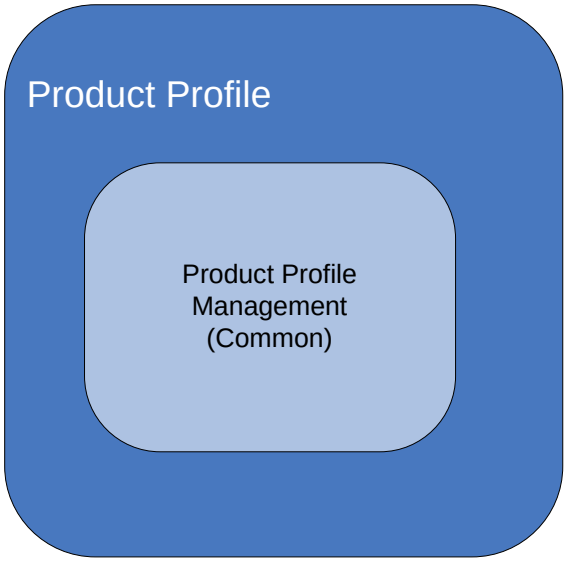


Figure 1 – Product Profile Business Service Diagram

AUTHENTICATE CUSTOMER

Description – Authenticate Customer provides a mechanism for proof positive customer identity. One form of authentication is used when verifying the customer identity prior to issuing credentials. Once the identity is verified and credentials have been issued authentication would be performed based on the credentials.
Business cases to consider are:

- Customer possess current set of credentials
- Customer possess credentials that are expired
- Customer does not possess credentials

Roles – Customer, Producer, Primary Owner, Joint Owner, Primary Annuitant, Join Annuitant, Reviewer

Channels – To do

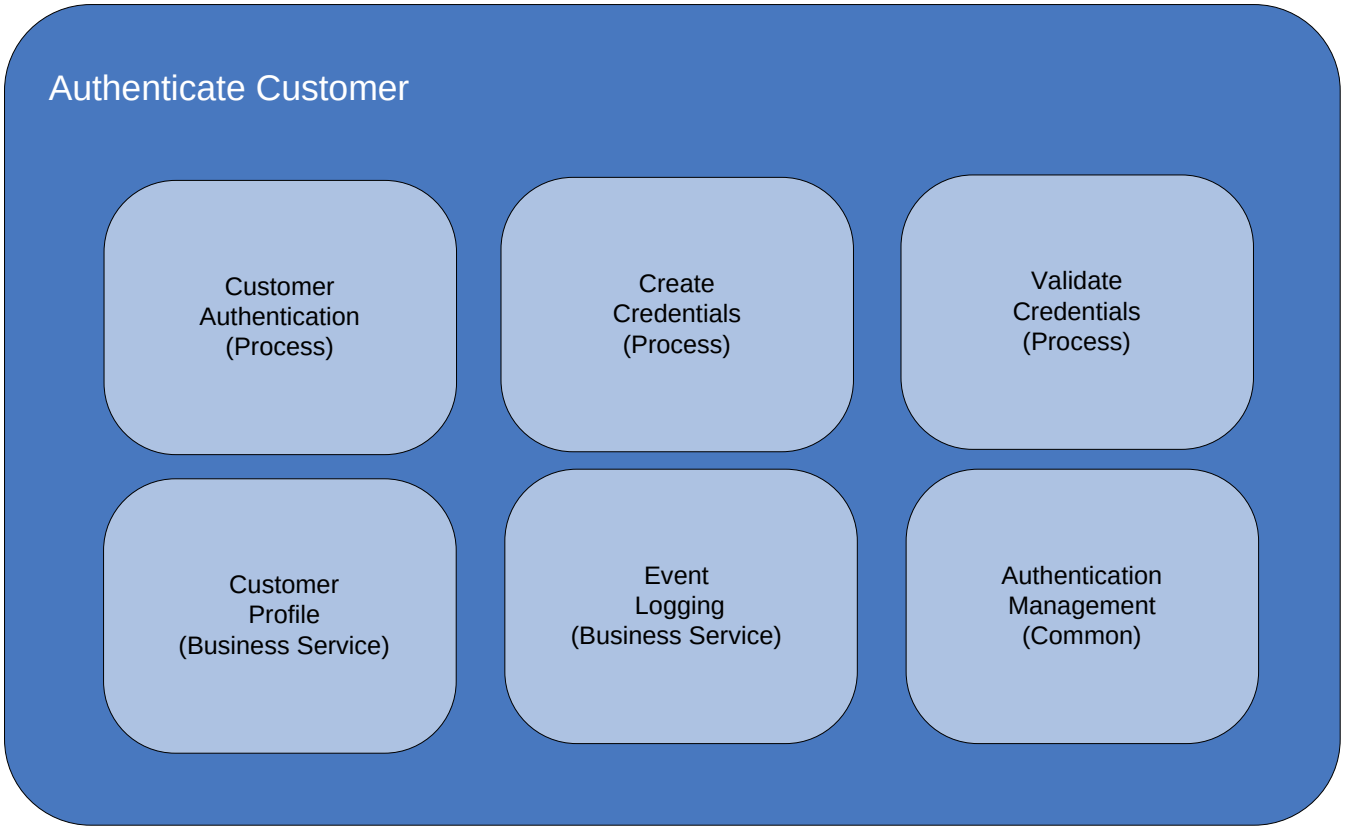


Figure 1 – Authenticate Customer Business Service Diagram

PROCESS ECONSENTS

Description – Process eConsents provides all the capabilities for validating the necessary consent to do annuity business in an electronic fashion has been granted. If consent is not on record, the process provides for the means to gather that consent. The process use case assumes the consent is an electronic document provided from a Document Management system which may be viewed by the customer and which the customer must accept by electronic signature. The consent would then be stored in such a way as it becomes part of the customer record and can be referenced when necessary (Records Management). The Business Use Cases to consider are:

- Customer does not have an econsent on record for the Annuity process
- Customer has an econsent on record for the Annuity process
- Customer does not provide consent or can not meet the requirements for an electronic process

Roles – Customer, Distributor, Insurer

Channels – To do

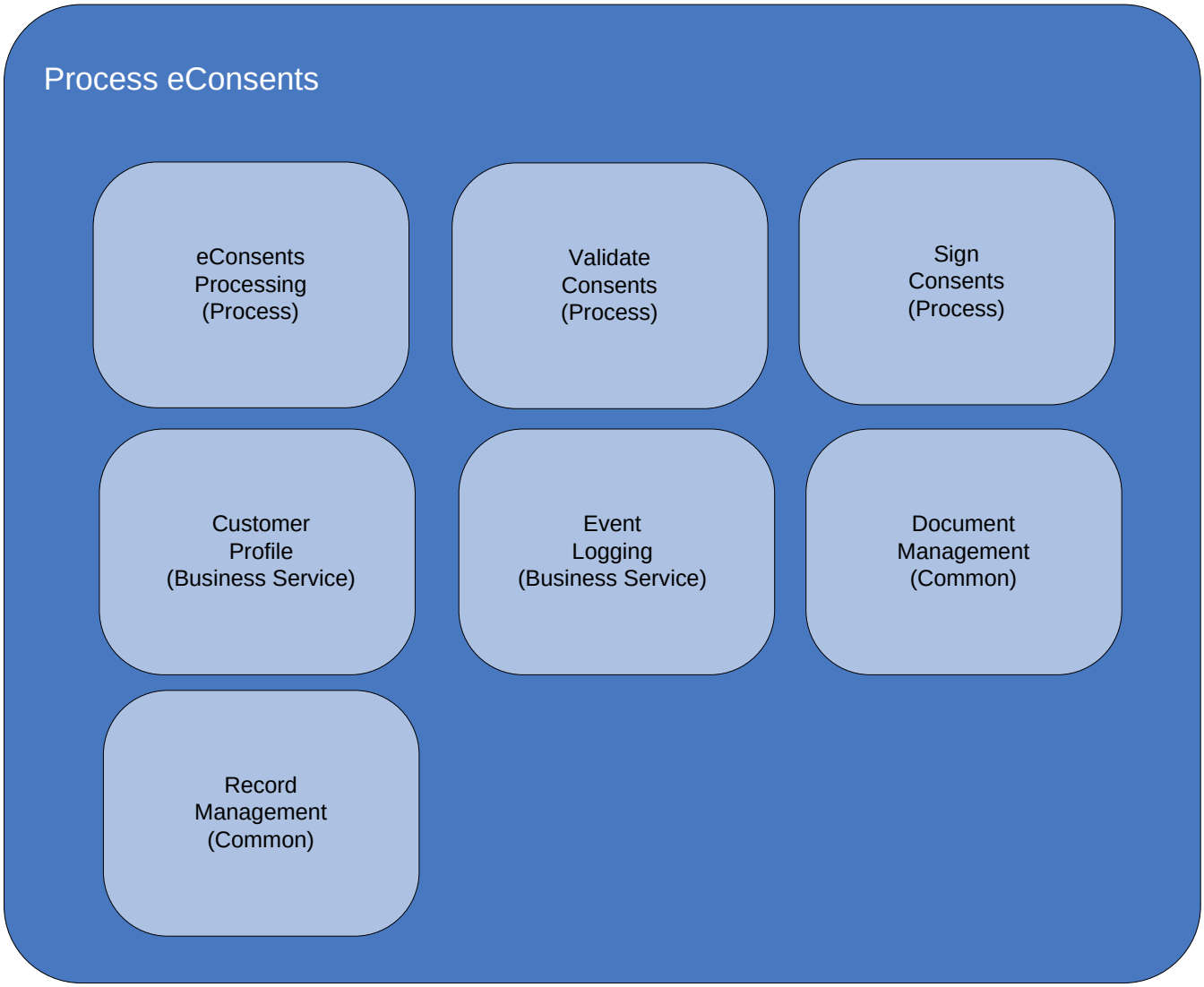


Figure 1 – Process eConsents Business Service Diagram

PRESENT PRODUCT(S)

Description – Present Product(s) provides the process for screening suitable annuity products for a Customer based on the Customer Profile, Product Profile, and Producer Profile. Part of the Producer information that is interrogated for screening is annuity products which the Producer is licensed and appointed for. Once a list of suitable products is determined any supporting documents (prospectus, disclosures, etc) must be delivered to the Customer. The Process Model assumption is that this delivery occurs in an electronic fashion to a distributor portal of which the Customer must authenticate. Since these documents are delivered in an electronic fashion a valid consent must be on record for the Customer. A formal Product Presentation business process may now be performed. Business cases to consider include:

- Product Presentation is performed in a non-electronic fashion (i.e. face to face)
- Product Presentation is performed in an electronic fashion (i.e. Customer reviewing documents online and choosing product)

Roles – Customer, Producer

Channels – To
do

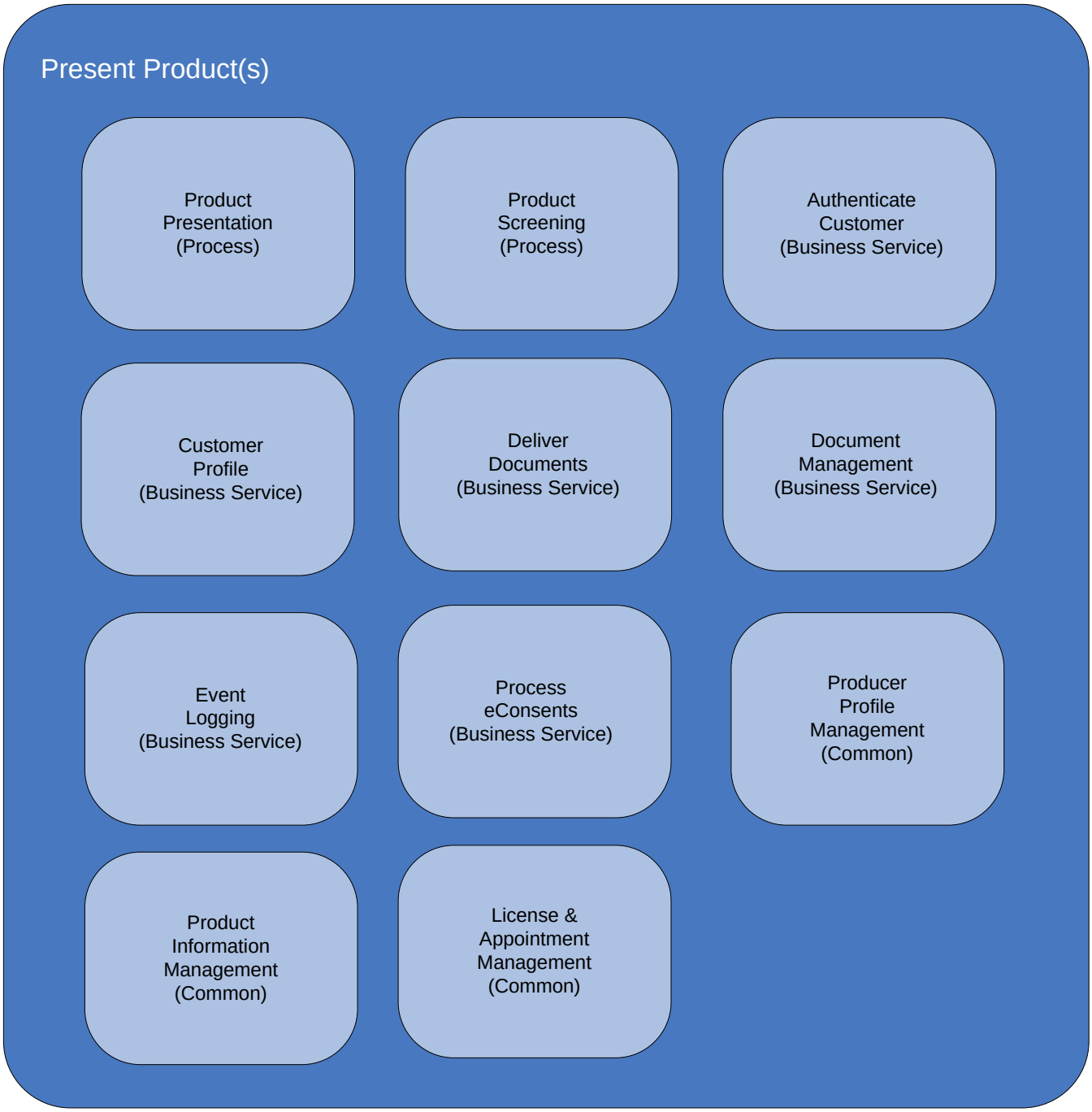


Figure 1 – Present Product(s) Business Service Diagram

LICENSE & APPOINTMENT

Description – The License & Appointment Business service provides all the capabilities to determine if a Producer is properly licensed and appointed to sell an annuity product. Parameters to determine proper licensing may include Product, Producer Profile, date of the sale, and relevant state information (issue state, sale state, etc.)

Roles – Producer

Channels – To do

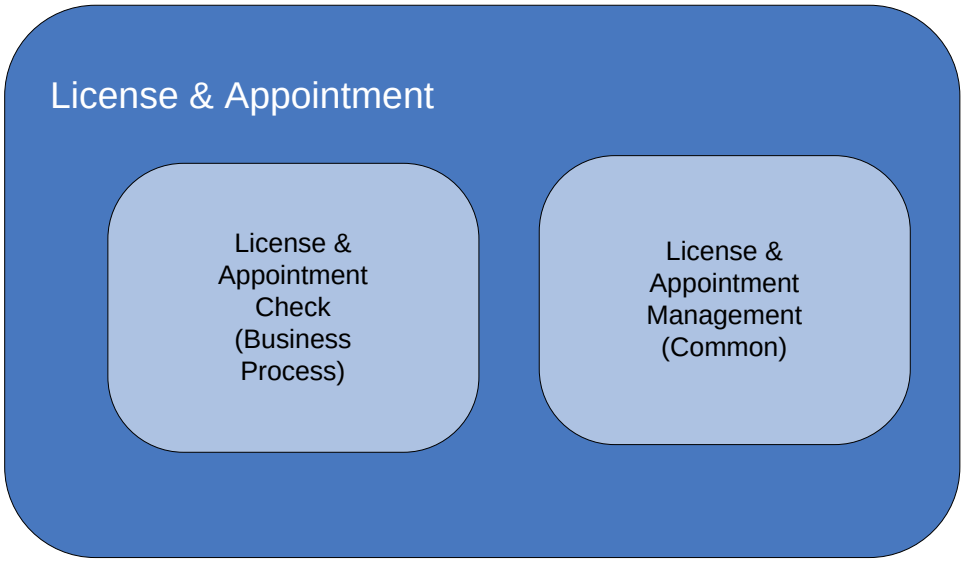


Figure 1 – License & Appointment Business Service Diagram

APPLICATION ENTRY

Description – Application Entry provides all the capabilities to effectively start, build, and manage data about the annuity application. The flow of the Business process is after a suitable product has been selected (Present Product), specific choices relevant to the product must be selected (investments, riders, etc), Customer Profile data must be input into the process, along with funding information. During the process relevant documents (Insurer disclosures) are delivered to the Customer that must be reviewed and signed and stored. The Customer funding source must be verified to determine proper proceeds exist and additional license checks are performed against the Producer to ensure no lapse has occurred since the previous check. The Application Management service would perform vetting of product choices against the Product Profile and any additional rules. The output from this process is electronic application data and completed documents which should now be available for the Insurer issuance process.

Roles – Producer, Customer
Channels – To do

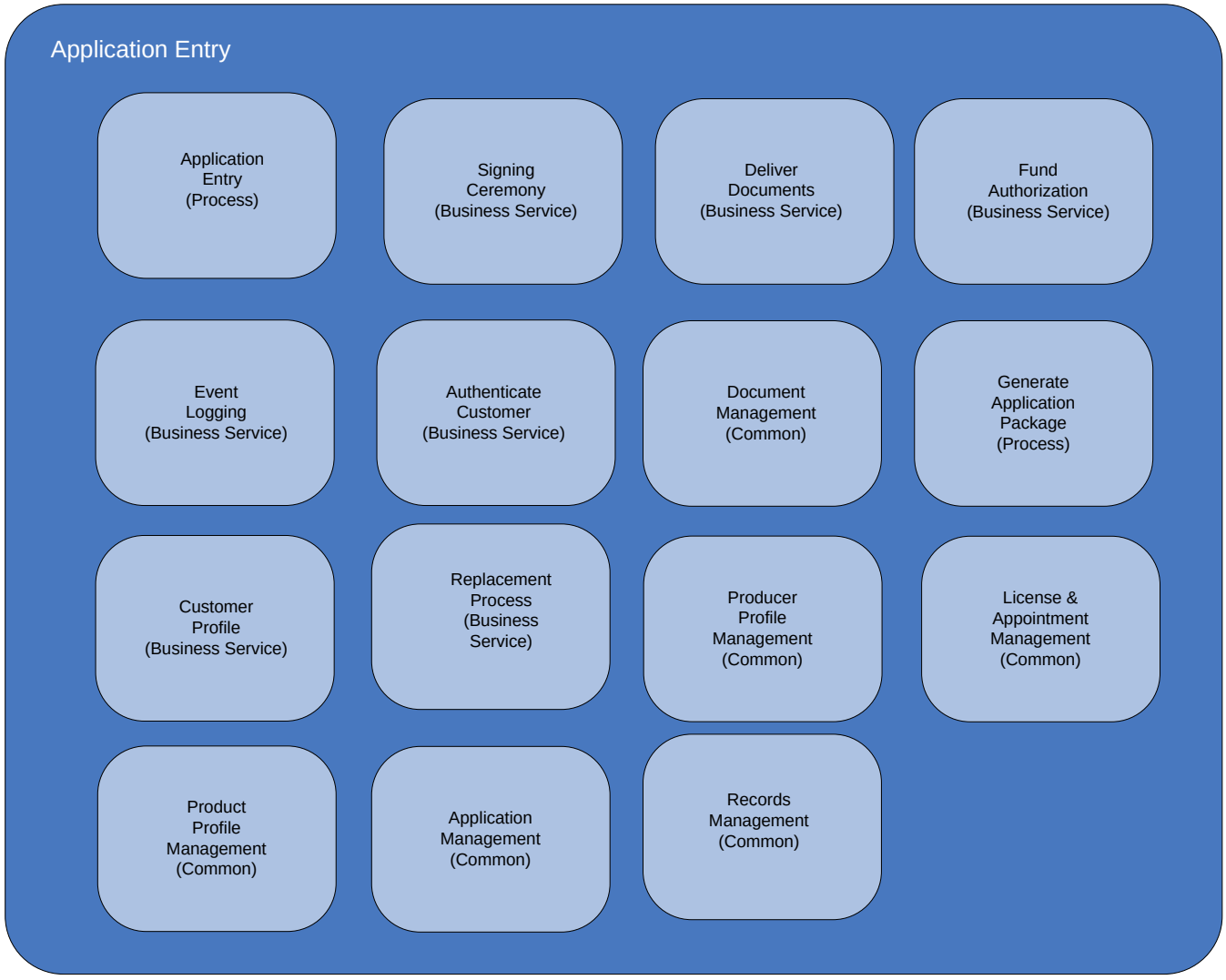


Figure 1 –Application Entry Business Service Diagram

SUBMIT APPLICATION

Description – Submit Application is the processing service that provides capabilities to generate and submit the Application to the Insurer

Roles – To do

Channels – To do

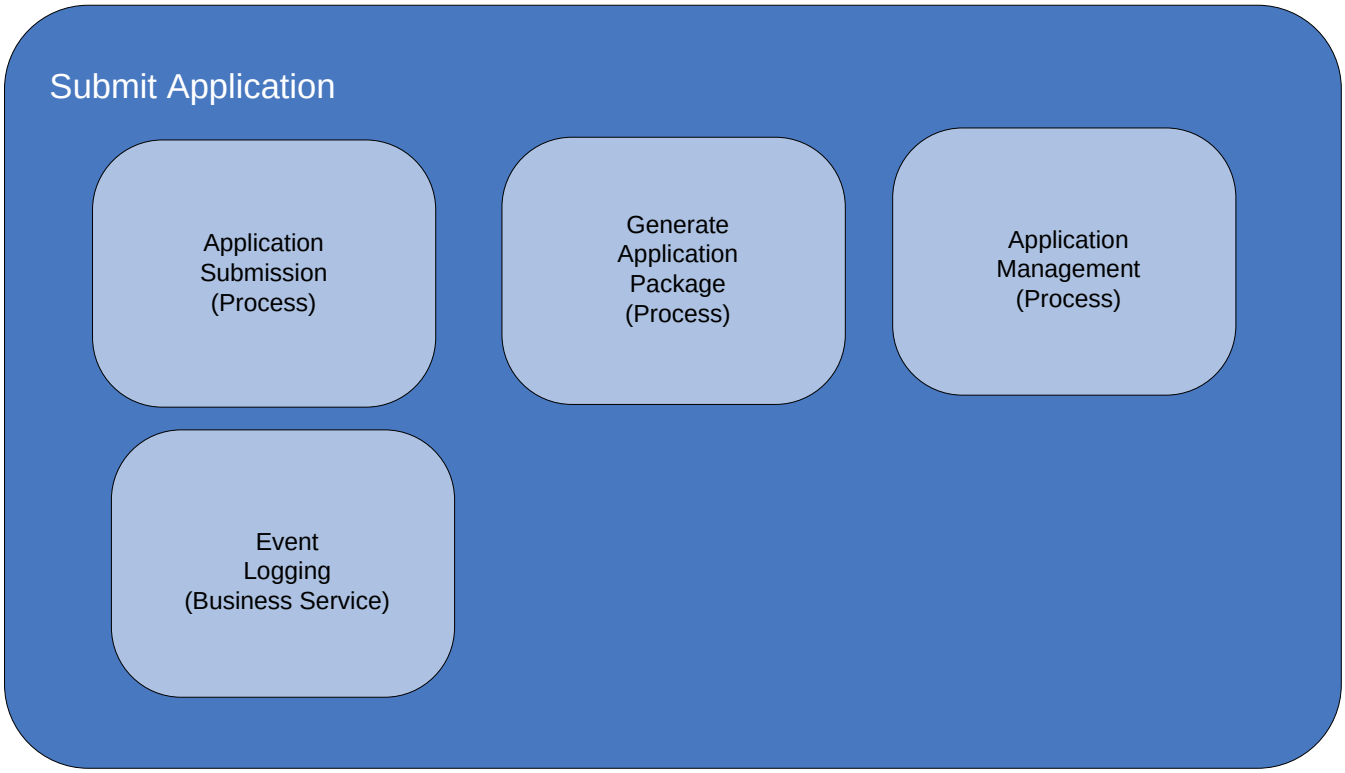


Figure 1 – Submit Application Business Service Diagram

PERFORM SUITABILITY REVIEW

Description – Perform Suitability Review provides all the capabilities to make sure the application/order is suitable and meets all compliance requirements. Application Package, Customer Profile, and Product Profile data are processed through an Automated Suitability review process. Any applications with exceptions are passed to the Heightened Suitability review process. If an application is deemed suitable post heightened review, a principal of the Distributor must provide an electronic signature to the documents. The assumption is a Document Management system is providing access to the documents while they are still a work in progress.

Roles – To do

Channels – To do

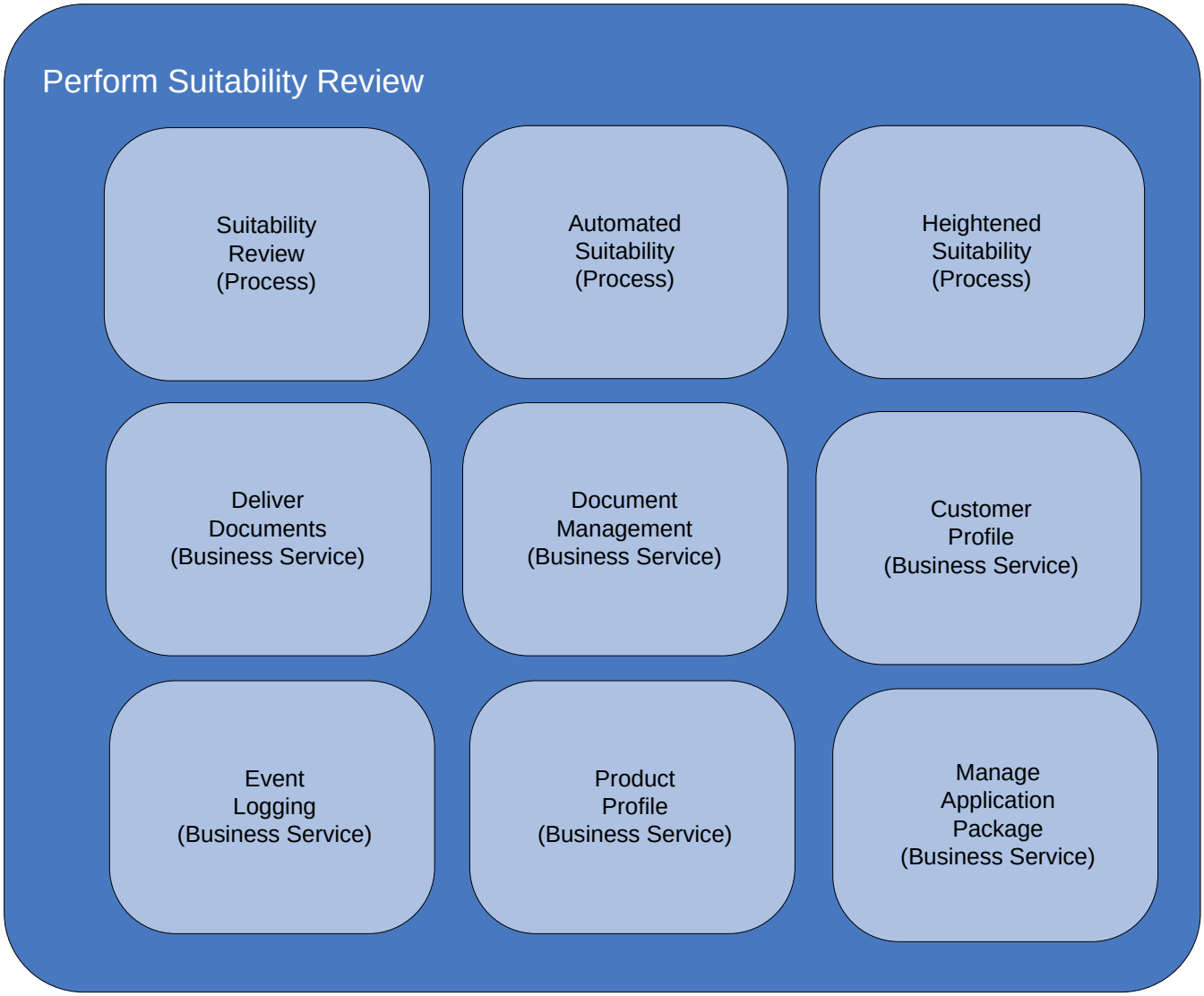


Figure 1 – Perform Suitability Review Business Service Diagram

SIGNING CEREMONY

Description – Signing Ceremony provides all the capabilities to effectively handle the eSignature process and process the signatures. The assumed inputs of the signing ceremony are documents requiring signature(s) (provided by a Document Management Service), Customer information, and any information regarding additional signers (from Application Package). A Signature Management service would provide the signing work flow and binding and locking of the signatures to the electronic documents. The output of the Signing Ceremony would be signed documents for storage as part of the transaction record (Record Management). An assumption is made that Authentication for signers would be performed.

Roles – To do

Channels – To do

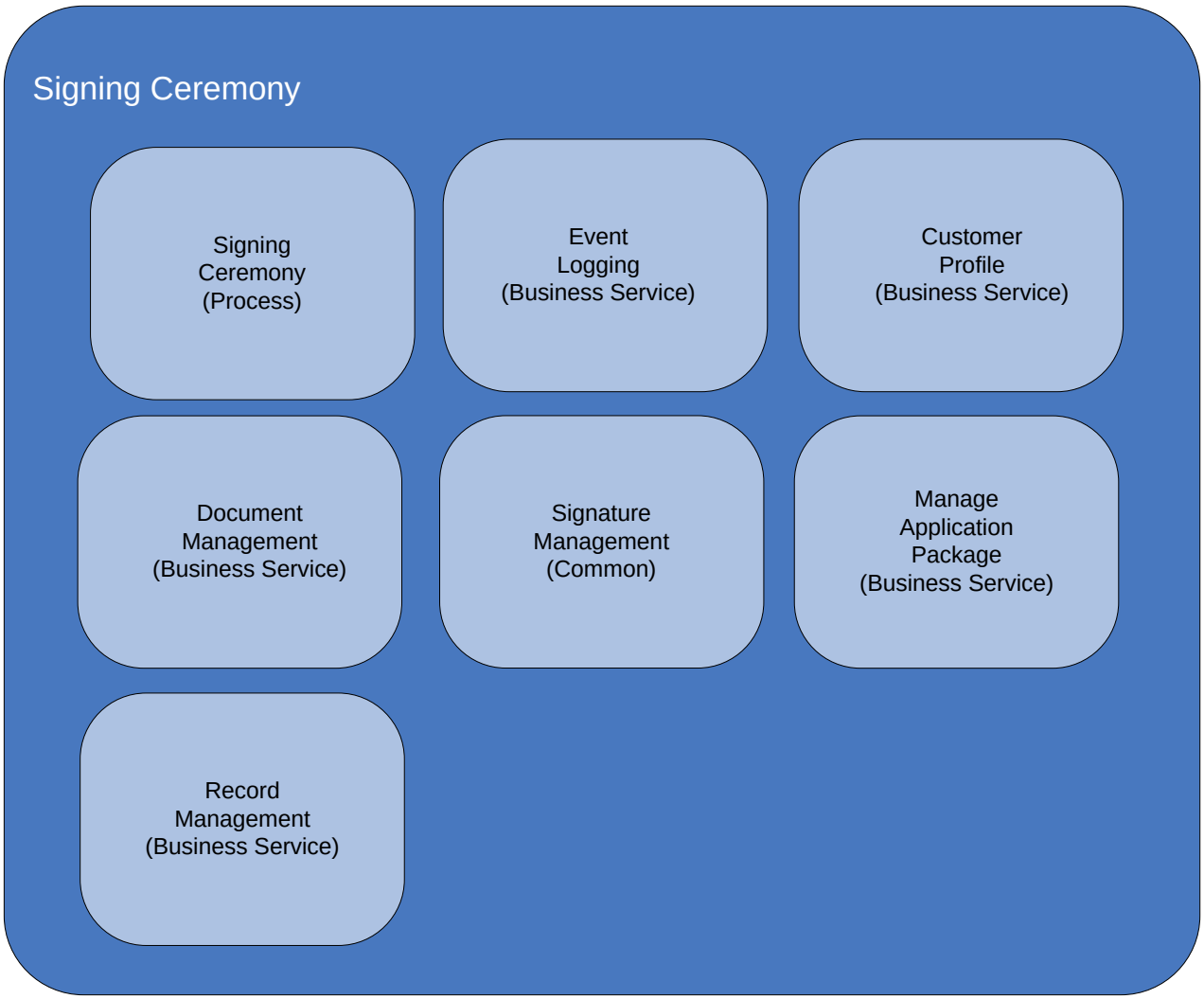


Figure 1 – Signing Ceremony Business Service Diagram

FUNDING

Description – Funding services include processes for pending funds to earmark for the annuity, verifying fund availability from the source specified during Application Entry, authorizing the withdrawal of funds from the specified source, and the actual transfer of funds from the source to Insurer.

Roles – To do

Channels – To do

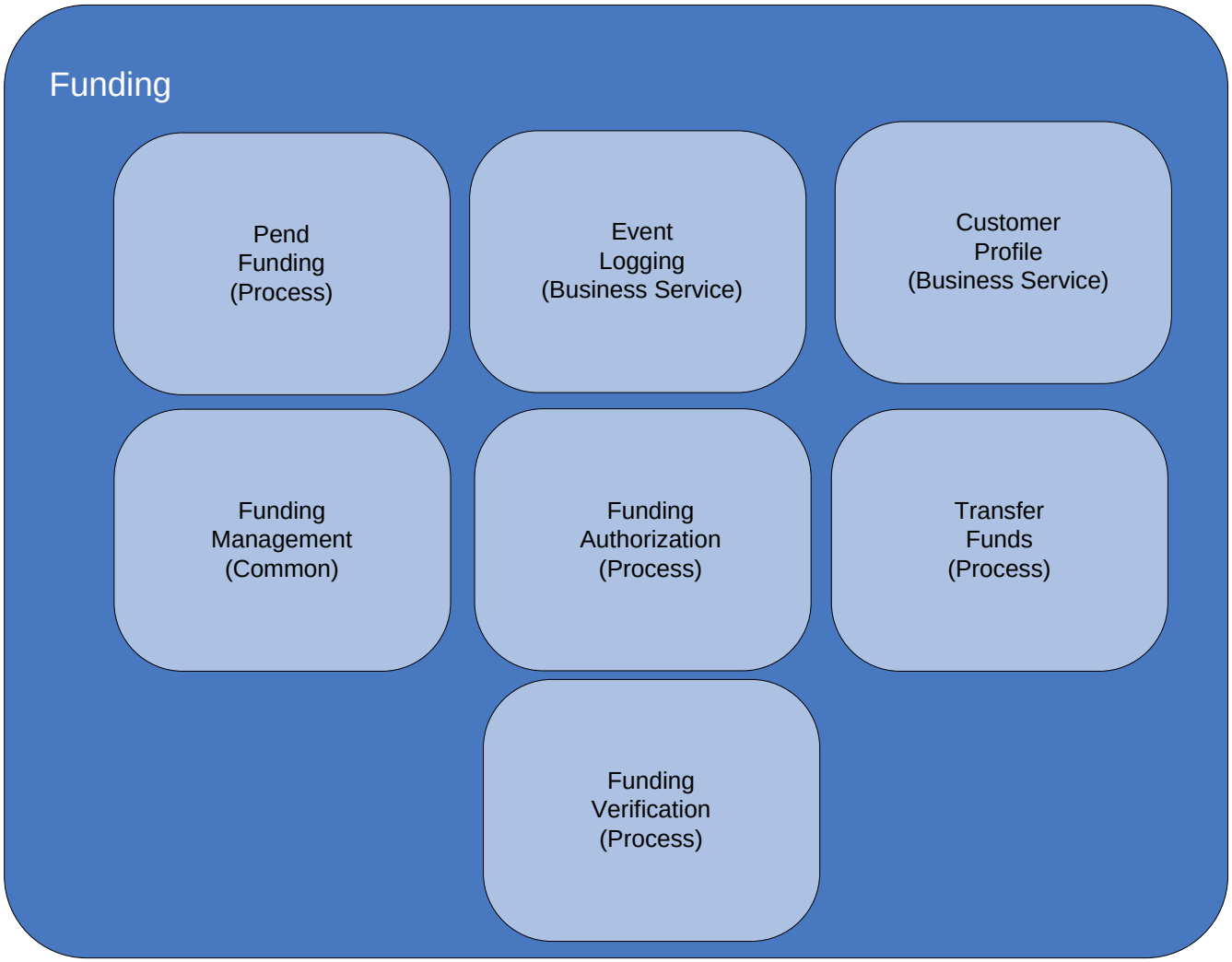


Figure 1 –Funding Business Service Diagram

PROCESS APPLICATION PACKAGE

Description – Process Application Package is the processing service that provides capabilities to process the Application before a contract can be issued.

Roles – To do

Channels – To do

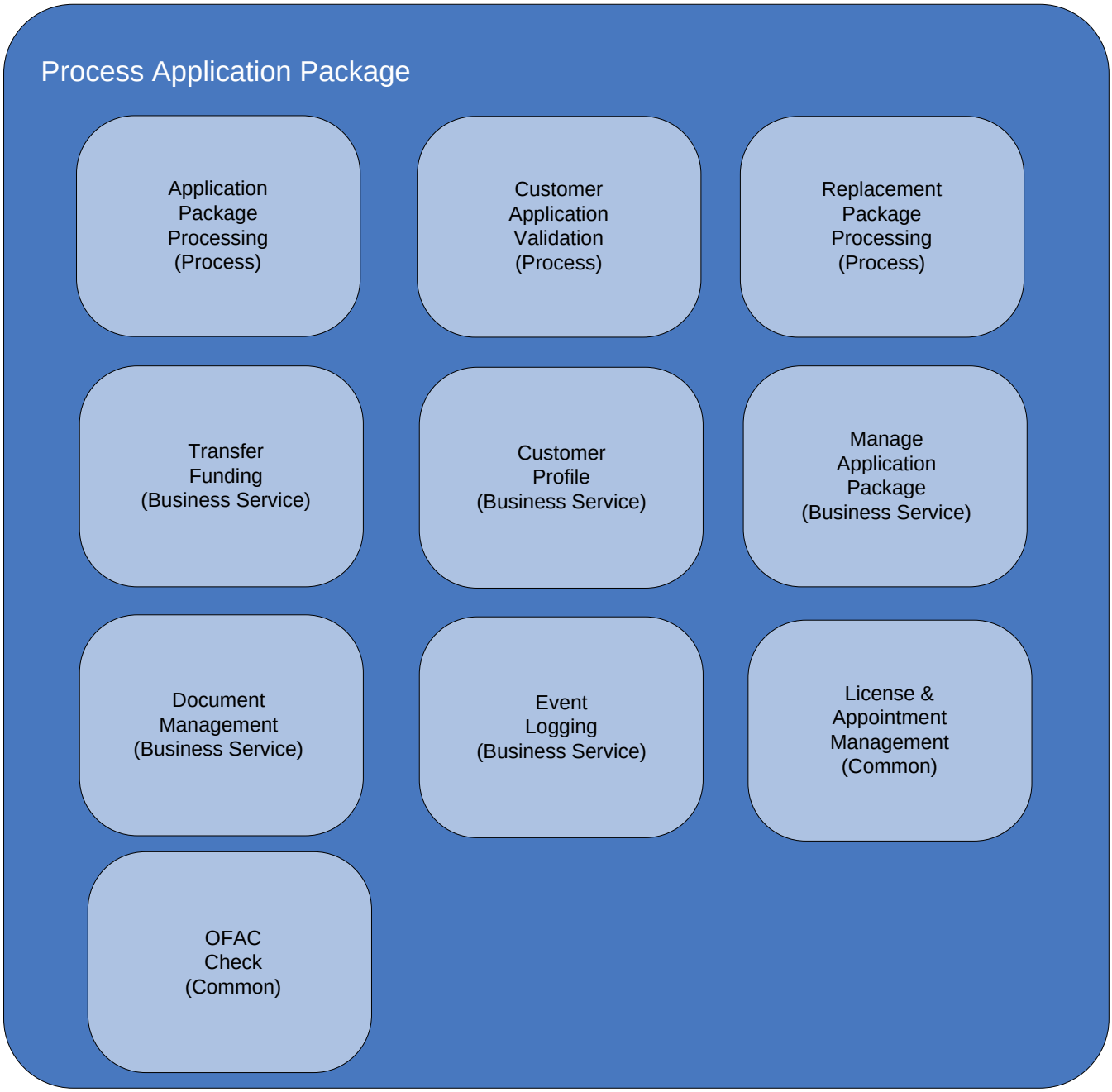


Figure 1 – Issue Contract Business Service Diagram

ISSUE CONTRACT

Description – Issue Contract service provides the final Annuity process that allows for the Contract to be completed and issued to the customer along with all services to complete the process.

Roles – To do

Channels – To do

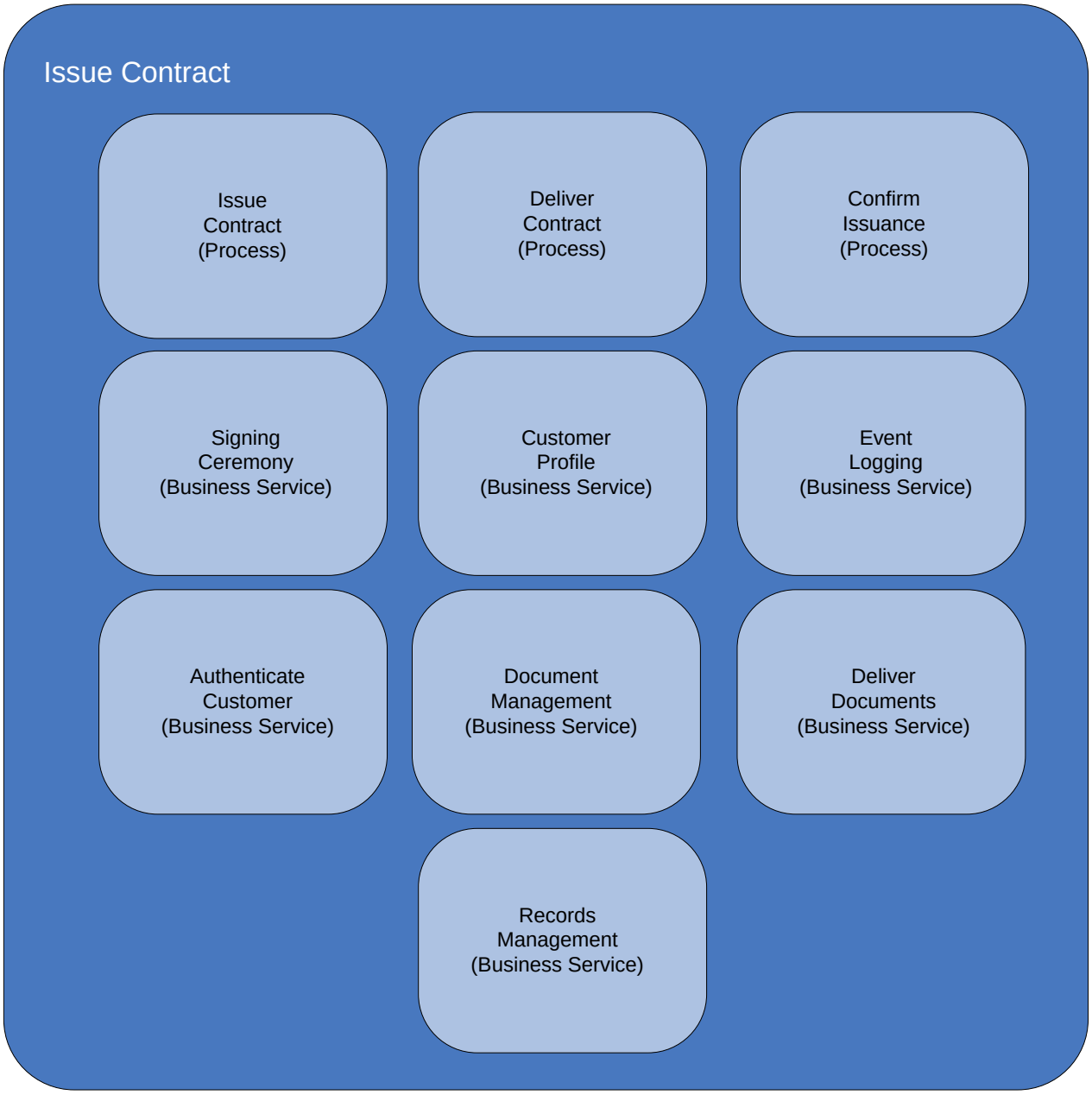


Figure 1 – Issue Contract Business Service Diagram

DELIVER DOCUMENTS

Description – Deliver Documents service provides all available options to deliver, any type of document, correctly through any channel. The Process Model assumption is the delivery of documents to the Customer is performed via a Distributor portal. Other electronic options may be available.

Roles – Customer

Channels – To do

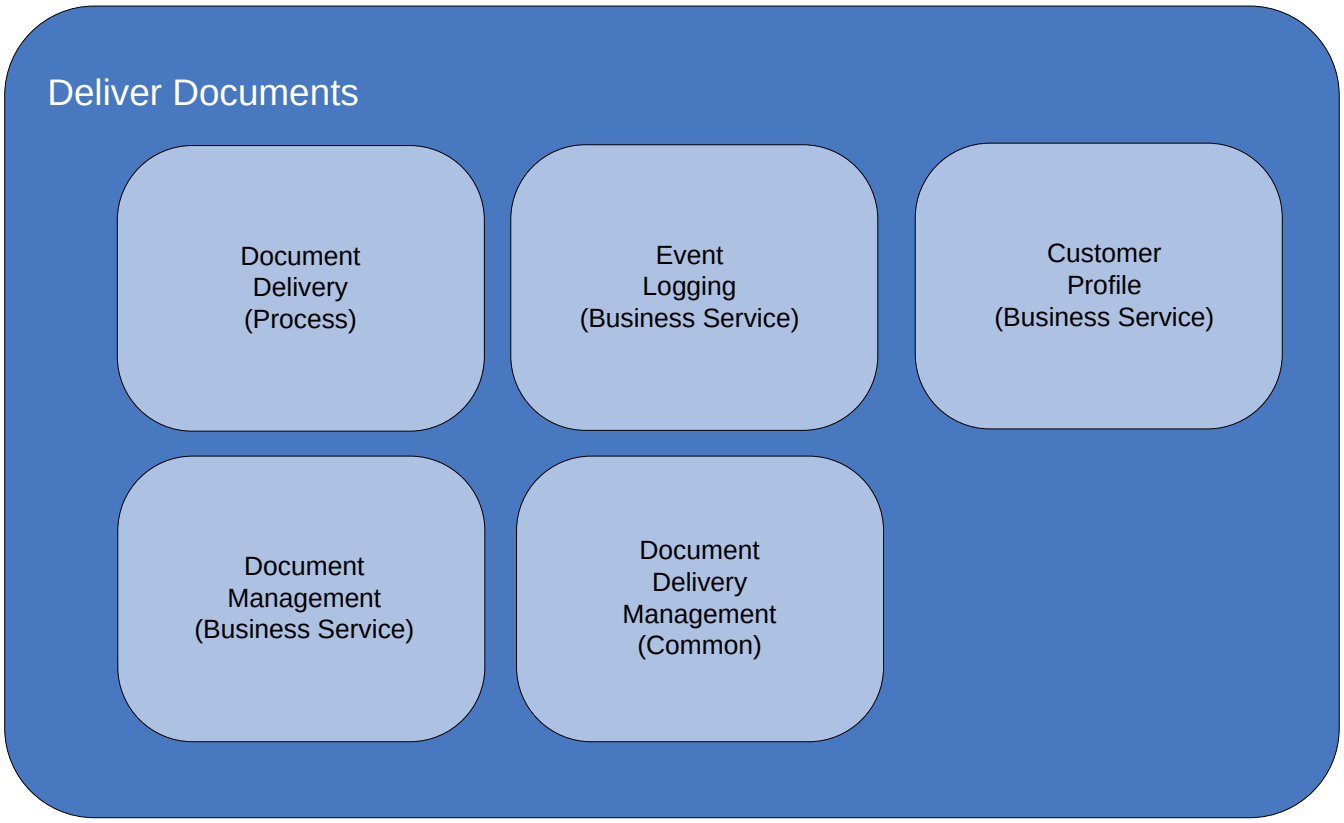


Figure 1 – Deliver Documents Business Service Diagram

EVENT LOGGING

Description –Event Logging service provides all capabilities to handle event logging, auditing, summary and history in compliance with the STP standards. Event Logging services would be utilized throughout the various business services to at least meet the minimum standards.

Roles – To do

Channels – To do

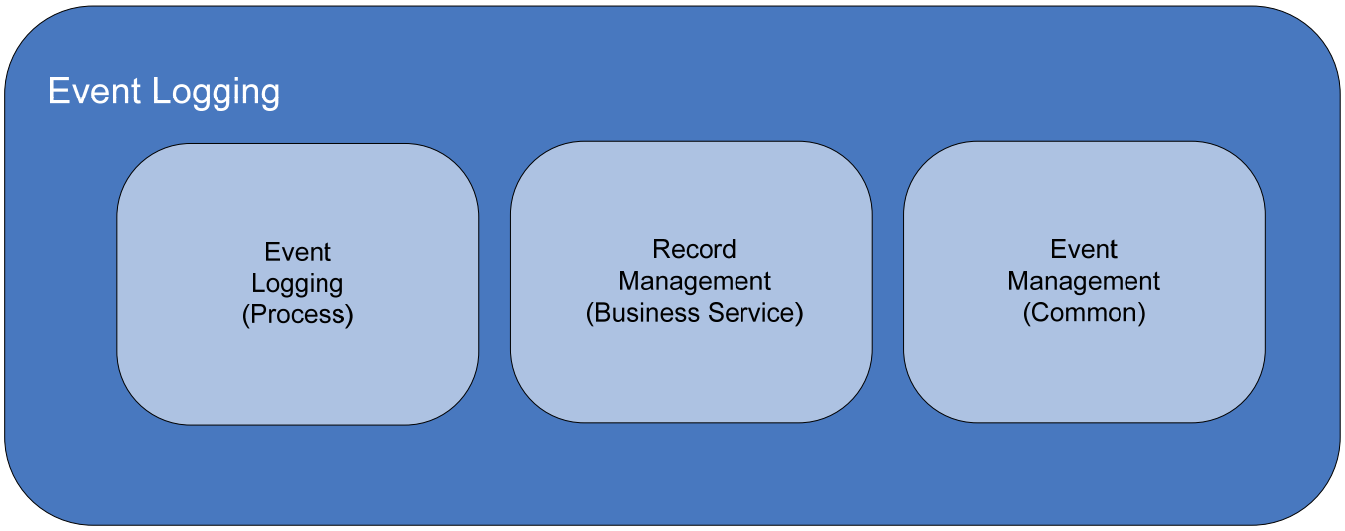


Figure 1 – Event Logging Business Service Diagram

DOCUMENT MANAGEMENT

Description – Document Management service provides secure storage and retrieval mechanisms for active documents and active transaction data.

Roles – To do

Channels – To do

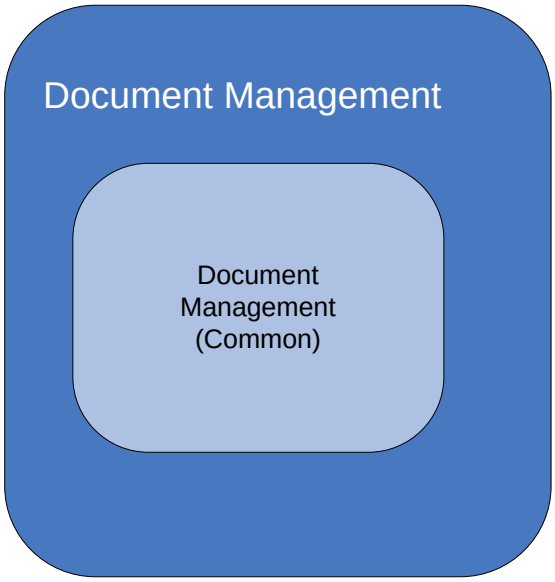


Figure 1 – Document Management Business Service Diagram

RECORD MANAGEMENT

Description – Record Management service provides secure permanent storage for documents and transaction data. Items are considered "archived" when placed into Record Management yet can still be referenced when necessary.

Roles – To do

Channels – To do

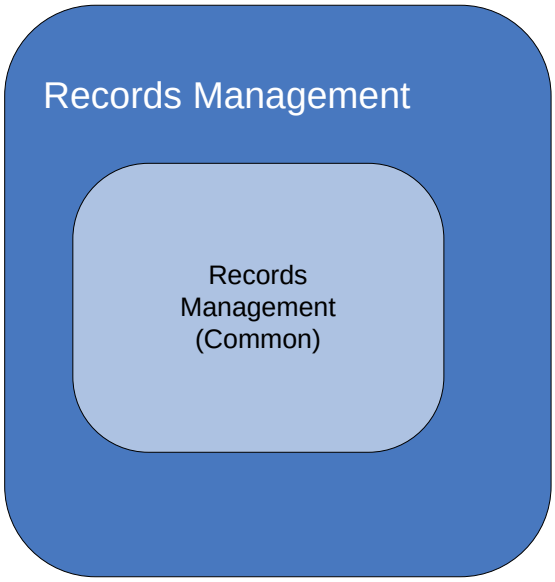


Figure 1 – Record Management Business Service Diagram

Business Service Properties

This section provides a "master" list of all the properties that need to be present and applied to the Business Services. These properties provide service provider and service consumer layer information which answers the following questions

Who has access to the Business Services and Sub-Business Tasks (Roles)?
How they are made available for access (Channels)?
Are there any Business Terms that could affect the outcome or calling of the Business Services (Assertions)?
Are there rules or criteria that might cause STP to flow differently or behave differently (Policies)?

- **Roles** – The definition of a Person or Actor, within STP, that would be performing some Business Activity or Business Task. The importance of this is the impact it might have on the way the function or task is performed or the outcome of the results.
    - Customer
    - Producer/Agent
    - Distributor
    - Insurer
    - Primary Owner
    - Joint Contingent Owner
    - Primary Annuitant
    - Joint Contingent Annuitant
    - Primary Beneficiary
    - Joint Contingent Beneficiary
    - Payer
    - Trust/Trustee
    - Legal Advisor
    - Underwriter
    - Reviewer
- **Channels** – The definition of capabilities that can consume and utilize the Business Functions and Business Tasks, defined from STP. The importance of this is the impact it might have on the way the function or task is built by service providers, based on the types of functions that need to be provided.
    - Web Portal
    - Form
    - Web Service
    - FTP
    - Fax
    - Email
    - B2B
    - Mobile Device
    - Feed
- **Assertions** – TBD
    - TBD
- **Policies** – TBD
    - TBD

CHAPTER THREE – SOA TECHNICAL DECOMPOSITION – SCA COMPONENTS

This chapter details all the Technical Components necessary for usage within a NAVA Reference Architecture.

In this chapter you'll find the following detailed sections:

- Process Services – Details the list of processes that need to occur within the STP Process Flow, they will utilize the common services, and wire together a technical description of what each process needs to function based on STP.
- Common Services – A list of common services, represented by SCA Composites, that will be reused across the enterprise

Process Services

The Process Services are business capabilities defined, using SCA Composites, to showcase STP components in a technical workflow. Process Services utilize the reusable Common Services to wire together the flow of data in a reusable and "generically" defined way. They don't limit you from being able to implement and organize the data or flow different only reference what you would need minimally.

CUSTOMER AUTHENTICATION

This SCA Composite provides services for performing a complete Customer authentication process through the Customer Authentication Process Service. This service would perform the necessary functions for authenticating a user and creating credentials. Once a Customer has credentials, the Validate Credentials Service can be called to verify. External access has been provided to the Create Credentials Service to meet the case where a call to the Validate Service returns a response of expired credentials. A call to the Create service would allow the Customer to renew the credentials without needing to perform a full authentication.

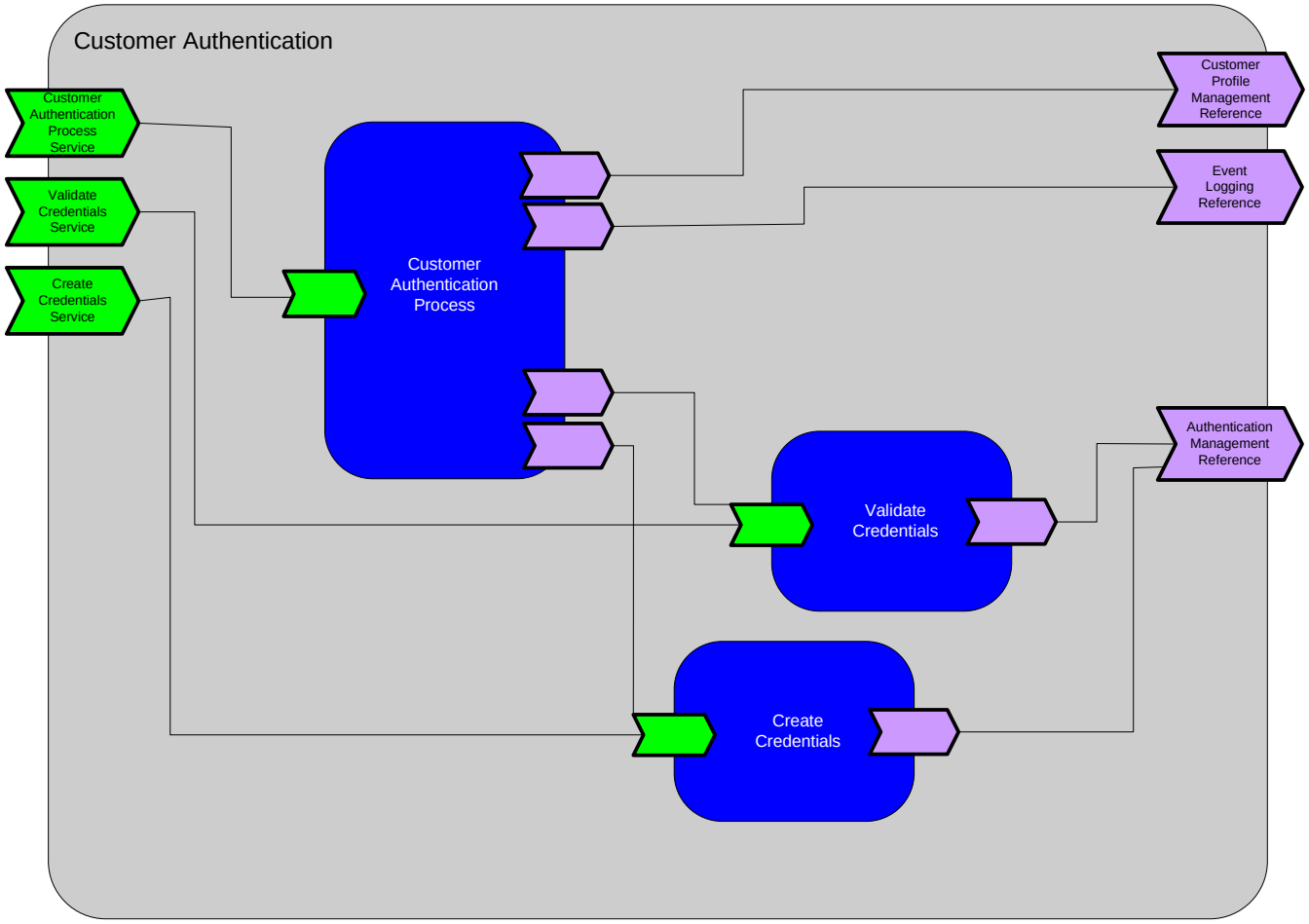


Figure 1 – Customer Authentication SCA Composite Diagram

ECONSENTS PROCESS

The Consents Processing Service provides the complete eConsent Process: validate if an eConsent is on record, present the consent for review, allow for the signing of the consent, and finally store the consent in the records. The Validate Consents Service allows for the validation that a signed consent is on record.

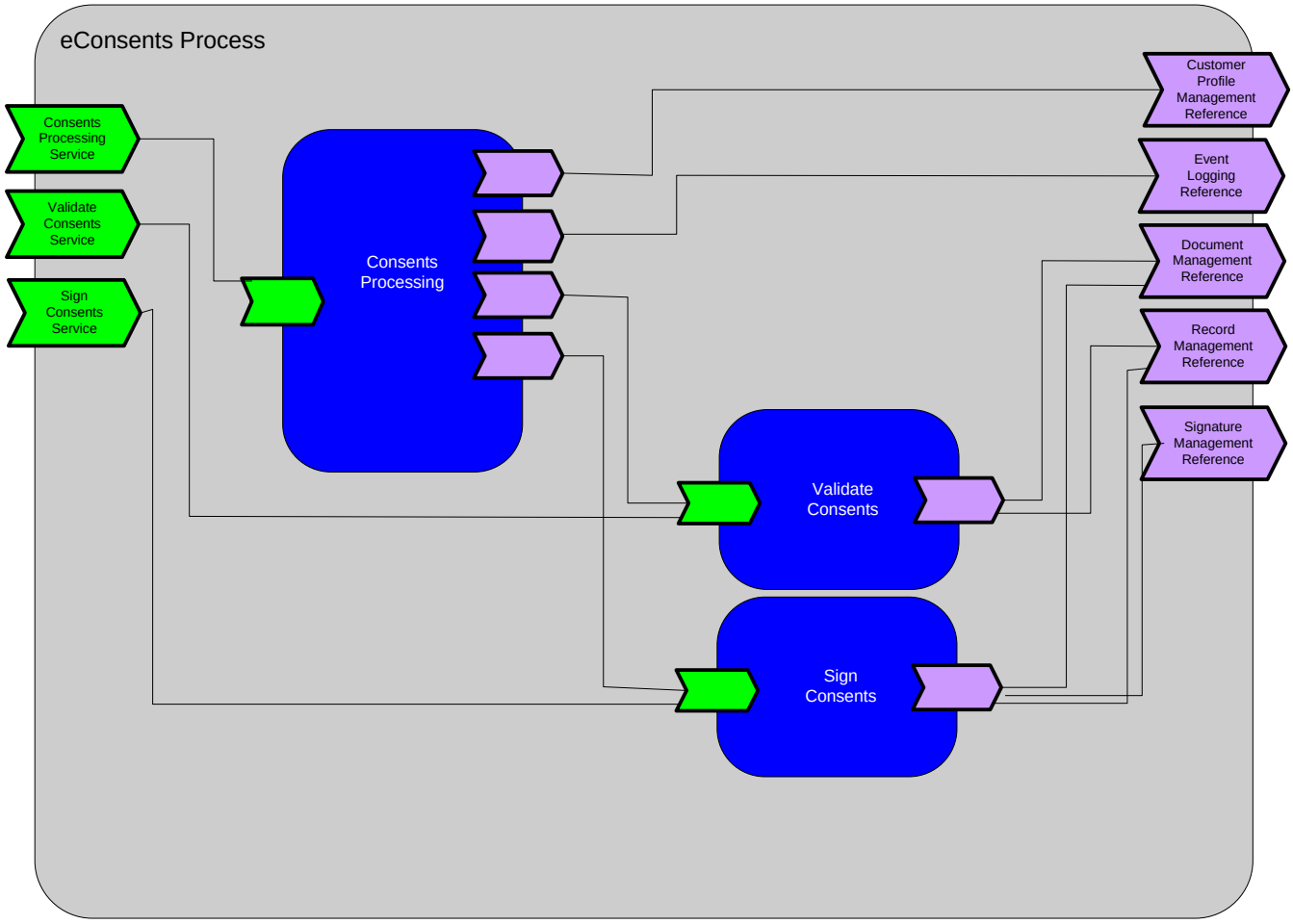


Figure 1 – eConsents Process SCA Composite Diagram

PRODUCT PRESENTATION

The SCA Composite for Product Presentation provides services for Product Screening and a Product Presentation Process. The Product Screening Service should provide a list of suitable products based on Customer Profile, Product Profile, and Producer licenses and appointments. Additional rules might be utilized within this service to determine suitability (such as Distributor rules).
The Product Presentation Service provides a Process Service for providing presentation materials for suitable products to a Customer. Presentation material is pulled from Document Management and delivered, an authentication of the Customer into the Presentation Process is performed, and a validation that consent is on record.

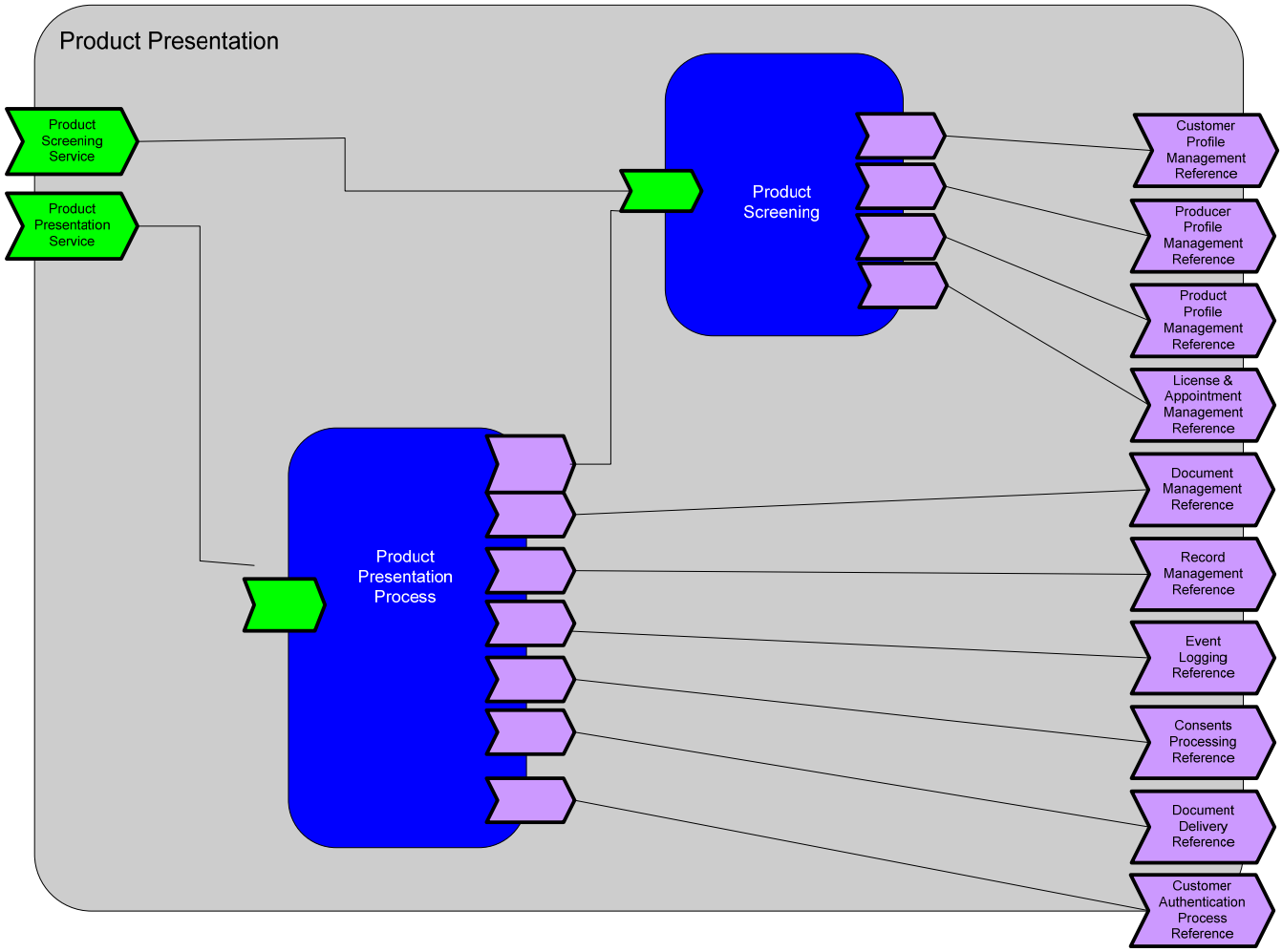


Figure 1 – Product Presentation SCA Composite Diagram

SUITABILITY REVIEW

THE SCA Composite for the Suitability Review process provides three external services. An Automated Suitability Service reviews the Annuity Application data, Customer Profile data, and Product Profile data against a set of Suitability rules to determine compliance. If an Application does not pass the rule set, a heightened review must be performed. This business service is performed with functions provided by the Heightened Suitability Service. The Heightened services would provide a reviewer the ability to review Application data along with Customer and Product Profiles. The service should allow the Reviewer to collect comments relative to Application and update the status of the Application with Pass or Fail. A Suitability Review Process Service acts as a Business Process orchestration layer between Automated Review and Heightened Review.

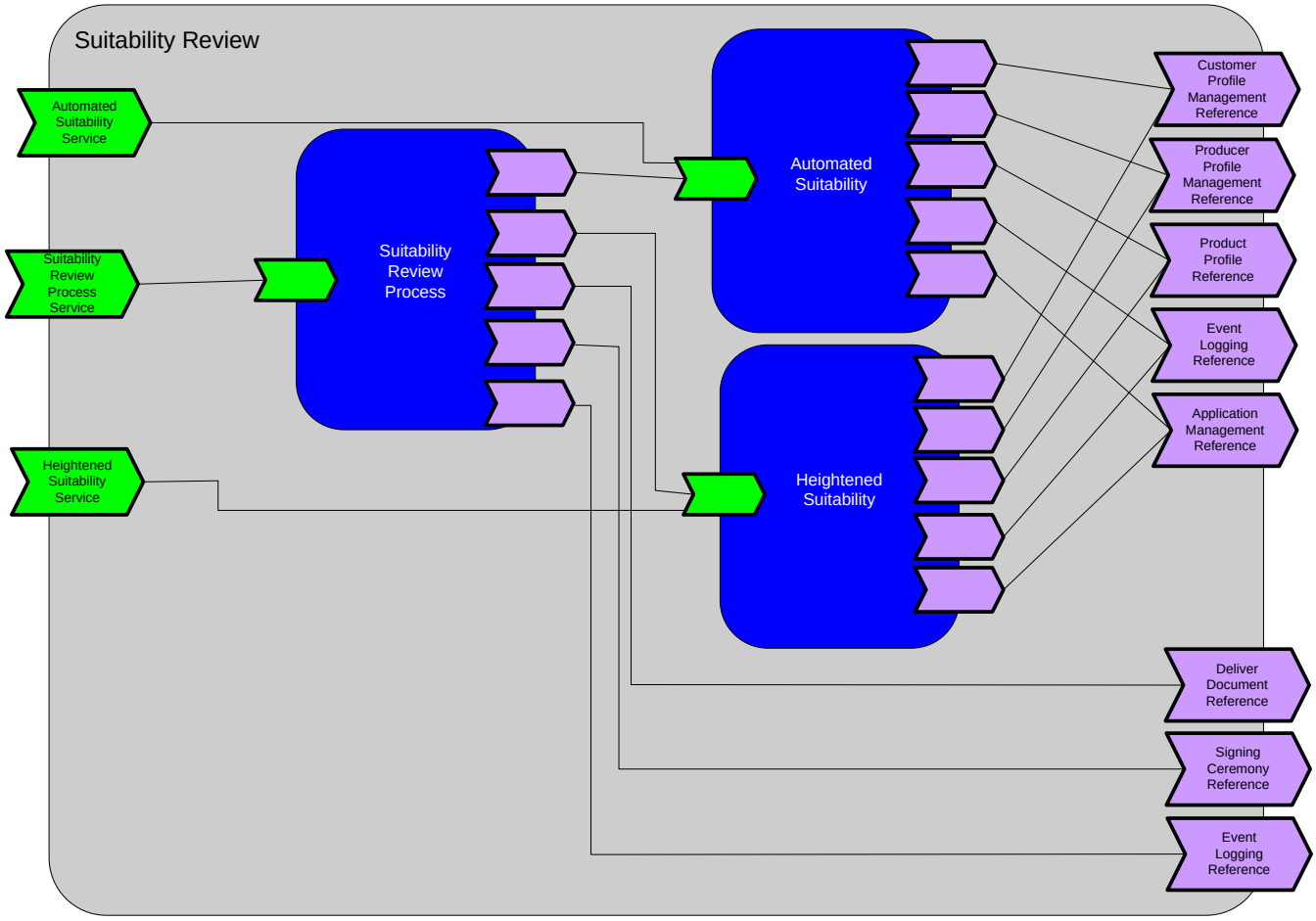


Figure 1 – Suitability Review SCA Composite Diagram

APPLICATION TRANSMISSION

This SCA Composite provides the services necessary to transmit application data and documents. In the Process Model this occurs upon the successful review and signing ceremonies for an annuity application. The Application Transmission Process Service acts as an orchestration layer to ensure an annuity application's data and documents are sent. Application data is provided by the Application Management Service, documents are pulled from the Document Management and Records Management Services. Document Transmission and Application Data Transmission Services can also be utilized as separate services.

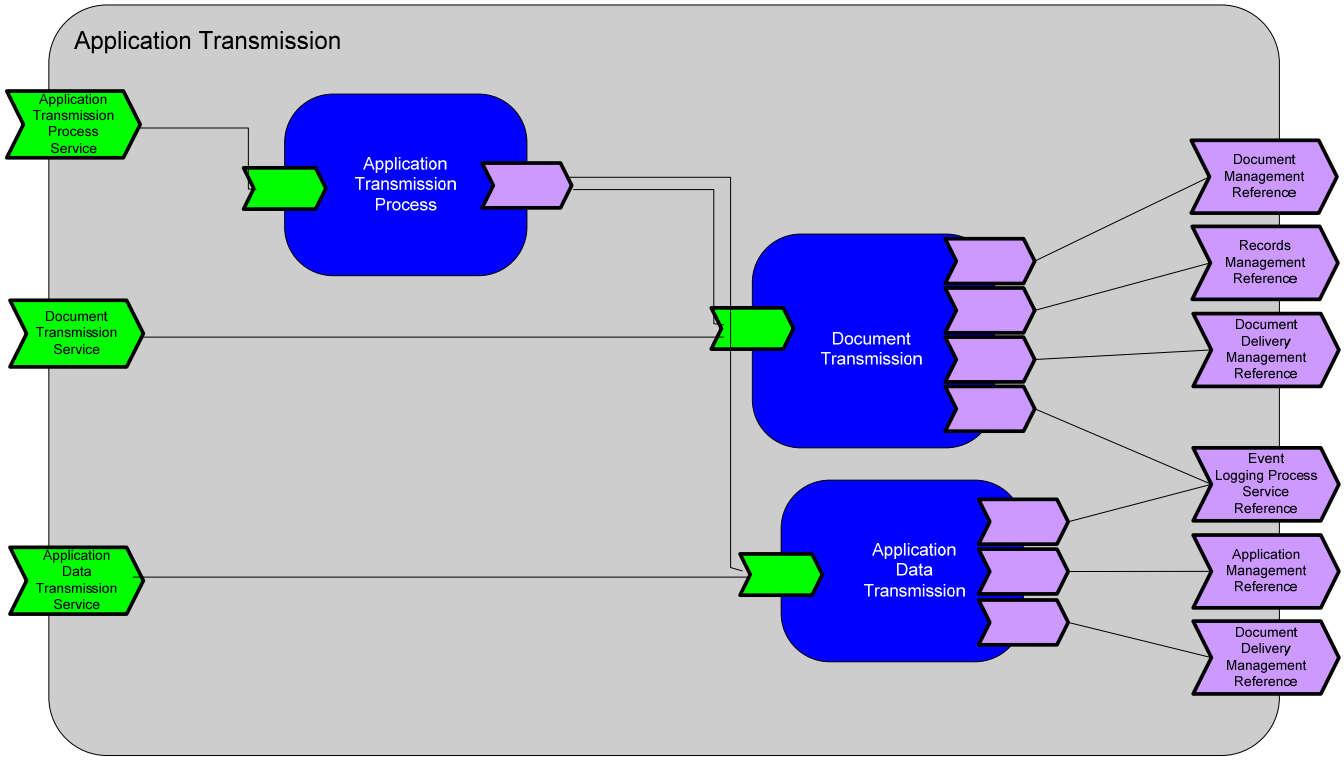


Figure 1 – Application Transmission SCA Composite Diagram

APPLICATION ENTRY

The SCA Composite for Application Entry provides an orchestration process for coordinating the Annuity Order Entry process.

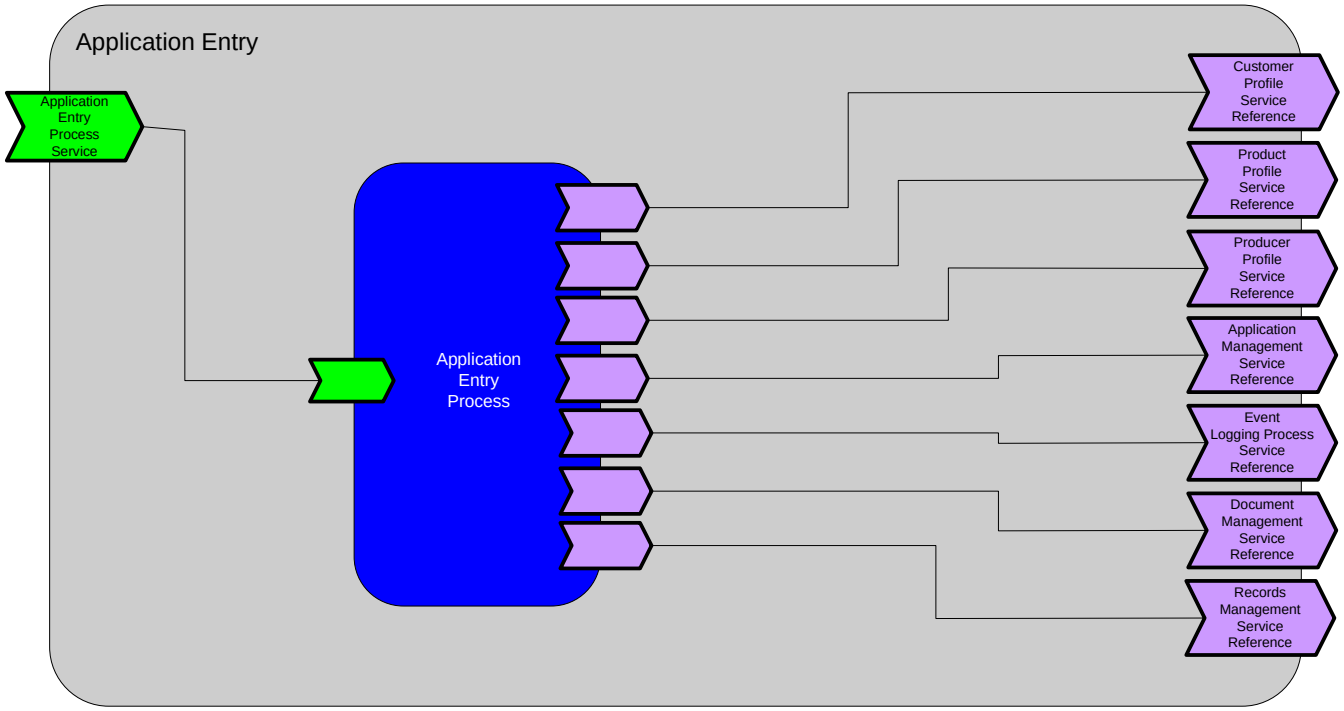


Figure 1 – Application Entry SCA Composite Diagram

SIGNING CEREMONY

THE SCA Composite for the Signing Ceremony orchestrates the services necessary to sign documents. The Use Case is as follows: The service is called with meta-data necessary to driver the signature work flow (information about each signer, order of signatures, document order, etc.) or meta-data is gathered through the Customer and Producer Profile services. Documents are provided to the process through a Document Management Service. The Signature Management Service provides the workflow, application state, and binding and locking capabilities. When a signature is bound and locked to a document it can then be stored as part of the permanent record.

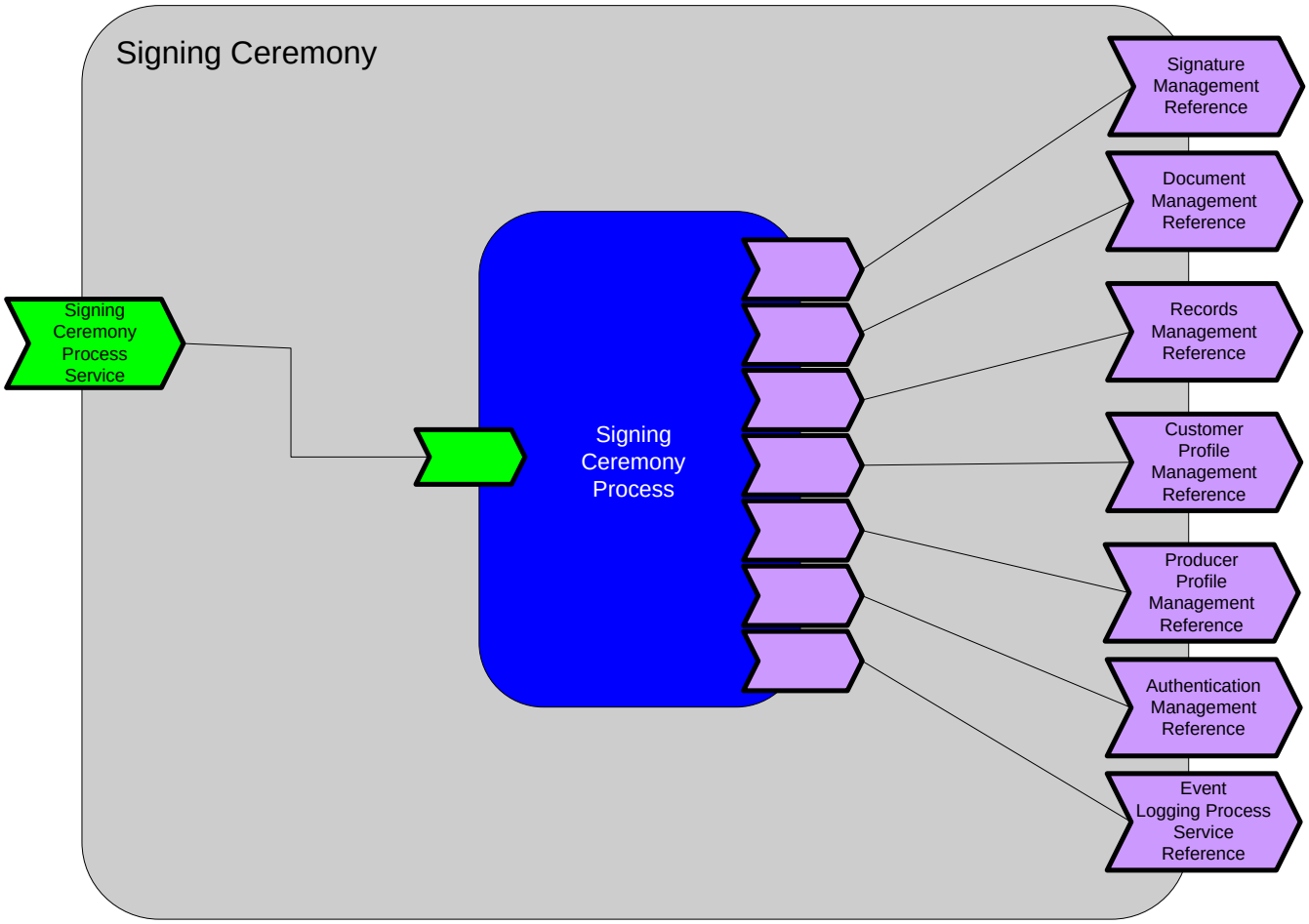


Figure 1 – Signing Ceremony SCA Composite Diagram

PEND FUNDING

The Pend Funding Process Composite orchestrates the earmarking of funds for an annuity sale from the source specified during Application Entry. The process could involve a third party financial partner's service for completing the transaction.

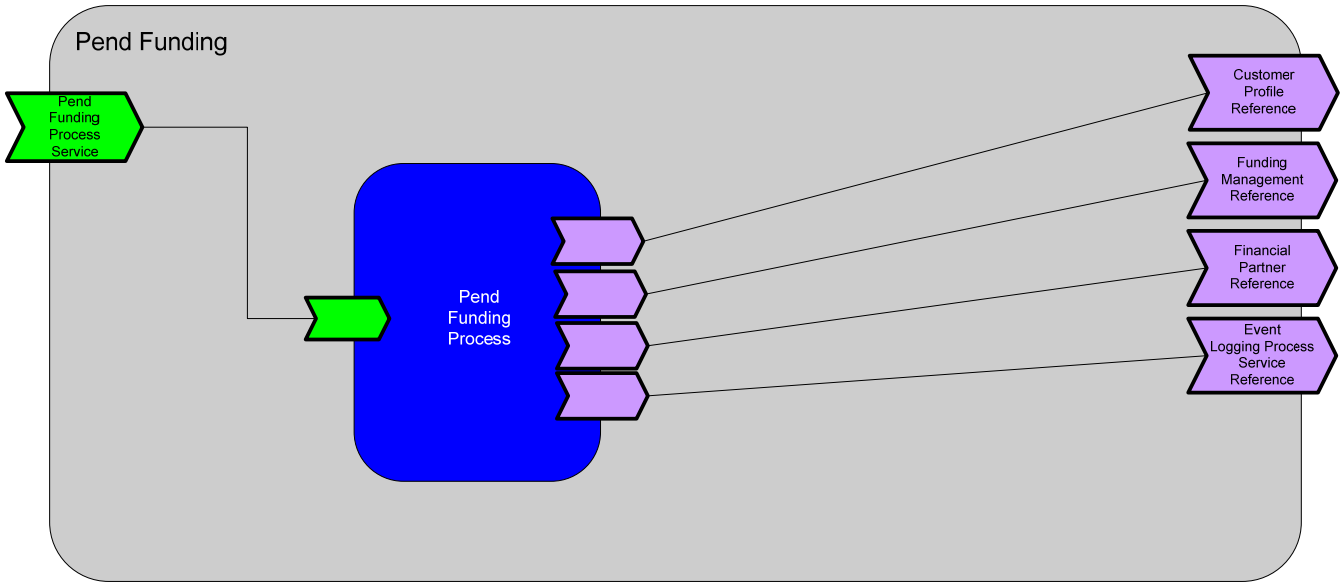


Figure 1 – Pend Funding SCA Composite Diagram

FUNDING AUTHORIZATION

The Funding Authorization Process Composite orchestrates the authorization of funds for an annuity sale from the source specified during Application Entry. The process could involve a third party financial partner's service for completing the transaction.

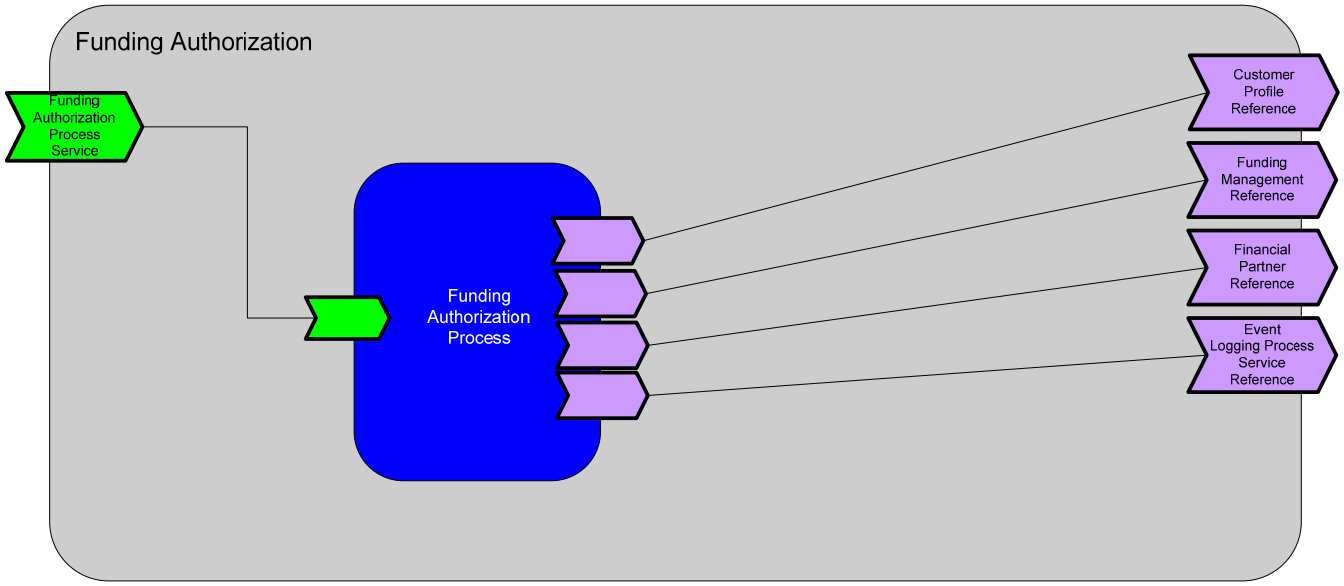


Figure 1 – Funding Authorization SCA Composite Diagram

TRANSFER FUNDS

The Transfer Funds Composite orchestrates the transfer of funds for an annuity sale from the source specified during Application Entry. The process would involve a third party financial partner's service for completing the transaction. This third party might represent the Insurer.

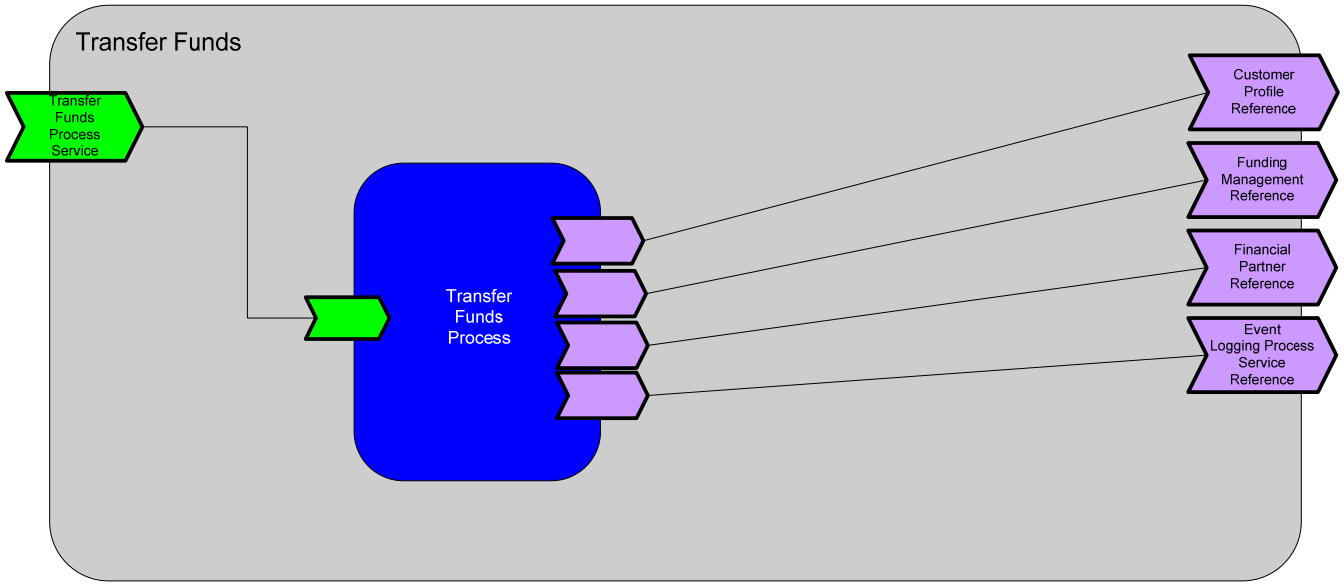


Figure 1 – Transfer Funds SCA Composite Diagram

FUNDING VERIFICATION

The Funding Verification service is utilized during Application Entry to verify the funding source has the available funds. It is possible this process can be merged with the Pend Funding service (or they could be the same service) as you would typically check for available funds prior to pending.

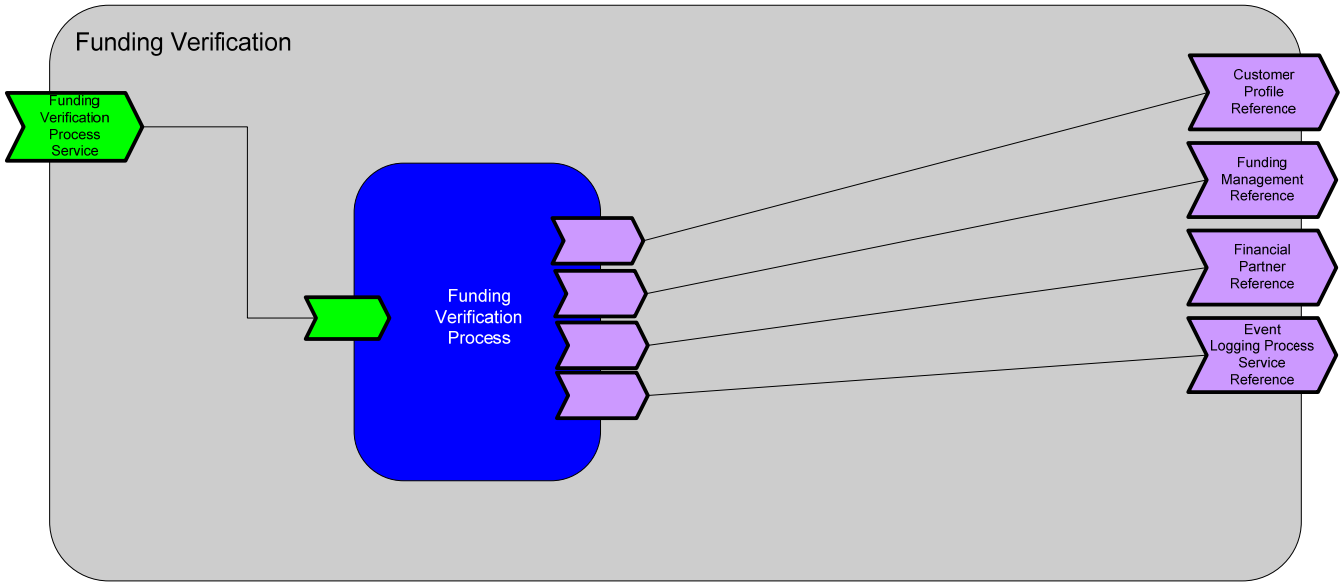


Figure 1 – Funding Verification SCA Composite Diagram

APPLICATION PACKAGE PROCESSING

This SCA Process takes the Application data and signed documents and orchestrates the processes within the Insurer to validate the data, receive funding, and ensure compliance.

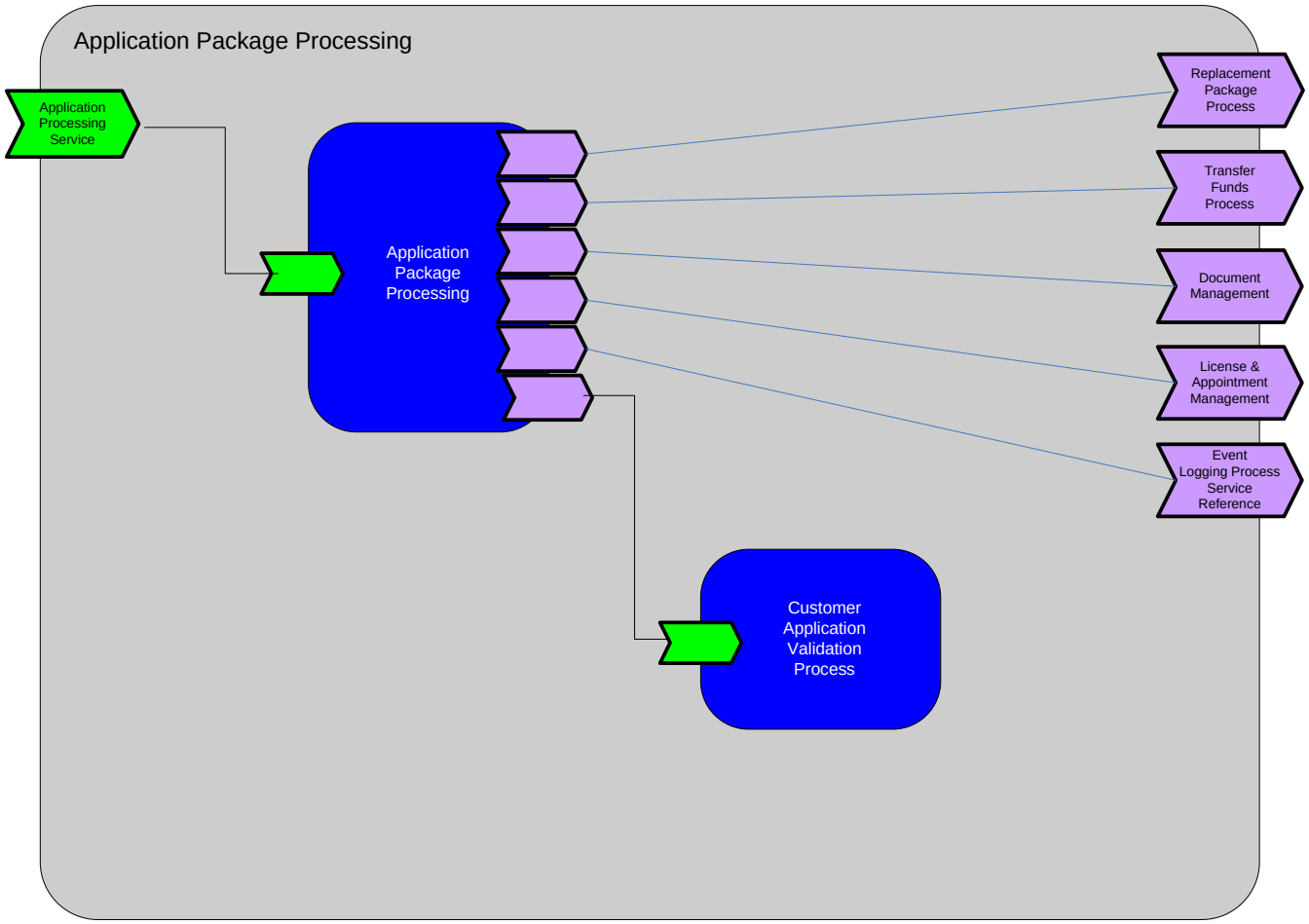


Figure 1 – Application Package Processing SCA Composite Diagram

DELIVER CONTRACT

This SCA Composite represents the Deliver Contract process the Insurer would implement to deliver the documents and data to the Customer via a Distributor Portal.

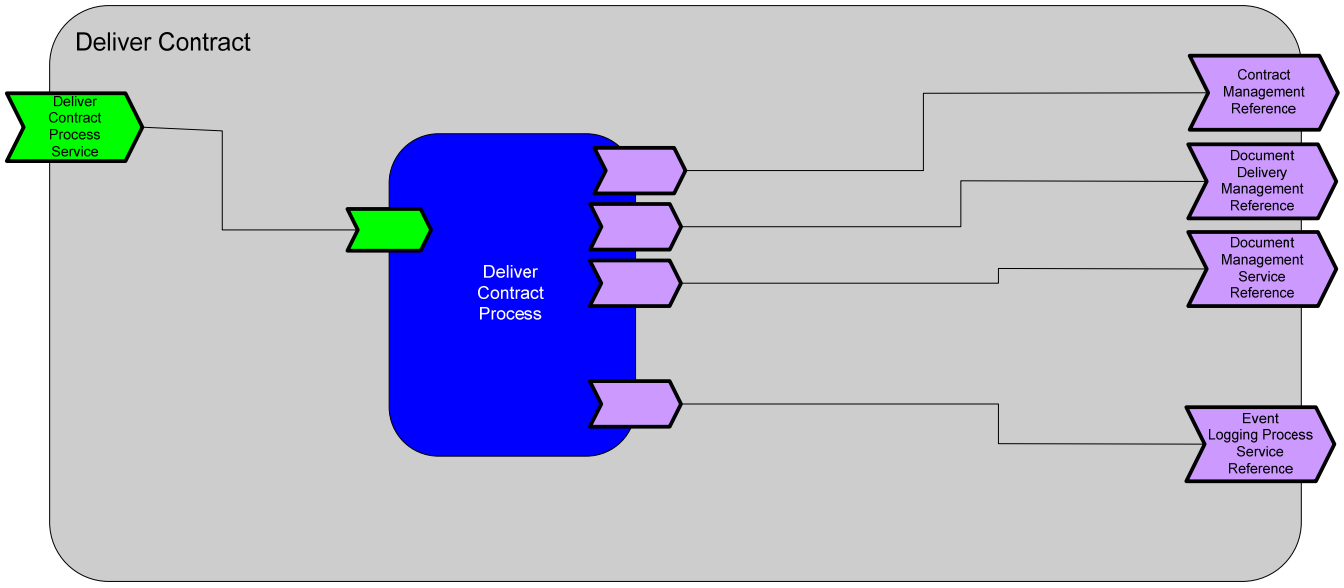


Figure 1 – Deliver Contract SCA Composite Diagram

CONFIRM ISSUANCE

The Confirm Issuance SCA Process is implemented at the Insurer and is responsible for receiving a final status that the contract documents were delivered to the Customer. The transaction log and signed documents returned from the Distributor would be stored into the Insurer Records Management system. This would generally be the last step of the complete annuity transaction.

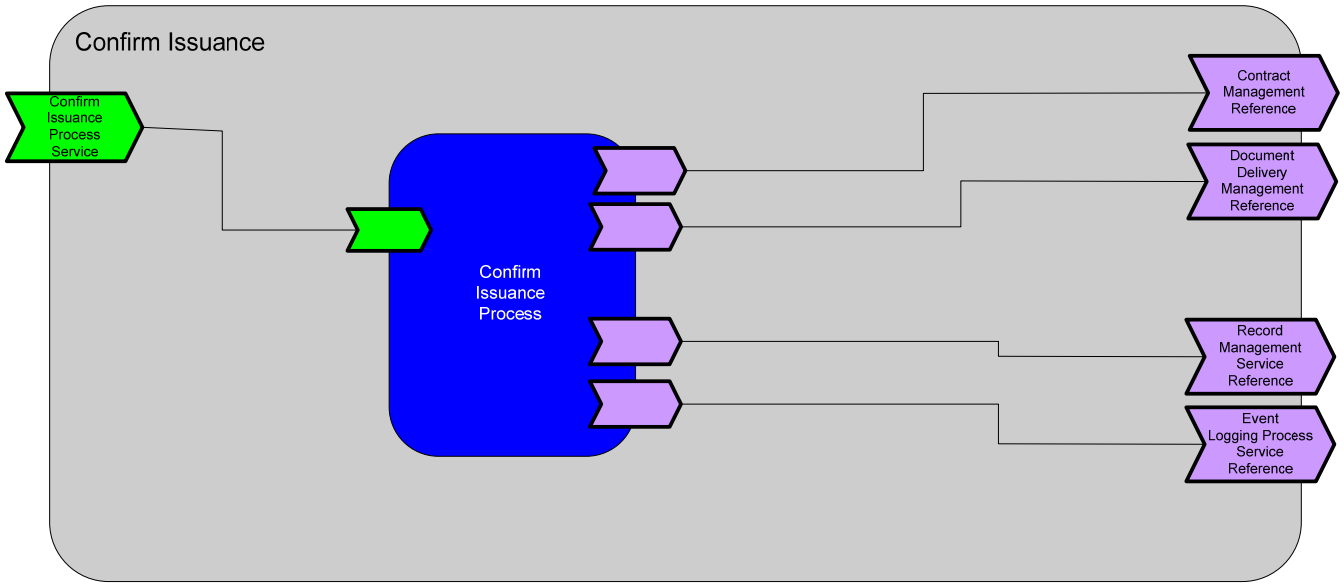


Figure 1 – Confirm Issuance SCA Composite Diagram

EVENT LOGGING

The Event Logging SCA Composite orchestrates the various services involved in logging events that occur during an STP transaction. Certain events might trigger notifications to other services.

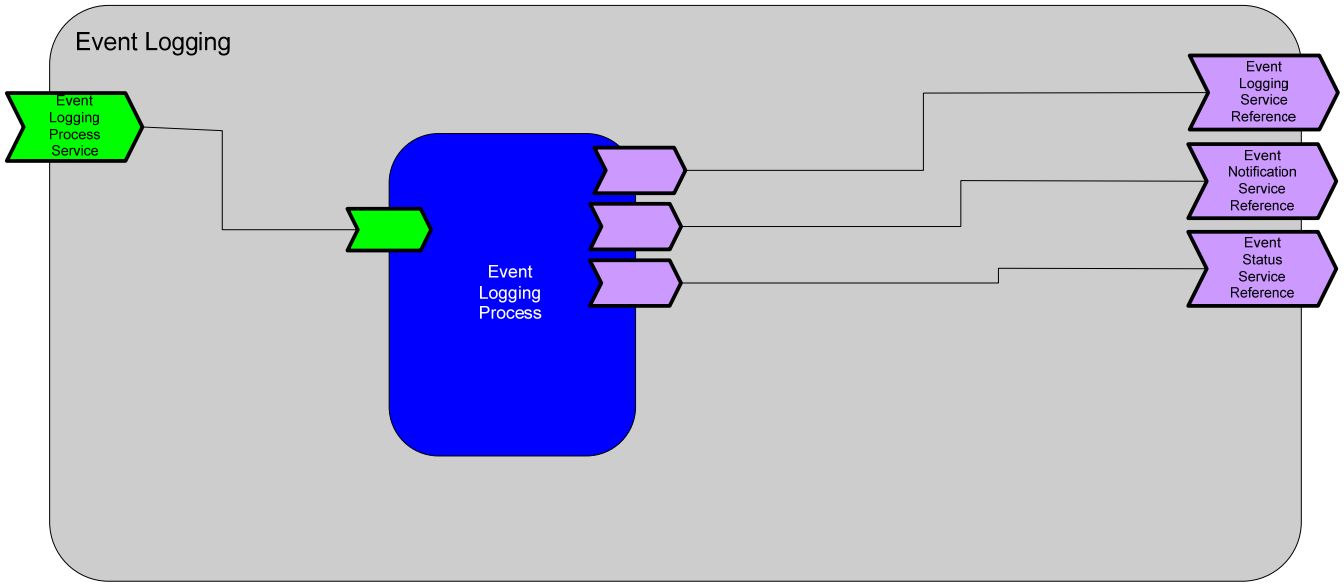


Figure 1 – Event Logging SCA Composite Diagram

Common Services

The Common Services are the lowest level of reusable SCA Composites and Services. The Services provide interfaces in which will interact mainly with a database for recording, retrieving, inquiring, and validating data. These services will be reused among the process services, as they wire together all the components including multiple common services.

Note: Many of the details concerning these components are intentionally left out as the details are outside the scope of this Reference Architecture document.

CUSTOMER PROFILE MANAGEMENT

The Customer Profile Service provides, at the minimum inquiry capabilities for the Customer data needed for the annuity sales process. A Customer Profile component could act as an aggregator of data relevant to the annuity sales process from various data sources.

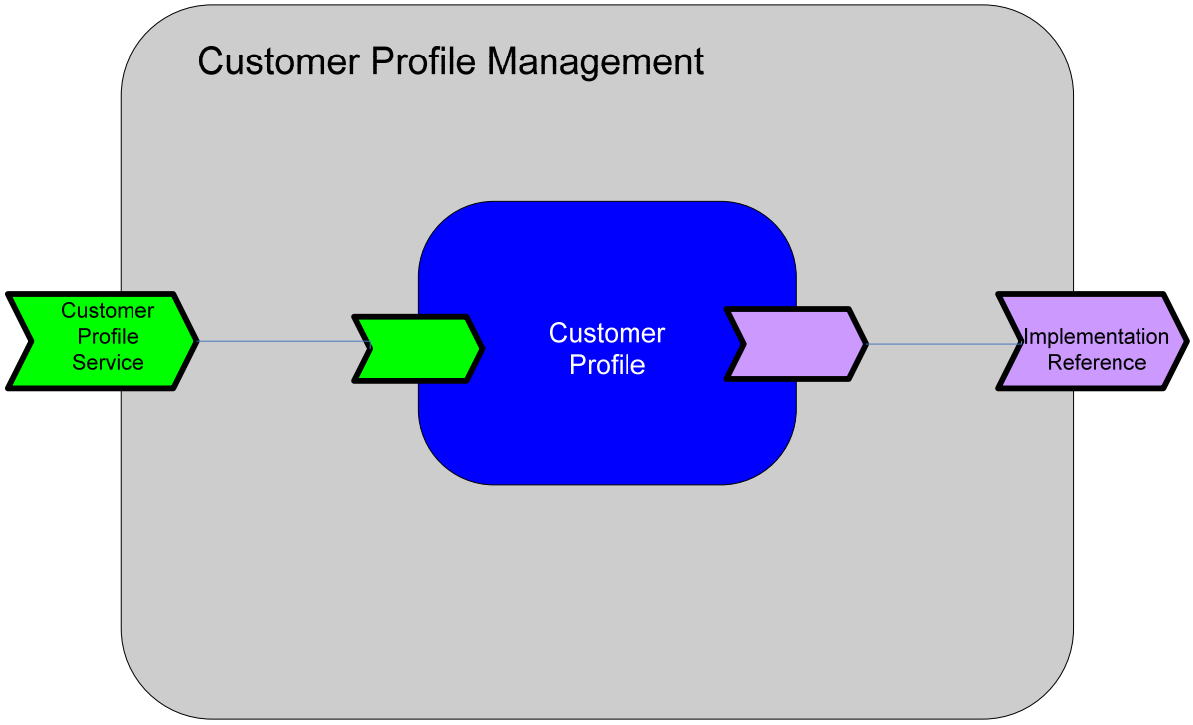


Figure 1 – Customer Profile Management SCA Composite Diagram

PRODUCT PROFILE MANAGEMENT

The Product Profile Service provides, at the minimum inquiry capabilities for Product data needed for the annuity sales and product selection processes. A Product Profile component could act as an aggregator of various data sources.
When implementing the Product Profile Service consider functions for providing subsets of product data.

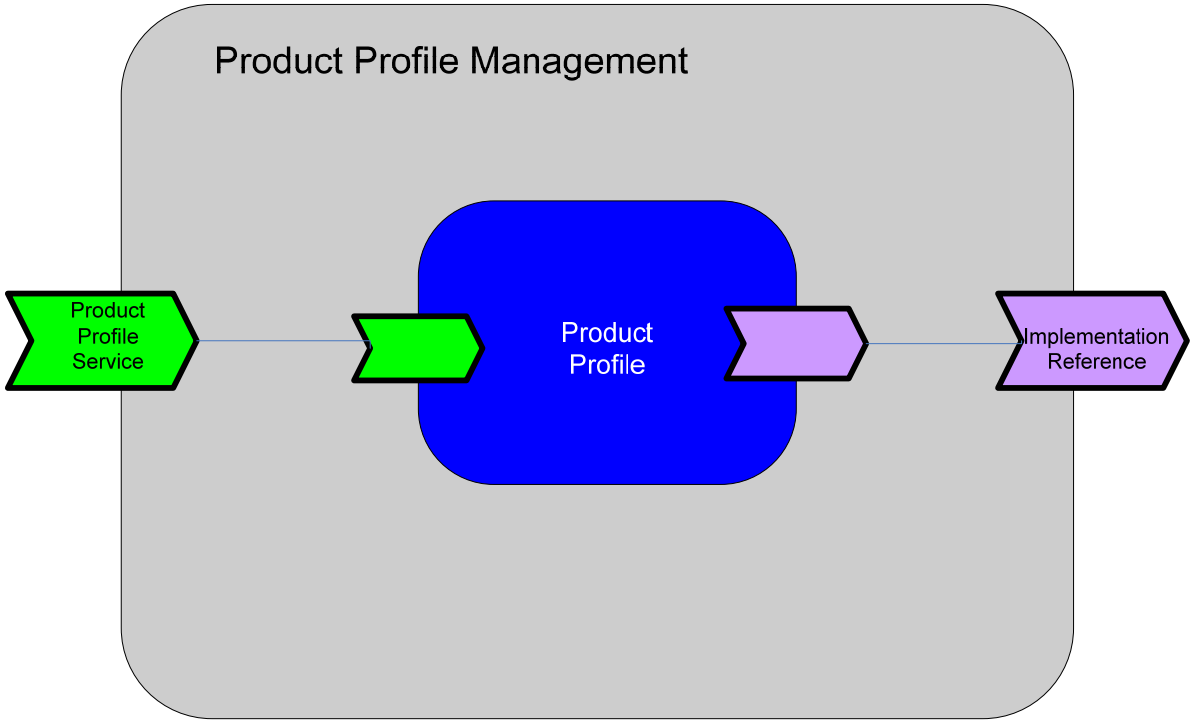


Figure 1 –Product Profile Management SCA Composite Diagram

PRODUCER PROFILE MANAGEMENT

The Producer Profile Service provides, at the minimum inquiry capabilities for the Producer data needed for the annuity sales process. A Producer Profile component could act as an aggregator of data relevant to the annuity sales process from various data sources.

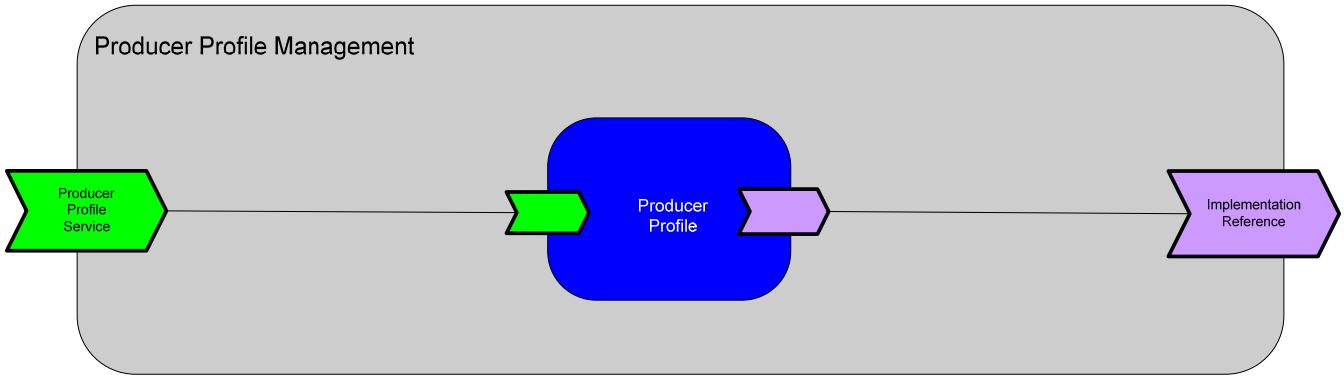


Figure 1 – Producer Profile Management SCA Composite Diagram

LICENSE & APPOINTMENT MANAGEMENT

The License & Appointment Management services provide inquiry functionality to fulfill two Business Services identified within the STP model: product screening and license & appointment validation. Within Product Screening, a list of suitable products must be found. One criterion is products a Producer is licensed for. This list could be provided by the License & Appointment Information Service. The other service, License & Appointment Check, provides a response for a particular product.

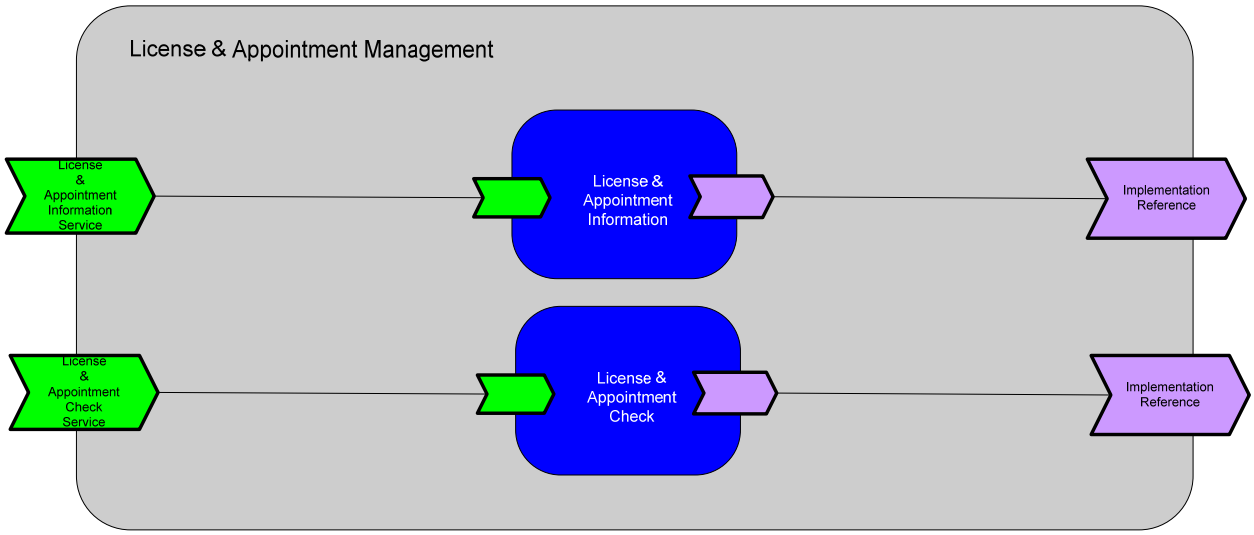


Figure 1 – License & Appointment Management SCA Composite Diagram

AUTHENTICATION MANAGEMENT

A SCA Composite that provides access and services related to authentication of a party to the sale. Since there is a vast array of implementations for authentication and credentialing, this composite is intentionally left at a high level.

The Authentication Service general use cases for authentication are:
If a user has credentials, provide those to the service for validation against a credential store, return feedback.
If a user does not have credentials, additional items must be input so the Authentication Management module can authorize the user and create a set of credentials.
If a user has credentials but they have expired, feedback must be provided to this affect and a method for renewing the credentials must be provided.

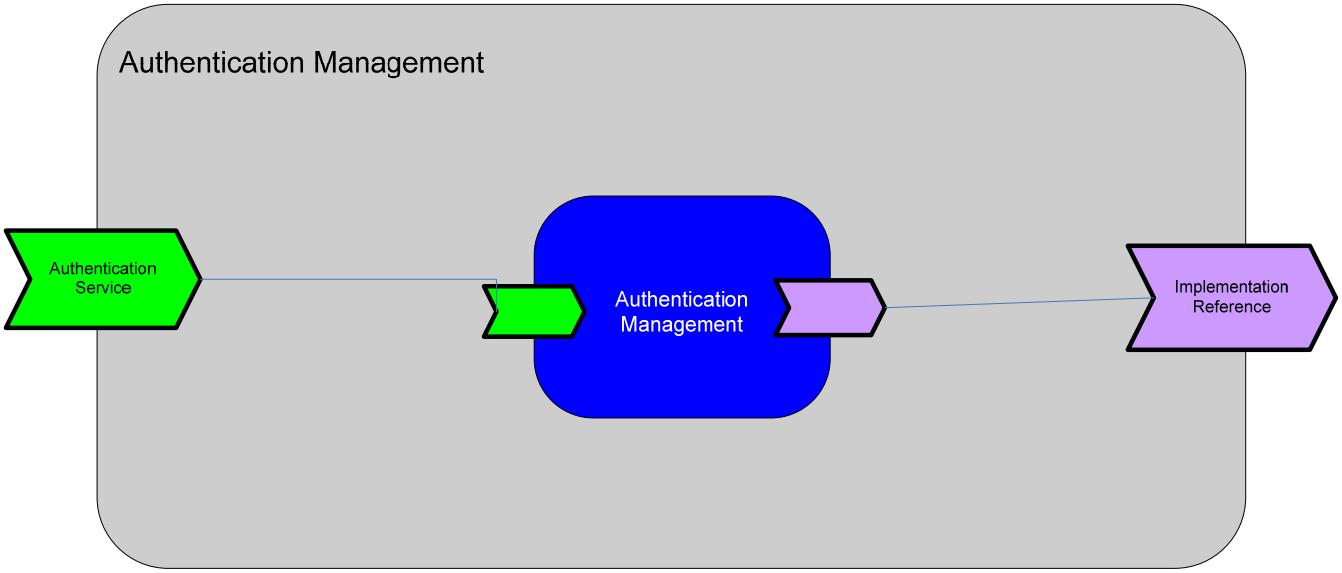


Figure 1 – Authentication Management SCA Composite Diagram

APPLICATION MANAGEMENT

A SCA Composite that provides access and services for managing the Annuity Application Data.

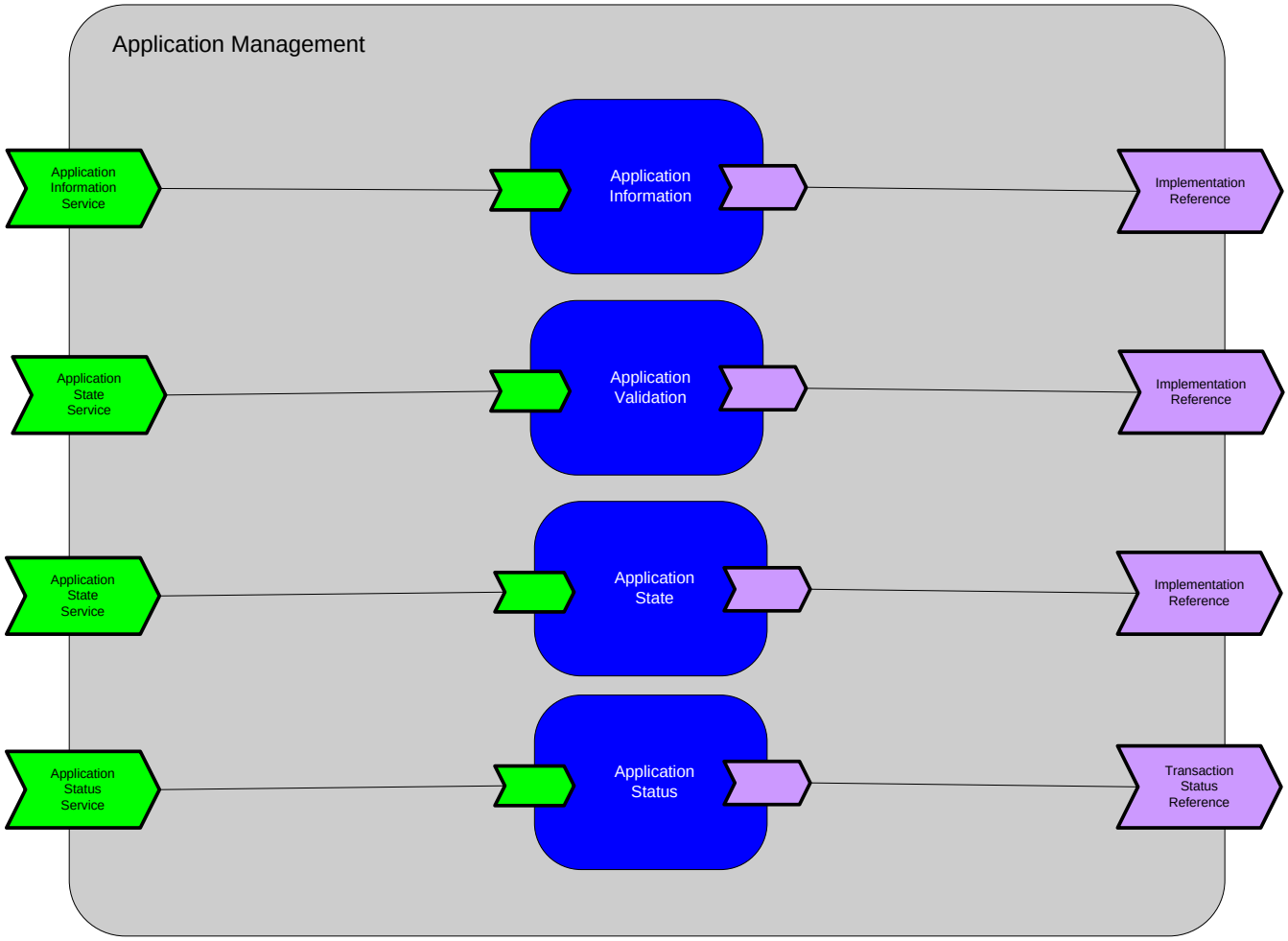


Figure 1 – Application Management SCA Composite Diagram

SIGNATURE MANAGEMENT

A SCA Composite that provides services related to the signing of documents. The general functionality is the service would accept documents and meta-data related to each of the signers. The document signature areas would need to be properly tagged to identify where each signature must be applied assuming the signature is bound and locked into the document. The Signature Information Service can be utilized for inquiries regarding the process status (document status, signer status, etc).

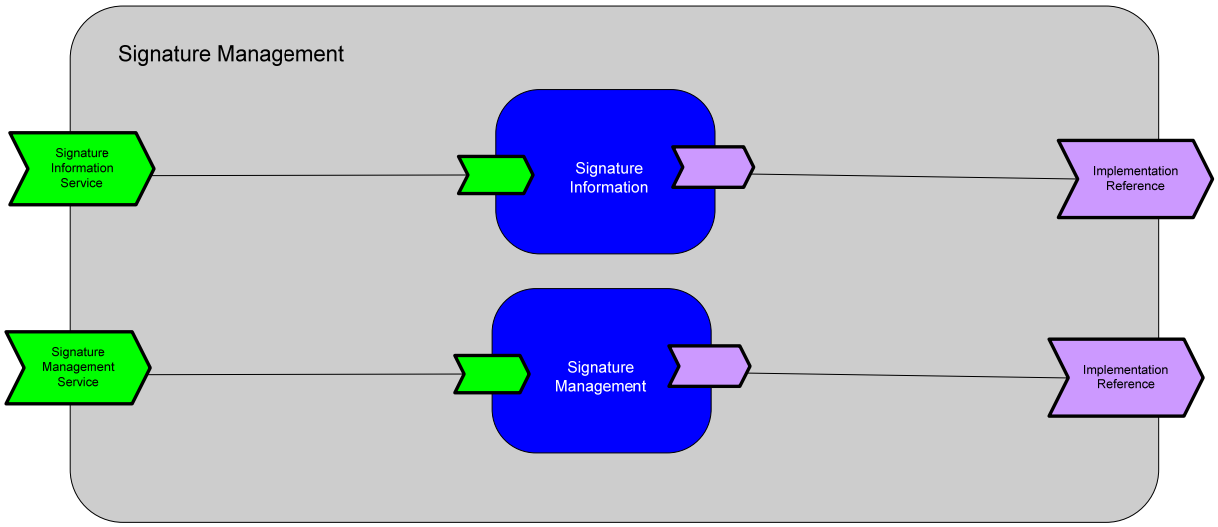


Figure 1 – Signature Management SCA Composite Diagram

FUNDING MANAGEMENT

A SCA Composite that provides services for checking customer fund availability, pending funds, and managing the transfer of funds from source to destination.

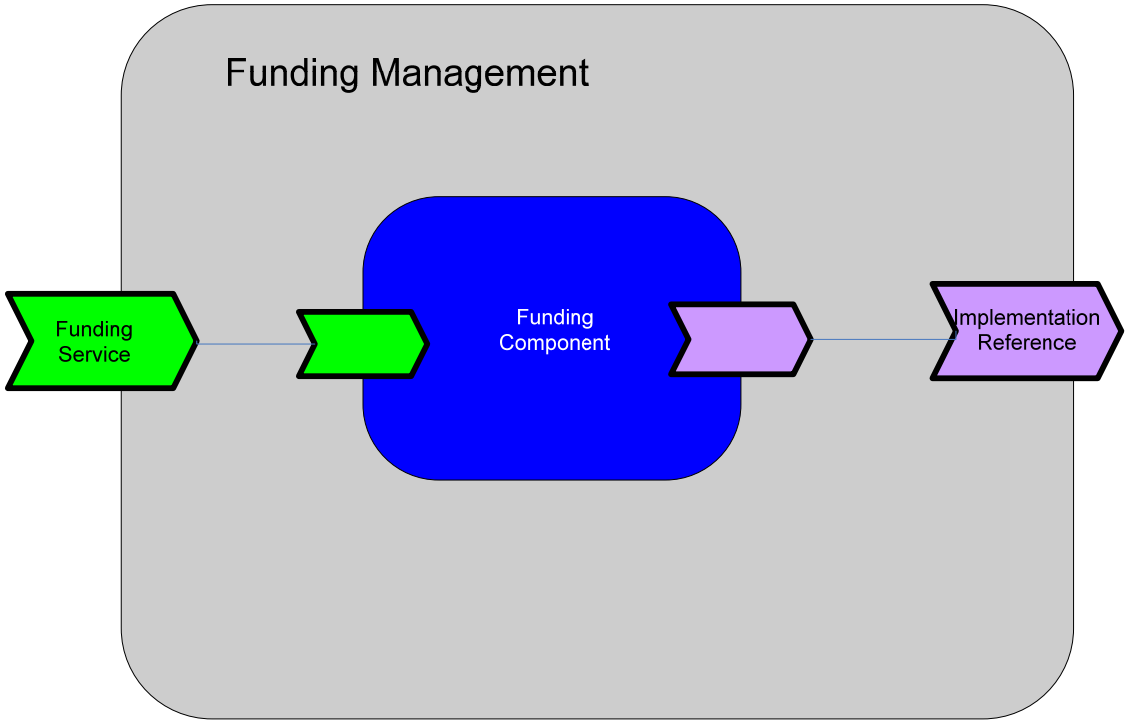


Figure 1 – Funding Management SCA Composite Diagram

CONTRACT MANAGEMENT

A SCA Composite that provides services for storing, retrieving, and validating contract information created within the Annuity Process.

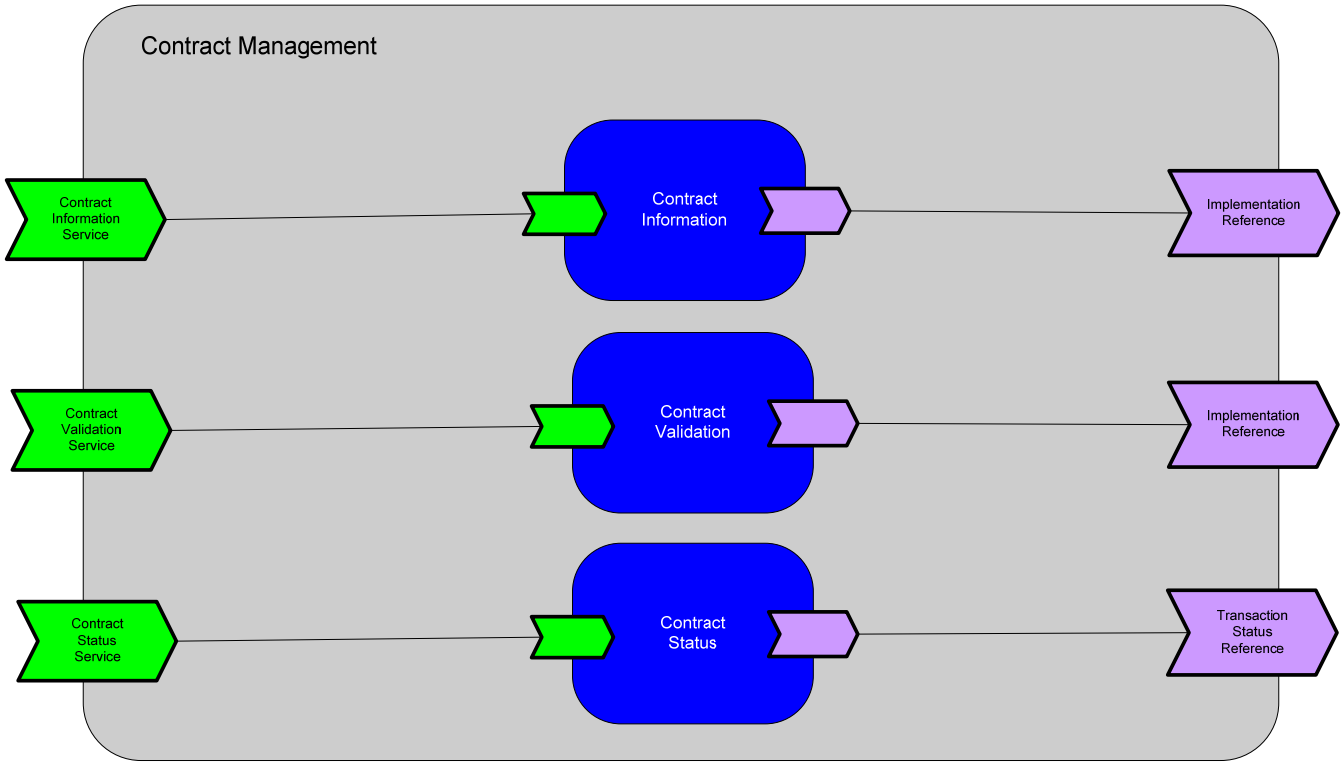


Figure 1 – Contract Management SCA Composite Diagram

OFAC

A SCA Composite that provides services for OFAC services. OFAC is the Office of Foreign Asset Control, part of the U.S. Department of Treasury. OFAC is responsible for administering and enforcing economic and trade sanctions against certain nations, entities and individuals. OFAC maintains a listing of these restricted counter parties in a document called the "Specially Designated Nationals List" (SDN). The OFAC Service is used during Insurer processes to ensure the parties and fund source for the annuity meet OFAC compliance.

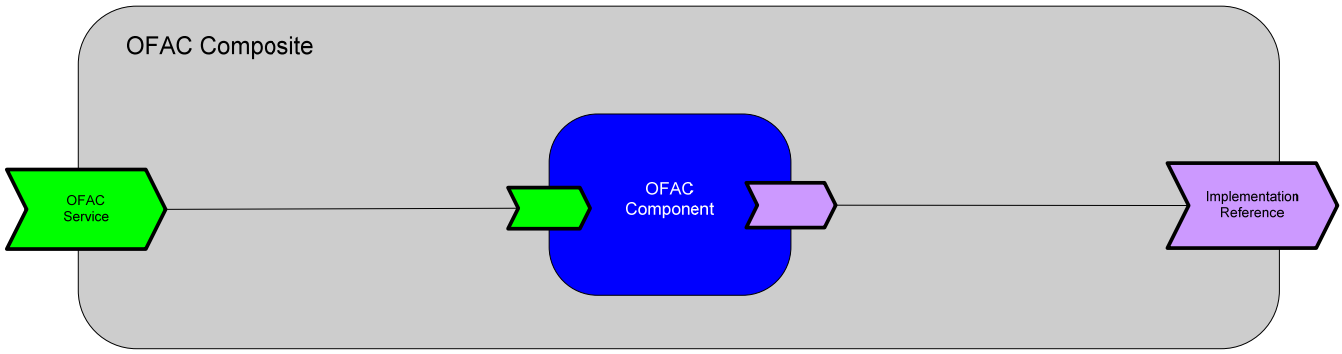


Figure 1 – OFAC SCA Composite Diagram

EVENT MANAGEMENT

A SCA Composite that provides services for logging, retrieving, and status events during the STP Transaction.

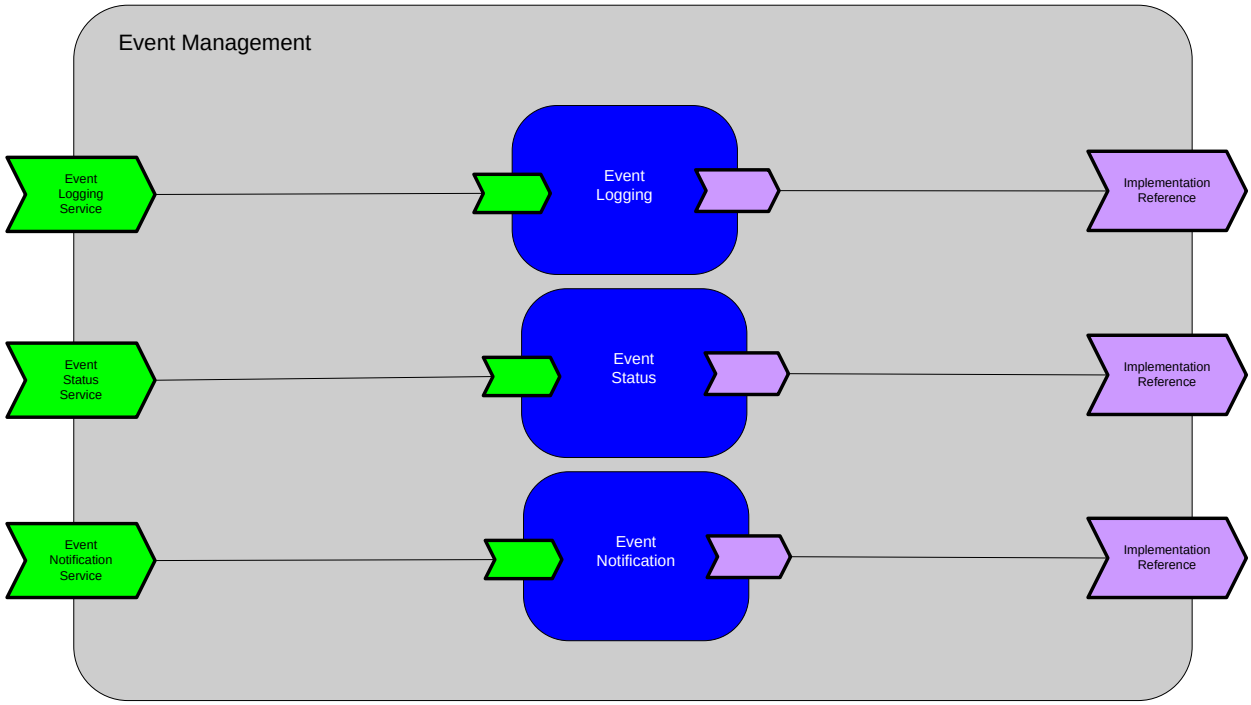


Figure 1 – Event Management SCA Composite Diagram

DOCUMENT MANAGEMENT

A SCA Composite that provides services for storing and retrieving documents and forms needed during the STP Process. The Document Management service is utilized for documents and forms that are “works in progress”.

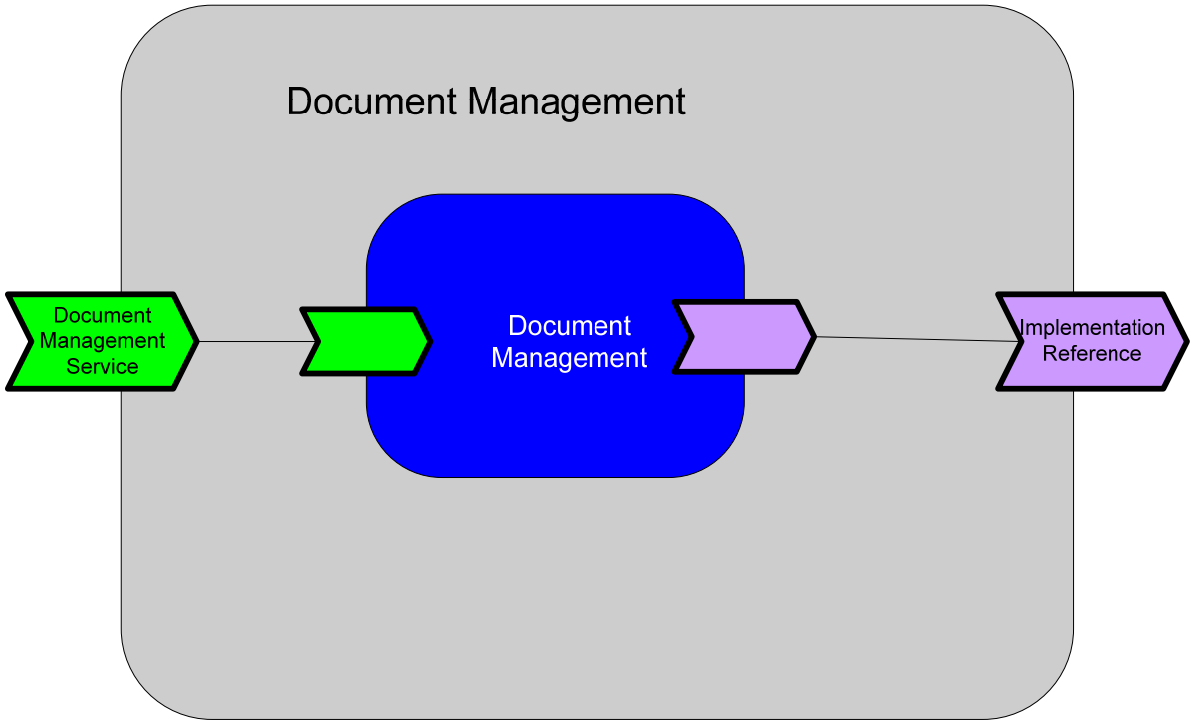


Figure 1 – Document Management SCA Composite Diagram

RECORDS MANAGEMENT

A SCA Composite that provides services for storing and archiving documents and/or master records (data) during the STP Process. Records Management becomes part of a firms set of master records concerning an STP transaction and is for long term storage of items. In addition to functions for storing items, it should be possible to inquire whether items have been stored. An example of this would be to ensure a Customer's eConsent has been gathered.

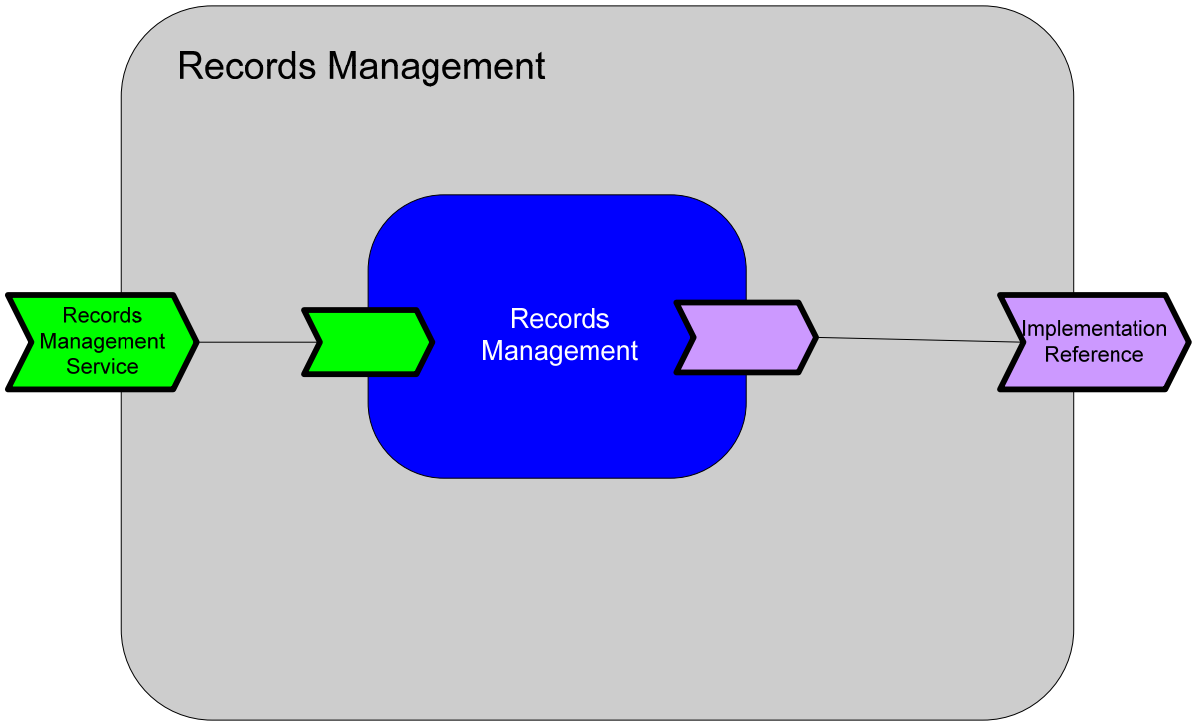


Figure 1 – Record Management SCA Composite Diagram

DOCUMENT DELIVERY

This SCA Composite provides a service for delivering documents based on Customer preferences and as a Process dictates. Within the Process Model for STP the assumed delivery mechanism for document delivery to a Customer is within a Distributor web portal. In this Use Case the Delivery Service could provide the link to the document within a Document or Records Management system. Other delivery services can be added and might be driven by Customer preferences.

Note: The Email and Mail Service references are provided to depict how the Delivery component could be wired to support many different delivery schemes. Neither of these references is necessarily compliant with STP standards regarding electronic delivery.

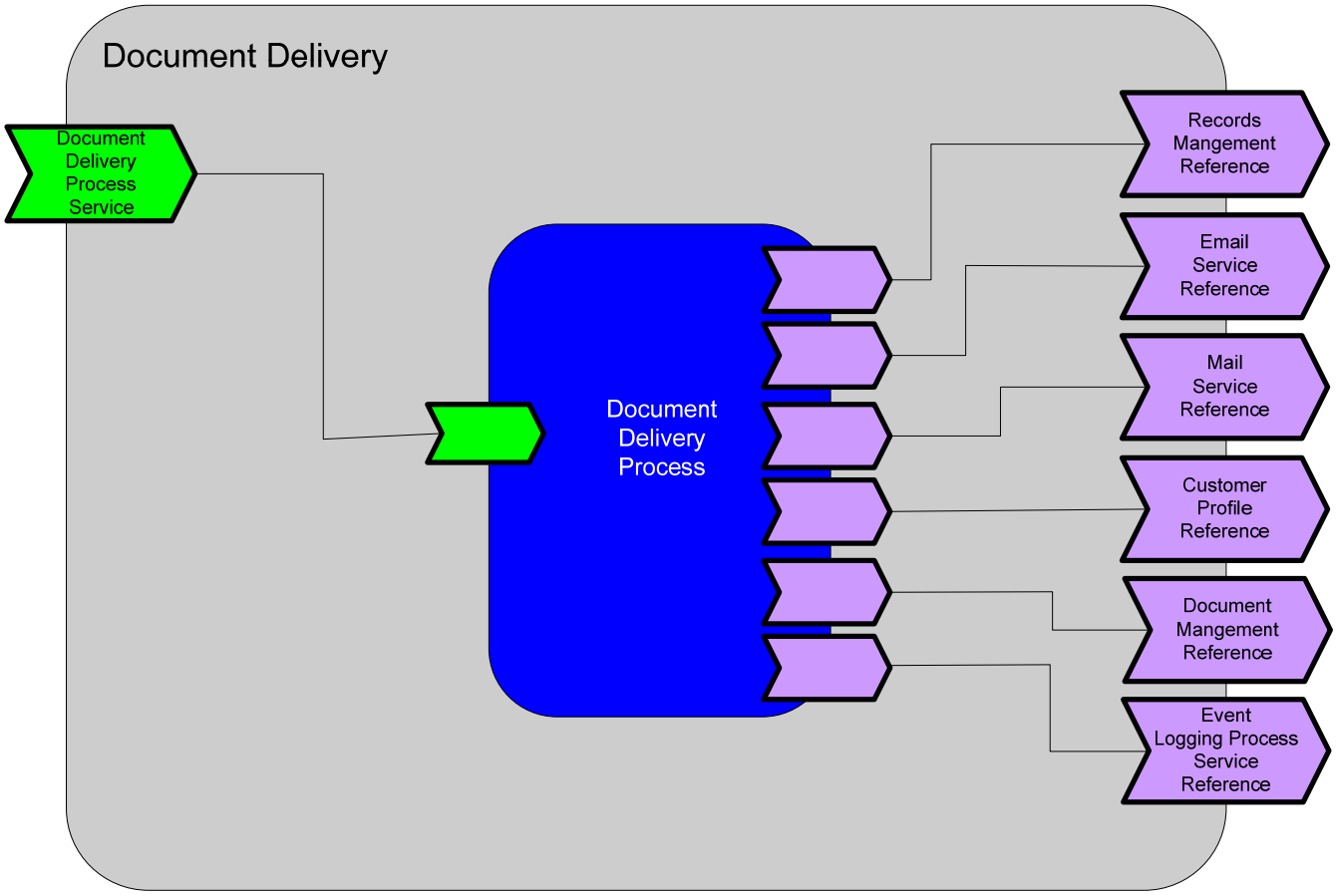


Figure 1 – Document Delivery SCA Composite Diagram

CHAPTER FOUR – USE-CASE SCENARIOS

This chapter details some of the use-case scenarios that can take place, utilizing STP, to build a NAVA Reference Architecture.

In this chapter you'll find the following detailed sections:

- Use-Case Principles – details assumptions, requirements, and constraints.
- Use-Case Diagrams – diagrams and/or examples of the STP process flow

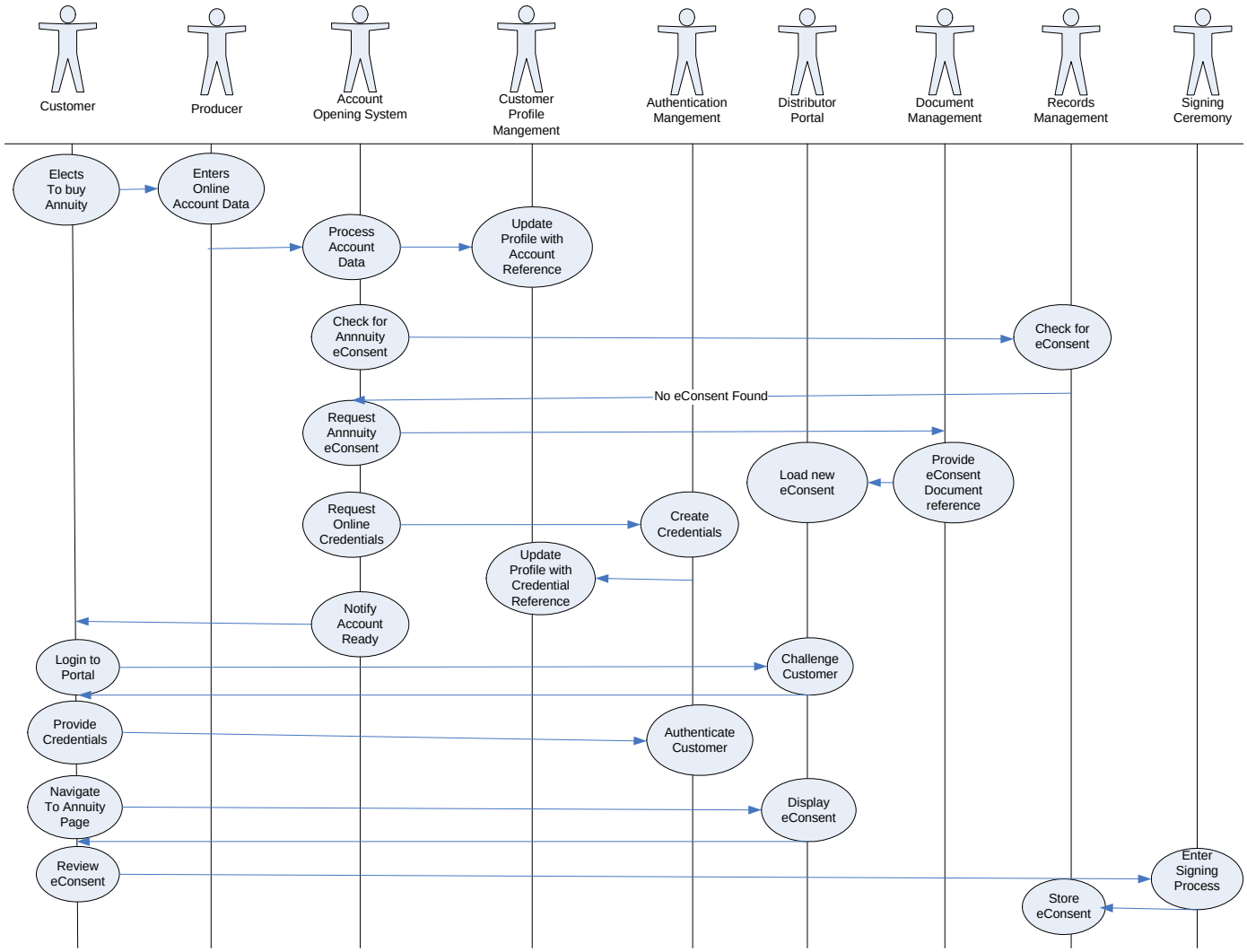
Use-Case Principles

The Use-Case diagrams provide high level examples of how the Reference Architecture processes and components can be utilized to perform the Business Processes outlined in the Process Model. The assumptions are as follows:

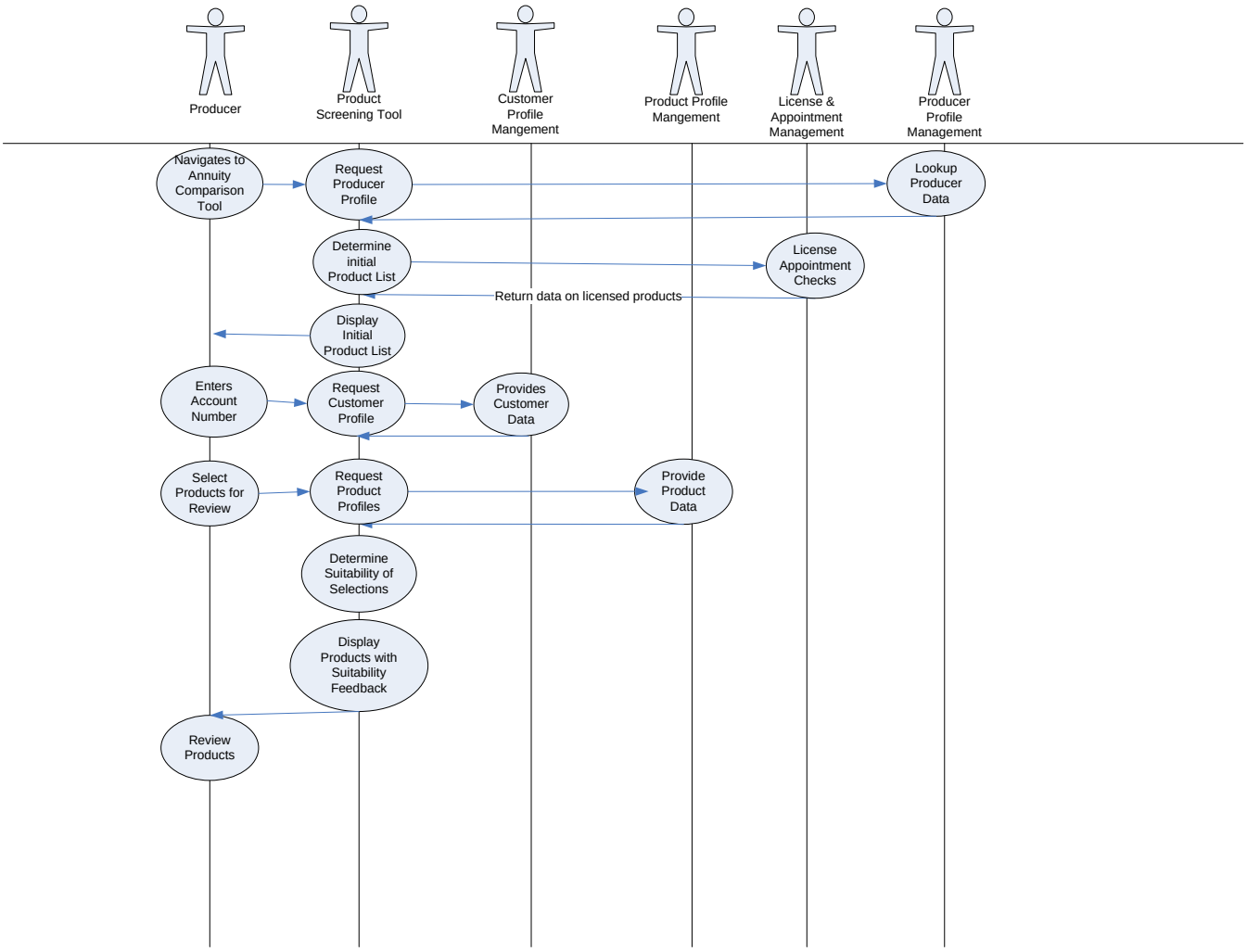
- Customer is provided documents via a Distributor Web Portal
- Customer is provided credentials to the Distributor Web Portal during Account Opening
- Electronic Signature is provided by a service integrated into a Distributor Web Portal
- Unless other wise noted, the Electronic Signature is bound and locked into a document in PDF format

Use-Case Diagrams

USE-CASE SCENARIO 1 – ACCOUNT OPENING, NO ECONSENT ON RECORD

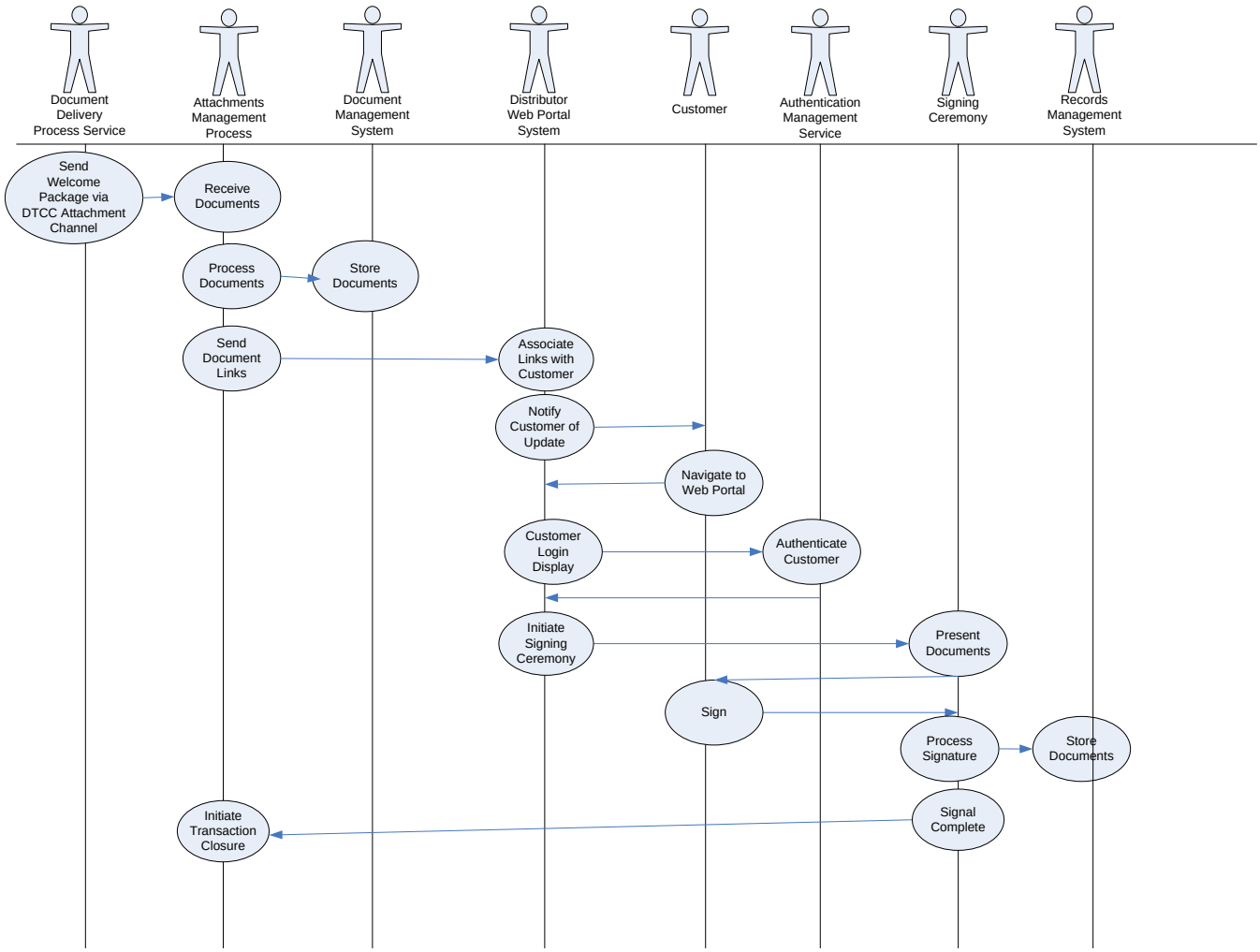


USE-CASE SCENARIO 2 – PRODUCT SCREENING



USE-CASE SCENARIO 3 – CONTRACT DELIVERY TO DISTRIBUTOR VIA WEBSERVICE

Depicts at a high level the Delivery of an Insurer 'Welcome Package' using a document webservices channel to a Distributor for distribution to the Customer via a Web Portal. This includes the Customer signing for receipt of the documents and the saving of the documents as part of the permanent record. This diagram does not depict the transaction closure.



APPENDIX ONE – N/A

INDEX

N/A

GLOSSARY OF TERMS

Document Management – within the context of the STP Reference Architecture a Document Management system acts as a document repository for serving static content documents (such as disclosures, prospectus, etc.). It also houses documents or forms in progress.

Record Management – within the context of the STP Reference Architecture a Record Management system acts as the final archive for data or documents which must be stored for an extended period of time.