UNIVERSITY of WASHINGTON

Data Governance and Finance Transformation Task Force

Intersections Report

Executive summary

In April 2020, Phil Reid, Vice Provost, Academic and Student Affairs and Professor of Chemistry, Ann Nagel, Associate Vice Provost, UW Privacy Office, and Ed Loftus, Assistant Vice President of UW Finance Transformation, charged the Data Governance and Finance Transformation Task Force. They asked the task force to assemble a comprehensive and concise summary of the specific concerns regarding the intersection of data governance for Finance Transformation (FT) and the UW enterprise, and suggest a path forward for addressing the concerns not yet documented or universally shared with data governance or FT leadership.

Between May and October 2020, the task force held thirteen team meetings and used a variety of methods to brainstorm and review items of shared interest that fall within the overlap between FT and UW data governance. The task force focused on raising items from the needs and perspective of FT and data governance, so that the larger enterprise approach fully takes into account the emerging considerations of an Enterprise Resource Planning (ERP) system. Additionally, the task force is recommending a course of action to address, prioritize and resolve concerns.

Key recommendations will address areas grouped into the categories of data security, data quality, core & reference data management, metadata management and data modeling and design. At the highest level, the taskforce recommends structuring feedback loops and formal alignment between current data governance activities within the FT program and on-going/future enterprise data governance initiatives. Highlights include:

- Directing Workday Security Team(s) to develop and propose a robust Workday Finance security model in collaboration with UW Enterprise Stakeholders including UW Privacy Office, CISO, and evolving data governance stewards and domain councils
- Endorsing the Core Data and Metadata Guardrails and supporting their implementation within FT until the Guardrails are able to be updated by data governance for broader campus implementation
- Endorsing the Enterprise adoption of Knowledge Navigator as the source of truth for metadata
- Requesting establishment of an Enterprise-wide Finance Reporting Advisory Group
- Asking the DG Steering Committee to provide a pathway to arbitrate disagreements that emerge in the vetting of Financial data models, iData Modeling and Design

The team also identified items and topics which fall outside of the overlap, and those items have been noted in Appendix C but not further pursued.

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The Charge

1. Identify items of shared interest for data governance and FT;
2. Identify the current state and reasonable future state of each item using the data governance maturity model for major initiatives;
3. Identify the priority and critical timeline for each item; and
4. Suggest a path forward for the University to work towards the future state. As you do so:
    a. We ask you to focus on pragmatic recommendations that promote efficiencies for and between the Data Governance Committees, FT, and other stakeholders across the UW. Executive Office of the President and Provost Academic and Student Affairs
    b. Suggestions might include, for example, establishing a policy or best practice to create a cohesive understanding of a given topic or establishing a task force to dive deeper into the strategic and operational aspects of a specific topic.
    c. Please base both the future state and the suggested path forward on what can be done with existing funding and existing resources.
    d. Assess, to the degree that you know and the best that you can, how the foundational data model may impact other business activities and systems that are currently out of scope for FT and out of scope for the data governance organization code task force.

Approach

This document is organized into sections that correspond to selected data management functions, based on the Data Management Body of Knowledge (DMBOK).

Items of shared interest for Data Governance and Finance Transformation (FT) are grouped using the following selected data management functions:

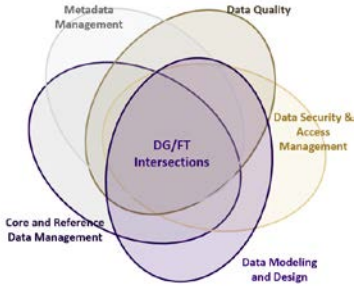
1. Data Security
2. Data Quality
3. Core & Reference Data Management (previously Master Data Management)
4. Metadata Management
5. Data Modeling and Design

A function-specific maturity model is presented for each section based on the UW Data Governance Maturity Model For Major Initiatives. Based on that maturity model, an assessment is made of the current state of maturity for that data management function at the UW, along with a target state for go-live. Each section also offers a problem statement along with current activities and recommended actions to address the problem within the UWFT implementation timeline and beyond. For each recommendation, a target date is proposed that will support teams working within FT to be successful.

In an attempt to be as actionable as possible, the **Data Governance FT task force recommends that our sponsors**:

- Support work that is already in flight by certain groups
    - Recognize that work in flight on the DG website
    - Publish a link to work in progress
    - Provide an escalation path for issues via DG
    - Provide an approval path for outputs via DG
- Endorse work that has been produced by certain groups and that has been done so with sufficient collaboration and buy-in
    - Publish materials on the DG website
- Align existing FT data governance efforts (e.g., security, core data management, metadata, and reporting) with the new Enterprise Data Stewardship Model and the to-be formed Data Domain Council.
- Ask existing groups to do particular new work
- Ask that new groups be formed to do particular work

Scope



The scope of the recommendations in this document is the intersection between Finance Transformation needs and Data Governance priorities. For instance, recommendations for access management within the timeline of FT will be focused on access to financial data, but will set a pathway for access management across multiple data domains at the UW.

Data Security

This section focuses on Access Management.

Access Management Maturity Model

1 Initial	2 Repeatable	3 Defined	4 Managed	5 Optimized
Different, incongruent, and inconsistent access controls exist for data within a single domain, as well as across data domains. Access management responsibilities for data stewardship are not clearly defined.	Repeatable access management practices exist in silos. Data stewards understand responsibilities for access policies and have tools to enforce policies for respective data domains.	Data stewards work together to develop UW access policies that strike a balance between ease of use and least privilege across data domains. [In FT, cross-domain between HR and Finance.]	Teams and individuals across the UW understand how to get access to resources and what their responsibilities are. Teams needing to access financial data can easily find the security classification of data elements, access management best practices, and access policies. Access management policies and practices are driven by UW strategies.	Processes and tools exist that enable access controls to be continuously tuned and improved based on data-driven assessments of need and use.
↑ CURRENT (1-2) (Academy)		↑ TARGET (Academy) (AT GO-LIVE) CURRENT (Medicine)		TARGET (Medicine) (AT GO-LIVE)

Problem Statement

For shared financial data, incongruent access and roles across multiple data repositories create a control weakness for managing data and presents the risk of data constraints or disclosures in unintended ways. There are system-level constraints on access controls to data. These controls will need to be realistically applied and harmonized over time, balancing between system constraints and UW policies and data domains.

See the Workday Security Guardrails for more detail of different access management practices between UW Academy and UW Medicine. The graphic and table in Appendix B are extracted from that document.

Current Activities

Organization(s)	Objective	Status	Alignment between DG and FT?
ISC and UW-IT Reporting Stakeholders	The Reporting Adoption Project (sponsored by Ann Anderson) to propose HR/P data analyst roles in Workday that align more closely with EDW access to HR/P data. Note Workday security roles were originally designed only for transactional roles and not for data analysis specific roles. These new roles will be reviewed and approved through the current Enterprise Data Governance Model	In Progress. Projected completion date: April 1, 2021	Recommended Action: Submit proposal to the Data Domain Council for HR data. Could also go to the DG Ops committee with a proposal to implement across the Workday platform

Organization(s)	Objective	Status	Alignment between DG and FT?
Workday Security Guardrails Group	Develop a security model that addresses data needs and compliance issues across systems. Stakeholders worked together on guardrails.	Published Workday Security Guardrails v1 and approved 07/24/2020. *HR and OAP were not included in the review meeting	Yes, via Anja Canfield-Budde and Ann Anderson. Could also submit to the DG Steering Committee
UW Privacy Office and DG Steering Committee	Develop a model for Enterprise access and roles that addresses compliance issues with Department of Education requirements for protecting financial data (versus Open FAS) and with Department of Health requirements for protecting patient health information. Developing guidelines to inform an access and roles model	In work	
Workday Stakeholders	Guide upcoming decisions and assumptions for FT related to data security and access management practices in the Workday platform and related enterprise data services	Published Workday Security Guardrails v1. Approved 07/24/2020	Liaisons from Enterprise DG lead/participate in these efforts on FT (Anja Canfield-Budde, Ann Anderson)

Recommendations

UWFT Project Phase: Configuration & Prototype

1. Direct the Workday Security Team(s) to develop and propose a robust Workday Finance security model in collaboration with UW Enterprise Stakeholders including evolving data governance stewards and domain councils.
2. Ask the ISC and FT security teams, along with the evolving data governance data stewards and domain councils, to review existing guidelines for classifying data elements and information, including APS 2.2 and the UW Privacy Office's Data Classification Process , and if there are gaps, establish guidelines to include guidance on controls for finance and HR/P information.
3. Empower the Data Domain Council to be the body of final decision for Recommendations 1 and 2, and ensure collaboration with the technical team in FT.

Data Quality

Data Quality Maturity Model

1 Initial	2 Repeatable	3 Defined	4 Managed	5 Optimized
Stakeholders recognize inconsistencies in data quality but do not have a management plan to address them.	Data quality management practices exist in silos and at various points of consumption. Data stewards are involved in identifying and fixing data quality issues, e.g., duplicates, inconsistent formats.	Data stewards work together to establish standards for data quality across organizations (UW Academy and UW Medicine), as well as across data domains.	Cross-organization and cross-system data quality practices are developed by Data Governance to satisfy the increased demand for financial metrics to guide University decisions.	Continuous improvement of data quality practices is part of the culture. Metrics are reviewed on a regular basis, and data quality is assessed against those metrics using established processes.
↑ CURRENT (Academy)	↑ CURRENT (Medicine)	↑ TARGET (AT GO-LIVE) (Academy)	↑ TARGET (AT GO-LIVE) (Medicine)	

Problem Statement

The UW does not have a well-established practice of developing shared data management norms and practices between UW organizations. In particular, data management norms for usage and reporting have been applied inconsistently across data domains and are often organization or system-specific.

UW Academy and UW Medicine have already made a commitment to improving the quality and integrity of financial data at the UW with the investment in Financial Transformation and a single Financial System of Record.

In order to achieve the goal of a single financial system of record for all of UW (Academy and Medicine), data governance must address how UW Academy and UW Medicine come together to identify and prioritize financials that must match both within and outside of Workday, as well as the supporting processes.

Teams working within Financial Transformation need:

- A model that enables sufficient data quality management for financial data across and within both UW Academy and UW Medicine.
- A framework for how financial data governance decisions at UW will be made.

Current Activities

Organization(s)	Objective	Status	Alignment between DG and FT?
UWFT Workday Application Alignment & Reporting Work stream	Produce reporting that is timely, accurate, and informative	Standing up Finance Reporting Advisory Group that rolls into the Data Governance framework for reporting and analytics post-go live	Recommend co-chairs of Reporting Strategy group check in regularly with the DG committee
UW-IT, UW Medicine, UWFT, ORIS, and VP Finance	Determine the scope and feasibility of a Financial Data Repository (FDR). One of the value propositions of the FDR is to maximize the likelihood of matching financial results across the Enterprise, especially between UW Academy and UW Medicine	Groups are formed and scheduled to meet. Initial report out to sponsors is scheduled for 11/9/20	Once a decision is made, this work will need to go to Data Governance Steering/Ops committee Data Domain Councils need to be ready to support any work identified in the feasibility assessment
UWFT Stakeholders	Review and approve Workday Guardrails to inform technical design and decision making	Reference, Core, and Metadata Management Guardrails v1. published 9/24/20	Yes, via Christina Mercer

Recommendations

UWFT Project Stage: Configuration & Prototype

1. Ask the Data Governance committees to charge a taskforce to create a model/framework for managing data quality within Workday and any downstream repositories.
2. Empower the data domain stewards to operationalize data quality management needs post-go live

Core & Reference Data Management

Core & Reference Data Management Maturity Model

1 Initial	2 Repeatable	3 Defined	4 Managed	5 Optimized
There are siloed practices by teams operating Systems of Record to ensure the integrity of shared data.	Data stewards in individual domains have clear and published processes to make decisions regarding splits and joins needed to ensure golden records. Systems of Record are defined for each set of core data in individual domains, and that information is published on DG web sites.	Data stewards across multiple domains have processes to make decisions regarding splits and joins needed to ensure golden records. Systems of Record are defined for each set of core data across multiple domains, and that information is published on DG web sites.	Data stewards develop common processes and tools, e.g. request, for updating core data.	Core Data Management is the way we do things, core data as an asset, continuing to learn and improve.
↑ CURRENT	↑ TARGET (AT GO-LIVE) (Academy)	↑ TARGET (AT GO-LIVE) (Medicine)		

Problem Statement

Though work is underway within the Data Governance Steering Committee, there is currently no clear enterprise governance of core and reference data, resulting in siloed practices by teams operating Systems of Record to ensure the integrity of shared data. For shared financial data, incongruent practices create a risk for ensuring all "downstream" reports have accurate and complete information reporting and decision making.

Teams working on Financial Transformation need to know:

- What Systems of Record (SoR) to trust for a given data set in order to load data into Workday (conversion);
- What the future SoR will be for a given data set (where that data source of truth is) in order to design processes, applications, integrations, and reporting for the future state;

- What the change process for both financial and financially-related core data will be;
- How to convert data from as-is to to-be data models;
- Who decides general split/join rules and who resolves any merge conflicts?

Current Activities

Organization(s)	Objective	Status	Alignment between DG and FT?
UWFT Stakeholders	Review and approve Workday Guardrails to inform technical design and decision making	Reference, Core, and Metadata Management Guardrails v1. published 9/24/20	Recommend FT team revisit the guardrails once the DG Core Data Management Strategy is published
UWFT, iDAWG	Develop Workday Core Data and Reference Data Catalog	Catalog in work	FT will need to provide a list of core and reference data elements that need to be defined and housed (if housed outside of the FDM)
Data Governance Steering Committee	Develop core data management framework, strategy, and tactical/ operational guidance	In work	Yes

Recommendations

UWFT Project Phase: Configuration & Prototype

1. Create or empower an entity with responsibility and accountability for:
    - Managing financial and HRP Data Catalog materials
    - Establishing a System of Record master library (where the systems of record that feed into Workday live)
2. Create or empower an entity with responsibility and accountability for approving decisions regarding systems of record, location of core data, and arbitration of issues
3. Establish a Task Force charged with refining the responsibilities of data stewardship regarding core data, in alignment with the institution's in-progress Data Stewardship Model

Metadata Management

Metadata Management Maturity Model

1 Initial	2 Repeatable	3 Defined	4 Managed	5 Optimized
Multiple glossaries with inconsistent definitions leading to confusion in reporting.	Supported and locally governed.	Teams use a single source of truth for terms. Designated teams and processes ensure that those terms are trusted and understood.	Supported at an enterprise level with senior management commitment.	Synergistic support with integrated planning, senior management commitment.
↑ CURRENT	↑ CURRENT (Medicine)	↑ TARGET (AT GO-LIVE)		

Problem Statement

Not having a single "source of truth" for metadata for the Enterprise, nor a policy/decision for a central repository to manage metadata, will contribute to confusion with reporting from the data warehouses. Reporting effectiveness will be lost if the attributes of data that flows into Workday, within Workday, and downstream reporting from Workday are not aligned.

Teams working within Financial Transformation need to know;

- What will be the enterprise metadata repository
- Who is responsible for vetting and validating metadata to publish to enterprise repository
- What the change process for both financial and financially-related metadata will be
- How to link as-is to to-be data definitions

Recommendations

Stage: Configuration & Prototype

1. Endorse the FT Core Data and Metadata Guardrails;
2. Endorse the Enterprise adoption of Knowledge Navigator as the source of truth for metadata that is not unique or limited to UW Medicine. Note that UW Medicine will have another source of truth for UWM specific metadata (clinical, etc.).

3. Ask the Finance Data Domain Council to establish financial data definitions, in alignment with the sub-domain data stewardship model.

Stage: Test

4. Ask the Data Governance Operational Committee to further refine the responsibilities of data stewardship regarding metadata management.

Post go-live

5. Ask Data Governance to develop and publish Core Data Guardrails for use between and within UW Academy and UW Medicine. Where needed align Workday Core Data Guardrails and Data Governance Core Data Guardrails.

Data Modeling and Design

Data Modeling and Design Maturity Model

1 Initial	2 Repeatable	3 Defined	4 Managed	5 Optimized
Data models are not available nor managed. Projects do not consistently consider institutional data analytics requirements.	Data models exist in individual domains. Data transformations, calculations, and business rules are treated as assets. They are documented and shared in individual domains. Data analysts and report developers can find and use data models to develop analytics and reporting solutions in individual data domains.	Data models exist in multiple domains. Data analysts and report developers can easily find and use data models to develop analytics and reporting solutions across multiple data domains. Data analytics and reporting requirements have a seat at the requirements table and drive the requirements for new projects.	Data stewards collectively review and approve changes to data models in response to analytic and reporting data requests.	Data stewards proactively and regularly review and approve changes to data models in response to evolving analytic and reporting needs.
↑ CURRENT (Academy)	↑ CURRENT (Medicine)	↑ TARGET (AT GO-LIVE)	↑ TARGET (18 months post GO-LIVE)	

Problem Statement

There is no single Enterprise repository of University conceptual data models (known in some cases in UW Medicine as data marts), which leads to confusion and misunderstanding about data, duplication of effort, and overall inefficiencies in administrative processes that are dependent on data.

In Finance Transformation, a Workday conceptual data model is in development for Workday, and is being vetted by the FT iDAWG (Data Architecture Working Group). As it relates to finance, these data models need to be reviewed and endorsed or enhanced by domain councils for the other domain areas

with non-Workday data models (e.g., “sponsor” within Workday and “sponsor” in other up and down stream systems and processes). Clear roles and responsibilities need to be defined to help ensure there are processes and procedures that enable effective vetting of solutions in a timely manner.

Teams working within Financial Transformation need:

- Understanding of major Workday designs and configurations (i.e. the Foundation Data Model)
- Crosswalk from as-is to to-be for major Workday data concepts (i.e. Map as-is and to-be Chart of Accounts entities and values, such as Fin Org and Budget Number)
- A conceptual data model which documents Workday Finance data concepts and objects and the relationships between them
- Traceability of conceptual data model concepts to logical and physical data models implemented in data platforms and EDW’s to enable consistency for integration and reporting teams
- Data catalog(s) to provide detailed understanding of future state data attributes for use by integration, conversion and reporting teams

Current Activities

Organization(s)	Objective	Status	Alignment between DG and FT?
UWFT FDM Design Team	Create the future state foundation data model	Published Foundation Data Model Blueprint 3.0 on 09/28/20	Yes, via Erick Winger
UWFT FDM Design Team	Map as-is and to-be Chart of Accounts entities and values, such as Fin Org and Budget Number	Value mapping is in work and continuing to evolve. Team expects to be 10-25% mapped for most work tags that replace org and budget number by Feb 2021 and close to 80-90% by May 2021	Yes, via Erick Winger
UWFT Workday Application Alignment & Reporting Work stream	Ensure reporting strategy aligns with data governance domain councils	Standing up Finance Reporting Advisory Group	Yes, via Paula Ross

Organization(s)	Objective	Status	Alignment between DG and FT?
UWFT Data Architecture Work stream	Develop documentation of UW's Financial data model. This is broader than data sourced in Workday	Produce UW Workday Conceptual Data Model, UW Workday Data Catalog, and Workday Glossary and Crosswalk. Utilize existing iDAWG meetings to review and solicit cross-institution input and validation.	Yes, via Brett Simmons
UW-IT Enterprise Data Platform (EDP)	Access Workday APIs to understand Workday Financials and start to replicate it in the EDP	This work continues to evolve, with an initial release targeted for January 2021	

Recommendations

Stage: Configuration & Prototype

1. Ask the Data Governance Steering Committee to provide a pathway to arbitrate any disagreements that emerge in the vetting of Financial data models, including the evolving Workday Conceptual Data Model. Need to maintain consistency among data platforms/warehouses with the data models.

Post go-live

2. Ask the Data Governance Steering Committee to identify the universal location for publishing any financial data models developed during the program and on an ongoing basis. This may be achieved through use of Knowledge Navigator following discussion with UW-IT.

APPENDIX A

Definitions of DMBOK functions highlighted in this document

- **Data Security**: "Definition, planning, development, and execution of security policies and procedures to provide proper authentication, authorization, access, and auditing of data information access."

- **Data Quality**: "The planning, implementation, and control of activities that apply quality management techniques to data, in order to assure it is fit for consumption and meets the needs of data consumers." (DMBoK)

- **Core (previously Master) & Reference Data Management**: "Managing shared data to meet organizational goals, reduce risks associated with data redundancy, ensure higher data quality, and reduce the costs of data integration." (DMBoK)

- **Metadata Management**: "Planning, implementation, and control activities to enable access to high quality, integrated metadata." (DMBoK)

- **Data Modeling and Design**: "[T]he process of discovering, analyzing, and scoping data requirements, and then representing and communicating these … in a precise form called the data model. This process is iterative and may include a conceptual, logical, and physical model." (DMBoK)

APPENDIX B

Taken from the [Workday Security Guardrails](#).

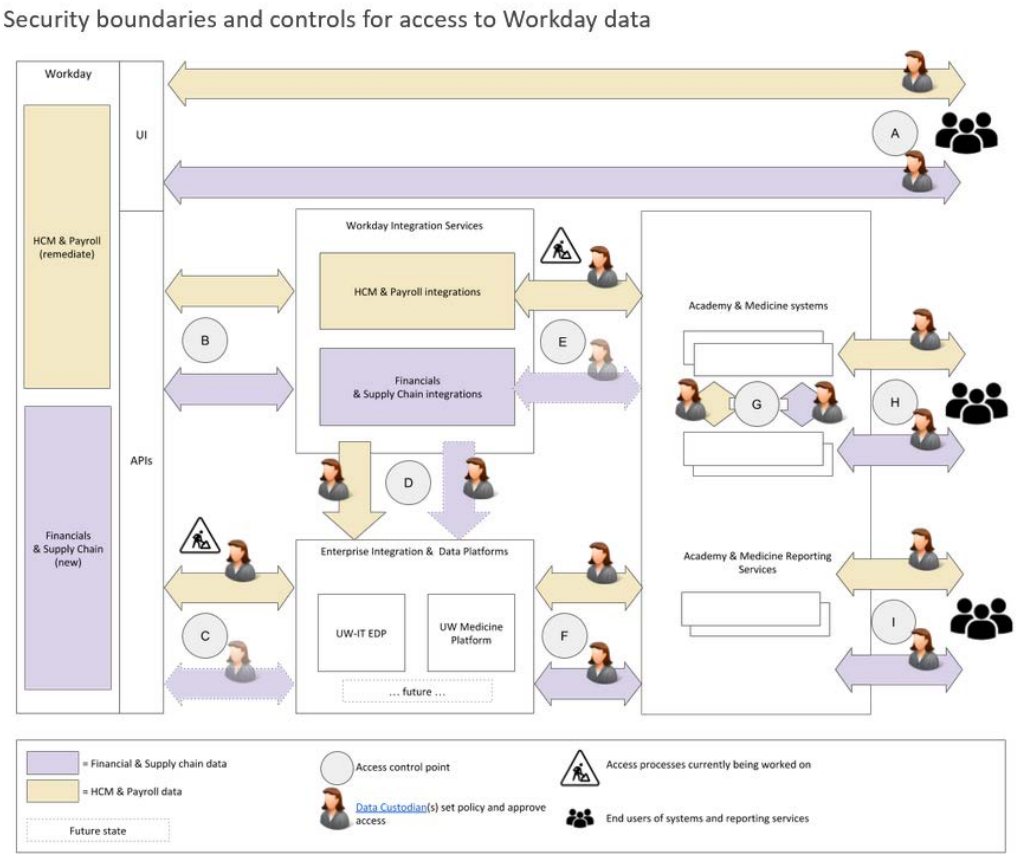


Table 1 Key to Workday Security Boundaries and Controls Image

	Authentication	Authorization	Encryption
A	● UW NetID & UW 2FA	Workday roles	● TLS
B	● Workday ISUs & password tokens	Workday roles IP white lists	● TLS

	Authentication	Authorization	Encryption
C	● Workday ISUs & password tokens	Workday roles IP white lists	● TLS
D	● Workday ISUs & password tokens ● sFTP credentials ● PGP credentials	Workday roles IP white lists	● TLS ● sFTP, PGP
E	● Workday ISUs & password tokens ● sFTP credentials ● PGP credentials	Workday roles IP white lists	● TLS ● sFTP, PGP
F	UW Academy ● UWCA-issued X509 certificate	UW Academy ● ASTRA roles ● UWCA CRL	UW Academy ● TLS
G	UW Academy ● Local credentials ● UWCA-issued X509 certificate	UW Academy ● Local ACL ● UWCA CRL	UW Academy ● TLS
H	UW Academy ● UW NetID (& UW 2FA if sensitive data) UW Medicine ● AMC ID	UW Academy ● ASTRA roles ● UW Groups ● Local ACL UW Medicine ● PUMA/Sailpoint account provisioning	UW Academy ● TLS

	Authentication	Authorization	Encryption
I	UW Academy ● UW NetID UW Medicine ● AMC ID	UW Academy ● ASTRA roles UW Medicine ● PUMA/Sailpoint account provisioning	UW Academy ● TLS

APPENDIX C

Items and topics which fall outside of the intersection of data governance for Finance Transformation and the UW enterprise.

- Data definitions, including defining data as an asset
- Naming convention norms

APPENDIX D

Task Force Team Members

- **Erin Guthrie**, Assistant Vice Provost, Planning and Budgeting, Co-Chair
- **Christina Mercer**, Senior Director, Finance Transformation, Finance, Co-Chair
- **Rupert Berk,** Enterprise Solutions Architect, UW-IT
- **Doug Divine**, Director, DATAGroup, Enterprise Services, Finance
- **Rick Fenger**, Assistant Director, Decision Support Services, Office of Research Information Services
- **Rachel Gatlin,** Executive Director, HR Benefits, Analytics and Information Systems
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- **Manoj Joshi**, Senior Director, Systems Implementation, Finance Transformation, Finance
- **Karen Matheson**, Manager, Integrated Service Center Application Management, Enterprise Services, Finance
- **Ann Nagel**, Associate Vice Provost, UW Privacy Office, Academic and Student Affairs and Chair of Data Governance Operational Committee
- **Paula Ross**, Director of Platform Integration Services, Finance Transformation, Finance
- **Brett Simmons**, Technology Director, Finance Transformation Systems Implementation, Finance
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