

# Enterprise Architecture Guiding Principles

Enterprise Architecture (EA) Guiding Principles are important for defining criteria by which technology and services, that span or impact the enterprise, are managed, acquired, designed and configured. Each principle includes several statements that describe general traits, outcomes we want to achieve, and useful constraints. The Guiding Principles should:

- be included in RFP's and procurement processes;
- guide decision-making;
- be used to evaluate services, products, and projects; and
- inform system design and development

## STANDARDS BASED

- Embrace industry and community standards.
- Prefer open standards, architectures, and systems over closed, proprietary ones.
- Standardize to reduce needless diversity.

## SIMPLE

- Make things as simple as possible but no simpler.
- Follow well-defined patterns and blueprints.
- Minimize duplication and reduce complexity.
- Make things easy to understand.
- Make things easy to use.

## SCALABLE

- Strive for statelessness
- Make aggressive use of caching
- Design scalability into solutions from the start
- Enable distribution of workload
- Design solutions to scale horizontally out, not up
- Communicate asynchronously between services; accept some data inconsistency
- Use virtualization and Cloud to meet unexpected, spiky demand

## SERVICE ORIENTED

- Deliver business functionality as modular, reusable, loosely-coupled services and messages.
- Design services and messages to have well-defined interfaces and data models.
- Design modular components; create building blocks not monoliths.
- Enable reuse of data and functionality.
- Make services and messages discoverable.
- Define boundaries to enable separation of concerns.

## STRATEGIC

- Enable a single federated enterprise-wide architecture.
- Align decisions and architecture with the strategic mission, vision and values of the University.
- Align decisions and architecture with the UW-IT Strategic Plan.
- Take a strategic "big picture" viewpoint when making decisions.
- Avoid strategic compromises during tactical projects.
- Support long-term business-driven capabilities.

## RELIABLE

- Avoid single points of failure; a system is only as reliable as its weakest link.
- Define and design for target availability levels.
- Design for fault tolerance and graceful failure.

## DATA DRIVEN

- Govern data according to University policies and the data management guidelines.
- Manage authoritative data as a single source of truth.
- Make data available and discoverable.
- Enrich data with well-defined metadata.

## SUSTAINABLE

- Make things maintainable, manageable and measurable.
- Enable measurement of system performance.
- Design for monitoring, logging, run-time tuning and diagnostics.
- Make decisions based on the full lifecycle of things.
- Design for extensibility.
- Make things testable.
- Document knowledge needed by others; an undocumented system is not maintainable.

## SECURE

- Protect information according to University policies using cost-effective access controls.
- Make decisions based on the classification and value of assets.
- Secure the boundaries between architectural components.
- Consider malicious threats and accidental misuse.
- Ensure confidentiality, integrity and availability of information.
- Control access using authentication and authorization.
- Manage University risk.