**Architecture Principles**

TKTI - Togaf

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# Purpose of this Document

Architecture Principles are general rules and guidelines, intended to be enduring and seldom amended, which informs and supports the way in which an organization sets about fulfilling its mission. This document details the Architecture Principles to which the organization adheres.

# Principle Template

Principles are general rules and guidelines, intended to be enduring and seldom amended, which informs and supports the way in which an organization sets about fulfilling its mission.

Principles may be just one element in a structured set of ideas that collectively define and guide the organization, from values through to actions and results.

Each principle is defined based on the template below.

|  |  |
| --- | --- |
| <Name of Principle> | |
| Reference | <Unique identifier for the principle> |
| Statement | A Statement that can succinctly and unambiguously communicate the fundamental rule. |
| Rationale | The Rationale highlights the business benefits of adhering to the principle, using business terminology. It points to the similarity of information and technology principles to the principles governing business operations. It also describes the relationship to other principles, and the intentions regarding a balanced interpretation. Sometimes, a Rationale describes situations where one principle would be given precedence or carry more weight than another for making a decision. |
| Implications | The Implications highlight the requirements, both for the business and IT, for carrying out the principle - in terms of resources, costs, and activities/tasks. It will often be apparent that current systems, standards, or practices would be incongruent with the principle upon adoption. |
| Mandatory/ Advisory | If the particular principle must be fulfilled. |
| Review Reason | The reason why this principle has to be reviewed. |
| Review Date | The date when the principle is reviewed. |

# Business Principles

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| Primacy of Principles | |
| Reference | AP01 |
| Statement | These principles of information management apply to all organizations within the enterprise. |
| Rationale | The only way we can provide a consistent and measurable level of quality information to decision-makers is if all organizations abide by the principles. |
| Implications | * Without this principle, exclusions, favouritism, and inconsistency would rapidly undermine the management of information. * Information management initiatives will not begin until they are examined for compliance with the principles. * A conflict with a principle will be resolved by changing the framework of the initiative. |
| Mandatory/ Advisory |  |
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| Maximize Benefit to the Enterprise | |
| Reference | AP02 |
| Statement | Information management decisions are made to provide maximum benefit to the enterprise as a whole. |
| Rationale | This principle embodies "service above self". Decisions made from an enterprise-wide perspective have greater long-term value than decisions made from any particular organizational perspective. Maximum return on investment requires information management decisions to adhere to enterprise-wide drivers and priorities. No minority group will detract from the benefit of the whole. However, this principle will not preclude any minority group from getting its job done. |
| Implications | * Achieving maximum enterprise-wide benefit will require changes in the way we plan and manage information. Technology alone will not bring about this change. * Some organizations may have to concede their own preferences for the greater benefit of the entire enterprise. * Application development priorities must be established by the entire enterprise for the entire enterprise. * Applications components should be shared across organizational boundaries. * Information management initiatives should be conducted in accordance with the enterprise plan. Individual organizations should pursue information management initiatives that conform to the blueprints and priorities established by the enterprise. We will change the plan, as we need to. * As needs arise, priorities must be adjusted. A forum with comprehensive enterprise representation should make these decisions. |
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| Information Management is Everybody's Business | |
| Reference | AP03 |
| Statement | All organizations in the enterprise participate in information management decisions needed to accomplish business objectives. |
| Rationale | Information users are the key stakeholders, or customers, in the application of technology to address a business need. In order to ensure information management is aligned with the business, all organizations in the enterprise must be involved in all aspects of the information environment. The business experts from across the enterprise and the technical staff responsible for developing and sustaining the information environment need to come together as a team to jointly define the goals and objectives of IT. |
| Implications | * To operate as a team, every stakeholder, or customer, will need to accept responsibility for developing the information environment. * Commitment of resources will be required to implement this principle. |
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| Business Continuity | |
| Reference | AP04 |
| Statement | Enterprise operations are maintained in spite of system interruptions. |
| Rationale | As system operations become more pervasive, we become more dependent on them; therefore, we must consider the reliability of such systems throughout their design and use. Business premises throughout the enterprise must be provided with the capability to continue their business functions regardless of external events. Hardware failure, natural disasters, and data corruption should not be allowed to disrupt or stop enterprise activities. The enterprise business functions must be capable of operating on alternative information delivery mechanisms. |
| Implications | * Dependency on shared system applications mandates that the risks of business interruption must be established in advance and managed. * Management includes but is not limited to periodic reviews, testing for vulnerability and exposure, or designing mission-critical services to ensure business function continuity through redundant or alternative capabilities. * Recoverability, redundancy, and maintainability should be addressed at the time of design. * Applications must be assessed for criticality and impact on the enterprise mission, in order to determine what level of continuity is required and what corresponding recovery plan is necessary. |
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| Common Use Applications | |
| Reference | AP05 |
| Statement | Development of applications used across the enterprise is preferred over the development of similar or duplicative applications, which are only provided to a particular organization. |
| Rationale | Duplicative capability is expensive and proliferates conflicting data. |
| Implications | * Organizations that depend on a capability, which does not serve the entire enterprise, must change over to the replacement enterprise-wide capability. This will require establishment of and adherence to a policy requiring this. * Organizations will not be allowed to develop capabilities for their own use which are similar/duplicative of enterprise-wide capabilities. In this way, expenditures of scarce resources to develop essentially the same capability in marginally different ways will be reduced. * Data and information used to support enterprise decision-making will be standardized to a much greater extent than previously. This is because the smaller, organizational capabilities which produced different data (which was not shared among other organizations) will be replaced by enterprise-wide capabilities. The impetus for adding to the set of enterprise-wide capabilities may well come from an organization making a convincing case for the value of the data/information previously produced by its organizational capability, but the resulting capability will become part of the enterprise-wide system, and the data it produces will be shared across the enterprise. |
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| Service Orientation | |
| Reference | AP06 |
| Statement | The architecture is based on a design of services, which mirror real-world business activities comprising the enterprise (or inter-enterprise) business processes. |
| Rationale | Service orientation delivers enterprise agility and Boundaryless Information Flow. |
| Implications | * Service representation utilizes business descriptions to provide context (i.e., business process, goal, rule, policy, service interface, and service component) and implements services using service orchestration. * Service orientation places unique requirements on the infrastructure, and implementations should use open standards to realize interoperability and location transparency. * Implementations are environment-specific; they are constrained or enabled by context and must be described within that context. * Strong governance of service representation and implementation is required. * A "Litmus Test", which determines a "good service", is required. |
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| Compliance with Law | |
| Reference | AP07 |
| Statement | Enterprise information management processes comply with all relevant laws, policies, and regulations. |
| Rationale | Enterprise policy is to abide by laws, policies, and regulations. This will not preclude business process improvements that lead to changes in policies and regulations. |
| Implications | * The enterprise must be mindful to comply with laws, regulations, and external policies regarding the collection, retention, and management of data. * Education and access to the rules. Efficiency, need, and common sense are not the only drivers. Changes in the law and changes in regulations may drive changes in our processes or applications. |
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| IT Responsibility | |
| Reference | AP08 |
| Statement | The IT organization is responsible for owning and implementing IT processes and infrastructure that enable solutions to meet user-defined requirements for functionality, service levels, cost, and delivery timing. |
| Rationale | Effectively align expectations with capabilities and costs so that all projects are cost-effective. Efficient and effective solutions have reasonable costs and clear benefits. |
| Implications | * A process must be created to prioritize projects. * The IT function must define processes to manage business unit expectations. * Data, application, and technology models must be created to enable integrated quality solutions and to maximize results. |
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# Data Principles

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| Data is an Asset | |
| Reference | AP09 |
| Statement | Data is an asset that has value to the enterprise and is managed accordingly. |
| Rationale | Data is a valuable corporate resource; it has real, measurable value. In simple terms, the purpose of data is to aid decision-making. Accurate, timely data is critical to accurate, timely decisions. Most corporate assets are carefully managed, and data is no exception. Data is the foundation of our decision-making, so we must also carefully manage data to ensure that we know where it is, can rely upon its accuracy, and can obtain it when and where we need it. |
| Implications | This is one of three closely-related principles regarding data: data is an asset; data is shared; and data is easily accessible. The implication is that there is an education task to ensure that all organizations within the enterprise understand the relationship between value of data, sharing of data, and accessibility to data.  Stewards must have the authority and means to manage the data for which they are accountable.  We must make the cultural transition from "data ownership" thinking to "data stewardship" thinking.  The role of data steward is critical because obsolete, incorrect, or inconsistent data could be passed to enterprise personnel and adversely affect decisions across the enterprise.  Part of the role of data steward, who manages the data, is to ensure data quality. Procedures must be developed and used to prevent and correct errors in the information and to improve those processes that produce flawed information. Data quality will need to be measured and steps taken to improve data quality - it is probable that policy and procedures will need to be developed for this as well.  A forum with comprehensive enterprise-wide representation should decide on process changes suggested by the steward.  Since data is an asset of value to the entire enterprise, data stewards accountable for properly managing the data must be assigned at the enterprise level. |
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| Common Vocabulary and Data Definitions | |
| Reference | AP10 |
| Statement | Data is defined consistently throughout the enterprise, and the definitions are understandable and available to all users. |
| Rationale | The data that will be used in the development of applications must have a common definition throughout the Headquarters to enable sharing of data. A common vocabulary will facilitate communications and enable dialog to be effective. In addition, it is required to interface systems and exchange data. |
| Implications | We are lulled into thinking that this issue is adequately addressed because there are people with "data administration" job titles and forums with charters implying responsibility. Significant additional energy and resources must be committed to this task. It is key to the success of efforts to improve the information environment. This is separate from but related to the issue of data element definition, which is addressed by a broad community - this is more like a common vocabulary and definition.  The enterprise must establish the initial common vocabulary for the business. The definitions will be used uniformly throughout the enterprise.  Whenever a new data definition is required, the definition effort will be co-ordinated and reconciled with the corporate "glossary" of data descriptions. The enterprise data administrator will provide this co-ordination.  Ambiguities resulting from multiple parochial definitions of data must give way to accepted enterprise-wide definitions and understanding.  Multiple data standardization initiatives need to be co-ordinated.  Functional data administration responsibilities must be assigned. |
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| Single System of Record for Each Data Element | |
| Reference | AP11 |
| Statement | Each data element must be stored under a single data source. |
| Rationale | The data that will be used in the development of applications must be stored under a single data source to remove data redundancy, improve data consistency and reduce the cost of data maintenance. |
| Implications | Partly as a result of the merger, the application landscape has become scattered, resulting in data redundancy. In order to solve this problem, separate back-office servers will be replaced by a shared server cluster located in the data center at Home & Away headquarters. Data will be stored in a single system. |
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# Application Principles

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| Ease-of-Use | |
| Reference | AP12 |
| Statement | Applications are easy to use. The underlying technology is transparent to users, so they can concentrate on tasks at hand. |
| Rationale | The more a user has to understand the underlying technology, the less productive that user is. Ease-of-use is a positive incentive for use of applications. It encourages users to work within the integrated information environment instead of developing isolated systems to accomplish the task outside of the enterprise's integrated information environment. Most of the knowledge required to operate one system will be similar to others. Training is kept to a minimum, and the risk of using a system improperly is low.  Using an application should be as intuitive as driving a different car. |
| Implications | Applications will be required to have a common "look-and-feel" and support ergonomic requirements. Hence, the common look-and-feel standard must be designed and usability test criteria must be developed.  Guidelines for user interfaces should not be constrained by narrow assumptions about user location, language, systems training, or physical capability. Factors such as linguistics, customer physical infirmities (visual acuity, ability to use keyboard/mouse), and proficiency in the use of technology have broad ramifications in determining the ease-of-use of an application. |
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# Technology Principles

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| Requirements-Based Change | |
| Reference | AP13 |
| Statement | Requirements-Based Change |
| Rationale | This principle will foster an atmosphere where the information environment changes in response to the needs of the business, rather than having the business change in response to IT changes. This is to ensure that the purpose of the information support - the transaction of business - is the basis for any proposed change. Unintended effects on business due to IT changes will be minimized. A change in technology may provide an opportunity to improve the business process and, hence, change business needs. |
| Implications | Changes in implementation will follow full examination of the proposed changes using the enterprise architecture.  We don't fund a technical improvement or system development unless a documented business need exists.  Change management processes conforming to this principle will be developed and implemented.  This principle may bump up against the responsive change principle. We must ensure the requirements documentation process does not hinder responsive change to meet legitimate business needs. The purpose of this principle is to keep us focused on business, not technology needs - responsive change is also a business need. |
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| Responsive Change Management | |
| Reference | AP14 |
| Statement | Changes to the enterprise information environment are implemented in a timely manner. |
| Rationale | If people are to be expected to work within the enterprise information environment, that information environment must be responsive to their needs. |
| Implications | We have to develop processes for managing and implementing change that do not create delays.  A user who feels a need for change will need to connect with a "business expert" to facilitate explanation and implementation of that need.  If we are going to make changes, we must keep the architectures updated.  Adopting this principle might require additional resources.  This will conflict with other principles (e.g., maximum enterprise-wide benefit, enterprise-wide applications, etc.). |
| Mandatory/ Advisory |  |
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# Other Principles