Principles for Information Management

INTRODUCTION

The principles are high level statements of the fundamental values that guide Information Management (IM) decision-making. They are necessary so that Chicago Operations Office (CH) IM decisions are consistent with a variety of legislative and policy guidelines such as the Clinger-Cohen Act and OMB policy statements. The principles create the foundation for the development of CH IM architectures, standards and policies.

The principles, as value statements guiding IM decision making, should be universally accepted by CH. They should be stable so as to withstand changes in IM technologies, processes and products. They should maintain a clear relevancy with policy changes in CH programs and management approaches as well as reflect the general policy directions and framework of the Federal Government.

The principles are accompanied by rationales that explain their importance and the business implications. The statements of each principle should remain constant. The rationales and implications will evolve over time, as they respond to factors such as the current IM environment within DOE-CH, internal initiatives, external forces, and changes in the DOE-CH mission, vision and strategic plan.

In addition to the architectural principles, the technology architecture provides specific guidance on the detailed decisions regarding technologies and their implementation.

1. Business Orientation

STATEMENT:

Information Management architectures and decisions must support Chicago Operations Office's Mission and strategic business objectives, activities, and priorities. Information Management must support timely and effective decision-making at all organizational levels.

RATIONALE:

- IM is everyone's business, and all Chicago Operations Office organizations jointly share in the responsibility for IM decisions. Conversely, IM decisions must recognize the needs of all of CH's internal and external customers

- Business operations at CH are increasingly dependent upon IM systems. The technology that supports the IM systems must recognize the diversity of those operations and their customers.

- All organizations must be involved in the creation of systems required to accomplish their objectives.

- The business and IM teams must come together to jointly define the goals of IM in CH.

- IM services and systems are an integral part of CH future business strategy.

- Continuity of operations without the technology that supports the IM systems would be incomplete and inefficient. There are critical CH operations which must be maintained even when technological interruptions occur.

- The change process supports the information architecture planning concept that business should be the driver instead of IM systems.

- Disruptions to current business operations need to be minimized.

- Current strategic objectives must be considered in the development of the Information Architecture Plan.

- IM infrastructure will create a sound base for incorporation technological changes to accommodate future business changes.

- All organizations must have an opportunity to participate in the development of the infrastructure.

IMPLICATIONS:

Critical CH operations and supporting IM systems must be identified.

Principles must be accepted by all CH organizations to strengthen the ability of CH to provide a consistent and measurable level of quality to customers.

Good communications will assure that users understand what technological changes are occurring and when they will occur.

Change management will ensure proper testing, backup, and recovery, and will assess the impacts.

A formal change management process will be followed.

Contingency and disaster recovery plans for CH IM systems must be in place.

Alternative means for ensuring continuity of operations must be established.

When introducing new technology, disruption to business operations will be minimized.

Additional training may be necessary for a better understanding of IM.

IM development teams will include all applicable organizations

Participation of all employees will foster a harmonious CH environment.

Corporate IM investment decisions are not made solely based on technology trends

The acceptable level of systems failure must be defined.

Changes to the Chicago Operations Office information environment will be driven by business needs. Changes are scheduled and communicated to all affected users.

CH decision-makers can rely on the integrity of the IM infrastructure.

Changes to the CH information environment must be supported by a valid business need.

A long-range information architecture plan will enhance the likelihood of achieving CH strategic objectives.

Corporate IM investment decisions are not made in an isolated manner.

Tying the IM Information Architecture Plan to the CH business objective will ensure its longevity.

IM decisions will be made corporate wide. A process and guidelines for decision-making will be formalized.

IM decisions do not contradict CH enterprise decisions

Continuity of critical operations are maintained. Interruptions to non-critical operations are minimized. Resources required to minimize interruptions of non-critical operations must be prioritized.

The IM infrastructure is sound, consistent in use, and flexible to accommodate the diverse business of Chicago Operations Office.

2. Value-Added

STATEMENT:

IM investments must promote and enhance effectiveness, efficiency, functional capabilities, cost reduction, and/or cost avoidance to the business of DOE.

RATIONALE:

- Development of common use applications across CH is preferred over the development of similar or duplicative applications.

- Limited resources and DOE stewardship dictate careful IM investments.

- IM decisions must have a net positive impact on doing business.

- Spending on short-term IM solutions may prevent meeting long-term goals.

- Service level agreements between users and IT providers can provide the means for establishing acceptable service levels.

- A mutual understanding of services will prevent users from attempting to duplicate services that are provided by the IM service organization.

- With the limited resources available, CH must control technical, administration and support costs.

- Existing duplicative applications may be wasting resources.

- Performance measurements are developed and used to assess and communicate the quality of IM services and systems.

- IM services and systems must be measured to determine if customer expectations are being met.

- Quality of IM services and systems should be assessed to determine where improvements are needed.

IMPLICATIONS:

Individuals will have an understanding of what services they can expect.

Duplication should be avoided in the future.

Applications appropriate for CH-wide development will be identified.

System developers must understand and incorporate user needs and

Shared development of applications will create a more dynamic and efficient workforce.

Choices, with corresponding lifecycle costs, will be provided so that informed decisions can be made.

Services levels will be limited by economic realities.

Service levels will be negotiated based on business requirements.

IM service providers and customers have a mutual understanding of services and their estimated costs.

Systems will be non-redundant and compatible.

Business needs become the primary driver.

IM decisions are made to cost-effectively maximize value and benefits to all of CH.

New systems will have corresponding performance criteria to determine if they are effective and efficient.

A value-added assessment system will be used to prioritize IM investments.

Support service contracts will include clearly stated performance measures.

Performance measures will allow the IM community to determine whether expectations are being met.

Service and systems quality will be clearly communicated to the customer.

Installation of single copies of software applications are limited.

3. Access to Information

STATEMENT:

CH staff, customers, and stakeholders can access the information they require, subject to legal and security restrictions.

RATIONALE:

- Wide access to accurate, reliable and consistent corporate information leads to greater efficiency and effectiveness in decision-making. It improves DOE's ability to respond to information requests from customers and stakeholders and the delivery of information based services and avoids duplication of data entry. Time is wasted and considerable effort is spent in overcoming organizational hurdles in the quest for information.

- Open sharing of corporate information must be balanced against the need to restrict the availability of and access to classified, proprietary, and sensitive information. Existing laws and regulations require the safeguarding of national security and privacy data. Systems, data, and technologies must be protected from unauthorized access and manipulation.

- CH must encourage the open access of all official, summary, or decision-level data. (Decision-level data, or summary-level data, is defined as information derived from raw data.)

- Decision-level data should be available to any user or customer within CH unless prohibited.

- CH's first priority must be to provide users access to all data necessary to perform their job. CH must prioritize the resources necessary to provide open access to all decision-level data.

- Both internal and external users will increasing request streamlined access to CH information.

- Data should be available for and considered in decision making. We often are forced to make decisions without using the data we have.

- Currently, data is generally not shared across organizations, or even systems. Data, currently valued at the group level, may have unrecognized value for the enterprise.

IMPLICATIONS:

Access decisions will occur on a system-by-system basis.

Technology, data, and application architectures will be designed to balance requirements for the protection of data with accessibility and ease of use.

People will have data to do their job effectively.

“Data required for job performance” must be defined and the person assigning the rights to data must be aware of the job requirements of every position within the enterprise.

Users will have information necessary to plan and schedule their work.

Data is in a readable, usable format and therefore is able to be shared across organizations, functions and users.

Corporate data sharing will lead to an environment where data is not re-keyed. Each piece of data is created once, reducing the costs and lack of reliability of maintaining multiple applications that store similar data.

Data should be accessible remotely.

4. Ease of Use

STATEMENT:

Technologies promote ease of use by all (including external customers) without requiring knowledge of the underlying technology.

RATIONALE:

- Ease of use facilitates clarity and transparency of communication, productivity, and the efficient use of corporate IM resources.

- Interaction with information must be adaptable to meet a wide range of internal and external customer needs.

- Consistency in look and feel of infrastructure simplifies use.

- Common solutions minimize training requirements.

IMPLICATIONS:

Systems must not be constrained by assumptions about user capabilities:
+ Location
+ Training
+ Physical capability

Terms and definitions should be standardized as much as possible.

Corporate IM solutions must be designed considering the full range of probable users and their environments.

Systems must allow for authorized remote access.

5. Standards-Based Decisions

STATEMENT:
Information Management solutions and selections are based on a set of CH-adopted standards. CH's profile of standards is based upon DOE and industry standards.

RATIONALE:

- Publicly available technical specifications and the products that support them provide a higher degree of stability, flexibility and inter-connectivity.

- A standard-based approach helps prevents vendor "lock-in" and promotes long-term savings through competition.

- Standards will be adopted when they lead to a stable and maintainable environment.

- Above average lifecycle cost may be associated with non-standard system/software format.

- Standards do not mean Standardization. Standards allow us to share information while providing flexibility to select the best tools to do our work. Flexibility allows for adjustments driven by changes in business focus and technology.

- IM decisions must comply with applicable laws, regulations, directives and policies.

- IM decision making process must provide the framework for compliance with existing laws and regulations.

- Laws, regulations, directives and policies governing IM are rapidly changing.

IMPLICATIONS:

When custom-built solutions are required, every effort will be made to provide interoperability and flexibility, and to follow the standards.

Standards will be adopted using a process that is based on consensus and encourages compliance through buy-in.

Users will comply with the laws, regulations and external policies relating to IM. Personnel will be notified of changes to laws, regulations and policies relating to IM.

A non-standard investment will be made only if a compelling business justification can be made.

Standards will be flexible enough to allow choices to address business needs.

Standards will provide the capability to use a variety of equipment and yet still provide information-sharing capability.

The standard based approach encourages the use of off-the-shelf products.

Existing and emerging DOE and industry standards are identified and tracked and merged into an approved set of CH standards. In the absence of industry standards, generally accepted standards are used.

Existing and emerging changes will be identified and tracked.

6. Data is an Asset.

STATEMENT:

Data is an asset and is managed as an asset. Data has value; the quality, integrity and sharing of data is managed accordingly.

RATIONALE:

- Open sharing of information must be balanced against the need to restrict availability of classified, proprietary and sensitive information. Existing laws and regulations require the safeguarding of national security and privacy data. Security must be designed in architectural elements from the beginning. Systems data and technologies must be protected from unauthorized access and manipulation.

- Data is a resource and has value. The value of data is not always recognized.

- We must carefully manage our data. We must ensure its accuracy and availability.

- Data elements will be created for each activity or process and have a consistent meaning.

- A common vocabulary will facilitate effective communication and dialog.

- CH data is currently defined inconsistently, resulting in the inability to make accurate cross-cutting queries.

IMPLICATIONS:

Each data element has a Trustee accountable for data quality and data definition. In the future individuals may become a Trustee responsible for data CH-wide that they currently produce/use only at the group level.

Data is protected from unauthorized access, use and disclosure.

There will be a Data Administrator(s) who will coordinate consistent use of data throughout CH. Data Administrator(s) will be responsible for the data glossary and reconciling any multiple definition issues.

Data is defined consistently throughout CH, and the definitions are understandable and available to all users. Data definition will require looking at current systems data in CH and redefining the data if not consistent. CH organizations will participate in defining data.

Each data element will have a Trustee accountable for its definition, accuracy, and

standardization.

A DOE-wide solution for secure access to multiple networks is necessary.

CH-wide IM planning and prioritization will be instituted and structured based on maximum benefits to CH.

The Information Architecture Plan, in particular the data architecture, will draft the initial common vocabulary for the business.