CITY OF PHILADELPHIA
DEPARTMENT OF BEHAVIORAL HEALTH AND INTELLECTUAL DISABILITY SERVICES

DATA GOVERNANCE FRAMEWORK STRATEGIC PLAN

Guidelines for Aligning Information Management Concepts, Practices and Context

VERSION 1.01
4 JANUARY 2016

DBHIDS
DEPARTMENT of BEHAVIORAL HEALTH
and INTELLECTUAL disABILITY SERVICES

ARTHUR C. EVANS JR., PH.D., COMMISSIONER

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Daniel J. Paolini, CIO – with input from the Data Architecture Coordination Team

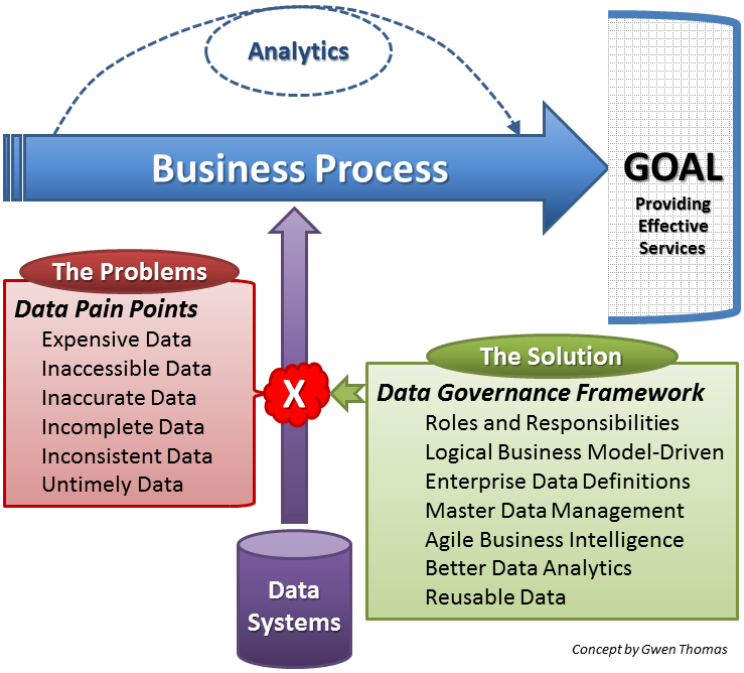
"We are drowning in information but starved for knowledge. Uncontrolled and unorganized information is no longer a resource in an information society, instead it becomes the enemy."

— John Naisbitt, *Megatrends: 10 New Directions Transforming Our Lives* (1982)

EXECUTIVE SUMMARY

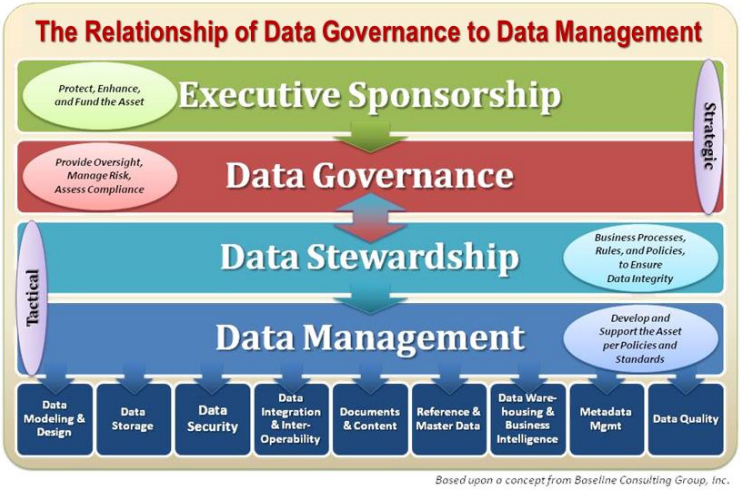
Information Technology is the Information, Applications and Infrastructure necessary to meet the needs of the Business. Of these, the most important resource is the information asset. It is this information that represents a model of the functioning business over time. Infrastructure and applications change to reflect changes in technology or process, but the data that records the transactions of key entities with the business must be logically defined and maintained so that it is consistent, persistent and useful.

Over time, the ability for data systems to support business processes in the pursuit of business goals degrades because data quality degrades. This results in more cost but less benefit. Attempting to fix these problems at the operational level will not work. Adding more data and data systems in an effort to "fix" these problems only makes them worse.



What will fix these problems is not more technology, more systems or more data, but Data Governance. Data Governance advances the goal of "Reusable Data"; data that is timelier, more accurate, more complete, more accessible, more useful and less costly.

Data Governance is not a technology function. It is driven by the business and forms a bridge between business management and technology providers. ***Executive Sponsorship*** comes from the business. ***Data Governance*** and ***Data Stewardship*** represent collaborations of business subject matter experts and information architecture staff. ***Data Management*** is provided by various technologists overseen by an enterprise information management unit.



The Data Governance Framework represents the desired future-state needed to address the problems that compromise our information asset today. It documents the Department's Information Architecture. Taking our cue from the Practice Guidelines, we will align information management concepts, practices and context.

The **Data Governance Framework Strategic Plan** includes

Ten information architecture principles that inform the development of strategies to meet the information needs of the organization and will continue to guide their implementation:

1. Information architecture is the reflection of the business; it is not a just technology domain.
2. The identification and definition of data attributes must involve the business.
3. Data is an organizational asset and must be managed with an enterprise perspective.
4. Data that is common to more than one business unit must be defined through the consensus of representatives of those business units.
5. The value of data to the enterprise is in its fitness for reusability, not its exclusivity.
6. The value of data management staff is in its ability to build high quality, reusable data assets.
7. Different information use cases require different data management solutions.
8. In order to be sustainable, physical data stores must be governed by a logical understanding of the enterprise, captured in a logical business model.
9. The purpose of a data management organization is to produce a data product that meets the information needs of the business commensurate with the investment made by the business.
10. If it isn't documented it doesn't exist; if it can't be measured it has no value.

Nine data governance goals that describe concrete, action-oriented targets that categorize and focus information management efforts

1. Create an information-centric and informed organizational culture.
2. Establish a data governance program to provide accountability for information assets.
3. Provide for effective and appropriate information security.
4. Improve the quality and usefulness of information by making it timelier, more accurate, more complete and more accessible.
5. Reduce the costs of managing information.
6. Share data through reusable processes; reuse data through shared processes.
7. Provide self-service business intelligence capabilities.
8. Develop enterprise-class data management staff.
9. Adopt enterprise-class data management tools.

Five information service delivery use cases that drive the selection of appropriate methodologies and technologies to meet the business needs of the department

1. Transactional Processing: "**To Do**"
2. Operational Reporting: "**To Know**"
3. Data Integration and Persistence: "**To Remember**"
4. Key Performance Indicators: "**To Measure**"
5. Analytical Reporting: "**To Learn**"

In addition, there is a companion **Data Governance Framework Implementation Plan**.

THE DBHIDS DATA GOVERNANCE FRAMEWORK STRATEGIC PLAN

Guidelines for Aligning Information Management Concepts, Practice and Context

THE CASE FOR INFORMATION ARCHITECTURE

Data is the fundamental building block of Digital Government. It is a critical resource and we must manage it as such. We must transform the practice of creating isolated islands of data to satisfy individual programs or units. We must manage a core of common data at the enterprise level. We must manage all data with common tools and methodologies. This will make it possible to use data management technologies to collect, publish, and maintain the integrity of critical data elements across multiple programs in a manner that is both efficient and responsive to business needs. Formal information architecture is essential to achieving this.

Information architecture is a component or perspective of the enterprise architecture. Information architecture represents the reference architecture for an enterprise data management program. Reference architectures describe the vision, goals, objectives, principles, practices, standards, methodologies, and tools used in a particular technology domain within an organization. The data management domain encompasses the collection, definition, and maintenance of data and the development and presentation of actionable information derived from that data.

RELATIONSHIP TO OTHER ARCHITECTURES

In order to place domain architectures such as the Data Governance Framework in context, it is essential to acknowledge one overarching relationship:

> *The DBHIDS Data Governance Framework is one of three domains (components) of the overall DBHIDS Enterprise Architecture.*

This Enterprise Architecture consists of three related architecture domains:

- Business Process (the business operations)
- Information (the data), represented by this Data Governance Framework
- Technology (the hardware and software)

The Business Process Architecture provides the essential functionality of the business; what it means to be the business. The Information Architecture guides the development of data necessary for the Business Process Architecture; what it means to be of interest to the business. The Technology Architecture is established to deliver the components required by the Information and Business Process Architecture. Of these, the Information Architecture is the least volatile and most long-lasting.

Enterprise Architecture

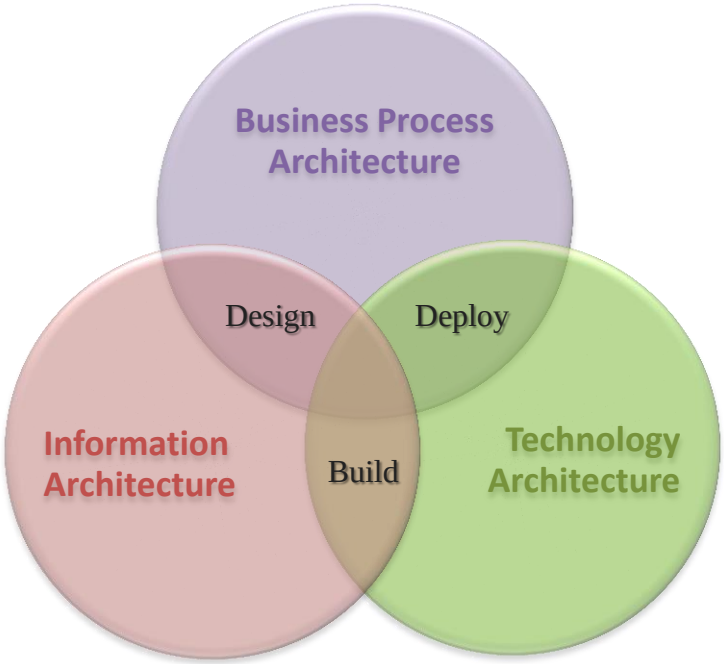
Enterprise architecture (EA) is a well-defined practice for conducting enterprise analysis, design, planning, and implementation, using a holistic approach at all times, for the successful development and execution of strategy.

EA applies architecture principles and practices to guide organizations through the business, information, process, and technology changes necessary to execute their strategies. These practices utilize the various aspects of an enterprise to identify, motivate, and achieve these changes.

Normally an organization's EA takes the form of a comprehensive set of cohesive models that describe the structure and functions of an enterprise... The individual models in an EA are arranged in a logical manner that provides an ever-increasing level of detail about the enterprise.

en.wikipedia.org/wiki/Enterprise_architecture

Collectively, these domains craft the Solution Architecture for a specific business problem. Without an understanding of these crucial relationships, business users and technologists cannot help but create the islands of disintegration that Enterprise Architecture is charged with preventing.



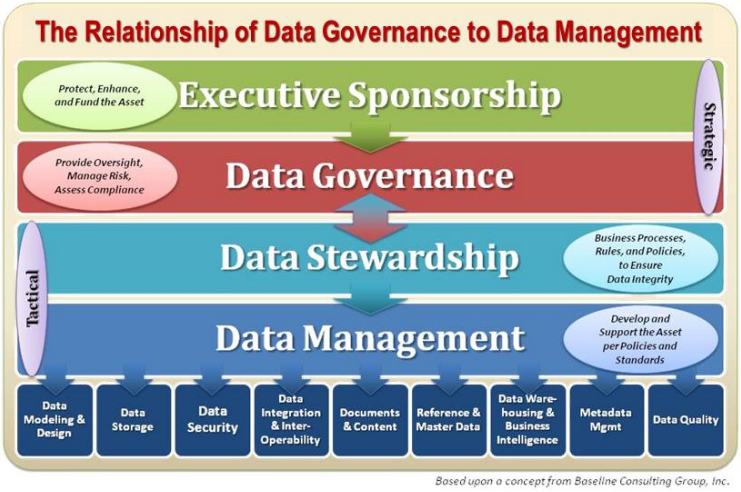
Data Governance and Its Relationship to Information Architecture

Information Architecture describes what, when, where and why; in other words, the domain of data management. Data Governance describes who and how; in other words, roles and responsibilities.

Broadly speaking, Data Governance is the exercise of decision-making and authority for data-related matters. Formal Data Governance is a system that provides rules and policies proactively to enable ongoing efficient service delivery while providing mechanisms to address data quality issues as they are identified.

Data Governance also refers to the organizational bodies, rules, decision rights, and accountabilities of people and information systems as they perform information-related processes. In other words, Data Governance is the identification of those with decision-making responsibility for data management.

Data Governance is not a technology function. It is driven by the business and forms a bridge between business management and technology providers. ***Executive Sponsorship*** comes from the business. ***Data Governance*** and ***Data Stewardship*** represent collaborations of business subject matter experts and information architecture staff. ***Data Management*** is provided by various technologists.



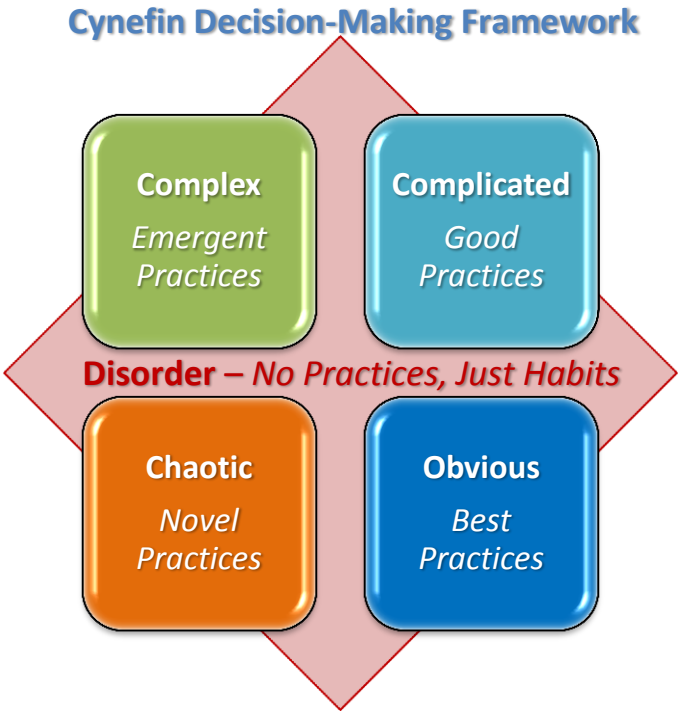
THE IMPORTANCE OF AN ARCHITECTURAL FRAMEWORK

Architectural frameworks are a form of strategic planning. A good framework will document the current state of the organization as well as the desired state. It will plot the route for evolving from the current state to the desired state. In this, it provides its greatest value, as it becomes the way to "decide how to decide". It establishes the practices that will be followed to address categories of situations.

Organizations make tactical decisions every day. These can be as mundane as what to name something or as important as where to get authoritative information. Without a plan, the organization will not know when one of these decisions is misaligned with the desired state.

The Cynefin (ki-nev-in) Framework is an approach to management and decision-making. There are four realms that identify situations that require different types of practices: Obvious, Complicated, Complex and Chaotic. A fifth realm, Disorder, represents an organization without practices, just habits.

The DBHIDS Data Governance Framework "pre-decides" many of the routine (obvious) decisions by prescribing best practices and standards. It describes a governance structure for identifying novel, emergent and good practices that eventually evolve into best practices. The framework identifies the goals, objectives and principles that guide decision-making about these practices.



The Data Governance Framework represents a commitment to information architecture as a long-term strategic initiative to enable ***data reusability***. This architecture forms the foundation for collecting, storing, managing, controlling privacy of, and providing access to enterprise data to meet business needs.

By following the DGF, stakeholders will have access to more useful information, as they:

- *Collect data once but use it often, improving data accuracy*
- *Store data more effectively for a timelier and more complete information picture*
- *Reduce or eliminate costs associated with data collection, storage and error correction*
- *Improve access to information while better protecting the privacy of individuals*

THE RELATIONSHIP BETWEEN A DATA GOVERNANCE FRAMEWORK AND THE DAMA DMBOK

The Data Management Association (DAMA) in its Data Management Body of Knowledge (DMBOK) has identified ten distinct data management domains. Data Governance is one of the domains. It overarches the other nine domains, providing coordination and facilitating communications and planning. Below is a representation of the DMBOK Wheel. It illustrates that each of the nine management domains has equal value; no one discipline is more important than any other. It also illustrates how each of the nine management domains is, however, guided by the organization's data governance processes.

DAMA Body of Knowledge

The "body of knowledge" about data management is quite large and constantly growing. To respond to this challenge DAMA International provides the DAMA Guide to the Data Management Body of Knowledge, or DAMA DMBOK, as a definitive introduction to data management.

DAMA DMBOK defines a standard industry view of data management functions, terminology and best practices, without detailing specific methods and techniques. While DAMA-DMBOK is not a complete authority on any specific topic, it will point readers to widely recognized publications, articles and websites for further reading.

www.dama.org/content/body-knowledge

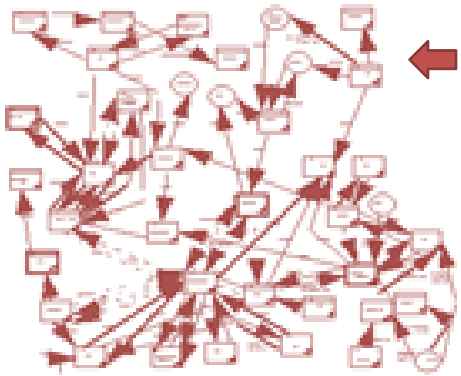
This DMBOK Wheel is not itself a data governance framework. It serves as an organizing scheme for discussing the interrelated data management disciplines and their dependence upon effective data governance. An organization still needs a data governance framework that reflects its principles and goals while addressing these knowledge domains.

A data governance framework provides a rational description of both our information architecture and how we will implement it. It serves as a guide for decision-making around data, data technologies and data management processes.

The DBHIDS Data Governance Framework (DGF) represents the information architecture for the Department and guides its enterprise data management. It prescribes an approach to data governance, data management, data architecture and information technology to support the goal of data reusability.

DATA REUSABILITY IS THE OVERARCHING GOAL

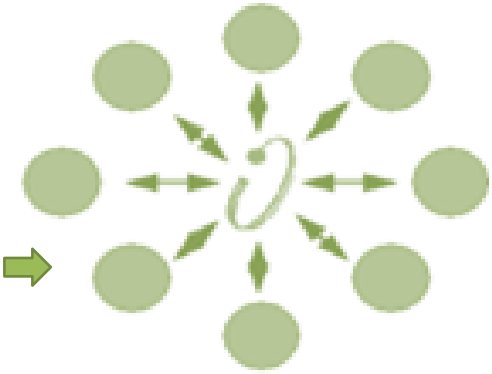
Data reusability is the refocusing of data management from our traditional



sharing data by moving it around

approach to one of

sharing information through reusable data.



The purpose of the DBHIDS Data Governance Framework is to drive data reusability to meet the Department's strategic and operational needs. In its report, "***NATIONAL INFORMATION ARCHITECTURE: Toward National Sharing of Governmental Information***", the National Association of State Chief Information Officers (NASCIO) summarizes that "The business case for such an architecture rests on four foundations." These four foundations are the ability to positively impact:

ACCURACY

TIMELINESS

COMPLETENESS

COST/EXPENSE

We have identified two additional foundations. These are the ability to positively impact:

ACCESSIBILITY

USEFULNESS

Collectively, these represent the value of information architecture and comprise the drivers for the DBHIDS Data Reusability Architecture.

Drivers for a Data Reusability Architecture

Reusable Data is More Accurate

Reusable data increases the reliability of data transactions. Standardized lookup tables provide developers with a low-cost and consistent source of reference data to validate data entry according to department standards. Reusable master entity information, retrieved on demand, reduces the potential for user input errors and update anomalies that develop between redundant data sets.

Reusable Data is Timelier

Applications can make updates to Master Data available to all stakeholders immediately. There is no need manually to update disparate systems, thus eliminating workflow bottlenecks. As data is integrated for reuse, reporting and analysis can take the form of self-service. Turnaround time for new reports and requests for information is greatly reduced. Latency between data collection and the ability to report on it is also greatly reduced.

Reusable Data is More Complete

Reusable data enables stakeholders to access their records from a single access point. They will not need to work with multiple systems just because multiple business units manage those records. Developers can write applications to recognize, in an intelligent way, dependent processes across unit and line-of-business borders. Logical workflow can be incorporated into these applications to capture and maintain all related information.

Reusable Data is Less Expensive

There are hundreds of data tables in DBHIDS databases that duplicate data available elsewhere. These tables contain information as basic as county codes for lookup validation, or as critical as demographic data for entitlement programs. Centralized management of universal information reduces the costs of creating, maintaining and reconciling multiple containers of the same information.

Reusable Data is More Accessible

An Enterprise Reference Data Model and corresponding metadata provide stakeholders with the roadmap and the mechanism to interoperate electronically. Constraints on data sharing, whether valid or merely perceived, are resolved as a part of the Business Model creation and maturation process. Applications can access Reusable data to the extent permitted by established business rules and legal requirements.

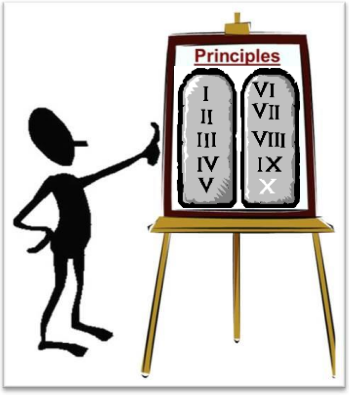
Reusable Data is More Useful

Improving decision making within the organization is accomplished through the use of self-service reporting and Key Performance Indicator (KPI)-based dashboards. This information can come from multiple sources across the enterprise. To be successful, these capabilities should be built upon a stable enterprise data warehousing environment that ensures that consistent answers are retrieved regardless of report mechanism or timing of the request.

DBHIDS Data Governance Framework Strategic Plan Components

Information Architecture Principles

An architecture principle is a comprehensive and fundamental law, doctrine, or assumption that provides overarching guidance for development of a solution. A good architecture principle is not outdated by advancing technology and, more importantly, provides objective reasons for advancing it instead of alternatives. The ten information architecture principles guide the identification of goals and objectives for our information architecture and the formation of strategies to achieve those goals and objectives.



Data Governance Goals

Goals describe concrete, action-oriented targets that categorize and focus information management efforts. The nine data governance goals are the heart of the department's information architecture. Each goal has one or more objectives that align to the information architecture principles.

Information Service Delivery Use Cases

Information service delivery use cases drive the selection of appropriate methodologies and technologies to meet the business needs of the department. An organization must have a single defined source of the truth for business information – not multiple versions with different meanings. This is not the same as having data in only one place or managing data through only one process. To be useful, data must be managed consistently, but with an understanding of the audience and the purpose for the data. The five information service delivery use cases provide the distinctions necessary to guide information management for the department. They categorize the audience and purpose of data so that the proper methodologies and technologies are applied while maintaining a single authoritative source for business data.

Conceptual Information Architecture Schema

This schema is based upon the "Corporate Information Factory" and it illustrates the relationship between the information service delivery use cases.

The principles, goals and use cases are described in more detail in the sections that follow.

DBHIDS Information Architecture Principles

Information architecture is the reflection of the business; it is not just a technology domain.

This principle is critical to both a successful data governance effort and to individual data management projects. When the business abdicates responsibility for information architecture and data governance to information technologists, it leads to the creation of data silos, disparate data, poor data quality and a focus on activity over value. The business must be a partner with technologists in data governance and information architecture efforts.

The identification and definition of data attributes must involve the business.

When the business does not lead this effort, there is a loss of understanding over time that can neither be fixed nor replaced through the efforts of information technologists alone. For business-critical data elements, the respective business units must identify data stewards within the organization that can maintain the integrity of data definitions and approve the appropriate use of data for the desired purpose.

Data is an organizational asset and must be managed with an enterprise perspective.

Once the business has taken responsibility for its role in data governance and data stewards are identifying and defining data attributes, the data must be managed at an enterprise (centralized) level. Data management decisions cannot be made at the system or program level. Because the data is an enterprise asset, decisions regarding how it is managed must also be made at the enterprise level.

Data that is common to more than one business unit must be defined through consensus by representatives of those business units.

It is essential that data that is used by more than one business be defined by representatives of all of the business units. When units are not represented in decision making, their specific needs may not be reflected. This is what leads to units creating their “own” versions of common data, as they are unable to use the “official” data. This process of business participation in the definition of common data is called data governance.

The value of data to the enterprise is in its fitness for reusability, not its exclusivity.

To process data and exploit only the result of the calculation is short-sighted. Even worse is to lock it away. The practices and tools of effective data management cannot stand alone in the data ecosystem. They rely on and support the reusability of data. The organization benefits when both the data management efforts and the results of those efforts form a platform for future discovery and innovation. As big data, analytics and Web 2.0 grow in maturity and adoption, there will be a rising need to support exchange, collaboration and reuse around enterprise data.

The value of data management staff is in its ability to build high quality, reusable data assets.

Data gatekeepers may perceive that they provide value to the organization by hoarding the data. This is exacerbated when institutional knowledge is often locked away in the memory of these individuals. A mature data management staff adopts as its mission the commitment to make it easier for the business to gain access quickly to documented and defined information of known quality.

Different information use cases require different data management solutions.

The technology necessary for processing transactional data is significantly different than the technology necessary for analytical processing or providing a dashboard of KPIs. The format of the data in these environments will be different. The security concerns for the data will be different. Each of these environments in turn is significantly different than one that is responsible for managing master or reference data or one responsible for storing data historically.

In order to be sustainable, physical data stores must be governed by a logical understanding of the enterprise, captured in a logical business model.

A Logical Business Model is not a database design. It represents the authoritative definition of data entities (people, places, things, events, etc.) and their attributes (characteristics) along with the relationships between the data entities (e.g. A Provider provides one or more Services, but must provide at least one). The Logical Business Model captures the business rules that govern data. The Logical Business Model is used to produce both logical and physical data models for specific solutions.

The purpose of a data management organization is to produce a data product that meets the information needs of the business commensurate with the investment made by the business.

In the same way that the business has an obligation to help define data and corresponding business rules, the data management organization has an obligation to implement solutions consistent with those definitions and rules using sound technology practices. Technologists must bring issues to the attention of the business that can have an adverse effect on data quality; the business will decide the priority and the appropriate investment for resolving those issues.

If it isn't documented it doesn't exist; if it can't be measured it has no value.

Data must be defined, both technically and from a business perspective. Business rules must be defined. Data processes must be documented. Data quality issues must be documented. This documentation must be maintained in an organized manner and be accessible for those that require it. The enterprise must be able to measure the quality of its data and the opportunities both lost and followed to leverage reusable data.

DBHIDS Data Governance Goals

1. **Create an information-centric and informed organizational culture.**

Becoming an information-centric organization requires substantial cultural change. Business and technology staff must become aware of the need, educated in the process and then empowered to approach information management with an enterprise viewpoint. Information architecture staff must evangelize and educate employees in both the value of this approach as well as how to implement it.

Establish a data governance program to provide accountability for information assets.

Data Governance is an approach to providing rules and policies proactively to define and manage data. The objective is to enable efficient service delivery while providing mechanisms to address data quality issues as they are identified. It includes the formal identification of those with decision-making responsibility for data management and the institution of processes to enable their decision making. Business data stewards and data architecture staff work together under executive management oversight.

Provide for effective and appropriate information security.

Information security is a multi-dimensional domain. It encompasses the Confidentiality of the data (protection), the Integrity of the data (non-repudiation) and the Availability of the data (functionality). It is addressed through policies and procedures, education and awareness, encryption and access controls, and, vulnerability monitoring and auditing. It requires cooperation by business users, technologists and information security professionals.

Improve the quality and usefulness of information by making it timelier, more accurate, more complete and more accessible.

Data management must be agile to meet business needs without making the data fragile and therefore unfit for use. This requires advance planning to leverage efforts to locate, define and integrate data one time but benefit from those efforts many times. By creating a catalog of reusable data – master, reference, operational and historical – all future efforts benefit. Once properly constructed, this complete and accurate data is available to more users and available to them more quickly.

Reduce the costs of managing information.

There are obvious cost efficiencies achieved through better data management by the elimination of duplicate technology purchases, nor recreating data that already exists and not reinventing processes. There are even greater savings realized by eliminating the out-year and downstream maintenance of these inefficient processes and the decoupling of data use cases. Another substantial yet difficult to quantify cost savings is the elimination of data quality problems that lead to poor decision making.

Share data through reusable processes; reuse data through shared processes.

Reusable data is data that has been integrated and published from a central store or repository, such as a data warehousing environment or a master data management platform. This data is best accessed through shared (common) processes implemented in an enterprise data integration environment. Other data requires access in real time so that it can be shared between transactional systems as needed. This data is best accessed through web services (reusable processes) implemented by each system.

Provide self-service business intelligence capabilities.

The twentieth century model of business intelligence was based upon a large IT staff creating reports for a small group of report consumers. The twenty-first century model for business intelligence is based upon self-service, ubiquitous reporting capabilities. The IT staff is responsible for integration data, providing access to data sources, documenting the business definitions of the data and supporting a self-service business intelligence platform. End users create reports and dashboards as needed.

Develop enterprise-class data management staff.

The skills required for data management in the twenty-first century are significantly different than those that were required in the twentieth century. Mainframe environments lent themselves to assembly-line skill delineation and data was kept in silos by design. Today, data management professionals need to be generalists and have the ability function as business analysts, data architects, data integration developers, business intelligence developers and database administrators as needed.

Adopt enterprise-class data management tools.

Too often, data management tools are selected randomly, due to personal preference or perceived cost benefits, without considering the needs of the organization or the impact of using the wrong technology. The objective is not to select the “best tool” or the “least expensive tool” but to select a suite of tools that meet all of the needs of the entire organization, work well together and can be implemented and used for a reasonable investment of both money and staff time.

DBHIDS Information Service Delivery Use Cases

Transaction Processing	•Applications that collect and maintain data about interactions within the business units in support of their business functions. They exchange data with each other in real time.	**Do**
Operational Reporting	•Traditional reporting against individual transactional systems about current operations with limited or no history, analysis or integration with multiple data sources.	**Know**
Data Integration and Persistence	•The data warehousing layer that manages master data, reference data, metadata, and data for historical analysis; the authoritative source of data.	**Remember**
Key Performance Indicators	•Integration of operational metrics to provide a 360-degree view of the organization with an ability to track changes and trends over time through dashboards.	**Measure**
Analytical Reporting	•Sophisticated reporting, visualizations and statistical analysis of historical data from purpose-built data publication environments (data marts).	**Learn**

It is a serious but all too common mistake to apply a one-size-fits-all approach to data management use cases. Organizations attempt to make a system designed for one use case serve the requirements of other use cases.

While it is possible, for example, to build a transactional system that also directly supports operational reporting or a data integration layer that also supports analytical reporting, these solutions end up being compromises. They are fragile and tightly coupled to the processes understood at the time they were built. They lack the agility and flexibility necessary to accommodate new requirements. When the system needs to be replaced, the cost is substantially higher due to the unnecessary complexity of the additional overloaded functionality.

Rather than build all functionality into a single solution, it is better to use purpose-built solutions optimized for the desired use case. It is the combincation of a loosely-coupled, service-oriented approach and the data integration and persistence use case that enables all of the other components to function as if members of one unified information ecosystem.

THIS

rather than

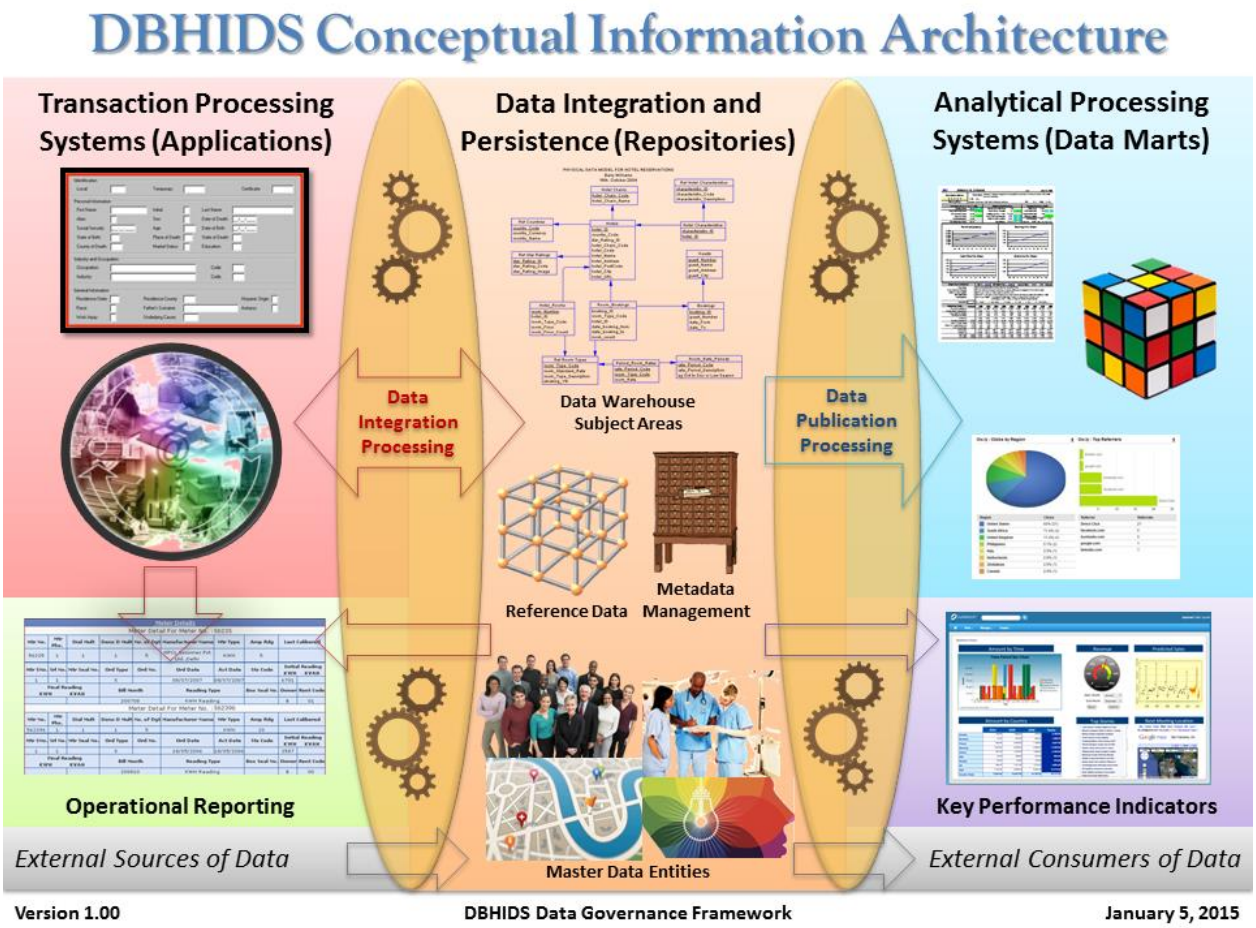
THAT

These are representative data management solutions for each use case.

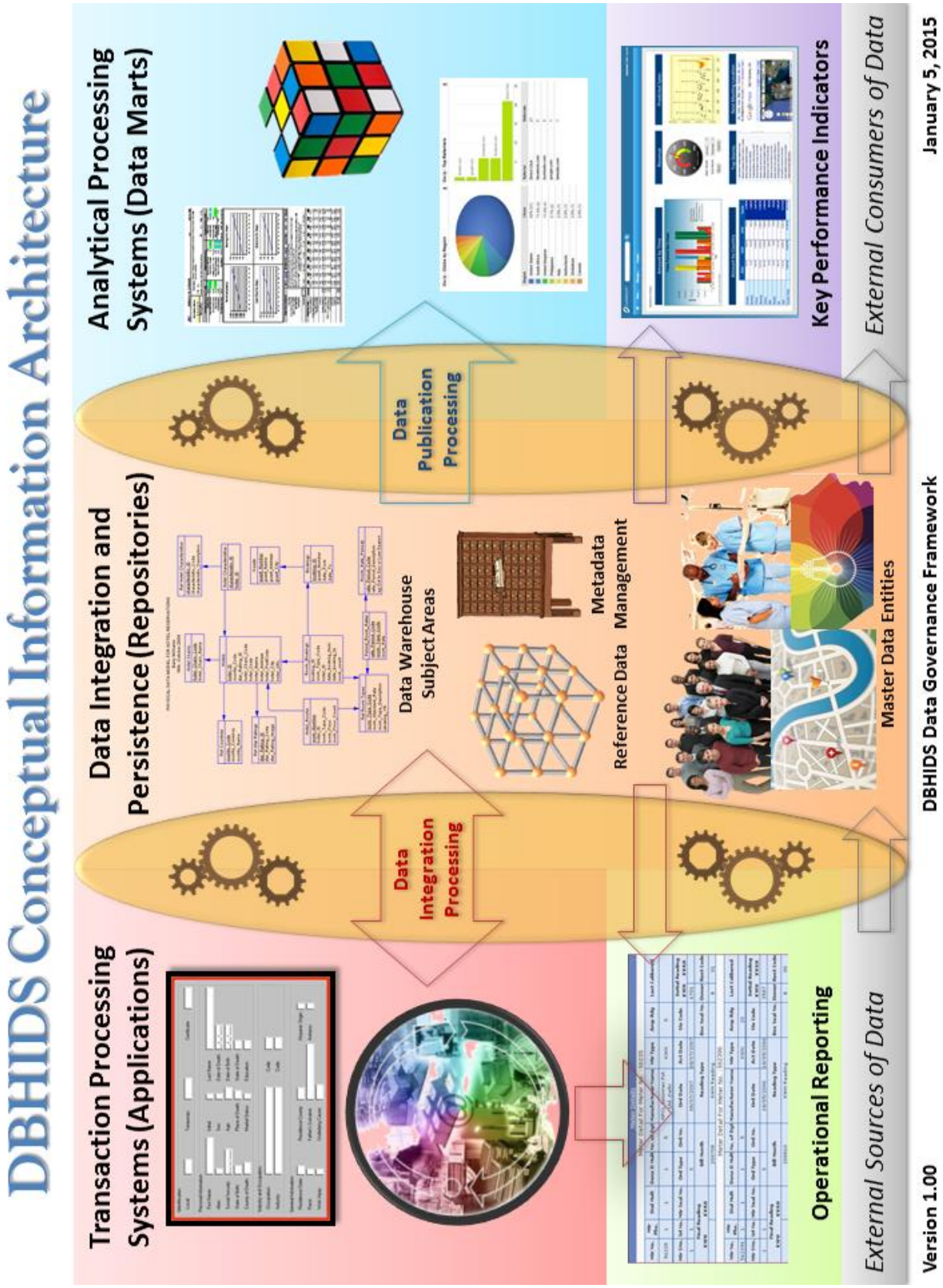
1. Transaction Processing
    - Custom-built and off-the-shelf transaction processing applications
    - Integrated enterprise resource planning (ERP) applications
    - Basic self-contained operational reporting to monitor and manage the business function represented by the transactional system
    - Real-time process integration via web services between applications and external sources of master and reference data (shareable data through reusable processes)
2. Operational Reporting
    - Robust operational reporting against operational data marts or replicated transactional system data stores
    - Limited integration of external data for enriched reporting (this must be closely monitored and moved into Data Integration and Persistence if more than minimal)
3. Data Integration and Persistence
    - Real-time and batch integration
    - Single source of the truth (reusable data through shareable processes)
    - Master data management
4. Key Performance Indicators
    - Line of business or organization-wide
    - Current state with limited history
5. Analytical Reporting
    - Line of business or organization-wide
    - Longitudinal/historical/aggregate

DBHIDS Conceptual Information Architecture

The following diagram (larger version on the next page) shows the inter-relationships between various conceptual components of the DBHIDS Data Governance Framework. This conceptual model is based in part on the "Corporate Information Factory" as conceived by William H. Inmon, Claudia Imhoff, and Ryan Sousa in the 2000 book of the same name.



This conceptual model is another form of Data Governance. The value of this model is that it illustrates how all information systems are interrelated conceptually, and that no system should be developed in isolation of existing data, data stores, standards, conventions, or processes. It also reflects the five information service delivery use cases. DBHIDS solutions are guided by this conceptual architecture.


DBHIDS Conceptual Information Architecture
Transaction Processing Systems (Applications)
Data Integration and Persistence (Repositories)
Analytical Processing Systems (Data Marts)
Data Integration Processing
Data Publication Processing
Data Warehouse Subject Areas
Metadata Management
Reference Data
Master Data Entities
Operational Reporting
Key Performance Indicators
External Sources of Data
External Consumers of Data
Version 1.00
DBHIDS Data Governance Framework
January 5, 2015

REFERENCES

DAMA Data Management Body of Knowledge
Shirude, S., Henderson, D., Cupoli, P. et al, Data Management Association (2013)

The Knowledge-Centric Arts Organization: A Critical Role for Grantmakers
Neville Vakharia, GIA Reader, Vol 24, No 3 (Fall 2013)

Big Data Variety Means That Metadata Matters
Dumbill, Edd, Forbes.com (2013)

How Can Nonprofits Switch to a Data-Informed Culture?
Beth Kanter, Blog www.bethkanter.org (August 17, 2011)

Creating Winning Strategies for Information Advantage
Blue, D., Brown, A., Chiarello, G., et al, EMC Council for Information Advantage (2010)

From Traditional Knowledge Management in Hierarchical Organizations
to a Network Centric Paradigm for a Changing World
Crawford, K., Hasan, H. M., Warne, L. & Linger, H. (2009)

Data Steward Roles and Responsibilities
Seiner, R., Data Administration Newsletter (TDAN) (July 2005)

The Corporate Information Factory
Inmon, W., Imhoff, C., Sousa, R., Wiley (2000)

CREDITS

Author: Daniel J. Paolini, DBHIDS Chief Information Officer

With substantial input and guidance from the
DBHIDS Data Architecture Coordination Team

- Deborah Azarewicz
- Elise Bowditch
- Barbara Bunkle
- Alan Dashoff
- Daniel Doyle
- Cody Jett
- Jennifer Li
- Suet Lim
- Jon Slinger
- Karen Spencer
- Linda Trinh
- Chris Zhu