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ORGANIZATIONAL CHARTER

NEW YORK STATE CHIEF DATA OFFICE (CDO)

Revision History

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Organizational Charter for the Chief Data Office (CDO)

Background

The ability to effectively and efficiently manage the vast and disparate array of business information that drives today's largest organizations operations is rapidly emerging as a critical objective for the leadership of these organizations—regardless of their respective market and geographic focuses.

Information is the DNA that catalyzes the actions and reactions of these organizations to the many opportunities and demands that confront organizational leadership teams on a regular basis—whether driven by market, customer, regulatory reporting, risk management, shareholder value or other considerations. In short, information can herald the growth of an organization's brand and performance if properly managed, or choke the life out of the business if its value as a strategic corporate asset is under appreciated or ignored.

Introduction

The Chief Data Officer (CDO) is a business leader who creates and executes data and analytics strategies to drive business value. The role is responsible for defining, developing and implementing the strategy and methods by which the organization acquires, manages, analyzes and governs data. It also carries the strategic responsibility to drive the identification of new business opportunities through more effective and creative use of data.

This position has the overall responsibility for team-lead definition, engineering, and execution of organizational real and metadata architecture strategy including the planning, funding, training, development, integration, deployment, recovery, and evolution functions that are required to effectively and efficiently deliver data architecture components that tangibly support the implementation of the organization's strategy. For the State of New York, this work will be done through an organization hereafter known as the "Chief Data Office (CDO)" and led by the CDO.

The Chief Data Office (CDO)

Key competencies and services that comprise a successful best practice-based CDO functions include: business process management, business semantics, enterprise data modeling and methods, analytics, information strategy and architecture, data governance and stewardship, data quality operationalization methods (including data testing, data profiling and remediation, data standards, data security and masking, and data archival and retention), data visualization, data distribution, master and reference data management, and, finally, Big Data management.

Data Governance Program

Implementing a consistent data governance and stewardship program in a distributed organization is a key service that must be provided by the CDO. Often, this is a daunting challenge due to the distributed nature of the organization itself, where resources who work with data on a day-to-day basis are housed in facilities around the state. Data created by these disparate operators move through and reside in many unconnected systems, and often require multiple inefficient and uncertain hops to be aggregated as enterprise business information.

RESPONSIBILITIES, ACCOUNTABILITIES, AND AUTHORITIES

- Organize and implement policies, procedures, structures, roles, and responsibilities that outline and enforce rules of engagement, decision rights, and the accountabilities for the effective management of information assets.
- Develop practical implementation of policy and strategic directives, management of data-related operations and services, and assuring proper security and privacy of data while aligning to state strategic priorities.
- Establish stewardship for enterprise and business-unit data, along with policies and standards that are monitored and measured on an ongoing basis.
- Lead a Data Stewardship Council which will serve as the coordinating body, and each data steward will assign resources to the other four core programs.
- Resolve strategic data conflicts.
- Serve as trusted partner to key business executives focused on the customer, enterprise risk management, regulatory compliance and finance.
- Authorize initiatives and investments to improve institutional data.
- Maintain inventory of all enterprise data determining its format, security, ownership, and quality.
- Determine and enforce specific security and privacy requirements for each piece of data especially as it relates to privacy laws, industry regulations, and corporate compliance mandates.

Data Strategy and Data Architecture Program

Through the CDO, an information standards and architecture function will be implemented to create a target data architecture, provide review and certification of that architecture across the organization, and enforce related best practices about its deployment, maintenance and extension, as applicable. Key business and information architecture resources will reside and collaborate within the CDO structure under the guidance of the CDO. This approach also enables Business and IT to move towards shared infrastructures and a common set of tools for information management.

RESPONSIBILITIES, ACCOUNTABILITIES, AND AUTHORITIES

- Assess the current-state data architecture, identify desired capabilities, and define the target-state architecture.
- Define a roadmap with blueprints, milestones, and deliverables to achieve the target state architecture.
- Develop baseline technology standards, tools, platforms, and processes that help users define and classify products, customers, and other areas in a standard way across the organization.
- Plan the technology infrastructure, including both software and hardware, and processes needed to implement the roadmap.
- Communicate the roadmap and implement measuring and monitoring activities to verify objectives are being achieved.
- Direct the development and maintenance of common information models including business models, technology models, and control models.

Data Standards Program

The CDO establishes data policies, standards, organization, and enforcement of data management concepts. The CDO will also oversee and report on data metrics, and has executive-level responsibility for all enterprise information/data management budgeting and initiatives. Establishing and enforcing standards, processes, frameworks, tools and best practices for process modeling, semantic modeling, and logical and physical data modeling are key services will be established by the CDO and delivered on a shared basis via the CDO.

RESPONSIBILITIES, ACCOUNTABILITIES, AND AUTHORITIES

- Define a common lexicon and process for the capture and presentation of business and technical information. The resulting standards include, but are not limited to, a Common Warehouse Model (CWM), Ontology Definition Model (ODM) and Reusable Asset Specification (RAS).

- Establish a business-driven repository to provide end-to-end traceability of business information versus traceability of technical elements such as how current data has made its way from its original state to its current form.
- Own the enterprise metadata repository and provide Business and IT staff across the company with access to it as a shared environment.
- Develop, publish, and maintain an enterprise data glossary for key data elements, documenting data lifecycles to improve change management and communications, and implementing reference data management, as well as providing documentation and training.
- Establishes data policies, standards, organization, and enforcement of data management concepts.
- Oversee and report on data metrics, and have executive-level responsibility for all enterprise information/data management budgeting and initiatives.
- Establish enterprise standards including a uniform and repeatable system development lifecycle methodology. For instance, there's a common set of standards for data naming, abbreviations, and acronyms.

Metadata Management Program

Solving the problem of semantic disparity is one of the most fundamental building blocks of a sound enterprise information management program as it serves to help operationalize data governance and stewardship, data quality, and information traceability needs across the business. Common information management methods and tools must be adopted and deployed globally to assure that business-focused resources are utilizing valid and reliable information to meet their specific functional purposes. Only through the identification of critical enterprise data elements (CDEs) for the business and the reposition of their unique definitions in readily accessible, taxonomy-driven business glossaries, will the Business be properly positioned to meet its many obligations to internal and external stakeholders, regulators and the like.

RESPONSIBILITIES, ACCOUNTABILITIES, AND AUTHORITIES

- Establish and maintain a metadata repository that will document and manage metadata and perform analysis using the metadata.
- Publish information about reusable assets, enabling users to browse metadata during life cycle activities (such as design, testing and release management).
- Establish and maintain a business glossary to communicate and govern the enterprise's business terms along with the associated definitions and the relationships between those terms.
- Identify, record, and maintain authoritative attributes that will be used to support provisioning decisions and runtime adjudication of access requests.

- Establish and maintain data lineage to specify data's origins and where it moves over time. Record what happens to data as it goes through diverse processes.
- Conduct impact analysis to convey extensive details regarding the dependencies of information or the impact of a change within a data source.
- Manage data business rules and develop ways to automate the enforcement of rules that are tied to the data elements and associated metadata.
- Support dedicated interfaces for creation, order of execution and links with information stewardship for effective governance.

Master Data Management Program

Master Data Management (MDM) as the technology, tools, and processes required to create and maintain consistent and accurate lists of master data. There are a couple things worth noting in this definition. One is that MDM is not just a technological problem. In many cases, fundamental changes to business process will be required to maintain clean master data, and some of the most difficult MDM issues are more political than technical. The second thing to note is that MDM includes both creating and maintaining master data. Investing a lot of time, money, and effort in creating a clean, consistent set of master data is a wasted effort unless the solution includes tools and processes to keep the master data clean and consistent as it is updated and expanded.

- Develop a framework for responsibility and accountability for each master data element.
- Collect and analyze metadata about for candidates becoming master data.
- Identify the producers and consumers of the master data.
- Develop and maintain a master data model.
- Publish master data.
- Establishing consensus for coordination and collaboration.

Institutionalized Data Management Program

A key function of the CDO partnership is to rationalize and implement tools across the organization so that information can be readily harvested for enterprise use. Harvesting business metadata is an absolute must for enterprise knowledge management and deployed enterprise information tools must support the collection and sharing of that information. The CDO team will establish enterprise standards for information management tools and foster their use across NYS government so that information can be rationalized and harvested to a common enterprise metadata repository. A key to this is to leverage industry leading IM tools (i.e., metadata, ETL, reporting, etc.) that support OMG standards, including the Common Warehouse Model (CWM) for metadata, data rationalization, data quality remediation and enablement of data governance and stewardship controls.

RESPONSIBILITIES, ACCOUNTABILITIES, AND AUTHORITIES

- Establish an approach for growing agencies' data management maturity using the Data Management Maturity (DMM) Model.
- Evaluate information management tools and technologies that align with strategic IT priorities using a standard evaluation methodology.
- Maintain a registry of evaluations that are available to IT for review and inclusion in strategic IT portfolios and procurement activities.

Records Management Services Program

Today's data is more diverse than ever before, and government's interests include nearly every kind of data from every domain—including Counterterrorism, Counternarcotics, and Public Safety, Education, Revenue and more. Media types vary just as widely, including physical (e.g. paper or microform), structured (tabular), unstructured (electronic document, photo, audio, video, GIS, social media). Despite this complexity and semantic variety, there are only five ways organizations acquire data: people can tell them things. They can generate it themselves through administrative capabilities. They can acquire it through sharing relationships. They can collect it through automated means like sensors, and they can commercially acquire it. Each acquisition mode requires different handling and subsequent use controls placed on it.

RESPONSIBILITIES, ACCOUNTABILITIES, AND AUTHORITIES

- Develop a plan for consolidating the acquisition of data within the CDO in close coordination with agency representatives and authorities.
- Manage how and where records are physically stored, volume of storage, how they are classified for future use and retrieval, sensitivity of information and access, what its retention period is, if known or its legal, fiscal, and/or administrative value, to determine retention and method of disposition.
- Identify vital records that are essential organizational records needed to meet operational responsibilities under emergency or disaster conditions.
- Establish and maintain disaster prevention and recovery plan (DPRP) in a written, approved, and implemented plan for the prevention or mitigation of records loss in an emergency or disaster, as well as a plan for recovering records in such circumstances.
- Design and implement cost-effective, secure storage systems that provide quick and rapid retrieval will help ensure the ready availability of records in case of litigation and audits, as well as for future reference use.
- Design, implement, and maintain a system—manual or automated—that can locate and retrieve records in a reliable and timely fashion to meet the needs of users.
- Identify and assess support technology is identified through feasibility studies to support technology planning and implementation.
- Ensure that records management policies and procedures are in place, are updated regularly, are integrated into all policies where applicable, and are routinely and consistently communicated to staff.

Data Quality and Assurance Program

More than ever before, data quality is now an essential initiative for most organizations and it is quickly achieving program versus one-off project status industry-wide. An effective data quality program requires several people, functions and systems to work together in a concerted manner. Business must define its most critical information in way that it can be understood and owned. IT, on the other hand, must be able to understand what the business is seeking and ensure its delivery on a timely and reliable basis. Protocols defining information ownership and consumption must be established and enforced between geographically and functionally dispersed businesses, as well as between Business and IT. And, data quality rules and scorecards must be created and implemented across the organization. This is a very complex effort with many moving parts, and it is a prime focus for the CDO and CDO team today.

RESPONSIBILITIES, ACCOUNTABILITIES, AND AUTHORITIES

- Assess agencies' data quality and maturity levels on a regular basis using standard maturity assessment models.
- Conduct data quality assessments, to understand the scope of how poor data quality affects the ways that the business processes are intended to run, and to develop a business case for data quality management.
- Perform data quality measurements, and synthesize the results assessment and concentrate on the data elements that are deemed critical based on the selected business users' needs.
- Integrate data quality into the application infrastructure, by way of integrating data requirements analysis across the organization and by engineering data quality into the system development life cycle.
- Implement data quality improvements, where data stewardship procedures are used to manage identified data quality rules, conformance to acceptability thresholds.
- Implement data quality incident management to allow data quality analysts to review the degree to which the data does or does not meet the levels of acceptability, report, log, and track issues, and document the processes for remediation and improvement.

Reporting, Analytics, and Decision Support Program

Realizing and sustaining an information advantage is central to the realization of a digital business. As organizations increase their awareness of additional information sources, mostly from outside their firewall and because of the Internet of Things, the need to effectively explore and exploit the growing set of data is becoming critical. At the same point, growing insight about the market or customers or trading partners is, alone, not enough. Organizations need to "close the loop" so that decisions taken from better insight lead to the results expected. Thus, information is part of the digital business, and it surrounds it.

RESPONSIBILITIES, ACCOUNTABILITIES, AND AUTHORITIES

- Leads Data and Analytics vision, strategy, and execution and provides oversight of agency-based analytic capabilities.
- Ensure that agency Data Analytic efforts align with the data strategy.
- Establish and deliver technologies, tools, approaches and methodologies to unlock the value in enterprise data assets of an organization. Evaluate whether analytics technologies and tools are addressing business needs.
- Regulates how the business captures, maintains, and presents data and information on a global level to measure performance.
- Oversee the development of new data analytics capabilities across the business and manage on-going comprehensive data analytics.
- Assess the technical capabilities of the analytics team, and determine whether additional skills and resources are needed.
- Assess the potential value of a shared services and solution model, and develop a shared solution operating model that outlines goals and strategic objectives.
- Measure productivity, efficiency, and opportunities gained through shared solutions.
- Oversees the strategic data priorities of the organization and identifies new business opportunities based the existent data.
- Serve as a centralized resource for units that conduct assessment, reporting, and analytics initiatives, ensuring their access to the deliverables, knowledge base, and services of the other four core programs.
- Establish an architecture and a collection of integrated decision-support applications and databases providing the business community easy access to business data.
- Define analytics strategy and set standards for algorithms development for the organization.
- Guides the Data and Analytics on which data to store, analyze, and exploit for the business s benefit.