NASCIO Governance Series

IT Governance and Business Outcomes – A Shared Responsibility between IT and Business Leadership

An Introduction to State IT Governance

Effective Governance rises as a top priority as the public demands more *transparency* and *accountability* in government. Fiscal stress, anticipated loss of government staff through retirements, and increasing demands from citizens are putting pressure on state government to "do more with much less." These challenges are continually pushing state government to look at technology enabled transformation. Information technology is now part of the fabric of state government – it is not just ancillary to the mission. What this means is greater reliance on information technology to conduct the business of government. As this critical asset becomes more important there is the parallel and growing need to properly manage it through effective *governance*.

NASCIO will publish a series of issue briefs on this subject that will deal with the most significant elements of *enterprise governance* and emphasize *governance of information technology – or IT governance*. This introductory issue brief will begin to examine this subject by presenting some of the broader landscape that is driving state government toward more attention in this area. This brief will present **definitions** of governance, describe **who** should be involved in governance, explain **why** IT governance is important, and present **examples** of governance structures from state government. Throughout the series, **Calls to Action** will be presented for the State CIO and other roles within state government.

Various components from state governance models that have proven effective will be highlighted. Each state is different so models and components of models will be presented along with a description of the contextual environment in which that governance model or governance component works effectively. A comprehensive governance model from each state is beyond the scope of this brief and the series.

Governance – What Is It?

There are numerous formal and working definitions of governance. Fundamentally however, common themes emerge related to sharing decisions, investments and accountability.

> *IT Governance: Specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT.*
>
> *Governance answers the questions: What decisions must be made; Who*

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should make these decisions; How will decisions be made; What is the process for monitoring results.[1]
- Peter Weill and Jeanne Ross, CISR, MIT

IT governance is the term used to describe how those persons entrusted with governance of an entity will consider IT in their supervision, monitoring, control and direction of the entity. How IT is applied within the entity will have an immense impact on whether the entity will attain its vision, mission or strategic goals.[2]
- Robert S. Roussey, University of Southern California

IT Governance: Specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT

Proper governance ensures that the right people are involved in making the right decisions. That is, clear identification of who owns the decision rights for IT investment.

In state government, *IT Governance* is all about ensuring that state government is effectively using information technology in all lines of business and leveraging capabilities across state government appropriately to not only avoid unnecessary or redundant investments, but to enhance appropriate cross boundary interoperability. The term "appropriate" is used because in many cases state government has existing statutory constraints and bounding that can often limit as well as empower proper governance.

Governance – Why Is It Important?

Weil and Ross present the ***call to action for governance*** of information [knowledge assets] and information technology due to the following dynamics:[3]

- the *growing value* of information as an enterprise asset
- the *increasing ease* of information creation, collection and digitization
- the *increasing importance* of information in creating and delivering products and services
- the *difficulty in valuing* information and information technology
- the *decreasing half-life* of information and knowledge assets
- the *increasing risk* exposure (e.g., security and privacy)
- the *significant expense* of managing these resources

Broadbent and Kitzis present *Why You Need Strong Systems of IT Governance.*[4] Properly operating IT governance …

- *builds trust* across the organization
- means *better delivery* of business solutions
- *synchronizes* IT strategy with business strategy
- *encourages* desirable behaviors in the use of IT

Achieving the success of *a* project through sponsor support and application of good project management does not go far enough. As presented by Susan Cramm of CIO.com, proper governance ensures *ongoing, repeatable success.*[5,6] The growing emphasis on governance is demonstrated as follows:

Governance was voted the number eight priority in a ranking by state Chief Information Officers (CIOs) during NASCIO's 2007 Annual Conference. Despite its importance, states often struggle with forming and sustaining an effective IT governance model. The *need* for governance and the emphasis across industry and government has prompted ISACA (previously known as the Information Systems Audit and Control Association) to create an expertise center – *The IT Governance Institute*, and a new certification – *Certification in Enterprise IT Governance, or CGEIT*.[7] The shear number of publications on the subject of IT Governance – and Governance in general – emphasizes the growing importance of this discipline within industry and government.

Enabling information technology is embedded in every government process.

That is, these business processes could not operate without supportive information technology. As investments grow in healthcare, education, environmental protection, public health, public safety, transportation and other state priorities there is a *parallel supporting investment in information technology*. Information technology as an enterprise utility touches every aspect of government. With this reach, investment, complexity and dependency, information technology must be properly managed – or *governed* – in order to properly deliver positive, effective outcomes for the citizen.

Spending on information technology – again, within the bounding of virtually every project, program and management initiative – is at an all time high in the public sector and will continue to increase. With that increasing investment, government will also continue to depend more and more on information technology to achieve efficiencies, collaborative information sharing, business intelligence, and information socialization – i.e., communicating with citizens through innovative means now made available through new technological advances. In parallel with these trends, state government is entering a period of fiscal stress and constrained budgets, the end of which is unknown. With declining state revenues, state government will be called upon for greater transparency and accountability.

State CIOs and budget officers are applying much more scrutiny to IT investments because many IT projects have simply not returned anticipated benefits. This has prompted state government to implement capital investment evaluation processes, state project management academies and discipline, and performance metrics. IT investments are *significant*. *The Information Paradox* includes quotes from economist Robert Solow, Compass Analysts, Forrester, and Gartner to present the statistics that describe the *level of IT investment* in the United States and globally.[8]

Investments of the magnitude presented must entail proper governance to not only manage risk and ensure anticipated outcomes are reached but also to ensure proper management of significant enterprise assets. What is disconcerting about the magnitude of these numbers as presented in *The Information Paradox* is the reported net average *ROI of 1%* (per a quoted Gartner report). In 2002, Gartner reported that 20% of all expenditures on IT were *wasted*. This *waste* was calculated at a global level to be $600 billion annually.[9]

The emphasis presented is the obvious need for governance for managing a critical, high value portfolio of technology assets. Information management approaches used during previous eras are no longer sufficient. This is due to several new characteristics that exist in today's organizations and economy. Information technology is no longer restricted to simply *automating procedures*, or even *managing information*, rather, information technology now enables and even outstrips an enterprise's organizational capabilities for *transformation* (i.e. strategic effectiveness, innovation, and new ways of doing things).[10]

The example is given that Thomas Edison began installing electric motors in 1881. Yet, it was another 40 years before this technology had an appreciable impact on the economy.[11] It may be sometime before organizations learn how to fully tap the *transformation potential* of information technology. Contributing to this challenge is the fact that accountability for information technology investment management is often pushed off to the IT Director, or state CIO, to think about, manage, investigate, implement, and measure.

The good news is that there is *untapped potential* in information technology to assist state government in meeting the anticipated fiscal stress, highly publicized anticipated shortage of workers, and growing challenges and citizen expectations in every government line of business.

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Governance – Who Should Be Involved?

As a foundational concept, NASCIO wants to strongly emphasized that proper IT governance requires a highly *participative collaboration* between the state CIO and executive leadership on the business side of government. State agencies have typically designed and implemented excellent governance for their respective disciplines, science, and art. However, as stated - information technology is now coupled with virtually every aspect of organization and services at the agency level and the state enterprise level.

"We have consolidated departments. We've eliminated agencies. We've done all of that restructuring. But the key to being able to continue to serve, and to serve better—even in these really challenging times—is through leveraging technology."
—Michigan Gov. Jennifer Granholm

Effective collaborative working relationships between the business and IT organizations must be established and must function in both directions. IT staff must be part of the governance structure on the business side, and agency business directors, business staff and professionals, and policy makers must be part of the governance structure on the IT side.

> In essence, "*there are no 'sides' anymore.*" At the agency level there is *one agency*. At the state level, agencies must be seen as *interdependent members* of *one state government*.

Information technology is always "in scope" in investment planning, change management, innovation, and policy making. Just as finance, communications, human resources, and relationship management are considerations and enablers whenever state agencies are looking at transformation, new business processes, new reach, new channels for serving citizens, information technology must also be included as a consideration and enabler.

> In fact, information technology properly managed and deployed within the umbrella of *enterprise architecture* will provide the *path for transformation*.

Further, in order to do this, responsibility for investment decision-making must be properly shared between the "business" and IT functions within state government. *IT* is not a line of business – rather it is an *enabler* of *all* government lines of business. IT enables all lines of business to operate effectively but also *together* within the greater context of "state government" as a *complete single enterprise.* One former governor has made the statement that IT should not be a budget line item because it is already *imbedded in every line item.* If state government is looking for the value and benefit of information technology, it must be able to quantify the value of the business processes and services delivered through information technology.

That is, the *value is in the business* – it is not inherent in information technology alone. The *business case* is for the *business outcome* – a business case will never be made for an application, a database, a technology service, or any other pure technology. The business case must always be based on the business outcome sought. The business side of government must be the primary determiner of the value of business outcomes. In essence, the value of IT investments, as well as any other investments, will be predominantly determined by the owner of the business outcomes sought.

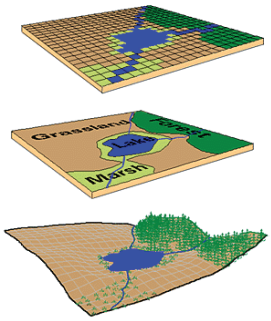
Decision rights will reside with the most appropriate function or organization depending on the type and nature of decisions being made. Pure technology decisions will be primarily made by leadership within information technology with consulting input from the business. Pure business decision making will be primarily made by business leadership with consulting input from the state CIO. However in most cases, determination of where and how to employ technology will be a shared responsibility.

Governance – Examples

It must be understood and accepted that information technology, standards, the various layers of enterprise architecture,

connectivity, records management, and *location aware* capabilities, all exist to *achieve business outcomes*. In effect and as presented earlier in this brief and has been promoted by one state executive, there are *no information technology jobs;* everyone within the CIOs office, data operations, communications, security, and policy are *business professionals* who are bringing technology to bear on *business solutions and policy outcomes.* The following are intended to demonstrate examples of business / IT staff collaborative partnerships in governing state information technology resources.

GIS

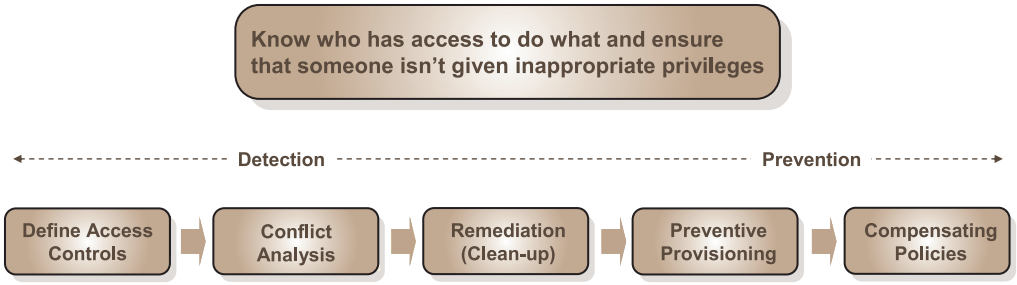


Almost everything done by government has a location component. Deployment of case workers, environmental monitoring, disease incidence and prevalence, and economic analysis all involve a "place" on the state map. GIS is a technology that has significant presence throughout government to assist in the analysis and presentation of information. GIS is typically thought of as a technology, or even as a computer aided design (CAD) tool, or simply as a mapping application. In collaboration with the National States Geographic Information Council (NSGIC)[12], NASCIO emphasizes the term **geospatial resources** and defines it as an enabling business capability. Numerous states are taking this approach in defining geospatial resources as an *enterprise business capability* that is shared and used collaboratively *across* state government. Led by the state GIS Coordinator, governance of this enterprise resource includes technical and business representatives from the executive branch, state agencies and, in some cases, even county government. This results in one enterprise resource shared by many. Some examples include North Carolina, Oregon, Ohio, Utah, and Arkansas, Minnesota and Pennsylvania. A portfolio of geospatial resources are managed at an enterprise level providing access for all state agencies and avoiding redundant point solutions.

Access

Effectively managing *user access* represents a critical area for good governance and it also requires active participation from both "business" and "IT" executives. Organizations need to know who has access to do what and ensure that someone isn't given inappropriate privileges – this is fundamental. Business and IT staff have to analyze and remediate conflicts of interest or improper access for a given user or role. Only *the business* can really judge the *risk* to the organization and only *IT* can *update systems* in a proactive manner. Any system updates need to go through a rigorous *what-if* analysis on proposed changes to access rights before

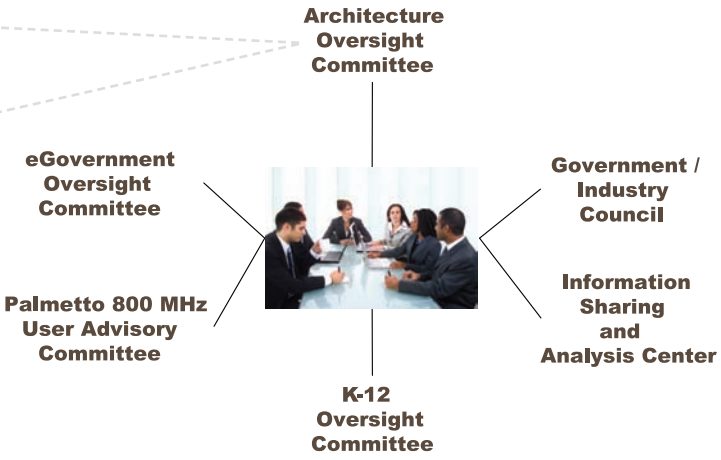
There are no information technology jobs; everyone within the CIOs office, data operations, communications, security, and policy are business professionals who are bringing technology to bear on business solutions and policy outcomes.



Business and IT Collaboration on Access

ARCHITECTURE OVERSIGHT COMMITTEE (AOC)

To oversee the SC Enterprise Architecture (SCEA), the Architecture Oversight Committee (AOC) was formed. The AOC represents all state agencies and is comprised of a total of nineteen (19) representatives that are either elected or appointed. Fifteen members of the Architecture Oversight Committee represent functional groups (i.e., public safety, environmental, education, etc.) of state agencies. It is believed that agencies in these functional groups share many of the same technology needs, issues and concerns, and this arrangement should ensure that the interests of these agencies are adequately presented to, and addressed by, the Architecture Oversight Committee. The remaining members of the AOC consist of three (3) at-large members and one permanent member, the State Chief Information Officer.



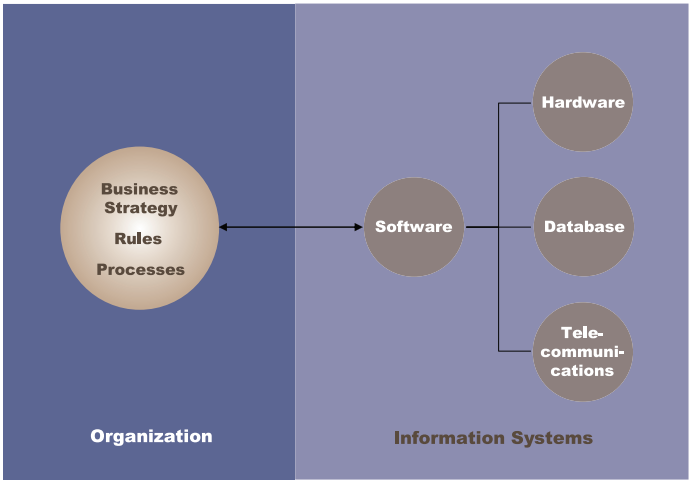
South Carolina: Enterprise Decision Rights

they are migrated to production. Achieving this level of *cooperation and coordination* across the organization will not be easy, but it is necessary for proper governance of access.

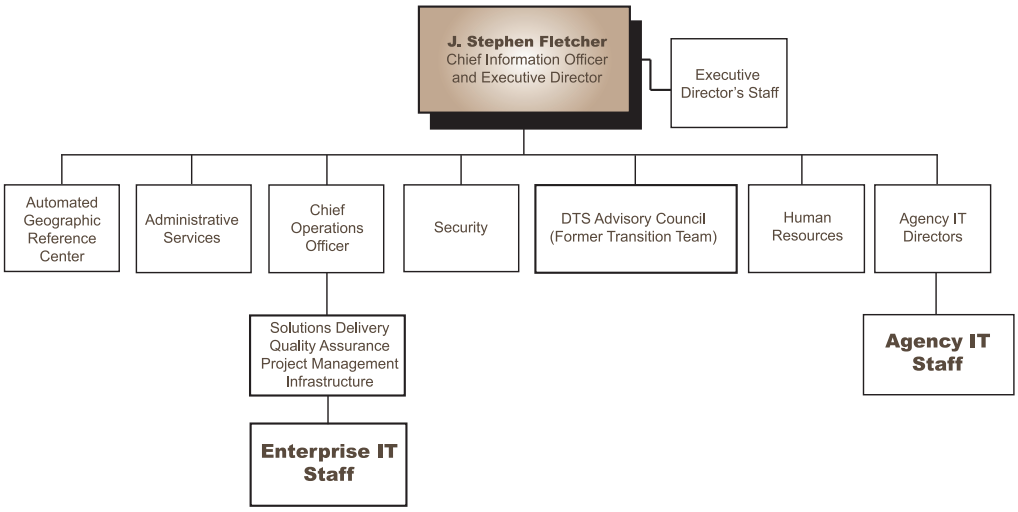
South Carolina

The CIO in South Carolina is an evangelist within the state on the need for collaboration between business and IT in order to develop understanding that state government initiatives, and business processes are tightly coupled to enabling technologies. Business process owners must therefore participate actively in IT investment and deployment decisions.

Illustrated are just six governance committees of the State of South Carolina CIO's numerous committees established for governance of technology and used to affect services or decisions. These committees establish business performance goals which are continually managed using appropriate metrics and accountabilities. These metrics in turn drive the necessary organizational behaviors and effective use of architecture, best practices and disciplines to deliver on enterprise strategies. The main point is that governance

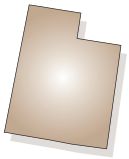


IT / Business Interdependence



committees are created based on the priorities established by the Governor's office. Committee composition includes business and information technology leadership to ensure policy and operational decisions are appropriately shared.

Utah

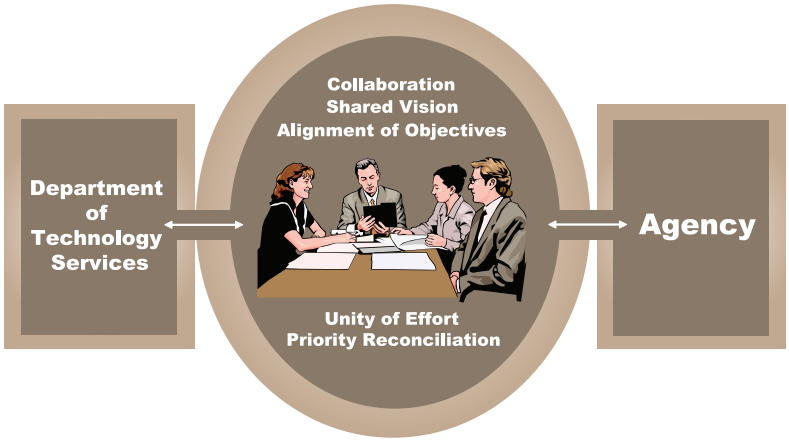


In the state of Utah, the following graphic is used in communications to depict the collaborative relationship the state CIO is seeking to implement.

The state CIO defined the role of the agency IT director to be a liaison between the executive branch state CIO and the state agency. The organizational chart is as shown.

The role of the agency IT director helps to implement unity of effort and priority reconciliation between the agency and the state enterprise. Among other responsibilities, the agency IT director is responsible for the following:

- Effectively understands and advocates Agency business and IT needs to DTS
- Effectively understands and communicates DTS strategies, architectures, policies, and methods to assigned Agency.



Role of Agency IT Director

What Impact Can Proper Governance Have On An Organization?

It can *revolutionize* the effectiveness of state government at both the executive branch level and the agency level.

Governance demands more of the state CIO's time than any other endeavor.

Laurie Antolovic', deputy CIO and finance officer in the Office of the Vice President for Information Technology, Indiana University, described instituting "IT Governance" as a *revolutionary change*.[13] She emphasized the organizational challenges of higher education. Academic institutions are not well prepared for effective IT governance. Further, enterprise goals are often unclear or unarticulated in academia. Top management is typically not interested in understanding information technology as an enterprise resource. This description is not unique to academia. It is prevalent in organizations in all sectors of the economy. State CIOs often face similar circumstances in gaining participation and active ownership from government officials in the enterprise governance process.

As governance was slowly instituted within Indiana University, structure, discipline, and collaborative relationships both inside and outside of the university have been purposely developed and effectively implemented. Accompanying this *sustained effort* there has been a gradual, well managed revolution in how Indiana University establishes strategic intent, and enables that intent ensuring effective decision making to achieve intended outcomes. The governance at Indiana University will continue to change and improve over time.

In the same way within state government, implementation of governance often requires ongoing, sustained efforts that include relationship management, communication, *and time*. Governance demands more of the state CIO's time than any other endeavor. However, proper governance ensures that the state enterprise realizes the value proposition originally presented when an investment is proposed and approved. Engaging state executives and policy makers in the governance process ensures full lifecycle involvement. Course corrections can be identified and implemented early. Decision rights and accountability for achieving outcomes is shared among the state CIO, policy makers, and the agency business executives.

Calls to Action: The First Steps

This introductory brief has presented a basic definition of governance and the need for collaborative partnering between the IT organization and the business. Governance of information technology capabilities or assets must be seen as a *shared responsibility*.

- Review the existing statutory and legal framework for enterprise IT governance. Does the CIO have authority to create a cross boundary IT governance body? What powers will this governance body have for decisions? Will it be sustained after state leadership transitions?
- All states are different, but examine successful IT governance structures in other state CIO organizations for models and guidance.
- Develop expertise for IT governance within your organization. Stay tuned to NASCIO for future exploration of the discipline of governance and lessons learned from NASCIO state and corporate members.
- Establish partnerships with agency business executives early in your career. Make this a priority.
- Communicate the need for governance, the concept of decision rights, and requirement for collaborative partnering with the business side of state government.
- Expect that governance and the communications and relationship management activities that accompany governance will demand more of your time than any other activity.

Appendix A: Acknowledgements

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Appendix B: Resources

NASCIO www.nascio.org

Enterprise Architecture: The Path to Government Transformation
http://www.nascio.org/nascioCommittees/EA/

Call for Action, A Blueprint for Better Government: The Information Sharing Imperative
http://www.nascio.org/washwatch/NASCIOww/calls_for_action.cfm

PERSPECTIVES: Government Information Sharing Calls to Action
http://www.nascio.org/publications/index.cfm#perspectives

In Hot Pursuit: Achieving Interoperability Through XML
http://www.nascio.org/publications/index.cfm#xml

We Need to Talk: Governance Models to Advance Communications Interoperability
http://www.nascio.org/nascioCommittees/interoperability/Interop.%20Gov.%20Research%20Brief%20Final.pdf

A National Framework for Collaborative Information Exchange: What is NIEM?
http://www.nascio.org/nascioCommittees/EA/#niem

List of NASCIO Corporate Partners
http://www.nascio.org/aboutNascio/corpProfiles/

List of NASCIO Publications
http://www.nascio.org/publications/index.cfm

List of NASCIO Committees
http://www.nascio.org/nascioCommittees/index.cfm

The IT Governance Institute (ITGI)
http://www.itgi.org/

Information Systems Audit and Control Association (ISACA)
http://www.isaca.org/

Certification in Governance of Enterprise IT (CGEIT) from ISACA
http://www.isaca.org/Template.cfm?Section=Certification&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=16&ContentID=36129

The Center for Information Systems Research (CISR)
http://mitsloan.mit.edu/cisr/

Global Justice Reference Architecture for SOA
http://www.it.ojp.gov/topic.jsp?topic_id=242

The Global Justice Reference Architecture (JRA) Specification, Working Draft Version 1.4

The Global Justice Reference Architecture (JRA) Web Services Service Interaction Profile Version 1.1

The Global Justice Reference Architecture (JRA) ebXML Messaging Service Interaction Profile Version 1.0

Appendix C: Endnotes

[1] Weill, P., Ross, J., IT Governance: how top performers manage IT decision rights for superior results, 2004, Harvard Business School Publishing, ISBN 1-59139-253-5, pp. 8, 26.

[2] "Board Briefing on IT Governance", Second Edition, September 2007. Retrieved on 1/2/2008 from http://www.itgi.org/template_ITGI.cfm?Section=Recent_Publications&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=43&ContentID=10617.

[3] Weill, P., Ross, J.W., IT Governance – How Top Performers Manage IT Decision Rights for Superior Results, 2004, Harvard Business School Publishing, Boston, ISBN 1-59139-253-5, p.22.

[4] The New CIO Leader, p. 106-107.

[5] Cramm, S., "A Cry for Full-Cycle Governance *It's the only way to ensure project success*". August 1, 2003, CIO.com, retrieved on January 31, 2008, from http://www.cio.com/article/29607/A_Cry_for_Full_Cycle_Governance.

[6] The Information Paradox, p. 45.

[7] See ISACA website, www.isaca.org. The new CGEIT is described at http://www.isaca.org/Template.cfm?Section=Certification&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=16&ContentID=36129.

[8] Information Paradox, p. 2.

[9] Enterprise Value: Governance of IT Investments – The Val IT Framework, The IT Governance Institute, retrieved on December 31, 2007, from http://www.itgi.org/.

[10] Information Paradox, p. 8.

[11] Information Paradox, p. 4.

[12] The National States Geographic Information Council (NSGIC) http://www.nsgic.org/.

[13] *A Report on the EDUCAUSE Information Technology Governance Summit September 10–11, 2007, retrieved on February 4, 2008, from http://connect.educause.edu/Library/Abstract/AReportontheEDUCAUSEInfor/45614?time=1202131438*.

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