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# A business risk approach to IT governance

An introduction to the key concepts and challenges of IT governance and how these can be efficiently approached and mitigated with IBM® OpenPages® IT Governance

#### Introduction

The last 50 years have witnessed a dramatic evolution in the strategic importance of information technology (IT) to business initiatives.

Corporations first began utilizing IT in the 1960s with the adoption of monolithic mainframes to conduct back-office data processing functions. In the ensuing 40 years, information technology has migrated away from being a pure cost-center into a central function to the successful execution of corporate strategic objectives. Today, IT operationalizes the majority of every business function within an organization. Leading companies across all industries have all used information technology to help advance corporate objectives such as branding, financial efficiency and customer service.

Despite rapid changes in the role of information technology in business, information technology managers and business managers often find themselves at odds with each other. Business managers need IT to support new business initiatives yet IT is often unable to provide the necessary systems to support these initiatives in a meaningful manner. The result is spiraling costs and organizational inefficiencies.

Mergers and acquisitions compound the problem by requiring integration and consolidation between disparate and incompatible IT applications and systems. Unfortunately for IT managers, the pace of mergers and acquisitions is not slowing down, meaning that these integration challenges will persist.

As corporate information technology infrastructure increases in size and complexity, corporations are recognizing the need for a better mechanism for assessing IT's role and alignment to the key corporate initiatives. What began as a series of best practices has evolved into the field known as IT governance.

This white paper is for business and technical people and introduces the key concepts and challenges with IT governance and introduces readers to the IT governance solution provided by IBM.

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#### Defining IT governance

There is no universal definition for IT governance. Vendors, analysts, and academics all provide slightly different definitions. MIT Sloan School of Management's Center for Information Systems Research (CISR) defines IT governance as "the decision rights and accountabilities that encourage desirable behavior in the use of IT." George Westerman and Richard Hunter go on to add: "just as in financial or corporate governance, IT governance is embedded in formal structures that allocate rights and responsibilities for decisions in certain IT domains (such as applications, architecture, and security) to appropriate business and IT executives. Governance decisions are supported by processes for surfacing information and driving resulting actions. In short, an IT governance arrangement describes how an enterprise's decisions related to IT are made and enforced."

In its simplest form, IT governance is about understanding IT and technology-related risks relative to the business processes that IT and technology support. While this may seem to be an obvious concept, the reality is that organizations often possess a weak understanding of their significant IT and technology risks often leaving organizations in precarious positions that could cause significant erosion in corporate brand and reputation if any of these technology and IT risks are realized.

Today, most organizations attempt to achieve IT governance by monitoring and measuring:

- · Infrastructure and asset protection
- Infrastructure and personnel performance

This approach creates challenges. For one, the monitoring and measuring of these items are often not integrated. Secondly, while the IT organization measures and manages against their own performance metrics, these metrics are not coupled to the business needs from a process standpoint and risks are not measured in business terms such as frequency, impact, or risk criticality, for example.

Aligning IT with business operations involves multiple components. Implementing any or all of these constitutes some form of IT governance. The five crucial components include:

- Creation of IT policies, processes and strategy This is generally the first implemented component of IT governance within organizations. In its most basic form, it covers areas such as information security policies, and defining acceptable employee usage of applications and systems. It also establishes appropriate processes and procedures to support IT policies, such as the process for escalating and resolving a discovered IT risk. Once a basic enterprise-wide IT policy and process infrastructure has been created, the next step is for the CIO and IT organization to develop a short-term IT strategy. The key thrust of this strategy should be enabling IT to provide maximum organizational flexibility to adapt to changing market dynamics. Successful execution of an IT strategy will ultimately require senior management involvement and potentially even board of directors to ensure that IT investments are being made appropriately to support the key strategic business objectives.
- Management of IT risks This component is closely related to the first one. Once an organization has established a thorough set of IT policies and strategies, the next logical step is to manage those IT risks proactively. IT risks can range from security related (viruses, malware or other attacks) to ensuring high availability of critical customer-facing IT systems (for example ensuring that any commerce transactional system is up and available). Effective IT risk management requires organizations to possess a thorough inventory of all IT applications and systems so that risk can be monitored in a coordinated fashion. IT risk management also requires that the organization create the appropriate countermeasures and controls for known IT risks. Doing so ensures that risk is correctly identified and mitigated, thus assuring IT's value to business operations.

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• Business process mapping and harmonization –
Organizations must be able to link business processes
to IT systems and assets so that they can view the
interdependencies between processes. Using any or all
of the IT best practice frameworks (described in next
section) also helps organizations harmonize control and
security practices, simplifying control testing efforts.
By implementing a top-down approach that maps business
processes to IT services and the underlying assets and
personnel, IT can evaluate risks to business performance
and make better and proactive decisions. With better
decision support, IT can prioritize and respond to

risks/events that can affect critical business processes or

business objectives to reduce losses and mitigate risks.

- Continuous management of IT resources: The dynamic nature of today's business environment combined with the rapid pace of technological change means that IT management must be dynamic and flexible to changes in the marketplace. So IT managers need to be dynamically managing all IT resources, including staffing, systems, outsourcing, services, education and others. Included within this component is sustaining a feedback loop with end-users (employees, customers, partners) so that suggestions and improvements can be used to further innovation within the IT organization to meet business goals.
- Monitoring results and IT effectiveness Once the previous four components have been implemented, organizations must ensure that IT is continuing to add organizational value. The value can only be proven if performance metrics can be established, monitored and tracked. Through the establishment of Key Performance Indicators (KPIs), organizations can gauge relative success of given IT projects and reallocate or terminate projects thus ensuring that IT investments are synchronized with business objectives and are being allocated appropriately.

## Key IT governance frameworks

To assist organizations in deploying IT governance procedures and policies, several standard frameworks have been created over the previous 20 years.

IT Infrastructure Library (ITIL) originated in the public sector Great Britain in the 1980s as a framework of standards for IT services. ITIL continues to be widely adopted across the world by organizations of all sizes and industries.

Forrester Research has estimated that ITIL adoption among billion-dollar companies will increase to 40 percent in 2006, and reach 80 percent by 2008.

Control Objectives for IT (CoBIT) is another approach to standardize good information technology security and control practices. This is done by providing tools to assess and measure the performance of thirty four different IT processes within an organization. The IT Governance Institute is responsible for CoBIT. ITIL processes support many of the COBIT Control Objectives.

ISO/IEC 27001 and ISO/IEC 27002 are a set of best practices for organizations to follow to implement and maintain a security program. It started out as British Standard 7799 ([BS7799]), which was published in the United Kingdom and became a well known standard in the industry that was used to provide guidance to organizations in the practice of information security.

In addition to the afore-mentioned frameworks, other non-IT centric frameworks such as Balanced Scorecard and Six Sigma can also be utilized for some components of IT governance.

#### Importance of IT governance

IT governance has evolved from a concept to a business reality. Today's competitive, dynamic global marketplace makes it imperative for organization to harness IT to achieve product differentiation, superior customer service and cost effectiveness. Given that most of an organization's critical business functions are supported in some way by IT, it is essential that IT is governed according to the needs of the business, and that risk exposure associated with each crucial business function is well understood and actively managed. Business executives increasingly want to be able to map business needs and risks into the organization's IT infrastructure. Furthermore, mapping these needs must be dynamic to allow for flexibility and modification as the business environment changes over time.

By deploying today's robust IT governance solutions, organizations can enhance existing IT management capabilities to achieve unprecedented efficiencies and improved visibility into the complete organizational state of IT and its relation to all significant underlying business processes. IT governance solutions can boost IT infrastructure performance levels, streamline compliance tasks and control business risks, and empower IT to become a true enabler of business.

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With an IT governance solution, the IT organization can, for the first time, enhance control over IT resources and risks so that they can offer the entire enterprise much more than just basic management of networks, systems, applications, data and personnel. By linking these services to specific policies and processes, IT governance solutions deliver a contextual framework for determining how IT infrastructure can be leveraged and optimized to achieve strategic business objectives without significantly increasing administrative costs or risk. IT governance solutions also empower business managers to map business risks against related IT systems so that technology risk can be understood from a business, not technical perspective.

A robust IT governance solution also permits organizations to manage important IT performance impacts on business processes. This is especially important in today's sophisticated business environment where organizations utilize many revenue-generating systems from e-commerce websites to automated customer self-service telephony applications where any minor service disruption generates immediate negative financial consequences. IT governance solutions also help manage IT by supporting frameworks such as ITIL that can be used to track overall IT service delivery to ensure IT is fulfilling all necessary business requirements.

Through dynamic visibility into the entire enterprise's IT infrastructure, IT governance becomes a critical success factor for any organization's continued optimized performance and helps IT become strategic to the organization.

## Challenge of IT governance

Unfortunately, despite the growing consensus around the importance of IT governance, organizations still find themselves challenged to deploy a suitable governance solution. Part of this can be attributed to the complexity of today's typical enterprise IT infrastructure. Years of mergers and acquisitions, past failed IT projects, combined with the myriad of IT applications have resulted in an enterprise environment that is a hodge-podge of every operating system, application and network. The complexity of today's IT environment also means that there are countless known and unknown interconnections and interdependencies between these disparate systems. This has the potentially fatal consequence of risk aggregation where a single system failure manifests itself in multiple systems, paralyzing business operations.

An email server, for example, may be managed as a single physical entity, but, because the sales force relies on it for communicating pricing updates and for delivering this information to customers, it certainly impacts the sales force automation system. Furthermore, email tracking may also be critical for compliance with various financial regulations that demand documentation for sales activities. And, of course, emails are also critical for communicating contract terms and conditions and so impact this vital business function as well.

In other words, single servers may support multiple applications that support multiple business processes. Without that business context perspective, it is impossible to understand risk at both a macro and micro level. And while many solutions exist that can monitor performance of a given server (such as adherence to a defined Service Level Agreement), these same solutions often cannot link the relationship of the given asset (server) to the multiple impacted business processes. What organizations are seeking are solutions that provide a view of IT from the business process down (top-down or macro level) compared to the existing method of attempting to link an IT asset to a business process (bottoms-up or micro level).

Many IT infrastructure and portfolio management solutions only capture and manage information from a restricted set of applications and do not facilitate visibility into the interdependencies of resources across business processes, policies, risks, and regulatory compliance mandates. These solutions help monitor transactions and performance but do not monitor, manage and process policy both within and outside of infrastructure systems. For example, data backup and offsite storage of key transactional data and customer information is process that involves IT systems (the physical storage network and device) and non-IT systems (the employee or third party vendor who physically transports and stores the tape backups). While organizations generally have good processes around the former piece, they generally lack equivalent visibility into the non-IT-related processes. Too often, the processes and policies for something like tape backup reside in three-ring binders in a manager's office and are not dynamically linked to the other IT-related components of the system, leading to processes gaps and weaknesses. IT governance solutions can help operationalize the traditional IT-related processes but can also operationalize the three-ring binders and make it part of the daily operating practices. The result is a well governed business.

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To optimize risk management in a way that reflects the demands of such interdependencies requires, first and foremost, an ability to visualize them – an impossibility when IT management information is completely silo-based. The problem with this approach is that it is driven by individual system owners who do great jobs in their own domains, but lack a context for relating these individual domains to others in the overall IT infrastructure, or even to specific business needs.

With the right governance solution, diverse and distributed IT risk management data is discovered, consolidated, and presented in a single interface that lets IT managers clearly see how granular technology assets are related to specific business processes. In this way, for example, it may become evident that a single IT process such as corporate email maps to multiple business processes, and, as a result, the risks associated with resources required to drive those processes can be managed together to achieve efficiencies of scale and eliminate redundant management steps.

Similarly, in organizations confronted with compliance with multiple regulations, the resources required to fulfill the requirements of one mandate can be leveraged to achieve compliance with another mandate. Organizations can realize significant internal efficiencies by adopting a controls rationalization approach. In controls rationalization, the internal auditors and IT team identify the most effective and efficient controls needed for regulatory compliance. The controls rationalization process eliminates unneeded or redundant controls and can then link the remaining controls to the organization's strategic objectives.

As an example of controls rationalization, a global business may find that similar, or even identical, controls can be used for complying with a given privacy regulations (such as EU Privacy Directive and HIPAA), as well as equivalent regulations in Japan and Canada. So, instead of duplicating resources and tasks previously utilized for each, controls and testing is reducing and workflows and resource utilization can be consolidated and simplified. This controls rationalization approach can yield significant benefits because individual controls can be linked to cover a number of mandates as well as business units that need to demonstrate compliance with these mandates. The result of such a controls rationalization effort is reduced costs, complexity and effort and improved efficiencies. Furthermore, controls rationalization also

positions the organization to be more flexible to adapt to changes in the business or regulatory environment because the organization possesses a dynamic, thorough flexible control framework that can easily support changes in corporate initiatives without increasing risks or costs.

With visibility into where and how IT resources converge in the execution of business processes, resource performance, as well as the processes they drive, can be optimized. And, by managing both resources and processes together, synergy can be achieved, enabling enterprises to more effectively create and execute policies that optimize business risks, improve business practices, and streamline compliance with federal regulations as well as industry standards. A governance solution must also facilitate the organization's ability to identity and track linkages between organizational risks and IT systems and vice versa.

The key to achieving these objectives is implementation of an enterprise governance platform that enables risk interdependencies to be discovered and easily reviewed, and that facilitates management of these interdependencies across resources, processes, policies, and regulations. In other words, what's needed is a single system or record with a dashboard of control that allows IT managers to visualize these links, report on them, and create processes and automated work-flows to ensure interdependencies are identified and leveraged, resource redundancies eliminated, and objectives met as cost-effectively as possible.

When implemented, an effective IT governance solution should deliver the following key benefits:

- Visibility: An IT governance solution enables effective management and visibility of risk across the four pillars of risk:
  - Operational
  - Compliance
  - Technology
  - Strategic

With an IT governance solution, the organization no longer has to manage across multiple silos of risk and manual processes of disparate and inaccurate data and instead can access an integrated risk framework that spans the organization. The IT organization can track and monitor the key performance metrics for IT projects and easily provide status reports on them to senior management.

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- Flexibility: An IT governance solution delivers flexibility
  by supporting required variations in methodology
  according to requirements across business units,
  geographies. The flexibility allows the organization to adopt
  its IT governance based on evolving market conditions.
- Efficiency: An effective IT governance solution provides efficiency by allowing organizations to synchronize a risk program across the organization, business processes and down into IT services, thus helping to define risk interdependencies and manage risk holistically. Furthermore, an IT governance solution facilitates the implementation of common IT best practices frameworks such as ITIL and CoBIT, thus optimizing IT performance for the entire organization.

Business risks are influenced by a wide variety of factors, from regulations to industry standards, to business policies. Only with a governance solution that enables enterprises to view IT resources from the perspective of these factors, can they gain the unprecedented ability to clearly identify risks, how they are interrelated, and how technology assets can be utilized to control them in a manner that meets overall business goals – whether that control requires remediation activities and policies, or simply development of preventive policies.

A solution that maps IT resources to business process risks, and risks to policies, also enables enterprises to determine if those policies are effectively managing compliance with regulatory requirements. Policies that mandate privacy specifications, for example, may be seen to be inadequate if the technology assets responsible for delivering this functionality are not, themselves, securely protected against illicit access.

Put another way, by understanding the interdependencies of IT resources with business policies, enterprises can be enabled to not only streamline management of those resources, but also to determine if policies need to be realigned with business objectives. Aligning resources and policies with business goals is a critical requirement for a governance solution because this alignment delivers a context for evaluating the enterprise's ability to meet business, industry, and regulatory requirements.

IT governance solutions often refer to services. Since services can have different connotations within IT, a definition is needed. In the IT governance world, a service is something IT provides to its customers (internal or external) to meet their needs. Services can be used to group a set of granular IT resources (such as servers or applications) into a meaningful entity that makes sense to both business and IT. As an example, email is a service that consists of applications (Email application, mobile email application, anti-spam filtering) and hardware (Servers, mobile devices) and supports virtually every business process in an enterprise. In the IT governance world, the goal is to map existing IT resources to business processes. This provides the underlying foundation for IT governance and enables a centralized top-down approach (from business process to IT asset) to governance that spans across the organization.

Another component crucial to IT governance are key performance indicators (KPIs). KPIs are part of any measurable objective. The measurable objective normally contains a trend (such as increase/decrease), KPI, benchmark, target and timeframe. For example, for the corporate objective "Reduce Employee Turnover from 7-5 percent by 2008," the KPI is 'Employee Turnover.' KPIs help an organization to measure progress towards their organizational goals. The usage of KPIs within an IT governance solution helps organizations gauge the relative value of all IT projects, thus ensuring that IT investments are synchronized with business objectives and IT resources are being allocated appropriately.

Some of the IT best practice frameworks such as ITIL do not specifically require organizations to utilize KPIs in areas such as security, but the frameworks do provide high-level guidelines that if adopted, will ensure that IT is providing the right amount of information to the other processes and to your business managers.

Finally, a governance solution should also facilitate monitoring of pre-specified metrics associated with each resource, process, and policy – as well as the interdependencies between these entities – to ensure that the services it delivers are meeting performance expectations. Only if services are continually managed will the governance solution enable IT to cost-effectively manage business risks, ensure complete compliance with all regulatory mandates, industry requirements, and business policies, and improve business results.

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# Introducing IBM OpenPages IT Governance

OpenPages ITG is a software solution that facilitates excellence in Information Technology governance by aligning IT policy, risk and operations management with corporate business initiatives, strategy, and operational standards. Leveraging a core, shared-services open architecture; OpenPages ITG makes IT governance achievable, enabling organizations to sustain compliance across multiple IT best practice frameworks and regulations while managing internal IT control and risk according to the business processes they support. OpenPages ITG unites multiple silos of IT governance to deliver improved visibility, better decision support, performance and stronger valuation.

OpenPages ITG is a fully integrated module of the IBM® OpenPages® GRC Platform that is designed to be installable into any existing OpenPages environment that is already using any of the IBM OpenPages modules for Financial Controls Management, Operational Risk Management, Policy and Compliance Management or Internal Audit Management. OpenPages ITG also integrates and complements the functionality in today's traditional Infrastructure Management space such as asset management, network management and systems management. Figure 1 provides a conceptual overview of the OpenPages ITG solution.

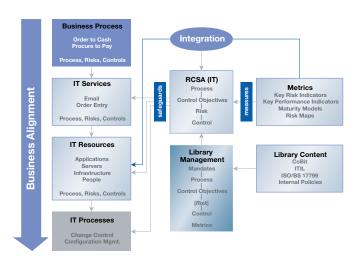


Figure 1: OpenPages ITG provides business risk context.

#### Benefits from utilizing OpenPages ITG

Organizations deploying OpenPages ITG for IT governance realize the following key benefits.

- Better IT visibility OpenPages ITG can unite multiple disparate silos of IT governance throughout the organization, empowering organizations to have a single view of risk. Uniting the silos helps present technical risk within the context of the business and ultimately leads to better decision support.
- Robust mapping of IT and technology risk into business processes OpenPages ITG can link/map existing IT resources to business processes. This provides the underlying foundation for IT governance and enables a centralized top-down approach (from business process to IT asset) to governance that spans across the organization.
- Reduction of IT related risks Through its centrally managed repository, OpenPages ITG provides a deep layer of risk and control assessments throughout the entire IT infrastructure. By centralizing views of IT risks and providing dynamic notifications through workflow, OpenPages ITG strengthens IT performance and provides a holistic view of risks throughout the enterprise that can be utilized to manage and control risks more effectively.
- Improved IT efficiency through regulatory framework harmonization OpenPages ITG improves overall IT efficiency by mapping controls to multiple best practice frameworks. OpenPages ITG can manage regulatory compliance across multiple frameworks, including CoBIT, ITIL and ISO/IEC. This allows IT organizations to adopt a best of breed approach such as using the following frameworks for specific purposes.
  - CoBIT for an overarching governance framework
  - ITIL for service management and delivery
  - ISO/IEC 27001 and ISO/IEC 27002 for information security management

OpenPages ITG's support for multiple frameworks also enables organizations to leverage the commonality across frameworks to drive IT efficiency further.

 Decision support: OpenPages ITG provides fully configurable reporting across IT and all functional areas through rich, interactive, dynamic dashboards and analytics. OpenPages ITG reporting is flexible to meet any type of organizational requirements, enabling organizations to obtain visibility into all key issues facing the organization from an IT perspective. **IBM Software**Business Analytics

#### Containment of IT governance related costs:

OpenPages ITG is fully configurable for usage in any type of IT environment. OpenPages ITG allows maximum organizational flexibility via its automated workflow and decision support capabilities. This provides the ability to synchronize and rationalize the multiple IT-related controls which in turn provides organizational agility to adapt to changes in the business or external environment without increasing IT governance costs or administrative overhead.

 Part of comprehensive Enterprise Risk Management (ERM) solution: OpenPages ITG is fully integrated with the comprehensive OpenPages GRC for financial controls, operational risk, and general compliance management. The OpenPages GRC s delivered on a Service Oriented Architecture (SOA) allowing organizations to deliver IBM shared services like reporting and administration across the other OpenPages modules for financial controls, general compliance and operational risk with minimal effort.

#### OpenPages ITG in action

This section covers the key capabilities of the OpenPages ITG module.

OpenPages ITG is a module that is built on top of the OpenPages GRC. Integration with the OpenPages GRC enables organization to utilize a common data repository for content and document management, workflow and reporting infrastructure for all risk and governance related activities. The OpenPages GRC also introduces common object types (Entity, Process, Risk, etc.) that span modules.

In the case of OpenPages ITG, the specific new object types provide the capability to manage IT services and the corresponding resources related to those services. The common object types also mean that common fields span to the other OpenPages modules for Financial Controls Management, Policy and Compliance Management, Operational Risk Management and Internal Audit Management.

#### **Key Performance Indicators (KPIs)**

KPIs help an organization to measure progress towards their organizational goals. OpenPages ITG delivers and reports on all KPIs related to IT. This helps an organization gauge the relative value of all IT projects, thus ensuring that IT investments are synchronized with business objectives and IT resources are being allocated appropriately.

#### IT risk management

ITG risk analysis tools also provide for documentation of policies and the testing and auditing of policy violations, strengthening overall regulatory compliance. OpenPages ITG also assists in the creation of a contextual IT management competence where IT risks and systems are not analyzed in isolation but only within the context of the overall business.

Figure 2 provides an example of how OpenPages ITG utilizes the common object model to derive a thorough cross-organizational risk analysis. IBM's common object model also enables users to map and understand the interdependencies of risk across systems and to rationalize control frameworks.

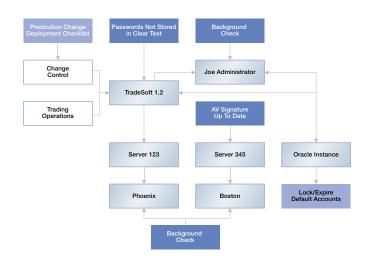


Figure 2: OpenPages ITG provides complex risk analysis.

# Managing governance against multiple regulations and/or frameworks

One of OpenPages ITG's key features is the ability to map individual controls against multiple supporting business processes and manage IT governance across multiple regulatory mandates and frameworks. This enables organizations to remain flexible and adopt a best-of-breed approach for IT governance. For instance, organizations can utilize:

- CoBIT for an overarching governance framework
- ITIL for service management and delivery
- ISO/IEC 27001 and ISO/IEC 27002 for information security management

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This flexibility provides several major benefits. Most importantly, it improves IT efficiency by leveraging commonality across frameworks to deliver a consistent framework across the organization. This reduces overall IT risk and simplifies cost and administration associated with IT governance. Figure 3 displays how ITG can demonstrate commonality across best practice frameworks.

#### Decision support and dashboarding

A critical concept associated with IT governance is visibility-being able to see what is going on within the organization from an IT perspective. OpenPages ITG delivers on this vision of visibility by offering fully configurable reporting across IT and functional areas that provides rich, interactive, dynamic dashboards and analytics.

The OpenPages GRC also offers CrossTrack™ to drill-down from reports into supporting reports as well as the underlying detail data. This helps deliver context appropriate reports within specific tasks that are assigned to users. Furthermore, OpenPages ITG is dynamic, so issues are flagged and notification occurs immediately via OpenPages workflow. The dynamic reporting improves overall accuracy and efficiency and enhances the creation of the contextual management competence previously described in the Complex Risk Analysis section. Figure 3 displays an example of an OpenPages ITG dashboard.

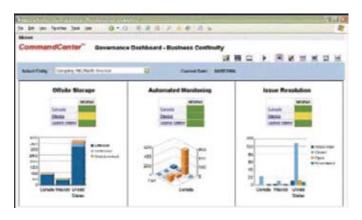


Figure 3: OpenPages ITG dashboard.

#### Automated workflow

OpenPages ITG leverages the robust, flexible workflow in the OpenPages GRC to automate notification and completion of any customer specific process for IT governance such as design and operating review. Workflow alerts users to tasks and action items through Home Page and email alerts and can route IT incidents and control failures to managers for Operational Risk, Financial Controls, and Policy and Compliance. Workflow also enables IT management to view corrective plans for any identified gaps in risk posture and to assign and track responsibilities by employee.

#### Configurability and integration

OpenPages ITG is a fully configurable application. Any IT manager can configure and manage OpenPages ITG without requiring customization or additional resources, thus reducing administrative overhead. The following are some of the items that are configurable in the OpenPages ITG user interface.

- **Data forms:** Configure fields, add/remove fields, add/hide drop-down choices
- User interface: Configure UI labels, menu names, button captions
- Multilingual support: Configure translations into five languages for UI configuration additions and changes
- **Reporting:** Update report model automatically with configuration changes

OpenPages ITG configurability provides flexibility by empowering organizations to adapt the system to match the unique operational model of each business entity. For instance, the data structure (data hierarchies and relationships) can be adjusted while still preserving the historical state of data. OpenPages workflow can also be easily modified to reflect business changes in compliance activities. OpenPages ITG also integrates with the leading enterprise IT infrastructure management solutions so that the asset and system-level information present in those solutions can be viewed within a broader risk context in OpenPages ITG.

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#### Conclusion

IT governance is no longer just a theoretical concept-it is a fundamental business necessity. Today's highly distributed organizations must possess the capability to assess the overall effectiveness of Information technology investments in a centralized fashion. Only by understanding all key IT and technology risks and their impact on overall business processes and operations can organizations expect to maximize the value of IT investments. Without a centralized IT governance solution, organizations will continue to be at risk for significant disruptions in service owing to unforeseen risks being realized.

IT professionals must also understand that successful IT governance is an iterative process-it is not achieved overnight and requires senior management commitment over the long term in order to see results. Given that IT plays a central role for most critical business functions, implementing an IT governance solution can deliver immediate benefits to the entire organization. These key benefits include:

- Ability to map IT and technology risks into business processes
- · Better visibility and decision support around IT risks
- Improved IT efficiency
- · IT risk reduction

By implementing an IT governance solution such as OpenPages ITG, organizations position themselves to realize these key benefits regardless of the company's size, geographic location or industry, thus empowering organizations to deliver superior service and results to customers, employees, and partners while maintaining sustainable competitive differentiation and advantage in the marketplace.

#### Related links

IT Infrastructure Library (ITIL): UK based organization that defines and owns ITIL framework for IT service delivery. – www.itil.co.uk

**IT Governance Institute (ITGI):** Affiliated with ISACA; defines and own CoBIT governance framework.

– www.itgi.org

Information Systems Audit and Control Association (ISACA): Global organization founded in 1969 focused on IT governance, control, security and assurance issues. Also maintains CISA (Certified Information Systems Auditor) and CISM (Certified Information Security Manager) certifications. – www.isaca.org

**Open Compliance and Ethics Group (OCEG):** Non-profit organization that helps organizations integrated governance, risk management, and compliance processes. – www.oceg.org

IT Infrastructure Management Association (ITIM): Association for professionals responsible for the deployment, management, and effectiveness of IT infrastructure. – www. itimassociation.com

International Organization for Standardization (ISO): Association that maintains I ISO/IEC 27001 and ISO/IEC 27002 standards for information security. – www.iso.org.

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#### **About IBM Business Analytics**

IBM Business Analytics software delivers actionable insights decision-makers need to achieve better business performance. IBM offers a comprehensive, unified portfolio of business intelligence, predictive and advanced analytics, financial performance and strategy management, governance, risk and compliance and analytic applications. With IBM software, companies can spot trends, patterns and anomalies, compare "what if" scenarios, predict potential threats and opportunities, identify and manage key business risks and plan, budget and forecast resources. With these deep analytic capabilities our customers around the world can better understand, anticipate and shape business outcomes.

#### For more information

For further information or to reach a representative: http://www.ibm.com/software/analytics/openpages/

#### Request a call

To request a call or to ask a question, go to ibm.com/business-analytics/contactus. An IBM representative will respond to your enquiry within two business days.



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