

# White Paper

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## Change Management An Essential Tool for IT Governance

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## ► MANAGEMENT SUMMARY

Compliance with legislative and regulatory frameworks has become a pressing issue for organisations in both private and public sectors. Many of these regulations relate to the management of information, and include areas such as corporate governance, freedom of information, data protection, and financial reporting. Each sector also has its own industry-specific guidelines such as Basel II in the banking industry, FSA regulations (and their equivalents) in financial services, and product licensing in the pharmaceutical and healthcare sectors.

Failure to comply with both horizontal and vertical market regulations can have severe consequences, as some high profile cases have testified, but perhaps more important to the majority, are the additional costs and burden on resources that are generated by an inefficient compliance programme, for example, the cost of preparing for internal and external audits.

Because many of these regulations apply to information, almost every aspect of compliance will have some impact on the IT function. IT governance has therefore become an essential element of successful compliance, ensuring that information systems support an organisation's objectives, are used responsibly, and that IT-related risk is minimised. We believe that it is the alignment of business and IT strategies that is the critical foundation of good IT governance, and that an effective change management layer is essential to help align high-level change with underlying operational and system changes, in both directions. This domain of Change Management can be defined as:

***“The discipline of managing change, and the impact of change, across the organisation, encompassing people, processes, and assets, to provide insight and control.”***

In a complex, heterogeneous IT environment, relatively simple changes can have a significant effect on higher-level business processes, and it is here that Change Management tools become essential to the IT governance process. These tools can help to cross functional and departmental barriers, provide visibility of change at all levels, improve quality, and help to reduce the costs of problem resolution.

Whilst there is no out-of-the-box solution for IT governance, we believe that Change Management should be adopted early on in the governance cycle, to support the development of a comprehensive IT governance programme. Butler Group identifies four key phases of the IT function – strategic planning, project execution, IT service delivery, and IT service management, and whilst Change Management has a critical role to play in each of these phases, above all it is the ability to link these areas to provide closed-loop control that is the critical factor for success.

Merant Dimensions provides a comprehensive framework for Change Management, suitable for the most demanding IT and organisational environments. Within this framework, it integrates version management, configuration management, change management, process management, release management, build management, workspace management, and workflow, and is highly configurable to match the structure and procedures of the organisation in which it is deployed. Dimensions has been built specifically to establish the type of closed loop control over change that is further described in this White Paper, and can support the goals, and reduce the overall costs, of IT governance.

## ► COMPLIANCE AS THE DRIVER FOR IT GOVERNANCE

Organisations in both private and public sectors are faced with an increasing burden of compliance with legislative and regulatory frameworks. Whilst compliance is not a new topic, its impact has increased dramatically over the past two years, and there is a raft of new regulations being introduced now, or on the horizon. We believe that much of this increase is due to regulation “catching up” with the information economy in which the developed world now operates, and the need to apply stronger controls, not only to the mobility of information itself, but also to the configuration of the data, applications, processes, and infrastructure through which the information flows.

Compliance can be defined as the state of being in accord with the relevant government, industry and other regulatory bodies and their requirements. It also addresses and protects the rights of all stakeholders within the organisation, including employees, investors, customers, and business partners. Compliance is directly related to the concept of corporate governance: if compliance represents the external demands and expectations of an organisation from these parties, then corporate governance is the response of the organisation to meet these demands. Some of the key regulations that impact the European marketplace include:

- **Corporate Governance**

**UK – *Combined Code on Corporate Governance.***

**The Netherlands – *Dutch Corporate Governance Code.***

**Sweden – *NBK Rules on Corporate Governance.***

**US – *Sarbanes Oxley Act.***

In the UK, from November 2003, listed companies have to comply with the best practices laid out in the Financial Reporting Council's new Combined Code. This includes monitoring the integrity of financial reporting, and the management of financial and other risks. These principles also form the basis of the UK's Companies (Audit, Investigations, and Community Enterprise) Bill, published in December 2003, and expected to reach the statute book later in 2004. Similar codes or legislation have been adopted in other European countries including, Norway, Sweden, The Netherlands, and Belgium.

In the US, the recently introduced Sarbanes Oxley Act regulates financial practice and corporate governance for public companies. Although US legislation, European companies listed in the US will be subject to the act, and Butler Group believes there will also be a substantial knock-on effect with US companies requiring their major suppliers to demonstrate compliance with the requirements of the legislation.

- **Freedom of Information**

**UK – *Freedom of Information Act.***

**The Netherlands – *Government Information (Public Access) Act.***

**Sweden – *Freedom of Information as part of the constitution.***

In the UK public sector, the stipulations of this act come into full force in January 2005, providing a general right of access to information held by public bodies. Similar legislation exists in most other European countries, such as the Public Access to Government Information Act in The Netherlands.

- **Data Protection**

**UK – Data Protection Act.**

**The Netherlands – Data Protection Act.**

**Sweden – Personal Data Act.**

**EU – The Data Protection Directive.**

In the UK, there is wide ranging legislation, updated in 2002, covering both computerised and manual records, and applying eight fundamental principles of data protection. Many organisations still fail to comply with this act, often due to a failure to educate employees on data protection policies.

- **International Accounting Standards**

From the start of 2005, all listed companies in the EU must prepare accounts that conform to the International Financial Reporting Standards (IFRS) or the International Accounting Standards (IAS). As this will involve comparative figures from the previous year, action is required during 2004 for those companies that have not yet prepared for this change.

In addition to these horizontal regulations, there are industry-specific regulatory frameworks that must also be considered. In some of the highly-regulated industries, such as financial services and pharmaceuticals, these frameworks may wholly dictate the nature of the business and its modus operandi. Examples of such regulations and regulatory bodies include:

- **Basel II Accord** – This update of the original Basel Accord of 1988, aims to ensure the stability and accountability of the banking system. It lays out a framework for the assessment of risk within the industry, and specifies the levels of capital that must be maintained to take account of these risks. It is due for implementation by the end of 2006, and will be compulsory for the vast majority of banks worldwide.
- **European Agency for the Evaluation of Medical Products (EMA)** – In the pharmaceutical world, the EMA is taking an increasing role in the pan-European licensing of medicinal products for both human and veterinary use. A series of EU directives covers many aspects of the agency's work. This pan-European approval is often in addition to the country-specific approval required in each territory.

Failure to comply with any of these regulations can have severe consequences, with fines running into many millions of euros, and lasting damage to the reputation, and indeed stability, of the whole organisation. Less obvious, but perhaps of wider relevance, are the additional costs and burden on resources that are generated by an inefficient or non-existent compliance programme. All organisations are subject to audit to some degree, whether it be an annual financial audit, a Best Value Performance Indicator (BVPI) in the public sector, or an industry-specific audit in a sector such as financial services. If an organisation can present clear traceability and visibility into its operations, the audit process will be simple, but if it involves unravelling a labyrinthine chaos, then costs escalate dramatically, and the chances of a successful conclusion are much reduced.

We have already made the point that many of these new regulations apply to information, and its storage, management, manipulation, and communication. In practical terms, the increased reliance on information systems to carry out these functions means that almost every aspect of compliance has some impact on IT. It is no surprise therefore that IT governance has become a high priority for many organisations, as they understand that it is an essential element of a successful compliance programme. Butler Group defines IT governance as the management, policies, and procedures necessary to ensure that information systems support an organisation's objectives, are used responsibly, and that IT-related risk is minimised.

## ► IT GOVERNANCE AND ALIGNMENT

IT governance involves a number of concepts, including:

- Operational Efficiency.
- Risk Management.
- Security.
- Business Continuity.
- Change Management.
- System Integrity.
- Cost Management.
- Regulatory Compliance.
- Value Delivery.

However, we believe that it is the alignment of information systems to support an organisation's objectives, often described as "the alignment of business and IT", that is the critical foundation of good IT governance. Whilst this is a much-talked about concept, it is not one that is generally well defined or understood. A methodology developed by Professor Jerry Luftman of the Stevens Institute of Technology, divides alignment into categories of communication, metrics, governance, partnership, technology, and human resources. In Professor Luftman's work, emphasis is put on the need for alignment to be a two way process, which at the highest level requires a closed feedback loop in order to optimise governance processes. This closed loop is something that is not inherent in many definitions, but we believe it is essential to a successful IT governance programme.

Furthermore, IT governance, and particularly alignment, is an ongoing process, rather than a one-off project. One could address alignment at a specific point in time, but change is inherent to every organisation, and effective management of change is therefore essential to maintaining this alignment on a consistent, ongoing basis. To highlight these characteristics, consider the following two case study examples:

**Case Study 1: Compliance Policy Change.** Following a regular compliance review, the Audit Committee of a professional services organisation made a decision that it should be able to provide its clients with an aggregated view of all the information it held pertaining to them, within 30 days of such a request. This change required the implementation of an enterprise-wide report, including a common data definition for the organisation's CRM system and its bespoke trading application, both of which would require minor software updates. From the Audit Committee perspective, it needed to ensure that its policy was translated into a hierarchy of specific system changes that could be effectively communicated, managed, and monitored, and most importantly, that it could be assured that the required changes had taken place, and had achieved the desired end result.

**Case Study 2: Detailed Software Change.** A defence contractor was updating its in-house management information system, built on a business intelligence framework, to provide improved data on project progress. One of the change requests scheduled for inclusion involved tracking work done by sub-contractors, which had previously been done manually. The company was required to report this information to the relevant Government department for security purposes, so this relatively small system change required an updating of the compliance procedures, to ensure that the information on sub-contractors continued to be readily available.

These examples demonstrate the need for an effective change management layer across the enterprise, to help align high-level change with underlying operational and system changes in both directions. This domain of Change Management can be defined as:

***“The discipline of managing change, and the impact of change, across the organisation, encompassing people, processes, and assets, to provide insight and control.”***

Change Management software solutions are now available to address this requirement, helping to simplify and automate the process in a typically complex IT environment. Figure 1 shows how the change management layer functions as a critical component of IT governance.

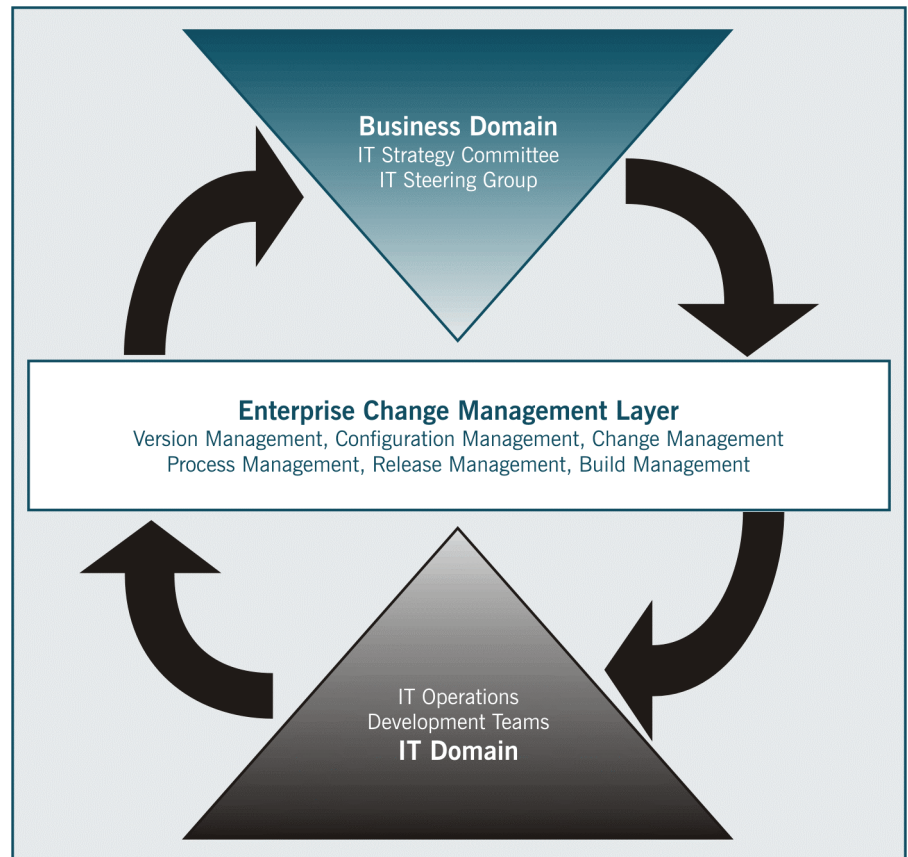


Figure 1: Change Management in IT Governance

## ► MANAGING CHANGE IN A COMPLEX ENVIRONMENT

It might justifiably be argued that change management within an IT function is nothing new, and something that can appropriately be managed by strong management controls, without the use of tools. However, the pace of technology change, and a tactical, rather than strategic, approach to IT investments have contributed to a highly fragmented IT landscape in the majority of organisations. This environment exhibits considerable interdependencies between its constituent parts, and it is this that often makes the impact of change unpredictable. For example, making a change to a data model in one system, or changing the behaviour of a Java component in another, may have an effect on several other applications.

As we have already seen, when this type of change has an impact on higher level business processes, where audit and control are vital to maintain and demonstrate compliance, change management tools become essential to the IT governance process. In addition, effective change management has the potential to bridge the barriers that often exist between different departments and different systems, further enhancing alignment, improving quality, and generating cost savings.

Change within an organisation is rarely isolated or self-contained – there are almost always consequences of change, which follow several typical patterns:

- **Discrete** – where a single change has no consequential effects on other aspects of a system.
- **Hierarchical** – where a high level change can be progressively broken down into successive levels of detail.
- **Sequential** – where a change requires a series of events to be executed one after another.
- **Conditional** – where the sequence of detailed events is dependent on the outcome of previous stages, or on external conditions.
- **Coordinated** – where several change events take place in parallel, but must be coordinated for successful overall completion.

In practice, for many instances, change will involve a combination of these models. It is therefore important to be able to drill-down into these patterns, and the relationships between change events, to provide greater visibility, and to achieve the desired level of control over the change process. This visibility also enables effective communication of change at a business level, which is essential to provide the assurance that board level executives are seeking within a compliance programme.

Another consequence of this complexity is the increased cost of problem resolution, which accounts for a major element of IT costs. In a heterogeneous environment, managing all aspects of the IT configuration, encompassing servers, desktops, network, and system and software assets, and the changes thereto, is fundamental to controlling support costs. Configuration management is typically one element of a Change Management solution, which meets this requirement.

## ► SOLUTIONS FOR CHANGE MANAGEMENT

It is important to emphasise that there is no single out-of-the-box solution that can impart IT governance. It is a discipline with several elements, as we have already described, and which above all else involves establishing policies and procedures that drive operational behaviour. It should also therefore be evident that IT governance cannot be switched on in an instant – it requires incremental development over a period of time. There are several types of technology solutions however, which support IT governance, and should be considered as one aspect of the overall governance programme. These include:

- Portfolio Management.
- Change Management.
- Systems Management.
- Security.
- Enterprise Architecture.
- Business Service Management.
- Business Continuity Planning.



We believe that Change Management should be adopted early in this cycle, as it is a foundation to support the subsequent development of the IT governance programme. Other solutions that assist IT governance include help desk management, project and portfolio management, business service management, and enterprise modelling. Techniques such as balanced scorecarding may also be applied to develop Key Performance Indicators (KPIs) to monitor the progress of the governance effort. It is highly desirable for a Change Management solution to be able to integrate with these other tools, so that control of the change process is embedded into IT operations.

In addition to this downstream integration, change management must also integrate upstream, into business processes. Compliance necessitates not only the definition of procedures, but also the communication of those procedures to employees, monitoring to ensure that these procedures are being followed, and auditing to demonstrate what has actually taken place. It is therefore important to map business processes to the change management process, using workflow, in order that compliance can be demonstrated as well as achieved.

In this way, strong change management gives senior executives, with the responsibility for ensuring compliance, the required confidence that planned change has taken place, and visibility into the impact of unplanned change, so that corrective action can be taken if necessary. Although this closed-loop mode of operation appears straightforward in a small to medium-sized business, in a large distributed organisation it is a significant challenge, requiring a scalable solution that is capable of managing a hierarchy of change, and of maintaining a large repository of assets, processes, configurations, and change events.

Of equal importance is a change management solution that is multi-platform and multi-environment, equipped to operate across a heterogeneous background. This entails not only the ability to work on mainframes, mid-range servers, workstations, and PCs, but also to provide support for multiple development platforms, such as Java and Microsoft .NET. The case study example below demonstrates these concepts in action.

**Case Study 3: Manufacturing Process Change.** A large manufacturing company is responsible for supplying automation systems for satellites to the European Space Agency (ESA), with a requirement for rigorous compliance with industry quality standards. In this complex environment, the company has deployed Change Management to automate its development and organisational processes, including all aspects of version, change, and process management. For this organisation, three factors have particularly contributed to the success of the deployment. Firstly, it is critical to the company to be able to detect problems within the systems it is building, and to provide accurate and timely information to the ESA, and closed-loop change management has therefore been essential. Secondly, the projects undertaken are quite complex, with 20,000 objects to track, and 2,200 change documents, so scalability has been important to manage this workload. Finally, the company operates in a multi-platform client-server environment, and works extensively with outside contractors, and a cross-platform change management solution has allowed it to integrate software and processes from differing environments.

Butler Group identifies four key phases of the IT function, which an overall IT governance programme should address: strategic planning, project execution, IT service delivery, and IT service management. Change Management has a role to play in each of these phases, each of which is described in more detail in the following sections.

## ► STRATEGIC PLANNING

Strategic planning entails defining the IT strategy that will deliver on the agreed business objectives, including the policies and management structures that will be necessary to meet these goals. Executive sponsorship and engagement in this process is essential, in particular establishing effective communication of the business strategy. Some organisations have set up functions specifically to address corporate and IT governance, and the monitoring of compliance: this is particularly common in highly regulated industries such as financial services, but also extends to any enterprise where IT is seen as a fundamental enabler of business success. Strong governance is aided by defining clear processes, to demonstrate to both internal stakeholders and external auditors how these policies are to be executed.

From an IT perspective, the strategic planning phase should also include the creation of an enterprise architecture to act as a blueprint for future development of the IT hardware and software infrastructure. This will typically start by mapping out the current architecture, then defining a desired target architecture, and a plan for migration from the former to the latter.

Because resources are finite, strategic planning must also include portfolio management, which allows the senior executives of the business to compare the relative merits of projects that are competing for limited resources, and to make an informed decision on where IT investment should be directed. Project initiation must also be considered, as careful attention during this phase will substantially increase the likelihood of later project success.

Strategic planning should also include a thorough risk assessment, both for specific projects, and for IT operations as a whole. Project risk might be of several types – for example, the project itself may be complex to manage, it may make significant demands on the organisation's infrastructure, or it may involve large scale cultural change. As with the management of a financial portfolio, the organisation should, from a broad perspective, look to balance the number of high, medium, and low risk projects undertaken. From an operational perspective, particular attention must be given to business continuity, ensuring that contingency plans are in place to respond to possible areas of risk.

Change management supports several aspects of strategic planning, helping in particular to assess the change impact of a project. As part of the portfolio management process, it is vital to consider the effect not only of the project under consideration, but also its impact on existing systems, whether any infrastructure changes are required, and how the project will be deployed within the organisation. It is equally important to get accurate information on project progress, to feed into strategic planning, so that decisions can be taken on a well-informed basis.

## ► PROJECT EXECUTION

The project execution phase addresses the development, acquisition, and integration of IT systems. This includes the ongoing management of new projects, establishing requirements in line with corporate objectives, product and supplier selection, development of software, and the integration of applications into the existing infrastructure.

In this phase, strong Change Management is a primary requirement, as it is here that change events must be initiated, scheduled, communicated, monitored, and measured.

Whether it is an infrastructure refresh, an ERP application upgrade, the development of a new bespoke system, or change that is enforced through corporate merger and acquisition activity, major system change requires the control, insight, and predictability that a Change Management solution can provide. Such solutions must also be sufficiently flexible to map to the IT governance processes that the organisation has defined, and through workflow and approvals, provide clear evidence that policy has been put into practice.

In the software development process, change management, and software configuration management are essential elements throughout the software lifecycle, encompassing the following phases:

- Requirements capture and definition.
- Design.
- Develop.
- Test.
- Deploy.

Most organisations that deploy bespoke software applications are seeking an improvement in their software development capability, and the Software Engineering Institute's Capability Maturity Model (CMM) has become a widely accepted model and methodology. Moving up the CMM maturity levels from the starting point of an initial, unmanaged process, requires effective change management so that the development cycle becomes repeatable, defined, and ultimately, managed, and optimised. As organisations move up this maturity scale, productivity and quality increase, whilst the associated risk decreases. The latest evolution of this process is the Integrated CMM (CMMI) model, which specifically looks to link CMM best practices to business goals, and gain broader acceptance through the rest of the organisation.

**Case Study 4: Software Development Improvement.** A large bank, with global operations, wanted to gain improved control over its software development processes, and achieve CMM Level 5 certification. Although the bank had already deployed change management tools, these were point solutions, which lacked integration across the business. In addition, it was vital to provide a complete audit trail of software change, so that management was able to see where change requests were being generated, the impact of those requests, and an accurate view of progress towards fulfilment. The bank implemented an enterprise-class Change Management suite to give end-to-end control over the software development process. This has significantly improved the quality of the process, and helped the bank to achieve the requirements of CMM Level 5. It has also allowed the organisation to move from a traditional style of managing development, to a more process-oriented solution, and has improved the communication and productivity of development staff.

Equally, infrastructure configuration management is required to oversee the infrastructure changes required to support new projects, but additional benefits are derived from combining SCM and configuration management, so that infrastructure changes can be coordinated with the software development lifecycle.

## ► IT SERVICE DELIVERY

IT service delivery is concerned with the operational aspects of the IT function, providing an efficient, continuous service that meets the requirements of the organisation.

This will involve aspects such as systems integrity, network security, identity and access management, business continuity, and the interface to third-party services. This is a key area for compliance, as organisations must ensure that operational processes follow the defined policies, that any changes to processes do not have a detrimental impact on performance, and that unauthorised changes are avoided.

In the service delivery phase, the focus is on ensuring the efficient and timely handling of change requests. Within a smooth running IT operation, there will be identified sources of change requests, and a clearly defined path for responding and reporting. These sources will include help desk, user request, development team, external environment, and policy change. Each must be reviewed, prioritised, assigned, executed, verified, and ultimately closed. The ability of a Change Management solution to automate the flow of this response is of significant benefit – it provides the traceability that is required for compliance, improves the efficiency of reacting to change events, and reduces the overall costs of IT service delivery.

Change Management also assists in maintaining the alignment of IT operations with business strategy. From a management perspective, it can help to provide clear information that measures the efficiency of service operation, perhaps feeding into a balanced scorecard that an IT steering committee might use to assess the performance of the IT function. Additionally, it fosters good communication between IT and business organisations, so that both get a better understanding of how the business strategy can be delivered.

## ► IT SERVICE MANAGEMENT

IT service management provides the essential feedback loop for the IT governance process. This improves quality, provides visibility into IT operations, and helps to demonstrate the value of IT to the organisation. Furthermore, closing this loop has beneficial effects on the other phases of the IT function. For example, understanding the impact of a project should enable improved quality of strategic planning for future initiatives, and drive the efficiency of IT service delivery.

The IT function requires continuous monitoring, and IT service management should include the necessary controls to achieve this. In this area, there is strong adoption of the IT Infrastructure Library (ITIL) approach. This provides a comprehensive set of best practices that link IT Service Management and IT Service Delivery, which is vital to achieving closed-loop IT governance. The ITIL guidelines are now supported by a British Standard, BS15000, and a wide range of certification and training schemes.

Compliance adds an additional dimension of audit and traceability, which may be open to independent external assessment, and therefore best practice in IT governance clearly supports the compliance effort. It is also worth considering that effective internal IT controls will provide the reassurance to the business that the IT function is subject to the same type of checks and balances that apply to other areas of the enterprise.

Specifically, an increasingly regulated environment in both private and public sectors has led to frequent internal and external audits, which can impose a significant burden on the organisation. Butler Group believes that effective deployment of Change Management tools is the single most important factor that can help to reduce the costs and timescales of these audits. In some cases, it is the ability to demonstrate the system of control, rather than the information itself, that an auditor is seeking. Equally, in an environment where notification of process change in response to the Sarbanes Oxley Act, (and perhaps soon to the Companies Bill in the UK), is a key concern for board-level executives, Change Management provides a welcome degree of reassurance.

**Case Study 5: Reducing Audit Costs.** A large energy provider with over 9 million customers was using a paper-based process to manage the development and introduction of new systems, which was extremely resource-intensive and costly. The company deployed a Change Management solution to deliver better control over the process, and to support the transition from a manual to an electronic system. This has provided increased visibility and accountability for senior management, with significant savings of both time and costs. In particular, compulsory audit trails can be automated, and the company estimates that it has saved £100,000 annually, in reducing the costs of preparing for audit. In many cases, the ability to prove that an effective system is in place has in itself been sufficient to satisfy the auditors of compliance.

An additional benefit of introducing a rigorous and auditable change process comes from promoting two-way communication. Because much of IT service management is about visibility and traceability, the benefits must be clear on both sides of the fence – if the IT function sees governance as purely a policing function it is doomed to failure. Conversely, if a governance programme can bring IT closer to the business, and demonstrate its value, then the IT function will be supportive.

## ► MERANT DIMENSIONS

Merant Dimensions provides a comprehensive framework for Change Management, that is capable of meeting the requirements of the most demanding IT and organisational environments. Within this framework, it integrates version management, configuration management, change management, process management, release management, build management, workspace management, and workflow, and is highly configurable to match the structure and procedures of the organisation in which it is deployed. Dimensions has been built specifically to establish the type of closed loop control over change that has been described in this paper, and has extensive process control and automation capabilities.

The key features of Merant Dimensions can be summarised as follows:

- **Framework.** Dimensions combines all the elements of Change Management into a single framework, doing away with the need for point solutions. This allows centralised management of the change process, a single interface, and greater productivity for change managers. Dimensions is able to manage hardware, software, and supporting documentation, including their relationships to one another. Dimensions provides IT management with the ability to track, control, analyse, and measure the assets within its domain; so providing the necessary information for audit and regulatory compliance required by business stakeholders.
- **Change Management.** Merant Dimensions is able to capture all of the pertinent information required of a Change Management solution. The system logically organises this data together with information about the process itself – essential if the information is to be used within an outsourcing organisation. Dimensions is able to enforce a rigid structure around the whole change process, ensuring that any deviation is fully documented and traceable. To accommodate the needs of a large IT organisation that may be distributed amongst the various business units of an enterprise, Dimensions supports both discrete and hierarchical changes. This allows changes to be managed at a more granular level whilst still maintaining a closed-loop change management environment.

- **Build Management.** Merant Build enables the organisation's Change Team to initiate and monitor build activity from all Dimensions users clients, thereby providing a closed-loop change management process. Support for all leading Integrated Development Environments (IDEs) and developer platforms is provided, together with a Web interface for the remote initiation of builds.
- **Release Management.** The Release Management tools included with Dimensions are used to control and record changes as they progress through the usual Development and QA stages, before initiating handover to Production or Manufacture. An optional component can be used to automate and schedule deployments to multiple hosts, for example, testing, staging, and production servers. This capability is especially useful when scheduling a change to multiple servers, perhaps located at another location, data centre, or service provider.
- **Architecture.** Dimensions is a multi-platform solution, which can consolidate change management in a heterogeneous environment, including IBM zSeries, Linux, UNIX, and PC workstations. The product features a single repository for storing all change related metadata, and is highly scalable.
- **Integration.** Dimensions is capable of integration with other IT management tools that form part of the overall IT governance landscape, including help desk solutions such as Remedy, asset management applications, testing tools such as Mercury TestDirector, requirements management with solutions like Telelogic Doors, and other software lifecycle management tools. Dimensions can also be integrated with development tools such as Microsoft .NET to provide a tightly coupled development and change management environment.
- **Traceability.** Dimensions automatically tracks every asset, process, and configuration change in detail, and provides a complete audit trail. It also tracks the relationships between these objects, and changes to these relationships, and allows drill-down from high-level information into specific detail.
- **Process Automation.** Dimensions includes a business rules capability and comprehensive workflow, which allows all change processes to be substantially automated. Workflows are fully configurable, and can include approval steps and checkpoints.

Dimensions is ideally suited as the cornerstone of an IT governance programme, and provides the insight, control, and predictability that is required to bridge the gap between business strategy and IT operations. Its ability to address all aspects of change, covering both software and infrastructure assets, processes, and people, and provide complete traceability and visibility across the enterprise, make it a powerful tool to support compliance. In particular it has the potential to reduce the costs and resources required for internal and external audit.

Dimensions meets the following requirements for a Change Management tool to support IT governance:

- Supports two-way communication of change between high-level business objectives, and lower level change events.
- Understands the interdependencies between objects, and can manage change across these relationships.
- Handles all key change patterns, including discrete, hierarchical, sequential, conditional, and coordinated.
- Includes configuration management that addresses all types of infrastructure assets.

- Integration with other IT governance tools.
- Support for mapping business processes to the underlying change management process.
- Comprehensive workflow with complete traceability of all change events.
- Scalability to cope with a large number of assets, processes, configurations, and change events.
- In the **Strategic Planning** phase, Dimensions helps to assess project impact, reduce the risk of system change, support quality improvement, and can manage business processes and workflow.
- In the **Project Execution** phase, Dimensions provides a comprehensive set of features including software lifecycle management and configuration management, to support new project initiatives.
- In the **IT Service Delivery** phase, Dimensions reduces costs and increases efficiency through increased automation of the change management process, and maintains the alignment of IT operations with business strategy.
- In the **IT Service Management** phase, Dimensions closes the feedback loop to enable progressive quality improvement within IT management, provides visibility and traceability for senior management, and can substantially reduce the costs of internal and external audit activity.

Many of these attributes are seen in the following case study example:

**Case Study 6. Compliance in Healthcare.** A leading healthcare provider needed to manage changes to its source code and associated processes, across a global organisation, in order to improve its internal and external communication, and shorten the delivery timescales for its software development initiatives. It also needed to ensure compliance with the industry specific legislation introduced by the Health Insurance Portability and Accountability Act (HIPAA). The company introduced Merant Dimensions, which is now used to manage source code for the company's core applications, and allows professionals in multiple departments including development, Q&A, IT operations, and production, to cooperate together based on Dimensions' single repository. The company is also able to provide the traceability within its internal systems that is a requirement of HIPAA. The organisation has experienced an 83% decrease in software delivery times, and an overall productivity improvement within software development of 175%.

Merant's vision for Dimensions is to extend the change management layer further into general business operations, so that it becomes easier for any business manager to submit, manage, and monitor the progress of change requests, while still maintaining the overall centralised control of the change process.

Butler Group believes that strong Change Management is a fundamental requirement for IT governance. The alignment of business and IT strategy is essentially a transformation process, taking place in a complex environment with many interdependencies. Merant Dimensions provides comprehensive change management functionality, supports closed-loop processes, and runs in a multi-platform environment, and is therefore a convincing solution, which can support the goals, and reduce the overall costs, of IT governance.

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