BUSINESS TECHNOLOGY GOVERNANCE
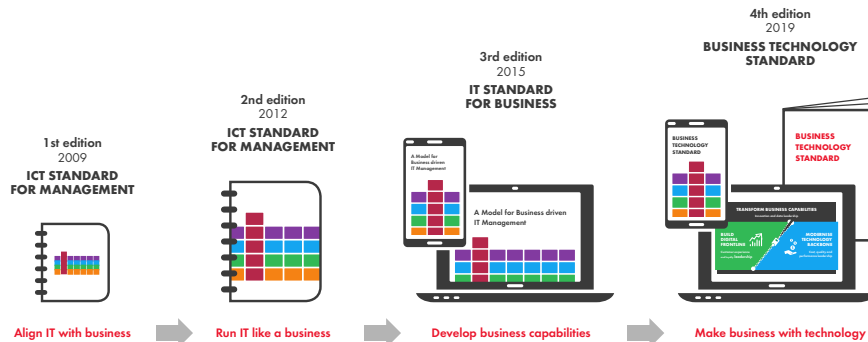
A Balancing Act Between Control and Agility

ARTICLE

By Business Technology Forum

About Business Technology Standard

The Business Technology Standard (or BT Standard) is an open-source management framework to plan, build and run information technology in today's technology-driven business world. It has been constantly developed and renewed during the past 10 years with global companies and public organisations. It is recognised today as one of the leading best practices and used in hundreds of globally operating companies and public organisations, especially in Nordic countries.

The fourth edition has been completely rewritten and upgraded, and the scope of technology management has been extended from information technology to business technology.

1st edition 2009 **ICT STANDARD FOR MANAGEMENT** — Align IT with business

2nd edition 2012 **ICT STANDARD FOR MANAGEMENT** — Run IT like a business

3rd edition 2015 **IT STANDARD FOR BUSINESS** — Develop business capabilities

4th edition 2019 **BUSINESS TECHNOLOGY STANDARD** — Make business with technology

The Business Technology Standard has been developed by the Business Technology Forum, a community of forerunner companies and organisations collaborating based on a platform economy model where every company can benefit from each other's development input and efforts.

Team Effort Behind This Document

This document has been written by Sofigate and commented by the university development partners Aalto University and King's Colleague London.

Contents

1   Introduction – Governance, Friend or Foe?

In many organisations, governance is perceived as control, which slows down development and restricts innovation. How do business owners in your organisation experience governance? Is governance recognised to be beneficial, helpful and effective?

The Business Technology Governance model was designed to support organisations in maximising business value and avoid the not-so-positive connotations.

1.1 Minimum Viable Governance Principles

The minimum viable governance approach aims to make the end-to-end process from demand to service operations as easy as possible, starting from the business needs all the way up to the implementation and deployment of a solution.

The three key principles for Minimum Viable Governance (MVG) are:
1. **Smart top-down control and coordination** to optimise portfolios
2. **Strong leadership and mandate** to make decisions and drive business value
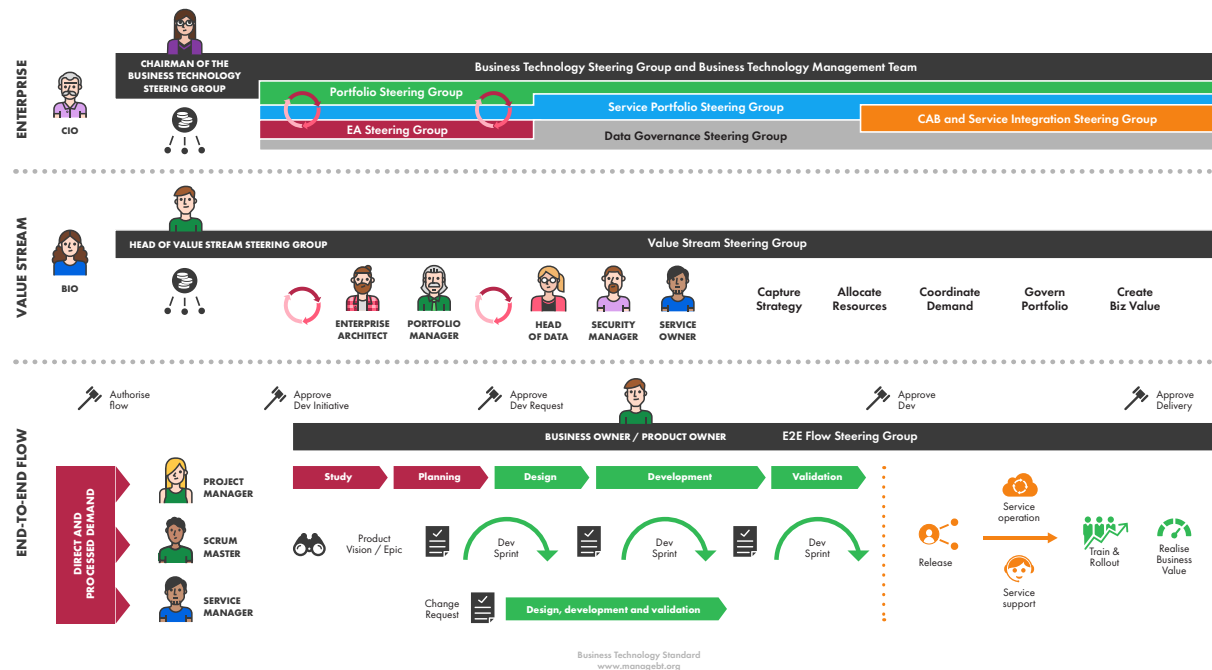3. **Smooth end-to-end flow discipline** to create value and escalate decisions only when needed.

Figure 1 Three level governance overview

Value streams (in the middle) are characterised by having a specific business focus, for which they create business value. According to the **second principle of strong leadership and mandate**, they execute their own portfolio governance based on the resources and budget received from the Enterprise level above. Value streams are therefore free to prioritise the cases that are deemed the most beneficial to them.

Enterprise-level governance is applied across all value streams. Enterprise-wide functions such as Portfolio Steering and Enterprise Architecture Steering ensure control, coordination and alignment for enterprise-wide architecture, security, business continuity, efficiency and the optimal use of resources.

End-to-end flows are essentially the delivery engines for the expected business value. They can take the form of (i) projects and programs, (ii) agile development teams and (iii) change request-based small development channels. Clearly defined roles and practices help the end-to-end flows achieve the necessary speed and agility needed to capture requirements, develop solutions and operate services. End-to-end flows receive the authority to consume resources from the value stream - the level directly above it.

Both the value streams and the end-to-end flows follow the enterprise-wide governance structure. They only involve the higher level when they need advice or require a decision. Mandatory flow-level evaluations ensure that necessary escalations are identified. The use of shared tools also ensures that everyone stays informed in situations when no permission needs to be requested. This way maximum speed and agility remains at the end-to-end flow level, while keeping the required control and coordination at the value stream and enterprise level.

Strong leadership and mandate, the second principle, enables on the one hand the required top-down control and alignment from the enterprise level, and on the other the authorisation that value stream leaders and managers need to drive progress and create outcomes.
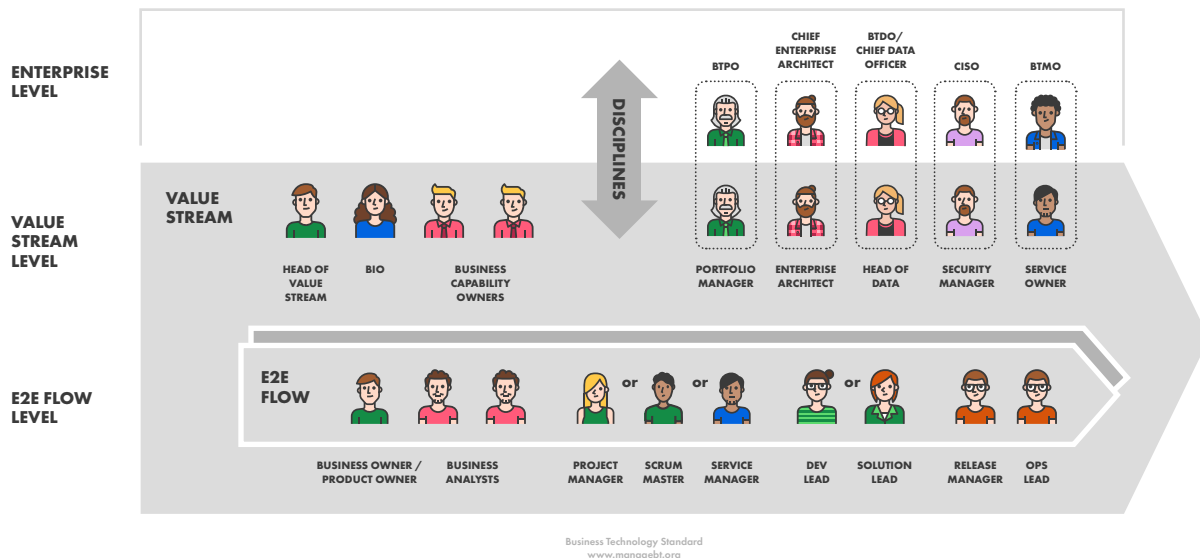

Figure 2 *Key end-to-end flow roles*

There are various roles that are connected to these levels. Top-down control and alignment is ensured by the enterprise level 'Officer' and 'Chief' roles for the different capabilities, e.g. governance, enterprise architecture, portfolio management and data management, which all require a common discipline.

Value streams have diverse competency needs and should combine members from different disciplines. Business capability owners are from the business units and have a business focus, while the capability-focused managers ensure cross-value stream coordination. Capability-focused managers are guided by the value stream level officers. End-to-end flows have unified governance roles to manage demand, development, service release and service quality.

The **smooth end-to-end flow discipline** represents the third principle. Decisions are escalated only when needed. The focus is wholly on creating value, and for this reason it is important to choose and possibly adapt the development approach.

The development approach should be based on the size, complexity and nature of the development need. The three main approaches are:

1. Gate-based
2. Sprint-based
3. Change request-based development.

The gate-based project approach follows a project phase sequence. In principle, the next phase starts when the previous phase is completed - only then does it pass the gate to the next phase. However, allowing for certain phases to overlap, the gate-based approach is suitable for enterprise development projects. The design is created in iterations of review, plan and design phases. Likewise, the development and validation can be executed in iterations.
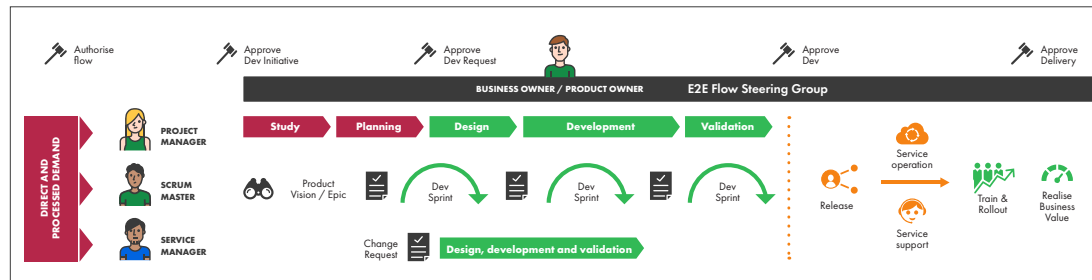

Figure 3 *Development approaches*

The sprint-based approach aims to break down the overall scope into smaller pieces, which can be individually designed, developed and validated. Development is done in incremental sprints. A backlog tracks the desired features and requirements. This approach is ideal where the requirements or the technology needs are unclear. As such, changes in scope are expected and are not processed through a formal change request procedure, which increases agility. While the first two approaches are led by a project manager or a scrum master with a product owner, the change request-based approach is led by a service manager, ideal for scenarios when changes are not complex and do not require much time for development. This way they can be carried out by resources that are already allocated to the maintenance of the service.

1.2 Enterprise Governance for Synergies

Enterprise-level governance steering bodies are essential to realise synergies across value streams. Each governance body has a dedicated focus and role.

The **Business Technology Steering Group** is the highest decision-making body for the strategies, budgets, policies and guidelines that have an impact across value streams. The purpose is to ensure the mandate and focus from top executives is upheld. The CIO organises the steering group and ensures efficient preparation for and the implementation of decisions. The value stream business owners (head of value stream) are the steering group members whose role is to ensure the effective implementation of cross-value stream decisions, principles, resource allocations and business alignment.
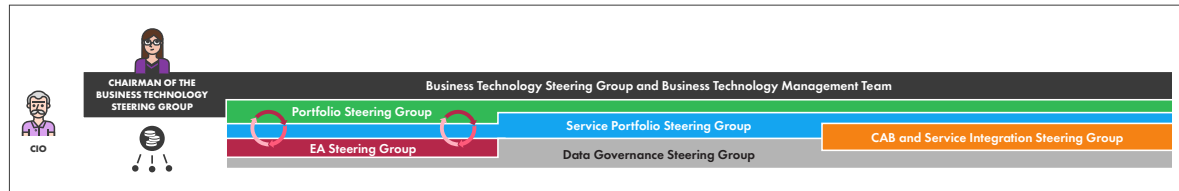

Figure 4 *Enterprise-level governance steering bodies*

The CIO's management team forms the **Business Technology Management Team** with focus on people, performance, capabilities, quality, risks and costs. It leads the business technology function, builds capabilities and coordinates operations across all value streams. In order to act on emerging issues and make required decisions promptly, meetings should be held every two weeks.

The **Portfolio Steering Group i**s the highest decision-making body overseeing the demand and development portfolios. The Portfolio Steering Group decides on the use of scarce resources across all value streams and provides the authorisation needed to continue development. BIOs and Portfolio Managers act as the value stream representatives. The portfolio steering group is chaired by the executive sponsor, while the business technology portfolio officer (BTPO) organises and runs the steering group.

The **Service Portfolio Steering Group** represents the highest decision-making body for service lifecycles. It coordinates and steers the overall service performance and efficiency while providing governance practices and common tools for service management. The service portfolio steering group ensures that products and solutions are managed as a service with proper contracts, service levels and processes to ensure security, business continuity and operational efficiency.

Changes to the enterprise-level core architecture are approved by the **Enterprise Architecture Steering Group**. As the highest decision-making and coordination body for enterprise architecture, it also reviews the value stream-level architectures and roadmaps. The new solution initiatives and changes to the current architecture landscape are evaluated in advance. This speed up the architecture approvals and subsequent development in the end-to-end flow. To ensure the two steering groups are closely aligned, the Chief Enterprise Architect is also a member of the Portfolio Steering Group.

The **Data Governance Steering Committee** is the highest decision-making and coordination body for data governance. It oversees all major data governing activities and is responsible for their support and coordination. The committee provides guidance on data management and thus ensures data assets are well managed. It coordinates and harmonises data-related decisions and development initiatives. A Business Technology Data Officer (often called Chief Data Officer) organises the committee and invites the Head of Data roles from value streams and businesses involved to be members.

Finally, the **Service Integration Steering Group and Change Advisory Board (CAB)** authorise service releases and harmonise the core service processes to improve service quality and ensure business continuity. Operational (OPS) Leads from all main service domains are included as members. All major service providers should be included as well. This may happen through an OPS Lead role or by organising separate vendor service government meetings.

2 Value Stream Governance for Maximum Business Value

The ultimate goal for value stream governance is to create business value and maximise business outcomes. To achieve this goal, the value stream needs to organise and implement five governance areas:

1. Capture strategy
2. Allocate resources
3. Coordinate demand
4. Govern the portfolio
5. Create business value.

This is not done in isolation but in collaboration with both the enterprise and the end-to-end flow levels. While the enterprise level takes care of the common architecture and disciplines, the value streams handle the business transformation aspect in business technology, and the end-to-end flow level focuses on the actual development and operations.

Capture strategy
Business strategy and strategic changes are captured by business leaders and business technology leaders. Business Technology and Value Stream Steering Groups are responsible for the implementation of strategy. The Value Stream Steering Group is agile in its design so has the ability to respond to business and strategy changes by holding regular portfolio planning sessions. The Enterprise Architecture (EA) Steering ensures that the business technology enables the planned strategic transformation. It sets architectural priorities and authorises architecture centric development initiatives for approval across value stream portfolios.

Finally, strategy is executed as programs, projects and other end-to-end flows governed by the business owner and the steering group.

Allocate financial and human resources
While business strategy sets the high-level priorities and the overall investment framework for the business technology, the actual allocation of financial and human resources across the value streams is done by the Business Technology Steering Group. The Value Stream Steering Groups in turn, set the priorities within the value stream and allocate

resources to the end-to-end flows. A project or development initiative is thus authorised, and resources are allocated based on the value stream portfolio approvals.

According to minimum viable governance, most of the decisions should take place at the end-to-end flow level and escalations to higher levels should only happen when needed.

Coordinate demand

In general, value streams organise and authorise the end-to-end flows and the flow level coordinates the actual demand. Evaluation points for enterprise architecture alignment ensure that decisions taken at the flow level do not break the value stream or enterprise-level guidelines or the architecture principles. Projects start with a review and planning phase to capture and coordinate the needs. New needs are managed by the project manager and a steering group during the project.

Govern portfolio

The Demand and Development Portfolio Steering Group approves and rejects development initiatives and requests. It also carries out the follow-up for the business value creation in the end-to-end flows. The key measurement and driver for the portfolio management is business value. Therefore, a business case is required for development initiatives and requests. The business case is verified by the portfolio governance when the development initiative is approved and when the whole solution delivery is approved. In order to be able to make a business case calculation, the costs, benefits and risks need to be estimated.

The minimum viable governance is based on bottom-up management and top-down coordination. The flows have the responsibility to prepare business cases and seek portfolio approvals when needed. The unified control points represent the backbone of the portfolio discipline.

Create business value

Business-driven design, development and rollout take place at the flow level and are essential to the business value creation. The resource allocation is driven by the Business Owners' priorities, which are based on business value calculations as well as on regulatory and strategic requirements. Business value can be maximised by allocating scarce resources to only a few flows rather than giving some resources to every flow:
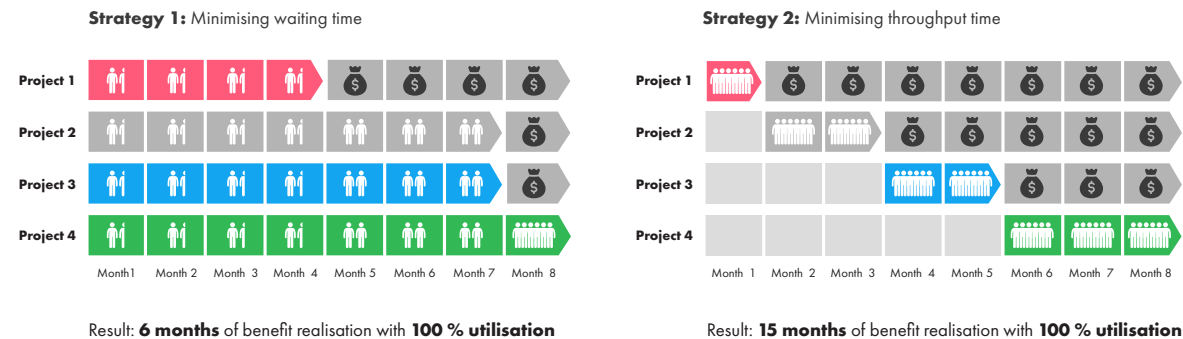

Figure 5 Selective resourcing for maximum throughput

The Value Stream Steering Group provides support to the Business Owner. The individual flow outcomes are managed by a project manager for the gate-based development, a scrum master with product owner for the sprint-based development and a service manager for the change request-based development. Before releasing the solution, these roles must ensure that they have captured the business needs correctly, analysed their feasibility, designed an optimal solution, developed a future-proof solution and validated security. Going live with the solution and realising the expected business impact will produce the real business value.

3 Modular E2E Flow Management for Speed and Agility

The world is becoming multi-modal, thus the choice to commit to either gate-based enterprise development or sprint-based digital development is not enough anymore. Organisations strive to be more agile in projects and more enterprise-minded in agile development. Modular End-to-end Flow Management is about selecting alternatives from both worlds that create the best fit for the individual end-to-end flow.

SELECT ONE OPTION FROM EACH CATEGORY

E2E GOVERNANCE	X Project	E2E DevOps	Solution Management
DEMAND	Enterprise Design / Roadmap	X Digital Design / Product Backlog	Service / Solution Enhancement
DEVELOPMENT	Sequential Development	X Incremental Development	Service Change
ROLLOUT	X Business Centric Rollout	Solution Centric Rollout	User Centric Rollout
SERVICE RELEASE	X Manual Release	Automated Release	
SERVICE OPS	Operations Centre	X Team Operated	
SERVICE SUPPORT	X Support Centre	Team Supported	

Figure 6 *Modular End-to-end Flow Management – selection example*

In Modular End-to-end Flow Management, you can make choices in different categories spanning end-to-end governance to service support. Depending on which modules are chosen, the end result has several variations. This is the way to reach an optimal combination for an end-to-end flow and at the same time manage variations consistently. Compared to the three traditional end-to-end flow variations, i.e. gate-based project management, sprint-based continuous development and change request-based solution management, this modular model offers 168 variations that are all valid.

The Business Technology Standard defines a generic model to govern the end-to-end flow steps. The steps are distributed over the following four progress zones:

1. A zone: Capture demand
2. B zone: Build product / solution / service and its operational readiness
3. C zone: Release service
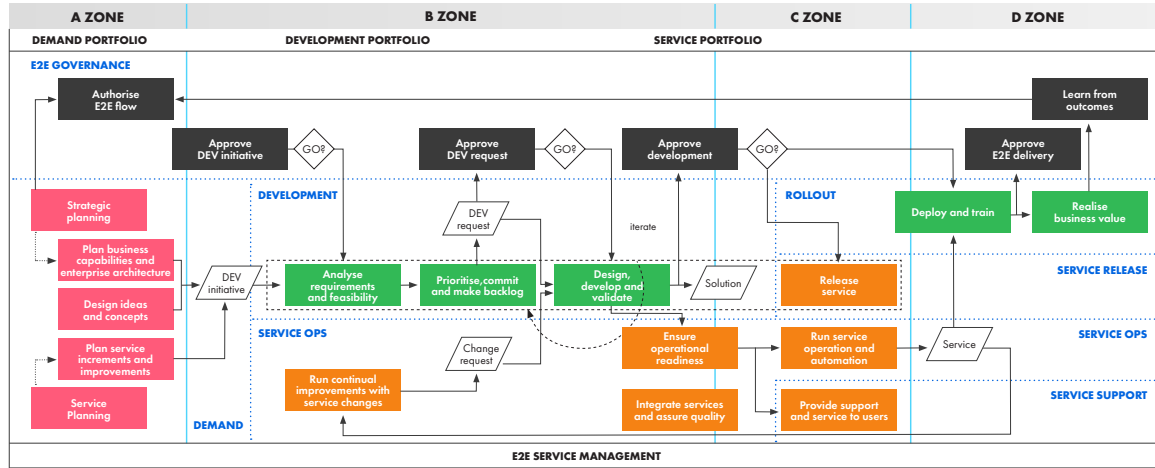4. D zone: Rollout and release business value.

Figure 7 *Business Technology Standard end-to-end flow steps*

The end-to-end governance is depicted in the upper part of the diagram with its steps or decision points marked in black. It ensures that the required business decisions and commitments are made at the right time. It integrates the end-to-end flow with corporate governance either by having a decision mandate provided by the corporate governance or by escalating the decision to the corporate governance level. Since the end-to-end governance operates on the portfolio level it also provides coordination across the e2e flows.

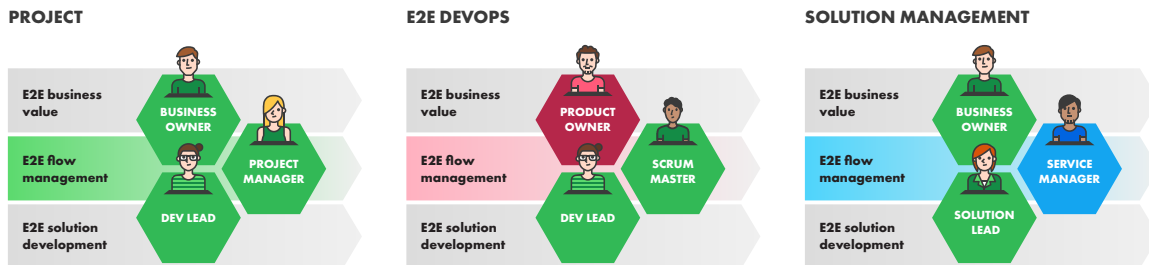There are three alternatives for end-to-end governance and the respective key roles.

Figure 8 *End-to-end governance key roles*

The project alternative is characterised by being a one-time effort to achieve the agreed objectives, having gate reviews and a two-level governance structure formed by the project steering group and the portfolio steering group. In contrast, the end-to-end DevOps alternative represents a continuous progress flow with a fixed team. It is governed by the product backlog and learning from the previous iterations. The business side is heavily engaged in the backlog prioritisation and validation. The third option, solution management, is used to make improvements and incremental changes to the current solutions. The progress flow is governed by service planning and approval of change requests within budget. Solution management is typically tightly coupled with service management to govern vendors, contracts and service levels.

4 Compliance and Alignment with SAFe®

The Business Technology Standard and Scaled Agile Framework® (SAFe)[1] have been created for different purposes, however there are multiple similarities. The following seven attributes are shared by both frameworks making it easy to use them simultaneously to support agile and digital transformation journeys:

1. Value streams
2. Minimum viable governance with value-based funding
3. Strategic planning with a connection to the portfolio
4. Incremental delivery with continuous releases
5. Key role and responsibility definitions
6. Customer experience and centricity mindset
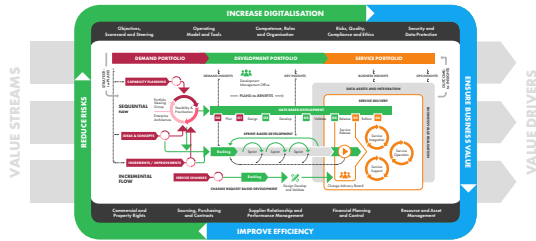7. Business-driven development framework.

A Business Technology Operating Model can be used to create prerequisites for becoming an agile enterprise. It will also help to scale up agile programs by moving the organisational structure away from having an application-oriented focus to one that is product-based. This means shifting away from teams that have changing, pooled resources and a siloed perspective, to stable, dedicated teams that have an end-to-end perspective.

The interaction between business and IT is improved by having a strong Product Owner from the business side, who manages the development process and collaborates closely with IT throughout all stages of the development process. The BT Standard has a set of defined roles with responsibilities that centre around capability domains, like in SAFe agile trains and value streams. However, the BT Standard extends the role definitions beyond the self-organising scrum teams to cover the whole technology organisation. Furthermore, when using the project approach a project manager role is assigned to organise and manage the project alongside the scum master role.

Value-based funding is introduced for product-centric value streams in contrast to the traditional yearly budgeting. Such venture-capital-style budgeting stipulates that after launching a minimally viable product its future funding is dependent on the product's performance.
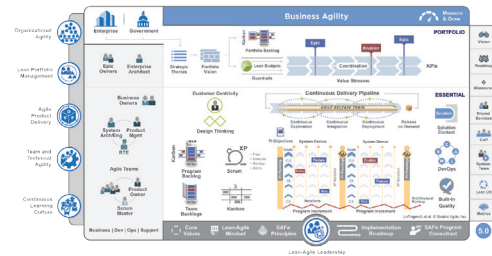
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[1] SAFe and Scaled Agile Framework are registered trademark of Scaled Agile, Inc.

"Leverage technology to execute strategy and run your business"

"Accelerate development and scale agile ways of working"

✓ Operating model to cover end-to-end flows for agile and project development
✓ Unified roles for business & IT from demand to services
✓ Business driven minimum viable governance
✓ Compliance with SAFe, COBIT, IT4IT, ITIL, SIAM, SFIA and TBM

✓ Enterprise wide (software) development
✓ DevOps way of working
✓ Structured and continuous cadence
✓ Lean-agile leadership & principles
✓ Business focused organisational agility
✓ Continuous learning culture

Figure 9 BT Standard and Scaled Agile Framework (SAFe® 5.0 for Lean Enterprises, © Scaled Agile, Inc.)

Overall, the Business Technology Standard and SAFe complement each other and can be used simultaneously. While SAFe provides a detailed framework for enterprise-wide (software) development and an agile way of working, the BT Standard offers a high-level operating model to cover end-to-end flows for agile project development. The BT Standard's level of detail and terminology is chosen to support the understanding of a business audience.

The Business Technology Standard contains an open-source management framework to plan, build and run information technology in today's technology-driven business world. It includes a model for building your competencies to manage information technology and digital transformation. Therefore, using the Business Technology Standard to complement the expert-level best practices such as SAFe and DevOps for agile development, enables the holistic management of different technology management functions.

Who We Are

The Business Technology Forum (or BT Forum) is a non-profit professional organisation consisting of a community of forerunner companies, and public organisations collaborating according to platform economy model.

The BT Forum provides business and technology leaders with an open-source technology management framework called the Business Technology Standard. The BT Standard consists of best practices, models and tools developed together with the BT Forum community in order to plan, build and run information technology in today's technology-driven business world.

The BT Forum coordinates the development work within the community members and publishes an upgraded version of the BT Standard twice a year. In addition the BT Forum also organises events and conferences, publishes educational materials and offers training courses to advance the business technology management profession.

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