Business Executive's Guide to IT Architecture

Why IT Architecture is crucial to the success of your business

What is an IT Architecture ...?

The technical foundation of an effective IT strategy

An IT architecture provides the necessary technical foundation for an effective IT strategy, which is the core of any successful modern business strategy.

A technology plan for managing your IT Investment

Specifically, an IT architecture defines the components or building blocks that make up the overall information system. It provides a plan from which products can be procured, and systems developed that will work together to implement the overall system. It thus enables you to manage your IT investment in a way that meets the needs of your business.

... And why do I need It?

Critical to business survival and success

An effective IT architecture is critical to business survival and success, and is the indispensable means to achieving competitive advantage through IT. Today's CEOs know that the effective management and exploitation of information through IT is the key to business success. An IT architecture addresses this need, by providing a strategic context for the evolution of the IT system in response to the constantly changing needs of the business environment.

Enables managed innovation within the enterprise

An IT architecture enables you to achieve the right balance between IT efficiency and business innovation. It enables managed innovation within the enterprise. Individual business units can innovate safely in their pursuit of competitive advantage. At the same time, the needs of the organization for an integrated IT strategy are assured, permitting the closest possible synergy across the extended enterprise.

Have you thought about your need for an IT Architecture?

This brochure explains:

- What is an IT Architecture?
- Why do I need it?
- What are the specific business benefits?
- What is TOGAF?
- How does TOGAF help deliver an effective IT Architecture?
- What specifically does TOGAF contain?
- How do I use TOGAF?
- What do I get from participating in The Open Group Architecture Forum?
- What are the specific business benefits of participation?
- What action do I take now?

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THE Open GROUP

Making standards work™

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The Business Value of a Technical IT Architecture

"The value of the technical architecture, I think, is immense. You just have to look back at the investment decisions that have been made in our or any organization. Hindsight is always easy, but I can tell you we have spent many millions of dollars over the last three years on technologies that were simply incorrect at the time or have been proved incorrect today, because the people who made those decisions did not have an understanding of how those technologies related to the business ... Frankly, we could have developed five or ten technical architectures for the same cost.

The value of a technical architecture is immeasurable, and the cost by comparison, I believe, is almost trivial. It is so significantly valuable to the organization that I cannot conceive in the modern age of any organization going forward without a technical architecture.

When you consider it, any business executive worth employing would tell you they have a business plan that is documented and represents the vision of where the business is going. Why should technology be exempt from that rigor? We need to have a very well considered technical strategy, and a technology governance process, and those two things need to be intrinsically linked to the business strategy. They need to assist and influence the business strategy as much as they are influenced by it, and that really is the role of the technology architecture.

We see some very real business benefits to a technical architecture - and they are expressed not as thousands, but millions of dollars - we will bring those savings to the bottom line, there is no doubt about it."

Nick Price, Group Technical Architect
Dairy Farm Group
www.dairyfarmgroup.com

What are the specific business benefits?

The technical advantages that result from a good IT architecture bring important business benefits, which are clearly visible in the bottom line.

A more efficient IT operation

Better defined structure and modularity in the IT infrastructure lead to a much more efficient overall IT operation:

- Lower software development, support, and maintenance costs
- More application portability
- Improved interoperability and easier system and network management
- Better ability to address critical enterprise-wide issues, such as security
- Easier upgrade and exchange of system components

Better return on existing investment, reduced risk for future investment

The structure of existing and planned systems is clearly defined, leading to:

- Reduced complexity in IT infrastructure
- Maximum return on investment in existing IT infrastructure
- Flexibility to make, buy, or out-source IT solutions
- Reduced risk overall in new investment, and the costs of IT ownership

Faster, simpler, and cheaper procurement

There is a clear strategy for future procurement and migration, with the result that:

- Buying decisions are simpler, because the information governing procurement is readily available in a coherent plan.
- The procurement process is faster – maximizing procurement speed and flexibility without sacrificing architectural coherence.

Flexibility for business growth and restructuring

It is much easier to ensure access to integrated information across the enterprise:

- Maximum flexibility for business growth and restructuring
- Real savings when re-engineering business processes following internal consolidations, mergers, and acquisitions

Faster time-to-market

An IT infrastructure much better equiped to support the rapid deployment of mission-critical business applications:

- Faster time-to-market for new products and services, leading to ...
- Increased growth and profitability

In short, an effective IT architecture can make the difference between business success and failure. By investing in IT architecture, you are investing in:

- Business success
- Independence from suppliers
- Control over your own destiny

So you need an IT Architecture – let us introduce you to TOGAF ...

What is TOGAF?

TOGAF is an architectural framework – The Open Group Architectural Framework. It is a valuable tool for developing a broad range of different IT architectures. Most importantly, it enables you to design, evaluate, and build the right architecture for your organization. The key to TOGAF is a reliable, proven method – the TOGAF Architecture Development Method (ADM) – for developing an IT architecture that meets the needs of your business.

Why a "framework" for IT Architecture?

Using an architectural framework will speed up and simplify architecture development, ensure more complete coverage of the designed solution, and make certain that the architecture selected allows for future growth in response to the needs of the business. Architecture design is a technically complex process, and the design of heterogeneous, multi-vendor architectures is particularly complex. TOGAF plays an important role in helping to "de-mystify" the architecture development process, enabling IT users to build genuinely open systems-based solutions to their business needs.

Why is this important?

Those IT users who do not invest in IT architecture typically find themselves pushed inexorably to single-supplier solutions in order to ensure an integrated solution. At that point, no matter how ostensibly "open" any single supplier's products may be in terms of adherence to standards, the user will be unable to realize the potential benefits of truly heterogeneous, multi-vendor open systems.

TOGAF enables Architectures that Address Business Needs

"More and more organizations are struggling to adapt to the rapid pace of technology change and take advantage of such change for business benefit ...

Because of its open systems pedigree, however, TOGAF promotes the development of architectures that ensure interoperability, scalability, and portability, all of which are key components in complex e-commerce projects.

TOGAF prescribes architectures that are driven top-down from a business standpoint, not bottom-up from a technical standpoint ...

Applying TOGAF tools enables the production of an architecture that is specific to your organization and its business issues and needs. The resulting architecture becomes the strategic blueprint for implementing solutions ...

Several excellent technology planning methodologies are commercially available and in the public domain. We have found The Open Group's TOGAF model to be a solid and elegant doctrine for architectural planning. One important characteristic of TOGAF is its full cognizance and support of the organization's business requirements and objectives – which are, in fact, some of the most critical inputs to the planning process. Adaptability is also a key component of TOGAF, making it possible to mold the framework to your organization's specific requirements.

Finally, we maintain that the "business-facing" aspect of TOGAF renders it traceable, justifiable, and, ultimately, a value proposition that many organizations cannot ignore if they wish to adapt and thrive in the epoch of the Internet year."

Extract taken from "Blueprint for the Flexible Enterprise" by Tony Beveridge and Col Perks. Published in "Intelligent Enterprise" March 1st, 2000, Volume 3, Number 4.

The Value of TOGAF as an Aid to IT Architecture

"It was very interesting to me to be able to find an Architecture Forum within The Open Group that had developed an architecture framework called TOGAF, and a corresponding development method, ADM. After studying the TOGAF documentation, I decided we could use this as the basis for the Dairy Farm Technical Architecture, and it would cut out from the development process months and months of effort. Not only would it take time out, it would give us a clear path to follow assuring us the degree of success that otherwise would not have been the case.

We decided to supplement the use of TOGAF and the ADM with consultants from The Open Group who were skilled in the use of the technologies associated with TOGAF and the ADM.

A combination of those three things, embodied in a concept which we called the Technical Architecture Program Group, really did an astonishing thing. In a very short time – four months, in fact – we produced what I think is really a world-class statement of technology architecture.

And I believe that if we had not used TOGAF as the basis and had not used the ADM, and had not have the great fortune to meet up with The Open Group and their consultants, we would still have been pretty much at ground zero."

Nick Price, Group Technical Architect
Dairy Farm Group
www.dairyfarmgroup.com

How does TOGAF help to deliver an effective IT Architecture?

TOGAF represents the world's best practice in architecture development:

- Developed by members of The Open Group, a not-for-profit body consisting of the world's Fortune 1000 and the world's major IT vendors
- Based on commercial off-the-shelf (COTS) open standards
- Genuinely vendor-neutral
- Does not imply or favor any particular technology or computing paradigm
- Backed by tools and professional services that are similarly independent of specific technology solutions, are practical, and reduce the costs of planning, designing, and implementing architectures based on open systems solutions
- Developed by experienced users and vendors working in combination
- Endorsed by a body representing 25% of the world's computing purchasing power
- Demonstrated to work in practice by leading user organizations, who have documented their experiences in case studies that are freely available for review
- Freely licensed (for internal use)

TOGAF is published by The Open Group on its public web site, and may be licensed freely by any organization wishing to use it in developing an information systems architecture for use within that organization.

This also has the advantage that a specific customer's suppliers can easily access the underlying methodology and nomenclature when preparing project documents for the customer's consideration.

Customers who design and implement corporate architectures using TOGAF are thus ensured of a design and a procurement specification that will greatly facilitate open systems implementation, and will enable the benefits of open systems to accrue to their oganizations with reduced risk.

Specifically, use of TOGAF will:

- Enable users to implement and gain the benefits of genuinely open systems solutions at reduced cost
- Simplify the related processes of open systems design, planning, product procurement, and implementation
- Help the IT function to better communicate its goals and strategy to corporate management

What specifically does TOGAF contain?

TOGAF consists of two parts: the TOGAF Foundation Architecture and the TOGAF Architecture Development Method (ADM).

TOGAF Foundation Architecture

The TOGAF Foundation Architecture is an architecture of generic services and functions that provides a foundation on which specific architectures and architectural building blocks can be built. This Foundation Architecture includes the TOGAF Standards Information Base (SIB), which is a database of open industry standards that can be used to define the particular services and other components of an organization-specific architecture.

TOGAF ADM

The TOGAF Architecture Development Method (ADM) explains exactly how to get from the Foundation Architecture to an organization-specific one. The ADM provides:

- A proven method – the Business Scenario Method – for defining and understanding the business requirements that the architecture is to address
- A reliable, practical way of developing the architecture
- Guidance on developing architecture views which enable the architect to ensure that a complex set of requirements are adequately addressed
- A worked example and linkages to practical case studies
- Tools for architecture development

In short, TOGAF provides a common sense, practical, prudent, and effective method of developing an IT architecture.

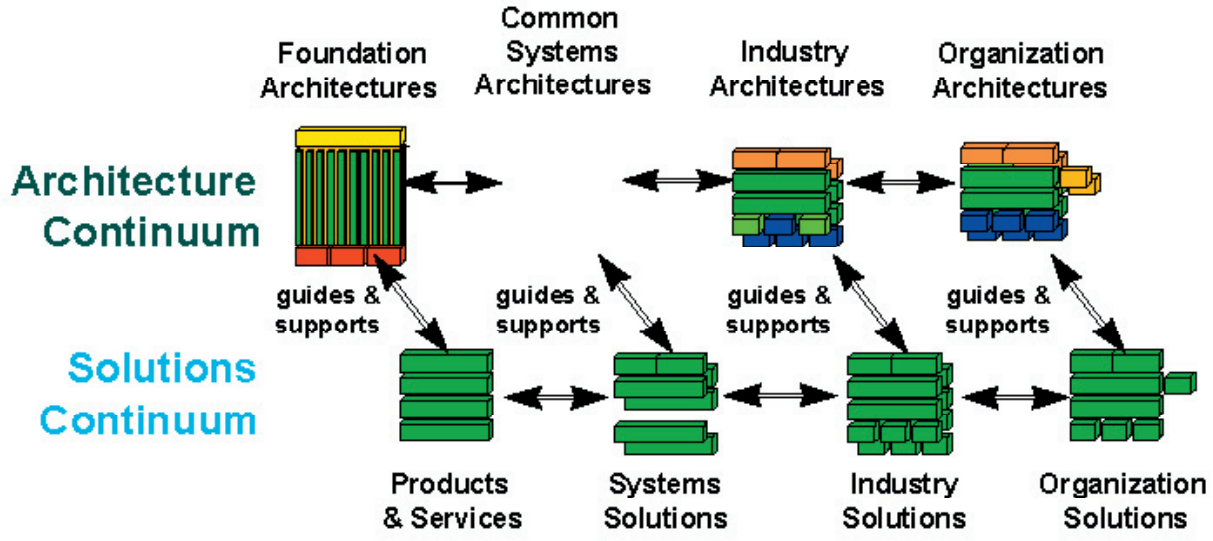
The figure below shows the Enterprise Continuum diagram, explained in the TOGAF documentation.

The Value of the TOGAF Architecture Development Method

"Litton PRC has systems engineering processes that are encouraged for use across our organization. One of these processes is for creating and evolving systems architectures. Several years ago, when our Systems Engineering Lead Team created that process, The Open Group Architecture Framework (TOGAF) was used as a key source. Our engineers particularly liked the practical approach of TOGAF's Architecture Development Methodology (ADM) in recognizing that architectures rarely start with a blank sheet of paper and in providing a building block approach to defining solutions.

Our customers are usually upgrading existing environments and often require retention of key subsystems or accommodation of enterprise choices of vendor products. Thanks to TOGAF's ADM, we highlighted consideration of constratints and enterprise preferences in our process. We expeted to use the process on large programs to facilitate business process re-engineering or legacy system migration. However, we found that the architecture process also has real value even when used in amended form on smaller activities."

Hal Wilson, VP & GM
Electronic Enterprise Solutions, Litton PRC
www.prc.com



Using the TOGAF Architecture Development Method

"Using TOGAF accelerated our implementation of architectural and standards-setting processes by enabling the rapid adoption of a robust framework for the way we think about architectural domains. Because we rely on this external authoritative way of viewing the problem space, we save ourselves the unproductive arguments that we would otherwise have about the best way to do what TOGAF has done for us.

In our major outsourced relationships (approximately A$350m per annum of our spend), we have been able to institutionalize TOGAF as the reference for all discussions about architecture and about how technologies are assessed for their appropriateneess to our organization. TOGAF was also used to aid in clarifying the line between architecture (down to level 3) and design which has been important to us as we have retained accountability for architecture but have contracted technical infrastructure design to our major outsource suppliers.

Our vendors were very prepared to accept TOGAF as the model even though they have their own proprietary architectural frameworks. This is again a testimony to both the power of The Open Group's Forums, and the quality of the framework itself.

Use of the model is also working well from a business perspective as we now are taking more time to focus on relevant product capability to meet the business need. Sometimes it is simply the third-party product packaging that sells the product, and not new and different technical capabilities that the product brings. TOGAF has helped us to create processes and awareness that therefore save us money.

Bob Hennessy
Head of Planning & Architecture Services
Westpac Banking Corporation, Australia

... and how do I use it?

TOGAF is published by The Open Group on its public web site, and may be reproduced freely by any organization wishing to use it to develop an information systems architecture for use within that organization.

Basically, information about the benefits and constraints of the existing implementation, together with requirements for change, are combined using the methods described in the TOGAF ADM, resulting in a "target architecture" or set of architectures.

The TOGAF Standards Information Base (SIB) provides a database of open industry standards that can be used to define the particular services and components required in the products purchased to implement the developed architecture. The SIB provides a simple and highly effective way to procure against an IT architecture.

Let us introduce you to the Architecture Forum ...

What do I get from participating in The Open Group Architecture Forum?

Firstly, immediate access to the results of TOGAF development ...

The Open Group Architecture Forum is the development program within which TOGAF is evolved, and in which TOGAF users come together to exchange information and feedback. By joining the Architecture Forum, its members gain:

- Immediate access to the results of the current year's TOGAF work program (not publicly available until the publication of the next edition of the TOGAF public documentation)
- Exchange of experience with other customer and vendor organizations involved in the development and practical use of TOGAF and IT architectures in general
- Peer review of specific architecture case study material

... but much, much more

The Open Group Architecture Forum does far more than just evolve TOGAF. The Architecture Forum is an open worldwide forum for dialog between customer IT architects, IT architecture tool vendors, and IT solutions vendors, that provides significant value to all participants.

At the present time, the Forum is progressing a number of important complementary projects with the following synergistic goals:

- An effective open framework and method
- Architecture as a professional discipline
- Adequate "Commercial Off-The-Shelf" tools for architecture

What are the specific business benefits of participation?

Like TOGAF, this wider program of work offers significant business benefits to all its participants.

Benefits to End Customers

- Reduced time, cost, and risk in the development of an IT architecture
- Reduced time, cost, and risk in the procurement of effective IT architecture tools
- Reduced time, cost, and risk in the procurement of conformant products to implement an IT architecture
- Faster realization of business benefits from faster IT architecture development, and greater freedom and flexibility to respond to changing business needs

Benefits to IT Architecture Tools Vendors

Bigger market, and bigger market share, by supporting open methods for IT architecture.

Benefits to IT Solutions Vendors

- Reduced costs of responding/bidding on procurements and RFPs that mandate open standards, particularly those based on an IT architecture
- Greater share of such procurements
- Increased customer awareness of vendor commitment to open systems

Benefits to Integrators

- Better service delivery to clients, and hence bigger market share, by supporting open methods for IT architecture
- Increased customer awareness of integrator commitment to open systems

Benefits to Academic/Research Organizations

- Increased opportunities for funding support by demonstrated relevance to the market
- A "technology transfer" route to industry standardization – often important in bids for funding

The Value of TOGAF as an Aid to IT Architecture

"Our Corporate IS/IT Architecture Framework (CISITAF) is based on TOGAF. The work done by The Open Group on TOGAF has proved invaluable and enabled us to make more rapid progress in our endeavors.

It has proved useful in a major procurement project to establish new IS/IT supply arrangements with the private sector. Its vendor neutrality supports our shift in emphasis from the definition of products to the purchase of services from multiple service providers. Architecture views have provided us with an ideal means of eliciting full and comparable descriptions of proposed solutions.

Quite simply, the CISITAF is a key aspect of our evolving partnership with our suppliers."

Derek Beetham
UK Department of Social Security
www.dss.gov.uk

How was TOGAF created?

TOGAF was developed by The Open Group's own members, working within The Open Group Architecture Forum.

The original development of TOGAF was based on the Technical Architecture Framework for Information Management (TAFIM), developed by the US Department of Defense (DoD).

The DoD gave The Open Group explicit permission and encouragement to create TOGAF by building on the TAFIM, which itself represented hundreds of person-years of development effort and millions of dollars of US government investment.

Starting from this sound foundation, the members of The Open Group Architecture Forum have developed successive versions of TOGAF over the last ten years and published them on The Open Group's public web site.

What next?

1. Review the information on our web site and download TOGAF free-of-charge for detailed evaluation at www.opengroup.org/architecture.
2. Get in touch with The Open Group (see contact information below).
3. Attend a TOGAF Open Day in association with The Open Group Conferences (see www.opengroup.org/conference).
4. Join The Open Group at the appropriate membership level.
5. You may need help from experienced consultants. Contact staff at The Open Group who can put you in touch with certified TOGAF consultants to facilitate your technical architecture development.

The Open Group

The Open Group is a vendor-neutral and technology-neutral consortium, whose vision of Boundaryless Information Flow will enable access to integrated information within and between enterprises based on open standards and global interoperability. The Open Group works with customers, suppliers, consortia, and other standards bodies. Its role is to capture, understand, and address current and emerging requirements, establish policies, and share best practices; to facilitate interoperability, develop consensus, and evolve and integrate specifications and Open Source technologies; to offer a comprehensive set of services to enhance the operational efficiency of consortia; and to operate the industry's premier certification service, including UNIX certification. Further information on The Open Group is available at www.opengroup.org.

Contacts

John Spencer, Architecture Forum Director
j.spencer@opengroup.org +44 (0)118 902 3062

Chris Parnell, Region Manager, Europe
c.parnell@opengroup.org +44 (0)118 902 3038

Tonya Henderson, Region Manager, USA
t.henderson@opengroup.org +1 408 410 4113

Paul Hickey, Region Manager, Rest-of-World
p.hickey@opengroup.org +1 512 343 0927

Jack Fujieda, Chairman, The Open Group Japan
j.fujieda@opengroup.org +81 3 5360 8211

TOGAF: The Pre-eminent Framework and Methodology for Architecture

"TOGAF is the pre-eminent enterprise architecture methodology. Importantly ... organizations can use it freely to develop their own internal enterprise architectures. Continuously developed over the last ten years, TOGAF combines the best of the academic, commercial, and government thinking on enterprise architectures.

As an organization we have used it with financial services, retail, government, and defence clients, in Asia, USA, and Europe, and on projects ranging from whole enterprise architectures through to major system procurement. In all cases we have found that its use significantly reduces time, costs, and risks ... The methodology is transparent, verifiable, and defensible – we have found these are very valuable attributes in highly politicized environments with competing architectures jockeying for CIO/CEO mind share."

Geoff McClelland, Director
Centre for Open Systems Pty Ltd.
www.cfos.com.au

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