

# SOFTWARE ARCHITECT

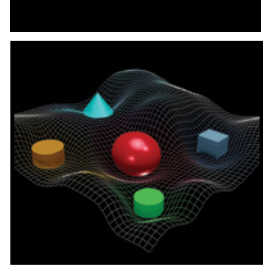
MICHAEL BELL

WILEY



# **Software Architect**





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Michael Bell

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## About the Author

**Michael Bell** is an American novelist, artist, producer, and enterprise solution architect, chiefly recognized for developing the Incremental Software Architecture methodology (ISAM), Service-Oriented Modeling Framework (SOMF), Cloud Computing Modeling Notation (CCMN), and the Multidimensional Software Architecture Construction (MSAC). His innovative research and publications in the fields of software architecture, service-oriented architecture, microservices, artificial intelligence (AI), cloud computing, and big data are recognized internationally for their contribution to the software design and development communities. He has consulted for organizations including J.P. Morgan Chase, Citibank, Bank One, UBS-Paine Webber, American Express, AIG, and the U.S. government. He is the best-selling author of software architecture books, and he offers a variety of enterprise integration solutions for back-end and customer-facing systems.







## About the Technical Editor

**Paul C. Martello** is a technical writer with more than 18 years of experience in IT. Before becoming a technical writer, he held roles ranging from elementary and business teacher in New York to history teacher for Fairfax County Public Schools in Virginia. In 2005, Paul was selected to participate in the Relief International Schools Online Teacher Exchange in Bangladesh, integrating technology in schools. He loves watching his favorite football team, the Buffalo Bills, traveling, and spending time with his family in Bristow, Virginia.

## About the Contributing Editors

**Noreen O'Brien** has spent the better part of her life writing, editing, and creating through various mediums. From her start as a reporter to the freelance editing work she does today, she has been instrumental in the production of a multitude of papers, dissertations, and documents. She lives in Richmond, Virginia, with her son, Liam.

**Monica Gagnier** is an experienced editor who has worked with Michael Bell on previous books. A graduate of Syracuse University's S.I. Newhouse School of Public Communications, Gagnier is a seasoned financial journalist who has worked at such publications as BusinessWeek (now Bloomberg Businessweek), the New York Post, and the Albuquerque Journal. She lives in Santa Fe, N.M.





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# Introduction: Software Architect, Who Are You?

As a software architect you've embarked on a career journey in an uncharted and unpredictable territory with no guarantee of successful technological solutions. You are employed as a software architect to participate in a corporate business, technological, and social experiment whose chief thrust is to manufacture software products deployed to virtual environments. It's also arduous to foretell the business performance quality and stability after deploying and integrating software implementations in computing ecosystems.

By no means is this a bleak portrayal of a software architecture career. On the contrary, the uncertainty of your contribution to enterprise solutions only opens the doors to business development and transformation opportunities, technological modernization, and career improvement and growth. Furthermore, your hard work and dedication can be achieved through the power of creativity, imagination, and persistence. Once you are resolved to pursue a software architecture career, or are already a devoted practitioner, you're destined for a highly successful journey.

The following sections draw a picture of an *ideal software architect* whose capability to solve organizational problems is beyond imagination. This profile represents a well-rounded software architect with close-to-perfect professional talents that organizations would most certainly employ if the need existed. However, do not fret or be discouraged. We strive to possess these outlined qualities to make a difference in people's lives by promoting business culture, strategies, mission, and vision.

Figure I.1 illustrates the ideal software architect's attributes: career-oriented, innate traits-driven, strategy-driven, culture promoter, integration-driven, leadership-oriented, solution-driven, domain-driven, and social-driven.

So, ideal software architect, who are you?



**Figure I.1:** An Ideal Software Architect Profile

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## You Promote Institutional Culture

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You're hired as a software architect to inspire change, stir up enthusiasm for innovation, stimulate new ideas, affect organizational strategies, combat business and technological stagnation, and make a big difference in people's lives.

### Become an Agent of Cultural Transformation

You are offered a key position to participate in transforming the *old* into the *new*. The former refers to outdated business concepts, traditional ways of doing business, archaic methods of developing software products, and waning technological solutions. The "new," on the other hand, pertains to modern technologies, creative and practical applications and systems, innovative end-to-end software architecture methodologies and life cycles, and partnerships that promote organizational dialogue to secure the business.

By partaking in such ambitious organizational metamorphosis, you're the *de facto institutional agent of cultural transformation*. You are actively engaged in a social and technological experiment that touches lives and instills change in people's behavior. This multifaceted cultural change manifests in how people communicate, interface with applications and systems, form relationships and partnerships, run their daily lives, and manage their careers.

So, how do software architects promote organizational culture? The arsenal of tools and utilities employed to impact the environment profoundly is vast.

Furthermore, the sky is the limit for technological evolution and innovation. The business and technological solutions you're being asked to provide drive the establishment of organizational *policies*, *best practices*, and *standards*. These rules and procedures you're advocating for promote institutional norms of behavior, foster business alliances, and forge new codes of cultural conduct.

## **Contribute, Do Not Follow**

However, the cultural change that you're promoting does not touch only individuals. You are employed to harness the power of your talents and creativity to form a new generation of ideas and find shared values reinforced by members of your organization inspired by your innovative visions. In reality, you are a benefactor at heart, not a follower. Any organizational solution you offer contributes to the institutional knowledge base and the collective memory of your followers, who are ultimately employed to solve enterprise problems.

## **Further Reading**

Although the topic of promoting organizational culture is discussed throughout the book, refer to these chapters to learn about the specific methods that software architects can leverage to impact institutional culture:

- Chapter 3, "Career Planning for Software Architects: A Winning Strategy" depicts four career-driven perspectives that can impact organizational culture: social-driven, technology-driven, management-driven, and strategy-driven.
- Chapter 4, "Self-Assessment for Software Architects" offers a self-scoring questionnaire that contains queries about promoting organizational culture methods.

## **You're an Astute Strategist**

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Your strategic mindset is the key to the success of your software architecture career. No matter which software architecture scope of solutions you pursue, application or enterprise level, focus on the big picture. You're a generalist by nature. Never rush into details to develop effective solutions. Having a bird's-eye view is what makes you an all-around type of person.

You're also a gifted tactician who incessantly occupies your mind with long-term and sustainable solutions to remediate business problems. The prospect of business prosperity and technological continuity motivates you to carve out complicated schedules, road maps, and product development timetables.

No matter the magnitude of your work, your strategic outlook is driven by a thorough study of business and technological events that occur on the ground. Then, by connecting the dots, you deliver superior software architecture artifacts. In this context, *connecting the dots* pertains to aggregating and utilizing all possible organizational resources, such as subject-matter experts, data, utilities, and facilities, to derive the best possible software and environment implementations.

## **Adopt an Effective Outside-In Strategy to Deliver Synthesized Software Architecture Solutions**

You're an outside-in software architecture strategist attuned to market and industry trends, quality of organizational services, and, most important, customer imperatives. In addition, you are acquainted with advanced product development life-cycle methodologies and often follow business market developments and innovations, valuable knowledge that drives your methodological approach to meeting client requirements. Satisfying these imperatives begins with an effective business discovery and analysis process that leads to software architecture solutions.

Do not be constrained by existing technological limitations. If current organizational technologies tend to narrow the scope of your vision, you must drive change, modernization, and initiatives aligned with your software architecture vision and mission. Furthermore, you drive business and technological transformation through creativity, curiosity, and modernity synthesis. Finally, never deprive yourself of the freedom of imagination when proposing innovative software architecture implementations.

## **Align Software Architecture Strategies with Organizational Imperatives**

As an astute software architecture strategist, you know that your technological vision and mission must align with business strategies. Remember, you're not operating in a vacuum. Your software architecture solutions, therefore, ought to promote business agendas, foster business growth, and ensure business stability and continuity.

However, aligning software architecture strategies with business vision and mission would not promote satisfactory technological solutions. Business cooperation and coordination are indeed primary and compulsory goals for software architects. Their duties, however, must go beyond business imperatives. There are accessorial software architecture strategy alignment necessities to drive a comprehensive enterprise technological balance.

Thus, software architecture strategies must also be aligned with existing deployment environments, supporting infrastructure, development platforms,

data and message exchange mechanisms, architecture styles, design patterns, and integration patterns. Again, promote transformation initiatives to satisfy software architecture vision and mission if software architecture strategies cannot align with existing technologies and environments.

Figure I.2 illustrates a software architecture strategy alignment priority example chart that outlines alignment opportunities with business, technologies, environment, and infrastructure.



**Figure I.2:** Software Architecture Alignment Priorities

## Further Reading

The topic of software architecture strategy alignment with business strategy, vision, and mission to propel technological initiatives across the organization is discussed largely in Chapter 2, “Types of Software Architects.” It introduces three business needs for software architecture to foster organizational transformation and modernization: strategic collaboration, technological mediation, and technological implementation

## You’re a Gifted Leader

You’re a leader, not necessarily a manager. You possess noteworthy interpersonal traits. You’re a person of integrity who instills trust in your co-workers, managers, corporate executives, and partners. You promote institutional social harmony to foster consensus on software architecture strategies, technologies, best practices, standards, and policies. You’re trusting and trustworthy because you have a positive perspective of humankind.

Your natural leadership traits inspire followers. These devoted fans respect your perspectives and are committed to collaborating with you on software architecture projects and business initiatives. As a gifted technological leader and team player, you prefer to collaborate with others. You encourage diversity of

ideas and solutions by fostering the collective creativity of enthusiastic technologists. You never impose your views on others—in contrast, you’re an advisor, a mentor who offers viable guidance to those who seek professional direction.

**TIP** Remember, you’re a leader. You’re not a manager or administrator who signs timesheets and reprimands staff for wrongdoing.

## **Tolerate Errors and Stay Open to Technological Experiences**

Your innate problem-solving and decision-making skills paint a realistic view of your organization’s business and technological contribution. In other words, nothing is perfect! You understand the difficulties and constraints of any proposed software architecture solution. And you’re aware of the impact your technical recommendations have on your organization. You’re wise to understand that ill-designed applications and systems can cause operational chaos, disrupt business continuity, negatively impact productivity, and harm your company’s bottom line.

With all these potential risks to the enterprise, you’re still a natural optimist and idealist, a risk-taker willing to surrender short-term gains in favor of strategic long-term technological success. These traits define a person who tolerates design errors, software implementation mishaps, and software deployment and integration flaws. In reality, you’re not afraid of failure. In your mind, the design experiment journey you’re willing to embark on can only promote successful technological modernization.

## **Build a Circle of Trustful Followers by Uplifting Their Spirits**

As a software architect, you must inspire others and galvanize positive energy among your co-workers and work teams. You’re here to foster creativity—the failure of imagination is not an option. You are here to usher intelligent followers who trust your software architecture judgment and good taste, and who are not afraid of making design mistakes or expressing silly opinions.

**TIP** Remember, you’re an experimentalist whose leadership traits galvanize enthusiasm for collaborative teamwork to offer superb technological solutions for sustaining and accelerating business success.

## **Further Reading**

Take the self-evaluation questionnaire provided in Chapter 4, “Self-Assessment for Software Architects,” to find out if you possess the proper software architecture