

It Infrastructure Architecture Building Blocks

Develop enterprise architect skills by building secure, highly available, and cost-effective solutions with Oracle Functions, Terraform, and the Oracle Cloud VMware Solution Key Features Explore Oracle's Gen 2.0 Cloud infrastructure and its high-performance computing capabilities Understand hybrid cloud capabilities and learn to migrate apps from on-premises VMware clusters to OCI Learn to create Kubernetes clusters and run containerized applications on Oracle's Container Engine Book Description Oracle Cloud Infrastructure (OCI) is a set of complementary cloud services that enables you to build and run a wide range of applications and services in a highly available hosted environment. This book is a fast-paced practical guide that will help you develop the capabilities to leverage OCI services and effectively manage your cloud infrastructure. Oracle Cloud Infrastructure for Solutions Architects begins by helping you get to grips with the fundamentals of Oracle Cloud Infrastructure, and moves on to cover the building blocks of the layers of Infrastructure as a Service (IaaS), such as Identity and Access Management (IAM), compute, storage, network, and database. As you advance, you'll delve into the development aspects of OCI, where you'll

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learn to build cloud-native applications and perform operations on OCI resources as well as use the CLI, API, and SDK. Finally, you'll explore the capabilities of building an Oracle hybrid cloud infrastructure. By the end of this book, you'll have learned how to leverage the OCI and gained a solid understanding of the persona of an architect as well as a developer's perspective. What you will learn

Become well-versed with the building blocks of OCI Gen 2.0 Cloud Control access to your cloud resources using IAM components Manage and operate various compute instances Tune and configure various storage options for your apps Develop applications on OCI using OCI Registry (OCIR), Cloud Shell, OCI Container Engine for Kubernetes (OKE), and Service Mesh Discover ways to use object-relational mapping (ORM) to create infrastructure blocks using Terraform code

Who this book is for This book is for cloud architects, cloud developers, and DevSecOps engineers who want to learn how to architect and develop on Oracle Cloud Infrastructure by leveraging a wide range of OCI IAAS capabilities. Working knowledge of Linux, exposure to basic programming, and a basic understanding of networking concepts are needed to get the most out of this book. Intelligent readers who want to build their own embedded computer systems-- installed in everything from cell phones to cars to handheld organizers to refrigerators-- will find this book to be the most in-depth,

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practical, and up-to-date guide on the market. Designing Embedded Hardware carefully steers between the practical and philosophical aspects, so developers can both create their own devices and gadgets and customize and extend off-the-shelf systems. There are hundreds of books to choose from if you need to learn programming, but only a few are available if you want to learn to create hardware. Designing Embedded Hardware provides software and hardware engineers with no prior experience in embedded systems with the necessary conceptual and design building blocks to understand the architectures of embedded systems. Written to provide the depth of coverage and real-world examples developers need, Designing Embedded Hardware also provides a road-map to the pitfalls and traps to avoid in designing embedded systems. Designing Embedded Hardware covers such essential topics as: The principles of developing computer hardware Core hardware designs Assembly language concepts Parallel I/O Analog-digital conversion Timers (internal and external) UART Serial Peripheral Interface Inter-Integrated Circuit Bus Controller Area Network (CAN) Data Converter Interface (DCI) Low-power operation This invaluable and eminently useful book gives you the practical tools and skills to develop, build, and program your own application-specific computers. The software development ecosystem is constantly changing, providing a constant

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stream of new tools, frameworks, techniques, and paradigms. Over the past few years, incremental developments in core engineering practices for software development have created the foundations for rethinking how architecture changes over time, along with ways to protect important architectural characteristics as it evolves. This practical guide ties those parts together with a new way to think about architecture and time. A manifesto calling for a new kind of architecture that confronts social and economic inequality and uneven urban growth. Spatializing Justice calls for architects and urban designers to do more than design buildings and physical systems. Architects should take a position against inequality and practice accordingly. With these thirty short, manifesto-like texts—building blocks for a new kind of architecture—Spatializing Justice offers a practical handbook for confronting social and economic inequality and uneven urban growth in architectural and planning practice, urging practitioners to adopt approaches that range from redefining infrastructure to retrofitting McMansions. These building blocks call for expanded modes of practice, through which architects can imagine new spatial procedures, political and economic strategies, and modalities of sociability. Challenging existing exclusionary policies can advance a more experimental architecture not bound by formal parameters. Architects must think of

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themselves as designers not only of things but of civic processes, complicate the ideas of ownership and property, and imagine new sites of research, pedagogy, and intervention. As one of the texts advises, "The questions must be different questions if we want different answers." Copublished with Hatje Cantz Verlag

Infrastructure Building Blocks and Concepts
Open Building in Practice

TOGAF® Version 9.1

Support Constant Change

Build modern, cloud-native, and distributed systems using Spring Boot

The Art of Systems Architecting, Third Edition

The Enterprise Cloud

Dot-com infrastructure failures often make headlines -- and in most cases, they're directly attributable to underlying architectural shortcomings. In this book, Sun consultants offer expert guidance on next-generation architecture for dot-coms -- and on the related design and implementation issues that are critical to every Internet-focused business. Dot-Com & Beyond reviews today's most powerful Internet-related opportunities for improving business efficiency, reaching new markets, and establishing "time-based" value chains. It then provides comprehensive guidance on implementing IT architectures that can support these new applications. The book introduces Sun's exclusive

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"3-dimensional methodology," and the key architectural, design, and implementation practices needed to create an effective Internet infrastructure. Discover how to build architectures that last, by designing for systematic qualities; how to manage dot-com projects effectively; and what future dot-com infrastructures will look like. The book also contains a start-to-finish case study drawn from an actual project at a leading Fortune 500 company. For all developers, system architects, e-commerce managers, and other IT professionals seeking better ways to leverage Internet technologies.

Architects and healthcare clients are increasingly coming to recognize that, once built, healthcare facilities are almost immediately subject to physical alterations which both respond to and affect healthcare practices. This calls into question the traditional ways in which these facilities are designed. If functions and practices are subject to alteration, the standard approach of defining required functions and practices before acquiring facilities is obsolete. We need other starting points, working methods, and ways of collaborating.

Healthcare Architecture as Infrastructure presents these new approaches. Advocating an infrastructure theory of built environment transformation in which design and investment decisions are organized hierarchically and transcend short-term use, the book draws the practice and research of a number of

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architects from around the world. Written by experts with experience in policy making, designing, building, and managing complex healthcare environments, it shows professionals in architecture, engineering, healthcare and facilities management how to enhance the long-term usefulness of their campuses and their building stock and how to strengthen their physical assets with the capacity to accommodate a quickly evolving healthcare sector.

The first book in the IT Architect series helps aspiring & experienced IT infrastructure architects/administrators, and those pursuing infrastructure design certifications, establish a solid foundation in the art of infrastructure design. The three autho

Learn to develop, test, and deploy your Spring Boot distributed application and explore various best practices. Key Features Build and deploy your microservices architecture in the cloud Build event-driven resilient systems using Hystrix and Turbine Explore API management tools such as KONG and API documentation tools such as Swagger Book Description Spring is one of the best frameworks on the market for developing web, enterprise, and cloud ready software. Spring Boot simplifies the building of complex software dramatically by reducing the amount of boilerplate code, and by providing production-ready features and a simple deployment model. This book will address the challenges related

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to power that come with Spring Boot's great configurability and flexibility. You will understand how Spring Boot configuration works under the hood, how to overwrite default configurations, and how to use advanced techniques to prepare Spring Boot applications to work in production. This book will also introduce readers to a relatively new topic in the Spring ecosystem – cloud native patterns, reactive programming, and applications. Get up to speed with microservices with Spring Boot and Spring Cloud. Each chapter aims to solve a specific problem or teach you a useful skillset. By the end of this book, you will be proficient in building and deploying your Spring Boot application. What you will learn

- Build logically structured and highly maintainable Spring Boot applications
- Configure RESTful microservices using Spring Boot
- Make the application production and operation-friendly with Spring Actuator
- Build modern, high-performance distributed applications using cloud patterns
- Manage and deploy your Spring Boot application to the cloud (AWS)
- Monitor distributed applications using log aggregation and ELK

Who this book is for The book is targeted at experienced Spring and Java developers who have a basic knowledge of working with Spring Boot. The reader should be familiar with Spring Boot basics, and aware of its benefits over traditional Spring Framework-based applications.

Citrix XenApp® 7.5 Desktop Virtualization Solutions

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Concepts, Technology & Architecture

How Markets Shape Cities

Designing Embedded Hardware

Building Applications and Infrastructure in the Cloud

Cloud Application Architectures

Architecting the Industrial Internet

If engineering is the art and science of technical problem solving, systems architecting happens when you don't yet know what the problem is.

The third edition of a highly respected bestseller, *The Art of Systems Architecting* provides in-depth coverage of the least understood part of systems design: moving from a vague concept and limited resources to a satisfactory and feasible system concept and an executable program. The book provides a practical, heuristic approach to the "art" of systems architecting. It provides methods for embracing, and then taming, the growing complexity of modern systems. New in the Third Edition: Five major case studies illustrating successful and unsuccessful practices

Information on architecture frameworks as standards for architecture descriptions New methods for integrating business strategy and architecture and the role of architecture as the technical embodiment of strategy Integration of process guidance for organizing and managing architecture projects Updates to the rapidly changing fields of software and systems-of-systems architecture Organization of heuristics around a simple and practical process model A Practical Heuristic Approach to the Art of

Systems Architecting Extensively rewritten to reflect the latest developments, the text explains how to create a system from scratch, presenting invention/design rules together with clear explanations of how to use them. The author supplies practical guidelines for avoiding common systematic failures while implementing new mandates. He uses a heuristics-based approach that provides an organized attack on very ill-structured engineering problems.

Examining architecture as more than a set of diagrams and documents, but as a set of decisions that either drive a system to success or doom it to failure, the book provide methods for integrating business strategy with technical architectural decision making.

Helmut Holzapfel's Urbanism and Transport, a bestseller in its own country, now available in English, examines the history and the future of urban design for transport in major European cities. **Urbanism and Transport** shows how the automobile has come to dominate the urban landscape of cities throughout the world, providing thought-provoking analysis of the societal and ideological precursors that have given rise to these developments. It describes the transformation that occurred in urban life through the ongoing separation of social functions that began in the 1920s and has continued to produce today's phenomenon of fractured urban experience - a sort of island urbanism. Professor Holzapfel examines the vital relation between the house and the street in the urban environment and explains the

importance of small-scale, mixed-use urban development for humane city living, contrasting such developments with the overpowering role that the automobile typically plays in today's cities. Taking the insights gained from its historical analysis with a special focus on Germany and the rise of fascism, the book provides recommendations for architects and engineers on how urban spaces, streets, structures and transport networks can be more successfully integrated in the present day. Urbanism and Transport is a key resource for architects, transport engineers, urban and spatial planners, and students providing essential basic knowledge about the urban situation and the challenges of reclaiming cities to serve the basic needs of people rather than the imperatives of automobile transport. An argument that operational urban planning can be improved by the application of the tools of urban economics to the design of regulations and infrastructure. Urban planning is a craft learned through practice. Planners make rapid decisions that have an immediate impact on the ground—the width of streets, the minimum size of land parcels, the heights of buildings. The language they use to describe their objectives is qualitative—“sustainable,” “livable,” “resilient”—often with no link to measurable outcomes. Urban economics, on the other hand, is a quantitative science, based on theories, models, and empirical evidence largely developed in academic settings. In this book, the eminent urban planner Alain Bertaud

argues that applying the theories of urban economics to the practice of urban planning would greatly improve both the productivity of cities and the welfare of urban citizens. Bertaud explains that markets provide the indispensable mechanism for cities' development. He cites the experience of cities without markets for land or labor in pre-reform China and Russia; this "urban planners' dream" created inefficiencies and waste. Drawing on five decades of urban planning experience in forty cities around the world, Bertaud links cities' productivity to the size of their labor markets; argues that the design of infrastructure and markets can complement each other; examines the spatial distribution of land prices and densities; stresses the importance of mobility and affordability; and critiques the land use regulations in a number of cities that aim at redesigning existing cities instead of just trying to alleviate clear negative externalities. Bertaud concludes by describing the new role that joint teams of urban planners and economists could play to improve the way cities are managed.

For trainers free additional material of this book is available. This can be found under the "Training Material" tab. Log in with your trainer account to access the material. TOGAF is a framework - a detailed method and a set of supporting tools - for developing an enterprise architecture, developed by members of The Open Group Architecture Forum. TOGAF Version 9.1 is a maintenance update to TOGAF 9,

addressing comments raised since the introduction of TOGAF 9 in 2009. It retains the major features and structure of TOGAF 9, thereby preserving existing investment in TOGAF, and adds further detail and clarification to what is already proven. It may be used freely by any organization wishing to develop an enterprise architecture for use within that organization (subject to the Conditions of Use). This Book is divided into seven parts: Part I - Introduction This part provides a high-level introduction to the key concepts of enterprise architecture and in particular the TOGAF approach. It contains the definitions of terms used throughout TOGAF and release notes detailing the changes between this version and the previous version of TOGAF. Part II - Architecture Development Method This is the core of TOGAF. It describes the TOGAF Architecture Development Method (ADM) a step-by-step approach to developing an enterprise architecture. Part III - ADM Guidelines & Techniques This part contains a collection of guidelines and techniques available for use in applying TOGAF and the TOGAF ADM. Part IV - Architecture Content Framework This part describes the TOGAF content framework, including a structured metamodel for architectural artifacts, the use of re-usable architecture building blocks, and an overview of typical architecture deliverables. Part V - Enterprise Continuum & Tools This part discusses appropriate taxonomies and tools to categorize and store the outputs of architecture

activity within an enterprise. Part VI - TOGAF Reference Models This part provides a selection of architectural reference models, which includes the TOGAF Foundation Architecture, and the Integrated Information Infrastructure Reference Model (III-RM). **Part VII Architecture Capability Framework** This section looks at roles, Governance, compliance skills and much more practical guidance

SCION: A Secure Internet Architecture

77 Building Blocks of Digital Transformation

Mastering Spring Boot 2.0

Straight to the Core

IP Storage Networking

A practical guide to effectively designing enterprise-grade solutions with OCI services

Building Blocks for Architects and City and Transport Planners

Practical advice for redesigning “big, old” companies for digital success, with examples from Amazon, BNY Mellon, LEGO, Philips, USAA, and many other global organizations. Most established companies have deployed such digital technologies as the cloud, mobile apps, the internet of things, and artificial intelligence. But few established companies are designed for digital. This book offers an essential guide for retooling organizations for digital success. In the digital economy, rapid pace of change in technology capabilities and customer desires means that business strategy must be fluid. As a result, the authors explain, business design has become a critical management responsibility. Effective business design

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enables a company to quickly pivot in response to new competitive threats and opportunities. Most leaders today, however, rely on organizational structure to implement strategy, unaware that structure inhibits, rather than enables, agility. In companies that are designed for digital, people, processes, data, and technology are synchronized to identify and deliver innovative customer solutions—and redefine strategy. Digital design, not strategy, is what separates winners from losers in the digital economy. Designed for Digital offers practical advice on digital transformation, with examples that include Amazon, BNY Mellon, DBS Bank, LEGO, Philips, Schneider Electric, USAA, and many other global organizations. Drawing on five years of research and in-depth case studies, the book is an essential guide for companies that want to disrupt rather than be disrupted in the new digital landscape. Five Building Blocks of Digital Business Success Shared Customer Insights Operational Backbone Digital Platform Accountability Framework External Developer Platform

Over the past 20 years, software architectures have significantly contributed to the development of complex and distributed systems. Nowadays, it is recognized that one of the critical problems in the design and development of any complex software system is its architecture, i.e. the organization of its architectural elements. Software Architecture presents the software architecture paradigms based on objects, components, services and models, as well as the various architectural techniques and methods,

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the analysis of architectural qualities, models of representation of architectural templates and styles, their formalization, validation and testing and finally the engineering approach in which these consistent and autonomous elements can be tackled.

IP Storage Networking: Straight to the Core is your complete blueprint for planning, deploying, managing, and maximizing the business value of enterprise storage. Gary Orenstein introduces IP storage, iSCSI, and related technologies; then shows how to integrate them into an overall storage strategy for maximizing availability and business agility. Coverage includes: architecture; software infrastructure; virtualization; security; storage policies; outsourcing; and measuring ROI on enterprise storage investments.

Prepare for the future of cloud infrastructure: Distributed Services Platforms By moving service modules closer to applications, Distributed Services (DS) Platforms will future-proof cloud architectures—improving performance, responsiveness, observability, and troubleshooting.

Network pioneer Silvano Gai demonstrates DS Platforms' remarkable capabilities and guides you through implementing them in diverse hardware. Focusing on business benefits throughout, Gai shows how to provide essential shared services such as segment routing, NAT, firewall, micro-segmentation, load balancing, SSL/TLS termination, VPNs, RDMA, and storage—including storage compression and encryption. He also compares three leading hardware-based approaches—Sea of Processors,

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FPGAs, and ASICs—preparing you to evaluate solutions, ask the right questions, and plan strategies for your environment. Understand the business drivers behind DS Platforms, and the value they offer See how modern network design and virtualization create a foundation for DS Platforms Achieve unprecedented scale through domain-specific hardware, standardized functionalities, and granular distribution Compare advantages and disadvantages of each leading hardware approach to DS Platforms Learn how P4 Domain-Specific Language and architecture enable high-performance, low-power ASICs that are data-plane-programmable at runtime Distribute cloud security services, including firewalls, encryption, key management, and VPNs Implement distributed storage and RDMA services in large-scale cloud networks Utilize Distributed Services Cards to offload networking processing from host CPUs Explore the newest DS Platform management architectures Building a Future-Proof Cloud Architecture is for network, cloud, application, and storage engineers, security experts, and every technology professional who wants to succeed with tomorrow's most advanced service architectures.

Software Architecture 1

IT Architecture For Dummies

Designed for Digital

Cloud Computing for Enterprise Architectures

A Craftsman's Guide to Software Structure and Design

SOA Source Book

Leverage AIOps and DevSecOps for secure digital

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transformation

From cloud computing to big data to mobile technologies, there is a vast supply of information being mined and collected. With an abundant amount of information being accessed, stored, and saved, basic controls are needed to protect and prevent security incidents as well as ensure business continuity. Applications of Security, Mobile, Analytic, and Cloud (SMAC) Technologies for Effective Information Processing and Management is a vital resource that discusses various research findings and innovations in the areas of big data analytics, mobile communication and mobile applications, distributed systems, and information security. With a focus on big data, the internet of things (IoT), mobile technologies, cloud computing, and information security, this book proves a vital resource for computer engineers, IT specialists, software developers, researchers, and graduate-level students seeking current research on SMAC technologies and information security management systems.

This book explains the concepts, history, and implementation of IT infrastructures. Although many of books can be found on each individual infrastructure building block, this is the first book to describe all of them: datacenters, servers, networks, storage, operating systems, and end user devices. The building blocks described in this book provide functionality, but they also provide the non-functional attributes performance, availability, and security. These attributes are explained on a conceptual

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level in separate chapters, and specific in the chapters about each individual building block. Whether you need an introduction to infrastructure technologies, a refresher course, or a study guide for a computer science class, you will find that the presented building blocks and concepts provide a solid foundation for understanding the complexity of today's IT infrastructures. This book can be used as part of IT architecture courses based on the IS 2010.4 curriculum.

Practical Software Architecture Solutions from the Legendary Robert C. Martin (“ Uncle Bob ”) By applying universal rules of software architecture, you can dramatically improve developer productivity throughout the life of any software system. Now, building upon the success of his best-selling books Clean Code and The Clean Coder, legendary software craftsman Robert C. Martin (“ Uncle Bob ”) reveals those rules and helps you apply them. Martin ’ s Clean Architecture doesn ’ t merely present options. Drawing on over a half-century of experience in software environments of every imaginable type, Martin tells you what choices to make and why they are critical to your success. As you ’ ve come to expect from Uncle Bob, this book is packed with direct, no-nonsense solutions for the real challenges you ’ ll face – the ones that will make or break your projects. Learn what software architects need to achieve – and core disciplines and practices for achieving it Master essential software design principles for addressing function, component separation, and data management See how

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programming paradigms impose discipline by restricting what developers can do Understand what 's critically important and what 's merely a " detail " Implement optimal, high-level structures for web, database, thick-client, console, and embedded applications Define appropriate boundaries and layers, and organize components and services See why designs and architectures go wrong, and how to prevent (or fix) these failures Clean Architecture is essential reading for every current or aspiring software architect, systems analyst, system designer, and software manager – and for every programmer who must execute someone else 's designs. Register your product for convenient access to downloads, updates, and/or corrections as they become available. If you're involved in planning IT infrastructure as a network or system architect, system administrator, or developer, this book will help you adapt your skills to work with these highly scalable, highly redundant infrastructure services. While analysts hotly debate the advantages and risks of cloud computing, IT staff and programmers are left to determine whether and how to put their applications into these virtualized services. Cloud Application Architectures provides answers -- and critical guidance -- on issues of cost, availability, performance, scaling, privacy, and security. With Cloud Application Architectures, you will: Understand the differences between traditional deployment and cloud computing Determine whether moving existing applications to the cloud makes technical and business sense Analyze and

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compare the long-term costs of cloud services, traditional hosting, and owning dedicated servers Learn how to build a transactional web application for the cloud or migrate one to it Understand how the cloud helps you better prepare for disaster recovery Change your perspective on application scaling To provide realistic examples of the book's principles in action, the author delves into some of the choices and operations available on Amazon Web Services, and includes high-level summaries of several of the other services available on the market today. Cloud Application Architectures provides best practices that apply to every available cloud service. Learn how to make the transition to the cloud and prepare your web applications to succeed.

Enterprise DevOps for Architects

Cloud Computing

IT Architect: Foundation in the Art of Infrastructure

Design: A Practical Guide for IT Architects

Dot-com & Beyond

Building a Future-Proof Cloud Infrastructure

A Unified Architecture for Network, Security, and Storage Services

Hybrid Cloud for Architects

Despite the buzz surrounding the cloud computing, only a small percentage of organizations have actually deployed this new style of IT—so far. If you're planning your long-term cloud strategy, this practical book provides insider knowledge

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and actionable real-world lessons regarding planning, design, operations, security, and application transformation. This book teaches business and technology managers how to transition their organization's traditional IT to cloud computing. Rather than yet another book trying to sell or convince readers on the benefits of clouds, this book provides guidance, lessons learned, and best practices on how to design, deploy, operate, and secure an enterprise cloud based on real-world experience. Author James Bond provides useful guidance and best-practice checklists based on his field experience with real customers and cloud providers. You'll view cloud services from the perspective of a consumer and as an owner/operator of an enterprise private or hybrid cloud, and learn valuable lessons from successful and less-than-successful organization use-case scenarios. This is the information every CIO needs in order to make the business and technical decisions to finally execute on their journey to cloud computing. Get updated trends and definitions in cloud computing, deployment models, and for building or buying cloud services Discover challenges in cloud operations and management not foreseen by early adopters

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*Use real-world lessons to plan and build an enterprise private or hybrid cloud
Learn how to assess, port, and migrate legacy applications to the cloud Identify security threats and vulnerabilities unique to the cloud Employ a cloud management system for your enterprise (private or multi-provider hybrid) cloud ecosystem Understand the challenges for becoming an IT service broker leveraging the power of the cloud*

Looking for the big picture of building APIs? This book is for you! Building APIs that consumers love should certainly be the goal of any API initiative. However, it is easier said than done. It requires getting the architecture for your APIs right. This book equips you with both foundations and best practices for API architecture. This book is for you if you want to understand the big picture of API design and development, you want to define an API architecture, establish a platform for APIs or simply want to build APIs your consumers love. This book is NOT for you, if you are looking for a step-by step guide for building APIs, focusing on every detail of the correct application of REST principles. In this case I recommend the book "API Design" of the API-University Series. What is API architecture?

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Architecture spans the bigger picture of APIs and can be seen from several perspectives: API architecture may refer to the architecture of the complete solution consisting not only of the API itself, but also of an API client such as a mobile app and several other components. API solution architecture explains the components and their relations within the software solution. API architecture may refer to the technical architecture of the API platform. When building, running and exposing not only one, but several APIs, it becomes clear that certain building blocks of the API, runtime functionality and management functionality for the API need to be used over and over again. An API platform provides an infrastructure for developing, running and managing APIs. API architecture may refer to the architecture of the API portfolio. The API portfolio contains all APIs of the enterprise and needs to be managed like a product. API portfolio architecture analyzes the functionality of the API and organizes, manages and reuses the APIs. API architecture may refer to the design decisions for a particular API proxy. To document the design decisions, API description languages are used. We explain the use of API description languages (RAML

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and Swagger) on many examples. This book covers all of the above perspectives on API architecture. However, to become useful, the architecture needs to be put into practice. This is why this book covers an API methodology for design and development. An API methodology provides practical guidelines for putting API architecture into practice. It explains how to develop an API architecture into an API that consumers love. A lot of the information on APIs is available on the web. Most of it is published by vendors of API products. I am always a bit suspicious of technical information pushed by product vendors. This book is different. In this book, a product-independent view on API architecture is presented. The API-University Series is a modular series of books on API-related topics. Each book focuses on a particular API topic, so you can select the topics within APIs, which are relevant for you.

An architect's guide to designing, implementing, and integrating DevOps in the enterprise Key Features Design a DevOps architecture that is aligned with the overall enterprise architecture Design systems that are ready for AIOps and make the move toward NoOps Architect and implement DevSecOps pipelines, securing

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the DevOps enterpriseBook Description Digital transformation is the new paradigm in enterprises, but the big question remains: is the enterprise ready for transformation using native technology embedded in Agile/DevOps? With this book, you'll see how to design, implement, and integrate DevOps in the enterprise architecture while keeping the Ops team on board and remaining resilient. The focus of the book is not to introduce the hundreds of different tools that are available for implementing DevOps, but instead to show you how to create a successful DevOps architecture. This book provides an architectural overview of DevOps, AIOps, and DevSecOps - the three domains that drive and accelerate digital transformation. Complete with step-by-step explanations of essential concepts, practical examples, and self-assessment questions, this DevOps book will help you to successfully integrate DevOps into enterprise architecture. You'll learn what AIOps is and what value it can bring to an enterprise. Lastly, you will learn how to integrate security principles such as zero-trust and industry security frameworks into DevOps with DevSecOps. By the end of this DevOps book, you'll be able to develop robust DevOps architectures, know

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which toolsets you can use for your DevOps implementation, and have a deeper understanding of next-level DevOps by implementing Site Reliability Engineering (SRE). What you will learn Create DevOps architecture and integrate it with the enterprise architecture Discover how DevOps can add value to the quality of IT delivery Explore strategies to scale DevOps for an enterprise Architect SRE for an enterprise as next-level DevOps Understand AIOps and what value it can bring to an enterprise Create your AIOps architecture and integrate it into DevOps Create your DevSecOps architecture and integrate it with the existing DevOps setup Apply zero-trust principles and industry security frameworks to DevOps Who this book is for This book is for enterprise architects and consultants who want to design DevOps systems for the enterprise. It provides an architectural overview of DevOps, AIOps, and DevSecOps. If you're looking to learn about the implementation of various tools within the DevOps toolchain in detail, this book is not for you.

In 2018, '77 Building Blocks of Digital Transformation: The Digital Capability Model' was published to help 'digital practitioners' working in the digital space. Since then, quite a few readers

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have suggested writing a book about digital transformation for 'the general public' interested in learning more than basics of digital transformation. That is how the book '77 Building Blocks of Digital Transformation: Simply Explained' has been created. This book is intended to deliver the key messages of 'the 77 Building Blocks' to the general public. It aims to help the general public understand 'actual practices' in the digital space. This is not a theory book that discusses the academical ideas and concepts of digital transformation, but a 'practical' field book that describes the proven digital capabilities as the building blocks of digital transformation. This book does however not fully cover the technical detail of the Maturity Model described in '77 Building Blocks of Digital transformation: The Digital Capability Model' that aims to help digital practitioners with measuring digital maturity. Instead, this book provides examples of higher maturity indicators as an introduction to the Maturity Model. If you are looking for a deep dive into the Maturity Model, refer to '77 Building Blocks of Digital transformation: The Digital Capability Model'. This book covers: 1. Digital

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Customer Experience Management -Digital Customer Journey Management -User Research -Usability Analysis -User Experience Designing -User Experience Testing 2. Social Interaction -Social Listening -Social Media Marketing -Social Media Servicing -Online Community Management -Rating & Review Management -Content Moderation -Social Crisis Management3. Digital Marketing -Digital Brand Marketing -Search Engine Optimization -Paid Search -Content Targeting -Affiliate Marketing -Online Advertising -Digital Campaign Management -Lead Management -Marketing Offer Management -Email Marketing -Mobile Marketing -Marketing Automation -Conversion Rate Optimization4. Digital Commerce -Online Merchandising -Shopping Cart & Checkout -Payments & Reconciliation -Order Management & Fulfillment -Account Management & Self-Service5. Digital Channel Management -Channel Mix & Optimization -Cross-Business Integration -Cross-Channel Integration -Multi-Device Presentation6. Knowledge & Content Management -Knowledge Collaboration -Knowledge Base Management -Content Lifecycle Management -Digital Asset Management -Content Aggregation & Syndication -Web Content Management7. Customization & Personalization -Customer

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*Preference Management -Customer Communication Management -Social Behaviour Management -Interaction Tracking & Management -Customer Loyalty Management -Digital Customer Services*⁸. *Digital Intelligence -Product Similarity Analytics -Customer Insights -Customer Segmentation -Conversion Analytics -Digital Marketing Effectiveness -Big Data Analytics -Web Analytics -Reporting & Dashboard*⁹. *Digital Data Management -Non-relational Data Management -Distributed Data Store Management -Enterprise Search -Master Data Management -Data Quality Management -Digital Data Policy Management*¹⁰. *Digital Infrastructure Management -On-Demand Provisioning -User Interaction Services -Process Integration Services -Parallel Processing Services -Federated Access Management -Digital Continuity Management*¹¹. *Digital Alignment -Digital Innovation -Digital Planning -Digital Governance -Cross-Boundary Collaboration -Digital Journey Readiness*¹². *Digital Development & Operations -Digital Program & Project Management -Digital Design Authority -Digital Capability Development -Digital Capability Introduction -Digital Service Operations -Digital Quality Management*
Order without Design

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Build robust hybrid cloud solutions using AWS and OpenStack Critical Care

API Architecture

Building Evolutionary Architectures

How to Architect Your Business for Sustained Success

Data is at the center of many challenges in system design today. Difficult issues need to be figured out, such as scalability, consistency, reliability, efficiency, and maintainability. In addition, we have an overwhelming variety of tools, including relational databases, NoSQL datastores, stream or batch processors, and message brokers. What are the right choices for your application? How do you make sense of all these buzzwords? In this practical and comprehensive guide, author Martin Kleppmann helps you navigate this diverse landscape by examining the pros and cons of various technologies for processing and storing data. Software keeps changing, but the fundamental principles remain the same. With this book, software engineers and architects will learn how to apply those ideas in practice, and how to make full use of data in modern applications. Peer under the hood of the systems you already use, and learn how to use and operate them more effectively Make informed decisions by identifying the strengths and weaknesses of different tools Navigate the trade-offs around consistency, scalability, fault tolerance, and complexity Understand the distributed systems research upon which modern databases are built Peek behind the scenes of major online services, and learn from their architectures

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This book describes the essential components of the SCION secure Internet architecture, the first architecture designed foremost for strong security and high availability. Among its core features, SCION also provides route control, explicit trust information, multipath communication, scalable quality-of-service guarantees, and efficient forwarding. The book includes functional specifications of the network elements, communication protocols among these elements, data structures, and configuration files. In particular, the book offers a specification of a working prototype. The authors provide a comprehensive description of the main design features for achieving a secure Internet architecture. They facilitate the reader throughout, structuring the book so that the technical detail gradually increases, and supporting the text with a glossary, an index, a list of abbreviations, answers to frequently asked questions, and special highlighting for examples and for sections that explain important research, engineering, and deployment features. The book is suitable for researchers, practitioners, and graduate students who are interested in network security.

How architecture and urbanism can help to care for and repair a broken planet: essays and illustrated case studies. Today, architecture and urbanism are capital-centric, speculation-driven, and investment-dominated. Many cannot afford housing. Austerity measures have taken a disastrous toll on public infrastructures. The climate crisis has rendered the planet vulnerable, even uninhabitable. This book offers an alternative vision in architecture and urbanism that focuses on caring for a broken planet. Rooted in a radical care perspective that always starts from the given, in the midst of things, this edited collection of essays and illustrated case studies

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documents ideas and practices from an extraordinarily diverse group of contributors. Focusing on the three crisis areas of economy, ecology, and labor, the book describes projects including village reconstruction in China; irrigation in Spain; community land trust in Puerto Rico; revitalization of modernist public housing in France; new alliances in informal settlements in Nairobi; and the redevelopment of traditional building methods in flood areas in Pakistan. Essays consider such topics as ethical architecture, land policy, creative ecologies, diverse economies, caring communities, and the exploitation of labor. Taken together, these case studies and essays provide evidence that architecture and urbanism have the capacity to make the planet livable, again. Essays by Mauro Baracco, Sara Brolund de Carvalho, Jane Da Mosto, Angelika Fitz, H  l  ne Frichot, Katherine Gibson, Mauro Gil-Fournier Esquerria, Valeria Graziano, Gabu Heindl, Elke Krasny, Lisa Law, Ligia Nobre, Meike Schalk, Linda Tegg, Ana Carolina Tonetti, Kim Trogal, Joan C. Tronto, Theresa Williamson, Louise Wright Case studies aaa atelier d'architecture autog  r  e, Ayuntamiento BCN, Kashaf Mahboob Chowdhury/Urbana, C  clica [Space.Community.Ecology] + CAVAA arquitectes, Care+Repair Tandems Vienna (including Gabu Heindl, Zissis Kotionis + Phoebe Giannisi, rotor, Meike Schalk + Sara Brolund de Carvalho, Cristian Stefanescu, Rosario Talevi and many others), Colectivo 720, Estudio Teddy Cruz + FONNA Forman, EAHR Emergency Architecture & Human Rights, Fideicomiso de la Tierra del Ca  o Mart  n Pe  a CLT, Anna Heringer, Anupama Kundoo, KDI Kounkuey Design Initiative, Lacaton & Vassal, Yasmeen Lari, muf architecture/art, Paulo Mendes da Rocha + MMBB, RUF Rural Urban Framework, Studio Vlay Streeruwitz, De

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Vylder Vinck Taillieu, Xu Tiantian/DnA_Design and Architecture, ZUSAMMENKUNFT Berlin Copublished with Architekturzentrum Wien

It's not new to us that microservices are changing the way we conceive digital transformation, as organizations embrace digital transformation. Every day, more and more companies are betting on microservice adoption, and there is a strong reason for this: business needs to evolve and change at a fast pace, in order to adapt itself to satisfy a demanding 2.0 digital customer's experience in terms of overall service quality. Ensuring that such a change occurs seamlessly and progressively is one of the goals for microservices, and designing and building a solid microservice architecture is the way to guarantee that this happens from inception, by observing principles, best practices, design patterns, and reference models. This book provides a comprehensive walkthrough across the different concepts, frameworks, methodologies, and architecture building blocks that make up a microservice ecosystem and constitute a reference architecture from which you can get to multiple sub-architectures and implementations. Being an architect, you'll learn how to better design microservice-led and event-centric architectures in the right way from the early beginning, by showcasing learned lessons, best-practices do's, and don'ts. If you are starting your architecture career, it's the right place to get introduced to concepts and methodologies that you will then grow over time, as you acquire more experience. If you are a developer, but willing to jump into the exciting architecture world, this can also be good reading, however, be warned that some basic architectural understandings and concepts need to be first incorporated before walking through the advanced

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concepts presented throughout this book. This book requires you to have some minimal background around Docker and Microservices to better understand the more advanced concepts that are being explained.

IT Infrastructure Architecture - Infrastructure Building Blocks and Concepts Third Edition

Healthcare Architecture as Infrastructure Building Blocks

Clean Architecture

Applications of Security, Mobile, Analytic, and Cloud (SMAC) Technologies for Effective Information

Processing and Management

Oracle Cloud Infrastructure for Solutions Architects

Designing Data-Intensive Applications

Right Your Software and Transform Your Career Righting

Software presents the proven, structured, and highly engineered approach to software design that renowned architect Juval Löwy has practiced and taught around the world. Although companies of every kind have successfully implemented his original design ideas across hundreds of systems, these insights have never before appeared in print.

Based on first principles in software engineering and a comprehensive set of matching tools and techniques, Löwy's methodology integrates system design and project design. First, he describes the primary area where many software architects fail and shows how to decompose a system into smaller building blocks or services, based on volatility. Next, he shows how to flow an effective project design from the system design; how to accurately calculate the project duration, cost, and risk; and how to devise multiple execution options. The method and principles in Righting Software apply regardless of your project and company size, technology, platform, or industry. Löwy starts the reader on a journey that addresses the critical challenges of software development today by righting software

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systems and projects as well as careers—and possibly the software industry as a whole. Software professionals, architect project leads, or managers at any stage of their career will benefit greatly from this book, which provides guidance and knowledge that would otherwise take decades and many projects to acquire. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

This important text provides a single point of reference for state-of-the-art cloud computing design and implementation techniques. The book examines cloud computing from the perspective of enterprise architecture, asking the question; how do we realize new business potential with our existing enterprises? Topics and features: with a Foreword by Thomas Erl; contains contributions from an international selection of preeminent experts; presents the state-of-the-art in enterprise architecture approaches with respect to cloud computing models, frameworks, technologies, and applications; discusses potential research directions, and technologies to facilitate the realization of emerging business models through enterprise architecture approaches; provides relevant theoretical frameworks, and the latest empirical research findings.

For many decades, IT infrastructure has provided the foundation for successful application deployment. Yet, general knowledge of infrastructures is still not widespread. Experience shows that software developers, system administrators, and project managers often have little knowledge of the big influence IT infrastructures have on the performance, availability and security of software applications. This book explains the concepts, history, and implementation of IT infrastructures. Although many of books can be found on individual infrastructure building blocks, this is the first book to describe all of them: datacenters, servers, networks, storage virtualization, operating systems, and end user devices.

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Whether you need an introduction to infrastructure technologies, a refresher course, or a study guide for a computer science class, you will find that the presented building blocks and concepts provide a solid foundation for understanding the complexity of today's IT infrastructures. IT Infrastructure Architecture - Infrastructure Building Blocks and Concepts Third EditionLulu.com

Breakthrough Internet-based Architectures and Methodologies
Spatializing Justice

Architecture and Urbanism for a Broken Planet
Urbanism and Transport

It Infrastructure Architecture

Designing and Building Solid Microservice Ecosystems
New Carbon Architecture

If you are a Citrix® engineer, a virtualization consultant, or an IT project manager with prior experience of using Citrix XenApp® and related technologies for desktop virtualization and want to further explore the power of XenApp® for flawless desktop virtualization, then this book is for you. Software services are established as a programming concept, but their impact on the overall architecture of enterprise IT and business operations is not well-understood. This has led to problems in deploying SOA, and some disillusionment. The SOA Source Book adds to this a collection of reference material for SOA. It is an invaluable resource for enterprise architects working with SOA. The SOA Source Book will help enterprise architects to use SOA effectively. It explains: What SOA is How to evaluate SOA features in business terms How to model SOA How to use The Open Group Architecture Framework (TOGAF™) for SOA SOA governance This book explains how TOGAF can help to make an Enterprise

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Architecture. Enterprise Architecture is an approach that can help management to understand this growing complexity.

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Learn the ins and outs of the Industrial Internet of Things through subjects ranging from its history and evolution, right up to what the future holds. About This Book Define solutions that can connect existing systems and newer cloud-based solutions to thousands of thousands of edge devices and industrial machines Identify, define, and justify Industrial Internet of Things (IIoT) projects, and design an application that can connect to and control thousands of machines Leverage the power and

features of a platform to monitor, perform analytics, and maintain the Industrial Internet Who This Book Is For Architects who are interested in learning how to define solutions for the Industrial Internet will benefit immensely from this book. Relevant architect roles include enterprise architects, business architects, information architects, cloud solution architects, software architects, and others. The content is also relevant for technically inclined line of business leaders investing in these solutions. What You Will Learn Learn the history of the Industrial Internet and why an architectural approach is needed Define solutions that can connect to and control thousands of edge devices and machines Understand the significance of working with line of business leadership and key metrics to be gathered Connect business requirements to the functional architecture Gain the right expectation as to the capabilities of Industrial Internet applications and how to assess them Understand what data and analytics components should be included in your architecture solution Understand deployment trade-offs, management and security considerations, and the impact of emerging technologies In Detail The Industrial Internet or the IIoT has gained a lot of traction. Many leading companies are driving this revolution by connecting smart edge devices to cloud-based analysis platforms and solving their business challenges in new ways. To ensure a smooth integration of such machines and devices, sound architecture strategies based on accepted principles, best practices, and lessons learned must be applied. This book begins by providing a bird's eye view of what the IIoT is and how the industrial revolution has

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evolved into embracing this technology. It then describes architectural approaches for success, gathering business requirements, and mapping requirements into functional solutions. In a later chapter, many other potential use cases are introduced including those in manufacturing and specific examples in predictive maintenance, asset tracking and handling, and environmental impact and abatement. The book concludes by exploring evolving technologies that will impact IIoT architecture in the future and discusses possible societal implications of the Industrial Internet and perceptions regarding these projects. By the end of this book, you will be better equipped to embrace the benefits of the burgeoning IIoT. Style and approach This book takes a comprehensive approach to the Industrial Internet, thoroughly acquainting the reader with the concepts and philosophy of the IIoT. It provides a basis for defining an IIoT solution in a thoughtful manner and creating what will be viewed as a successful project.

***Best Practices for Transforming Legacy IT
The Big Ideas Behind Reliable, Scalable, and
Maintainable Systems***

***It Infrastructure Architecture - Infrastructure
Building Blocks and Concepts Second Edition
Building to Cool the Planet***

Righting Software

A solid introduction to the practices, plans, and skills required for developing a smart system architecture Information architecture combines IT skills with business skills in order to align the IT structure of an organization with the mission, goals, and objectives of its business. This friendly introduction to IT architecture walks you through the myriad issues and complex

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decisions that many organizations face when setting up IT systems to work in sync with business procedures. Veteran IT professional and author Kirk Hausman explains the business value behind IT architecture and provides you with an action plan for implementing IT architecture procedures in an organization. You'll explore the many challenges that organizations face as they attempt to use technology to enhance their business's productivity so that you can gain a solid understanding of the elements that are required to plan and create an architecture that meets specific business goals. Defines IT architecture as a blend of IT skills and business skills that focuses on business optimization, business architecture, performance management, and organizational structure Uncovers and examines every topic within IT architecture including network, system, data, services, application, and more Addresses the challenges that organizations face when attempting to use information technology to enable profitability and business continuity While companies look to technology more than ever to enhance productivity, you should look to IT Architecture For Dummies for guidance in this field.

Build your own hybrid cloud strategy with this comprehensive learning guide. Key Features Build a hybrid cloud strategy for your organization with AWS and OpenStack Leverage Hybrid Cloud to design a complex deployment pipeline Learn to implement security and monitoring best practices with real-world examples Book Description Hybrid cloud is currently the buzz word in the cloud world. Organizations are planning to adopt hybrid cloud strategy due to its advantages such as untested workloads, cloud-bursting, cloud service brokering and so on. This book will help you understand the dynamics, design principles, and deployment strategies of a Hybrid Cloud. You will start by understanding the concepts of hybrid cloud and the problems it solves as compared to a stand-alone public

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and private cloud. You will be delving into the different architecture and design of hybrid cloud. The book will then cover advanced concepts such as building a deployment pipeline, containerization strategy, and data storage mechanism. Next up, you will be able to deploy an external CMP to run a Hybrid cloud and integrate it with your OpenStack and AWS environments. You will also understand the strategy for designing a Hybrid Cloud using containerization and work with pre-built solutions like vCloud Air, VMware for AWS, and Azure Stack. Finally, the book will cover security and monitoring related best practices that will help you secure your cloud infrastructure. By the end of the book, you will be in a position to build a hybrid cloud strategy for your organization.

What you will learn

- Learn the demographics and definitions of Hybrid Cloud
- Understand the different architecture and design of Hybrid Cloud
- Explore multi-cloud strategy and use it with your hybrid cloud
- Implement a Hybrid Cloud using CMP / Common API's
- Implement a Hybrid Cloud using Containers
- Overcome various challenges and issues while working with your Hybrid Cloud
- Understand how to monitor your Hybrid Cloud
- Discover the security implications in the Hybrid Cloud

Who this book is for

This book is targeted at cloud architects, cloud solution providers, DevOps engineers, or any working stakeholder who wants to learn about the hybrid cloud architecture. A basic understanding of public and private cloud is desirable.

Explores cloud computing, breaking down the concepts, models, mechanisms, and architectures of this technology while allowing for the financial assessment of resources and how they compare to traditional storage systems.

“Green buildings” that slash energy use and carbon emissions are all the rage, but they aren’t enough. The hidden culprit is embodied carbon—the carbon emitted when materials are mined, manufactured, and transported—comprising some ten

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percent of global emissions. With the built environment doubling by 2030, buildings are a carbon juggernaut threatening to overwhelm the climate. It doesn't have to be this way. Like never before in history, buildings can become part of the climate solution. With biomimicry and innovation, we can pull huge amounts of carbon out of the atmosphere and lock it up as walls, roofs, foundations, and insulation. We can literally make buildings out of the sky with a massive positive impact. The New Carbon Architecture is a paradigm-shifting tour of the innovations in architecture and construction that are making this happen. Office towers built from advanced wood products; affordable, low-carbon concrete alternatives; plastic cleaned from the oceans and turned into building blocks. We can even grow insulation from mycelium. A tour de force by the leaders in the field, The New Carbon Architecture will fire the imagination of architects, engineers, builders, policy makers, and everyone else captivated by the possibility of architecture to heal the climate and produce safer, healthier, and more beautiful buildings. Bruce King, a structural engineer for thirty-five years, is Founder and Director of the Ecological Building Network (EBNet) and author of Buildings of Earth and Straw, Making Better Concrete, and Design of Straw Bale Buildings. He lives in San Rafael, California.