

1. Record Nr.	UNINA9910826939003321
Titolo	Fog and edge computing : principles and paradigms / / edited by Rajkumar Buyya and Satish Narayana Srirama
Pubbl/distr/stampa	Hoboken, New Jersey : , : John Wiley & Sons, Inc., , 2019 [Piscataway, New Jersey] : , : IEEE Xplore, , [2019]
ISBN	1-119-52506-3 1-119-52508-X 1-119-52501-2
Edizione	[1st edition]
Descrizione fisica	1 online resource (515 pages)
Collana	Wiley series on parallel and distributed computing THEi Wiley ebooks.
Disciplina	004.6782
Soggetti	Cloud computing Electronic data processing - Distributed processing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
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Sommario/riassunto

A comprehensive guide to Fog and Edge applications, architectures, and technologies Recent years have seen the explosive growth of the Internet of Things "IoT": the internet- connected network of devices that includes everything from personal electronics and home appliances to automobiles and industrial machinery. Responding to the ever-increasing bandwidth demands and privacy concerns of the IoT, Fog and Edge computing concepts have developed to collect, analyze, and process data closer to devices and more efficiently than traditional cloud architecture. Fog and Edge Computing: Principles and Paradigms provides a comprehensive overview of the state-of-the-art applications and architectures driving this dynamic field of computing while highlighting potential research directions and emerging technologies. Exploring topics such as developing scalable architectures, moving from closed systems to open systems, and ethical issues rising from data sensing, this timely book addresses both

the challenges and opportunities that Fog and Edge computing presents. Contributions from leading IoT experts discuss federating Edge resources, middleware design issues, data management and predictive analysis, smart transportation and surveillance applications, and more. A coordinated and integrated presentation of topics helps readers gain thorough knowledge of the foundations, applications, and issues that are central to Fog and Edge computing. This valuable resource: . Discusses IoT and new computing paradigms in the domain such as Fog, Edge and Mist. Provides insights on transitioning from current Cloud-centric and 4G/5G wireless environments to Fog computing. Examines methods to optimize virtualized, pooled, and shared resources. Identifies potential technical challenges and offers suggestions for possible solutions. Discusses major components of Fog and Edge computing architectures such as middleware, interaction protocols, and autonomic management. Includes access to a website portal for advanced online resources Fog and Edge Computing: Principles and Paradigms is an essential source of up-to-date information for systems architects, developers, researchers, and advanced undergraduate and graduate students in fields of computer science and engineering.
