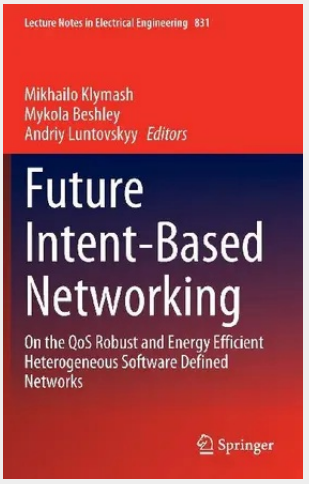
Klymash / Beshley / Luntovskyy

Future Intent-Based Networking

On the QoS Robust and Energy Efficient Heterogeneous Software Defined Networks



So-called Intent-Based Networking (IBN) is founded on well-known SDN (Software-Defined Networking) and represents one of the most important emerging network infrastructure opportunities. The IBN is the beginning of a new era in the history of networking, where the network itself translates business intentions into appropriate network configurations for all devices. This minimizes manual effort, provides an additional layer of network monitoring, and provides the ability to perform network analytics and take full advantage of machine learning. The centralized, software-defined solution provides process automation and proactive problem solving as well as centralized management of the network infrastructure. With software-based network management, many operations can be performed automatically using intelligent control algorithms (artificial intelligence and machine learning). As a result, network operation costs, application response times and energy consumption are reduced, networkreliability and performance are improved, network security and flexibility are enhanced. This will be a benefit for existing networks as well as evolved LTE-based mobile networks, emerging Internet of Things (IoT), Cloud systems, and soon for the future 5G/6G networks. The future networks will reach a whole new level of self-awareness, self-configuration, self-optimization, self-recovery and self-protection.
This volume consists of 28 chapters, based on recent research on IBN.The volume is a collection of the most important research for the future intent-based networking deployment provided by different groups of researchers from Ukraine, Germany, Slovak Republic, Switzerland, South Korea, China, Czech Republic, Poland, Brazil, Belarus and Israel. The authors of the chapters from this collection present in depth extended research results in their scientific fields.The presented contents are highly interesting while still being rather practically oriented and straightforward to understand. Herewith we would like to wish all our readers a lot of inspiration by studying of the volume!

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