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Nota di contenuto	1. Towards industrial and societal automation and digitisation / Jerker Delsing -- 2. Local automation clouds / Jerker Delsing and Pal Varga -- 3. The arrowhead framework architecture / Jerker Delsing, Pal Varga, Luis Ferreira, Michele Albano, Pablo Pual Pereira, Jens Eliasson, Oscar Carlsson, and Hasan Derhamy -- 4. Arrowhead Framework core systems and services / Jerker Delsing, Jens Eliasson, Michele Albano, Pal Varga, Luis Ferreira, Hasan Derhamy, Csaba Hegedus, Pablo Pual Pereira, and Oscar Carlsson -- 5. Application system and services : design and implementation : a cookbook / Jerker Delsing, Michele Albano, Luis Ferreira, Fredrik Blomstedt, Per Olofsson, Pal Varga, Federico Montori, and Fabio Viola -- 6. Engineering of IoT automation systems / Oscar Carlsson, Daniel Vera, Eduardo Arceredillo, Markus G. Tauber, Bilal Ahmad, Christoph Schmittner, Sandor Plosz, Thomas Rupprechter, Andreas Aldrian, and Jerker Delsing -- 7. Application system design : energy optimisation / Michele Albano, Arne Skou, Luis L Ferreira, Thibaut Le Guilly, Per D Pedersen, Torben Bach Pedersen, Petur Olsen, Laurynas Iknys, Radislav Smid, Petr Stluka, Claude Le Pape, Chlo Desdouits, Rodrigo Castieira, Rafael Socorro, Inge Isasa, Jani Jokinen, Lorenzo Manero, Aitor Milo, Javier Monge, Anatolijs Zabasta, Kaspars Kondratjevs, and Nadezhda Kunicina -- 8. Application system design : maintenance / Erkki Jantunen, Mika Karaila, David H'stbacka,

Antti Koistinen, Laurentiu Barna, Esko Juuso, Pablo Pual Pereira, Stphane Besseau, and Julien Hoepffner -- 9. Application system design : complex systems management and automation / Michele Ornato, Tullio Salmon Cinotti, Alberto Borghetti, Paolo Azzoni, Alfredo D'Elia, Fabio Viola, Federico Montori, and Riccardo Venanzi --10. Application system design : high security / Andreas Aldrian, Peter Priller, Christoph Schmittner, Sandor Plosz, Markus Tauber, Christina Wagner, Daniel Hein, Thomas Ebner, Martin Maritsch, Thomas Ruprecht, and Christian Lesjak -- 11. Application system design : smart production / Daniel Vera, Robert Harrison, Bilal Hamed, Claude le Pape, Chloe Desdouits, and Hasan Derhamy.

Sommario/riassunto

This book presents an in-depth description of the Arrowhead Framework and how it fosters interoperability between IoT devices at service level, specifically addressing application. The Arrowhead Framework utilizes SOA technology and the concepts of local clouds to provide required automation capabilities such as: real time control, security, scalability, and engineering simplicity. Arrowhead Framework supports the realization of collaborative automation; it is the only IoT Framework that addresses global interoperability across multiplet SOA technologies. With these features, the Arrowhead Framework enables the design, engineering, and operation of large automation systems for a wide range of applications utilizing IoT and CPS technologies. The book provides application examples from a wide number of industrial fields e.g. airline maintenance, mining maintenance, smart production, electro-mobility, automative test, smart cities--all in response to EU societal challenges. Features Covers the design and implementation of IoT based automation systems. Industrial usage of Internet of Things and Cyber Physical Systems made feasible through Arrowhead Framework. Functions as a design cookbook for building automation systems using IoT/CPS and Arrowhead Framework. Tools, templates, code etc. described in the book will be accessible through open sources project Arrowhead Framework Wiki at forge.soa4d.org/ Written by the leading experts in the European Union and around the globe.
