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1 Programme; 2.1 Granularity; 2.2 Strategic Information Management; 2.3 System Engineering Data Management; 2.4 Maturity Monitoring
2.5 Release Approach for Delivering SESAR Solutions3 Applicability to Other Large Scale Systems; 4 Conclusion; References; 2 Co-Engineering: A Key-Lever of Efficiency for Complex and Adaptive Systems, Throughout Their Life Cycle; Abstract; 1 Introduction; 1.1 The Main Features of Thales Group; 1.2 The Genesis of Co-Engineering Within Thales; 2 Co-Engineering Definition and Principles; 2.1 The Stakes; 2.2 Basic Definitions; 2.3 Main Principles; 3 When and How to Practice Co-Engineering?; 3.1 The Co-Engineering Implementation Criteria; 3.2 Typical Scenarios for Co-Engineering Implementation
4 ConclusionReferences; 3 Simplification Principles in the Design of Cyber-Physical System-of-Systems; Abstract; 1 Introduction; 2 Simplicity; 3 Relied-Upon Interfaces; 3.1 Information Versus Data; 3.2 Interface Types; 3.3 Interface Placement; 3.4 Interface Model; 4 State Management; 4.1 Definition of State; 4.2 Stateless Versus Statefull Services; 5 Faults Are Normal; 5.1 Fault-Containment and Error Detection; 5.2 Independent Monitoring System (IMS); 6 Simplification Principles; 7 Conclusion; Acknowledgments; References; 4 System Readiness Assessment (SRA) a Vade Mecum; Abstract
1 Introduction2 Metrics; 2.1 Technology Readiness Level (TRL); 2.2 Integration Readiness Level (IRL); 2.3 System Readiness Metrics; 3 The SRA Process; 4 A Walk Through System Readiness Analysis; 4.1 Sample Calculations; 4.2 Results and Interpretation; 5 Guidelines for Successful Implementation of the SRA Process; 6 Conclusion; References; 5 Designing and Integrating Complex Systems: Be Agile Through Liveness Verification and Abstraction; Abstract; 1 Introduction; 2 The Architectural Paradigms; 3 The Use of Liveness and Abstraction as a Design Guideline; 3.1 Model Abstraction
3.2 Liveness Analysis4 IDCM: Incremental Development of Compliant Models; 5 Conclusion; References; 6 Model-Driven IVV Management with Arcadia and Capella; Abstract; 1 Introduction; 2 Limits of a Sole Requirement-Based Integration, Verification, Validation; 3 Introducing Arcadia and Capella; 4 Model-Based Traceability/Justification Links Definition; 5 Building an IVV Strategy; 6 Day to Day IVV Activities Model-Based Support; 7 Future Work; 8 Conclusion; References; 7 How to Make Sure the System Level Conformity Assessment: Case of Japanese Consortia in Automotive Communication Protocol Abstract

Sommario/riassunto

This book contains all refereed papers that were accepted to the sixth edition of the « Complex Systems Design & Management Paris » (CSD&M Paris 2015) international conference which took place in Paris (France) on November 23-25, 2015. These proceedings cover the most recent trends in the emerging field of complex systems sciences & practices from an industrial and academic perspective, including the main industrial domains (aeronautics & aerospace, defense & security, electronics & robotics, energy & environment, health & welfare, software & e-services, transportation), scientific & technical topics (systems fundamentals, systems architecture & engineering, systems metrics & quality, systems modeling tools) and systems types (artificial ecosystems, embedded systems, software & information systems, systems of systems, transportation systems). The CSD&M Paris 2015 conference is organized under the guidance of the CESAMES non-profit organization, address: CESAMES, 8 rue de Hanovre, 75002 Paris, France.