

ISO/IEC 24039:2022-06 (E)

Information technology - Smart city digital platform reference architecture - Data and service

| Contents | | Page |
|-------------------|--|-------------|
| Foreword..... | | v |
| Introduction..... | | vi |
| 1 | Scope..... | 1 |
| 2 | Normative references..... | 1 |
| 3 | Terms and definitions..... | 1 |
| 4 | Overview..... | 2 |
| 5 | Design principles..... | 3 |
| 6 | Reference architecture..... | 4 |
| 7 | Technical support..... | 5 |
| | 7.1 Data collection..... | 5 |
| | 7.2 Data processing..... | 6 |
| | 7.3 Data storage..... | 6 |
| | 7.4 Development and testing..... | 7 |
| | 7.5 Operating tool..... | 7 |
| | 7.5.1 Life cycle management..... | 7 |
| | 7.5.2 System operation..... | 7 |
| 8 | Resource management..... | 8 |
| | 8.1 Data governance..... | 8 |
| | 8.1.1 Data ownership identification..... | 8 |
| | 8.1.2 Metadata management..... | 8 |
| | 8.1.3 Data quality..... | 9 |
| | 8.1.4 Data policy..... | 9 |
| | 8.2 Data assets management..... | 9 |
| | 8.2.1 Data asset identification and registration..... | 9 |
| | 8.2.2 Data asset directory and catalogue management..... | 10 |
| | 8.2.3 Data asset model..... | 10 |
| | 8.2.4 Data asset association..... | 10 |
| | 8.2.5 Data asset security..... | 10 |
| | 8.3 Data intelligence..... | 11 |
| | 8.3.1 Data training..... | 11 |
| | 8.3.2 Data analysis..... | 11 |
| | 8.3.3 Data visualization..... | 12 |
| | 8.4 Service decoupling..... | 12 |
| | 8.5 Domain model..... | 12 |
| | 8.5.1 Domain knowledge..... | 12 |
| | 8.5.2 Domain business logic..... | 12 |
| | 8.6 Service extraction..... | 13 |
| 9 | Capability exposure..... | 13 |
| | 9.1 Data service..... | 13 |
| | 9.2 Data operation..... | 13 |
| | 9.2.1 Authorization..... | 13 |
| | 9.2.2 Circulation..... | 14 |
| | 9.3 Data portal..... | 14 |
| | 9.4 Service integration..... | 14 |
| | 9.4.1 Service interaction..... | 14 |

| | | | |
|-----------|-------|---|-----------|
| | 9.4.2 | Service encapsulation | 15 |
| 9.5 | | Service delivery | 15 |
| | 9.5.1 | Service accessibility | 15 |
| | 9.5.2 | Delivery management | 15 |
| | 9.5.3 | Service evaluation | 15 |
| 10 | | Interface | 16 |
| | 10.1 | Collection interface | 16 |
| | | 10.1.1 Secure access | 16 |
| | | 10.1.2 Digital representation | 16 |
| | | 10.1.3 Command distribution | 16 |
| | | 10.1.4 Message push | 16 |
| | | 10.1.5 Service access | 16 |
| | | 10.1.6 Protocol and format translation | 17 |
| | 10.2 | Delivery interface | 17 |
| | | 10.2.1 Authentication | 17 |
| | | 10.2.2 Inquire | 17 |
| | | 10.2.3 Subscription | 17 |
| | | 10.2.4 Procedure call | 17 |
| | | 10.2.5 System call | 17 |
| | | 10.2.6 Application programming interface (API) | 17 |
| | | Annex A (informative) Example of SCDP data service reusability | 18 |
| | | Annex B (informative) Elaboration with ISO/IEC 30145-3 | 20 |
| | | Bibliography | 22 |