

ISO/IEC TS 22237-31:2026-02 (E)

Information technology - Data centre facilities and infrastructures - Part 31: Key performance indicators for resilience

Contents

Page

- Foreword v
- Introduction vi
- 1 Scope 1**
- 2 Normative references 1**
- 3 Terms, definitions, symbols and abbreviated terms 1**
 - 3.1 Terms and definitions 1
 - 3.2 Symbols and abbreviated terms 6
 - 3.2.1 Symbols 6
 - 3.2.2 Abbreviated terms 7
- 4 Area of application 8**
 - 4.1 General 8
 - 4.2 DCI service definition 8
- 5 Resilience considerations as part of the life cycle 9**
 - 5.1 Implementation in the design process 9
 - 5.1.1 General 9
 - 5.1.2 Phase 1 — Strategy 9
 - 5.1.3 Phase 2 — Objectives 10
 - 5.1.4 Phase 3 — System specifications 10
 - 5.1.5 Phase 4 — Design proposal 10
 - 5.1.6 Phase 6 — Functional design 10
 - 5.1.7 Phase 8 — Final design and project plan 10
 - 5.1.8 Phase 10 — Construction 11
 - 5.1.9 Phase 11 — Operation 11
 - 5.2 Documentation during operation 11
 - 5.3 Documentation of resilience level 11
 - 5.3.1 General 11
 - 5.3.2 Requirements 12
 - 5.4 Documentation of dependability 12
 - 5.4.1 Requirements 12
 - 5.4.2 Recommendations 12
 - 5.5 Documentation of fault tolerance 12
 - 5.6 Documentation of availability tolerance 12
 - 5.6.1 Requirements 12
 - 5.6.2 Recommendations 12
- 6 Determination of KPIs for resilience 13**
 - 6.1 General 13
 - 6.2 Structuring of the KPIs for resilience 13
 - 6.2.1 General 13
 - 6.2.2 KPIs 14
 - 6.2.3 Metrics 15
 - 6.3 Dependability 16
 - 6.3.1 Provided KPIs 16
 - 6.3.2 Reliability 17
 - 6.3.3 Availability 18
 - 6.3.4 Failure rate 19
 - 6.4 Fault tolerance 20
 - 6.4.1 General 20
 - 6.4.2 Single point of failure (SPoF) 20

6.4.3	Double point of failure (DPoF)	20
6.5	Availability tolerance	20
6.5.1	General	20
6.5.2	Single point of reduced availability (SPoRA)	21
6.5.3	Double point of reduced availability (DPoRA)	21
6.6	Resilience level (RL)	21
6.6.1	General	21
6.6.2	Operation at normal resilience level	22
6.6.3	Operation at reduced resilience level (RRL)	23
6.7	Application to data centre infrastructures	24
6.7.1	Methodology and analysis considerations	24
6.7.2	Analysis process	25
6.7.3	Method of reliability block diagrams (RBD)	25
6.7.4	Method of failure mode effects and criticality analysis (FMECA)	26
Annex A (informative) Failure mode effects and criticality analysis		27
Annex B (informative) Dependability data		29
Annex C (informative) Resilience analysis for DCIs		47
Annex D (informative) SPoF Analysis for DCIs		52
Annex E (informative) Resilience level analysis for DCIs		55
Annex F (informative) Interval of confidence		57
Bibliography		60