

Contents

| | Page |
|--|------|
| Foreword | v |
| Introduction | vi |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 1 |
| 4 Symbols and abbreviated terms | 1 |
| 5 Notational conventions | 2 |
| 6 Cloud computing using multiple CSPs | 2 |
| 6.1 General | 2 |
| 6.2 Interactions among parties | 3 |
| 7 Multi-cloud | 3 |
| 7.1 General | 3 |
| 7.2 Multi-cloud sub-types | 4 |
| 7.2.1 CSC-mediated multi-cloud | 4 |
| 7.2.2 CSP-connected multi-cloud | 4 |
| 7.3 Characteristics | 5 |
| 7.4 Benefits | 6 |
| 7.5 Considerations | 8 |
| 7.6 Multi-cloud management | 8 |
| 8 Federated cloud | 9 |
| 8.1 General | 9 |
| 8.2 Benefits | 10 |
| 8.3 Considerations | 11 |
| 8.4 Cloud service federation | 11 |
| 8.4.1 Characteristics | 11 |
| 8.4.2 CSF membership | 12 |
| 8.4.3 Shared resource metadata and discovery | 12 |
| 8.4.4 CSF governance | 12 |
| 8.5 CSF domains | 13 |
| 8.5.1 General | 13 |
| 8.5.2 Administrative domains | 13 |
| 8.5.3 Regulatory domains | 13 |
| 8.6 CSF management sub-roles | 14 |
| 8.6.1 General | 14 |
| 8.6.2 CSF operator | 14 |
| 8.6.3 CSF manager | 14 |
| 8.6.4 CSF auditor | 14 |
| 8.6.5 CSF broker | 15 |
| 8.7 CSF topologies | 15 |
| 9 Hybrid cloud | 17 |
| 9.1 General | 17 |
| 9.2 Characteristics | 18 |
| 9.3 Benefits | 19 |
| 9.4 Considerations | 19 |
| 9.5 Hybrid cloud management | 19 |
| 9.6 Hybrid multi-cloud | 20 |

| | | |
|-----------|--|-----------|
| 10 | Inter-cloud | 20 |
| 10.1 | General..... | 20 |
| 10.2 | Characteristics..... | 21 |
| 10.3 | Benefits | 21 |
| 10.4 | Considerations..... | 21 |
| 10.5 | Management..... | 22 |
| | Annex A (informative) Use cases for multi-cloud management..... | 23 |
| | Bibliography..... | 25 |