BS ISO/IEC 30115-2:2022

BSI Standards Publication

Information technology — Redfish scalable platforms management API specification

Part 2: Redfish Schema Supplement v2021.1

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

National foreword

This British Standard is the UK implementation of ISO/IEC 30115-2:2022.

The UK participation in its preparation was entrusted to Technical Committee ICT/1, Information systems co-ordination.

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2022
Published by BSI Standards Limited 2022

ISBN 978 0 539 19646 7

ICS 35.020

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 October 2022.

Amendments/corrigenda issued since publication

Date	Text affected

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

INTERNATIONAL STANDARD

ISO/IEC 30115-2

First edition
2022-08

Information technology — Redfish scalable platforms management API specification —

Part 2:
Redfish Schema Supplement v2021.1

Reference number
ISO/IEC 30115-2:2022(E)

Documents
Document Sharing Hub

© ISO/IEC 2022

Full document details: BS ISO/IEC 30115-2:2022

COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents) or the IEC list of patent declarations received (see https://patents.iec.ch).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by DMTF (as DMTF Redfish Schema Supplement, DSP0268, Version 2021.1) and drafted in accordance with its editorial rules. It was adopted, under the JTC 1 PAS procedure, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

A list of all parts in the ISO/IEC 30115 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub
Full document details: BS ISO/IEC 30115-2:2022

Copyright Notice

Copyright © 2019-2021 DMTF. All rights reserved.

DMTF is a not-for-profit association of industry members dedicated to promoting enterprise and systems management and interoperability. Members and non-members may reproduce DMTF specifications and documents, provided that correct attribution is given. As DMTF specifications may be revised from time to time, the particular version and release date should always be noted.

Implementation of certain elements of this standard or proposed standard may be subject to third party patent rights, including provisional patent rights (herein "patent rights"). DMTF makes no representations to users of the standard as to the existence of such rights, and is not responsible to recognize, disclose, or identify any or all such third party patent right, owners or claimants, nor for any incomplete or inaccurate identification or disclosure of such rights, owners or claimants. DMTF shall have no liability to any party, in any manner or circumstance, under any legal theory whatsoever, for failure to recognize, disclose, or identify any such third party patent rights, or for such party's reliance on the standard or incorporation thereof in its product, protocols or testing procedures. DMTF shall have no liability to any party implementing such standard, whether such implementation is foreseeable or not, nor to any patent owner or claimant, and shall have no liability or responsibility for costs or losses incurred if a standard is withdrawn or modified after publication, and shall be indemnified and held harmless by any party implementing the standard from any and all claims of infringement by a patent owner for such implementations.

For information about patents held by third-parties which have notified the DMTF that, in their opinion, such patent may relate to or impact implementations of DMTF standards, visit http://www.dmtf.org/about/policies/disclosures.php.

This document's normative language is English. Translation into other languages is permitted.

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

CONTENTS

1 Overview . . . 32
1.1 Who should read this document? . . . 32
1.2 How can I provide feedback? . . . 32
1.3 Where can I find more information? . . . 32
2 Using this guide . . . 34
2.1 URI listings . . . 34
3 Common properties . . . 36
3.1 Properties that all Redfish Schemas define . . . 36
3.1.1 Properties . . . 36
3.2 Frequently used properties . . . 36
3.2.1 Properties . . . 37
3.3 Payload annotations . . . 37
3.3.1 Property-level annotations . . . 37
3.3.2 Properties . . . 37
3.3.3 Resource- or object-level annotations . . . 38
3.3.4 Properties . . . 38
3.3.5 Property details . . . 39
3.3.5.1 @Redfish.OperationApplyTime: . . . 39
4 Common objects . . . 40
4.1 Actions . . . 40
4.1.1 Properties . . . 40
4.2 Capacity . . . 40
4.2.1 Description . . . 40
4.2.2 Properties . . . 40
4.3 Identifier . . . 41
4.3.1 Description . . . 41
4.3.2 Properties . . . 42
4.3.3 Property details . . . 42
4.3.3.1 DurableNameFormat: . . . 42
4.4 IOStatistics . . . 43
4.4.1 Description . . . 43
4.4.2 Properties . . . 43
4.5 IPv4Address . . . 43
4.5.1 Description . . . 43
4.5.2 Properties . . . 44
4.5.3 Property details . . . 44
4.5.3.1 AddressOrigin: . . . 44
4.6 IPv6Address . . . 44
4.6.1 Description . . . 44
4.6.2 Properties . . . 45
4.6.3 Property details . . . 45

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

4.6.3.1 AddressOrigin: . . . 45
4.6.3.2 AddressState: . . . 45
4.7 IPv6GatewayStaticAddress . . . 46
4.7.1 Description . . . 46
4.7.2 Properties . . . 46
4.8 IPv6StaticAddress . . . 46
4.8.1 Description . . . 46
4.8.2 Properties . . . 46
4.9 Location . . . 47
4.9.1 Description . . . 47
4.9.2 Properties . . . 47
4.9.3 Property details . . . 51
4.9.3.1 LocationType: . . . 51
4.9.3.2 Orientation: . . . 51
4.9.3.3 RackOffsetUnits: . . . 51
4.9.3.4 Reference: . . . 52
4.10 Message . . . 52
4.10.1 Description . . . 52
4.10.2 Properties . . . 52
4.10.3 Property details . . . 53
4.10.3.1 MessageSeverity: . . . 53
4.11 Redundancy . . . 53
4.11.1 Description . . . 53
4.11.2 Properties . . . 53
4.11.3 Property details . . . 54
4.11.3.1 Mode: . . . 54
4.12 RedundantGroup . . . 55
4.12.1 Description . . . 55
4.12.2 Properties . . . 55
4.12.3 Property details . . . 55
4.12.3.1 RedundancyType: . . . 55
4.13 ReplicaInfo . . . 56
4.13.1 Description . . . 56
4.13.2 Properties . . . 56
4.13.3 Property details . . . 58
4.13.3.1 ConsistencyState: . . . 58
4.13.3.2 ConsistencyStatus: . . . 59
4.13.3.3 ConsistencyType: . . . 59
4.13.3.4 ReplicaFaultDomain: . . . 59
4.13.3.5 ReplicaPriority: . . . 59
4.13.3.6 ReplicaProgressStatus: . . . 60
4.13.3.7 ReplicaReadOnlyAccess: . . . 61
4.13.3.8 ReplicaRecoveryMode: . . . 61

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

4.13.3.9 ReplicaRole: . . . 61
4.13.3.10 ReplicaState: . . . 62
4.13.3.11 ReplicaType: . . . 63
4.13.3.12 ReplicaUpdateMode: . . . 63
4.13.3.13 RequestedReplicaState: . . . 63
4.13.3.14 UndiscoveredElement: . . . 64
4.14 Schedule . . . 65
4.14.1 Description . . . 65
4.14.2 Properties . . . 65
4.14.3 Property details . . . 65
4.14.3.1 EnabledDaysOfWeek:. . . . 65
4.14.3.2 EnabledMonthsOfYear:. . . . 66
4.15 Status . . . 67
4.15.1 Description . . . 67
4.15.2 Properties . . . 67
4.15.3 Property details . . . 68
4.15.3.1 Health: . . . 68
4.15.3.2 HealthRollup: . . . 68
4.15.3.3 Severity: . . . 69
4.15.3.4 State: . . . 69
5 Resource Collections . . . 71
5.0.1 Properties . . . 71
5.1 Resource collection URIs in Redfish v1.6 and later . . . 72
6 Schema Reference Guide . . . 84
6.1 AccelerationFunction 1.0.3 . . . 84
6.1.1 Description . . . 84
6.1.2 URIs . . . 84
6.1.3 Properties . . . 84
6.1.4 Property details . . . 85
6.1.4.1 AccelerationFunctionType: . . . 85
6.1.5 Example response . . . 86
6.2 AccountService 1.9.0. . . . 86
6.2.1 Description . . . 87
6.2.2 URIs . . . 87
6.2.3 Properties . . . 87
6.2.4 Property details . . . 90
6.2.4.1 AccountProviderType:. . . . 90
6.2.4.2 Authentication: . . . 90
6.2.4.3 AuthenticationType: . . . 91
6.2.4.4 ExternalAccountProvider: . . . 91
6.2.4.5 LDAPService: . . . 92
6.2.4.6 LocalAccountAuth: . . . 93
6.2.4.7 PasswordExchangeProtocols: . . . 93

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.2.4.8 RestrictedPrivileges: . . . 94
6.2.4.9 SupportedAccountTypes: . . . 94
6.2.4.10 TACACSplusService: . . . 95
6.2.5 Example response . . . 95
6.3 ActionInfo 1.1.2 . . . 97
6.3.1 Description . . . 97
6.3.2 Properties . . . 97
6.3.3 Property details . . . 98
6.3.3.1 DataType: . . . 98
6.3.4 Example response . . . 98
6.4 AddressPool 1.1.1 . . . 99
6.4.1 Description . . . 99
6.4.2 URIs . . . 99
6.4.3 Properties . . . 99
6.4.4 Property details . . . 116
6.4.4.1 IPv4AddressRange: . . . 116
6.4.5 Example response . . . 116
6.5 Aggregate 1.0.1 . . . 117
6.5.1 Description . . . 117
6.5.2 URIs . . . 117
6.5.3 Properties . . . 117
6.5.4 Actions . . . 118
6.5.4.1 AddElements . . . 118
6.5.4.2 RemoveElements . . . 118
6.5.4.3 Reset . . . 119
6.5.4.4 SetDefaultBootOrder . . . 119
6.5.5 Property details . . . 119
6.5.5.1 ResetType: . . . 119
6.5.6 Example response . . . 120
6.6 AggregationService 1.0.1 . . . 121
6.6.1 Description . . . 121
6.6.2 URIs . . . 121
6.6.3 Properties . . . 121
6.6.4 Actions . . . 122
6.6.4.1 Reset . . . 122
6.6.4.2 SetDefaultBootOrder . . . 123
6.6.5 Property details . . . 123
6.6.5.1 ResetType: . . . 123
6.6.6 Example response . . . 124
6.7 AggregationSource 1.1.0 . . . 125
6.7.1 Description . . . 125
6.7.2 URIs . . . 125
6.7.3 Properties . . . 125

© ISO/IEC 2022 – All rights reserved
AVA Documents
Document Sharing Hub
Full document details: BS ISO/IEC 30115-2:2022

6.7.4 Property details . . . 127
6.7.4.1 AuthenticationProtocol: . . . 127
6.7.4.2 EncryptionProtocol: . . . 127
6.7.5 Example response . . . 127
6.8 Assembly 1.3.0 . . . 128
6.8.1 Description . . . 128
6.8.2 URIs . . . 128
6.8.3 Properties . . . 130
6.8.4 Property details . . . 131
6.8.4.1 PhysicalContext: . . . 131
6.8.5 Example response . . . 133
6.9 AttributeRegistry 1.3.6 . . . 134
6.9.1 Description . . . 134
6.9.2 Properties . . . 134
6.9.3 Property details . . . 139
6.9.3.1 MapFromCondition: . . . 139
6.9.3.2 MapFromProperty: . . . 139
6.9.3.3 MapTerms: . . . 140
6.9.3.4 MapToProperty: . . . 140
6.9.3.5 Type: . . . 141
6.9.3.5.1 In RegistryEntries: Attributes: . . . 141
6.9.3.5.2 In RegistryEntries: Dependencies: . . . 141
6.9.4 Example response . . . 142
6.10 Bios 1.2.0 . . . 144
6.10.1 Description . . . 144
6.10.2 URIs . . . 144
6.10.3 Properties . . . 144
6.10.4 Actions . . . 145
6.10.4.1 ChangePassword . . . 145
6.10.4.2 ResetBios . . . 146
6.10.5 Example response . . . 146
6.11 BootOption 1.0.4 . . . 147
6.11.1 Description . . . 147
6.11.2 URIs . . . 147
6.11.3 Properties . . . 148
6.11.4 Property details . . . 148
6.11.4.1 Alias: . . . 148
6.11.5 Example response . . . 149
6.12 Certificate 1.3.0 . . . 149
6.12.1 Description . . . 150
6.12.2 URIs . . . 150
6.12.3 Properties . . . 152
6.12.4 Actions . . . 154

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.12.4.1 Rekey *(v1.1+)* . . . 154
6.12.4.2 Renew *(v1.1+)* . . . 155
6.12.5 Property details . . . 155
6.12.5.1 CertificateType: . . . 155
6.12.5.2 KeyUsage: . . . 156
6.12.6 Example response . . . 156
6.13 CertificateLocations 1.0.2 . . . 157
6.13.1 Description . . . 157
6.13.2 URIs . . . 157
6.13.3 Properties . . . 158
6.13.4 Example response . . . 158
6.14 CertificateService 1.0.4 . . . 158
6.14.1 Description . . . 158
6.14.2 URIs . . . 159
6.14.3 Properties . . . 159
6.14.4 Actions . . . 159
6.14.4.1 GenerateCSR . . . 159
6.14.4.2 ReplaceCertificate . . . 162
6.14.5 Property details . . . 163
6.14.5.1 CertificateType: . . . 163
6.14.5.2 KeyUsage: . . . 163
6.14.6 Example response . . . 164
6.15 Chassis 1.16.0 . . . 164
6.15.1 Description . . . 164
6.15.2 URIs . . . 164
6.15.3 Properties . . . 165
6.15.4 Actions . . . 171
6.15.4.1 Reset . . . 171
6.15.5 Property details . . . 172
6.15.5.1 ChassisType: . . . 172
6.15.5.2 EnvironmentalClass: . . . 173
6.15.5.3 IndicatorLED: . . . 173
6.15.5.4 IntrusionSensor: . . . 173
6.15.5.5 IntrusionSensorReArm: . . . 174
6.15.5.6 PowerState: . . . 174
6.15.5.7 ResetType: . . . 174
6.15.6 Example response . . . 175
6.16 Circuit 1.2.0 . . . 177
6.16.1 Description . . . 177
6.16.2 URIs . . . 177
6.16.3 Properties . . . 177
6.16.4 Actions . . . 182
6.16.4.1 BreakerControl . . . 182

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.16.4.2 PowerControl . . . 183
6.16.4.3 ResetMetrics . . . 183
6.16.5 Property details . . . 183
6.16.5.1 BreakerState: . . . 183
6.16.5.2 CircuitType: . . . 184
6.16.5.3 ElectricalContext: . . . 184
6.16.5.4 IndicatorLED: . . . 185
6.16.5.5 NominalVoltage: . . . 185
6.16.5.6 PhaseWiringType: . . . 186
6.16.5.7 PlugType: . . . 187
6.16.5.8 PowerRestorePolicy: . . . 189
6.16.5.9 PowerState: . . . 189
6.16.5.9.1 In Actions: BreakerControl: . . . 189
6.16.5.9.2 In Actions: PowerControl, : . . . 189
6.16.5.10 SensorCurrentExcerpt: . . . 189
6.16.5.11 SensorEnergykWhExcerpt: . . . 190
6.16.5.12 SensorPowerExcerpt: . . . 190
6.16.5.13 SensorVoltageExcerpt: . . . 191
6.16.5.14 VoltageType: . . . 191
6.16.6 Example response . . . 191
6.17 CompositionReservation 1.0.0 . . . 193
6.17.1 Description . . . 193
6.17.2 URIs . . . 193
6.17.3 Properties . . . 194
6.17.4 Property details . . . 195
6.17.4.1 Expand: . . . 195
6.17.4.2 StanzaType: . . . 195
6.18 CompositionService 1.2.0 . . . 196
6.18.1 Description . . . 196
6.18.2 URIs . . . 196
6.18.3 Properties . . . 196
6.18.4 Actions . . . 197
6.18.4.1 Compose *(v1.2+)* . . . 197
6.18.5 Property details . . . 202
6.18.5.1 Expand: . . . 202
6.18.5.2 RequestFormat: . . . 202
6.18.5.3 RequestType: . . . 202
6.18.5.4 StanzaType: . . . 203
6.18.6 Example response . . . 203
6.19 ComputerSystem 1.15.0 . . . 204
6.19.1 Description . . . 204
6.19.2 URIs . . . 204
6.19.3 Properties . . . 204

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.19.4 Actions . . . 216
6.19.4.1 AddResourceBlock *(v1.6+)* . . . 216
6.19.4.2 RemoveResourceBlock *(v1.6+)* . . . 216
6.19.4.3 Reset . . . 217
6.19.4.4 SetDefaultBootOrder *(v1.5+)* . . . 217
6.19.5 Property details . . . 218
6.19.5.1 AliasBootOrder: . . . 218
6.19.5.2 AutomaticRetryConfig: . . . 218
6.19.5.3 BootOrderPropertySelection: . . . 219
6.19.5.4 BootSourceOverrideEnabled: . . . 219
6.19.5.5 BootSourceOverrideMode: . . . 219
6.19.5.6 BootSourceOverrideTarget: . . . 220
6.19.5.7 ConnectTypesSupported: . . . 220
6.19.5.8 HostingRoles: . . . 221
6.19.5.9 IndicatorLED: . . . 221
6.19.5.10 InterfaceType: . . . 221
6.19.5.11 InterfaceTypeSelection: . . . 222
6.19.5.12 LastState: . . . 222
6.19.5.13 MemoryMirroring: . . . 223
6.19.5.14 PowerMode: . . . 223
6.19.5.15 PowerRestorePolicy: . . . 223
6.19.5.16 PowerState: . . . 224
6.19.5.17 ResetType: . . . 224
6.19.5.18 SerialConsoleProtocol: . . . 225
6.19.5.19 StopBootOnFault: . . . 225
6.19.5.20 SystemType: . . . 226
6.19.5.21 TimeoutAction: . . . 226
6.19.5.22 TrustedModuleRequiredToBoot: . . . 226
6.19.5.23 UUID: . . . 227
6.19.5.23.1 Case sensitivity . . . 227
6.19.5.23.2 Conversion of UUID format . . . 227
6.19.5.24 WarningAction: . . . 229
6.19.6 Example response . . . 230
6.20 Connection 1.1.0 . . . 232
6.20.1 Description . . . 233
6.20.2 URIs . . . 233
6.20.3 Properties . . . 233
6.20.4 Property details . . . 235
6.20.4.1 AccessCapabilities: . . . 235
6.20.4.2 AccessState: . . . 236
6.20.4.3 ConnectionType: . . . 236
6.20.5 Example response . . . 236
6.21 ConnectionMethod 1.0.0 . . . 237

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.21.1 Description . . . 237
6.21.2 URIs . . . 237
6.21.3 Properties . . . 237
6.21.4 Property details . . . 238
6.21.4.1 ConnectionMethodType: . . . 238
6.21.5 Example response . . . 238
6.22 Drive 1.12.1 . . . 239
6.22.1 Description . . . 239
6.22.2 URIs . . . 239
6.22.3 Properties . . . 239
6.22.4 Actions . . . 243
6.22.4.1 Reset *(v1.7+)* . . . 243
6.22.4.2 SecureErase . . . 244
6.22.5 Property details . . . 244
6.22.5.1 EncryptionAbility: . . . 244
6.22.5.2 EncryptionStatus: . . . 244
6.22.5.3 HotspareReplacementMode: . . . 245
6.22.5.4 HotspareType: . . . 245
6.22.5.5 IndicatorLED: . . . 245
6.22.5.6 MediaType: . . . 246
6.22.5.7 Protocol: . . . 246
6.22.5.8 ResetType: . . . 248
6.22.5.9 StatusIndicator: . . . 249
6.22.6 Example response . . . 249
6.23 Endpoint 1.6.0 . . . 250
6.23.1 Description . . . 250
6.23.2 URIs . . . 250
6.23.3 Properties . . . 251
6.23.4 Property details . . . 254
6.23.4.1 EndpointProtocol: . . . 254
6.23.4.2 EntityRole: . . . 256
6.23.4.3 EntityType: . . . 256
6.23.4.4 TransportProtocol: . . . 257
6.23.5 Example response . . . 259
6.24 EndpointGroup 1.3.2 . . . 260
6.24.1 Description . . . 260
6.24.2 URIs . . . 260
6.24.3 Properties . . . 261
6.24.4 Property details . . . 262
6.24.4.1 AccessState: . . . 262
6.24.4.2 GroupType: . . . 262
6.24.5 Example response . . . 263
6.25 EnvironmentMetrics 1.0.0 . . . 263

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.25.1 Description . . . 263
6.25.2 URIs . . . 263
6.25.3 Properties . . . 266
6.25.4 Actions . . . 267
6.25.4.1 ResetMetrics . . . 267
6.25.5 Property details . . . 268
6.25.5.1 PhysicalContext: . . . 268
6.25.5.2 PhysicalSubContext: . . . 270
6.25.6 Example response . . . 270
6.26 EthernetInterface 1.6.4 . . . 270
6.26.1 Description . . . 271
6.26.2 URIs . . . 271
6.26.3 Properties . . . 271
6.26.4 Property details . . . 275
6.26.4.1 EthernetInterfaceType: . . . 275
6.26.4.2 FallbackAddress: . . . 275
6.26.4.3 LinkStatus: . . . 276
6.26.4.4 OperatingMode: . . . 276
6.26.5 Example response . . . 276
6.27 Event 1.6.1 . . . 279
6.27.1 Description . . . 279
6.27.2 Properties . . . 279
6.27.3 Property details . . . 281
6.27.3.1 EventType: . . . 281
6.27.3.2 MessageSeverity: . . . 281
6.28 EventDestination 1.10.1 . . . 282
6.28.1 Description . . . 282
6.28.2 URIs . . . 282
6.28.3 Properties . . . 282
6.28.4 Actions . . . 286
6.28.4.1 ResumeSubscription . . . 286
6.28.5 Property details . . . 286
6.28.5.1 AuthenticationProtocol: . . . 286
6.28.5.2 DeliveryRetryPolicy: . . . 286
6.28.5.3 EncryptionProtocol: . . . 287
6.28.5.4 EventFormatType: . . . 287
6.28.5.5 EventTypes: . . . 287
6.28.5.6 LogFacilities: . . . 288
6.28.5.7 LowestSeverity: . . . 289
6.28.5.8 Protocol: . . . 289
6.28.5.9 SubscriptionType: . . . 290
6.28.6 Example response . . . 291
6.29 EventService 1.7.1 . . . 291

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.29.1 Description . . . 291
6.29.2 URIs . . . 291
6.29.3 Properties . . . 292
6.29.4 Actions . . . 294
6.29.4.1 SubmitTestEvent . . . 294
6.29.5 Property details . . . 295
6.29.5.1 Authentication: . . . 295
6.29.5.2 ConnectionProtocol: . . . 295
6.29.5.3 EventFormatTypes: . . . 296
6.29.5.4 EventType: . . . 296
6.29.5.5 EventTypesForSubscription: . . . 296
6.29.6 Example response . . . 297
6.30 ExternalAccountProvider 1.2.0 . . . 298
6.30.1 Description . . . 298
6.30.2 URIs . . . 298
6.30.3 Properties . . . 298
6.30.4 Property details . . . 301
6.30.4.1 AccountProviderType: . . . 301
6.30.4.2 AuthenticationType: . . . 301
6.30.4.3 PasswordExchangeProtocols: . . . 302
6.30.5 Example response . . . 302
6.31 Fabric 1.2.2 . . . 303
6.31.1 Description . . . 303
6.31.2 URIs . . . 303
6.31.3 Properties . . . 303
6.31.4 Property details . . . 304
6.31.4.1 FabricType: . . . 304
6.31.5 Example response . . . 306
6.32 FabricAdapter 1.0.0 . . . 307
6.32.1 Description . . . 307
6.32.2 URIs . . . 307
6.32.3 Properties . . . 307
6.32.4 Property details . . . 310
6.32.4.1 MaxPCIeType: . . . 310
6.32.4.2 PCIeType: . . . 310
6.32.5 Example response . . . 310
6.33 Facility 1.1.0 . . . 313
6.33.1 Description . . . 313
6.33.2 URIs . . . 313
6.33.3 Properties . . . 313
6.33.4 Property details . . . 315
6.33.4.1 FacilityType: . . . 315
6.33.5 Example response . . . 315

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.34 Fan 1.1.0 . . . 316
6.34.1 Description . . . 316
6.34.2 URIs . . . 317
6.34.3 Properties . . . 317
6.34.4 Property details . . . 318
6.34.4.1 PhysicalContext: . . . 318
6.34.5 Example response . . . 320
6.35 GraphicsController 1.0.0 . . . 321
6.35.1 Description . . . 321
6.35.2 URIs . . . 321
6.35.3 Properties . . . 321
6.35.4 Example response . . . 323
6.36 HostInterface 1.3.0 . . . 324
6.36.1 Description . . . 324
6.36.2 URIs . . . 324
6.36.3 Properties . . . 324
6.36.4 Property details . . . 327
6.36.4.1 AuthenticationModes: . . . 327
6.36.4.2 HostInterfaceType: . . . 327
6.36.5 Example response . . . 327
6.37 Job 1.0.7 . . . 328
6.37.1 Description . . . 328
6.37.2 URIs . . . 329
6.37.3 Properties . . . 329
6.37.4 Property details . . . 330
6.37.4.1 JobState: . . . 330
6.37.4.2 JobStatus: . . . 331
6.37.5 Example response . . . 331
6.38 JobService 1.0.4 . . . 332
6.38.1 Description . . . 332
6.38.2 URIs . . . 332
6.38.3 Properties . . . 332
6.38.4 Example response . . . 333
6.39 JsonSchemaFile 1.1.4 . . . 334
6.39.1 Description . . . 334
6.39.2 URIs . . . 334
6.39.3 Properties . . . 334
6.39.4 Example response . . . 335
6.40 LogEntry 1.9.0 . . . 336
6.40.1 Description . . . 336
6.40.2 URIs . . . 336
6.40.3 Properties . . . 336
6.40.4 Property details . . . 338

© ISO/IEC 2022 – All rights reserved
Documents
Document Sharing Hub
Full document details: BS ISO/IEC 30115-2:2022

6.40.4.1 DiagnosticDataType: . . . 338
6.40.4.2 EntryCode: . . . 339
6.40.4.3 EntryType: . . . 341
6.40.4.4 EventType: . . . 341
6.40.4.5 SensorType: . . . 342
6.40.4.6 Severity: . . . 344
6.40.5 Example response . . . 344
6.41 LogService 1.2.0 . . . 345
6.41.1 Description . . . 345
6.41.2 URIs . . . 345
6.41.3 Properties . . . 345
6.41.4 Actions . . . 346
6.41.4.1 ClearLog . . . 346
6.41.4.2 CollectDiagnosticData *(v1.2+)* . . . 346
6.41.5 Property details . . . 347
6.41.5.1 DiagnosticDataType: . . . 347
6.41.5.2 LogEntryType: . . . 347
6.41.5.3 LogFacilities: . . . 347
6.41.5.4 LowestSeverity: . . . 348
6.41.5.5 OverWritePolicy: . . . 349
6.41.6 Example response . . . 349
6.42 Manager 1.12.0 . . . 350
6.42.1 Description . . . 350
6.42.2 URIs . . . 350
6.42.3 Properties . . . 350
6.42.4 Actions . . . 355
6.42.4.1 ForceFailover . . . 355
6.42.4.2 ModifyRedundancySet . . . 356
6.42.4.3 Reset . . . 356
6.42.4.4 ResetToDefaults *(v1.8+)* . . . 357
6.42.5 Property details . . . 357
6.42.5.1 ConnectTypesSupported: . . . 357
6.42.5.1.1 In CommandShell: . . . 357
6.42.5.1.2 In GraphicalConsole: . . . 358
6.42.5.1.3 In SerialConsole: . . . 358
6.42.5.2 ManagerType: . . . 358
6.42.5.3 PowerState: . . . 359
6.42.5.4 ResetType: . . . 359
6.42.5.4.1 In Actions: Reset: . . . 359
6.42.5.4.2 In Actions: ResetToDefaults: . . . 360
6.42.6 Example response . . . 360
6.43 ManagerAccount 1.8.0 . . . 362
6.43.1 Description . . . 362

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.43.2 URIs . . . 362
6.43.3 Properties . . . 362
6.43.4 Property details . . . 365
6.43.4.1 AccountTypes: . . . 365
6.43.4.2 AuthenticationProtocol: . . . 366
6.43.4.3 EncryptionProtocol: . . . 366
6.43.5 Example response . . . 366
6.44 ManagerNetworkProtocol 1.7.0 . . . 367
6.44.1 Description . . . 367
6.44.2 URIs . . . 367
6.44.3 Properties . . . 367
6.44.4 Property details . . . 371
6.44.4.1 AccessMode: . . . 371
6.44.4.2 AuthenticationProtocol: . . . 371
6.44.4.3 CommunityAccessMode: . . . 372
6.44.4.4 EncryptionProtocol: . . . 372
6.44.4.5 NotifyIPv6Scope: . . . 372
6.44.4.6 Protocol: . . . 373
6.44.5 Example response . . . 373
6.45 MediaController 1.2.0 . . . 374
6.45.1 Description . . . 374
6.45.2 URIs . . . 374
6.45.3 Properties . . . 374
6.45.4 Actions . . . 376
6.45.4.1 Reset . . . 376
6.45.5 Property details . . . 376
6.45.5.1 MediaControllerType: . . . 376
6.45.5.2 ResetType: . . . 376
6.45.6 Example response . . . 377
6.46 Memory 1.12.0 . . . 378
6.46.1 Description . . . 378
6.46.2 URIs . . . 378
6.46.3 Properties . . . 379
6.46.4 Actions . . . 385
6.46.4.1 DisablePassphrase . . . 385
6.46.4.2 OverwriteUnit *(v1.6+)* . . . 386
6.46.4.3 Reset *(v1.8+)* . . . 386
6.46.4.4 SecureEraseUnit . . . 386
6.46.4.5 SetPassphrase . . . 387
6.46.4.6 UnlockUnit . . . 387
6.46.5 Property details . . . 388
6.46.5.1 BaseModuleType: . . . 388
6.46.5.2 ErrorCorrection: . . . 388

© ISO/IEC 2022 – All rights reserved
AVA Documents
Document Sharing Hub
Full document details: BS ISO/IEC 30115-2:2022

6.46.5.3 MemoryClassification: . . . 388
6.46.5.4 MemoryDeviceType: . . . 389
6.46.5.5 MemoryMedia: . . . 390
6.46.5.6 MemoryType: . . . 390
6.46.5.7 OperatingMemoryModes: . . . 391
6.46.5.8 ResetType: . . . 391
6.46.5.9 SecurityState: . . . 392
6.46.5.10 SecurityStates: . . . 392
6.46.6 Example response . . . 393
6.47 MemoryChunks 1.4.1 . . . 394
6.47.1 Description . . . 394
6.47.2 URIs . . . 394
6.47.3 Properties . . . 394
6.47.4 Property details . . . 395
6.47.4.1 AddressRangeType: . . . 395
6.47.5 Example response . . . 396
6.48 MemoryDomain 1.3.0 . . . 397
6.48.1 Description . . . 397
6.48.2 URIs . . . 397
6.48.3 Properties . . . 397
6.48.4 Example response . . . 398
6.49 MemoryMetrics 1.4.1 . . . 399
6.49.1 Description . . . 399
6.49.2 URIs . . . 399
6.49.3 Properties . . . 400
6.49.4 Actions . . . 402
6.49.4.1 ClearCurrentPeriod . . . 402
6.49.5 Example response . . . 402
6.50 MessageRegistry 1.4.2 . . . 403
6.50.1 Description . . . 403
6.50.2 Properties . . . 403
6.50.3 Property details . . . 405
6.50.3.1 ClearsIf: . . . 405
6.50.3.2 MessageSeverity: . . . 405
6.50.3.3 ParamTypes: . . . 406
6.50.4 Example response . . . 406
6.51 MessageRegistryFile 1.1.3 . . . 407
6.51.1 Description . . . 407
6.51.2 URIs . . . 407
6.51.3 Properties . . . 407
6.51.4 Example response . . . 408
6.52 MetricDefinition 1.2.0 . . . 408
6.52.1 Description . . . 409

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.52.2 URIs . . . 409
6.52.3 Properties . . . 409
6.52.4 Property details . . . 411
6.52.4.1 Calculable: . . . 411
6.52.4.2 CalculationAlgorithm: . . . 411
6.52.4.3 Implementation: . . . 412
6.52.4.4 MetricDataType: . . . 412
6.52.4.5 MetricType: . . . 412
6.52.4.6 PhysicalContext: . . . 413
6.52.5 Example response . . . 415
6.53 MetricReport 1.4.2 . . . 415
6.53.1 Description . . . 415
6.53.2 URIs . . . 416
6.53.3 Properties . . . 416
6.53.4 Example response . . . 417
6.54 MetricReportDefinition 1.4.1 . . . 417
6.54.1 Description . . . 418
6.54.2 URIs . . . 418
6.54.3 Properties . . . 418
6.54.4 Property details . . . 420
6.54.4.1 CollectionFunction: . . . 420
6.54.4.2 CollectionTimeScope: . . . 421
6.54.4.3 MetricReportDefinitionType: . . . 421
6.54.4.4 ReportActions: . . . 422
6.54.4.5 ReportUpdates: . . . 422
6.54.5 Example response . . . 422
6.55 NetworkAdapter 1.7.0 . . . 423
6.55.1 Description . . . 423
6.55.2 URIs . . . 424
6.55.3 Properties . . . 424
6.55.4 Actions . . . 428
6.55.4.1 ResetSettingsToDefault . . . 428
6.55.5 Property details . . . 429
6.55.5.1 MaxPCIeType: . . . 429
6.55.5.2 PCIeType: . . . 429
6.55.6 Example response . . . 430
6.56 NetworkAdapterMetrics 1.0.0 . . . 431
6.56.1 Description . . . 432
6.56.2 URIs . . . 432
6.56.3 Properties . . . 432
6.56.4 Example response . . . 433
6.57 NetworkDeviceFunction 1.6.0 . . . 433
6.57.1 Description . . . 433

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.57.2 URIs . . . 433
6.57.3 Properties . . . 434
6.57.4 Property details . . . 441
6.57.4.1 AuthenticationMethod: . . . 441
6.57.4.2 BootMode: . . . 441
6.57.4.3 IPAddressType: . . . 442
6.57.4.4 NetDevFuncCapabilities: . . . 442
6.57.4.5 NetDevFuncType: . . . 442
6.57.4.6 WWNSource: . . . 443
6.57.5 Example response . . . 443
6.58 NetworkDeviceFunctionMetrics 1.0.0 . . . 445
6.58.1 Description . . . 445
6.58.2 URIs . . . 445
6.58.3 Properties . . . 445
6.59 NetworkInterface 1.2.1 . . . 446
6.59.1 Description . . . 446
6.59.2 URIs . . . 446
6.59.3 Properties . . . 447
6.59.4 Example response . . . 448
6.60 NetworkPort 1.4.1 (deprecated) . . . 448
6.60.1 Description . . . 448
6.60.2 URIs . . . 448
6.60.3 Properties . . . 449
6.60.4 Property details . . . 451
6.60.4.1 ActiveLinkTechnology: . . . 451
6.60.4.2 FCPortConnectionType: . . . 451
6.60.4.3 FlowControlConfiguration: . . . 452
6.60.4.4 FlowControlStatus: . . . 452
6.60.4.5 LinkNetworkTechnology: . . . 452
6.60.4.6 LinkStatus: . . . 453
6.60.4.7 SupportedEthernetCapabilities: . . . 453
6.60.5 Example response . . . 453
6.61 OperatingConfig 1.0.2 . . . 454
6.61.1 Description . . . 454
6.61.2 URIs . . . 454
6.61.3 Properties . . . 455
6.61.4 Example response . . . 456
6.62 Outlet 1.1.1 . . . 457
6.62.1 Description . . . 457
6.62.2 URIs . . . 457
6.62.3 Properties . . . 457
6.62.4 Actions . . . 461
6.62.4.1 PowerControl . . . 461

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.62.4.2 ResetMetrics . . . 462
6.62.5 Property details . . . 462
6.62.5.1 ElectricalContext: . . . 462
6.62.5.2 IndicatorLED: . . . 463
6.62.5.3 NominalVoltage: . . . 463
6.62.5.4 OutletType: . . . 464
6.62.5.5 PhaseWiringType: . . . 465
6.62.5.6 PowerRestorePolicy: . . . 465
6.62.5.7 PowerState: . . . 466
6.62.5.7.1 In : . . . 466
6.62.5.7.2 In Actions: PowerControl: . . . 466
6.62.5.8 SensorCurrentExcerpt: . . . 466
6.62.5.9 SensorVoltageExcerpt: . . . 467
6.62.5.10 VoltageType: . . . 467
6.62.6 Example response . . . 467
6.63 OutletGroup 1.0.1 . . . 469
6.63.1 Description . . . 469
6.63.2 URIs . . . 469
6.63.3 Properties . . . 469
6.63.4 Actions . . . 471
6.63.4.1 PowerControl . . . 471
6.63.4.2 ResetMetrics . . . 472
6.63.5 Property details . . . 472
6.63.5.1 PowerRestorePolicy: . . . 472
6.63.5.2 PowerState: . . . 472
6.63.5.2.1 In : . . . 472
6.63.5.2.2 In Actions: PowerControl: . . . 473
6.63.6 Example response . . . 473
6.64 PCIeDevice 1.7.0 . . . 474
6.64.1 Description . . . 474
6.64.2 URIs . . . 474
6.64.3 Properties . . . 474
6.64.4 Property details . . . 476
6.64.4.1 DeviceType: . . . 476
6.64.4.2 MaxPCIeType: . . . 477
6.64.4.3 PCIeType: . . . 477
6.64.5 Example response . . . 477
6.65 PCIeFunction 1.3.0 . . . 478
6.65.1 Description . . . 478
6.65.2 URIs . . . 479
6.65.3 Properties . . . 479
6.65.4 Property details . . . 481
6.65.4.1 DeviceClass: . . . 481

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.65.4.2 FunctionType: . . . 482
6.65.5 Example response . . . 482
6.66 PCIeSlots 1.4.1 . . . 483
6.66.1 Description . . . 483
6.66.2 URIs . . . 483
6.66.3 Properties . . . 483
6.66.4 Property details . . . 484
6.66.4.1 PCIeType: . . . 484
6.66.4.2 SlotType: . . . 484
6.66.5 Example response . . . 485
6.67 Port 1.4.0 . . . 486
6.67.1 Description . . . 486
6.67.2 URIs . . . 487
6.67.3 Properties . . . 487
6.67.4 Actions . . . 495
6.67.4.1 Reset . . . 495
6.67.5 Property details . . . 495
6.67.5.1 ChassisIdSubtype: . . . 495
6.67.5.2 FiberConnectionType: . . . 496
6.67.5.3 FlowControlConfiguration: . . . 496
6.67.5.4 FlowControlStatus: . . . 496
6.67.5.5 LinkNetworkTechnology: . . . 497
6.67.5.6 LinkState: . . . 497
6.67.5.7 LinkStatus: . . . 497
6.67.5.8 MediumType: . . . 497
6.67.5.9 PortConnectionType: . . . 498
6.67.5.10 PortIdSubtype: . . . 498
6.67.5.11 PortMedium: . . . 499
6.67.5.12 PortProtocol: . . . 499
6.67.5.13 PortType: . . . 501
6.67.5.14 ResetType: . . . 501
6.67.5.15 SupportedEthernetCapabilities: . . . 502
6.67.5.16 SupportedSFPTypes: . . . 502
6.67.5.17 Type: . . . 502
6.67.6 Example response . . . 503
6.68 PortMetrics 1.1.0 . . . 504
6.68.1 Description . . . 504
6.68.2 URIs . . . 504
6.68.3 Properties . . . 504
6.68.4 Example response . . . 508
6.69 Power 1.7.1 (deprecated) . . . 509
6.69.1 Description . . . 509
6.69.2 URIs . . . 509

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.69.3 Properties . . . 509
6.69.4 Actions . . . 515
6.69.4.1 PowerSupplyReset *(v1.6+)* . . . 515
6.69.5 Property details . . . 516
6.69.5.1 IndicatorLED: . . . 516
6.69.5.2 InputType: . . . 516
6.69.5.3 LimitException: . . . 516
6.69.5.4 LineInputVoltageType: . . . 517
6.69.5.5 PhysicalContext: . . . 517
6.69.5.6 PowerSupplyType: . . . 519
6.69.5.7 ResetType: . . . 519
6.69.6 Example response . . . 520
6.70 PowerDistribution 1.0.3 . . . 523
6.70.1 Description . . . 523
6.70.2 URIs . . . 523
6.70.3 Properties . . . 524
6.70.4 Actions . . . 528
6.70.4.1 TransferControl . . . 528
6.70.5 Property details . . . 528
6.70.5.1 EquipmentType: . . . 528
6.70.5.2 TransferSensitivity: . . . 528
6.70.6 Example response . . . 529
6.71 PowerDistributionMetrics 1.1.0 . . . 530
6.71.1 Description . . . 530
6.71.2 URIs . . . 530
6.71.3 Properties . . . 530
6.71.4 Actions . . . 531
6.71.4.1 ResetMetrics . . . 531
6.71.5 Example response . . . 532
6.72 PowerDomain 1.0.1 . . . 532
6.72.1 Description . . . 533
6.72.2 URIs . . . 533
6.72.3 Properties . . . 533
6.72.4 Example response . . . 534
6.73 PowerEquipment 1.0.0 . . . 534
6.73.1 Description . . . 534
6.73.2 URIs . . . 535
6.73.3 Properties . . . 535
6.73.4 Example response . . . 536
6.74 PowerSubsystem 1.0.0 . . . 536
6.74.1 Description . . . 536
6.74.2 URIs . . . 536
6.74.3 Properties . . . 537

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.74.4 Example response . . . 537
6.75 PowerSupply 1.1.0 . . . 538
6.75.1 Description . . . 538
6.75.2 URIs . . . 538
6.75.3 Properties . . . 538
6.75.4 Actions . . . 541
6.75.4.1 Reset . . . 541
6.75.5 Property details . . . 541
6.75.5.1 InputNominalVoltageType: . . . 541
6.75.5.2 NominalVoltageType: . . . 542
6.75.5.3 PhaseWiringType: . . . 543
6.75.5.4 PhysicalContext: . . . 543
6.75.5.5 PlugType: . . . 545
6.75.5.6 PowerSupplyType: . . . 547
6.75.5.7 ResetType: . . . 548
6.75.6 Example response . . . 548
6.76 PowerSupplyMetrics 1.0.0 . . . 550
6.76.1 Description . . . 550
6.76.2 URIs . . . 550
6.76.3 Properties . . . 551
6.76.4 Actions . . . 555
6.76.4.1 ResetMetrics . . . 555
6.76.5 Example response . . . 555
6.77 PrivilegeRegistry 1.1.4 . . . 557
6.77.1 Description . . . 557
6.77.2 Properties . . . 557
6.77.3 Property details . . . 562
6.77.3.1 PrivilegesUsed: . . . 562
6.77.4 Example response . . . 563
6.78 Processor 1.12.0 . . . 564
6.78.1 Description . . . 564
6.78.2 URIs . . . 564
6.78.3 Properties . . . 565
6.78.4 Actions . . . 575
6.78.4.1 Reset *(v1.6+)* . . . 575
6.78.5 Property details . . . 575
6.78.5.1 BaseSpeedPriorityState: . . . 575
6.78.5.2 EffectiveFamily: . . . 575
6.78.5.3 EffectiveModel: . . . 576
6.78.5.4 FpgaType: . . . 576
6.78.5.5 IdentificationRegisters: . . . 576
6.78.5.6 InstructionSet: . . . 576
6.78.5.7 InterfaceType: . . . 577

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.78.5.8 MaxPCIeType: . . . 577
6.78.5.9 MemoryType: . . . 578
6.78.5.10 MicrocodeInfo: . . . 579
6.78.5.11 Model: . . . 579
6.78.5.12 PCIeType: . . . 580
6.78.5.13 ProcessorArchitecture: . . . 580
6.78.5.14 ProcessorId: . . . 580
6.78.5.15 ProcessorType: . . . 581
6.78.5.16 ResetType: . . . 581
6.78.5.17 Step: . . . 582
6.78.5.18 TurboState: . . . 582
6.78.5.19 VendorId: . . . 582
6.78.6 Example response . . . 583
6.79 ProcessorMetrics 1.2.1 . . . 584
6.79.1 Description . . . 584
6.79.2 URIs . . . 584
6.79.3 Properties . . . 585
6.79.4 Actions . . . 588
6.79.4.1 ClearCurrentPeriod *(v1.2+)* . . . 588
6.79.5 Example response . . . 588
6.80 ResourceBlock 1.4.0 . . . 590
6.80.1 Description . . . 590
6.80.2 URIs . . . 590
6.80.3 Properties . . . 590
6.80.4 Property details . . . 593
6.80.4.1 CompositionState: . . . 593
6.80.4.2 Pool: . . . 594
6.80.4.3 ResourceBlockType: . . . 594
6.80.5 Example response . . . 595
6.81 Role 1.3.1 . . . 596
6.81.1 Description . . . 596
6.81.2 URIs . . . 596
6.81.3 Properties . . . 596
6.81.4 Property details . . . 597
6.81.4.1 AssignedPrivileges: . . . 597
6.81.5 Example response . . . 598
6.82 RouteEntry 1.0.1 . . . 598
6.82.1 Description . . . 598
6.82.2 URIs . . . 598
6.82.3 Properties . . . 599
6.82.4 Example response . . . 599
6.83 RouteSetEntry 1.0.1 . . . 599
6.83.1 Description . . . 599

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.83.2 URIs . . . 600
6.83.3 Properties . . . 600
6.83.4 Example response . . . 600
6.84 SecureBoot 1.1.0 . . . 600
6.84.1 Description . . . 601
6.84.2 URIs . . . 601
6.84.3 Properties . . . 601
6.84.4 Actions . . . 601
6.84.4.1 ResetKeys . . . 601
6.84.5 Property details . . . 602
6.84.5.1 ResetKeysType: . . . 602
6.84.5.2 SecureBootCurrentBoot: . . . 602
6.84.5.3 SecureBootMode: . . . 602
6.84.6 Example response . . . 603
6.85 SecureBootDatabase 1.0.1 . . . 603
6.85.1 Description . . . 603
6.85.2 URIs . . . 603
6.85.3 Properties . . . 604
6.85.4 Actions . . . 604
6.85.4.1 ResetKeys . . . 604
6.85.5 Property details . . . 605
6.85.5.1 ResetKeysType: . . . 605
6.85.6 Example response . . . 605
6.86 Sensor 1.3.0 . . . 605
6.86.1 Description . . . 606
6.86.2 URIs . . . 606
6.86.3 Properties . . . 606
6.86.4 Actions . . . 610
6.86.4.1 ResetMetrics . . . 610
6.86.5 Property details . . . 610
6.86.5.1 Activation: . . . 610
6.86.5.2 ElectricalContext: . . . 611
6.86.5.3 Implementation: . . . 612
6.86.5.4 PhysicalContext: . . . 612
6.86.5.5 PhysicalSubContext: . . . 614
6.86.5.6 ReadingType: . . . 614
6.86.5.7 Threshold: . . . 615
6.86.5.8 VoltageType: . . . 616
6.86.6 Example response . . . 616
6.87 SerialInterface 1.1.8 . . . 617
6.87.1 Description . . . 617
6.87.2 URIs . . . 617
6.87.3 Properties . . . 617

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.87.4 Property details . . . 618
6.87.4.1 BitRate: . . . 618
6.87.4.2 ConnectorType: . . . 618
6.87.4.3 DataBits: . . . 619
6.87.4.4 FlowControl: . . . 619
6.87.4.5 Parity: . . . 619
6.87.4.6 PinOut: . . . 619
6.87.4.7 SignalType: . . . 620
6.87.4.8 StopBits: . . . 620
6.87.5 Example response . . . 620
6.88 ServiceRoot 1.10.0 . . . 621
6.88.1 Description . . . 621
6.88.2 URIs . . . 621
6.88.3 Properties . . . 621
6.88.4 Property details . . . 626
6.88.4.1 idRef: . . . 626
6.88.5 Example response . . . 626
6.89 Session 1.3.0 . . . 627
6.89.1 Description . . . 627
6.89.2 URIs . . . 627
6.89.3 Properties . . . 628
6.89.4 Property details . . . 628
6.89.4.1 SessionType: . . . 628
6.89.5 Example response . . . 629
6.90 SessionService 1.1.8 . . . 629
6.90.1 Description . . . 629
6.90.2 URIs . . . 629
6.90.3 Properties . . . 629
6.90.4 Example response . . . 630
6.91 Signature 1.0.2 . . . 630
6.91.1 Description . . . 630
6.91.2 URIs . . . 630
6.91.3 Properties . . . 631
6.91.4 Property details . . . 631
6.91.4.1 SignatureTypeRegistry: . . . 631
6.91.5 Example response . . . 631
6.92 SimpleStorage 1.3.1 . . . 632
6.92.1 Description . . . 632
6.92.2 URIs . . . 632
6.92.3 Properties . . . 632
6.92.4 Example response . . . 633
6.93 SoftwareInventory 1.4.0 . . . 634
6.93.1 Description . . . 635

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.93.2 URIs . . . 635
6.93.3 Properties . . . 635
6.93.4 Example response . . . 636
6.94 Storage 1.10.1 . . . 637
6.94.1 Description . . . 637
6.94.2 URIs . . . 637
6.94.3 Properties . . . 637
6.94.4 Actions . . . 642
6.94.4.1 SetEncryptionKey . . . 642
6.94.5 Property details . . . 643
6.94.5.1 idRef: . . . 643
6.94.5.2 MaxPCIeType: . . . 643
6.94.5.3 PCIeType: . . . 643
6.94.5.4 SupportedControllerProtocols: . . . 644
6.94.5.5 SupportedDeviceProtocols: . . . 645
6.94.5.6 SupportedRAIDTypes: . . . 647
6.94.6 Example response . . . 649
6.95 StorageController 1.2.0 . . . 650
6.95.1 Description . . . 650
6.95.2 URIs . . . 650
6.95.3 Properties . . . 651
6.95.4 Property details . . . 657
6.95.4.1 AccessState: . . . 657
6.95.4.2 ControllerType: . . . 657
6.95.4.3 MaxPCIeType: . . . 657
6.95.4.4 PCIeType: . . . 658
6.95.4.5 SupportedControllerProtocols: . . . 658
6.95.4.6 SupportedDeviceProtocols: . . . 660
6.95.4.7 SupportedRAIDTypes: . . . 662
6.95.5 Example response . . . 663
6.96 Switch 1.6.0 . . . 664
6.96.1 Description . . . 664
6.96.2 URIs . . . 664
6.96.3 Properties . . . 665
6.96.4 Actions . . . 667
6.96.4.1 Reset . . . 667
6.96.5 Property details . . . 668
6.96.5.1 IndicatorLED: . . . 668
6.96.5.2 PowerState: . . . 668
6.96.5.3 ResetType: . . . 669
6.96.5.4 SupportedProtocols: . . . 669
6.96.5.5 SwitchType: . . . 671
6.96.6 Example response . . . 673

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.97 Task 1.5.1 . . . 674
6.97.1 Description . . . 674
6.97.2 URIs . . . 675
6.97.3 Properties . . . 675
6.97.4 Property details . . . 676
6.97.4.1 TaskState: . . . 676
6.97.4.2 TaskStatus: . . . 677
6.97.5 Example response . . . 677
6.98 TaskService 1.2.0 . . . 678
6.98.1 Description . . . 678
6.98.2 URIs . . . 678
6.98.3 Properties . . . 678
6.98.4 Property details . . . 679
6.98.4.1 CompletedTaskOverWritePolicy: . . . 679
6.98.5 Example response . . . 679
6.99 TelemetryService 1.3.1 . . . 679
6.99.1 Description . . . 680
6.99.2 URIs . . . 680
6.99.3 Properties . . . 680
6.99.4 Actions . . . 681
6.99.4.1 ClearMetricReports *(v1.3+)* . . . 681
6.99.4.2 ResetMetricReportDefinitionsToDefaults *(v1.3+)* . . . 681
6.99.4.3 ResetTriggersToDefaults *(v1.3+)* . . . 681
6.99.4.4 SubmitTestMetricReport . . . 682
6.99.5 Property details . . . 683
6.99.5.1 SupportedCollectionFunctions: . . . 683
6.99.6 Example response . . . 683
6.100 Thermal 1.7.1 (deprecated) . . . 684
6.100.1 Description . . . 684
6.100.2 URIs . . . 684
6.100.3 Properties . . . 684
6.100.4 Property details . . . 689
6.100.4.1 DeltaPhysicalContext: . . . 689
6.100.4.2 IndicatorLED: . . . 691
6.100.4.3 PhysicalContext: . . . 691
6.100.4.4 ReadingUnits: . . . 693
6.100.5 Example response . . . 693
6.101 ThermalMetrics 1.0.0 . . . 697
6.101.1 Description . . . 697
6.101.2 URIs . . . 697
6.101.3 Properties . . . 697
6.101.4 Actions . . . 698
6.101.4.1 ResetMetrics . . . 698

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.101.5 Property details . . . 698
6.101.5.1 PhysicalContext: . . . 698
6.101.5.2 PhysicalSubContext: . . . 700
6.101.5.3 SensorExcerpt: . . . 701
6.101.6 Example response . . . 701
6.102 ThermalSubsystem 1.0.0 . . . 702
6.102.1 Description . . . 702
6.102.2 URIs . . . 702
6.102.3 Properties . . . 703
6.102.4 Example response . . . 703
6.103 Triggers 1.1.4 . . . 704
6.103.1 Description . . . 704
6.103.2 URIs . . . 704
6.103.3 Properties . . . 705
6.103.4 Property details . . . 707
6.103.4.1 Activation: . . . 707
6.103.4.2 DiscreteTriggerCondition: . . . 707
6.103.4.3 MetricType: . . . 707
6.103.4.4 Severity: . . . 707
6.103.4.5 Threshold: . . . 708
6.103.4.6 TriggerActions: . . . 708
6.103.5 Example response . . . 708
6.104 UpdateService 1.9.0 . . . 709
6.104.1 Description . . . 709
6.104.2 URIs . . . 709
6.104.3 Properties . . . 710
6.104.4 Actions . . . 712
6.104.4.1 SimpleUpdate . . . 712
6.104.4.2 StartUpdate *(v1.7+)* . . . 713
6.104.5 Property details . . . 713
6.104.5.1 ApplyTime: . . . 713
6.104.5.2 TransferProtocol: . . . 714
6.104.6 Example response . . . 714
6.105 USBController 1.0.0 . . . 715
6.105.1 Description . . . 715
6.105.2 URIs . . . 715
6.105.3 Properties . . . 716
6.105.4 Example response . . . 717
6.106 VCATEntry 1.0.1 . . . 717
6.106.1 Description . . . 718
6.106.2 URIs . . . 718
6.106.3 Properties . . . 718
6.106.4 Example response . . . 718

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.107 VirtualMedia 1.4.0 . . . 719
6.107.1 Description . . . 719
6.107.2 URIs . . . 719
6.107.3 Properties . . . 720
6.107.4 Actions . . . 721
6.107.4.1 EjectMedia *(v1.2+)* . . . 721
6.107.4.2 InsertMedia *(v1.2+)* . . . 721
6.107.5 Property details . . . 722
6.107.5.1 ConnectedVia: . . . 722
6.107.5.2 MediaTypes: . . . 722
6.107.5.3 TransferMethod: . . . 722
6.107.5.4 TransferProtocolType: . . . 723
6.107.6 Example response . . . 723
6.108 VLanNetworkInterface 1.2.0 . . . 723
6.108.1 Description . . . 724
6.108.2 URIs . . . 724
6.108.3 Properties . . . 724
6.108.4 Example response . . . 724
6.109 Volume 1.6.2 . . . 725
6.109.1 Description . . . 725
6.109.2 URIs . . . 725
6.109.3 Properties . . . 726
6.109.4 Actions . . . 732
6.109.4.1 AssignReplicaTarget *(v1.4+)* . . . 732
6.109.4.2 ChangeRAIDLayout *(v1.5+)* . . . 733
6.109.4.3 CheckConsistency . . . 733
6.109.4.4 CreateReplicaTarget *(v1.4+)* . . . 734
6.109.4.5 ForceEnable *(v1.5+)* . . . 734
6.109.4.6 Initialize *(v1.5+)* . . . 734
6.109.4.7 RemoveReplicaRelationship *(v1.4+)* . . . 735
6.109.4.8 ResumeReplication *(v1.4+)* . . . 735
6.109.4.9 ReverseReplicationRelationship *(v1.4+)* . . . 736
6.109.4.10 SplitReplication *(v1.4+)* . . . 736
6.109.4.11 SuspendReplication *(v1.4+)* . . . 736
6.109.5 Property details . . . 737
6.109.5.1 AccessCapabilities: . . . 737
6.109.5.2 EncryptionTypes: . . . 737
6.109.5.3 idRef: . . . 737
6.109.5.4 InitializeMethod: . . . 737
6.109.5.5 InitializeType: . . . 738
6.109.5.6 ProvisioningPolicy: . . . 738
6.109.5.7 RAIDType: . . . 738
6.109.5.8 ReadCachePolicy: . . . 740

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

6.109.5.9 ReplicaType: . . . 740
6.109.5.10 ReplicaUpdateMode: . . . 740
6.109.5.11 VolumeType: . . . 740
6.109.5.12 VolumeUsage: . . . 741
6.109.5.13 WriteCachePolicy:. . . . 741
6.109.5.14 WriteCacheState: . . . 742
6.109.5.15 WriteHoleProtectionPolicy: . . . 742
6.109.6 Example response . . . 742
6.110 Zone 1.6.1 . . . 743
6.110.1 Description. . . . 743
6.110.2 URIs. . . . 743
6.110.3 Properties . . . 744
6.110.4 Actions. . . . 745
6.110.4.1 AddEndpoint *(v1.5+)* . . . 745
6.110.4.2 RemoveEndpoint *(v1.5+)* . . . 746
6.110.5 Property details . . . 746
6.110.5.1 ExternalAccessibility: . . . 746
6.110.5.2 ZoneType: . . . 747
6.110.6 Example response. . . . 747
7 Redfish documentation generator . . . 749
8 ANNEX A . . . 750

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

1 Overview

The Redfish standard comprises a set of specifications maintained by the Redfish Forum, a working group within the DMTF. The standard defines a protocol that uses RESTful interfaces to provide access to data and operations associated with the management of systems and networks. One of the strengths of the Redfish protocol is that it works with a wide range of servers: from stand-alone servers to rack-mount and bladed environments to large-scale data centers and cloud environments.

The Redfish standard addresses several key issues for infrastructures that require scalability. Large infrastructures often consist of many simple servers of different makes and types. This hyper-scale usage model requires a new approach to systems management. The Redfish protocol addresses these needs by providing a standard protocol based on out-of-band systems management.

With the previous goals in mind, the Redfish protocol was designed as an open-industry standard to meet scalability requirements in multi-vendor deployments. It easily integrates with commonly used tools, using RESTful interfaces to perform operations and using JSON and OData formats for data payloads.

1.1 Who should read this document?

This document is for Redfish Service developers or application software developers. This document includes the normative language copied from the `LongDescription` text in the Redfish Schema (DSP8010) bundle, and adds supplemental normative text to further explain the usage of particular properties or resources.

This document differs from the *Redfish Resource and Schema Guide* (DSP2046) by incorporating the normative description text rather than the end user-focused, informative (non-normative) `Description` text from the schema.

1.2 How can I provide feedback?

Feedback on all Redfish specifications and documents is encouraged. Feedback can be directed to the DMTF and the Redfish Forum by the following means:

- **Redfish User Forum:** http://www.redfishforum.com User forum monitored by DMTF Redfish Forum personnel to answer questions about any Redfish-related topics.
- **DMTF Feedback Portal:** https://www.dmtf.org/standards/feedback Formal submission portal for enhancements or proposals to the DMTF and Redfish Forum.

1.3 Where can I find more information?

The following web sites provide more information about the Redfish standard:

- **Redfish Developer Hub**

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

Resources for developers who use Redfish to build applications. Contains an interactive schema explorer, hosted schema, and other links.

- **Redfish Specification Forum**

  DMTF Redfish-monitored user forum. Answers questions about Redfish-related topics.

- **DMTF GitHub repositories**

  Open source tools and libraries for working with Redfish.

- **Redfish standards**

  Schemas, specifications, mockups, white papers, FAQ, educational material, and more.

- **DMTF Redfish Forum**

  Working group that maintains the Redfish standard. Site lists member companies, future work and schedules, charter, and information about joining.

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

2 Using this guide

Every Redfish response consists of a JSON payload containing properties that are strictly defined by a schema for that resource. The schema that defines a resource can be determined from the value of the `@odata.type` property returned in every Redfish response. This guide details the definitions for every Redfish standard schema.

Each schema section contains:

- The name, current version, and description of the schema.
- The release history of the schema. Lists each minor schema version and the DSP8010 release bundle that included it.
- List of the possible URIs where schema-defined resources can appear in a Redfish Service v1.6 or later. See URI listings.
- Table that defines each property. Shows additional details for those properties when needed.
- List of available Actions defined for the schema.
- Example JSON payload for a resource using the schema.

The property-level details include:

Column	Purpose
Property name	The case-sensitive name of the JSON property as it appears in the JSON payload. Lists the schema version in parentheses when properties were added to or deprecated in the schema after the initial v1.0.0 release.
Type	The JSON data types for the property, which can include boolean, number, string, or object. The `string (enum)` tag identifies enumerated strings. Number types that use units specify the units.
Attributes	Designates whether the property is read-only or read-write, if supported by the implementation, and whether the service might return a `null` value if the property value is temporarily unavailable.
Description	The normative description of the property, as copied directly from the schema `LongDescription` definition.

2.1 URI listings

The *Redfish Specification v1.6.0* added mandatory support for the *OpenAPI Specification v3.0*. As part of this support, the URIs for every Redfish Resource are defined to appear at known, fixed locations. Resource Collections also appear at fixed locations, with the members of each collection appearing at URIs constructed by using a fixed path structure, with appropriate path segments equal to the value of `Id` properties of members along the path.

Support for v1.6.0 and OpenAPI can be determined by comparing the value of the `RedfishVersion` property in the Service Root (`\redfish\v1\`). Services that report a `1.6.0` or higher value, such as `1.6.1` or `1.7.0`, adhere to the URI definitions.

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

The URI listings do not apply to Redfish Services that support specification versions earlier than v1.6.0. For those Services, clients must use the hypermedia features of the API to discover links from the Service Root to each resource. While Services typically match the URIs listed in this document for many of their resources, this match is not guaranteed and results in errors.

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

3 Common properties

3.1 Properties that all Redfish Schemas define

The following properties are defined for inclusion in every Redfish Schema, and therefore may be encountered in any response payload. Their documentation here prevents repetition in the *Reference Guide* property tables.

> **Note:** Several of these properties are payload annotations but appear here because they are required for all Redfish resources.

3.1.1 Properties

Property	Type	Attributes	Notes
@odata.context	string (URI)	*read-only*	The value of this property shall be the context URL that describes the resource according to OData-Protocol and shall be of the form defined in the Redfish specification.
@odata.etag	string	*read-only*	The value of this property shall be a string that is defined by the ETag HTTP header definition in RFC7232.
@odata.id	string (URI)	*read-only* *required*	The value of this property shall be the unique identifier for the resource and it shall be of the form defined in the Redfish specification.
@odata.type	string	*read-only* *required*	The value of this property shall be an absolute URL that specifies the type of the resource and it shall be of the form defined in the Redfish specification.
Description	string	*read-only*	This object represents the description of this resource. The resource values shall comply with the Redfish Specification-described requirements.
Id	string	*read-only*	This property represents an identifier for the resource. The resource values shall comply with the Redfish Specification-described requirements.
Name	string	*read-only* *required*	This object represents the name of this resource or array member. The resource values shall comply with the Redfish Specification-described requirements. This string value shall be of the 'Name' reserved word format.
Oem {}	object		The manufacturer- or provider-specific extension moniker that divides the `Oem` object into sections.

3.2 Frequently used properties

In addition, Redfish Schemas frequently define the following properties. Their definition and usage is the same throughout the Redfish data model.

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

3.2.1 Properties

Property	Type	Attributes	Notes
Actions {}	object		The Redfish actions available for this Resource.
Links {}	object		The links associated with the Resource, as defined by that Resource's schema definition. All associated reference properties defined for a Resource are nested under the Links property. Find all directly referenced, or subordinate, Resource properties from the root of the Resource.
RelatedItem [{	array		An array of links. Each link points to a Resource or part of a Resource as defined by that Resource's schema. This representation is not intended to be a strong linking methodology like other references. Instead, it shows a relationship between elements or subelements in disparate parts of the service. For example, fans might be in one area of the system and processors in another. The relationship between the two might not be obvious. This property can show that one is related to the other. In this example, it might indicate that a specific fan cools a specific processor.
@odata.id	string (URI)	*read-only*	The value of this property shall be the unique identifier for the resource and it shall be of the form defined in the Redfish specification.
}]			

3.3 Payload annotations

Payload annotations are a mechanism in which a service provides additional information about a given property or object. Redfish limits usage of these annotations to OData core terms, Redfish Extensions or Redfish Messages.

3.3.1 Property-level annotations

A payload annotation for a single property takes the form of an additional property named `Property@Schema.Term`, where `Property` is the JSON property being annotated, `Schema` is the schema file where the definition for the annotation is found, and `Term` is the name of the Annotation.

3.3.2 Properties

Property	Type	Attributes	Notes
@Message.ExtendedInfo {}	object		The additional information for a set of message structures for a property. These messages can be useful when a property is `null` due to an error condition and the service wants to convey why the property is `null`.
@odata.count	integer	*read-only*	The value of this property shall be an integer representing the number of items in a collection.

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

Property	Type	Attributes	Notes
@Redfish.AllowableValues [ ]	array (string)	*read-only*	The string values that a service accepts for a property or action parameter.

In the following example, the property `ResetType` is being annotated with the `AllowableValues` term, which is defined in the `Redfish` schema (an alias for RedfishExtensions). This is used to indicate to the client that the service supports the values `On` and `ForceOff` for `ResetType`.

```
{
  "ResetType@Redfish.AllowableValues": [
    "On",
    "ForceOff"
  ]
}
```

3.3.3 Resource- or object-level annotations

A payload annotation for an entire resource or a JSON object takes the form of `@Schema.Term`, where `Namespace` is the schema file where the definition is found and `Term` is the name of the Annotation. These payload annotations are used to provide further information about the object itself.

3.3.4 Properties

Property	Type	Attributes	Notes
@Redfish.ActionInfo	string (URI)	*read-only*	The URI to an ActionInfo Resource, which describes the parameters that this Action instance supports.
@Redfish.CollectionCapabilities {}	object		This type shall describe any capabilities of a resource collection in terms of how a client can create resources within the resource collection. For property details, see CollectionCapabilities.
@Redfish.MaintenanceWindow {}	object		This type shall indicate that a resource has a maintenance window assignment for applying settings or operations. Other resources can link to this object to convey a common control surface for the configuration of the maintenance window. For property details, see MaintenanceWindow.
@Redfish.OperationApplyTime	string (enum)	*read-write*	The client's requested apply time to complete a create, delete, or action operation. *For the possible property values, see @Redfish.OperationApplyTime in Property details.*
@Redfish.OperationApplyTimeSupport {}	object		This type shall indicate that a client can request a specific apply time of a create, delete, or action operation of a resource. For property details, see OperationApplyTimeSupport.

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

Property	Type	Attributes	Notes
@Redfish.Settings {}	object		This type shall describe any settings of a resource. For property details, see Settings.
@Redfish.SettingsApplyTime {}	object		This type shall be specified by client to indicate the preferred time to apply the configuration settings. For property details, see PreferredApplyTime.

3.3.5 Property details

3.3.5.1 @Redfish.OperationApplyTime:

The client's requested apply time to complete a create, delete, or action operation.

string	Description
AtMaintenanceWindowStart	This value shall indicate the requested create, delete, or action operation is applied during the maintenance window that the MaintenanceWindowStartTime and MaintenanceWindowDurationInSeconds properties specify. A service can complete resets during this maintenance window.
Immediate	This value shall indicate the requested create, delete, or action operation is applied immediately.
InMaintenanceWindowOnReset	This value shall indicate the requested create, delete, or action operation is applied during the maintenance window that the MaintenanceWindowStartTime and MaintenanceWindowDurationInSeconds properties specify, and if a reset occurs within the maintenance window.
OnReset	This value shall indicate the requested create, delete, or action operation is applied when the system or service is reset.
OnStartUpdateRequest	This value shall indicate the requested create, delete, or action operation is applied when the StartUpdate action of the update service is invoked.

In the following example, the object is being annotated with the `ActionInfo` term, which is defined in the `Redfish` schema (an alias for RedfishExtensions). This is used to indicate to the client that it can find more information about the given action, in this case `#ComputerSystem.Reset`, at the URI `/redfish/v1/Systems/1/ResetActionInfo`.

```
{
  "#ComputerSystem.Reset": {
    "target": "/redfish/v1/Systems/1/Actions/ComputerSystem.Reset",
    "@Redfish.ActionInfo": "/redfish/v1/Systems/1/ResetActionInfo"
  }
}
```

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

4 Common objects

The following JSON objects are frequently defined in Redfish Schemas. Like the individual common properties listed above, these objects share a common definition which is shown here to avoid repetition in the Reference Guide property tables.

4.1 Actions

The Actions object contains descriptions of the actions defined and available for this resource.

4.1.1 Properties

Property	Type	Attributes	Notes
#{action name} {	object		A single Redfish action.
@Redfish.ActionInfo	string	*read-only*	The URI for an ActionInfo Resource that describes this action.
target	string	*read-only*	The target URI for the POST operation to invoke the action.
}			

4.2 Capacity

4.2.1 Description

This composition may be used to represent storage capacity. The sum of the values in Data, Metadata, and Snapshot shall be equal to the total capacity for the data store.

4.2.2 Properties

Property	Type	Attributes	Notes
Data {	object		The value shall be capacity information relating to provisioned user data.
AllocatedBytes	integer (bytes)	*read-write (null)*	The value shall be the number of bytes currently allocated by the storage system in this data store for this data type.
ConsumedBytes	integer (bytes)	*read-only (null)*	The value shall be the number of logical bytes currently consumed in this data store for this data type.

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

Property	Type	Attributes	Notes
GuaranteedBytes	integer (bytes)	*read-write (null)*	The value shall be the number of bytes the storage system guarantees can be allocated in this data store for this data type.
ProvisionedBytes	integer (bytes)	*read-write (null)*	The value shall be the maximum number of bytes that can be allocated in this data store for this data type.
}			
IsThinProvisioned	boolean	*read-only (null)*	If the value is false, the capacity shall be fully allocated. The default value shall be false.
Metadata {	object		The value shall be capacity information relating to provisioned system (non-user accessible) data.
AllocatedBytes	integer (bytes)	*read-write (null)*	The value shall be the number of bytes currently allocated by the storage system in this data store for this data type.
ConsumedBytes	integer (bytes)	*read-only (null)*	The value shall be the number of logical bytes currently consumed in this data store for this data type.
GuaranteedBytes	integer (bytes)	*read-write (null)*	The value shall be the number of bytes the storage system guarantees can be allocated in this data store for this data type.
ProvisionedBytes	integer (bytes)	*read-write (null)*	The value shall be the maximum number of bytes that can be allocated in this data store for this data type.
}			
Snapshot {	object		The value shall be capacity information relating to provisioned snapshot or backup data.
AllocatedBytes	integer (bytes)	*read-write (null)*	The value shall be the number of bytes currently allocated by the storage system in this data store for this data type.
ConsumedBytes	integer (bytes)	*read-only (null)*	The value shall be the number of logical bytes currently consumed in this data store for this data type.
GuaranteedBytes	integer (bytes)	*read-write (null)*	The value shall be the number of bytes the storage system guarantees can be allocated in this data store for this data type.
ProvisionedBytes	integer (bytes)	*read-write (null)*	The value shall be the maximum number of bytes that can be allocated in this data store for this data type.
}			

4.3 Identifier

4.3.1 Description

This type shall contain any additional identifiers for a resource.

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

4.3.2 Properties

Property	Type	Attributes	Notes
DurableName *(v1.1+)*	string	*read-only (null)*	This property shall contain the world-wide unique identifier for the resource. The string shall be in the Identifier.DurableNameFormat property value format.
DurableNameFormat *(v1.1+)*	string (enum)	*read-only (null)*	This property shall represent the format of the DurableName property. *For the possible property values, see DurableNameFormat in Property details.*

4.3.3 Property details

4.3.3.1 DurableNameFormat:

This property shall represent the format of the DurableName property.

string	Description
EUI	This durable name shall contain the hexadecimal representation of the IEEE-defined 64-bit Extended Unique Identifier (EUI), as defined in the IEEE's Guidelines for 64-bit Global Identifier (EUI-64) Specification. The DurableName property shall follow the pattern '^([0-9A-Fa-f]{2}[:-]){7}([0-9A-Fa-f]{2})$', where the most significant octet is first.
FC_WWN	This durable name shall contain a hexadecimal representation of the World-Wide Name (WWN) format, as defined in the T11 Fibre Channel Physical and Signaling Interface Specification. The DurableName property shall follow the pattern '^([0-9A-Fa-f]{2}[:-]){7}([0-9A-Fa-f]{2})$', where the most significant octet is first.
iQN	This durable name shall be in the iSCSI Qualified Name (iQN) format, as defined in RFC3720 and RFC3721.
NAA	This durable name shall contain a hexadecimal representation of the Name Address Authority structure, as defined in the T11 Fibre Channel - Framing and Signaling - 3 (FC-FS-3) specification. The DurableName property shall follow the pattern '^(([0-9A-Fa-f]{2}){8}){1,2}$', where the most significant octet is first.
NGUID *(v1.10+)*	This durable name shall be in the Namespace Globally Unique Identifier (NGUID), as defined in the NVN Express Specification. The DurableName property shall follow the pattern '^([0-9A-Fa-f]{2}){16}$', where the most significant octet is first.
NQN *(v1.6+)*	This durable name shall be in the NVMe Qualified Name (NQN) format, as defined in the NVN Express over Fabric Specification.
NSID *(v1.6+, deprecated v1.12)*	This durable name shall be in the NVM Namespace Identifier (NSID) format, as defined in the NVN Express Specification. *Deprecated in v1.12 and later. This value has been deprecated due to its non-uniqueness and* `NGUID` *should be used.*
UUID	This durable name shall contain the hexadecimal representation of the UUID, as defined by RFC4122. The DurableName property shall follow the pattern '([0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12})'.

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

4.4 IOStatistics

4.4.1 Description

The properties of this type shall be used to represent the IO statistics of the requested object.

4.4.2 Properties

Property	Type	Attributes	Notes
NonIORequests	integer ({tot})	*read-write (null)*	The value shall represent the total count from the time of last reset or wrap of non IO requests.
NonIORequestTime	string	*read-write (null)*	The value shall be an ISO 8601 conformant duration describing the time that the resource is busy processing non IO requests.
ReadHitIORequests	integer ({tot})	*read-write (null)*	The value shall represent the total count from the time of last reset or wrap of read IO requests satisfied from memory.
ReadIOKiBytes	integer (KiBy)	*read-write (null)*	The value shall represent the total number of kibibytes read from the time of last reset or wrap.
ReadIORequests	integer ({tot})	*read-write (null)*	The value shall represent the total count from the time of last reset or wrap of read IO requests satisfied from either media or memory (i.e. from a storage device or from a cache).
ReadIORequestTime	string	*read-write (null)*	The value shall be an ISO 8601 conformant duration describing the time that the resource is busy processing read requests.
WriteHitIORequests	integer ({tot})	*read-write (null)*	The value shall represent the total count from the time of last reset or wrap of write IO requests coalesced into memory.
WriteIOKiBytes	integer (KiBy)	*read-write (null)*	The value shall represent the total number of kibibytes written from the time of last reset or wrap.
WriteIORequests	integer ({tot})	*read-write (null)*	The value shall represent the total count from the time of last reset or wrap of write IO requests.
WriteIORequestTime	string	*read-write (null)*	The value shall be an ISO 8601 conformant duration describing the time that the resource is busy processing write requests.

4.5 IPv4Address

4.5.1 Description

This type shall describe an IPv4 address assigned to an interface.

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

4.5.2 Properties

Property	Type	Attributes	Notes
Address	string	*read-write (null)*	This property shall contain an IPv4 address assigned to this interface. If DHCPv4 is enabled on the interface, this property becomes read-only. Pattern: ^(?:[0-9]{1,3}.){3}[0-9]{1,3}$
AddressOrigin	string (enum)	*read-only (null)*	This property shall contain the IP address origin for this network interface. *For the possible property values, see AddressOrigin in Property details.*
Gateway	string	*read-write (null)*	This property shall contain the IPv4 default gateway address for this interface. If DHCPv4 is enabled on the interface and is configured to set the IPv4 default gateway address, this property becomes read-only. If multiple IPv4 addresses are present on the same interface only a single default gateway is allowed. Any additional IPv4 addresses shall not have a default gateway specified. Pattern: ^(?:[0-9]{1,3}.){3}[0-9]{1,3}$
Oem {}	object		See the OEM object definition in the Using this guide clause.
SubnetMask	string	*read-write (null)*	This property shall contain the IPv4 subnet mask for this address. If DHCPv4 is enabled on the interface, this property becomes read-only. Pattern: ^(?:[0-9]{1,3}.){3}[0-9]{1,3}$

4.5.3 Property details

4.5.3.1 AddressOrigin:

This property shall contain the IP address origin for this network interface.

string	Description
BOOTP	A BOOTP service-provided address.
DHCP	A DHCPv4 service-provided address.
IPv4LinkLocal	The address is valid for only this network segment, or link.
Static	A user-configured static address.

4.6 IPv6Address

4.6.1 Description

This type shall describe an IPv6 address assigned to an interface.

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

4.6.2 Properties

Property	Type	Attributes	Notes
Address	string	*read-write (null)*	This property lists an IPv6 address that is currently assigned on this interface.
AddressOrigin	string (enum)	*read-only (null)*	This property shall contain the IPv6 address origin for this interface. *For the possible property values, see AddressOrigin in Property details.*
AddressState	string (enum)	*read-only (null)*	This property shall contain the current RFC4862-defined state of this address. Preferred and Deprecated states follow the definitions in RFC4862, section 5.5.4. The Tentative state indicates that the address is undergoing Duplicate Address Detection (DAD), as defined in RFC4862, section 5.4. The Failed state indicates a static address that did not pass DAD. A static address in the Failed state is not in use on the network stack, and corrective action is required to remedy this condition. *For the possible property values, see AddressState in Property details.*
Oem {}	object		See the OEM object definition in the Using this guide clause.
PrefixLength	integer	*read-only (null)*	This property shall contain the IPv6 address prefix length for this interface.

4.6.3 Property details

4.6.3.1 AddressOrigin:

This property shall contain the IPv6 address origin for this interface.

string	Description
DHCPv6	A DHCPv6 service-provided address.
LinkLocal	The address is valid for only this network segment, or link.
SLAAC	A stateless autoconfiguration (SLAAC) service-provided address.
Static	A static user-configured address.

4.6.3.2 AddressState:

This property shall contain the current RFC4862-defined state of this address. Preferred and Deprecated states follow the definitions in RFC4862, section 5.5.4. The Tentative state indicates that the address is undergoing Duplicate Address Detection (DAD), as defined in RFC4862, section 5.4. The Failed state indicates a static address that did not pass DAD. A static address in the Failed state is not in use on the network stack, and corrective action is required to remedy this condition.

© ISO/IEC 2022 – All rights reserved

Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022

string	Description
Deprecated	This address is currently within its valid lifetime but is now outside its RFC4862-defined preferred lifetime.
Failed	This address has failed Duplicate Address Detection (DAD) testing, as defined in RFC4862, section 5.4, and is not currently in use.
Preferred	This address is currently within both its RFC4862-defined valid and preferred lifetimes.
Tentative	This address is currently undergoing Duplicate Address Detection (DAD) testing, as defined in RFC4862, section 5.4.

4.7 IPv6GatewayStaticAddress

4.7.1 Description

This type shall represent a single IPv6 static address to be assigned on a network interface.

4.7.2 Properties

Property	Type	Attributes	Notes
Address *(v1.1+)*	string	*read-write required (null)*	This property provides access to a static IPv6 address that is currently assigned on a network interface.
Oem *(v1.1+)* {}	object		See the OEM object definition in the Using this guide clause.
PrefixLength *(v1.1+)*	integer	*read-write (null)*	Provides the IPv6 network prefix length, in bits, for this address.

4.8 IPv6StaticAddress

4.8.1 Description

This type shall represent a single IPv6 static address to be assigned on a network interface.

4.8.2 Properties

Property	Type	Attributes	Notes
Address	string	*read-write required (null)*	This property provides access to a static IPv6 address that is currently assigned on a network interface.

© ISO/IEC 2022 – All rights reserved

AVA Documents
Document Sharing Hub

Full document details: BS ISO/IEC 30115-2:2022