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102

103

Foreword

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121

122

Introduction

- 123 The information in this specification should be sufficient for a provider or consumer of this data to identify
124 unambiguously the classes, properties, methods, and values that shall be instantiated and manipulated to
125 represent collections of select managed elements for use when implementing the SM CLP or SM ME
126 Addressing specifications.
- 127 The target audience for this specification is implementers who are writing CIM-based providers or
128 consumers of management interfaces that represent the component described in this document.

129

SMASH Collections Profile

1 Scope

131 The *SMASH Collections Profile* extends the management capability of referencing profiles by adding the
132 ability to create collections of managed elements.

2 Normative References

134 The following referenced documents are indispensable for the application of this document. For dated
135 references, only the edition cited applies. For undated references, the latest edition of the referenced
136 document (including any amendments) applies.

2.1 Approved References

138 DMTF DSP0004, *CIM Infrastructure Specification 2.5*,
139 http://www.dmtf.org/standards/published_documents/DSP0004_2.5.pdf

140 DMTF DSP0200, *CIM Operations over HTTP 1.3*,
141 http://www.dmtf.org/standards/published_documents/DSP0200_1.3.pdf

142 DMTF DSP1001, *Management Profile Specification Usage Guide 1.0*,
143 http://www.dmtf.org/standards/published_documents/DSP1001_1.0.pdf

144 DMTF DSP1004, *Base Server Profile 1.0*,
145 http://www.dmtf.org/standards/published_documents/DSP1004_1.0.pdf

146 DMTF DSP1005, *CLP Service Profile 1.0*,
147 http://www.dmtf.org/standards/published_documents/DSP1005_1.0.pdf

148 DMTF DSP1009, *Sensors Profile 1.0*,
149 http://www.dmtf.org/standards/published_documents/DSP1009_1.0.pdf

150 DMTF DSP1010, *Record Log Profile 1.0*,
151 http://www.dmtf.org/standards/published_documents/DSP1010_1.0.pdf

152 DMTF DSP1011, *Physical Asset Profile 1.0*,
153 http://www.dmtf.org/standards/published_documents/DSP1011_1.0.pdf

154 DMTF DSP1012, *Boot Control Profile 1.0*,
155 http://www.dmtf.org/standards/published_documents/DSP1012_1.0.pdf

156 DMTF DSP1013, *Fan Profile 1.0*, http://www.dmtf.org/standards/published_documents/DSP1013_1.0.pdf

157 DMTF DSP1015, *Power Supply Profile 1.0*,
158 http://www.dmtf.org/standards/published_documents/DSP1015_1.0.pdf

159 DMTF DSP1016, *Telnet Service Profile 1.0*,
160 http://www.dmtf.org/standards/published_documents/DSP1016_1.0.pdf

161 DMTF DSP1017, *SSH Service Profile 1.0*,
162 http://www.dmtf.org/standards/published_documents/DSP1017_1.0.pdf

163 DMTF DSP1018, *Service Processor Profile 1.0*,
164 http://www.dmtf.org/standards/published_documents/DSP1018_1.0.pdf

- 165 DMTF DSP1019, *Device Tray Profile 1.0*,
166 http://www.dmtf.org/standards/published_documents/DSP1019_1.0.pdf
- 167 DMTF DSP1020, *Pass-Through Module Profile 1.0*,
168 http://www.dmtf.org/standards/published_documents/DSP1020_1.0.pdf
- 169 DMTF DSP1021, *Shared Device Management Profile 1.0*,
170 http://www.dmtf.org/standards/published_documents/DSP1021_1.0.pdf
- 171 DMTF DSP1022, *CPU Profile 1.0*,
172 http://www.dmtf.org/standards/published_documents/DSP1022_1.0.pdf
- 173 DMTF DSP1023, *Software Inventory Profile 1.0*,
174 http://www.dmtf.org/standards/published_documents/DSP1023_1.0.pdf
- 175 DMTF DSP1024, *Text Console Redirection Profile 1.0*,
176 http://www.dmtf.org/standards/published_documents/DSP1024_1.0.pdf
- 177 DMTF DSP1025, *Software Update Profile 1.0*,
178 http://www.dmtf.org/standards/published_documents/DSP1025_1.0.pdf
- 179 DMTF DSP1026, *System Memory Profile 1.0*,
180 http://www.dmtf.org/standards/published_documents/DSP1026_1.0.pdf
- 181 DMTF DSP1027, *Power State Management Profile 1.0*,
182 http://www.dmtf.org/standards/published_documents/DSP1027_1.0.pdf
- 183 DMTF DSP1033, *Profile Registration Profile 1.0*,
184 http://www.dmtf.org/standards/published_documents/DSP1033_1.0.pdf
- 185 DMTF DSP1036, *IP Interface Profile 1.0*,
186 http://www.dmtf.org/standards/published_documents/DSP1036_1.0.pdf
- 187 DMTF DSP1037, *DHCP Client Profile 1.0*,
188 http://www.dmtf.org/standards/published_documents/DSP1037_1.0.pdf
- 189 DMTF DSP1038, *DNS Client Profile 1.0*,
190 http://www.dmtf.org/standards/published_documents/DSP1038_1.0.pdf
- 191 DMTF DSP1039, *Role Based Authorization Profile 1.0*,
192 http://www.dmtf.org/standards/published_documents/DSP1039_1.0.pdf

193 **2.2 Other References**

- 194 ISO/IEC Directives, Part 2, *Rules for the structure and drafting of International Standards*,
195 <http://isotc.iso.org/livelink/livelink.exe?func=ll&objId=4230456&objAction=browse&sort=subtype>

196 **3 Terms and Definitions**

- 197 For the purposes of this document, the terms and definitions given in [DSP1033](#) and [DSP1001](#) and the
198 following apply.

199 **3.1**

200 **can**

- 201 used for statements of possibility and capability, whether material, physical, or causal

- 202 **3.2**
203 **cannot**
204 used for statements of possibility and capability, whether material, physical, or causal
- 205 **3.3**
206 **conditional**
207 indicates requirements to be followed strictly to conform to the document when the specified conditions
208 are met
- 209 **3.4**
210 **mandatory**
211 indicates requirements to be followed strictly to conform to the document and from which no deviation is
212 permitted
- 213 **3.5**
214 **may**
215 indicates a course of action permissible within the limits of the document
- 216 **3.6**
217 **need not**
218 indicates a course of action permissible within the limits of the document
- 219 **3.7**
220 **optional**
221 indicates a course of action permissible within the limits of the document
- 222 **3.8**
223 **referencing profile**
224 indicates a profile that owns the definition of this class and can include a reference to this profile in its
225 "Referenced Profiles" table
- 226 **3.9**
227 **shall**
228 indicates requirements to be followed strictly to conform to the document and from which no deviation is
229 permitted
- 230 **3.10**
231 **shall not**
232 indicates requirements to be followed strictly to conform to the document and from which no deviation is
233 permitted
- 234 **3.11**
235 **should**
236 indicates that among several possibilities, one is recommended as particularly suitable, without
237 mentioning or excluding others, or that a certain course of action is preferred but not necessarily required
- 238 **3.12**
239 **should not**
240 indicates that a certain possibility or course of action is deprecated but not prohibited
- 241 **3.13**
242 **unspecified**
243 indicates that this profile does not define any constraints for the referenced CIM element or operation

- 244 **3.14**
245 **Capabilities Collection**
246 CIM_ConcreteCollection instance for instances of the CIM_Capabilities class
- 247 **3.15**
248 **Capacities Collection**
249 CIM_ConcreteCollection instance for instances of the CIM_ConfigurationCapacity class
- 250 **3.16**
251 **Consoles Collection**
252 CIM_ConcreteCollection instance for instances of the CIM_TextRedirectionSAP class
- 253 **3.17**
254 **Logs Collection**
255 CIM_ConcreteCollection instance for instances of the CIM_RecordLog class
- 256 **3.18**
257 **Sensors Collection**
258 CIM_ConcreteCollection instance for instances of the CIM_Sensor and CIM_NumericSensor classes
- 259 **3.19**
260 **Settings Collection**
261 CIM_ConcreteCollection instance for instances of the CIM_SettingData class

262 **4 Symbols and Abbreviated Terms**

263 The following abbreviations are used in this document.

- 264 **4.1**
265 **SMASH**
266 Systems Management Architecture for Server Hardware
- 267 **4.2**
268 **SM CLP**
269 Server Management Command Line Protocol
- 270 **4.3**
271 **SM ME**
272 Server Management Managed Element

273 **5 Synopsis**

- 274 **Profile Name:** SMASH Collections
275 **Version:** 1.0.0
276 **Organization:** DMTF
277 **CIM Schema Version:** 2.20
278 **Central Class:** CIM_ConcreteCollection
279 **Scoping Class:** CIM_ComputerSystem

280 The *SMASH Collections Profile* extends the management capability of referencing profiles by adding the
 281 capability to represent collections of managed elements for use when implementing the SM CLP or SM
 282 ME Addressing specifications.

283 The Central Class for the *SMASH Collections Profile* shall be the CIM_ConcreteCollection class. Each
 284 instance of CIM_ConcreteCollection shall be a Central Instance of the *SMASH Collections Profile*.

285 The Scoping Class for the *SMASH Collections Profile* shall be CIM_ComputerSystem. The Scoping
 286 Instance of the *SMASH Collections Profile* shall be the instance of CIM_ComputerSystem to which the
 287 Central Instances are associated through instances of CIM_OwningCollectionElement.

288 Table 1 identifies profiles on which this profile has a dependency.

289

Table 1 – Referenced Profiles

Profile Name	Organization	Version	Relationship	Behavior
Base Server	DMTF	1.0	Optional	See 7.2.
Boot Control	DMTF	1.0	Optional	See 7.3.
CLP Service	DMTF	1.0	Optional	See 7.5.
CPU	DMTF	1.0	Optional	See 7.6.
Device Tray	DMTF	1.0	Optional	See 7.7.
DHCP Client	DMTF	1.0	Optional	See 7.8.
DNS Client	DMTF	1.0	Optional	See 7.9.
Fan	DMTF	1.0	Optional	See 7.10.
IP Interface	DMTF	1.0	Optional	See 7.12.
Pass-Through Module	DMTF	1.0	Optional	See 7.13.
Physical Asset	DMTF	1.0	Optional	See 7.14.
Power Supply	DMTF	1.0	Optional	See 7.15.
Power State Management	DMTF	1.0	Optional	See 7.19.
Profile Registration	DMTF	1.0	Mandatory	None
Record Log	DMTF	1.0	Optional	See 7.16.
Role Based Authorization	DMTF	1.0	Optional	See 7.17.
Sensors	DMTF	1.0	Optional	See 7.18.
Service Processor	DMTF	1.0	Optional	See 7.4.
Shared Device Management	DMTF	1.0	Optional	See 7.20.
Software Update	DMTF	1.0	Optional	See 7.11.
SSH Service	DMTF	1.0	Optional	See 7.21.
System Memory	DMTF	1.0	Optional	See 7.22.
Telnet Service	DMTF	1.0	Optional	See 7.23.
Text Console Redirection	DMTF	1.0	Optional	See 7.24.

290 **6 Description**

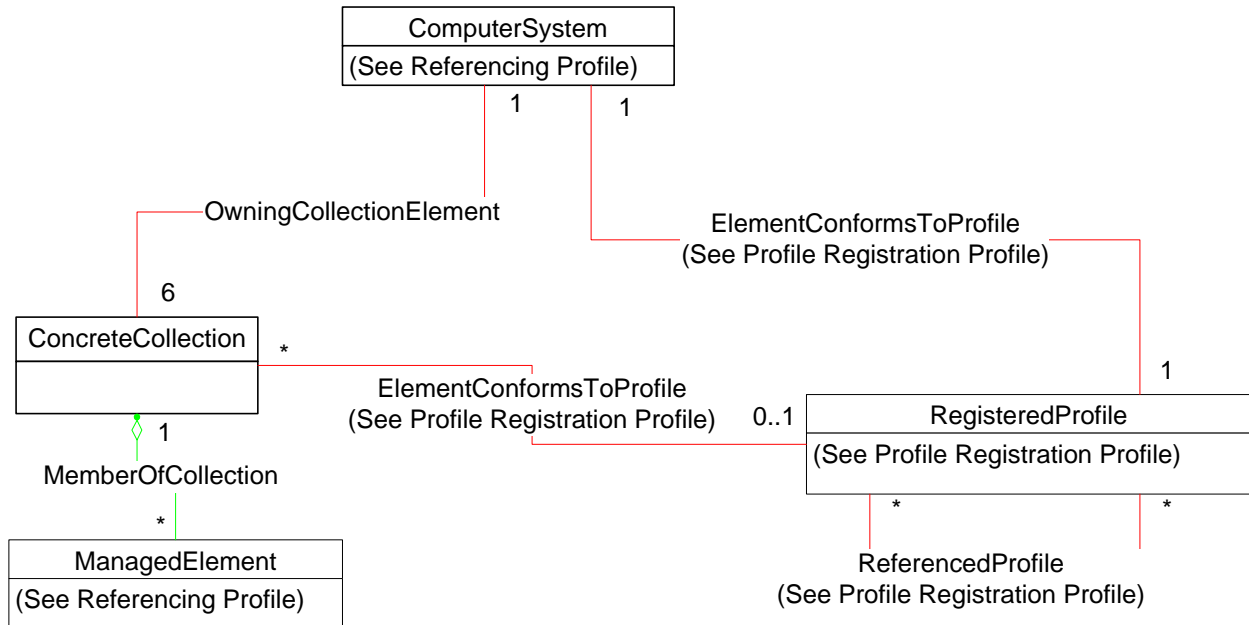
291 The *SMASH Collections Profile* describes collections, the associations that scope the collections to a
 292 system, and the associations that scope managed elements to the collections.

293 The *SMASH Collections Profile* defines the following collections:

- 294 • Capabilities – instances of CIM_Capabilities

- 295 • Capacities – instances of CIM_ConfigurationCapacity
- 296 • Consoles – instances of CIM_TextRedirectionSAP
- 297 • Logs – instances of CIM_RecordLog
- 298 • Sensors – instances of CIM_Sensor and CIM_NumericSensor
- 299 • Settings – instances of CIM_SettingData

300 Figure 1 represents the class schema for the *SMASH Collections Profile*. For simplicity, the prefix CIM_
 301 has been removed from the class names.



302

303

Figure 1 – SMASH Collections Profile: Class Diagram

304 7 Implementation Requirements

305 This section details the requirements related to the arrangement of instances and their properties for
 306 implementations of this profile.

307 7.1 Collection Definitions

308 This section details the requirements for instances of CIM_ConcreteCollection that represent each of the
 309 SMASH collections.

310 7.1.1 Capabilities Collection

311 An instance of CIM_ConcreteCollection shall aggregate instances of CIM_Capabilities. This collection is
 312 the Capabilities Collection.

313 7.1.1.1 CIM_ConcreteCollection.ElementName

314 When an instance of CIM_ConcreteCollection is the Capabilities Collection, the value of the
 315 ElementName property shall be "Capabilities".

316 **7.1.2 Capacities Collection**

317 An instance of CIM_ConcreteCollection shall aggregate instances of CIM_ConfigurationCapacity. This
318 collection is the Capacities Collection.

319 **7.1.2.1 CIM_ConcreteCollection.ElementName**

320 When an instance of CIM_ConcreteCollection is the Capacities Collection, the value of the ElementName
321 property shall be "Capacities".

322 **7.1.3 Consoles Collection**

323 An instance of CIM_ConcreteCollection shall aggregate instances of CIM_TextRedirectionSAP. This
324 collection is the Consoles Collection.

325 **7.1.3.1 CIM_ConcreteCollection.ElementName**

326 When an instance of CIM_ConcreteCollection is the Consoles Collection, the value of the ElementName
327 property shall be "Consoles".

328 **7.1.4 Logs Collection**

329 An instance of CIM_ConcreteCollection shall aggregate instances of CIM_RecordLog. This collection is
330 the Logs Collection.

331 **7.1.4.1 CIM_ConcreteCollection.ElementName**

332 When an instance of CIM_ConcreteCollection is the Logs Collection, the value of the ElementName
333 property shall be "Logs".

334 **7.1.5 Sensors Collection**

335 An instance of CIM_ConcreteCollection shall aggregate instances of CIM_RecordLog. This collection is
336 the Sensors Collection.

337 **7.1.5.1 CIM_ConcreteCollection.ElementName**

338 When an instance of CIM_ConcreteCollection is the Sensors Collection, the value of the ElementName
339 property shall be "Sensors".

340 **7.1.6 Settings Collection**

341 An instance of CIM_ConcreteCollection shall aggregate instances of CIM_SettingData. This collection is
342 the Settings Collection.

343 **7.1.6.1 CIM_ConcreteCollection.ElementName**

344 When an instance of CIM_ConcreteCollection is the Settings Collection, the value of the ElementName
345 property shall be "Settings".

346 **7.2 Base Server Profile**

347 When the Scoping Instance of this profile is conformant with the [Base Server Profile](#), the requirements
348 defined in this section are applicable.

349 **7.2.1 Capabilities Collection**

350 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
351 instance of CIM_EnabledLogicalElementCapabilities for each instance of
352 CIM_EnabledLogicalElementCapabilities that is instrumented for the [Base Server Profile](#).

353 **7.3 Boot Control Profile**

354 The [Boot Control Profile](#) may be implemented such that the Scoping Instance of the [Boot Control Profile](#)
355 is the Scoping Instance of this profile. The [Boot Control Profile](#) may be implemented such that an
356 instance of CIM_ServiceAffectsElement associates the Scoping Instance of this profile with the Central
357 Instance of the [Boot Control Profile](#). When the Scoping Instance of this profile is associated with the
358 Central Instance of the [Boot Control Profile](#) through the CIM_ServiceAffectsElement association, the
359 requirements defined in this section are applicable.

360 **7.3.1 Settings Collection**

361 Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance
362 of CIM_BootConfigSetting for each instance of CIM_BootConfigSetting that is associated with the
363 Scoping Instance of this profile through an instance of CIM_ElementSettingData.

364 **7.4 Service Processor Profile**

365 When the Scoping Instance of this profile is conformant with the [Service Processor Profile](#), the
366 requirements defined in this section are applicable.

367 **7.4.1 Capabilities Collection**

368 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
369 instance of CIM_EnabledLogicalElementCapabilities for each instance of
370 CIM_EnabledLogicalElementCapabilities that is instrumented for the [Service Processor Profile](#).

371 **7.5 CLP Service Profile**

372 When the Scoping Instance of the [CLP Service Profile](#) is the Scoping Instance of this profile, the
373 requirements defined in this section are applicable.

374 **7.5.1 Settings Collection**

375 Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance
376 of CIM_CLPSettingData for each instance of CIM_CLPSettingData that is instrumented for the [CLP](#)
377 [Service Profile](#).

378 **7.5.2 Capabilities Collection**

379 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
380 instance of CIM_CLPCapabilities for each instance of CIM_CLPCapabilities that is instrumented for the
381 [CLP Service Profile](#).

382 **7.6 CPU Profile**

383 When the Scoping Instance of the [CPU Profile](#) is the Scoping Instance of this profile, the requirements
384 defined in this section are applicable.

385 **7.6.1 Capabilities Collection**

386 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
387 instance of CIM_EnabledLogicalElementCapabilities for each instance of
388 CIM_EnabledLogicalElementCapabilities that is instrumented for the [CPU Profile](#).

389 **7.7 Device Tray Profile**

390 When the Scoping Instance of the [Device Tray Profile](#) is the Scoping Instance of this profile, the
391 requirements defined in this section are applicable.

392 **7.7.1 Capabilities Collection**

393 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
394 instance of CIM_EnabledLogicalElementCapabilities for each instance of
395 CIM_EnabledLogicalElementCapabilities that is instrumented for the [Device Tray Profile](#).

396 **7.8 DHCP Client Profile**

397 When the Scoping Instance of the [DHCP Client Profile](#) is the Scoping Instance of this profile, the
398 requirements defined in this section are applicable.

399 **7.8.1 Settings Collection**

400 Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance
401 of CIM_DHCPSettingData for each instance of CIM_DHCPSettingData that is associated with the Central
402 Instance of the [DHCP Client Profile](#) and is not the PartComponent reference of an instance of
403 CIM_OrderedComponent.

404 **7.8.2 Capabilities Collection**

405 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
406 instance of CIM_DHCPCapabilities for each instance of CIM_DHCPCapabilities that is instrumented for
407 the [DHCP Client Profile](#).

408 **7.9 DNS Client Profile**

409 When the Scoping Instance of the [DNS Client Profile](#) is the Scoping Instance of this profile, the
410 requirements defined in this section are applicable.

411 **7.9.1 Settings Collection**

412 Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance
413 of CIM_DNSSettingData for each instance of CIM_DNSSettingData that is associated with the Central
414 Instance of the [DNS Client Profile](#) and is not the PartComponent reference of an instance of
415 CIM_OrderedComponent.

416 Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance
417 of CIM_DNSGeneralSettingData for each instance of CIM_DNSGeneralSettingData that is associated
418 with the Central Instance of the [DNS Client Profile](#) and is not the PartComponent reference of an instance
419 of CIM_OrderedComponent.

420 **7.9.2 Capabilities Collection**

421 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
422 instance of CIM_EnabledLogicalElementCapabilities for each instance of
423 CIM_EnabledLogicalElementCapabilities that is instrumented for the [DNS Client Profile](#).

424 **7.10 Fan Profile**

425 When the Scoping Instance of the [Fan Profile](#) is the Scoping Instance of this profile, the requirements
426 defined in this section are applicable.

427 **7.10.1 Capabilities Collection**

428 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
429 instance of CIM_EnabledLogicalElementCapabilities for each instance of
430 CIM_EnabledLogicalElementCapabilities instrumented for the [Fan Profile](#).

431 **7.11 Software Update Profile**

432 When the Scoping Instance of the [Software Update Profile](#) is the Scoping Instance of this profile, the
433 requirements defined in this section are applicable.

434 **7.11.1 Capabilities Collection**

435 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
436 instance of CIM_SoftwareInstallationServiceCapabilities for each instance of
437 CIM_SoftwareInstallationServiceCapabilities that is instrumented for the [Software Update Profile](#).

438 **7.12 IP Interface Profile**

439 When the Scoping Instance of the [IP Interface Profile](#) is the Scoping Instance of this profile, the
440 requirements defined in this section are applicable.

441 **7.12.1 Settings Collection**

442 Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance
443 of CIM_StaticIPAssignmentSettingData for each instance of CIM_StaticIPAssignmentSettingData that is
444 associated with the Central Instance of the [IP Interface Profile](#) and is not the PartComponent reference of
445 an instance of CIM_OrderedComponent.

446 Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance
447 of CIM_IPAssignmentSettingData for each instance of CIM_IPAssignmentSettingData that is
448 instrumented for the [IP Interface Profile](#).

449 **7.12.2 Capabilities Collection**

450 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
451 instance of CIM_EnabledLogicalElementCapabilities for each instance of
452 CIM_EnabledLogicalElementCapabilities that is instrumented for the [IP Interface Profile](#).

453 **7.13 Pass-Through Module Profile**

454 When the Scoping Instance of the [Pass-Through Module Profile](#) is the Scoping Instance of this profile, the
455 requirements defined in this section are applicable.

456 **7.13.1 Capabilities Collection**

457 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
458 instance of CIM_EnabledLogicalElementCapabilities for each instance of
459 CIM_EnabledLogicalElementCapabilities that is instrumented for the [Pass-Through Module Profile](#).

460 **7.14 Physical Asset Profile**

461 When the Scoping Instance of the [Physical Asset Profile](#) is the Scoping Instance of this profile, the
462 requirements defined in this section are applicable.

463 **7.14.1 Capacities Collection**

464 Exactly one instance of CIM_MemberOfCollection shall reference the Capacities Collection and the
465 instance of CIM_ConfigurationCapacity for each instance of CIM_ConfigurationCapacity that is
466 instrumented for the [Physical Asset Profile](#).

467 **7.14.2 Capabilities Collection**

468 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
469 instance of CIM_PhysicalAssetCapabilities for each instance of CIM_PhysicalAssetCapabilities that is
470 instrumented for the [Physical Asset Profile](#).

471 **7.15 Power Supply Profile**

472 When the Scoping Instance of the [Power Supply Profile](#) is the Scoping Instance of this profile, the
473 requirements defined in this section are applicable.

474 **7.15.1 Capabilities Collection**

475 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
476 instance of CIM_EnabledLogicalElementCapabilities for each instance of
477 CIM_EnabledLogicalElementCapabilities that is instrumented for the [Power Supply Profile](#).

478 **7.16 Record Log Profile**

479 The [Record Log Profile](#) may be implemented such that the Scoping Instance of this profile is associated
480 with the Central Instance of the [Record Log Profile](#) through the CIM_UseOfLog association. When the
481 Scoping Instance of this profile is associated with the Central Instance of the [Record Log Profile](#) through
482 the CIM_UseOfLog association, the requirements defined in this section are applicable.

483 **7.16.1 Logs Collection**

484 For each instance of CIM_RecordLog that is associated with the Scoping Instance of this profile through
485 the CIM_UseOfLog association, exactly one instance of CIM_MemberOfCollection shall reference the
486 Logs Collection and the instance of CIM_RecordLog.

487 **7.17 Role Based Authorization Profile**

488 When the Scoping Instance of the [Role Based Authorization Profile](#) is the Scoping Instance of this profile,
489 the requirements defined in this section are applicable.

490 **7.17.1 Capabilities Collection**

491 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
492 instance of CIM_PrivilegeManagementCapabilities for each instance of
493 CIM_PrivilegeManagementCapabilities that is instrumented for the [Role Based Authorization Profile](#).

494 **7.18 Sensors Profile**

495 When the Scoping Instance of the [Sensors Profile](#) is the Scoping Instance of this profile, the requirements
496 defined in this section are applicable.

497 **7.18.1 Sensors Collection**

498 Exactly one instance of CIM_MemberOfCollection shall reference the Central Instance of the [Sensors](#)
499 [Profile](#) and the Sensors Collection.

500 **7.18.2 Capabilities Collection**

501 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
502 instance of CIM_EnabledLogicalElementCapabilities for each instance of
503 CIM_EnabledLogicalElementCapabilities that is instrumented for the [Sensors Profile](#).

504 **7.19 Power State Management Profile**

505 When the Scoping Instance of the [Power State Management Profile](#) is the Scoping Instance of this
506 profile, the requirements defined in this section are applicable.

507 **7.19.1 Capabilities Collection**

508 For each instance of CIM_PowerManagementCapabilities that is associated through an instance of
509 CIM_ElementCapabilities with an instance of CIM_PowerManagementService, and the instance of
510 CIM_PowerManagementService is associated with the Scoping Instance through an instance of
511 CIM_HostedService, exactly one instance of CIM_MemberOfCollection shall reference the Capabilities
512 Collection and the instance of CIM_PowerManagementCapabilities.

513 **7.20 Shared Device Management Profile**

514 The [Shared Device Management Profile](#) may be implemented such that the Scoping Instance of this
515 profile is not the Scoping Instance of the [Shared Device Management Profile](#). When an instance of
516 CIM_LogicalDevice is associated with the Scoping Instance of this profile and the CIM_LogicalDevice
517 instance is associated with the Central Instance of the [Shared Device Management Profile](#) through an
518 instance of CIM_ServiceAffectsElement, the requirements in this section are applicable.

519 **7.20.1 Capabilities Collection**

520 For each instance of CIM_DeviceSharingCapabilities that is associated with an instance of
521 CIM_LogicalDevice through an instance of CIM_ElementCapabilities, and the instance of
522 CIM_LogicalDevice instance is associated with the Scoping Instance of this profile, exactly one instance
523 of CIM_MemberOfCollection shall reference the Capabilities Collection and the instance of
524 CIM_DeviceSharingCapabilities.

525 **7.21 SSH Service Profile**

526 When the Scoping Instance of the [SSH Service Profile](#) is the Scoping Instance of this profile, the
527 requirements defined in this section are applicable.

528 **7.21.1 Settings Collection**

529 Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance
530 of CIM_SSHSettingData for each instance of CIM_SSHSettingData that is instrumented for the [SSH](#)
531 [Service Profile](#).

532 **7.21.2 Capabilities Collection**

533 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities collection and the
534 instance of CIM_SSHCapabilities for each instance of CIM_SSHCapabilities that is instrumented for the
535 [SSH Service Profile](#).

536 7.22 System Memory Profile

537 When the Scoping Instance of the [System Memory Profile](#) is the Scoping Instance of this profile, the
538 requirements defined in this section are applicable.

539 7.22.1 Capabilities Collection

540 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
541 instance of CIM_EnabledLogicalElementCapabilities for each instance of
542 CIM_EnabledLogicalElementCapabilities that is instrumented for the [System Memory Profile](#).

543 7.23 Telnet Service Profile

544 When the Scoping Instance of the [Telnet Service Profile](#) is the Scoping Instance of this profile, the
545 requirements defined in this section are applicable.

546 7.23.1 Settings Collection

547 Exactly one instance of CIM_MemberOfCollection shall reference the Settings Collection and the instance
548 of CIM_TelnetSettingData for each instance of CIM_TelnetSettingData that is instrumented for the [Telnet
549 Service Profile](#).

550 7.23.2 Capabilities Collection

551 Exactly one instance of CIM_MemberOfCollection shall reference the Capabilities Collection and the
552 instance of CIM_TelnetCapabilities for each instance of CIM_TelnetCapabilities that is instrumented for
553 the [Telnet Service Profile](#).

554 7.24 Text Console Redirection Profile

555 When the Scoping Instance of the [Text Console Redirection Profile](#) is the Scoping Instance of this profile,
556 the requirements defined in this section are applicable.

557 7.24.1 Consoles Collection

558 For each instance of CIM_TextRedirectionSAP that is associated with the Scoping Instance through an
559 instance of CIM_HostedAccessPoint, exactly one instance of CIM_MemberOfCollection shall associate
560 the instance of CIM_TextRedirectionSAP with the Consoles Collection.

561 8 Methods

562 This section details the requirements for supporting intrinsic operations and extrinsic methods for the CIM
563 elements defined by this profile. No extrinsic methods are defined in this profile.

564 8.1 Profile Conventions for Operations

565 For each profile class (including associations), the implementation requirements for operations, including
566 those in the following default list, are specified in class-specific subclauses of this clause.

567 The default list of operations is as follows:

- 568 • GetInstance
- 569 • Associators
- 570 • AssociatorNames
- 571 • References

- 572 • ReferenceNames
- 573 • EnumerateInstances
- 574 • EnumerateInstanceNames

575 8.2 CIM_ConcreteCollection

576 All operations in the default list in 8.1 shall be implemented as defined in [DSP0200](#).

577 NOTE: Related profiles may define additional requirements on operations for the profile class.

578 8.3 CIM_MemberOfCollection

579 Table 2 lists implementation requirements for operations. If implemented, these operations shall be
 580 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 2, all operations in
 581 the default list in 8.1 shall be implemented as defined in [DSP0200](#).

582 NOTE: Related profiles may define additional requirements on operations for the profile class.

583 **Table 2 – Operations: CIM_MemberOfCollection**

Operation	Requirement	Messages
Associators	Unspecified	None
AssociatorNames	Unspecified	None
References	Unspecified	None
ReferenceNames	Unspecified	None

584 8.4 CIM_OwningCollectionElement

585 Table 3 lists implementation requirements for operations. If implemented, these operations shall be
 586 implemented as defined in [DSP0200](#). In addition, and unless otherwise stated in Table 3, all operations in
 587 the default list in 8.1 shall be implemented as defined in [DSP0200](#).

588 NOTE: Related profiles may define additional requirements on operations for the profile class.

589 **Table 3 – Operations: CIM_OwningCollectionElement**

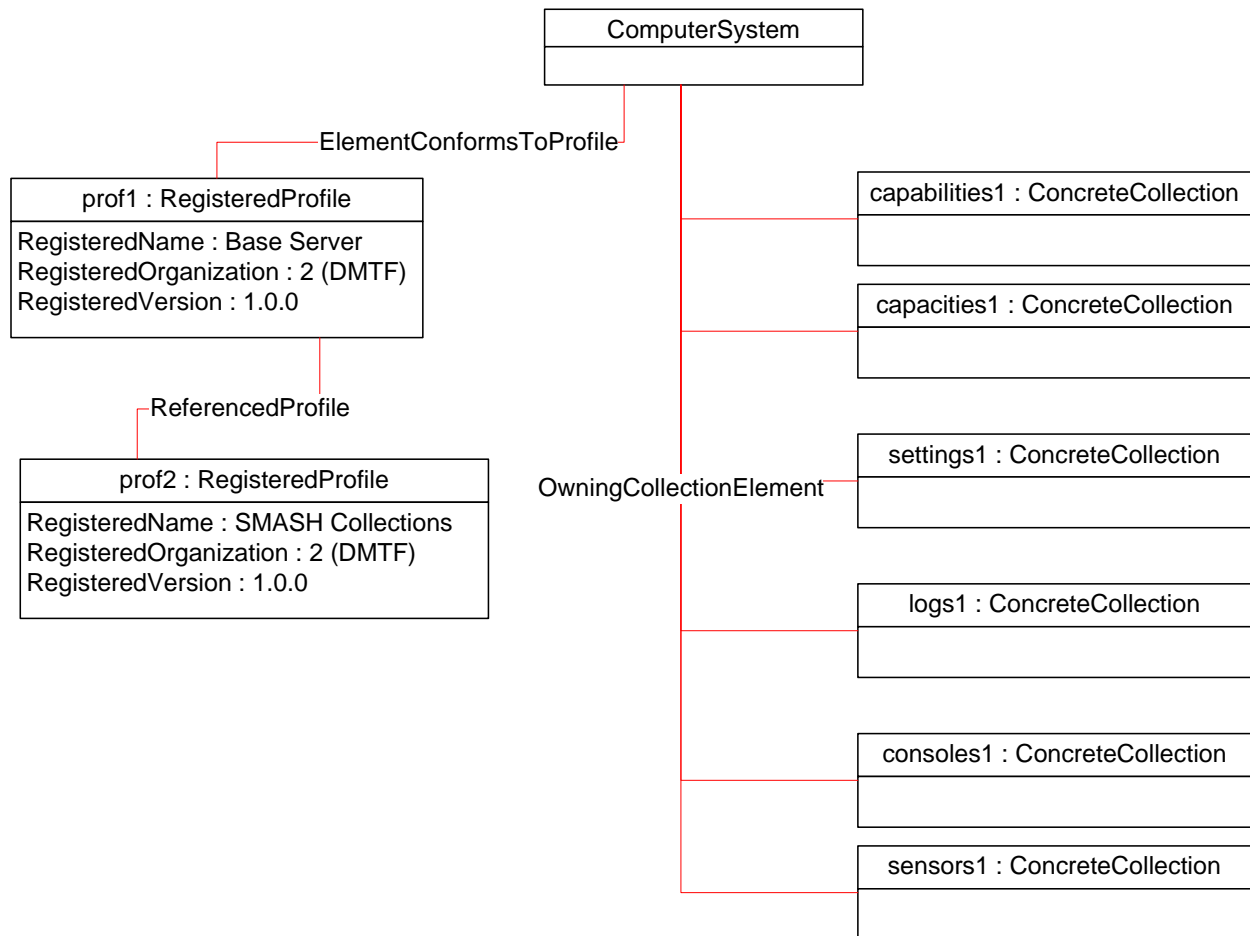
Operation	Requirement	Messages
Associators	Unspecified	None
AssociatorNames	Unspecified	None
References	Unspecified	None
ReferenceNames	Unspecified	None

590 9 Use Cases

591 This section contains object diagrams and use cases for the *SMASH Collections Profile*.

592 **9.1 Object Diagrams**

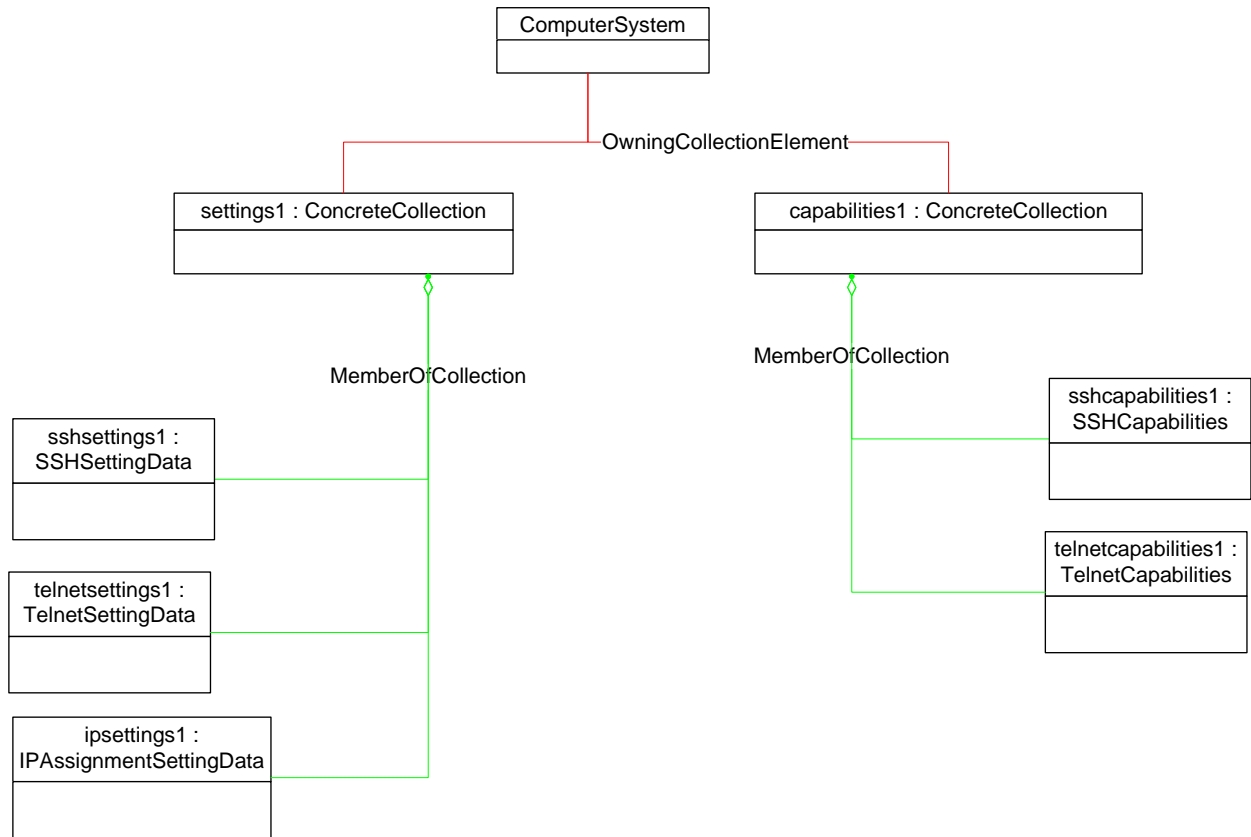
593 The object diagram in Figure 2 shows how instances of CIM_RegisteredProfile identify the version of the
 594 *SMASH Collections Profile* with which the instances of CIM_ConcreteCollection and their associated
 595 instances are conformant. An instance of CIM_RegisteredProfile exists for each profile instrumented in
 596 the system. One instance of CIM_RegisteredProfile identifies “DMTF Base Server Profile version 1.0.0”.
 597 The other instance identifies “DMTF SMASH Collections Profile version 1.0.0”. The
 598 CIM_ConcreteCollection instances are scoped to an instance of CIM_ComputerSystem. This instance of
 599 CIM_ComputerSystem is conformant with the DMTF Base Server Profile version 1.0.0 as indicated by the
 600 CIM_ElementConformsToProfile association to the CIM_RegisteredProfile instance.



601

602 **Figure 2 – Registered Profile**

603 The object diagram in Figure 3 shows a system in which the profile is supported and therefore elements
 604 are contained in the Settings and Capabilities Collections.



605

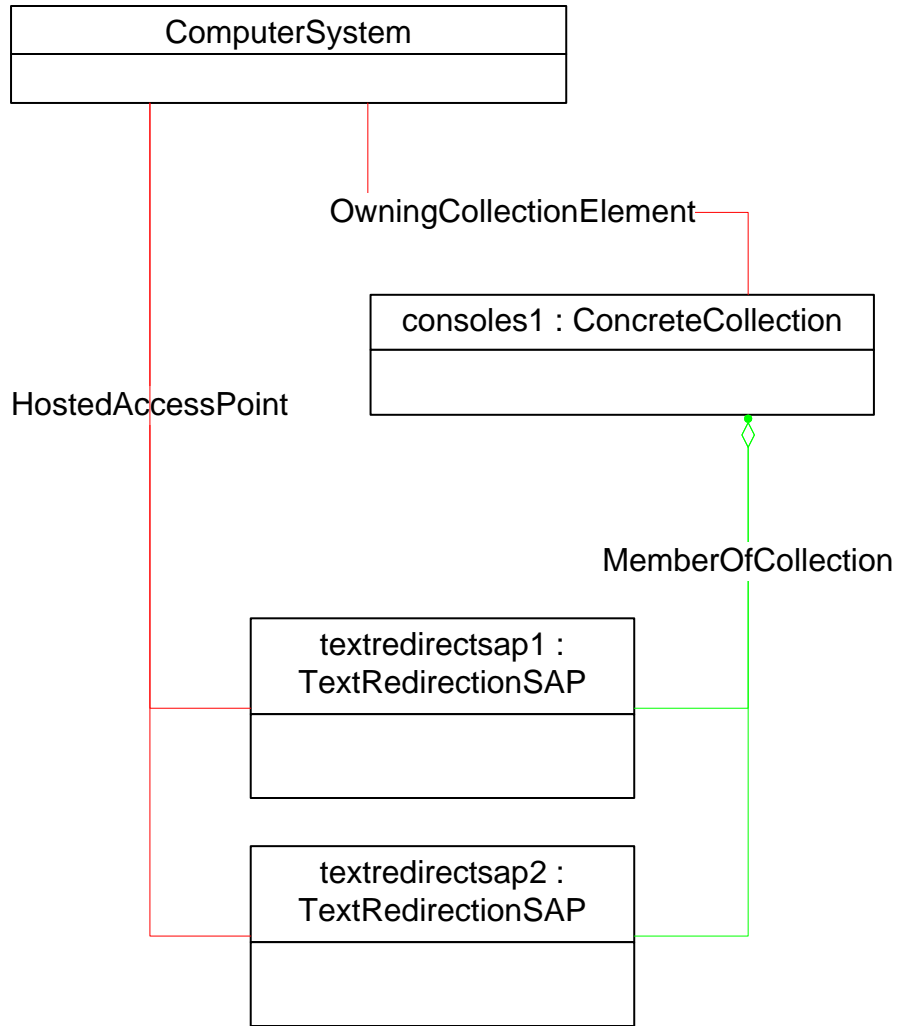
606

Figure 3 – Settings and Capabilities Collections

607

The object diagram in Figure 4 represents a system in which the [Record Log Profile](#) is supported and therefore the Logs Collection contains an instance of CIM_RecordLog.

608

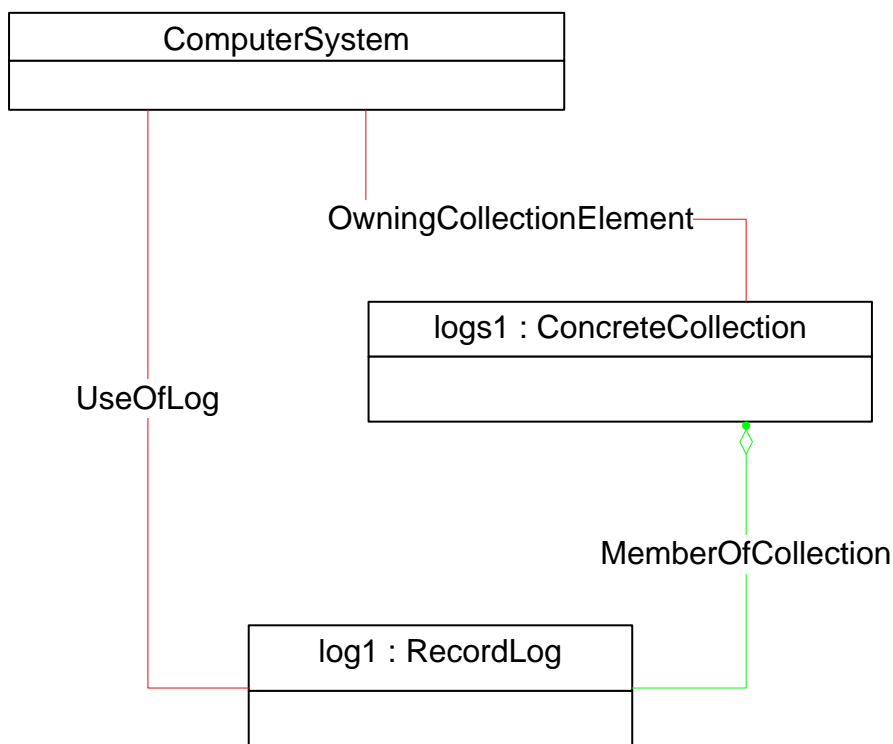


609

610

Figure 4 – Logs Collection

611 The object diagram in Figure 5 illustrates one possible arrangement of instances for an implementation
612 that supports the [Text Console Redirection Profile](#) and therefore has elements contained in the Consoles
613 Collection.



614

615

Figure 5 – Consoles Collection

616 9.2 Find All of the Capabilities for a System

617 A client can find all of the settings (CIM_Capabilities instances) for the system as follows:

618 Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance
 619 through an instance of CIM_OwningCollectionElement where the ElementName property of the
 620 CIM_ConcreteCollection instance has a value of "Capabilities".

621 9.3 Find All of the Consoles for a System

622 A client can find all of the CIM_TextRedirectionSAP instances hosted on the system as follows:

623 Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance
 624 through an instance of CIM_OwningCollectionElement where the ElementName property of the
 625 CIM_ConcreteCollection instance has a value of "Consoles".

626 9.4 Find All of the Logs for a System

627 A client can find all of the CIM_RecordLog instances related to the system as follows:

628 Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance
 629 through an instance of CIM_OwningCollectionElement where the ElementName property of the
 630 CIM_ConcreteCollection instance has a value of "Logs".

631 **9.5 Find All of the Settings for a System**

632 A client can find all of the settings (CIM_SettingData instances) for the system as follows:

633 Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance
 634 through an instance of CIM_OwningCollectionElement where the ElementName property of the
 635 CIM_ConcreteCollection instance has a value of "Settings".

636 **9.6 Find All of the Configuration Capacities for a System**

637 A client can find all of the configuration capacities (CIM_ConfigurationCapacity instances) for the system
 638 as follows:

639 Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance
 640 through an instance of CIM_OwningCollectionElement where the ElementName property of the
 641 CIM_ConcreteCollection instance has a value of "Capacities".

642 **9.7 Find All of the Sensors for a System**

643 A client can find all of the sensors (CIM_Sensor and CIM_NumericSensor instances) for the system as
 644 follows:

645 Find the instance of CIM_ConcreteCollection that is associated with the CIM_ComputerSystem instance
 646 through an instance of CIM_OwningCollectionElement where the ElementName property of the
 647 CIM_ConcreteCollection instance has a value of "Sensors".

648 **10 CIM Elements**

649 Table 4 shows the instances of CIM Elements for this profile. Instances of the CIM Elements shall be
 650 implemented as described in Table 4. Sections 7 ("Implementation") and 8 ("Methods") may impose
 651 additional requirements on these elements.

652 **Table 4 – CIM Elements: SMASH Collections Profile**

Element Name	Requirement	Description
Classes		
CIM_ConcreteCollection	Mandatory	See 10.1.
CIM_MemberOfCollection	Conditional	See 10.2.
CIM_OwningCollectionElement	Mandatory	See 10.3.
Indications		
None defined in this profile		

653 **10.1 CIM_ConcreteCollection**

654 CIM_ConcreteCollection instances are used to aggregate instances of CIM_ManagedElement. Table 5
 655 provides information about the properties of CIM_ConcreteCollection.

656 **Table 5 – Class: CIM_ConcreteCollection**

Properties	Requirement	Notes
InstanceID	Mandatory	None
ElementName	Mandatory	See 7.1.

657 **10.2 CIM_MemberOfCollection**

658 CIM_MemberOfCollection is used to associate CIM_ManagedElement (CIM_SettingData,
 659 CIM_Capabilities, CIM_RecordLog) instances with the appropriate instance of CIM_ConcreteCollection.
 660 Table 6 provides information about the properties of CIM_MemberOfCollection.

661 **Table 6 – Class: CIM_MemberOfCollection**

Properties	Requirement	Notes
GroupComponent	Mandatory	The value of this property shall be an instance of CIM_ConcreteCollection.
PartComponent	Mandatory	See sections 7.2 through 7.24.

662 **10.3 CIM_OwningCollectionElement**

663 CIM_OwningCollectionElement is used to associate a CIM_ConcreteCollection instance with its scoping
 664 CIM_ComputerSystem instance. Table 7 provides information about the properties of
 665 CIM_OwningCollectionElement.

666 **Table 7 – Class: CIM_OwningCollectionElement**

Properties	Requirement	Notes
OwningElement	Mandatory	The value of this property shall be the Scoping Instance of this profile.
OwnedElement	Mandatory	The value of this property shall be an instance of CIM_ConcreteCollection.

667

**ANNEX A
(Informative)****Change Log**668
669
670
671

Version	Date	Description
1.0.0	2009-07-06	DMTF Standard Release

672
673