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BSI Standards Publication

Information technology — GS1 Core business vocabulary (CBV)

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National foreword

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Information technology — GS1 Core business vocabulary (CBV)

*Technologies de l'information — Vocabulaire relatif aux activités de
base GS1*



Reference number
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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. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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The committee responsible for this document is ISO/IEC JTC 1, *Information technology*.

GDSN Package Measurement Rules

GS1 Standards Document
GS1 Standard

Version 1.1, May 2014





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2

Abstract

3 This GS1 Standard defines Version 1.1 of the Core Business Vocabulary (CBV). The
4 goal of
5 this standard is to specify the structure of vocabularies and specific values for the
6 vocabulary
7 elements to be utilized in conjunction with the GS1 Electronic Product Code Information
8 Services (EPCIS) standard for data sharing both within and across enterprises. The aim
is to
standardize these elements across users of EPCIS to improve the understanding of data
contained
in EPCIS events.

9

Audience for this document

- 10 The target audience for this standard includes:
- 11 • Users implementing the EPCIS standard for the purposes of capturing and sharing
12 event data
in the supply chain.
 - 13 • Parties interested in implementing EPCIS Accessing applications.
 - 14 • Parties interested in implementing EPCIS Capture applications.

15

Status of this document

16 This section describes the status of this document at the time of its
17 publication. Other
18 documents may supersede this document. The latest status of this document
series is
maintained at GS1. See www.gs1.org/gsmg for more information.
19 This version of the GS1 CBV 1.1 Standard is the ratified version and has completed
20 all GSMP
steps.

21 Comments on this document should be sent to gsmg@gs1.org.

22

Differences from CBV 1.0

- 23 CBV 1.1 is fully backward compatible with CBV 1.0 except as noted below.
- 24 CBV 1.1 includes these new or enhanced features:
- 25 • A new standard vocabulary for EPCIS source/destination type is added.
 - 26 • Templates for new user vocabularies for EPCIS source/destination identifier,
27 EPCIS

transformation identifier, and object classes are added.

- 28 • New business step, disposition, and business transaction type values are
29 added. The
definitions of existing values are also clarified.
- 30 • Disposition values non_sellable_expired, non_sellable_damaged,
31 non_sellable_disposed, non_sellable_no_pedigree_match, and
32 non_sellable_recalled defined in CBV 1.0 are deprecated in favor of new

147

1 Introduction – Core Business Vocabulary

148 This GS1 Standard defines the Core Business Vocabulary (CBV). The goal of this
149 standard is to
150 specify various vocabulary elements and their values for use in conjunction with the
151 EPCIS
152 standard [EPCIS1.1], which defines mechanisms to exchange information both within
153 and across
organization boundaries. The vocabulary identifiers and definitions in this standard will
ensure
that all parties who exchange EPCIS data using the Core Business Vocabulary will have
a
common understanding of the semantic meaning of that data.

154 This standard is intended to provide a basic capability that meets the above goal. In
155 particular,
156 this standard is designed to define vocabularies that are *core* to the EPCIS abstract
157 data model
158 and are applicable to a broad set of business scenarios common to many industries
that have a
desire or requirement to share data. This standard intends to provide a useful set of
values and
definitions that can be consistently understood by each party in the supply chain.
159 Additional end user requirements may be addressed by augmenting the vocabulary
160 elements
161 herein with additional vocabulary elements defined for a particular industry or a set of
162 users or a
single user. Additional values for the standard vocabulary types defined in this standard
may be
included in follow-on versions of this standard.

163 This standard includes identifier syntax and specific vocabulary element values
164 with their
definitions for these *Standard Vocabularies*:

- 165 • Business step identifiers
- 166 • Disposition identifiers
- 167 • Business transaction types
- 168 • Source/Destination types

169 This standard provides identifier syntax options for these *User Vocabularies*:

- 170 • Objects
- 171 • Locations
- 172 • Business transactions
- 173 • Source/Destination identifiers
- 174 • Transformation identifiers

175 This standard provides *Master Data Attributes and Values* for describing Physical
176 Locations
including:

- 177 • Site Location
- 178 • Sub-Site Type
- 179 • Sub-Site Attributes
- 180 • Sub-Site Detail
- 181 Additional detailed master data regarding locations (addresses, etc) are not
- 182 defined in this standard.

183

2 Relationship to the GS1 System Architecture

184 The Core Business Vocabulary is a companion standard to the EPCIS standard. EPCIS
185 is the
186 standard that defines the technical interfaces for capturing and sharing event data.
187 EPCIS defines
188 a framework data model for event data. The Core Business Vocabulary is a GS1 *data standard*
that supplements that framework by defining specific data values that may populate the
EPCIS
data model. As such, the CBV exists in the “Share” group of GS1 standards.

189

3 Relationship to EPCIS

190 This section specifies how the Core Business Vocabulary standard relates to
191 the EPC
Information Services (EPCIS) standard.

192

3.1 EPCIS Event Structure

193 The EPCIS 1.1 standard [EPCIS1.1] specifies the data elements in an EPCIS event.
194 The
195 following lists these data elements, and indicates where the Core Business Vocabulary
provides
identifiers that may be used as values for those data elements.

196 • *The “what” dimension* The *what* dimension for most event types contains one or
197 more

198 unique identifiers for physical or digital objects or classes of physical or digital
199 objects.

200 Identifiers for physical or digital objects in the Core Business Vocabulary are
201 specified in

202 Section 8.2 (instance-level) and Section 8.3 (class-level). In the case of an EPCIS
TransformationEvent, an optional TransformationID may be used to link together
multiple
events that describe the same transformation. The Core Business Vocabulary
includes

TransformationIDs in Section 8.7.

203 • *The “when” dimension* The moment in time at which an EPCIS event occurred.

204 Event
time is fully specified in the EPCIS standard.

205 • *The “where” dimension* The “where” dimension consists of two identifiers that
206 describe

different aspects of where an event occurred:

207 • *Read Point* The location where the EPCIS event took place. In the case of an
208 EPCIS

209 event arising from reading a bar code or RFID tag, the Read Point is often the
210 location

where the bar code or RFID tag was read. Identifiers for read points in the

- 211 *Example: A reader is placed at dock door #3 at the London Distribution Center*
212 *(DC).*
213 *Product passed through the dock door. Read point = <The identifier that*
 stands for
 London DC Dock Door #3>
- 214 • *Business Location* The location where the subject of the event is
215 assumed to be
216 following an EPCIS event, until a new event takes place that indicates
217 otherwise.
 Identifiers for business locations in the Core Business Vocabulary are
 specified in
 Section 8.3.
- 218 *Example: A product is read through the sales floor transition door at store #123.*
219 *The*
220 *product is now sitting on the sales floor. Business location = <The identifier that*
 stands
 for store #123 Sales Floor>

- 221 • *The “why” dimension* The “why” dimension consists of two identifiers and a list of
 222 business transaction identifiers, which collectively provide the business context or
 223 “why” the
 event occurred:
- 224 • *Business Step* Denotes a specific activity within a business process. The
 225 business step
 226 field of an event specifies what business process step was taking place that
 227 caused the
 event to be captured. Identifiers for business steps in the Core Business
 Vocabulary are
 specified in Section 7.1.
 228 *Example: an EPCIS event is generated as a product departs the location*
 229 *identified by*
the Read Point. Business Step = <The identifier that denotes “shipping”>
 - 230 • *Disposition* Denotes the business state of an object. The disposition field of an
 231 event
 232 specifies the business condition of the subject of the event (the things specified in
 233 the
 234 “what” dimension), subsequent to the event. The disposition is assumed to hold
 true until
 another event indicates a change of disposition. Identifiers for dispositions in the
 Core
 Business Vocabulary are specified in Section 7.2.
 235 *Example: an EPCIS event is generated and afterward the products can be sold*
 236 *as-is and*
 237 *customers can access product for purchase. Disposition = <The identifier that*
denotes
“sellable and accessible”>
 - 238 • *Business Transaction References* An EPCIS event may refer to one or more
 239 business
 transaction documents. Each such reference consists of two identifiers:
 - 240 • *Business Transaction Type* Denotes a particular kind of business
 241 transaction.
 242 *Example: the identifier that denotes “purchase order”.* Identifiers for
 business
 transaction types in the Core Business Vocabulary are specified in
 Section 7.3.
 - 243 • *Business Transaction Identifier* Denotes a specific business transaction
 244 document of
 245 the type indicated by the Business Transaction Type. *Example: <The*
 246 *identifier that*
denotes Example Corp purchase order #123456> Identifiers for business
 transactions in the Core Business Vocabulary are specified in Section 8.5.
 - 247 • *Source and Destination References* An EPCIS event may refer to one or more
 248 sources
 249 and/or destinations that describe the endpoints of a business transfer of which
 the event is
 a part. Each source or destination reference consists of two identifiers:
 - 250 • *Source or Destination Type* Denotes a particular kind of source or
 251 destination.
 252 *Example: the identifier that denotes “owning party”.* Identifiers for

source and
destination types in the Core Business Vocabulary are specified in
Section 7.4.

- 253 • *Source or Destination Identifier* Denotes a source or destination of the type
254 indicated by the Business Transaction Type. *Example: <The identifier that*
255 *denotes*
256 *Example Corp as an owning party>* Identifiers for sources and destinations
in the
Core Business Vocabulary are specified in Section 8.6.

257

3.2 Vocabulary Kinds

258 (The material in this section is adapted directly from [EPCIS1.1], Section 6.2.)

259 Vocabularies are used extensively within EPCIS to model conceptual, physical,
260 and digital
entities that exist in the real world.
261 Examples of vocabularies defined in the EPCIS standard are business steps,
262 dispositions,
263 location identifiers, physical or digital object identifiers, business transaction type
264 names, and
business transaction identifiers. In each case, a vocabulary represents a finite
(though open-
ended) set of alternatives that may appear in specific fields of events.
265 It is useful to distinguish two kinds of vocabularies, which follow different patterns in
266 the way
they are defined and extended over time:
267 • *Standard Vocabulary* A Standard Vocabulary is a set of Vocabulary Elements
268 whose
269 definition and meaning must be agreed to in advance by trading partners who will
exchange
events using the vocabulary.
270 • *User Vocabulary* A User Vocabulary is a set of Vocabulary Elements whose
271 definition and
meaning are under the control of a single organization.
272 These concepts are explained in more detail below.

273

3.2.1 Standard Vocabulary

274 A Standard Vocabulary is a set of Vocabulary Elements whose definition and meaning
275 must be
276 agreed to in advance by trading partners who will exchange events using the
277 vocabulary. For
278 example, the EPCIS standard defines a vocabulary called “business step,” whose
279 elements are
identifiers denoting such things as “shipping,” “receiving,” and so on. One trading
partner may
generate an event having a business step of “shipping,” and another partner receiving
that event
through a query can interpret it because of a prior agreement as to what “shipping”
means.
280 Standard Vocabulary elements tend to be defined by organizations of multiple end
281 users, such as
282 GS1, industry consortia outside GS1, private trading partner groups, and so on. The
283 master data
284 associated with Standard Vocabulary elements, if any master data is defined at all, are
285 defined by
286 those same organizations, and tend to be distributed to users as part of a standard or by
some
similar means. New vocabulary elements within a given Standard Vocabulary tend to be
introduced through a very deliberate and occasional process, such as the ratification of a
new
version of a standard or through a vote of an industry group.

287 The Standard Vocabularies specified in the Core Business Vocabulary standard are:
288 *business*
289 *steps* (Section 7.1), *dispositions* (Section 7.2), *business transaction types* (Section 7.3),
290 and
source and destination types (Section 7.4). The elements and definitions are agreed to
by parties
prior to exchanging data, and there is general agreement on their meaning.

291 Example: the following is a business step identifier defined in Section 7.1 herein:
292 urn:epcglobal:cbv:bizstep:receiving

293 This identifier is defined by the GS1 Core Business Vocabulary standard, and its
294 meaning is
known and accepted by those who implement the standard.

295 While an individual end user organization acting alone may introduce a new Standard
296 Vocabulary element, such an element would have limited use in a data exchange
297 setting, and
298 would probably only be used within an organization's four walls. On the other hand, an
industry
consortium or other group of trading partners may define and agree on standard
vocabulary

299 elements beyond those defined by the Core Business Vocabulary, and these may be
300 usefully used
within that trading group.

301

3.2.2 User Vocabulary

302 A User Vocabulary is a set of Vocabulary Elements whose definition and meaning are
303 under the
304 control of a single organization. For example, the EPCIS standard defines a vocabulary
305 called
306 “business location,” whose elements are identifiers denoting such things as “Acme Corp.
307 Distribution Center #3.” The location identifier and any associated master data is
308 assigned by
309 the user. Acme Corp may generate an event whose business location field contains the
310 identifier
that denotes “Acme Corp. Distribution Center #3,” and another partner receiving that
event
through a query can interpret it either because the partner recognizes the identifier as
being
identical to the identifier received in other events that took place in the same location, or
because
the partner consults master data attributes associated with the location identifier, or
both.

311 Example:

312 urn:epc:id:sgln:0614141.12345.400

313 This identifier is assigned by the End User who owns the GS1 Company Prefix
314 0614141, and the
315 meaning of the identifier (that is, what location it denotes) is determined exclusively by
316 that end
user. Another End User can understand the meaning of this identifier by consulting
associated
master data.

317 User Vocabulary elements are primarily defined by individual end user organizations
318 acting
319 independently. The master data associated with User Vocabulary elements are typically
320 defined
321 by those same organizations, and are usually distributed to trading partners through the
322 EPCIS

Query Interface or other data exchange / data synchronization mechanisms. New
vocabulary
elements within a given User Vocabulary are introduced at the sole discretion of an end
user, and
trading partners must be prepared to respond accordingly.

323 While the Core Business Vocabulary standard does not (and as the discussion above
324 makes clear,
325 cannot) specify particular user vocabulary elements, the Core Business Vocabulary does
326 provide
327 syntax templates that are recommended for use by End Users in constructing their own
328 user
329 vocabulary elements. See Section 8.1. The user vocabularies for which templates are
330 specified
in this standard are: *physical or digital objects* (Sections 8.2 and 8.3), *locations* which
include
both read points and business locations (Section 8.4), *business transaction identifiers*
(Section 8.5), *source/destination identifiers* (Section 8.6), and *transformation identifiers*
(Section 8.7).

331

4 Terminology and Typographical Conventions

332 Within this standard, the terms SHALL, SHALL NOT, SHOULD, SHOULD NOT, MAY,
333 NEED NOT, CAN, and CANNOT are to be interpreted as specified in Annex G of the
334 ISO/IEC
335 Directives, Part 2, 2001, 4th edition [ISODir2]. When used in this way, these terms will
336 always
be shown in ALL CAPS; when these words appear in ordinary typeface they are
intended to have
their ordinary English meaning.

337 All sections of this document, with the exception of Sections 1, 2, and 3, are
338 normative, except
where explicitly noted as non-normative.

339 The following typographical conventions are used throughout the document:

340 • ALL CAPS type is used for the special terms from [ISODir2] enumerated above.

341 • Monospace type is used to denote programming language, UML, and XML

342 identifiers, as

well as for the text of XML documents.

343 Placeholders for changes that need to be made to this document prior to its

344 reaching the final

345 stage of approved GS1 standard are prefixed by a rightward-facing arrowhead, as

this

paragraph is.

346

5 Compliance and Compatibility

347 The GS1 Core Business Vocabulary is designed to facilitate interoperability in EPCIS

348 data

349 exchange by providing standard values for vocabulary elements to be included in

350 EPCIS data.

351 The standard recognizes that the greatest interoperability is achieved when all data

conforms to

the standard, and also recognizes that individual End Users or groups of trading

partners may

need to extend the standard in certain situations.

352 To that end, this standard defines two levels of conformance for EPCIS documents:

- 353 • *CBV-Compliant* An EPCIS document that only uses vocabulary identifiers
- 354 specified in the
- Core Business Vocabulary standard in the standard fields of EPCIS events.
- 355 • *CBV-Compatible* An EPCIS document that uses a combination of vocabulary
- 356 identifiers
- 357 specified in the Core Business Vocabulary standard and other identifiers that are
- outside the
- standard.

358 An EPCIS document is neither CBV-Compliant nor CBV-Compatible if it wrongly

359 uses

360 identifiers defined in the Core Business Vocabulary standard or if it violates any

other rules

specified herein.

361 The formal definition of these terms is specified below.

362

5.1 CBV Compliant

363 A “CBV-Compliant Document” is a document that conforms to the schema and other

364 constraints

365 specified in [EPCIS1.1], and which furthermore conforms to all the normative language

in this

standard that pertains to a “CBV-Compliant Document.”

366 A “CBV-Compliant Application” is any application for which both of the following are true:

- 367 • If it operates in a mode where it claims to accept a CBV-Compliant Document as an
368 input,
369 the application SHALL accept any document that is a CBV-Compliant Document
370 according
to this standard, and furthermore in processing that input SHALL interpret each
CBV
identifier according to the meaning specified herein.
- 371 • If it operates in a mode where it claims to produce a CBV-Compliant Document as an
372 output,
373 the application SHALL only produce a document that is a CBV-Compliant Document
374 according to this standard, and furthermore in generating that output SHALL only use
CBV
identifiers to denote their meaning as specified herein.

- 375 The following list summarizes the requirements for an EPCIS document to be a
 376 “CBV-Compliant Document,” as specified elsewhere in this standard:
- 377 • A CBV-Compliant Document SHALL conform to the schema and other constraints
 378 specified in [EPCIS1.1].
 - 379 • A CBV-Compliant Document SHALL NOT use any URI beginning
 380 with urn:epcglobal:cbv: except as specified in this standard.
 - 381 • Each EPCIS event in a CBV-Compliant Document SHALL include a bizStep field,
 382 and the value of the bizStep field SHALL be a URI consisting of the prefix
 383 urn:epcglobal:cbv:bizstep: followed by the string specified in the first column of
 384 some row of the table in Section 7.1.2.
 - 385 • A CBV-Compliant Document MAY include a disposition field. If the disposition
 386 field is present, the value of the disposition field SHALL be a URI consisting of the
 387 prefix urn:epcglobal:cbv:disp: followed by the string specified in the first column
 388 of some row of the table in Section 7.2.2.
 - 389 • Each EPCIS event in a CBV-Compliant Document MAY include one or more
 390 bizTransaction elements. If bizTransaction elements are present, each such
 391 element MAY include a type attribute. If a given bizTransaction element includes a
 392 type attribute, the value of the type attribute SHALL be a URI consisting of the prefix
 393 urn:epcglobal:cbv:btt: followed by the string specified in the first column of some
 394 row of the table in Section 7.3.2.
 - 395 • Each EPCIS event in a CBV-Compliant Document MAY include one or more source
 396 or destination elements. The value of the type attribute of each such element SHALL
 397 be a URI consisting of the prefix urn:epcglobal:cbv:sdt: followed by the string
 398 specified in the first column of some row of the table in Section 7.4.2.
 - 399 • URIs defined in the EPC Tag Data Standard SHALL only be used in a CBV-
 400 Compliant Document as specified in Section 8.1.1.
 - 401 • A CBV-Compliant document SHALL use one of the three URI forms specified in
 402 Section 8.2 to populate instance-level identifiers in the “what” dimension of EPCIS
 403 events (that is, the epcList, parentID, childEPCs, inputEPCList, and
 404 outputEPCList fields in EPCIS ObjectEvents, AggregationEvents,
 405 TransactionEvents, and TransformationEvents), for every such field that is
 406 not null. A CBV-Compliant document SHOULD use the EPC URI form as
 407 specified in Section 8.2.1 unless there is a strong reason to do otherwise.
 - 408 • A CBV-Compliant document SHALL NOT use an SGLN EPC (urn:epc:id:sgln:...) as
 409 an object identifier.

410 • A CBV-Compliant document SHALL use one of the three URI forms specified in
411 Section 8.3 to populate class-level identifiers in the “what” dimension of EPCIS
412 events (that
413 is, the epcClass fields in all EPCIS event types), for every such field that is not null.
414 A
CBV-Compliant document SHOULD use the EPC URI form as specified in Section
8.3.1
unless there is a strong reason to do otherwise.

- 415 • A CBV-Compliant document SHALL use one of the four URI forms specified in
416 Section 8.4
417 to populate the “where” dimension of EPCIS events (that is, the readPoint and
418 businessLocation fields in all EPCIS event types), for every such field that is not null.
419 A CBV-Compliant document SHOULD use the EPC URI form as specified in Section
8.4.1
unless there is a strong reason to do otherwise.
- 420 • When using an EPC URI as a location identifier (Section 8.4.1), a CBV-Compliant
421 document
422 SHOULD NOT use EPC schemes other than SGLN (urn:epc:id:sgln:...), unless there
is a strong reason to do so.
- 423 • A CBV-Compliant document SHALL use one of the four URI forms specified in
424 Section 8.5
425 to populate the business transaction identifier field (that is, the text content of the
bizTransaction element) of EPCIS events, for every such field that is not null.
- 426 • When using an EPC URI as a business transaction identifier, a CBV-Compliant
427 Documents
428 SHOULD NOT use EPC schemes other than GDTI EPCs (urn:epc:id:gdti:...) or
429 GSRN EPCs (urn:epc:id:gsrn:...), unless there is a strong reason to do so. GDTI
430 EPCs SHOULD only be used as business transaction identifiers when they have
431 been
assigned to denote a business transaction, rather than a physical document not
connected with
any business transaction.
- 432 • A CBV-Compliant document SHALL use one of the three URI forms specified in
433 Section 8.6 to populate a source or destination identifier field (that is, the text
434 content of a
435 source or destination element), for every such field that is not null. A CBV-
436 Compliant document SHOULD use the EPC URI form as specified in Section 8.6.1
unless
there is a strong reason to do otherwise.
- 437 • When using an EPC URI as a location identifier (Section 8.6.1), a CBV-Compliant
438 document
439 SHOULD NOT use EPC schemes other than SGLN (urn:epc:id:sgln:...), unless there
is a strong reason to do so.
- 440 • A CBV-Compliant document SHALL use one of the four URI forms specified in
441 Section 8.7
442 to populate the transaction identifier field (that is, the text content of the
443 transformationID element) of EPCIS TransformationEvents, for every such
field that is not null.
- 444 • When using an EPC URI as a transformation identifier, a CBV-Compliant Document
445 SHOULD NOT use EPC schemes other than GDTI EPCs (urn:epc:id:gdti:...) unless
446 there is a strong reason to do so. GDTI EPCs SHOULD only be used as
447 transformation
448 identifiers when they have been assigned to denote a transformation, rather than a
physical
document not connected with any transformation.

- 450 A “CBV-Compatible Document” is a document that conforms to the schema and
451 other
452 constraints specified in [EPCIS1.1], and which furthermore conforms to all the
normative
language in this standard that pertains to a “CBV-Compatible Document.”
- 453 A “CBV-Compatible Application” is any application for which both of the following are true:

- 454 • If it operates in a mode where it claims to accept a CBV-Compatible Document as an
 455 input,
 456 the application SHALL accept any document that is a CBV-Compatible Document
 457 according
 to this standard, and furthermore in processing that input SHALL interpret each CBV
 identifier according to the meaning specified herein.
- 458 • If it operates in a mode where it claims to produce a CBV-Compatible Document as
 459 an
 460 output, the application SHALL only produce a document that is a CBV-Compatible
 461 Document according to this standard, and furthermore in generating that output
 SHALL only
 use CBV identifiers to denote their meaning as specified herein.
- 462 The following list summarizes the requirements for an EPCIS document to be a
 463 “CBV-
 Compatible Document,” as specified elsewhere in this standard.
- 464 • A CBV-Compatible Document SHALL conform to the schema and other
 465 constraints
 specified in [EPCIS1.1].
- 466 • A CBV-Compatible Document SHALL NOT use any URI beginning
 467 with
 urn:epcglobal:cbv: except as specified in this standard.
- 468 • URIs defined in the EPC Tag Data Standard SHALL only be used in a CBV-
 469 Compatible
 Document as specified in Section 8.1.1.
- 470 • A CBV-Compatible Document SHOULD use the EPC URI form as specified in
 471 Section 8.2.1 for each instance-level object identifier unless there is a strong
 472 reason to do
 otherwise.
- 473 • A CBV-Compatible Document SHOULD use the EPC URI form as specified in
 474 Section 8.3.1 for each class-level object identifier unless there is a strong
 475 reason to do
 otherwise.
- 476 • A CBV-Compatible Document SHALL NOT use an SGLN EPC (urn:epc:id:sgln:...) as an object identifier.
- 478 • A CBV-Compatible Document SHOULD use the EPC URI form as specified in
 479 Section 8.4.1 for each location identifier unless there is a strong reason to do
 otherwise.
- 480 • When using an EPC URI as a location identifier (Section 8.4.1), a CBV-Compatible
 481 Document SHOULD NOT use EPC schemes other than SGLN (urn:epc:id:sgln:...),
 482 unless there is a strong reason to do so.
- 483 • When using an EPC URI as a business transaction identifier, a CBV-Compatible
 484 Document
 485 SHOULD NOT use EPC schemes other than GDTI EPCs (urn:epc:id:gdti:...) or
 486 GSRN EPCs (urn:epc:id:gsrn:...), unless there is a strong reason to do so. GDTI
 487 EPCs SHOULD only be used as business transaction identifiers when they have
 488 been
 assigned to denote a business transaction, rather than a physical document not
 connected with
 any business transaction.

489 • When using an EPC URI as a location identifier (Section 8.6.1), a CBV-Compatible
490 document SHOULD NOT use EPC schemes other than SGLN (urn:epc:id:sgln:...),
491 unless there is a strong reason to do so.

- 492 • When using an EPC URI as a transformation identifier, a CBV-Compatible
493 Document
494 SHOULD NOT use EPC schemes other than GDTI EPCs (urn:epc:id:gdti:...) unless
495 there is a strong reason to do so. GDTI EPCs SHOULD only be used as
496 transformation
identifiers when they have been assigned to denote a transformation, rather than a
physical
document not connected with any transformation.
- 497 In general, every CBV-Compliant Document is also a CBV-Compatible Document,
498 though not
499 every CBV-Compatible Document is a CBV-Compliant Document. A CBV-Compatible
500 Document may include an identifier that is compliant with [EPCIS1.1] but which is not
501 permitted for CBV-Compliant Documents, provided that it meets the requirements
502 above. A
CBV-Compatible Document may also include an event in which the bizStepfield is
omitted,
whereas that field is always required for CBV-Compliant Documents.

6 Use of Uniform Resource Identifiers (URIs)

504 This section specifies general rules that apply to all uses of URIs in this standard.

6.1 URI Prefix for Standard Vocabularies in the CBV

506 All URIs for standard vocabulary elements specified in the Core Business Vocabulary
507 standard
have the following syntax:

508 urn:epcglobal:cbv:*qualifier.payload*

509 where the *qualifier* denotes the type of the vocabulary the vocabulary element belongs to
510

and *payload* the vocabulary element unambiguously identifies an element of the
vocabulary.

6.2 Limitation on Use of the URI Prefix

512 The Core Business Vocabulary standard is the only GS1 standard in which URIs
513 beginning with
urn:epcglobal:cbv: are defined.

514 A CBV-Compliant or CBV-Compatible document SHALL NOT use any URI beginning
515 with

urn:epcglobal:cbv: or urn:epc: except as specified in this standard.

516 Both CBV-Compliant and CBV-Compatible documents MAY contain URIs that do not
517 begin

518 with urn:epcglobal:cbv:, provided that the requirements specified elsewhere in this
519 standard are met. These SHALL be used to identify vocabulary elements not defined by
520 the CBV

standard. URIs beginning with urn:epcglobal: SHALL NOT be used except as specified
herein or in another GS1 standard.

521 *Example (Non Normative): Suppose a user needs a new disposition value to*
522 *stand for*
“quarantined.” The user may NOT use the following URI:
523 `urn:epcglobal:cbv:disp:quarantined`
524 *In this case the particular URI above is NOT part of this standard and therefore may not*
525 *be*
526 *used. Instead a URI like the following could be used and considered CBV-Compatible.*
527 *However,*
it must be noted that this vocabulary would have limited meaning to supply chain
participants
receiving this unless a prior understanding had been established.
528 `http://epcis.example.com/disp/quarantined`

529

7 Standard Vocabularies

530

This section specifies standard vocabulary elements for four EPCIS standard vocabularies:

531

business steps, dispositions, business transaction types, and source/destination types.

532

7.1 Business Steps

533

This section specifies standard identifiers for the EPCIS BusinessStepIDvocabulary.

534

These identifiers populate the bizStepfield in an EPCIS event, as specified below.

535

7.1.1 URI Structure

536

All business step values specified in this section have the following form:

537

urn:epcglobal:cbv:bizstep:*payload*

538

where the *payload* part is a string as specified in the next section. Every payload string

539

defined herein contains only lower case letters and the underscore character.

540

7.1.2 Element Values and Definitions – Business Step

541

Each EPCIS event in a CBV-Compliant Document SHALL include a bizStepfield, and the

542

543

value of the bizStepfield SHALL be a URI consisting of the prefix

544

urn:epcglobal:cbv:bizstep: followed by the string specified in the first column of

545

some row of the table below. The portion following the prefix SHALL be written

546

exactly as

specified in the table below, in all lowercase letters (possibly including underscores, as

indicated).

547

Example (non-normative): the following shows an excerpt of a CBV-Compliant EPCIS document in XML format containing a single event, where the business step of that event is the

548

549

Core Business Vocabulary “shipping” value:

550

```
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" ...>
```

551

```
  <EPCISBody>
```

552

```
    <EventList>
```

553

```
      <ObjectEvent>
```

554

```
        ...
```

555

```
        <bizStep>urn:epcglobal:cbv:bizstep:shipping</bizStep>
```

556

```
        ...
```

557

```
      </ObjectEvent>
```

558

```
    </EventList>
```

559

```
  </EPCISBody>
```

560

```
</epcis:EPCISDocument>
```

561 *The following example is NOT CBV-Compliant, because it does not use the full URI*
562 *string in the*
563 *business step field. It is also not CBV-Compatible, because the value of the business*
step field is
not a URI with an owning authority, as required by Section 6.4 of [EPCIS1.1].

```
564 <epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" ...>  
565   <EPCISBody>  
566     <EventList>  
567       <ObjectEvent>  
568         ...  
569         <bizStep>shipping</bizStep>
```

WRONG


```

...
</ObjectEvent>
</EventList>
</EPCISBody>
</epcis:EPCISDocument>

```

Additional samples may be found Section 10.1.

Each EPCIS event in a CBV-Compatible Document MAY include a bizStepfield, and the value of the bizStepfield MAY be a URI as specified above for a CBV-Compliant document, and MAY be any other URI that meets the general requirements specified in [EPCIS1.1], Section

6.4, except for those URIs which in this standard are forbidden or designated for a different purpose.

Value	Definition	Examples
accepting where	Denotes a specific activity within a business process an object changes possession and/or ownership.	<ul style="list-style-type: none"> Retailer X unloads a pallet on to the receiving dock. The numbers of cases on the pallet are counted. The pallets are disaggregated from the shipping conveyance. The quantity is verified against the delivery document (Freight Bill or Bill of Lading), notating any over, short or damaged product at the time of delivery. Typically this process releases freight payment and completes the contractual agreement with the carrier of delivering the product/assets to a specified location. A parcel carrier drops off five boxes at Distributor Y's DC. A person on the Receiving Dock signs that they accept the five boxes from the parcel carrier. A wholesaler is assigned a lot of fish at a fish auction, verifies the quantity and acknowledges receipt.
arriving where assembling or	<p>Denotes a specific activity within a business process an object arrives at a location.</p> <p>Denotes an activity within a business process whereby one or more objects are combined to create a new finished product.</p>	<ul style="list-style-type: none"> Truckload of a shipment arrives into a yard. Shipment has not yet been received or accepted. Computer parts (hard drive, battery, RAM) assembled into a consumer ready computer Healthcare kitting: a surgical kit including drug, syringe, and gauze are combined to create a new 'product': a <i>kit</i>

In contrast to transformation, in the output of assembling the original objects are still recognizable and/or the process is reversible; hence, assembling would be used in an Aggregation Event, not a Transformation Event.

2
Cnt

2
Cnt

2
Cnt

2
Cnt

Syringe
Gauze

Syringe
Gauze

Kit Serial Nbr: 1234566789

Before

Kit with Serial Number
(New Finished Good)

Business Steps		
Value	Definition	Examples
collecting where	Denotes a specific activity within a business process an object is picked up and collected for future disposal, recycling or re-used.	<ul style="list-style-type: none"> An organization picks up disposed consumer electronics in an end of life state from various different organizations. After the goods are picked up, they typically are brought back and received into a Collection Center
commissioning	<p>Process of associating an instance-level identifier (such as an EPC) with a specific object, or the process of associating a class-level identifier, not previously used, with one or more objects. A tag may have been encoded and applied in this step, or may have been previously encoded.</p> <p>In the case of a class-level identifier, commissioning differs from <code>creating_class_instance</code> in that commissioning always indicates that this is the first use of the class-level identifier, whereas <code>creating_class_instance</code> does not specify whether the class-level identifier has been used before.</p>	<ul style="list-style-type: none"> Rented or leased pallets are picked up and brought to a collection center. On a packaging line, an encoded EPC is applied to a case and associated to the product. An individual virtual document (e.g. digital coupon, digital voucher, etc.) is assigned an EPC One hundred bottles of a particular batch of pharmaceutical product are produced, those being the first bottles of that batch to be produced. Sides of beef are transformed into individual packaged steaks. This may be an EPCIS 1.1 TransformationEvent if the input sides of beef are also tracked.
consigning	<p>Indicates the overall process of <code>staging_outbound</code>, loading, departing, and accepting. It may be used when more granular process step information is unknown or inaccessible.</p> <p>The use of consigning is mutually exclusive from the use of <code>staging_outbound</code>, loading, departing, and accepting.</p>	<ul style="list-style-type: none"> A wholesaler comes aboard a fishing vessel, selects and buys boxes of fish, and brings them to his premises. A manufacturer retrieves components from a consignment warehouse for use in its assembly line. In the logical second of leaving the consignment warehouse, the components pass into the ownership of the manufacturer. A manufacturer stages products for loading, loads them into a container, the container is sealed, and the container departs. Ownership transfers to the receiver sometime during this overall process. If this is done in a single step, then business step consigning is used.
	Note: This business step is similar to shipping, but includes a change of possession and/or ownership at the outbound side.	

creating_class_instance	Denotes a step in a business process where an instance or increased quantity of a class-level identifier is produced. Unlike commissioning, this business step may be repeated for the same class-level identifier.	<ul style="list-style-type: none"> Water, sugar, and other ingredients are combined to produce a single batch of soda over a single shift on a single production line. This may be an EPCIS 1.1 TransformationEvent if the input ingredients are tracked. Potatoes are sorted by size and quality, washed, and packed into cases of a single lot in a single packaging facility on a single date.
-------------------------	---	---

Business Steps		
Value	Definition	Examples
cycle_counting	Process of counting objects within a location in order to obtain an accurate inventory for business needs other than accounting purposes (e.g., replenishment and allocation).	<ul style="list-style-type: none"> A preselected subset of objects (for instance, all products belonging to a certain brand owner or a specific object class) within a retail store, are counted by a handheld reader. All objects of a specific sub-location (sales floor or a shelf on the sales floor, e.g.) are counted by a handheld reader.
decommissioning	Process of disassociating an instance level identifier (such as an EPC) with an object. The object may be re-commissioned at some point in the future – however only with a new instance-level identifier.	<ul style="list-style-type: none"> An eSeal on a reusable container is broken when the container is opened, so that the container is no longer identified by the instance-level identifier that was in the eSeal.
departing	Denotes a specific activity within a business process where its destroying	<ul style="list-style-type: none"> A digital coupon or an empties refund voucher is redeemed at retail point-of-sale Truckload of a shipment departs a yard, typically through a gate and begins transit to another location
destroying	Process of terminating an object. For an instance-level identifier, the object should not be the subject of subsequent events; subsequent events are likely indicative of error (such as a stray read of a tag inside an incinerator). For a class level identifier, quantities are reduced;	<ul style="list-style-type: none"> Distributor or Retailer puts empty case in the incinerator or box crusher.
disassembling	however, the class-level identifier may still be used in subsequent events (referring to different instances that were not destroyed). Denotes a specific activity within a business process where	<ul style="list-style-type: none"> Before feeding a consumer electronics end of life item (a computer) into recycling operation line, it is necessary to
	an object is broken down into separate, uniquely identified component parts.	<ul style="list-style-type: none"> disassemble the parts for the purpose of being recycled or disposed of in an environmentally sound manner. A surgical kit (e.g. 2- 50 count bottles of medication and 1
encoding	Process of writing an instance-level identifier (typically an EPC) to a bar code or RFID tag, where the identifier is not yet associated with an object at this step in the process.	<ul style="list-style-type: none"> syringe gauze) is broken down into its separate component parts 3rd Party writes tags and returns spool of case tags to Manufacturer
entering_exiting	Denotes a specific activity at the Entrance/Exit door of a facility where customers are either leaving with purchased product or entering with product to be returned to the facility.	<ul style="list-style-type: none"> Customer leaves the facility of Retailer X with their purchased items through a customer entrance/exit door.

Business Steps		
Value	Definition	Examples
holding where	Denotes a specific activity within a business process an object is segregated for further review.	<ul style="list-style-type: none"> Retailer X unloads a second pallet on to their receiving dock, and, finding no purchase order for the pallet, moves the pallet to a holding area on the dock Distributor Y obtains a shipment of pharmaceutical product. Distributor Y finds that their supplier cannot provide a complete pedigree. Distributor Y moves the shipment to a
inspecting	Process of reviewing objects to address potential physical or documentation defects.	<ul style="list-style-type: none"> quarantine area on their dock. Shipper Z is told by Customs to move a container to a special area until Customs can inspect and clear the container. Manufacturer A pulls 10 bottles from every batch to ensure that the product and pill count in the bottles match expectations Distributor Y checks all returned products to designate them either as saleable or as damaged Regulator R pulls 3 bottles from a shelf to determine if the bottles have a correct pedigree
installing where	Denotes a specific activity within a business process an object is put into a composite object (not merely a container).	<ul style="list-style-type: none"> Customs Agent C uses a machine to scan the contents of a shipping container Pallet pool operator Z checks if certain pallets comply with quality standards. Additional memory chips and a rechargeable battery are installed within a computer A duplexing unit is installed on a laser printer
killing an	In installing the composite object exists prior to this step, whereas in assembling the composite object is created during the step. Process of terminating an RFID tag previously associated with	<ul style="list-style-type: none"> Additional safety equipment is installed within the cabin of an aircraft or vehicle (e.g. fire extinguishers) Kill Command is issued to the tag to prevent any further
	object. The object and its instance-level identifier may continue to exist and be the subject of subsequent events	reading of the tag or the information on the tag.
loading where other	Denotes a specific activity within a business process an object is loaded into shipping conveyance. A business step not identified by any of the values listed in the core business vocabulary.	<ul style="list-style-type: none"> Manufacturer A loads pallets into a container. The pallets are aggregated to the container. Distributor Y loads racks full of totes on to a truck "Other" may be used for terms that have yet to be added to the core business vocabulary from an industry or a user

Business Steps		
Value	Definition	Examples
packing	Denotes a specific activity within a business process that includes putting objects into a larger container – usually for shipping. Aggregation of one unit to another typically occurs at this point.	<ul style="list-style-type: none"> 12 packs of soda are placed into a case Loose potatoes are placed into a tote.
picking	Denotes a specific activity within a business process that includes the selecting of objects to fill an order.	<ul style="list-style-type: none"> Distributor Y places three units into a tote to meet the requirements of a purchase order Manufacturer A pulls three pallets from its racks to fulfill a purchase order
receiving	Denotes a specific activity within a business process that indicates that an object is being received at a location and is added to the receiver's inventory. The use of receiving is mutually exclusive from the use of arriving and accepting.	<ul style="list-style-type: none"> Retailer X confirms that the count of cases on the pallet equals the expected count in a purchase order. Retailer X takes the cases into inventory. Typically, this process matches the product to the purchase order for payment to the supplier. A shipment from a manufacturer factory site to manufacturer distribution center, is matched against the transaction record then added to local inventory.
removing where	Denotes a specific activity within a business process an object is taken out of a composite object.	<ul style="list-style-type: none"> A defective airplane part is taken out of the engine
repackaging where	Denotes a specific activity within a business process an object's packaging configuration is changed.	<ul style="list-style-type: none"> Distributor Y receives one box full of batteries and another box full of laptops without batteries. Distributor Y ships out new boxes containing one laptop and one battery.
repairing where	Denotes a specific activity within a business process a malfunctioning product is repaired (typically by a post-sales service), without replacing it by a new one.	<ul style="list-style-type: none"> A computer is brought to a repair center to fix a problem An airplane part is in maintenance center to diagnose an issue
replacing where	Denotes a specific activity within a business process an object is substituted or exchanged for another object.	<ul style="list-style-type: none"> A defective airplane part is replaced by a new part.
reserving	Process in which a set of instance level identifiers, not yet commissioned, are provided for use by another party.	<ul style="list-style-type: none"> Manufacturer provides set of case EPC numbers to a 3rd Party labeler
retail_selling	Denotes a specific activity within a business process at a point-of-sale for the purpose of transferring ownership to a customer in exchange for something of value (currency, credit, etc).	<ul style="list-style-type: none"> Retailer X sells a screwdriver to a customer by checking it out through a point-of-sale system.

Business Steps		
Value	Definition	Examples
shipping	<p>Indicates the overall process of staging_outbound, loading and departing. It may be used when more granular process step information is unknown or inaccessible. It may indicate a final event. from a shipping point.</p> <p>The use of shipping is mutually exclusive from the use of staging_outbound, departing, or loading.</p>	<ul style="list-style-type: none"> Manufacturer A loads and reads product into the shipping container and closes the door. The product has been read out of the shipping facility. The shipment is immediately picked up and a BOL is associated at this point. (The shipment has left the yard) At Distributor Y, the truck containing racks full of totes pulls away from the shipping dock or staging area. Manufacturer A completes loading product into trailer and seals door. The trailer is ready for pickup. The generation of a Despatch Advice / ASN triggers a "shipping" event. A 3PL picks and tags the product. The product is loaded into a trailer and signed over to a transportation carrier. The 3PL notifies the manufacturer who generates a "shipping" event. <p>NOTE: This would be the case if there were NO departing step at a read point at the gate.</p>
		<ul style="list-style-type: none"> Typical Process flow: staging_outbound loading departing <p>The above steps assume an organization's ability and desire to share all steps in the process. If those process steps are not captured, the single business step of shipping would be used.</p>
staging_outbound	Denotes a specific activity within a business process in which an object moves from a facility to an area where it will await transport pick-up.	<ul style="list-style-type: none"> Container is being closed and will be subsequently loaded onto a vehicle in the yard. Container is being closed and seal is applied, and will be subsequently loaded onto a vehicle in the yard
stock_taking	Process of counting objects within a location following established rules and/or standards to serve as a basis for accounting purposes.	<ul style="list-style-type: none"> Product has been picked and is now in a staging lane waiting for loading into a container All EPCs in a retail store are read by a handheld reader following a procedure accepted by the organization's accounting firm.
stocking	Denotes a specific activity within a business process within a location to make an object available to the customer or for order fulfillment within a DC.	<ul style="list-style-type: none"> Retailer X places cans from a case on to a shelf on the floor Dist X moves goods from a storage area to a picking area
storing	Denotes a specific activity within a business process	<ul style="list-style-type: none"> Manufacturer A moves a pallet from the receiving area to a rack
where	an object is moved into and out of storage within a location.	<ul style="list-style-type: none"> Retailer X moves a case from the receiving dock to a shelf in the backroom

Business Steps		
Value	Definition	Examples
transforming (Deprecated)	Denotes a specific activity within a business process where one or more objects are an input into a process that irreversibly changes that object / those objects into a new object or objects; the output has a new identity and characteristics. This business step is deprecated for use with EPCIS 1.1. The EPCIS 1.1 standard has an event type, TransformationEvent, dedicated to transformations. The business steps commissioning, new_class_instance, or other business steps may be used with TransformationEvent.	<ul style="list-style-type: none"> Meat packer X cuts a whole cow into two sides of beef (1 to many) Food processor Y combines water, vegetables, and meat to create a unit of soup (many to one) Butcher Z combines meat from multiple carcasses, grinds them together, and creates individual packages of ground beef (many to many)
transporting	Process of moving an object from one location to another using a vehicle (e.g., a ship, a train, a lorry, an aircraft).	<ul style="list-style-type: none"> Carrier X conveys 150 sea containers from Hong Kong seaport to Hamburg seaport with a container vessel. A train with 20 goods wagons goes from one train station to another.
unloading	Denotes a specific activity within a business process	<ul style="list-style-type: none"> A lorry moves a swap trailer from a depot to a distribution center. Manufacturer A unloads pallets from a shipping conveyance.
where	an object is unloaded from a shipping conveyance.	The pallets are disaggregated from the shipping conveyance.
unpacking	Denotes a specific activity within a business process that includes removing products (individuals, inners, cases, pallets) from a larger container – usually after receiving or accepting. Disaggregation of one unit from another typically occurs at this point.	<ul style="list-style-type: none"> Distributor Y unloads racks full of totes from a truck 12 packs of soda are removed from a case Loose potatoes are taken off from a tote.

581

582

7.2 Dispositions

583 This section specifies standard identifier values for the EPCIS

584 DispositionIDvocabulary.

These identifiers populate the dispositionfield in an EPCIS event, as specified below.

585

7.2.1 URI Structure

586 All disposition values specified in this section have the following form:

where the *payloadpart* is a string as specified in the next section. Every payload string defined herein contains only lower case letters and the underscore character.

7.2.2 Element Values and Definitions – Dispositions

Each EPCIS event in a CBV-Compliant Document MAY include a dispositionfield. If the dispositionfield is present, the value of the dispositionfield SHALL be a URI consisting of the prefix urn:epcglobal:cbv:disp: followed by the string specified in the first column of some row of the table below. The portion following the prefix SHALL be written exactly as specified in the table below, in all lowercase letters (possibly including underscores, as indicated).

Example (non-normative): the following shows an excerpt of a CBV-Compliant EPCIS document in XML format containing a single event, where the disposition of that event is the Core Business Vocabulary "in progress" value:

```
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" ...>
  <EPCISBody>
    <EventList>
      <ObjectEvent>
        ...
        <disposition>urn:epcglobal:cbv:disp:in_progress</disposition>
        ...
      </ObjectEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>
```

The following example is NOT CBV-Compliant, because it does not use the full URI string in the disposition field. It is also not CBV-Compatible, because the value of the disposition field is not a URI with an owning authority, as required by Section 6.4 of [EPCIS1.1].

```
<epcis:EPCISDocument xmlns:epcis="urn:epcglobal:epcis:xsd:1" ...>
  <EPCISBody>
    <EventList>
      <ObjectEvent>
        ...
        <disposition>in_progress</disposition>
        ...
      </ObjectEvent>
    </EventList>
  </EPCISBody>
</epcis:EPCISDocument>
```

WRONG

Additional examples may found in Section 10.1.

Each EPCIS event in a CBV-Compatible Document MAY include a dispositionfield, and the value of the dispositionfield MAY be a URI as specified above for a CBV-Compliant document, and MAY be any other URI that meets the general requirements specified in [EPCIS1.1], Section 6.4, except for those URIs which in this standard are forbidden or

designated for a different purpose.



Dispositions		
Value	Definition	Examples
active	A commissioned object has just been introduced into the supply chain.	<ul style="list-style-type: none">Manufacturer A commissions tags for 10 cases of product.A virtual document has been assigned an EPC Business step: commissioning
container_closed	Object has been loaded onto a container, the doors have been closed and the shipment sealed.	<ul style="list-style-type: none">Container is being closed and will be awaiting pickup in the yard.Container is being closed and electronic seal is applied.
destroyed	Object has been fully rendered non-usable.	Business step: staging_outbound <ul style="list-style-type: none">Incinerator Operator B indicates that product and packaging have been incinerated
encoded	An instance-level identifier has been written to a bar code or RFID tag, but not yet commissioned.	Business step: destroying <ul style="list-style-type: none">3rd Party has written EPCs to tags and returns spool of case tags to Manufacturer
inactive	Decommissioned object that may be reintroduced to the supply chain.	Business step: encoding <ul style="list-style-type: none">A reusable tag is removed from a reusable transport item.
in_progress	Default disposition for object proceeding through points in the supply chain.	<ul style="list-style-type: none">A digital coupon or an empties refund voucher has been redeemed at retail point-of-sale Business step: decommissioning <ul style="list-style-type: none">Product arrives at a location and is being accepted and verified.Product is being prepared for shipment. Business step: receiving
in_transit	Object being shipped between two trading partners.	picking loading accepting staging_outbound arriving <ul style="list-style-type: none">Shipper Z pulled a container/product out of a manufacturer's yard on to a road Business step: shipping departing

Dispositions		
Value	Definition	Examples
expired	Object is past expiration date.	<ul style="list-style-type: none"> Distributor Y indicates that a product is past its expiration date Business step: holding staging_outbound storing
damaged	Object is impaired in its usefulness and/or reduced in value due to a defect.	<ul style="list-style-type: none"> Pallet pool operator P notices that a plank of a pallet is broken and records this incident by scanning the EPC of the pallet. Retailer R receives a shipment where the product packages on the pallet have been dented Business step: accepting inspecting receiving removing repairing replacing
disposed	Object has been returned for disposal.	<ul style="list-style-type: none"> A package of pharmaceuticals has been picked up by a distributor and will be subsequently destroyed
no_pedigree_match	In validating the pedigree for the object, no match was found, causing the product to be quarantined for further investigation and disposition.	<ul style="list-style-type: none"> Distributor Y could not obtain a valid pedigree for a product from its Manufacturer A Business step: holding staging_outbound storing
non_sellable_other	Object cannot be sold to a customer.	<ul style="list-style-type: none"> A product is not sellable pending further evaluation. A product is not sellable, and one of the other dispositions (expired, recalled, damaged, no_pedigree_match) does not apply. Product has been sold and is awaiting customer pick-up. Business step: holding inspecting staging_outbound storing

Dispositions		
Value	Definition	Examples
recalled	Object is non-sellable because of public safety reasons.	<ul style="list-style-type: none"> Manufacturer A requested that all Retailers and Distributors return its batteries that could overheat and explode Business step: holding staging_outbound storing
reserved	Instance-level identifier has been allocated for a third party.	<ul style="list-style-type: none"> Distributor receives EPC numbers and can encode tag with the numbers. Business step:
returned	Object has been sent back for various reasons. It may or may not be sellable.	reserving <ul style="list-style-type: none"> Product is received at a returns center from a customer because of an over-shipment, recall, expired product, etc Business step: receiving
sellable_accessible	Product can be sold as is and customer can access product for purchase.	holding shipping <ul style="list-style-type: none"> Retailer X puts a case of screwdrivers on to a shelf or display within customer reach Business step:
sellable_not_accessible	Product can be sold as is, but customer cannot access product for purchase.	stocking receiving <ul style="list-style-type: none"> Retailer X puts a case of screwdrivers on to a shelf in a store backroom Business step: receiving storing
		loading holding inspecting
retail_sold	Product has been purchased by a customer.	<ul style="list-style-type: none"> A customer at Retailer X purchased a screwdriver by checking it out through the point of sale system Business step: retail_selling
stolen	An object has been taken without permission or right.	<ul style="list-style-type: none"> A pharmaceutical manufacturer completes an investigation of serial numbers that are missing from inventory, and concludes that they have been stolen
unknown	An object's condition is not known.	

7.2.2.1 CBV 1.0 Disposition Values Deprecated in CBV 1.1

CBV 1.0 defined several disposition values that are deprecated in CBV 1.1. The following table lists the deprecated dispositions and the values which replace them in CBV 1.1. Each value applies to all the situations that the corresponding CBV 1.0 value did, but may also be

applied to similar situations where the concept of “sellable” is not relevant. For example, in

CBV 1.1 the disposition damaged may be applied to a returnable asset, which was never considered “sellable” even when it was undamaged.

non_sellable_expired	expired
non_sellable_damaged	damaged
non_sellable_disposed	disposed
non_sellable_no_pedigree_match	no_pedigree_match
non_sellable_recalled	recalled

7.3 Business Transaction Types

This section specifies standard identifier values for the EPCIS BusinessTransactionTypeID vocabulary. These identifiers may be used to populate the typeattribute of a bizTransactionelement in an EPCIS event. See Section 8.5 for details of when these identifiers should be used.

7.3.1 URI Structure

All business transaction type values specified in this section have the following form:

urn:epcglobal:cbv:btt:*payload*

where the *payload* part is a string as specified in the next section. Every payload string defined herein contains only lower case letters and the underscore character.

7.3.2 Element Values and Definitions – Business Transaction Types

Each EPCIS event in a CBV-Compliant Document MAY include one or more bizTransactionelements. If bizTransactionelements are present, each such element MAY include a typeattribute. If a given bizTransactionelement includes a type attribute, the value of the typeattribute SHALL be a URI consisting of the prefix urn:epcglobal:cbv:btt: followed by the string specified in the first column of some row of the table below. The portion following the prefix SHALL be written exactly as specified in the table below, in all lowercase letters (possibly including underscores, as indicated). See

- 659 *Example (non-normative): An EPCIS document in XML format containing a usage*
660 *sample may*
661 *be found in Section 10.1.*
662 Each EPCIS event in a CBV-Compatible Document MAY include one or more
663 bizTransactionelements. If bizTransactionelements are present, each such element

663 MAY include a type attribute. If a given bizTransactionelement includes a type attribute,
 664 the value of the type attribute MAY be a URI as specified above for a CBV-Compliant
 665 document, and MAY be any other URI that meets the general requirements specified in
 666 [EPCIS1.1], Section 6.4, except for those URIs which in this standard are forbidden or
 667 designated for a different purpose.

Business Transaction Types	
Value	Definition
po	Purchase Order. A document/message that specifies details for goods and services ordered under conditions agreed by the seller and buyer.
poc	Purchase Order Confirmation. A document that provides confirmation from an external supplier to the request of a purchaser to deliver a specified quantity of material, or perform a specified service, at a specified price within a specified time.
bol	Bill of Lading. A document issued by a carrier to a shipper, listing and acknowledging receipt of goods for transport and specifying terms of delivery
inv	Invoice. A document/message claiming payment for goods or services supplied under conditions agreed by the seller and buyer.
rma	Return Merchandise Authorization. A document issued by the seller that authorizes a buyer to return merchandise for credit determination.
pedigree	Pedigree. A record that traces the ownership or custody and transactions of a product as it moves among various trading partners.
desadv	Despatch Advice. A document/message by means of which the seller or consignor informs the consignee about the despatch of goods. Also called an "Advanced Shipment Notice," but the value desadv is always used regardless of local nomenclature.
recadv	Receiving Advice. A document/message that provides the receiver of the shipment the capability to inform the shipper of actual goods received, compared to what was advised as being sent.
prodorder	Production Order. An organization-internal document or message issued by a producer that initiates a manufacturing process of goods.

668

7.4 Source/Destination Types

669 This section specifies standard identifier values for the EPCIS SourceDestTypeID
 670 vocabulary. These identifiers may be used to populate the typeattribute of a sourceor
 671 destinationelement in an EPCIS event. See Section 8.6 for details of when these
 672 identifiers should be used.

673

7.4.1 URI Structure

674 All source/destination type values specified in this section have the following form:

675 urn:epcglobal:cbv:sdt:*payload*

676 where the *payload* part is a string as specified in the next section. Every payload
 677 string defined herein contains only lower case letters and the underscore character.

678

7.4.2 Element Values and Definitions – Source/Destination Types

679 Each EPCIS event in a CBV-Compliant Document MAY include one or more
 680 sourceand/or

destinationelements. The value of the typeattribute of the sourceor destination

element SHALL be a URI consisting of the prefix urn:epcglobal:cbv:sdt: followed by the string specified in the first column of some row of the table below. The portion following the prefix SHALL be written exactly as specified in the table below, in all lowercase letters (possibly including underscores, as indicated). See Section 8.6 for more compliance requirements concerning source and destination types.

Example (non-normative): An EPCIS document in XML format containing a usage sample may be found in Section 10.1.

Each EPCIS event in a CBV-Compatible Document MAY include one or more source and/or destination elements. The value of the type attribute of the source or destination element MAY be a URI as specified above for a CBV-Compliant document, and MAY be any

other URI that meets the general requirements specified in [EPCIS1.1], Section 6.4, except for those URIs which in this standard are forbidden or designated for a different purpose.

Value	Definition
owning_party	The source or destination identifier denotes the party who owns (or is intended to own) the objects at the originating endpoint or terminating endpoint (respectively) of the business transfer of which this EPCIS event is a part.
possessing_party	The source or destination identifier denotes the party who has (or is intended to have) physical possession of the objects at the originating endpoint or terminating endpoint (respectively) of the business transfer of which this EPCIS event is a part.
location	The source or destination identifier denotes the physical location of the originating endpoint or terminating endpoint (respectively) of the business transfer of which this EPCIS event is a part. When a source of this type is specified on an EPCIS event at the originating endpoint of a business transfer, the source identifier SHOULD be consistent with the Read Point specified in that event. When a destination of this type is specified on an EPCIS event at the terminating endpoint of a business transfer, the destination identifier SHOULD be consistent with the Read Point specified in that event.

8 User Vocabularies

This section specifies syntax templates that end users may use to define vocabulary elements for three EPCIS user vocabularies: physical or digital objects, locations (both read points and business locations), and business transactions.

8.1 General Considerations

Unlike the standard vocabularies discussed in Section 7, a vocabulary element in a User Vocabulary is created by an End User. For example, an End User who creates a new business location such as a new warehouse may create a business location identifier to refer to that location in EPCIS events. The specific identifier string is defined by the End User,

and its
meaning may be described to trading partners via master data exchange, or via some
other
mechanism outside of the EPCIS Query Interface.

704 The EPCIS standard (Section 6.4) places general constraints on the identifiers that
705 End Users
706 may create for use as User Vocabulary elements. Specifically, an identifier must
707 conform to
URI syntax, and must either conform to syntax specified in GS1 standards or must
belong to a
subspace of URI identifiers that is under the control of the end user who assigns
them.

708 The Core Business Vocabulary provides additional constraints on the syntax of
709 identifiers for
710 user vocabularies, so that CBV-Compliant documents will use identifiers that have a
711 predictable
structure. This in turn makes it easier for trading partners to understand the meaning of
such
identifiers.

712 For each user vocabulary considered here, several different syntax templates are
713 provided for
constructing vocabulary elements:

- 714 • *EPC URI* An Electronic Product Code “pure identity” URI may be used as a user
715 vocabulary element. EPCs have a structure and meaning that is widely
716 understood. EPCs
717 may also be encoded into data carriers such as RFID tags and bar codes
718 according to GS1
standards. For this reason, EPCs are often the best choice for creating user
vocabulary
elements when it is possible to do so.
- 719 • *Private or Industry-wide URN* A Uniform Resource Name (URN) of the form
720 urn:*URNNamespace*:...
721 may be used as a user vocabulary element. Doing so requires that the user who
722 creates the
723 vocabulary element be authorized to use the URN namespace that appears following
724 the
725 urn: prefix. For example, the End User may register its own URN namespace with
726 the
727 Internet Assigned Numbers Authority (IANA). Alternatively, an industry consortium
728 or
other trading group could register a URN namespace, and define a syntax template
beginning
with this namespace for use by its members in creating vocabulary elements.
Because of the
difficulty of registering a URN namespace, this method is typically used by trading
groups,
not individual end users.
- 729 • *HTTP URL* A Uniform Resource Locator (URL) of the form
730 http://*Domain*/...
731 may be used as a user vocabulary element. Doing so requires that the user who
732 creates the
733 vocabulary element be authorized to use the Internet domain name that appears
734 following the
735 http: prefix. Often a subdomain of the End User’s organization domain is used; for
736 example, the Example Corporation may choose to use epcis.example.com as a
737 domain
name for constructing user vocabulary identifiers. Because registering an Internet
domain
name is relatively easy, this method is quite appropriate for use by individual end
users as
well as by industry groups.

738 Note that HTTP URLs used as EPCIS user vocabulary elements do not necessarily
739 refer to a
740 web page. They are just identifiers (names) that happen to use the HTTP URI
scheme for the
sake of convenience.

741 Further details about each of these three forms are specified below.

742 *Explanation (non-normative): The reason that several different syntax templates are*
743 *provided*
744 *for each user vocabulary is to provide flexibility for end users to meet their business*
745 *requirements. Use of an EPC is preferred for most end user vocabularies; however,*
746 *EPC codes*
747 *are somewhat constrained in syntax (e.g., limitations on character set and number of*
characters
allowed), and may not easily accommodate the construction of identifiers based on
codes
already in use within legacy business systems. The other forms provide an alternative.

8.1.1 General Considerations for EPC URIs as User Vocabulary Elements

Where an EPC URI is used as a User Vocabulary Element, both CBV-Compliant and CBV-

Compatible documents SHALL use an EPC Pure Identity URI, except as noted below. An EPC

Pure Identity URI is a URI as specified in [TDS1.9], Section 6 (specifically, a URI matching the grammar production EPC-URI in [TDS1.9], Section 6.3). EPC “pure identity” URIs begin with urn:epc:id:....

Both CBV-Compliant and CBV-Compatible documents SHALL NOT use any of the other URI forms for EPCs defined in [TDS1.9]. In particular, documents SHALL NOT use EPC Tag URIs

(urn:epc:tag:...), EPC Pure Identity Pattern URIs (urn:epc:idpat:...), or EPC Pattern URIs (urn:epc:pat:...), except that both CBV-Compliant and CBV-Compatible documents MAY use EPC Pattern URIs for class-level identification of objects as specified in Section 8.3.1.

Both CBV-Compliant and CBV-Compatible documents MAY use EPC Raw URIs (urn:epc:raw:...) as defined in [TDS1.9], Section 12, provided that the raw value cannot be decoded as an EPC. Both CBV-Compliant and CBV-Compatible documents SHALL NOT use an EPC Raw URI representing EPC memory bank contents that could be successfully decoded into an EPC Pure Identity URI according to [TDS1.9].

Explanation (non-normative): [EPCIS1.1] specifies that “When the unique identity [for an instance-level identifier in the “what” dimension] is an Electronic Product Code, the [identifier] SHALL be the “pure identity” URI for the EPC as specified in [TDS1.9], Section 6. Implementations MAY accept URI-formatted identifiers other than EPCs.”

The above language clarifies this requirement, and provides more specific references to [TDS1.9]. The above

language also extends these restrictions to the use of EPC URIs in other dimensions of EPCIS events beyond the “what” dimension.

8.1.2 General Considerations for Private or Industry-wide URN as User Vocabulary Elements

Where specified in Sections 8.2 through 8.5, a CBV-Compliant document or CBV-Compatible document MAY use a private or industry-wide URN as specified below.

A Private or Industry-wide URN SHALL have the following form:

urn:URNNamespace.**:qual.Remainder

where the components of this template are as follows:

urn: The characters u, r, n, and : (colon).

URNNamespace A URN Namespace registered with the Internet Assigned Numbers Authority according to [RFC2141].

***.	Denotes either a single colon character or any string that conforms to the requirements of [RFC2141] and any syntax rules defined for the registered URN namespace, and which begins and ends with a colon character. In other words, any number of additional subfields may be included between the URN Namespace and the <i>quat</i> component, in order to provide flexibility for URN Namespace owners to administer their namespace.
<i>quat.</i>	A qualifier as specified in Sections 8.2 through 8.5, depending on the type of identifier.
<i>Remainder</i>	The remainder of the identifier as specified in Sections 8.2 through 8.5.

779 In addition, an identifier of this form SHALL be 128 characters or fewer, and
 780 SHOULD be
 60 characters or fewer.
 781 Identifiers of this form must be assigned by the owner of the URN Namespace. The
 782 owner of
 783 the URN Namespace may delegate the authority to assign new identifiers to End
 Users or other
 parties, provided that appropriate rules are employed to ensure global uniqueness.

784 8.1.3 General Considerations for HTTP URLs as User Vocabulary 785 Elements

786 Where specified in Sections 8.2 through 8.5, a CBV-Compliant document or CBV-
 787 Compatible
 document MAY use an HTTP URL.

788 An HTTP URL SHALL have the following form:

789 `http://[Subdomain.]Domain**/qual/Remainder`

790 where the components of this template are as follows:

<code>http://</code>	The seven characters h, t, t, p, : (colon), / (slash), and / (slash).
<code>[Subdomain.]Domain</code>	An Internet Domain name that has been registered with an Internet Domain Name Registrar, optionally preceded by one or more subdomain names. For example, if example.com is a registered Internet Domain Name, then the following are acceptable values for this component: example.com epcis.example.com a.rather.verbose.example.com Unless there is a reason to do otherwise, epcis.example.com is recommended for most End Users (where the End User substitutes its own company or organizational Domain Name for example.com). <i>Explanation (non-normative): Use of a subdomain dedicated to EPCIS, such as epcis.example.com, helps to avoid the possibility of conflict with other uses of the company or organizational domain name, such as URLs of web pages on the company web site.</i> <i>While HTTP URLs used as identifiers in EPCIS events are not usually intended to be dereferenced via a web browser, it is usually helpful to emphasize this fact by making the URL distinct from the URLs used by the company web site.</i>
<code>**/</code>	Denotes either a single slash character, or any string that matches the grammar rule path-absolute defined in [RFC3986], Section 3.3. In other words, any number of additional path components may be included between the authority component and the object component, in order to provide flexibility for domain owners to administer their namespace.
<code>qual</code>	A qualifier as specified in Sections 8.2 through 8.5, depending on the type of identifier.
<code>Remainder</code>	The remainder of the identifier as specified in Sections 8.2 through 8.5.

791

792 In addition, an identifier of this form SHALL be 128 characters or fewer, and
 793 SHOULD be
 60 characters or fewer.
 794 Identifiers of this form must be assigned by the owner of the Internet domain
 795 *Domain*. The
 796 owner of the domain may delegate the authority to assign new identifiers to other

parties,
provided that appropriate rules are employed to ensure global uniqueness.

797

8.2 Physical or Digital Objects (Instance-Level Identification)

798 Instance-level identifiers for physical or digital objects populate the “what” dimension of
799 EPCIS

800 events. This includes the epcList, parentID, childEPCs, inputEPCs, and
801 outputEPCs fields in EPCIS ObjectEvents, AggregationEvents,
802 TransactionEvents, and TransformationEvents. See Section 1 of [EPCIS1.1] for a
further definition of “object” in this sense, also reproduced below.

803 A CBV-Compliant document SHALL use one of the three URI forms specified in this
804 section to

805 populate the above fields of EPCIS events, for every such field that is not null. A CBV-
806 Compatible document MAY use one of the three URI forms specified in this section, or
807 MAY

use any other URI that meets the general requirements specified in [EPCIS1.1], Section 6.4,

except for those URIs which in this standard are forbidden or designated for a different purpose.

808 Both CBV-Compliant and CBV-Compatible documents SHOULD use the EPC URI
809 form as

specified in Section 8.2.1 unless there is a strong reason to do otherwise.

810 *Explanation (non-normative), quoted from [EPCIS1.1]: “Objects” in the context of EPCIS*
811 *typically refers to physical objects that are identified either at a class or instance level*
812 *and which*
813 *are handled in physical handling steps of an overall business process involving one or*
814 *more*
815 *organizations. Examples of such physical objects include trade items (products), logistic*
816 *units,*

817 *returnable assets, fixed assets, physical documents, etc. “Objects” may also refer to*
818 *digital*

819 *objects, also identified at either a class or instance level, which participate in comparable*
business process steps. Examples of such digital objects include digital trade items
(music

downloads, electronic books, etc.), digital documents (electronic coupons, etc), and so
forth.

Throughout this document the word “object” is used to denote a physical or digital object,
identified at a class or instance level, that is the subject of a business process step.

820 *Section 8.2 of this CBV standard defines identifier structures for instance-level*
821 *identification of*

Objects; Section 8.3 defines identifier structures for class-level identification of Objects.

822

8.2.1 EPC URI for Instance-level Identification of Objects

823 A CBV-Compliant document or CBV-Compatible document MAY use an EPC Pure
824 Identity

825 URI as specified in Section 8.1.1 to populate the epcList, parentID, and childEPCs
826 fields in EPCIS ObjectEvents, AggregationEvents, and TransactionEvents.

827 Both CBV-Compliant and CBV-Compatible documents SHOULD use this form unless
there is a
strong reason to do otherwise.

828 Both CBV-Compliant and CBV-Compatible documents SHALL NOT use an SGLN
829 EPC
(urn:epc:id:sgln:...) as an Object identifier.
830 Both CBV-Compliant and CBV-Compatible documents SHALL NOT use any of the
831 other URI
forms for EPCs defined in [TDS1.9]; see Section 8.1.1 for details.

832 **8.2.2 Private or Industry-wide URN for Instance-level Identification of**
833 **Objects**

834 A CBV-Compliant document or CBV-Compatible document MAY use a private or
835 industry-
wide URN as specified below to populate the epcList, parentID, and childEPCs fields in

836 EPCIS ObjectEvents, AggregationEvents, and TransactionEvents. However,
 837 both CBV-Compliant and CBV-Compatible documents SHOULD use the EPC URI form
 838 (Section 8.2.1) unless there is a strong reason to do otherwise. See Section 8.1 for
 839 general

considerations regarding the use of Private or Industry-wide URI identifiers.

840 A Private or Industry-wide URI suitable for populating the epclList, parentID, and
 841 childEPCsfields of EPCIS events SHALL have the following form:

842 urn:*URNNamespace*:*:obj:*Objid*

843 where the components of this template are as follows:

Template Component	Description
urn: <i>URNNamespace</i> :*:	As specified in Section 8.1.2.
obj:	The characters o, b, j, and : (colon).
<i>Objid</i>	An identifier for the object that complies with the requirements of [RFC2141] and any syntax rules defined for the registered URN namespace <i>URNNamespace</i> , and which does not contain a colon character. This identifier must be unique relative to all other identifiers that begin with the same prefix.

844

845 Identifiers of this form must be assigned by the owner of the URN Namespace. The
 846 owner of

847 the URN Namespace may delegate the authority to assign new identifiers to End

Users or other

parties, provided that appropriate rules are employed to ensure global uniqueness.

848 *Example (non-normative): An EPCIS document in XML format containing a usage*
 849 *sample may*

be found in Section 10.2.

850

8.2.3 HTTP URLs for Instance-level Identification of Objects

851 A CBV-Compliant document or CBV-Compatible document MAY use an HTTP URL
 852 as

853 specified below to populate the epclList, parentID, and childEPCsfields in EPCIS

854 ObjectEvents, AggregationEvents, and TransactionEvents. However, both

855 CBV-Compliant and CBV-Compatible documents SHOULD use the EPC URI form

856 (Section 8.2.1) unless there is a strong reason to do otherwise. See Section 8.1 for
 general

considerations regarding the use of HTTP URL identifiers.

857 An HTTP URL suitable for populating the epclList, parentID, and childEPCsfields of
 858 EPCIS events SHALL have the following form:

859 http://[*Subdomain*.]*Domain**/obj/*Objid*

860 where the components of this template are as follows:

http://[<i>Subdomain</i> .] <i>Domain</i> */	As specified in Section 8.1.3.
obj/	The characters o, b, j, and / (slash).
<i>Objid</i>	An identifier for the object that matches the grammar rule segment-nzdefined in [RFC3986], Section 3.3 (among other things, this means <i>Objid</i> may not contain a slash character), and which is unique relative to all other identifiers that begin with the same prefix.

861
862 Identifiers of this form must be assigned by the owner of the Internet domain
863 *Domain*. The
864 owner of the domain may delegate the authority to assign new identifiers to other
parties,
provided that appropriate rules are employed to ensure global uniqueness.
865 *Example (non-normative): An EPCIS document in XML format containing a usage*
866 *sample may*
be found in Section 10.2.

867

8.3 Physical or Digital Objects (Class-Level Identification)

868 Class-level identifiers for physical or digital objects populate the “what” dimension of
869 EPCIS
870 events. This includes the epcClassfield within the EPCIS QuantityEvent(deprecated in
871 EPCIS 1.1) and within the quantityElementstructures of EPCIS ObjectEvents,
872 AggregationEvents, TransacationEvents, and TransformationEvents. See
Section 1 of [EPCIS1.1] for a further definition of “object” in this sense, also reproduced
below.
873 A CBV-Compliant document SHALL use one of the three URI forms specified in this
874 section to
875 populate the above fields of EPCIS events, for every such field that is not null. A CBV-
876 Compatible document MAY use one of the three URI forms specified in this section, or
877 MAY
use any other URI that meets the general requirements specified in [EPCIS1.1], Section
6.4,
except for those URIs which in this standard are forbidden or designated for a different
purpose.
878 Both CBV-Compliant and CBV-Compatible documents SHOULD use the EPC URI
879 form as
specified in Section 8.3.1 unless there is a strong reason to do otherwise.
880 *Explanation (non-normative), quoted from [EPCIS1.1]: “Objects” in the context of EPCIS*
881 *typically refers to physical objects that are identified either at a class or instance level*
882 *and which*
883 *are handled in physical handling steps of an overall business process involving one or*
884 *more*
885 *organizations. Examples of such physical objects include trade items (products), logistic*
886 *units,*
887 *returnable assets, fixed assets, physical documents, etc. “Objects” may also refer to*
888 *digital*
889 *objects, also identified at either a class or instance level, which participate in comparable*
business process steps. Examples of such digital objects include digital trade items
(music
downloads, electronic books, etc.), digital documents (electronic coupons, etc), and so
forth.

Throughout this document the word “object” is used to denote a physical or digital object,
identified at a class or instance level, that is the subject of a business process step.

890 *Section 8.2 of this CBV standard defines identifier structures for instance-level*
891 *identification of*
Objects; Section 8.3 defines identifier structures for class-level identification of Objects.

892

8.3.1 EPC URI for Class-level Identification of Objects

893 A CBV-Compliant document or CBV-Compatible document MAY use one of the following
894 URI
895 forms specified in the EPC Tag Data Standard to populate the epcClassfield within the
896 EPCIS
897 QuantityEvent(deprecated in EPCIS 1.1) and within the quantityElementstructures of
EPCIS ObjectEvents, AggregationEvents, TransactionEvents, and
TransformationEvents:

GTIN

urn:epc:idpat:sgtin:*CCC.III.**

[TDS1.9, Section 8]



Identifier Type	URI Form	Normative Reference
GTIN+batch/lot	urn:epc:class:lgtin:CCC.///.LLL	[TDS1.9, Section 6]
GRAI (no serial)	urn:epc:idpat:grai:CCC.TTT.*	[TDS1.9, Section 8]
GDTI (no serial)	urn:epc:idpat:gdti:CCC.TTT.*	[TDS1.9, Section 8]
GCN (no serial)	urn:epc:idpat:sgcn:CCC.TTT.*	[TDS1.9, Section 8]
CPI (no serial)	urn:epc:idpat:cpi:CCC.TTT.*	[TDS1.9, Section 8]

898 where:

899 • CCC is the GS1 Company Prefix portion of an EPC Pure Identity Pattern URI

900 • /// is the Indicator + Item Reference portion of an SGTIN EPC Pure Identity Pattern
901 URI

or the Indicator + Item Reference portion of an LGTIN EPC Class URI

902 • TTT is the Returnable Asset Type, Document Type, Coupon Reference, or
903 Component/Part

Type portion of an EPC Pure Identity Pattern for GRAI, GDTI, SGCN, or CPI,
respectively.

904 A CBV-Compliant document or CBV-Compatible document SHALL NOT use any other
905 Pure

906 Identity Pattern URI form specified in [TDS1.9, Section 8]. This includes, for example,
an

SSCC Pure Identity Pattern URI, or an SGTIN Pure Identity Pattern URI with two “*”
wildcards.

907 Both CBV-Compliant and CBV-Compatible documents SHALL NOT use any of the
908 other URI

forms for EPCs defined in [TDS1.9]; see Section 8.1.1 for details.

909 *Explanation (non-normative): The EPC Tag Data Standard defines EPC Pure Identity
910 Pattern*

911 *URIs as a way to specify a pattern that matches many instance-level EPCs. For
912 example, the*

913 *EPC Pure Identity Pattern URI urn:epc:idpat:sgtin:0614141.112345.* matches*

914 *any SGTIN URI that begins with urn:epc:idpat:sgtin:0614141.112345, for*

915 *example the specific SGTIN URI urn:epc:idpat:sgtin:0614141.112345.400. In*

916 *the EPCIS Simple Event Query, such a pattern may be used to match EPCIS events
whose*

*“what” dimension contains instance-level identifiers that have a specified GTIN and
any serial
number.*

917 *The table above specifies the use of EPC Pure Identity Pattern URIs to achieve a
918 second*

919 *purpose, namely as class-level identifiers for use in the Quantity Element fields of
920 EPCIS events.*

In this usage, the URI urn:epc:idpat:sgtin:0614141.112345. refers to the object
class identified by GTIN 10614141123459.*

921 *Not all EPC Pure Identity Pattern URIs make sense as class-level identifiers. For
922 example,*

923 *when urn:epc:idpat:sgtin:0614141.* is used in an EPCIS query to match*

924 *instance-level identifiers, it matches all SGTIN identifiers that include GS1 Company
925 Prefix*

926 *0614141. This is valid as a matching condition for a query, but there is no corresponding
927 object*

class and so this is not a valid class-level identifier. A similar argument applies to a URI such as
urn:epc:idpat:sscc:0614141., and the other EPC Pattern URIs not included in the*
table above.

8.3.2 Private or Industry-wide URN for Class-level Identification of Objects

A CBV-Compliant document or CBV-Compatible document MAY use a private or industry-wide URN as specified below to populate the epcClassfield within the EPCIS QuantityEvent(deprecated in EPCIS 1.1) and within the quantityElementstructures of EPCIS ObjectEvents, AggregationEvents, TransactionEvents, and TransformationEvents. However, both CBV-Compliant and CBV-Compatible documents SHOULD use the EPC URI form (Section 8.3.1) unless there is a strong reason to do otherwise.

See Section 8.1 for general considerations regarding the use of Private or Industry-wide URI identifiers.

A Private or Industry-wide URI suitable for populating the epcClassfield of EPCIS events SHALL have the following form:

`urn:URNNamespace:**:class:ObjClassid`

where the components of this template are as follows:

`urn:URNNamespace:**:`

As specified in Section 8.1.2.

`class:`

The characters c, l, a, s, s, and : (colon).

`ObjClassid`

An identifier for the object class that complies with the requirements of [RFC2141] and any syntax rules defined for the registered URN namespace *URNNamespace*, and which does not contain a colon character. This identifier must be unique relative to all other identifiers that begin with the same prefix.

Identifiers of this form must be assigned by the owner of the URN Namespace. The owner of

the URN Namespace may delegate the authority to assign new identifiers to End Users or other

parties, provided that appropriate rules are employed to ensure global uniqueness.

Example (non-normative): An EPCIS document in XML format containing a usage sample may be found in Section 10.2.

8.3.3 HTTP URLs for Class-level Identification of Objects

A CBV-Compliant document or CBV-Compatible document MAY use an HTTP URL as specified below to populate the epcClassfield within the EPCIS QuantityEvent (deprecated in EPCIS 1.1) and within the quantityElementstructures of EPCIS ObjectEvents, AggregationEvents, TransactionEvents, and TransformationEvents. However, both CBV-Compliant and CBV-Compatible documents SHOULD use the EPC URI form (Section 8.3.1) unless there is a strong reason to do otherwise.

See Section 8.1 for general considerations regarding the use of HTTP URL identifiers.

An HTTP URL suitable for populating the epcClassfields of EPCIS events SHALL have the following form:

958 `http://[Subdomain.]Domain/**/class/ObjClassid`
959 where the components of this template are as follows:

Template Component	Description
<code>http://[Subdomain.]Domain/**/</code>	As specified in Section 8.1.3.
<code>class/</code>	The characters c, l, a, s, s, and / (slash).
<i>ObjClassid</i>	An identifier for the object class that matches the grammar rule segment-nzdefined in [RFC3986], Section 3.3 (among other things, this means <i>ObjClassid</i> may not contain a slash character), and which is unique relative to all other identifiers that begin with the same prefix.

960

961 Identifiers of this form must be assigned by the owner of the Internet domain
 962 *Domain*. The
 963 owner of the domain may delegate the authority to assign new identifiers to other
 parties,
 provided that appropriate rules are employed to ensure global uniqueness.

964 *Example (non-normative): An EPCIS document in XML format containing a usage*
 965 *sample may*
be found in Section 10.2.

966

8.4 Locations

967 Identifiers for locations populate the “where” dimension of EPCIS events. This
 968 includes the
 readPointand businessLocationfields in all EPCIS event types.
 969 A CBV-Compliant document SHALL use one of the four URI forms specified in this
 970 section to
 971 populate the above fields of EPCIS events, for every such field that is not null. A CBV-
 972 Compatible document MAY use one of the four URI forms specified in this section, or
 973 MAY
 any other URI that meets the general requirements specified in [EPCIS1.1], Section
 6.4, except
 for those URIs which in this standard are forbidden or designated for a different
 purpose.
 974 Both CBV-Compliant and CBV-Compatible documents SHOULD use the EPC URI
 975 form as
 specified in Section 8.4.1 unless there is a strong reason to do otherwise.

976

8.4.1 EPC URI for Location Identifiers

977 A CBV-Compliant document or CBV-Compatible document MAY use an EPC Pure
 978 Identity
 979 URI as specified in Section 8.1.1 to populate the readPointand businessLocation
 980 fields in all EPCIS event types. Both CBV-Compliant and CBV-Compatible
 documents
 SHOULD use this form unless there is a strong reason to do otherwise.
 981 Both CBV-Compliant and CBV-Compatible documents SHOULD NOT use EPC
 982 schemes other
 983 than SGLN EPCs (urn:epc:id:sgln:...) for location identifiers, unless there is a strong
 reason to do so.

984 Both CBV-Compliant and CBV-Compatible documents SHALL NOT use any of the
985 other URI
forms for EPCs defined in [TDS1.9]; see Section 8.1.1 for details.

986

8.4.2 Private or Industry-wide URN for Location Identifiers

987 A CBV-Compliant document or CBV-Compatible document MAY use a private or
988 industry-
989 wide URN as specified below to populate the readPointand businessLocationfields in
all EPCIS event types. However, both CBV-Compliant and CBV-Compatible documents

990 SHOULD use the EPC URI form (Section 8.4.1) unless there is a strong reason to do
991 otherwise.

992 See Section 8.1 for general considerations regarding the use of Private or Industry-
wide URI
identifiers.

993 A Private or Industry-wide URI suitable for populating the readPointand
994 businessLocationfields in all EPCIS event types SHALL have the following form:

995 urn:*URNNamespace*:****:loc:*Locid*

996 where the components of this template are as follows:

urn: <i>URNNamespace</i> : <i>**</i> :	As specified in Section 8.1.2.
loc:	The characters l, o, c, and : (colon).
<i>Locid</i>	An identifier for the location that complies with the requirements of [RFC2141] and any syntax rules defined for the registered URN namespace <i>URNNamespace</i> , and which does not contain a colon character. This identifier must be unique relative to all other identifiers that begin with the same prefix.

997

998 Identifiers of this form must be assigned by the owner of the URN Namespace. The
999 owner of

1000 the URN Namespace may delegate the authority to assign new identifiers to End
Users or other

parties, provided that appropriate rules are employed to ensure global uniqueness.

1001 *Example (non-normative): An EPCIS document in XML format containing a usage*

1002 *sample may*

be found in Section 10.2.

1003

8.4.3 HTTP URLs for Location Identifiers

1004 A CBV-Compliant document or CBV-Compatible document MAY use an HTTP URL
1005 as

1006 specified below to populate the readPointand businessLocationfields in all EPCIS
1007 event types. However, both CBV-Compliant and CBV-Compatible documents
1008 SHOULD use

the EPC URI form (Section 8.4.1) unless there is a strong reason to do otherwise.

See

Section 8.1 for general considerations regarding the use of HTTP URL identifiers.

1009 An HTTP URL suitable for populating the readPointand businessLocationfields in all
1010 EPCIS event types SHALL have the following form:

1011 http://[*Subdomain*.]*Domain*****/loc/*Objid*

1012 where the components of this template are as follows:

http://[*Subdomain*.]*Domain*****/

As specified in Section 8.1.3.

loc/

The characters l, o, c, and / (slash).

Locid

An identifier for the location that matches the grammar rule segment-nzdefined in [RFC3986], Section 3.3 (among other things, this means *Locid* may not contain a slash character), and which is unique relative to all other identifiers that begin with the same prefix.

1014 Identifiers of this form must be assigned by the owner of the Internet domain
1015 *Domain*. The
1016 owner of the domain may delegate the authority to assign new identifiers to other
parties,
provided that appropriate rules are employed to ensure global uniqueness.
1017 *Example (non-normative): An EPCIS document in XML format containing a usage*
1018 *sample may*
be found in Section 10.2.

1019

8.4.4 Geographic Location URIs for Location Identifiers

1020 A CBV-Compliant document or CBV-Compatible document MAY use a geographic
1021 location
1022 URI as specified in [RFC5870] to populate the readPoint and businessLocation fields
1023 in all EPCIS event types. Such identifiers may be used in situations where it is not
1024 feasible to
1025 assign a unique location identifier; for example, to indicate the location of a ship on the
1026 open
1027 ocean. Both CBV-Compliant and CBV-Compatible documents SHOULD use a location
identifier as specified in Sections 8.4.1 through 8.4.3 (with preference given to the EPC
URI
form as specified in Section 8.4.1) unless a geographic location URI is the only feasible
alternative.

1028 The syntax and meaning of geographic location URIs is specified in [RFC5870].
1029 *Explanation (non-normative): The simplest form of RFC5870-compliant geographic*
1030 *location*
URI looks like this:

1031 *geo:22.300,-118.44*

1032 *This example denotes the geographic location with latitude 22.300 degrees (north) and*
1033 *longitude*
118.44 degrees (west).

1034 *Other forms of the geo URI allow for the inclusion of altitude, uncertainty radius, and*
1035 *reference*
1036 *coordinate system. Please consult [RFC5870] for details of these and other*
considerations that
apply to the use of the geographic location URI.

1037

8.5 Business Transactions

1038 Identifiers for business transactions populate the “why” dimension of EPCIS
1039 events. This
includes the bizTrasactionList field in all EPCIS event types.
1040 The EPCIS standard provides for a business transaction to be identified by a pair of
1041 identifiers,
1042 the “business transaction identifier” (hereinafter “BTI”) that names a particular business
1043 transaction, and an optional “business transaction type” (hereinafter “BTT”) that says
1044 what kind
of business transaction the identifier denotes (purchase order, invoice, etc.). Section

7.3 of this
standard provides standardized values for BTTs.

1045 URI forms for BTIs are specified below. A CBV-Compliant document SHALL use one of
1046 the
1047 four URI forms specified in this section to populate the BTI field (text content of the
1048 bizTransaction element) of EPCIS events, for every such field that is not null. A CBV-
1049 Compatible document MAY use one of the four URI forms specified in this section, or
1050 MAY use
any other URI that meets the general requirements specified in [EPCIS1.1], Section 6.4,
except
for those URIs which in this standard are forbidden or designated for a different purpose.
1051 A bizTransaction element in an EPCIS event includes a BTI and an optional BTT in any
1052 of
the following three combinations:

- 1053 • If the goal is to communicate a business transaction identifier without indicating its
1054 type, a
BTI is included and the BTT omitted.
- 1055 • If the goal is to communicate a business transaction identifier and to indicate its
1056 type, and
1057 furthermore the type is one of the CBV standard types specified in Section 7.3, a
BTI is
included, and one of the URIs specified in Section 7.3 is included as the BTT.
- 1058 • If the goal is to communicate a business transaction identifier and to indicate its type,
1059 and
1060 furthermore the type is not one of the CBV standard types specified in Section 7.3,
1061 the BTI is
included, and some URI that does not begin with urn:epcglobal:cbv:... is included as
the BTT. (This is CBV-Compatible but not CBV-Compliant.)

1062

8.5.1 EPC URI for Business Transaction Identifiers

1063 A CBV-Compliant document or CBV-Compatible document MAY use an EPC Pure
1064 Identity
URI as specified in Section 8.1.1 as a business transaction identifier in all EPCIS
event types.

1065 Both CBV-Compliant and CBV-Compatible documents SHOULD NOT use EPC
1066 schemes other

1067 than GDTI EPCs (urn:epc:id:gdti:...) or GSRN EPCs (urn:epc:id:gsrn:...) for
1068 business transaction identifiers, unless there is a strong reason to do so. GDTI EPCs
1069 SHOULD
1070 only be used as business transaction identifiers when they have been assigned to
denote a
business transaction, rather than a physical document not connected with any business
transaction.

1071 Both CBV-Compliant and CBV-Compatible documents SHALL NOT use any of the
1072 other URI

forms for EPCs defined in [TDS1.9]; see Section 8.1.1 for details.

1073 *Explanation (non-normative): One of the intended uses of the Global Document Type*
1074 *Identifier*

1075 *(GDTI) is to identify business transactions such as invoices, purchase orders, and so on.*

1076 *When a*

1077 *GDTI is used in this way, it is suitable for use as a business transaction identifier in*
1078 *EPCIS.*

1079 *However, many business information systems use other types of identifiers for business*
transactions, and so the use of GDTI is not as strongly recommended as SGLNs are for
locations

or other types of EPCs are for physical or digital objects. It is also for this reason that the
form

in Section 8.5.2 is provided.

1080

1081 *Example (non-normative): An EPCIS document in XML format containing a usage*
1082 *sample may*
be found in Section 10.1.

1083 **8.5.2 GLN-based Identifier for Legacy System Business Transaction**
1084 **Identifiers**
1085 A CBV-Compliant document or CBV-Compatible document MAY use a GLN-based
1086 identifier
as specified below as a business transaction identifier in all EPCIS event types.
1087 A GLN-based URI suitable for use as a business transaction identifier in all EPCIS
1088 event types
SHALL have the following form:
1089 urn:epcglobal:cbv:bt:*glr.transID*
1090 where the components of this template are as follows:

Template Component	Description
urn:epcglobal:cbv:bt:	The 21 characters u, r, n, ..., b, t, and : (colon).
<i>glr</i> .	A 13-digit Global Location Number (GLN) that identifies the business system within which <i>transIDs</i> defined, followed by a colon. This is typically a "party GLN" that identifies the organization responsible for the business transaction identifier, or a division of an organization that maintains a separate divisional business information system.
<i>transID</i>	An identifier for the business transaction that complies with the requirements of [RFC2141] and which does not contain a colon character. This identifier must be unique relative to all other identifiers that begin with the same prefix.

1091

1092 Identifiers of this form must be assigned by the owner of the GLN that is embedded in
1093 the

1094 identifier. The owner of the GLN may delegate the authority to assign new identifiers
to other

parties, provided that appropriate rules are employed to ensure global uniqueness.

1095 *Example (non-normative): An EPCIS document in XML format containing a usage*
1096 *sample may*
be found in Section 10.2.

1097 8.5.3 Private or Industry-wide URN for Business Transaction 1098 Identifiers

1099 A CBV-Compliant document or CBV-Compatible document MAY use a private or
1100 industry-
wide URN as specified below as a business transaction identifier in all EPCIS event
types.

1101 A private or industry-wide URN suitable for use as a business transaction identifier in all
1102 EPCIS

event types SHALL have the following form:

1103 urn:*URNNamespace*:****:bt:*transID*

1104 where the components of this template are as follows:

urn:*URNNamespace*:****:
As specified in Section 8.1.2.

bt:
The characters b, t, and : (colon).

transID
An identifier for the business transaction that complies with the requirements of [RFC2141] and any syntax rules defined for the registered URN namespace *URNNamespace*, and which does not contain a colon character. This identifier must be unique relative to all other identifiers that begin with the same prefix.

1105

1106 Identifiers of this form must be assigned by the owner of the URN Namespace. The
1107 owner of

1108 the URN Namespace may delegate the authority to assign new identifiers to End
Users or other

parties, provided that appropriate rules are employed to ensure global uniqueness.

1109 *Example (non-normative): An EPCIS document in XML format containing a usage*
1110 *sample may*
be found in Section 10.2

1111

8.5.4 HTTP URLs for Business Transaction Identifiers

1112 A CBV-Compliant document or CBV-Compatible document MAY use an HTTP

1113 URL as

specified below as a business transaction identifier in all EPCIS event types.

1114 An HTTP URL suitable for use as a business transaction identifier in all EPCIS
1115 event types
SHALL have the following form:

1116 `http://[Subdomain.]Domain/**/bt/transID`

1117 where the components of this template are as follows:

Template Component	Description
<code>http://[Subdomain.]Domain/**/</code>	As specified in Section 8.1.3.
<code>bt/</code>	The characters b, t, and / (slash).
<code>transID</code>	An identifier for the business transaction that matches the grammar rule segment-nzdefined in [RFC3986], Section 3.3 (among other things, this means transIDmay not contain a slash character), and which is unique relative to all other identifiers that begin with the same prefix.

1118

1119 Identifiers of this form must be assigned by the owner of the Internet domain

1120 *Domain*. The

1121 owner of the domain may delegate the authority to assign new identifiers to other parties,

provided that appropriate rules are employed to ensure global uniqueness.

1122 *Example (non-normative): An EPCIS document in XML format containing a usage*

1123 *sample may*

be found in Section 10.2.

1124

8.6 Source/Destination Identifiers

1125 Identifiers for sources and destinations populate the sourceand destinationelements
1126 (respectively) in the “why” dimension of EPCIS events.

1127 A CBV-Compliant document SHALL use one of the three URI forms specified in this
1128 section to

1129 populate the above fields of EPCIS events. A CBV-Compatible document MAY use one
1130 of the

1131 three URI forms specified in this section, or MAY use any other URI that meets the
general
requirements specified in [EPCIS1.1], Section 6.4, except for those URIs which in this
standard

are forbidden or designated for a different purpose.

1132 Both CBV-Compliant and CBV-Compatible documents SHOULD use the EPC URI

1133 form as

specified in Section 8.6.1 unless there is a strong reason to do otherwise.

1134

8.6.1 EPC URI for Source/Destination Identifiers

1135 A CBV-Compliant document or CBV-Compatible document MAY use an EPC Pure
1136 Identity

1137 URI as specified in Section 8.1.1 to populate the sourceand destinationelements in all

1138 EPCIS event types. Both CBV-Compliant and CBV-Compatible documents SHOULD
use this

form unless there is a strong reason to do otherwise.

1139 Both CBV-Compliant and CBV-Compatible documents SHOULD NOT use EPC
1140 schemes other
1141 than SGLN EPCs (urn:epc:id:sgln:...) for source and destination identifiers, unless there
is a strong reason to do so.
1142 Both CBV-Compliant and CBV-Compatible documents SHALL NOT use any of the
1143 other URI
forms for EPCs defined in [TDS1.9]; see Section 8.1.1 for details.

1144

8.6.2 Private or Industry-wide URN for Source/Destination Identifiers

1145 A CBV-Compliant document or CBV-Compatible document MAY use a private or
 1146 industry-
 1147 wide URN as specified below to populate the sourceand destinationfields in all EPCIS
 1148 event types. However, both CBV-Compliant and CBV-Compatible documents
 1149 SHOULD use
 1150 the EPC URI form (Section 8.6.1) unless there is a strong reason to do otherwise. See
 Section 8.1 for general considerations regarding the use of Private or Industry-wide
 URI
 identifiers.

1151 A Private or Industry-wide URI suitable for populating the sourceand destinationfields
 1152 in all EPCIS event types SHALL have the following form:

1153 urn:*URNNamespace*:****:sd:*Locid*

1154 where the components of this template are as follows:

urn:*URNNamespace*:****:

As specified in Section 8.1.2.

sd:

The characters s, d, and : (colon).

Locid

An identifier for the location that complies with the requirements of [RFC2141] and any syntax rules defined for the registered URN namespace *URNNamespace*, and which does not contain a colon character. This identifier must be unique relative to all other identifiers that begin with the same prefix.

1155

1156 Identifiers of this form must be assigned by the owner of the URN Namespace. The
 1157 owner of
 1158 the URN Namespace may delegate the authority to assign new identifiers to End
 Users or other
 parties, provided that appropriate rules are employed to ensure global uniqueness.

1159

8.6.3 HTTP URLs for Source/Destination Identifiers

1160 A CBV-Compliant document or CBV-Compatible document MAY use an HTTP URL as
 1161 specified below to populate the sourceand destinationfields in all EPCIS event types.
 1162 However, both CBV-Compliant and CBV-Compatible documents SHOULD use the
 1163 EPC URI
 1164 form (Section 8.6.1) unless there is a strong reason to do otherwise. See Section 8.1
 for general
 considerations regarding the use of HTTP URL identifiers.

1165 An HTTP URL suitable for populating the sourceand destinationfields in all EPCIS
 1166 event types SHALL have the following form:

1167 http://[*Subdomain*.]*Domain*:****/sd/*SourceOrDestId*

1168 where the components of this template are as follows:

http://[*Subdomain*.]*Domain*:****/

As specified in Section 8.1.3.

sd/

The characters s, d, and / (slash).

Template Component	Description
<i>SourceOrDestId</i>	An identifier for the location that matches the grammar rule segment-nz defined in [RFC3986], Section 3.3 (among other things, this means Locid may not contain a slash character), and which is unique relative to all other identifiers that begin with the same prefix.

1169

1170 Identifiers of this form must be assigned by the owner of the Internet domain
1171 *Domain*. The
1172 owner of the domain may delegate the authority to assign new identifiers to other parties,
provided that appropriate rules are employed to ensure global uniqueness.

1173

8.7 Transformation Identifiers

1174 Identifiers for transformations populate the transformationID field of EPCIS
1175 TransformationEvents.
1176 URI forms for transformation identifiers are specified below. A CBV-Compliant
1177 document
1178 SHALL use one of the four URI forms specified in this section to populate the
1179 transformationID field of EPCIS TransformationEvents, for every such field that is
1180 not null. A CBV-Compatible document MAY use one of the four URI forms specified in
1181 this
1182 section, or MAY use any other URI that meets the general requirements specified in
[EPCIS1.1],
Section 6.4, except for those URIs which in this standard are forbidden or designated for
a
different purpose.

1183

8.7.1 EPC URI for Transformation Identifiers

1184 A CBV-Compliant document or CBV-Compatible document MAY use an EPC Pure
1185 Identity
1186 URI as specified in Section 8.1.1 to populate the transformationID field of EPCIS
TransformationEvents.
1187 Both CBV-Compliant and CBV-Compatible documents SHOULD NOT use EPC
1188 schemes other
1189 than GDTI EPCs (urn:epc:id:gdti:...) for transformation identifiers unless there is a
1190 strong reason to do so. GDTI EPCs SHOULD only be used as transformation identifiers
1191 when
they have been assigned to denote a transformation, rather than a physical document
not
connected with any transformation.
1192 Both CBV-Compliant and CBV-Compatible documents SHALL NOT use any of the
1193 other URI
forms for EPCs defined in [TDS1.9]; see Section 8.1.1 for details.

1194 *Explanation (non-normative): One of the intended uses of the Global Document Type*
1195 *Identifier*
1196 *(GDTI) is to identify business transactions such as production orders which may be in*
1197 *one-to-*
1198 *one correspondence with transformations. When a GDTI is used in this way, it is*
1199 *suitable for*
1200 *use as a transformation identifier in EPCIS. However, many business information*
systems use
other types of identifiers for transformations, and so the use of GDTI is not as strongly
recommended as SGLNs are for locations or other types of EPCs are for physical or
digital
objects. It is also for this reason that the form in Section 8.7.2 is provided.

8.7.2 GLN-based Identifier for Legacy System Transformation Identifiers

A CBV-Compliant document or CBV-Compatible document MAY use a GLN-based identifier as specified below 8.1.1 to populate the transformationIDfield of EPCIS TransformationEvents.

A GLN-based URI SHALL have the following form:

urn:epcglobal:cbv:xform:*gln.xformID*

where the components of this template are as follows:

Template Component	Description
urn:epcglobal:cbv:xform:	The 24 characters u, r, n, ..., r, m, and : (colon).
<i>gln</i> :	A 13-digit Global Location Number (GLN) that identifies the business system within which <i>xformID</i> s are defined, followed by a colon. This is typically a "party GLN" that identifies the organization responsible for the transformation identifier, or a division of an organization that maintains a separate divisional business information system.
<i>xformID</i>	An identifier for the transformation that complies with the requirements of [RFC2141] and which does not contain a colon character. This identifier must be unique relative to all other identifiers that begin with the same prefix.

Identifiers of this form must be assigned by the owner of the GLN that is embedded in the identifier. The owner of the GLN may delegate the authority to assign new identifiers to other parties, provided that appropriate rules are employed to ensure global uniqueness.

8.7.3 Private or Industry-wide URN for Transformation Identifiers

A CBV-Compliant document or CBV-Compatible document MAY use a private or industry-wide URN as specified below to populate the transformationIDfield of EPCIS TransformationEvents.

A private or industry-wide URN SHALL have the following form:

urn:*URNNamespace*:****:xform:*transID*

where the components of this template are as follows:

urn: <i>URNNamespace</i> : <i>**</i> :	As specified in Section 8.1.2.
xform:	The characters x, f, o, r, m, and : (colon).
<i>xformID</i>	An identifier for the transformation that complies with the requirements of [RFC2141] and any syntax rules defined for the registered URN namespace <i>URNNamespace</i> , and which does not contain a colon character. This identifier must be unique relative to all other identifiers that begin with the same prefix.

1221 Identifiers of this form must be assigned by the owner of the URN Namespace. The
1222 owner of
1223 the URN Namespace may delegate the authority to assign new identifiers to End
Users or other
parties, provided that appropriate rules are employed to ensure global uniqueness.

1224

8.7.4 HTTP URLs for Transformation Identifiers

1225

A CBV-Compliant document or CBV-Compatible document MAY use an HTTP

1226

URL as

1227

specified below to populate the transformationIDfield of EPCIS

TransformationEvents.

1228

An HTTP URL SHALL have the following form:

1229

`http://[Subdomain.]Domain/**/xform/transID`

1230

where the components of this template are as follows:

<code>http://[Subdomain.]Domain/**/</code>	As specified in Section 8.1.3.
<code>xform/</code>	The characters x, f, o, r, m, and / (slash).
<code>xformID</code>	An identifier for the transformation that matches the grammar rule segment-nz defined in [RFC3986], Section 3.3 (among other things, this means xformID may not contain a slash character), and which is unique relative to all other identifiers that begin with the same prefix.

1231

1232

Identifiers of this form must be assigned by the owner of the Internet domain

1233

Domain. The

1234

owner of the domain may delegate the authority to assign new identifiers to other parties,

provided that appropriate rules are employed to ensure global uniqueness.

1235

Example (non-normative): An EPCIS document in XML format containing a usage

1236

sample may

be found in Section 10.2.

1237

9 Location Master Data

1238

In addition to being able to uniquely identify locations, it will often be useful to exchange

1239

information about those location identifiers. The Core Business Vocabulary specifies

1240

master

1241

data that may be used to describe a location identifier. CBV master data for a location

1242

identifier

1243

consists of five data values (“master data attributes”) associated with that location

1244

identifier.

These same master data attributes may be used to describe a location identifier

whether the

location identifier is a Read Point or a Business Location. These master data attributes

are

defined below.

1245

Different location identifiers may denote locations at different levels of granularity. The

1246

master

1247

data attributes defined in the CBV are designed to be used for locations at two different levels of

granularity:

- 1248 • *Site* A physical location where a structure or group of structures (and / or
1249 areas) is.
Examples of a Site include a distribution center, a retail store, a hospital,
etc.
- 1250 • *Sub-site* A specific physical location contained within a site. Examples of a Sub-site
1251 include a back room within a retail store, the sales floor of a retail store, a storage
1252 area within
a warehouse, and so on.
- 1253 A location at any level of granularity may be described by an appropriate combination of
1254 master
data attributes defined in the CBV. The master data attributes are:

- 1255 • *Site Location* A master data attribute of a location that identifies the site in which
1256 this
1257 location is contained. For a Sub-site location, this is the identifier of the parent
1258 location. For
a Site location, this is the identifier of the location itself. The Site Location master
data
attribute applies to locations of any granularity.
- 1259 When the identifier for the location to which this master data attribute applies is an
1260 SGLN
1261 EPC, the Site Location master data attribute is always the 13-digit GLN implied by
the
company prefix and location reference components of that SGLN.
- 1262 • *Sub-Site Type* A master data attribute of a sub-site location that describes the
1263 primary
1264 business function of the sub-site location. This master data attribute is only
applicable to a
sub-site location.
- 1265 This value is expressed as a single numerical code (see code list below); for
1266 example, code
201 indicates that the sub-site type is a “back room” as defined below.
- 1267 • *Sub-Site Attributes* A master data attribute of a sub-site location that further
1268 qualifies the
1269 business function of the sub-site location. This master data attribute is only
applicable to a
sub-site location.
- 1270 Sub-site attributes are expressed as zero or more numerical codes (see code list
1271 below). For
1272 example, if the sub-site type is 203 (sales area), then sub-site attributes of “404,412”
1273 further
specifies that this location identifier is a sales area for groceries (attribute 412) that
are frozen
(attribute 404).

- 1274 • *Sub-Site Detail* A master data attribute of a sub-site location that provides

1275	additional			
	proprietary information. This master data attribute is only applicable to a sub-site location.			
1276	For example, instead of sharing that a product is on <i>some</i> shelf in the back room of			
1277	store 123,			
1278	a party may wish to communicate the <i>exact</i> shelf in the backroom of store 123, e.g.			
1279	shelf			
	#4567. The Sub-Site Detail master data attribute provides the identity of the specific			
	shelf;			
	e.g., 4567.			

1280

9.1 Location Master Data Constraints

- 1281 The following table specifies which master data attributes may or must be used
1282 depending on the
type of location.

		Site Location	Sub-Site Location
Site Location	A GLN or other site identifier	Required	Required
Sub-Site Type	One of the numeric codes specified below.	Omitted	Required
Sub-Site Attributes	Zero or more numeric codes specified below.	Omitted	Optional
Sub-Site Detail	An arbitrary string, whose meaning must be agreed upon by trading partners	Omitted	Optional

1283

1284

9.2 Location Master Data Names

1285 The EPCIS standard provides for access to master data elements through the use of
1286 name value
1287 pairs. In order to access the value of a particular master data element, one must know
1288 the

1289 corresponding name by which it can be looked up. The following table defines the names by

which the values (see subsequent section) for the master data elements defined here can be accessed.

urn:epcglobal:cbv:mda:site	Site Location
urn:epcglobal:cbv:mda:sst	Sub-Site Type
urn:epcglobal:cbv:mda:ssa	Sub-Site Attributes
urn:epcglobal:cbv:mda:ssd	Sub-Site Detail

1290

1291 *Example (non-normative): An EPCIS document in XML format containing a usage*
1292 *sample may*
be found in Section 10.4.

1293

9.3 Location Master Data Values

1294 Using the names above, one can access the master data associated with a particular
1295 location.

1296 Each of the master data elements associated with a particular location identifier have specific values that are allowed. Those values are specified in the sections below.

1297

9.3.1 Site Location

1298 The Site Location master data attribute provides a well-known identifier for the site within
1299 which

1300 the location is contained (or, in the case of a site-level location identifier, is the well-
1301 known

1302 identifier for the site itself). When the identifier for the location to which this master data
1303 attribute applies is an SGLN EPC, the value of the corresponding Site Location master
1304 data

1305 attribute SHALL be the 13-digit GLN implied by the company prefix and location reference

components of that SGLN. When the location identifier is some other URI, the value of the

corresponding Site Location master data attribute SHALL be any string of 128 characters or fewer that identifies the site.

1306 *Explanation (non-normative): If the location identifier is something other than an*
1307 *SGLN EPC,*
1308 *the site location is typically something other than a GLN. The meaning of the site*
location
master data attribute in that case is outside the scope of the CBV.

1309

9.3.2 Sub-Site Type

1310 The value of the Sub-Site Type master data attribute for a location identifier, if present,
1311 SHALL
be one of the codes in the following table:

Code	Short Description	Definition
201	Backroom	An area within a store (all formats - club, etc) used to hold product until it is purchased or can be moved to the sales floor

Sub-Site Type Master Data Attribute Values		
Code	Short Description	Definition
202	Storage Area	<p>An area where product is kept within a facility to fulfill future need.</p> <p>Reserve rack or bulk stacking. A location where the product is stored until it is needed in selection aisles making it accessible to the consumer. Reserve slots may contain one or multiple pallet loads, as well as multiple items within them</p> <p>For a retail store Secondary storage area associated with a store (may not be in the physical location)</p> <p>Potential to use this more broadly and add attributes to make distinction where necessary (recalled area, quarantined area, controlled substance, lay-away)</p>
203	Sales Floor	An area within a store (all formats - club, etc) where product is displayed for customer purchase
207	Returns Area	An area within a facility for holding or consolidating product to be sent back to the supplier, shipper or designated location
208	Production Area	An area within a facility where the conversion of materials and or assembly of components to manufacture goods, products or services takes place.
209	Receiving Area	An area within a facility where incoming merchandise is unloaded and checked for condition and completeness
210	Shipping Area	An area within a facility where outgoing merchandise is checked for condition and completeness and loaded onto a conveyance for transport
211	Sales Floor Transition Area	An area within a store between two physical locations (e.g. Backroom and Sales Floor) - used for a read point only
212	Customer Pick-Up Area	An area designated at a store for customer to take possession of purchased product.
213	Yard	An area outside of the main building used for holding product (e.g. Trailer or container)
214	Container Deck	An area on board a shipping vessel where containers are loaded.
215	Cargo Terminal	<p>An area where cargo may get transferred between carriers.</p> <p>Cargo terminals provide the interface between modes of transportation.</p>
251	Packaging Area	An area within a facility where product is packaged.
252	Picking Area	An area within a facility in which product is picked to fulfill an order.
253	Pharmacy Area	An area within a facility where prescription products are stored, dispensed and/or sold.
299	Undefined	Any sub-site type not identified by any of the listed values

1312

9.3.3 Sub-Site Attributes

1313 The value of the Sub-Site Attributes master data attribute for a location identifier

1314 SHALL be

zero or more of the codes in the following table.

1315 When the value of the Sub-Site Attributes master data attribute is transmitted as a
1316 single string
1317 (including when the Sub-Site Attributes master data attribute is transmitted using the
1318 EPCISMasterDataDocument form specified in [EPCIS1.1]), the string SHALL consist
1319 of
1320 the codes separated by commas with no leading, trailing, or internal whitespace
characters, and
furthermore the codes SHALL appear in ascending numerical sequence reading from
left-to-
right.

1321 *Explanation (non-normative): The restriction on ascending numerical sequence*
1322 *guarantees that*
1323 *there is only one way to compose the string for a given set of attributes. This simplifies*
1324 *application processing of this data; e.g., when comparing whether two location*
identifiers have
an identical set of Sub-Site Attributes.

Code	Short Description	Definition
401	Electronics	A specific area within the store for holding electronic products such as TV's, DVD players, etc.
402	Cold storage	A specific area or room that maintains a temperature above freezing but below ambient room temperature.
403	Shelf	A specified internal location for holding product.
404	Frozen	A specific area or room that maintains a temperature at or below freezing
405	Fresh	A specific area or room that maintains a specified temperature and/or humidity to preserve stored product
406	Promotion	A specific area or room that is used to hold special purchased product.
407	End Cap	A specific internal location on the sales floor, typically at the end of an aisle, for displaying product.
408	Point of Sale	An area in a retail location where sales transactions occur
409	Security	A designated internal location for the purpose of minimizing direct access to the product
411	General Mdse	An area where typically - nonfood products other than perishable, dry groceries and health and beauty care products that are displayed in stores on standard shelving. Examples include household cleaning products, paper napkins, laundry detergents, and insect repellents
412	Grocery	An area where typically - food products that are displayed in stores on standard shelving. Examples include canned goods, produce, meats.
413	Box Crusher	A Baler used to compact recycled materials (e.g. corrugated boxes, slip sheets and packaging material)
414	Dock / Door	One or more doors where trucks or rail cars are loaded (shipping) or unloaded (receiving). Used to load or unload trailers or vans.
415	Conveyor Belt	A continuous moving strip or surface that is used for transporting single cartons or a load of objects from one place to another
416	Pallet Wrapper	An are where any automatic or manual method using bands of plastic film applied to product used to encase palletized loads prior to shipment to protect against product damage

417 Fixed Reader Any fixed read point configuration (reader and antennas) for the purpose of capturing EPC data (e.g. Door way or conveyor read point)

418 Mobile Reader Any non-fixed (portable) reader configuration (reader and antennas) for the purpose of capturing EPC data (e.g. Hand held or forklift reader)

Sub-Site Attribute Master Data Attribute Values		
Code	Short Description	Definition
419	Shelf/Storage	Where the product is stored on the sales floor, not accessible to the customer, until it can be moved, making it accessible to the consumer.
420	Returns	An area within a store or retailer DC for holding or consolidating product to be sent back to the supplier, shipper or designated location.
421	Staging	An area within a DC or Manufacturing Facility which the receiving and shipping docks use to gather and check inbound and outbound loads.
422	Assembly	An area where components are put together into an end product, appropriate to the process concerned.
423	Lay-Away	An area area within a store for holding or consolidating customer purchases for final payment and pickup
424	Dispenser	Tablet, caplet or capsule dispensing machine in which bulk product has been placed to be dispensed on a prescription basis.
425	Quarantine	An area at a Manufacturing, Distribution or Retail facility to hold product that may not be suitable for consumption until further inspection
426	Controlled Substance	A caged and locked area in which regulated, controlled substance pharmaceuticals are held while awaiting shipment.
427	Recalled Product	An area in which recalled product is stored pending shipment back to the manufacturer or the manufacturer's designated returns center for final disposition
428	Quality Control	An area in which any product not meeting quality standards is held pending further evaluation.
429	Printing Room	<p>An area which provides printed labels/tags for the goods/cartons/pallets within a DC or Manf Facility</p> <p>Please note – this supports the process where an EPC tag is encoded off the line and is later commissioned and associated with a particular product.</p>
430	Loading Dock	A parking bay, partly enclosed by a raised platform, at which trucks are loaded and unloaded, e.g. in a warehouse site.
431	Entrance Gate	A point of transport access into a yard or other arriving area.
432	Exit Gate	A point of transport exit from a yard or other departing area.
433	Gate	A point of transport within a facility – not indicated specifically as an entrance or an exit point.
434	Read Point Verification Spot	A point at which a tagged object's location has been verified by an associated read of a separate fixed location tag. Read Point Verification Spot would be used when there is a business process to capture the current location of an object at rest (typically with a mobile reader).

1325

9.3.4 Sub-Site Detail

1326

The value of the Sub-Site Detail master data attribute for a location, if present, SHALL

1327

be any
string of up to 128 characters in length.

1328

10 Example EPCIS Documents (non-normative)

1329

The following sections provide examples of usage of the Core Business Vocabulary..

1330

10.1CBV-Compliant Object Event using standard vocabulary

1331

The following shows a CBV-Compliant EPCIS document in XML format containing a

1332

single

1333

object event, where CBV-Compliant identifiers are used for business step and
disposition, and
EPCs are used for all user vocabulary values.


```

1334 <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
1335 <epcis:EPCISDocument
1336     xmlns:epcis="urn:epcglobal:epcis:xsd:1"
1337     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
1338     creationDate="2005-07-11T11:30:47.0Z"
1339     schemaVersion="1">
1340 <EPCISBody>
1341   <EventList>
1342     <ObjectEvent>
1343       <eventTime>2007-07-26T21:41:19Z</eventTime>
1344       <recordTime>2007-07-26T21:41:19Z</recordTime>
1345       <eventTimeZoneOffset>-05:00</eventTimeZoneOffset>
1346       <epcList>
1347         <!-- Section 8.2.1 – EPC Identifier -->
1348         <epc>urn:epc:id:sgtin:0614141.181335.234</epc>
1349       </epcList>
1350       <action>ADD</action>
1351       <!-- Section 7.2.1 – BizStep -->
1352       <bizStep>urn:epcglobal:cbv:bizstep:commissioning</bizStep>
1353       <!-- Section 7.2.2 – Disposition -->
1354       <disposition>urn:epcglobal:cbv:disp:active</disposition>
1355       <!-- Section 8.4.1 – EPC URI for Locations -->
1356       <readPoint>
1357         <id>urn:epc:id:sgln:0614141.00300.1</id>
1358       </readPoint>
1359       <!-- Section 8.4.1 – EPC URI for Locations -->
1360       <bizLocation>
1361         <id>urn:epc:id:sgln:0614141.00300.0</id>
1362       </bizLocation>
1363       <bizTransactionList>
1364         <!-- Section 8.5.1 – EPC URI -->
1365         <!-- Section 7.3.2 – BTT -->
1366         <bizTransaction
1367 type="urn:epcglobal:cbv:btt:po">urn:epc:id:gdti:0614141.06012.1234</bizTransa
1368 ction>
1369       </bizTransactionList>
1370     </ObjectEvent>
1371   </EventList>
1372 </EPCISBody>
1373 </epcis:EPCISDocument>

```


10.2 CBV-Compliant Object Event using HTTP URLs and Private or Industry-wide URNs

The following shows a CBV-Compliant EPCIS document in XML format containing a single object event, illustrating the use of HTTP URLs and Private or Industry-wide URNs for user vocabulary values.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<epcis:EPCISDocument
  xmlns:epcis="urn:epcglobal:epcis:xsd:1"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  creationDate="2005-07-11T11:30:47.0Z"
  schemaVersion="1">
  <EPCISBody>
    <EventList>
      <ObjectEvent>
        <eventTime>2007-07-26T21:41:19Z</eventTime>
        <recordTime>2007-07-26T21:41:19Z</recordTime>
        <eventTimeZoneOffset>-05:00</eventTimeZoneOffset>
        <epcList>
          <!-- Section 8.2.2 -->
          <epc>urn:example:epcis:id:obj:Q12345.67890.001</epc>
          <!-- Section 8.2.3 -->
          <epc>http://epcis.example.com/user/vocab/obj/12345.67890</epc>
        </epcList>
        <action>ADD</action>
        <!-- Section 7.1.2 – BizStep -->
        <bizStep>urn:epcglobal:cbv:bizstep:commissioning</bizStep>
        <!-- Section 7.2.2– Disposition -->
        <disposition>urn:epcglobal:cbv:disp:active</disposition>

        <!-- Section 8.3.2 Location identifier -->
        <readPoint>
          <id>urn:example:epcis:id:loc:warehouse23</id>
        </readPoint>
        <!-- Section 8.3.3 Location identifier -->
        <bizLocation>
          <id>http://epcis.example.com/user/vocabularies/loc/abc.12345</id>
        </bizLocation>
        <bizTransactionList>
          <!-- Section 8.4.4 -->
          <bizTransaction
            type="urn:epcglobal:cbv:btt:po">http://transaction.example.com/production/orders/bt/po12345</bizTransaction>
          <!-- Section 8.4.3 -->
          <bizTransaction
            type="urn:epcglobal:cbv:btt:inv">urn:example:epcis:bt:inv:12345</bizTransaction>
          <!-- Section 8.4.2 – Legacy System BT Identifier -->
          <bizTransaction
            type="urn:epcglobal:cbv:btt:desadv">urn:epcglobal:cbv:bt:0614141000029:asn12345</bizTransaction>
          </bizTransactionList>
        </ObjectEvent>
      </EventList>
    </EPCISBody>
```


1428
1429 </epcis:EPCISDocument>

1429 10.3 CBV-Compatible Event

1430 The following shows a CBV-Compatible EPCIS document in XML format containing a
1431 single
1432 object event. CBV-Compliant EPC identifiers are used for physical objects and
1433 locations, but
because non-standard identifiers are used for business step and disposition the
document is CBV-
Compatible and not CBV-Compliant.

```
1434 <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
1435 <epcis:EPCISDocument
1436     xmlns:epcis="urn:epcglobal:epcis:xsd:1"
1437     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
1438     creationDate="2005-07-11T11:30:47.0Z"
1439     schemaVersion="1">
1440   <EPCISBody>
1441     <EventList>
1442       <ObjectEvent>
1443         <eventTime>2007-07-26T21:41:19Z</eventTime>
1444         <recordTime>2007-07-26T21:41:19Z</recordTime>
1445         <eventTimeZoneOffset>-05:00</eventTimeZoneOffset>
1446         <epcList>
1447           <!-- Section 8.2.1 – EPC Identifier -->
1448           <epc>urn:epc:id:sgtin:0614141.181335.234</epc>
1449         </epcList>
1450         <action>ADD</action>
1451         <bizStep>urn:example:uservocab:bizstep:quarantined</bizStep>
1452         <disposition>http://epcis.example.com/user/vocab/disp/contaminated</dis-
1453 position>
1454         <!-- Section 8.3.1 – Locations -->
1455         <readPoint>
1456           <id>urn:epc:id:sgln:0614141.00300.1</id>
1457         </readPoint>
1458         <!-- Section 8.3.1 – Locations -->
1459         <bizLocation>
1460           <id>urn:epc:id:sgln:0614141.00300.0</id>
1461         </bizLocation>
1462       </ObjectEvent>
1463     </EventList>
1464   </EPCISBody>
1465 </epcis:EPCISDocument>
1466
```

1467 10.4 Location Master Data

1468 The following shows an EPCIS Master Data document illustrating the use of location
1469 master data
attributes defined in Section 8.6.


```
1470 <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
1471 <epcismd:EPCISMasterDataDocument
1472     xmlns:epcismd="urn:epcglobal:epcis-masterdata:xsd:1"
1473     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
1474     schemaVersion="1"
1475     creationDate="2005-07-11T11:30:47.0Z">
1476 <EPCISBody>
1477     <VocabularyList>
1478         <Vocabulary type="urn:epcglobal:epcis:vtype:ReadPoint">
```



```
1479      <VocabularyElementList>
1480        <!-- Section 9.2 - Location Master Data Names -->
1481        <VocabularyElement id="urn:epc:id:sgln:0614141.00300.0">
1482          <attribute
1483            id="urn:epcglobal:cbv:mda:site">0614141003006</attribute>
1484          </VocabularyElement>
1485
1486        <!-- Section 9.2 - Location Master Data Names -->
1487        <VocabularyElement id="urn:epc:id:sgln:0614141.00300.1">
1488          <attribute
1489            id="urn:epcglobal:cbv:mda:site">0614141003006</attribute>
1490          <!-- Section 9.3.2 SST -->
1491          <attribute id="urn:epcglobal:cbv:mda:sst">208</attribute>
1492          <!-- Section 9.3.3 SSA -->
1493          <attribute id="urn:epcglobal:cbv:mda:ssa">422</attribute>
1494          <attribute id="urn:epcglobal:cbv:mda:ssd">Line #1 at Manufacturing
1495            Plant 1</attribute>
1496          </VocabularyElement>
1497
1498        <!-- Section 9.2 - Location Master Data Names -->
1499        <VocabularyElement id="urn:epc:id:sgln:0614141.00300.2">
1500          <attribute
1501            id="urn:epcglobal:cbv:mda:site">0614141003006</attribute>
1502          <!-- Section 9.3.2 SST -->
1503          <attribute id="urn:epcglobal:cbv:mda:sst">251</attribute>
1504          <!-- Section 9.3.3 SSA -->
1505          <attribute id="urn:epcglobal:cbv:mda:ssa">416,417</attribute>
1506          </VocabularyElement>
1507        </VocabularyElementList>
1508      </Vocabulary>
1509    </VocabularyList>
1510  </EPCISBody>
1511 </epcismd:EPCISMasterDataDocument>
```

1512

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1523

12 Contributors

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1526 contained

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1531 Below is a list of more active participants and contributors in the development of CBV

1532 1.1. This
1533 list does not acknowledge those who only monitored the process or those who chose
1534 not to have
1535 their name listed here. The participants listed below generated emails, attended face-to-face meetings and conference calls that were associated with the development of this Standard.

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