



A solution approach for the anonymous sharing of sensitive supply chain traceability data

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Appendix

Appendix

Sanitisation Schematic

In the sanitisation process, all unnecessary data is removed from the event and then any identifiable or possibly sensitive information is obfuscated by hashing. Hashed data is formatted according to [RFC6920](#), i.e. a prefix like “ni://sha-256;” indicates the hashing algorithm (here sha-256). The sanitised and hashed event data is then published through the discovery service, with anyone able to see it but unable to extract sensitive information.

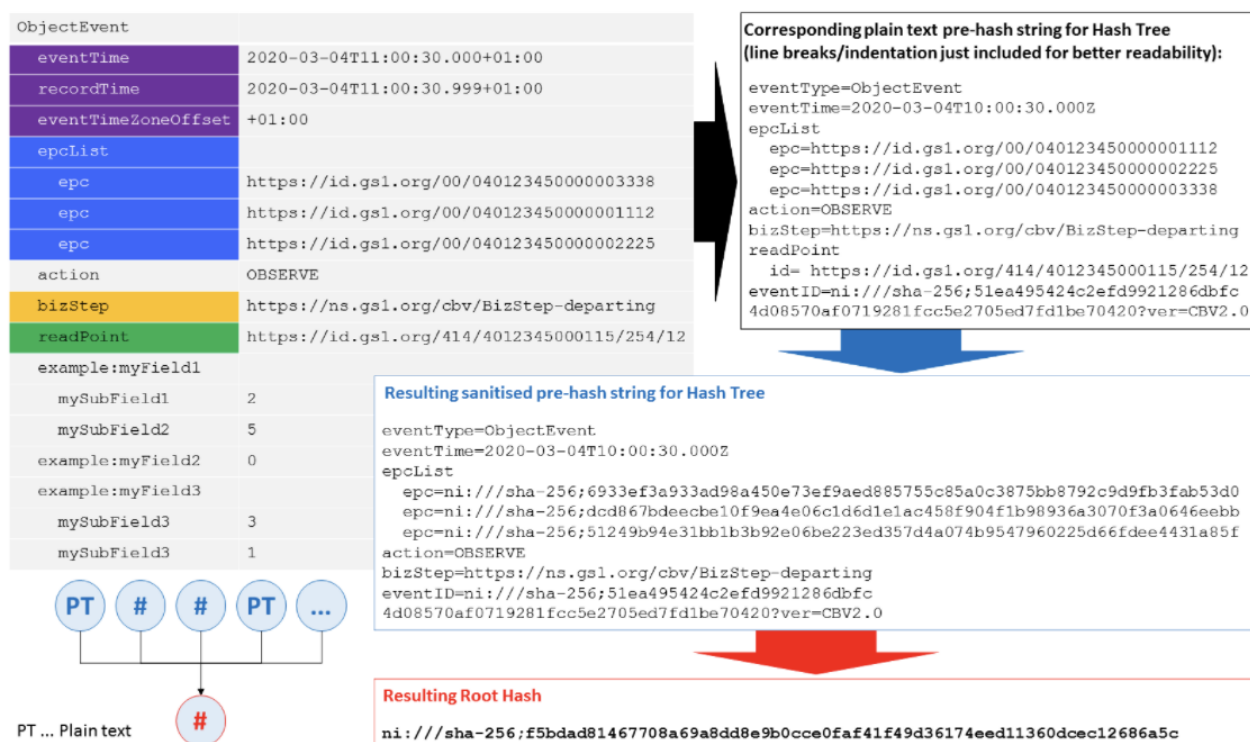


Figure 1. Example for an EPCIS event being sanitised (black arrow) and hashed (blue arrow)

Example of a Full EPCIS Shipping Event

Figures A2 and A3 show the sanitisation process for a shipping event.

Example for an EPCIS shipping event

```
<ObjectEvent>
  <eventTime>2021-04-28T00:00:00.000+02:00</eventTime>
  <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
  <epcList>
    <epc>urn:epc:id:sscc:4023333.0222222222</epc>
  </epcList>
  <action>OBSERVE</action>
  <bizStep>urn:epcglobal:cbv:bizstep:shipping</bizStep>
  <disposition>urn:epcglobal:cbv:disp:in_transit</disposition>
  <readPoint>
    <id>urn:epc:id:sgln:4023333.00002.0</id>
  </readPoint>
  <bizTransactionList>
    <bizTransaction type="urn:epcglobal:cbv:btt:po">
      urn:epc:id:gti:0614141.00002.PO-123
    </bizTransaction>
  </bizTransactionList>
  <extension>
    <sourceList>
      <source type="urn:epcglobal:cbv:sdt:possessing_party">
        urn:epc:id:pgln:4023333.00000
      </source>
    </sourceList>
    <destinationList>
      <destination type="urn:epcglobal:cbv:sdt:possessing_party">
        urn:epc:id:pgln:0614141.00000
      </destination>
    </destinationList>
  </extension>
</ObjectEvent>
```

```
{
  "request_event_data_at": "https://discovery.epcat.de/dead_drop",
  "eventType": "ObjectEvent",
  "eventId": "ni:///sha-
256;be2ee5fb9e2bcf3a7dd249328dc4dc832e68c4a456ff27a979a4c7a6b418f1db",
  "eventTime": "2021-04-28T00:00:00.000+02:00",
  "action": "OBSERVE",
  "epcList": [
    "ni:///sha-256;5e2949760784f50fcda3ce1d5ec4cc255818e252f9fddbd0b9f39d6b00038191"
  ],
  "bizStep": "urn:epcglobal:cbv:bizstep:shipping",
  "sourceList": [
    "ni:///sha-
256;704051f07e24e6d37d6ca3990f116d6139c2486334e854f671e12cf91927be85?type=urn:epcglobal:cbv:sdt:possessing_party"
  ],
  "destinationList": [
    "ni:///sha-
256;25260d4d220cbfa5876fd92f81450e4ed86d272a54ffb1bcea1c49b636b9f4de?type=urn:epcglobal:cbv:sdt:possessing_party"
  ],
  "bizTransactionList": [
    "ni:///sha-
256;c2999291cefed0b533270ab41e40730aee95fadecc7545d5c67e3536a66fc0da?type=urn:epcglobal:cbv:btt:po"
  ]
}
```

Example for an EPCIS receiving event

```
<ObjectEvent>
  <eventTime>2021-04-29T00:00:00.000+02:00</eventTime>
  <eventTimeZoneOffset>+02:00</eventTimeZoneOffset>
  <epcList>
    <epc>urn:epc:id:sscc:4023333.0222222222</epc>
  </epcList>
  <action>OBSERVE</action>
  <bizStep>urn:epcglobal:cbv:bizstep:receiving</bizStep>
  <disposition>urn:epcglobal:cbv:disp:in_progress</disposition>
  <readPoint>
    <id>urn:epc:id:sgln:0614141.00012.0</id>
  </readPoint>
  <bizTransactionList>
    <bizTransaction type="urn:epcglobal:cbv:btt:po">
      urn:epc:id:gdtn:0614141.00002.PO-123
    </bizTransaction>
  </bizTransactionList>
  <extension>
    <sourceList>
      <source type="urn:epcglobal:cbv:sdt:possessing_party">
        urn:epc:id:pgln:4023333.00000
      </source>
    </sourceList>
    <destinationList>
      <destination type="urn:epcglobal:cbv:sdt:possessing_party">
        urn:epc:id:pgln:0614141.00000
      </destination>
    </destinationList>
  </extension>
</ObjectEvent>
```

```
{
  "request_event_data_at": "https://discovery.epcat.de/dead_drop",
  "eventType": "ObjectEvent",
  "eventId": "ni:///sha-
256;0d9c15bb90773ee113466affa42903f5d8fcbf15edae4c0833d1e549699d5d7d",
  "eventTime": "2021-04-29T00:00:00.000+02:00",
  "action": "OBSERVE",
  "epcList": [
    "ni:///sha-256;5e2949760784f50fcda3ce1d5ec4cc255818e252f9fddbd0b9f39d6b00038191"
  ],
  "bizStep": "urn:epcglobal:cbv:bizstep:receiving",
  "sourceList": [
    "ni:///sha-
256;704051f07e24e6d37d6ca3990f116d6139c2486334e854f671e12cf91927be85?type=urn:epcglobal:cbv:sdt:possessing_party"
  ],
  "destinationList": [
    "ni:///sha-
256;25260d4d220cbfa5876fd92f81450e4ed86d272a54ffb1bcea1c49b636b9f4de?type=urn:epcglobal:cbv:sdt:possessing_party"
  ],
  "bizTransactionList": [
    "ni:///sha-
256;c2999291cefed0b533270ab41e40730aee95fadecc7545d5c67e3536a66fc0da?type=urn:epcglobal:cbv:btt:po"
  ]
}
```