Data Definition Quick Reference Guide

This document summarizes guidelines for creating clear, concise, and unambiguous definitions of data components.

Tips:

- Define a data component before naming it. Reversing this sequence may yield a definition that precisely describes the name but does not adequately describe the concept the data component represents. Refer to the Data Naming Quick Reference Guide.
- A data component should be defined in a manner that distinguishes its unique role within the business enterprise.
- Definitions should be reviewed for accuracy by subject matter experts.

Recommendations for creating data definitions:

> ***Note:*** *The examples used below are not meant to be actual definitions for these specific terms but rather serve as examples to better explain each guiding principle.*

1. Define a data component without using self-referencing or circular definitions

A self-referencing definition is one in which the same term, or terms used in the name are used in the definition. Perhaps in a different order or by adding simple connectors, yet no more information is given to provide context to the definition.

> **Incorrect Example: Requisition_Number:** A number for a Requisition.
>
> **Correct Example: Requisition_Number:** A unique alpha-numeric identifier used to reference a request for products or services.

2. Define outliers based on particular business practices

A good definition not only represents a concept, but it also distinguishes any differences or nuances to the concept. This allows Users to distinguish data that exists in multiple applications.

> **Basic Example: Vendor:** A unique identifier that represents a company that provides services or products.
>
> **Better Example: Vendor:** A unique identifier representing a company that provides **medical** services or **medical monitoring** products to **Medicare and Medicaid** patients.

3. Define a data component in the singular tense unless the underlying concept itself is plural

In the following incorrect example, it is unclear whether a reference number applies to one article or several. Avoid confusion by consistently defining a data component in terms of a single instance of said component.

> **Incorrect Example: Article_Number:** A reference number identifying articles.
>
> **Correct Example: Article_Number:** A reference number that identifies an article.

4. Define a data component in terms of what it is, not only what it is not

In the following incorrect example, the 'negative' definition leaves unclear what the data component actually represents.

> **Incorrect Example: Freight_Cost_Amount:** Costs which are not related to packaging, documentation, loading, unloading, and insurance.
>
> **Correct Example: Freight_Cost_Amount:** A cost amount incurred by a shipper in moving goods from one place to another.

5. Define a data component in a descriptive phrase or sentence(s)

A clearly written explanation is almost always necessary to precisely define a concept and avoid ambiguity.

> **Incorrect Example:** **Agent_Name:** Representative.
>
> **Correct Example:** **Agent_Name:** The name of a party authorized to act on behalf of another party.

6. Expand uncommon abbreviations on their first occurrence

Many abbreviations are not commonly known outside of specific contexts. Use the full term of an abbreviation to enhance understanding.

> **Incorrect Example:** **Tide_Height:** The vertical distance from MSL to a specific tide level.
>
> **Correct Example:** **Tide_Height:** The vertical distance from mean sea level (MSL) to a specific tide level.

7. Define a data component concisely with only the level of detail needed to state the essential meaning of the underlying concept

In the following incorrect example, the inclusion of extraneous material renders the definition less clear than the correct example. The additional verbiage does not enhance understanding.

> **Incorrect Example:** **Invoice_Amount:** The total sum of all chargeable items mentioned on an invoice, taking account of deductions on one hand, such as allowances and discounts, and additions on the other, such as charges for insurance, transport, handling, etc.
>
> **Correct Example:** **Invoice_Amount:** The total sum charged on an invoice.

In the following incorrect example, the additional language does not enhance understanding of the underlying concept in the present context.

> **Incorrect Example:** **Character_Set_Name:** The name given to the set of phonetic or ideographic symbols in which data is encoded, for the purpose of this metadata registry, or, as used elsewhere, the capability of systems hardware and software to process data encoded in one or more scripts.
>
> **Correct Example:** **Character_Set_Name:** The name for a set of phonetic or ideographic symbols in which data is encoded.

8. A data component's definition should be precise, unambiguous, and allow only one possible interpretation

In the following incorrect example, it is unclear what is meant by 'delivered'. A definition should make explicit what the underlying concept is.

> **Incorrect Example: Shipment_Receipt_Date:** The date on which a specific shipment is delivered.
>
> **Correct Example: Shipment_Receipt_Date:** The date on which the receiving party acknowledges the quantity, date, and time that ordered goods arrived.

9. A data component's definition should stand alone

In the following incorrect example, the definition unnecessarily requires the aid of a second definition to explain the meaning of the first.

> **Incorrect Example: School_Location_City_Name:** See 'School Site'.
>
> **Correct Example: School_Location_City_Name:** The official name of the city where the school is situated.

10. Define a data component without embedding other definitions

Definitions should only describe the data component at hand. If a term within a definition requires its own definition, it should be defined separately.

> **Incorrect Example: Sample_Type_Code:** An alphabetic code identifying the kind of sample. (e.g., G = Ground, A = Air, S = Structure, etc.). **A sample is a small specimen taken for testing**.
>
> **Correct Example: Sample_Type_Code:** An alphabetic code identifying the kind of sample. (e.g. G = Ground, A = Air, S = Structure, etc.)

11. Use consistent terminology and logical structure for related definitions

Use consistent terminology for similar or associated concepts to facilitate the reader's understanding. Readers may imply a different understanding if the definitions use other synonyms or variable syntax.

> **Consistent Example, Pt 1: Goods_Dispatch_Date:** The date on which goods were **dispatched** by a given party.
>
> **Consistent Example, Pt 2: Goods_Receipt_Date:** The date on which goods were **received** by a given party.

12. Examples or exclusions may be added to improve clarity

It is acceptable to use example data to enhance clarity. When writing examples, use the same format for every definition. Every value is not necessary or required in the list.

> **Example, Pt 1:** **Vendor_Status_Code:** An alphabetic character used to indicate approval conditions for companies that provide services or equipment.
>
> **Example, Pt 2:** **Vendor_Status_Code:** An alphabetic character used to indicate approval conditions for companies that provide services or equipment. (e.g., A = Approved, C = Cancelled, P = Pending, etc.).

13. Data Components with true/false values shall be defined in terms of the "true" value

A data component that has a true or false value shall be defined in terms of the "true" value while the false value is inferred as counter to the definition. In the example, the false value would imply that the drug is not only available by prescription.

> **Incorrect Example:** **Prescription_Switch:** The drug's prescription availability.
>
> **Correct Example:** **Prescription_Switch:** Whether the drug is only available by prescription.

References

ISO/IEC 11179-4:2004 Information technology — Metadata registries (MDR) — Part 4: Formulation of data definitions https://standards.iso.org/ittf/PubliclyAvailableStandards/index.html

The Definitions Books: How to Write Definitions - https://www.unifiedcompliance.com/education/how-to-write-definitions/