

Paper for Consideration by S100WG

S-100 Part 15 HW_ID and Definitions

Submitted by:	Australian Hydrographic Office (AHO) and Toitū Te Whenua Land Information New Zealand (LINZ)
Executive Summary:	Clarifications in S-100 Part 15 HW_ID and definitions
Related documents:	S-100 Part 15

Introduction

The current draft of S-100 Part 15 does not permit the duplication of HW_ID as has been permitted in certain circumstances under S-63.

Analysis

S-63 Section 4.2:

“All Data Clients with systems capable of using data, protected with the S-63 scheme, must have a unique hardware identification (HW_ID) built into their end-user system. Such a HW_ID is often implemented as a dongle or by other means ensuring a unique identification for each installation”.

S-63 Subsection 4.2.2:

The HW_ID is a 5 digit hexadecimal number defined by the OEM manufacturer. Such a HW_ID can be implemented as a dongle or by other means ensuring a unique identification of each installation (2). The HW_ID must be stored within the system in a secure way. The OEM manufacturer must assign a unique HW_ID for each installation. It is recommended that the HW_IDs are not sequential.

(2) Manufacturers, with the consent of the Data Server, may use the same HW_ID on more than one unit.

S-100 Section 15-4.4:

Original Equipment Manufacturers (OEMs) subscribing to the S-100 Data Protection Scheme must build a software application according to the specifications set out in this document and self-verify and validate it according to the terms mandated by the SA. This Part will establish test data for the verification and validation of OEM applications for various S-100 based Product Specifications when products become available. The SA will provide successful OEM applicants with their own unique manufacturer key and identification (M_KEY and M_ID).

The manufacturer must provide a secure mechanism within their software systems for uniquely identifying each end user installation. The Scheme requires each installation to have a unique hardware identifier (HW_ID).

Currently S-63 allows duplicate HW_ID on 'units' with the permission of the Data Server. Where, presumably the Data Server has rights to grant this permission on behalf of Data Providers.

There are use cases where duplication of HW_ID maybe appropriate and of benefit to users such as in network dongle installations that support multiuser installations across a trusted organisation. At least one OEM has approached the AHO with concerns that they may not be able to used a duplicate (or shared) HW_ID where they have the permission of the Data Producer and Data Server (AHO).

S-100 15-4.4 states: "The manufacturer must provide a secure mechanism within their software systems for uniquely identifying each end user installation." which appears to require the OEM to provide a unique identity for each system independent of HW_ID.

The standard appears to provide for a secure mechanism to uniquely identify each end user installation independent of HW_ID. This would seem to provide a level of assurance regarding the number of users even if HW_ID is duplicated.

If the statement at 15-4.4 is not intended to be read in this way and is intended to mean HW_ID, it needs revision to provide clarity.

Conclusions

There are cases where it continues to be appropriate to permit duplication or sharing of HW_ID, particularly on devices where a HW_ID cannot be generated on device.

The standard appears to provide for a unique ID independent of HW_ID. This would be able to be used to provide a level of assurance regarding the number of users where HW_ID is duplicated.

Data Servers, with the permission of Data Producers, should retain the ability to permit duplicate HW_ID in limited circumstances.

Recommendations

1. Inclusion of the following wording at 15-4.4:

"Manufacturers, with the consent of the Data Provider and Data Server, may use the same HW_ID on more than one unit providing they can report on the number and identity of each end user installation from the secure mechanism in the software."

2. The terms 'installation' and 'unit' (if used) should both be defined.
3. If interpretations differ, it maybe necessary to clarify the intent of the sentence "...manufacturer must provide a secure mechanism within their software systems for uniquely identifying each end user installation".

Action Required of S100WG

S100WG is invited to:

1. Note the content of this paper
2. Adopt the wording proposed at point 1 of the recommendations in 15-4.4
3. Agree to define the terms 'installation' and 'unit' (if used)
4. Determine if any clarification is needed regarding point 3 of the recommendations