

# Technical Disclosure Commons

---

Defensive Publications Series

---

September 04, 2019

## CLOUD DYNAMIC LANGUAGE LOCALIZATION ARCHITECTURE FOR SUBSTRATES

HP INC

Follow this and additional works at: [https://www.tdcommons.org/dpubs\\_series](https://www.tdcommons.org/dpubs_series)

---

### Recommended Citation

INC, HP, "CLOUD DYNAMIC LANGUAGE LOCALIZATION ARCHITECTURE FOR SUBSTRATES", Technical Disclosure Commons, (September 04, 2019)  
[https://www.tdcommons.org/dpubs\\_series/2458](https://www.tdcommons.org/dpubs_series/2458)



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.

## Title

Cloud dynamic language localization architecture for substrates

## Abstract

Language localizations are currently embedded in the Firmware release or generated doing a substrate package. The only possibility to add, remove or correct a language string in a given substrate is to regenerate a new Firmware release or to create a new substrate package. Our proposal consists on creating a new architecture to connect the printer to a cloud repository in order to download added or modified language localizations for the printer substrates.

Furthermore, with this solution substrates can be translated to several languages after its creation, even more than the ones the printer supports. The time to fix and modify existing language errors would be reduced as there is no need to regenerate a new Firmware release.

## Description

Printers are sold around the world and more than 7000 different languages are spoken so it is impossible to support all these languages in our printers. Currently, Large Format printers support up to 17 languages, this means that the substrate names are also localized in these 17 languages. It implies too much translation effort because the large number of printer strings and a coordination between translation fixing and firmware release generations. It is important that customers can read the substrate list in their own language. It avoids mistakes choosing an undesired substrate to be printed on. It can produce image quality defects, as mismatching colors or ink excess that can generate undesired effects on the substrate.

Modifying some of the existing localizations or adding new supported languages implies the generation of a new Firmware release including all the languages. This invention permits to support new substrate languages or to modify already existing localization (i.e. because translation errors) without the need of generating new firmware releases. This way a customer will not need to upgrade the printer to support new substrate languages. Currently substrates published by companies that do not come with the FW release are only localized to one language. This invention would allow to add new languages after publishing them.

The new architecture would work as follows:

- A substrate always includes the printer supported languages.
- In the cloud server the localized strings are stored for each substrate.
- The printer will check in the cloud if there are new languages or corrections for any of the substrates stored in the printer. The localized strings for a substrate are versioned so the printer knows if there is an update or not for the strings. Then it downloads any update and saves this information within the substrate.

- The substrate language list is recomputed. An alert is shown to notify the user that new languages are available.
- Printer FW enumerates the different languages included in all the substrates.
- The user can select the printer language using the setup menu.
- The user can also select the preferred substrate language from the previous created list in the setup menu too.
- When the printer must show to the user a substrate name from a language that is not included in the substrate then the printer language will be chosen as default.

With this solution any language problem can be solved without generating a new FW release. Generating a Firmware release has a big impact as it must pass a lot of tests to validate it. With this solution we remove this cost and complexity in the case of language errors in the substrates.

Error in names of the substrates causes confusion in the customers and may produce that the customer doesn't buy the correct substrate or buy other competitor product.

This solution avoids generating Firmware releases by unlink the substrate naming with the printer Firmware so fewer testing costs is assumed by the company. It also allows to support extra languages what can be an advantage in countries where companies want to increase company substrate sales by using their own language. This solution solves the problem of having a static set of names localized into different languages for a substrate that cannot be modified without generating a new firmware release. Modifications are required when wrong names or wrong translations are detected.

It also solves the problem of adding new language names for previous created substrates. These substrates can be either factory substrates (substrates that come in the firmware releases) or imported substrates. Imported substrates can be obtained from different sources, usually created and exported from another printer or published by a company.

Usually a company publishes new substrates only in one language. New language support could be added later for these substrates especially in countries with special language needs (e.g. Japan, China, etc.) without regenerating the substrate. This new proposal applies to all the printers regardless the printer model or market.

***Disclosed by Carles Ciuraneta Sánchez and Berta Delgado Ventosa, HP Inc.***