

ACL DIGITAL HELPS LEADING PRODUCT IDENTIFICATION

and traceability equipment manufacturer transform and optimize their industrial printers



Services: Product Innovation & Engineering, Printer Driver Development

OVERVIEW

The client is a leading global manufacturer and distributor of specialized traceability, variable data and product identification equipment. Based in France, the client caters to customers in the packaging industry worldwide.

ACL Digital helped the client implement a software module as an intermediary level to support a viable set of ZPL commands and transform their industrial printer's capability.

CHALLENGES



One of the client's printer series was not ZPL compatible and supported only LabelPoint print format natively

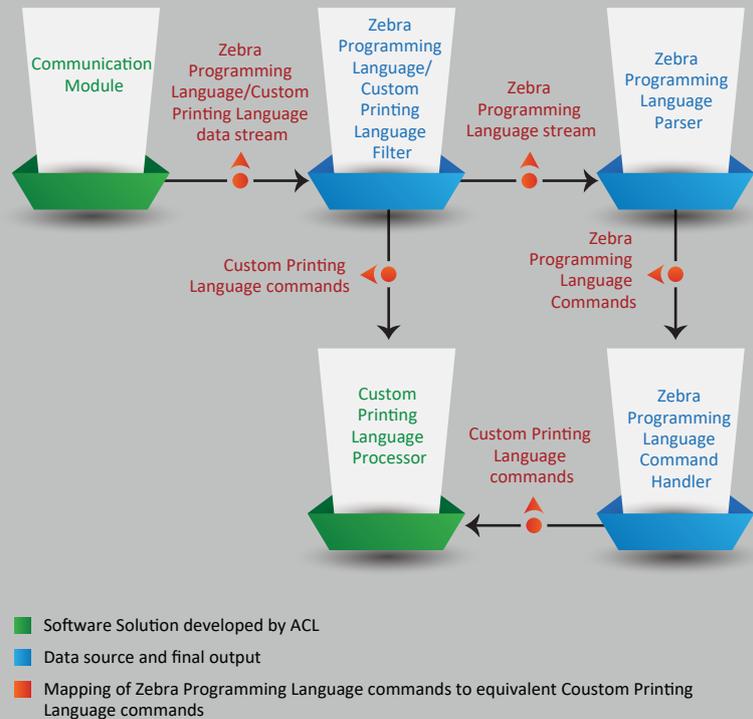


They had a dependency on a hardware module to perform the ZPL to LabelPoint Converter. They were looking for a technology partner to provide a software solution that would stop the current usage of an external ZPL translator box and eliminate this dependency

APPROACH

ACL Digital's library-based approach for ZPL to LabelPoint Conversion Modules

- Implemented converter as a library which was embedded in the printer firmware
- The library implemented an input interface and the customer implemented an output interface in their printer firmware, as agreed between the customer and ACL
- The firmware calls the input interface to filter the ZPL and Labelpoint data. Labelpoint data is sent to firmware using the provided output interface
- ZPL data will be filtered, parsed and converted into LabelPoint format before sending it to firmware using the output interface (the diagram below illustrates the flow of ZPL to LabelPoint Conversion facilitated by ACL Digital's library-based approach)



SOLUTION

ACL Digital developed the following modules for ZPL to LabelPoint converter to help client optimize usability and performance of the printer

- 1 ZPL/LabelPoint Filter Module** to process the ZPL and LabelPoint data received from various communication channels (e.g. serial, Ethernet or any other channels) and send the LabelPoint data directly to the LabelPoint processor. The ZPL data will be converted by ZPL parser to LabelPoint data and sent to the LabelPoint processor
- 2 ZPL Parser Module** to parse an individual ZPL command to obtain the command parameters. In case of a missing command parameters, it uses the default values as defined in the ZPL specification
- 3 ZPL Command Handler** to process the individual ZPL commands and generate the LabelPoint commands. In case of no LabelPoint commands to be generated or there are dependencies between the commands, it just updates the label/field state so that the later commands can complete the desired action
- 4 Command Line Argument** to set desired font info scale factor variable. By passing additional value as command line argument in ZPL to LP Converter File, it helps to get desired Font Metrics Scale Factor Value (Other than 0 and 100) to set Font Size in Label through ZPL Filter. If no value is passed, it considers the default scale value

KEY BENEFITS

- **Cost reduction:** Software module developed by ACL Digital for ZPL conversion involved a one-time cost. It eliminated the dependency on licenced hardware which was costly and time-consuming
- **Improved outreach:** Improving the product with ZPL compatibility increased the usability and outreach of the product among customers in the packaging industry
- **Product enhancement:** By enabling both ZPL and LabelPoint processing and filtering ACL Digital's solution helped the client to enhance the product further
- **Greater scalability & ease of use:** The software module developed by ACL Digital can also be used as a plugin in any type of LabelPoint printer leading to simplified optimized performance
- **Enhanced customer experience:** Enhancing the core components and providing a solution that seamlessly integrates and works with all types of printers, our solution helped the client improve customer experience and achieve customer delight
- **Reusable libraries:** ACL Digital's library based conversion modules can be reused partially for conversion from ZPL to any other formats

ACL Digital is a design-led Digital Experience, Product Innovation, Engineering and Enterprise IT offerings leader. From strategy, to design, implementation and management we help accelerate innovation and transform businesses. ACL Digital is a part of ALTEN group, a leader in technology consulting and engineering services.

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