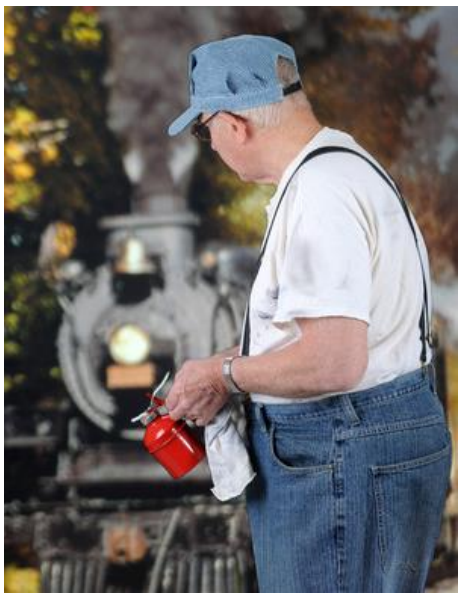
Migrating APT® programs to IEC61131-3 environment

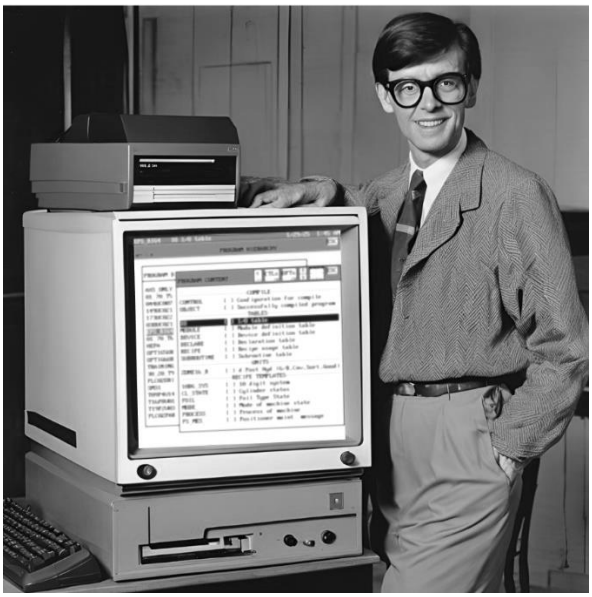
with NAPA International France

A trusted partner of CTI

Your problem:

What to do about those old APT® programs that you have?





Controlling either strategic production lines or key utilities, you cannot afford to switch to another solution: rewriting/rewiring/retesting the whole lot means a huge cost, not to mention the long production stop that it requires. What are your options? Wait until your products/production lines get obsolete, requiring a brand-new process anyway? Wait for a magical solution?

On the one hand, the people who maintain these problems are aging and getting close to retirement. The longer you wait the greater chance their know-how will disappear. On the other hand, your younger techs and engineers, out of school with IEC61131-3 programming fluency, are not fans of APT or any replacement solutions that are expensive while still not compliant with the IEC standard. Worst of all, it is difficult to train them on APT. External integrators have the same problem: an APT expert is an exceedingly rare species on the verge of extinction.

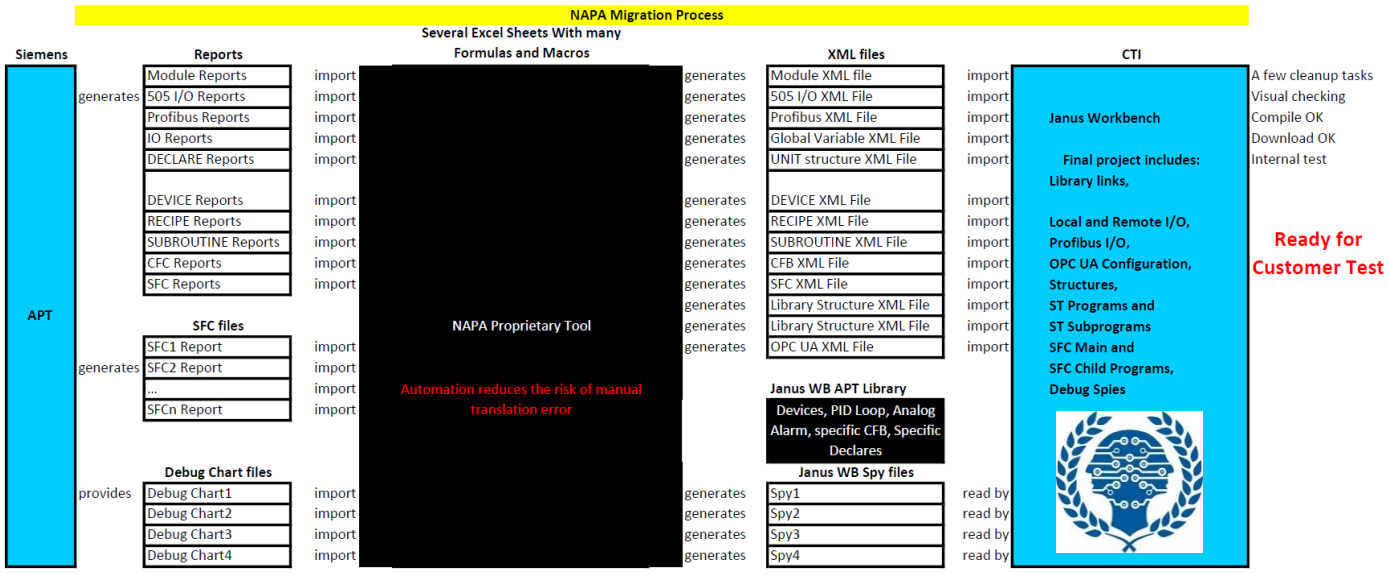
Additionally, your corporate headquarters might have opted for a standardized modern corporate solution based on another PLC platform and may be pushing you to get rid of the old APT systems.

If the above sounds familiar, imagine a solution that migrates your APT programs to a modern IEC61131-compliant programming environment which is easy to support by new techs and engineers, while close enough to the original APT code so that the old guys won't be lost. It doesn't require manually rewriting your complex programs, painstakingly rewiring your processes, or anxiously shutting down your plant for an extended period. What if it is also affordable, low-risk and the ultimate in sustainability, since you can reuse most of what you already have? Keep reading to learn more about our solution.

Our solution:

- **Reuse most existing hardware to avoid rewiring, resynchronization and to limit revalidating.** Running on the new **Janus** PAC from Control Technology Inc. (CTI) means hardware compatibility with the existing PLCs and I/Os, so no rewiring, no I/O resynchronization, and limited revalidating. Only the CPU must be replaced, and this can take less than a minute. Easy diagnostics are available on the Janus PAC integrated web server.
- **Translate your existing APT program**. Migrating your APT program using our JxLATE tool means NAPA will provide you with an IEC61131-3 compliant project in a modern environment: **Janus Workbench Software (JSoft)**. All your code is translated, either to SFC or ST subprograms. The I/O configuration, whether on local base, on remote RS485 or on Profibus DP slaves, is migrated. Existing comments and descriptions are saved in the new environment as well as existing Debug Charts.
- **Take advantage of a Janus Library for APT devices and functions**
- **Unlock new possibilities for modernization of your process**. This modern open solution allows for more modernization such as using **Ethernet/IP, Profinet, OPC UA, IIoT with MQTT, etc, to connect to new devices, HMI/SCADA and for data acquisition and management.**

Our migration tool 'JxLATE' reads APT program documentation reports and produces XML files to be inserted in Janus Workbench Software. JxLATE was developed within the Janus Workshop Software environment: the migration tools use the target platform itself to migrate the APT programs.



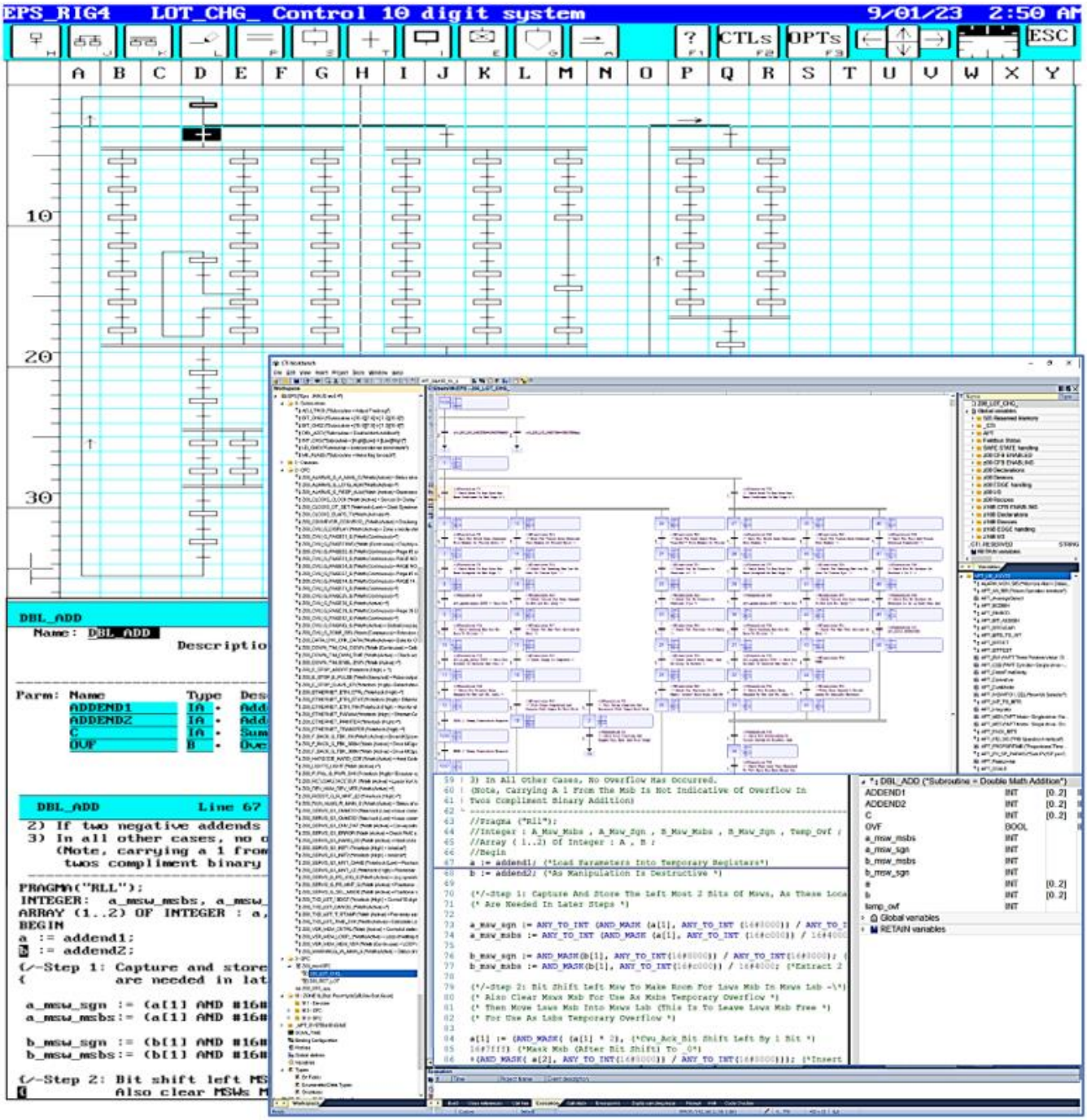
All the APT code, tables, and variables are created automatically and organized in a familiar folder tree so that the look and feel is very similar for the existing maintenance team.

While we are very confident in the results of our JxLATE process, it is important to note that JxLATE results require important testing especially in areas where the original 505/CTI CPU differs from the new Janus CPU (reserved memory, STW status words). This testing requires deep involvement by the customer since the resulting code cannot be fully verified by anyone other than the end user who knows how the existing code works and should behave. While not insignificant, this testing effort is far less involved than testing a complete rewriting of the program on another platform.

Additionally, while JxLATE translates the vast majority of the APT code, there are a few cases where manual intervention is required. For example, the so-called APT Reserved memory does not make sense in the new environment and requires manual attention and possibly writing new code. NAPA will point out parts of the translated program that require manual attention and can offer assistance if desired.

Example:

See below a screenshot of an APT program and its migrated equivalent for JANUS from an actual customer migration. NAPA has successfully migrated several APT programs and parts of programs to JSoft that are now running successfully and seamlessly in production environments.



NOTE: NAPA retains full ownership of the JxLATE tool. The translated program and all accompanying documentation are delivered to the customer, but the tool itself is proprietary to NAPA and is not delivered to the customer.

To learn more about our migration services, please contact us.

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