CAPPS 2024 R1 Quarterly Release Notes

User Interface & Configurations

- New dialog options in saving touch points to query, append, overwrite, or increment this file.

- The position point dialog now allows users to interact with 3d graphics to drag probe into new location.

- Improvements to Viewports. Now each viewport remembers its own graphical settings. These viewports along with their settings and viewing can be saved and recalled in a program.

- A right-click menu is added to large dialogs so that for low resolution screens, Accept/Cancel type of button options are available. The dialogs that have this menu are:
  - System Configuration dialog
  - Probe Build dialog.

- Various improvements in handling collision avoidance. Improvements to handle cases with and without VMM models for machines as well as head/probe models.

- Changes to control label restrictions and rules for features, sensors, alignments, and tolerances. There are 4 new INI settings in Capps.ini\Software to control the rules for these labels. With these settings, labels longer than standard 20 characters can be used.

- Added the following CAPPS system variables.
  - PROGNAME = The name of the program. *var=CAPPS.PROGNAME*
  - PROGDIR = The directory the program is in
  - INTERFACE = The current active machine interface
  - SCANPATHID = The ID of the selected scan path

- New system configuration setting "Include Scan Data in Projects" which determines if scan data is included when saving a project. The default is set to false.

Graphics Display & Simulation

- Position point dialog now has an option to dynamically move the probe in 3D graphics.

- Machine volume limits: The behavior of displaying machine volume limits changed for machines with a moving table. Now, the volume display will not move with the table and indicate when the table goes off the limits.

- The simulation has been optimized when selecting sensors as well as when using the SETCAL command. This also benefits the generation of G-code (post to NC) when using these commands.

- Smart path has now more simulation features:

  o When touched in a motion line, a dialog will pop up to simulate motion 'forward' or 'backwards'; one step at a time or for the complete program.

  o Special icons will be displayed to indicate where head and table rotations are.

Features and Measurements

- The Select Feature dialog can use wildcard characters and will remember any label entered as a filter until CAPPS closes.
- The Copy Nominals dialog now supports curve and surface feature types.
- Optimum indexing for Head/Head machines now checks if the calculated move is in the set machine envelope. There have also been improvements to choosing the head rotation direction based on the tool vector and machine limits.

- New options for creating nominal curves in the grid and section dialogs to generate curves and surfaces.

- Surface clearance now works with auto distance and auto plane collision avoidance.

DMIS & Program Window

- SMART PATH can be generated for a portion of the program. A selected portion of the program can be generated as a 'smart path' to allow regional focus.

- Generating Do Loop DMIS commands through the dialog has been streamlined for usability with better default behavior and validation checks.

- Double click Edit on GOTO commands will open the standard position point dialog with the coordinates in the command. This allows entering these coordinates in PCS, MCS or along the probe vector. Using the graphical edit option, position point can be edited graphically.

- Changes to Do Loop:
  - Counter variables will be filled automatically by using the last define variable name.
  - If no integer variables are available, a default loop counter variable is automatically created.
  - Loop counter defaults to a starting value of 1.
  - 'Create a New Loop' is selected as default if there is no selected DMIS or features.
- Added new configurations for controlling the rules and restrictions when creating new labels so that longer labels can be used in programs.
- Points file save can now QUERY, APPEND, OVERWRITE, and INCREMENT now through the DMIS command.

Reporting & GD&T

- Supporting second datum in orientation tolerances in templates and callouts.

  Also, a second datum is supported in saving the report.

- Multiple and orientation datums for Parallelism/Perpendicularity/Angularity are

  developed for programming, reporting and execution.

- Improvements for Template reports.

- Excel output: Measurement results comma-delimited CSV files have been edited to align the headers with corresponding data when viewed as a table. This has also been updated for tab-delimited text files.

Probe Calibration

- 'Sensor Select' dialog is redesigned.

- Lobing calibration values can be incrementally updated. This allows a quick correction of a single vectorial calibration value that has previously been calibrated.

- The sensors file has been updated to include the date and time for better tracking of calibration status.

- Sensor list now shows Sensor's defined and calibrated dates.
- Sprint probes can now have nominal calibration during execution on the machine.
- Added support for SETCAL when using laser, waterjet, and effective diameter during execution.

Analog Scanning, Curves & Surfaces

- Analog scanning paths now have blending paths for lead In/Out with programmable curvature. This works for circular, planer, linear and curve scanning paths.

- The scan path depth is more accurate for lines and curves.

- Properly pass nominal curve/surface when selected in teaching scan paths for both analog and laser sensors.

- Improvements in nominal curves definitions, and data management.

- Mirroring and copying nominal curves and surfaces. Also, improved the mirror and copy dialogs.

- The Feature Path dialog has a new tool to mirror curve or surface feature types.

- Inversing feature vectors for all features including curves and surfaces in nominals paths.

- Supporting curves and surfaces in grid/section dialogs

Laser & Point Clouds

- Overall performance improved for:
    - Extraction of features.
    - Section analysis
    - Rendering quality.
- Point cloud section analysis and feature extraction have been optimized.
- Saving the program as a project now has an option to include the scan data.
- New scan data file format added to support reading laser lines.
- Add a new Laser interface with Nikon.
- Added a new file format that works with reading laser lines: AATPSLWRITER2.

Secure Database Storage

- Reports can now be configured to save only printed output as shown in the report, leaving undesired fields empty.
- New option to save only printed output as shown in the report to the report database when using the Standard table style.

NC Machine Interfaces

- Added support for the M code "M30" command in CAPPSNC.
- Added ability to search for hole center in CAPPSNC.
- Optimum indexing for Head/Head machines handles the machine envelope and tool vector more efficiently. This has been improved for cases when legacy models without a VMM.
- Pass Head IJK vectors correctly for cases with CYCLE800 and tables with rotations.
- New macros that will work if machine needs to be used without TRAORI enabled.
- Okuma Interface has been updated.
- Haas Interface has been updated.
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NCFIT Functionality

- Optimized internal math used for all controllers.

- NCFIT Input and processing standardized between various NC program formats.
- Improved graphical imaging during NCFIT reposting.

Contact Us

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