

What's NEW in VERICUT 9.5

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June 26, 2024

Dear VERICUT® User:

Thank you for your continued investment in VERICUT, an important part of your NC programming and machining process!

VERICUT 9.5 features new interactive CSYS, a redesigned Graphs window, improved Tool Use and Tool Summary panels, the option to receive email and Teams notifications about your project, various performance and speed improvements, and much more. These changes and more will be described in the following pages. Please take a moment to review what's new and improved in this release so you and your company can take full advantage of this latest simulation, verification and optimization technology.

Maintenance and Licensing Information

NOTE: This software requires VERICUT 9.5 licensing and Sentinel 9.8.1 License Server installation.

To Get a License – use the link below to submit a License Request:

http://www.cgtech.com/vericut_support/request-license/.

Licensing is sent via email only.

VERICUT 9.5 runs on 64-bit Windows, and is supported on Windows 10 and 11 computers.

Software maintenance keeps you on the cutting edge - CGTech provides update software to customers with current software maintenance. Your continued maintenance ensures that you have the most advanced verification technology available. If your maintenance has expired, please contact your CGTech representative (<http://www.cgtech.com/about/contact-us/>).

Sincerely,

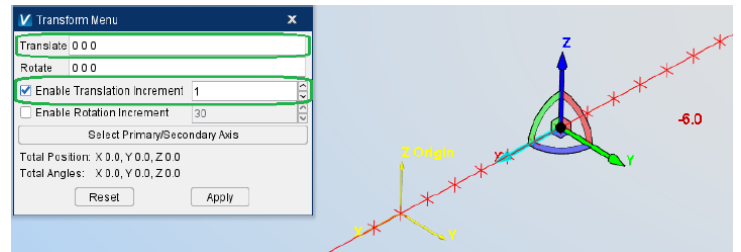
Ely Wahbeh

CGTech VERICUT Product Manager

VERICUT 9.5 Release Highlights

Interactive Transform Menus

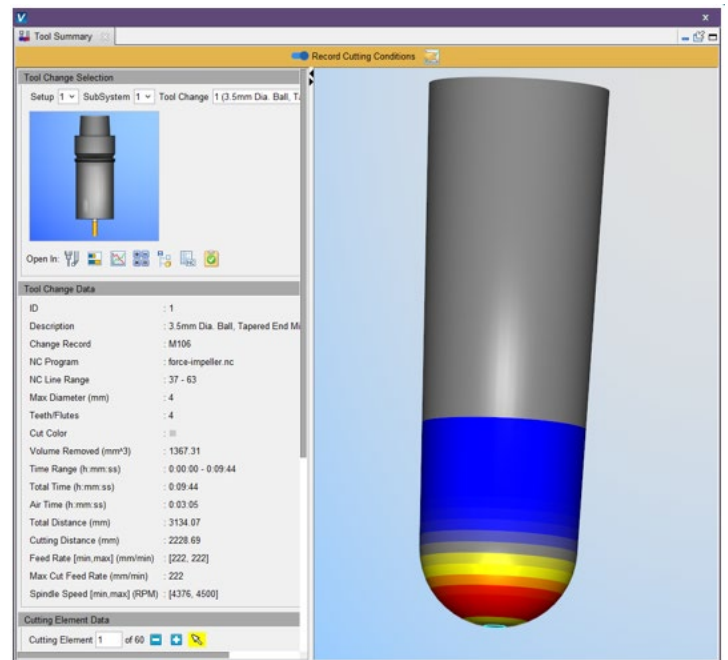
9.5 features new Transform menus to manipulate coordinate systems, components, and models like never before. These features help orient the positions and angles of machine components, cutting tools, models, and coordinate systems. Transform menu options are provided in machine setups, Assembly Manager, Tool Manager, and the Tool Change List dialog.



Tool Summary

VERICUT's new Tool Summary window displays wear pattern on your milling and drilling tools. A combination of colors and messages can be used to understand how each tool was used, and the effects of each cut on the tool.

Track tool life by assigning wear limits to cutters for a variety of machining factors, such as cutting time, material removal volume or cutting distance, to get notified when a tool is nearing expiration. Different values can be specified for machining different stock materials. This is useful to better predict when a tool change will be required, and to improve tool inventory management.



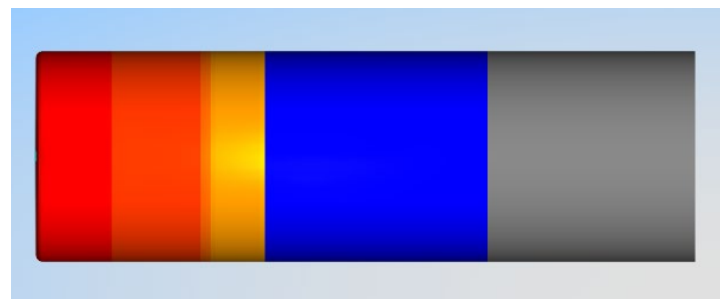
In the adjoining example, these colors show the following information:

Red – most wear

Orange and yellow – moderate wear

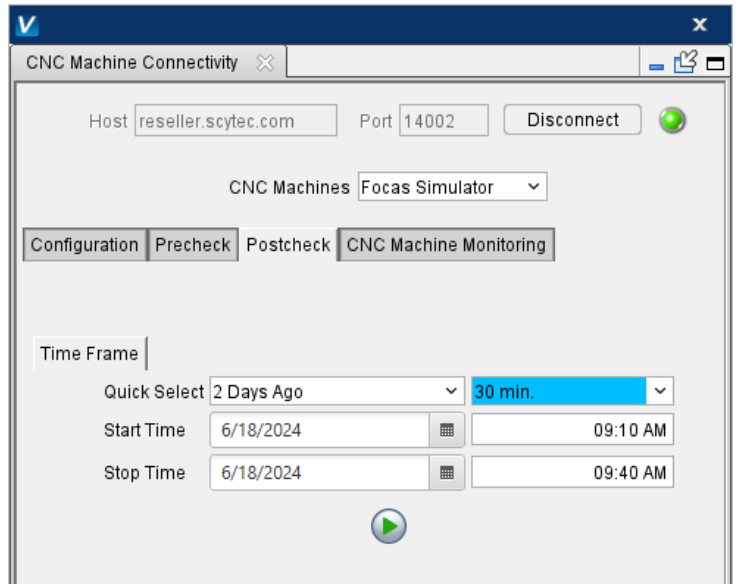
Blue – least wear

Gray – no wear



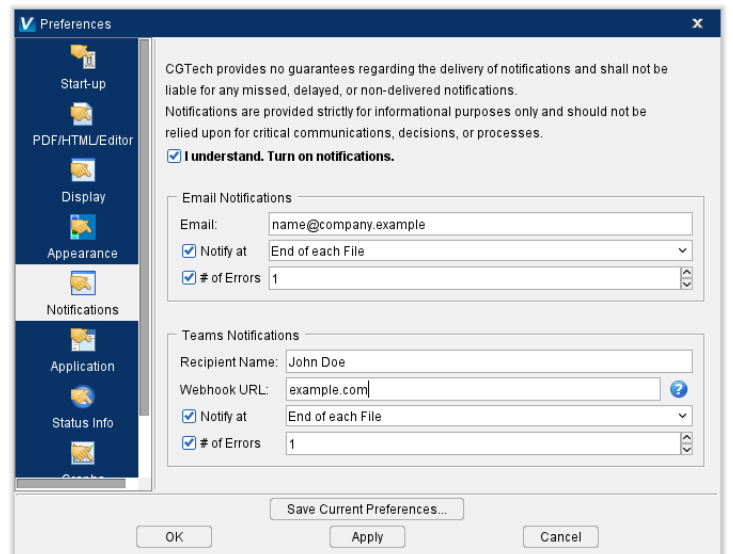
CNC Postcheck

CNC Machine Monitoring now includes Postcheck as an investigative tool for when something happened while machining a part. As parts are being machined, CNC Machine Monitoring will record data in a Commercial cloud, GovCloud, or locally at the customers site (On Premise). Once recorded, use Postcheck to select a Time Frame from archived data to replay and observe how the NC Program actually ran on the machine.



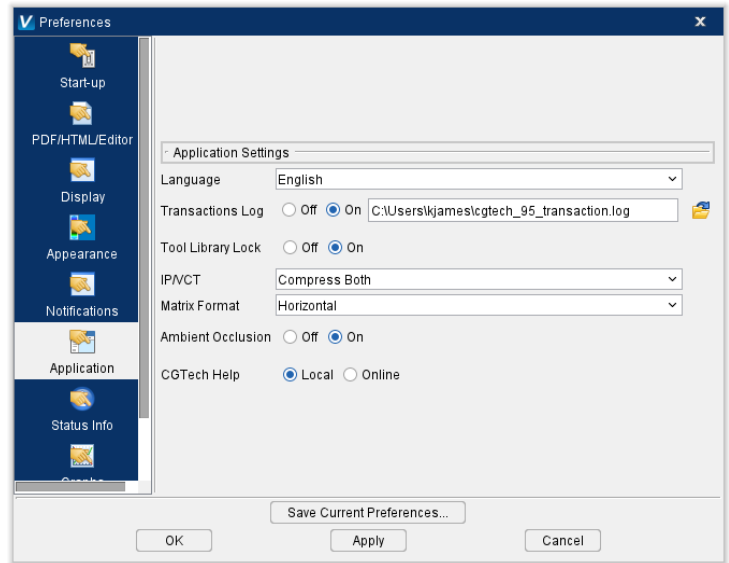
Preferences window, Notifications tab

The **Notifications** tab allows the user to set up both email and Microsoft Teams notifications about running the project. Toggle on notifications to be sent at **End of each File**, **End of each Setup**, **End**, or at a specified **# of Errors**.



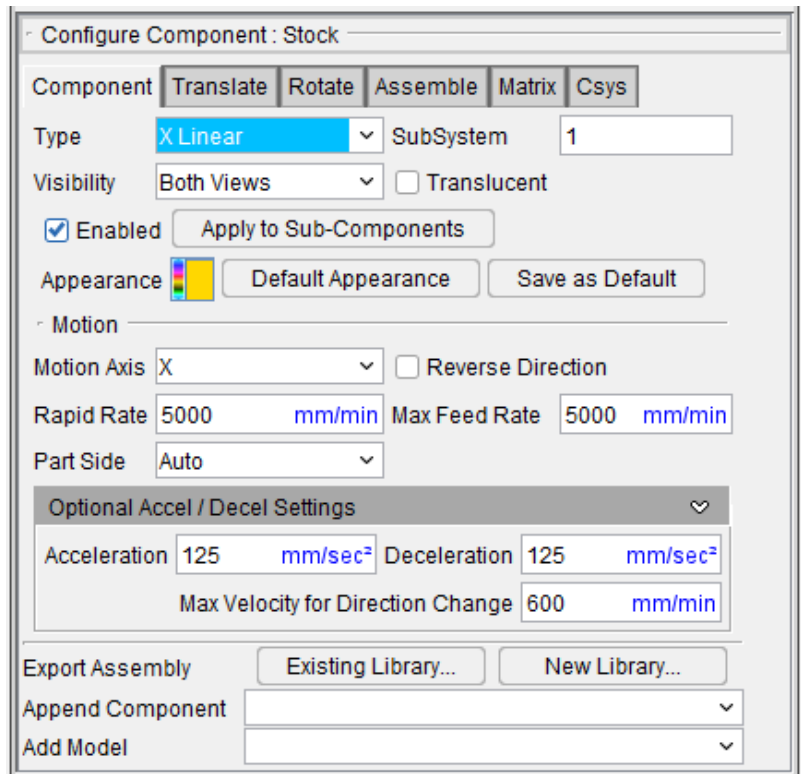
Preferences window, Application Tab

The Preferences window has been redesigned with a new layout. A new **Application** tab sets various default features of VERICUT such as the native language and other variables that have traditionally been set in the batch file. With settings available in the GUI, the user will not need to exit VERICUT to set a variable, they can just set it here.



Configure Component panels

Configure Component panels have been reorganized with a more streamlined and visually pleasing layout. This reorganization also merges Accel/Decel tab features for motion components to the Component tab, so all relevant data for a component can be entered in one place.

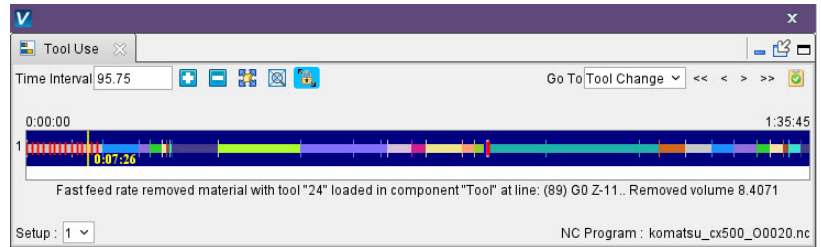


Release Notes

Tool Use

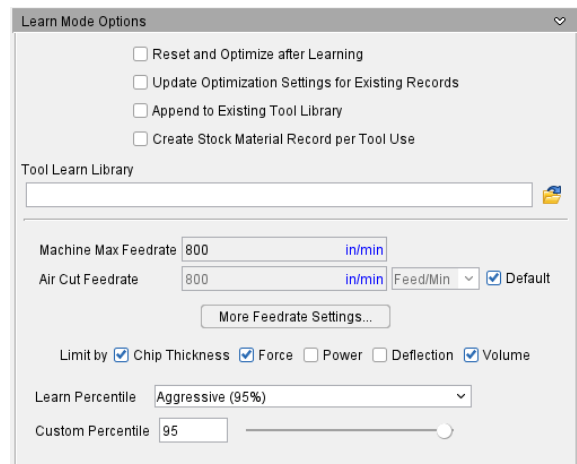
The Tool Use panel has been updated with additional features like a Go To section to navigate between various changes. There are also new zoom options including a Zoom to Box functionality (which can be replicated with the right-mouse button) and an Auto Fit option. Errors and warnings will show up on the timeline and user can select the error there then enter review mode to see where in the code the error occurred.

Color-coded markers identify where Errors (Red) and Warnings (Orange) occurred during the simulation. Users can select a marker, then enter NC Program Review mode via the new icon added to the window, to see where in the NC program the event occurred.



Learn Mode Options

Enhanced Learn Mode Options feature evaluates machining performed by each cutting tool, then auto-configures optimization to increase cutting performance and efficiency. This feature now learns from cutting tools used multiple times (e.g. roughing, semi-finishing, finishing, etc.), then uses the learned information to optimize those tools uniquely, per each machining operation it performed. Create Stock Material Record per Tool Use feature can be toggled on (checked) to create individual stock material records for each tool as it is used.



Release Notes

Tool Performance Data

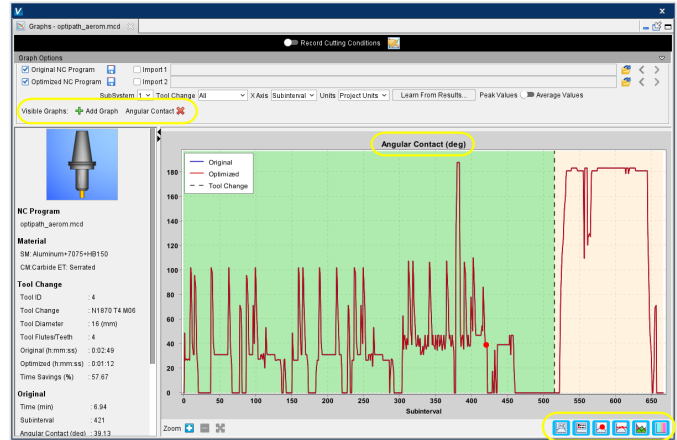
VERICUT 9.5 provides enhanced and expanded tool performance data for additional cutter types and cutting materials. When adding Stock Material Records to cutters or inserts, choose “VERICUT Tool Data” to see recommendations for cutting feedrates, spindle speeds and more, compiled from the world’s leading tooling brands. This data is available to all users, not just Force optimizers.

Machining Optimization Data		0.75 (Dc)		4 (ZEFP/Teeth)		Carbide		Straight		Rough		Titanium+6Al4V+...					
		Chip Thickness(Fz)															
Surface Speed (vc)	Spindle Speed (n)	0.0012	0.00145	0.00165	0.001875	0.0021	0.00235	0.00265	0.002775	0.003	0.003225	0.00345	0.003675				
535	2727	13	15	18	20	22	25	27	30	32	35	37	40	42	45	47	49
499	2546	12	14	16	19	21	23	25	28	30	32	35	37	39	42	44	46
464	2364	11	13	15	17	19	21	24	26	28	30	32	34	36	39	41	43
428	2182	10	12	14	16	18	20	22	24	26	28	30	32	34	36	37	39
392	2000	9	11	13	15	16	18	20	22	24	25	27	29	31	33	34	36
357	1818	8	10	12	13	15	16	18	20	21	23	25	26	28	30	31	33
321	1636	7	9	10	12	13	15	16	18	19	21	22	24	25	27	28	29
285	1455	6	8	9	10	12	13	14	16	17	18	20	21	22	24	25	26
250	1273	6	7	8	9	10	11	12	14	15	16	17	18	19	21	22	23
214	1091	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	19
178	909	4	5	6	6	7	8	9	10	10	11	12	13	14	15	15	16
142	727	3	4	4	5	5	6	7	8	8	9	10	10	11	12	12	13
107	546	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	9
71	364	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6
35	182	0.88	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3
0	0	0	0	0	0	0	0	0	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Inch Adjust Fz: 0.000225 Adjust Vc: 35.7

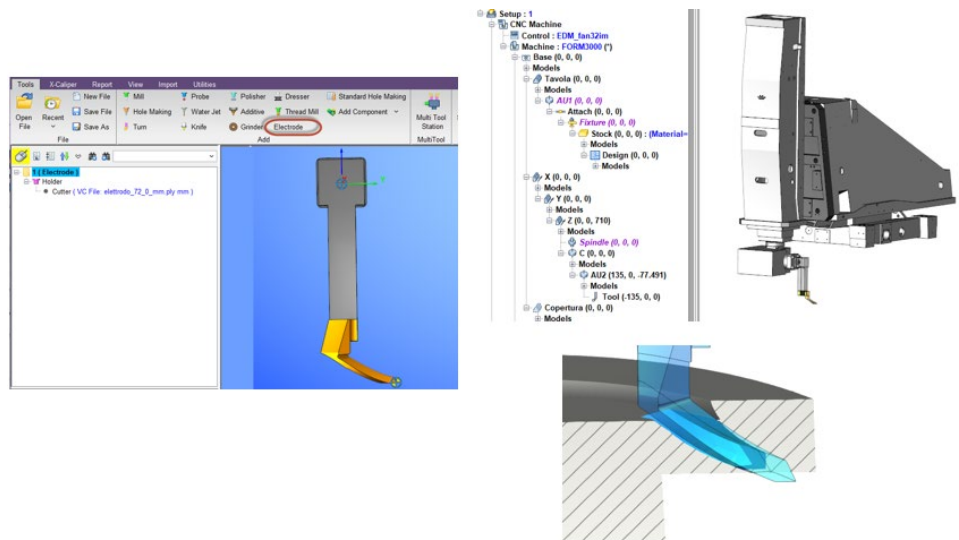
Graphs

Graphs window has been streamlined by moving display options to the bottom icon toolbar. Visible graphs are also now toggled on via a separate Visible Graphs option and window. They can be removed directly from the toolbar by clicking the adjoining red X or from the Visible Graphs window. New Angular Contact graph option has been added as well.



Die Sinking Simulation

A new “Electrode” tool type was introduced in 9.5 for use in new “machine driven” die sinking simulation. The electrode tool can be changed in/out of the machine like any other tool, and used to burn away material as commanded by the NC program.



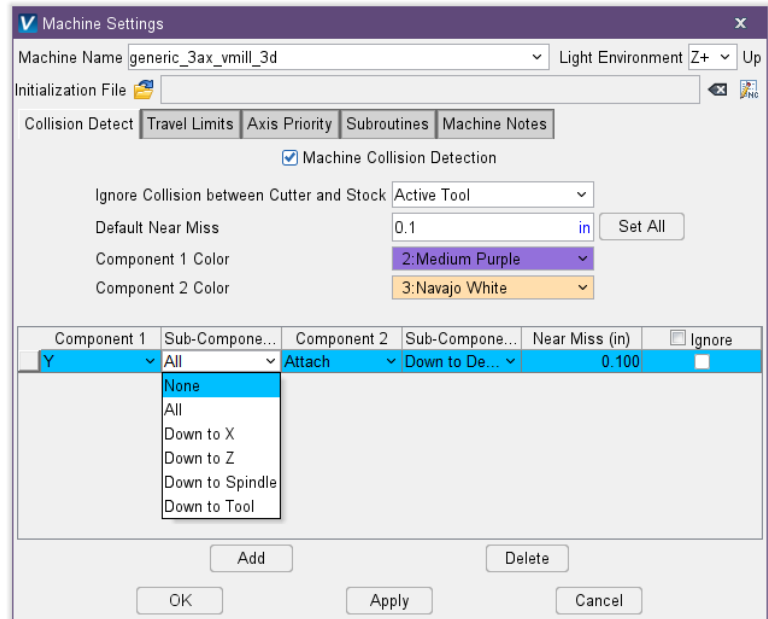
Release Notes

ZIP Files

User can open a ZIP file containing VERICUT files (e.g. saved via VERICUT's File Summary) without the need to first expand the zip file. Changes to those files in VERICUT are saved back on to the ZIP file.

Machine Settings window, Collision Detect tab

This window has been updated with additional coloring features and new options to better identify collisions and near misses. A new feature has been added to Sub-Component that gives the user the control to either use all sub-components or specify a specific component.



Enhancements and Changes in V9.5

Verification

VERICUT's core features have been improved including enhancements to performance speed, augmented material removal, and refined graphical display.

Collision logic has been improved especially in regards to some turning inserts and non-cutting portions of the insert.

Graphical changes have been made to VERICUT windows to make it easier to grab the edges or corners for resizing.

The Refine Display feature has been improved to provide even higher quality graphical display improvements. There are multiple options (Best, High, Medium, Low) to enable users to specify display quality. Lowering display quality increases processing speed but VERICUT has been optimized so that Best quality (the default option) is still fast.

Release Notes

Stock Material selection for VERICUT projects has been made easier and is now available in several additional user interface locations.

NC Subroutines can now be sorted Alphanumerically through the right-mouse button menu.

A new Configure Component: Turret panel has been implemented to better control turret tool changes.

Enhanced parsing of APT/CL programs added.

VTPD database has been expanded and enhanced.

Optimization

OptiPath has been retired and won't be available in VERICUT 9.5 or later releases. All on-maintenance OptiPath users will instead receive a Force Milling license per each on-maintenance OptiPath license they had. Existing VERICUT optimization files will continue to be optimized as before but using the Force module.

Tool Manager

Added "Turning/Milling Tool Orientation" choice in Tool Manager Preferences, which controls both default tool view orientation in Tool Manager and Report tool images.

Tool Manager Annotation Plane functionality has been clarified to make it clear that it does not create new annotation planes.

Machine Simulation

Simulation can be set (via new Display preference) to automatically pause during view manipulation, ensuring users can adjust viewing without missing any simulated motions or cuts.

Graphs

Graphs window now contains a Tool Change dropdown menu that allows you to view the Current Tool in use.

CAD/CAM Interfaces

Creo

- Creo 10 now supported.

Mastercam

- Mastercam 2025 now supported.

G-Code Processing

LoopCount macro has been updated to eliminate computer roundoff errors.

FeedPerMinuteType macro can now handle unit conversions.

SiemensToolCode macro introduced to help with certain tool changes.

Support added for SYSREAD ID 140.

MaxCharsPerComment macro introduced to set comment length limits.

OptiOutputPostText macro introduced to manage **OptiOutputText** placement.

AutosetToolManLengthIDs introduced to set length IDs in Tool Manager.

SiemensACTBFMaskOnOff macro added to calculate total \$P_ACTBFRAME.

Library Controls have been updated to support better G-Code Processing.

CNC Machine Connectivity

Precheck and Postcheck support for CNC has been expanded. You can replay when specific parts were run on a CNC machine.

Support added for new CNC control types: OKUMA, Siemens, Heidenhain.

Reports

Added "Gage Point Z/X/Y" in VERICUT and Tool Manager report template editor under Tool Summary/Tool Table and Text list.

Reports now generate a Total row count for Tool Summary tables.

Robots

KRL Library search has been expanded to also search associated subfolders.

Problems Resolved in V9.5

Verification

Issues of unexpected termination have been resolved.

Issues of VERICUT freezing during certain simulations has been resolved.

An issue of exporting models to STL causing unexplained stock removal issues has been corrected.

Issues of slowed performance have been corrected.

An issue of converting a Holder to a Shank not updating its status in the Stock and Active Holders section has been resolved.

An issue of decimal points disappearing during Syntax Check has been resolved.

An issue of animation speed slider position causing collisions to occur has been corrected.

An issue of knife tool collision not generating proper warning has been corrected.

An issue of while/do loops not working as desired has been resolved.

An issue of certain icons disappearing when icon size is set to Large or X-Large has been corrected.

An issue of near miss warning not generated at specified time has been resolved.

An issue of certain error messages not generating in completed projects has been corrected.

An issue of false maximum feed warnings generating has been corrected.

An issue of fast federate exceeding maximum feed settings when animation speed slider is adjusted has been corrected.

An issue of VERICUT not saving .csv files as specified in Graphs settings has been resolved.

Issues of VERICUT generating an incorrect collision have been corrected.

Optimization

An issue of "Save as Optimization Setting" opening the wrong file type has been corrected.

An issue of attached driven point not working as expected during Force Optimization has been resolved.

An issue of Force Analysis improperly requiring Force licensing to function has been resolved.

An issue of Air Cuts Only optimization incorrectly increasing the cycle time has been corrected.

An issue of Force generating unrealistically high chip thickness values in certain cases has been resolved.

Machine Simulation

Issues of inserts not being visible in Profile view have been corrected.

An issue of certain tool images not generating correctly has been resolved.

An issue of incorrect Syntax errors generating has been resolved.

Issues of animation speed slider position changing the machining time has been corrected.

An issue of over travel warning not generating when appropriate has been corrected.

An issue of move design with stock not working as anticipated has been corrected.

An issue of decreased performance when multiple setups are active has been resolved.

An issue of removed material reappearing during simulation has been resolved.

Tool Manager

An issue of referenced tools not displaying correctly in Tool Display Area has been resolved.

An issue of Build Tool List feature not functioning as desired has been resolved.

CAD/CAM Interfaces

CATV

- An issue of CATV5 being unable to locate certain VERICUT files has been resolved.

Mastercam

- An issue of MCAMV interface not outputting Cutter Compensation ID when desired has been corrected.

G-Code Processing

An issue of **ActiveSpindleCompName** macro failing to stop when turned off has been corrected.

An issue of **Heid_CallTextSubName** calling the wrong subname has been corrected.

X-Caliper

An issue of X-Caliper Lables disappearing upon deactivation of Annotate Images has been corrected.

Post Processor

An issue of certain values not being output when called has been corrected.

Reviewer

Issues of certain tools not loading properly in Reviewer have been resolved.

An issue of Reviewer not simulating stock removal accurately has been corrected.

An issue of spun tools not simulating correctly in Reviewer has been corrected.

An issue of Batch Wizard not running as intended in Reviewer has been resolved.

Reports

Issues of improper row duplication have been corrected.

New Macros in V9.5

AutosetToolManLengthIDs

CouplesSpindleSpeedCompNames

CycleBoreBottomRetractDist

CycleTurnCancel

DiesBurnModeOnOff

FanucSetvnNameLimit

FanucSetvnVariableRange

FunctionTypeMismatchOnOff

Heid_ProbeCommentCheck

HeidSysRead220ApplyTransform

HeidSysReadMcdUnits

Ijk2AbcType19ApplyWORotation

InterpolatedTurningAxis

InterpolatedTurningCenterX

InterpolatedTurningCenterY
InterpolatedTurningDir
InterpolatedTurningFeedrateFactor
InterpolatedTurningMaxSpindleRPM
InterpolatedTurningOnOff
InterpolatedTurningSpindleMode
InterpolatedTurningSpindleSpeed
LeadingTrailingOption
MaxCharsPerComment
OptiOutputPostText
SetDynamicVarsMcdUnits
SetOnTurningPlaneTol
Siemens840DGoto2
Siemens840DGotoSuppress2
SiemensACTBFRMaskOnOff
SiemensArgumentMismatchOnOff
SiemensRotaryMotionCheck
SiemensToolCode
TapeCacheAddSubDecimalTows
WPDynamicOnOff