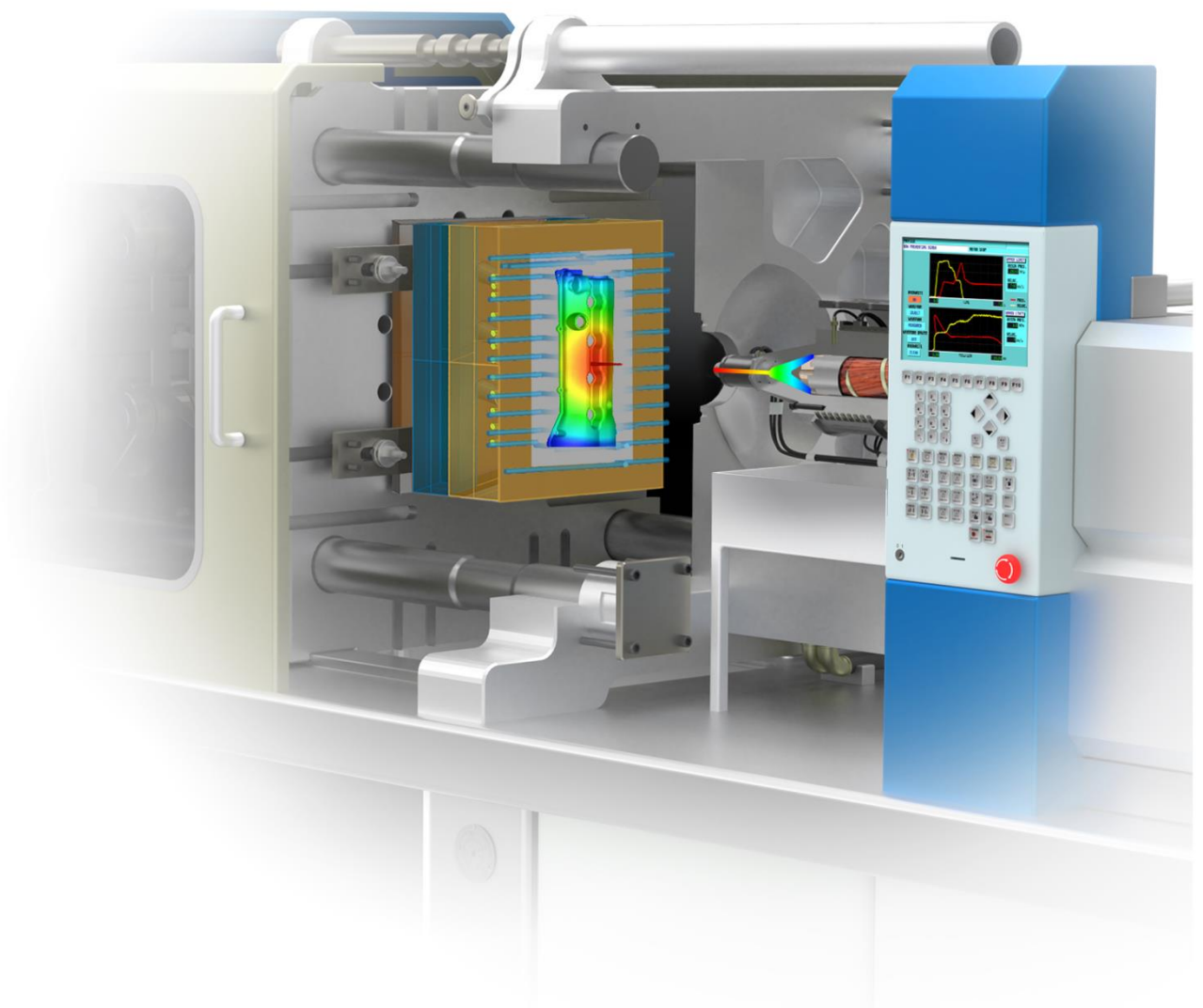


Moldex3D R17 Release Note



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Moldex3D R17 Release Note

Introduction

CoreTech continues to maintain and supply more stable programs for Moldex3D users. The major enhancements and bug fixes in this service pack are briefly listed as below:

Supported Platform

A. System Requirements

Platform	OS	Remark
Windows / x86-64	Windows 10 series	Moldex3D R17 is certified for Windows 10
	Windows 8 series	
	Windows 7 series	
	Windows Server 2012 R2	
	Windows Server 2016	
Linux / x86-64	CentOS 6 series	Linux platform is used for calculation resource only. Moldex3D LM, Pre-processor and post-processor do NOT support Linux platform
	CentOS 7 series	
	RHEL 6 series	
	RHEL 7 series	
	SUSE Linux Enterprise Server 12	

B. Hardware Requirements

Minimum	
CPU	Intel® Core i7 processor
RAM	16 GB RAM
HDD	1 TB free space
Recommended	
CPU	Intel Xeon Platinum 8000 series
RAM	64 GB RAM
HDD	4 TB free space
Graphic Card	NVIDIA Quadro series, AMD Radeon series
Screen Resolution	1920 x 1080

Note: To increase calculation efficiency and stability, it is recommended to switch off Hyper-Threading under RC/DMP structure.

Moldex3D R17 SP1 Release

Function Enhancements

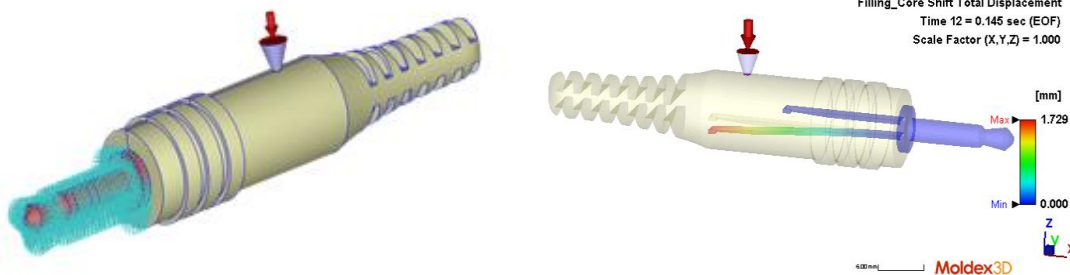
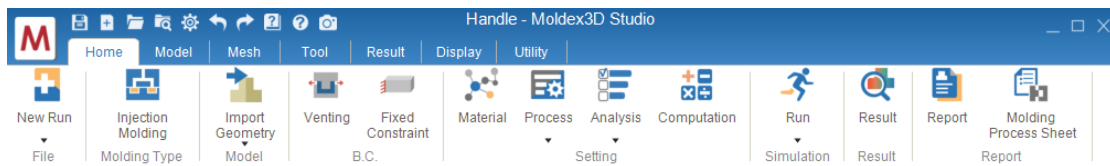
Studio

1. [Studio] Add Studio Viewer – Free Version Project Viewer
 - Light version Installation (65MB)
 - Support Result Display and Post Processing
 - Not Allow to: submit analysis, run operation, model operation, export data



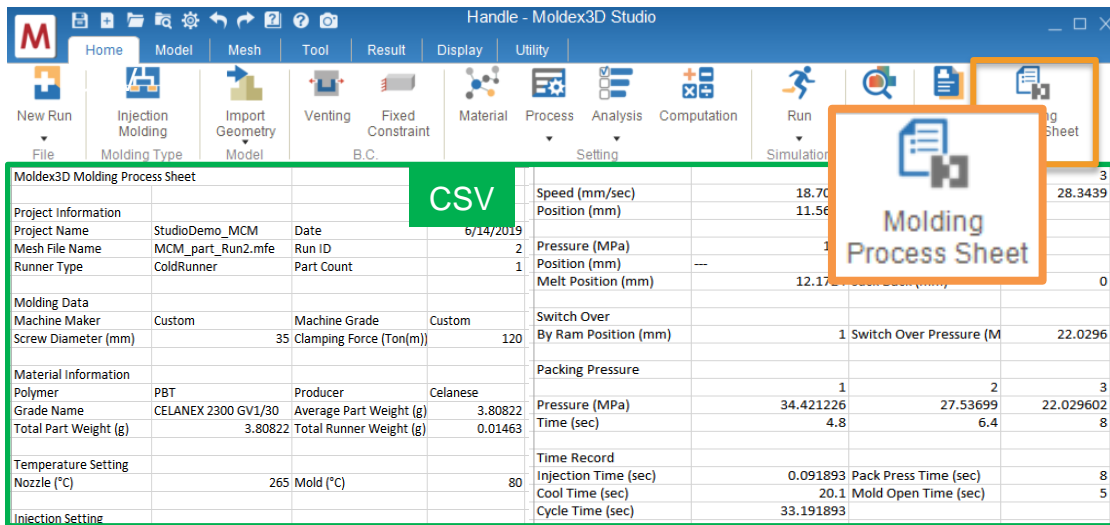
Moldex3D Studio Viewer R17

2. [Studio]Support Core-Shift Analysis
 - One platform through: Import Geometry > Fixed BC Setting > Analysis Setting > Submit Run > Result Display



3. [Studio] New Simulation Capability
 - Support Roundness Result & Export Radar Plot
 - Import Run from another project
 - Support Submit Batch Run(s)
 - Show Process Condition on cooling channel inlets
 - Show Gate Flow Rate after Hot Runner Steady (HRS) Analysis
 - Load result during calculation once each time step result ready

- Support Particle Tracer Display by Point and Line
 - Output Results for EOF/EOP in Cooling Analysis
 - Support Gate Contribution result
4. [Studio] Enhance Operation Usability
- Show XY Plot together with user profile setting and melt front animation
 - Allow to edit model name (before final check)
 - Check and Notify Setting Conflication for Run Modification
 - Enhance Usability for Venting BC Setting (Curve or Edge)
 - Allow to View Control via Keyboard
 - Allow rotate view any time with Ctrl + Shift + RMB
 - Scroll Mouse Wheel to adjust variable
 - Show / Hide for Run ID and Run Remark in Display tab
 - Snap Shot only to the area excluding project tree
5. Export Molding Process Sheet (Machine mode only)



Database Update

1. [Material] Update material database
 - 267 thermoplastic materials are newly added
 - 0 thermoset is newly added
 - 19 material information is updated for properties including viscosity, PVT, specific heat and thermal conductivity

Bug Fixing

Solvers

1. [Flow] Incorrect time information for multiple time step output from Process Simulation
2. [Flow] Invalid hot runner temperature control in certain cases
3. [3D CFD] Slow calculation of 3D solid cooling channel analysis due to no parallel computing
4. [FEA-I] Crash possibility when export initial stress in MCM project
5. [Expert] Dysfunctional analysis for Flow Rate Optimization
6. [GAIM] Invalid Nozzle shot off control in certain cases
7. [CM] Incorrect temperature data exchange in Compression Zone between Flow and Cool solver
8. [ICM] Chance of Error of calculating through RC to another computer
9. [CFM] Incomplete valve gate closing with PU material

Pre/Post-processor

1. [Designer] Failure when Heat Conduction BC exported with other user defined BC
2. [Designer] Incorrect Moldbase meshing in certain cases
3. [Designer] [CM] Assort modeling and meshing issues for Compression Molding project
4. [CADdoctor] Run out of memory when checking defect
5. [CADdoctor] Potential of crash during geometry defect fixing
6. [BLM] Assort meshing issues for hexa-based runner and cooling channel model
7. [BLM] Failure when meshing disconnected cooling channels as one component
8. [BLM] Wrong defect check after fixing non-matching faces
9. [BLM] Incorrect auto and default offset ratio value in certain cases
10. [BLM] Bad surface meshing quality for certain insert components
11. [Studio] Misaligned XY plot partially for Thickness distribution curves
12. [Studio] Inaccurate Fiber result display and part insert temperature distribution display for eDesign model
13. [Studio] No melt front animation display for Pin Movement during packing stage

User Interface

1. [CMX] Failure when setting multiple time step output for a copied run

2. [Studio] Potential of failure during model import with Auto Heal
3. [Studio] Improper independence between the model modification of different runs
4. [Studio] Failure when setting Compression Zone on STL model after displaying model thickness
5. [Studio] Dysfunctional Fill out-of-range (Color bar) on clipping surface
6. [Studio] Problem to export eDesign mesh model

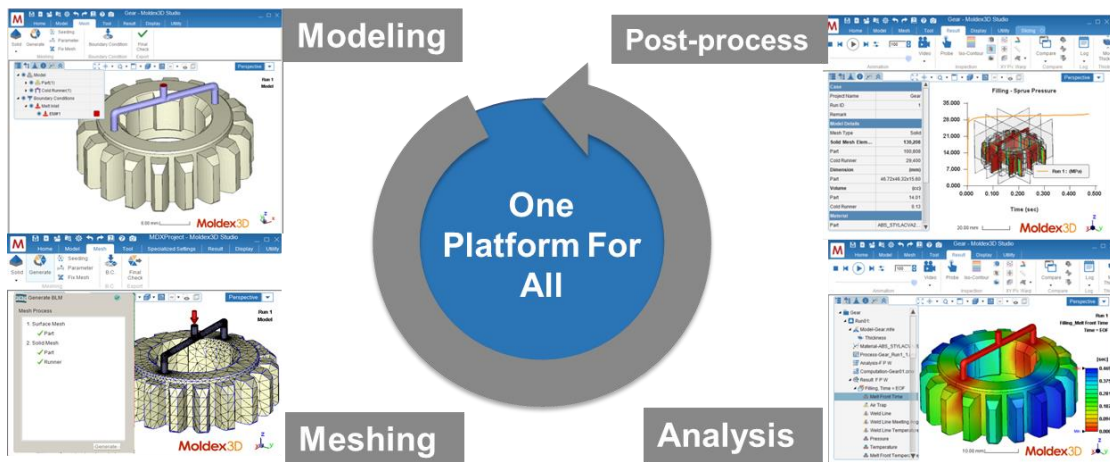
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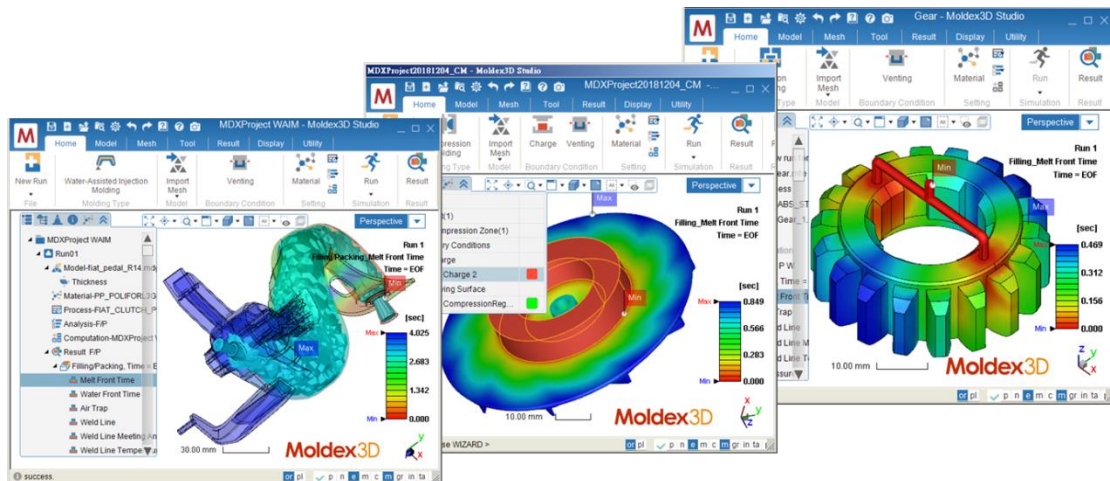
Module Update

- [Studio] Enhanced Usability: One platform for all pre/post-processing and analysis
 - Allow to go back modeling or meshing stage from an established project
 - Allow to export selected object and add quick link to open the project file folder
 - Add more option in preference setting such for on number format and Language Pack download
 - Allow saving and editing preference view option
 - Allow Intuitive control for Color Bar position and range
 - Allow Show/hide control in Display Window such for Melt Inlet/Coolant Inlet/Gate / Valve gate/ Sensor Node/Part IDs



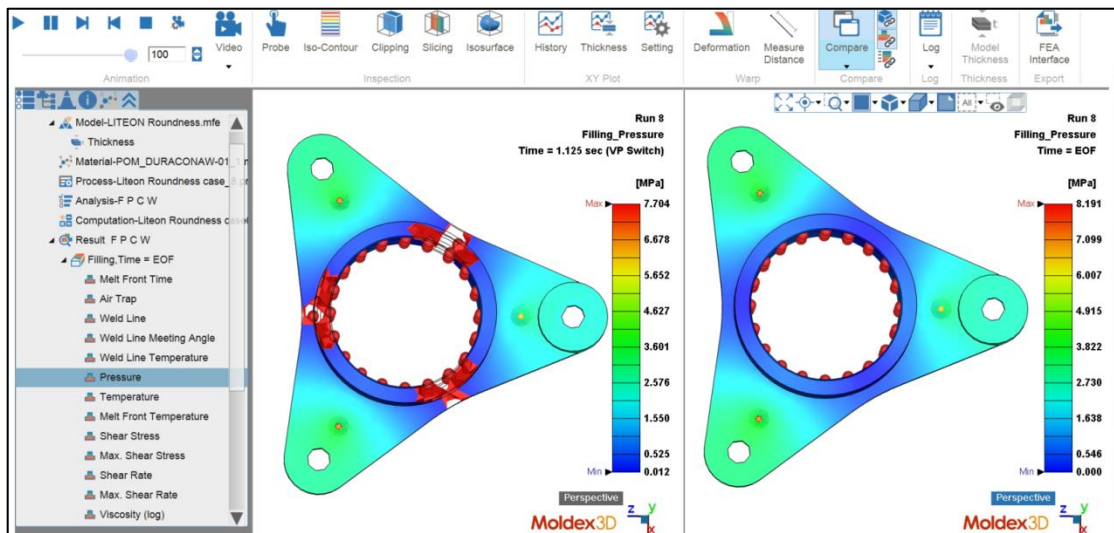
- [Studio] Molding Innovation: Expand capability for a variety of molding processes
 - Support Powder Injection Molding (PIM) process simulation
 - Support Co-injection Molding (CoIM) process simulation
 - Support Bi-Injection Molding (BiIM) process simulation
 - Support Compression Molding (CM) process simulation
 - Support Injection Compression Molding (ICM) process simulation
 - Support Foam Injection Molding (FIM) process simulation
 - Support Chemical Foaming Molding (CFM) process simulation

- Support Water/Gas Assisted Injection Molding (WAIM/GAIM) process simulation
- [Studio] New modeling capability (CAD/Meshing/Analysis)
 - [Tool] Add Rotation function based on C plane in CAD tools
 - [Tool] Add Model Scale function in CAD tools
 - [Tool] Allow Compuplast MTC mesh file export
 - [Mesh]Support Nastran BDF file of surface mesh import
 - [Mesh] Add Extraction function in improve surface mesh tools
 - [Computation] Support Optic analysis
 - [Computation] Support venting BC setting and analysis



- [Studio] New post-processing capability (Inspection/XY Plot/Compare)
 - [Inspection] Add option to show contour and plane together with Slicing function
 - [Inspection] Support result display with Iso-contour and customized display
 - [Inspection] Allow adding Probe on clipping face and exporting data in CSV
 - [XY Plot] Support History Curve of Crystallinity data and specific volume together with material PvT
 - [XY Plot] Allow to draw History Curve using ram position and support both Probe and Sensor nodes
 - [XY Plot] Enhance History Curve Wizard: Allow to add Probe in wizard; Support Group comparison across run; Support export result as CSV or JPG
 - [XY Plot] Add function on XY Plot to launch setting wizard for XY Plot format and style

- [XY Plot] Support result distribution plot on thickness direction
- [XY Plot] Support Distribution Curve plotting using Probe group
- [Inspection] Support Clipping function on Auto-grid cooling system models
- [Warp] Support warpage result display with mold compensation setting
- [Warp] Support export function for different formats of deformed model and deformed model after mold compensation
- [Warp] Support Anchor Plane setting to enhance warpage result display
- [Compare] Support Compare function cross run/result/time in multiple window with flexible SYNC options



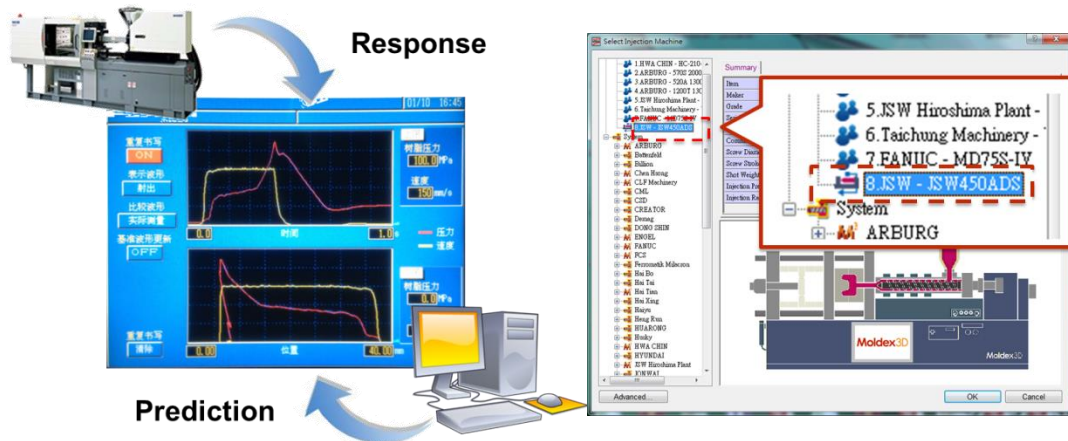
- [Studio] Improved Performance
 - [Project] Lighten project size and file number
 - [Render] Enhance result display performance with lower computer resource usage (Air trap, velocity/fiber vector, Inspection tools etc.)
 - [Render] Allow single color display on melt front result
 - [CM] Support Compression Zone Wizard for compression model design
 - [AHR] Support Pin Movement analysis and result display

Function Enhancements

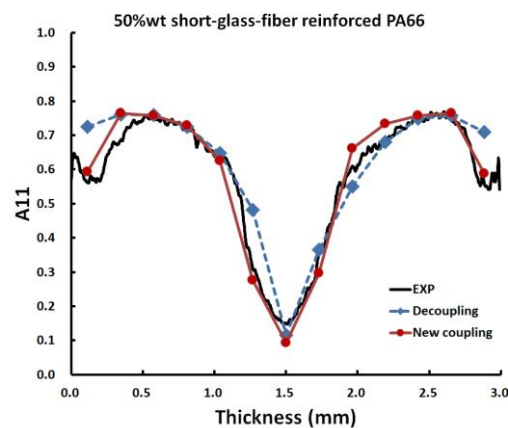
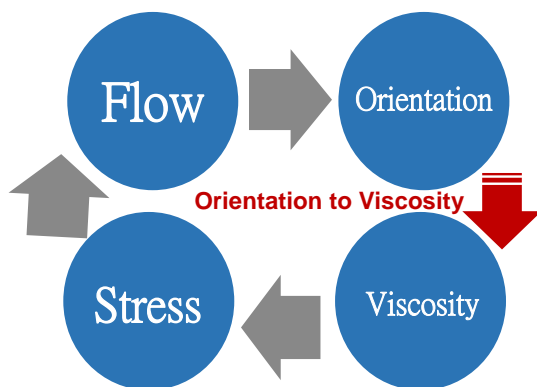
Solvers

1. [Flow] Enhance fiber/powder/filler concentration prediction in Flow analysis
2. [Flow][Machine] Consider Machine Response with data in machine calibration file

(MMIP) together with Barrel Compression effect to enhance simulation accuracy



3. [Cool] Output cooling in CSV channel data for evaluating mold temperature controller after Cool analysis
4. [3D CFD] Improve stream line calculation accuracy
5. [Fiber] Support full flow-fiber coupling to simulate orientation induced anisotropic viscosity and flow behavior

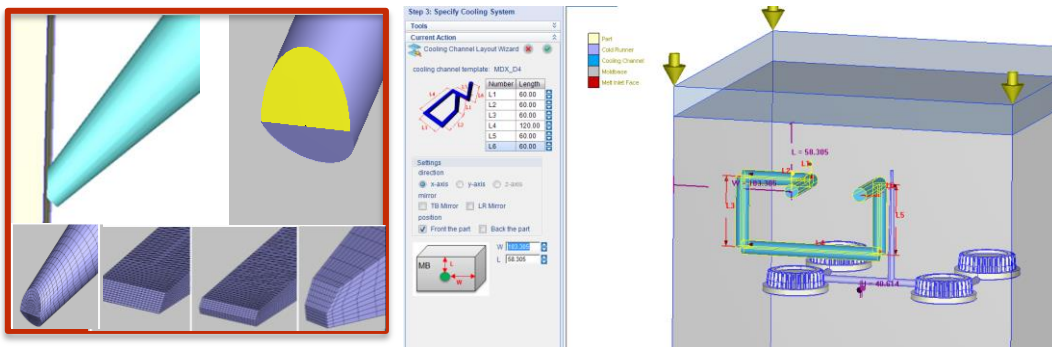


6. [Fiber] Support fiber orientation analysis for flat fiber re-reinforced material
7. [Stress] Support fiber orientation consideration in Annealing analysis
8. [FEA-I] Add initial stress output for FEA Interface
9. [PIM] Enable Extend Pack analysis in Cooling stage of Powder Injection Molding
10. [GAIM] Support Push-Back simulation in Gas-Assisted Injection Molding project
11. [CM] [ICM] Support result of Sink mark, Frozen ratio, Max. and Center Temperature for Compression Molding and Injection Compression Molding
12. [FIM] Enhance Core-back process simulation with bubble convection consideration

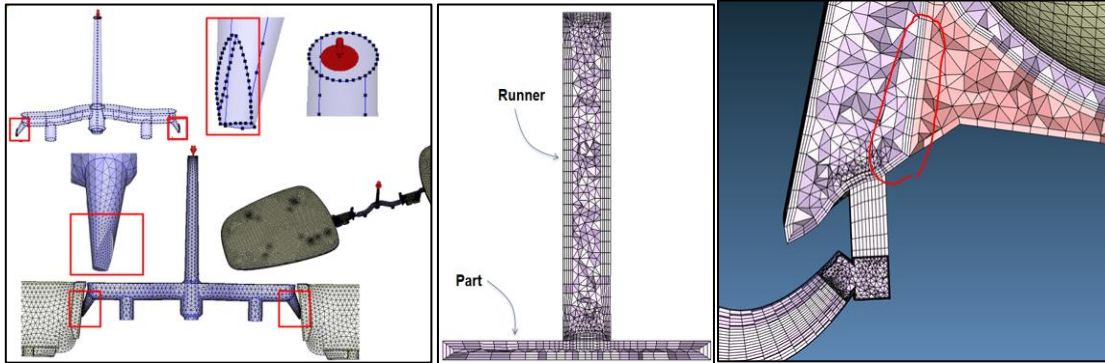
13. [CFM] Add new foaming kinetics model: Modified Combined Model with user defined Expansion Ratio
14. [RTM] Support multiple time step mold temperature setting in curing stage of RTM process
15. [RTM] Output outflow amount through venting area in solver log

Pre/Post-processor

1. [Runner] Enable Snap to edge function for gate with ejector pin
2. [Runner] Allow edit type for multiple joints at the same time
3. [Runner] Add new format for structural runner mesh: TunnelGate_Special with adjustable gate extension for D-shape gating
4. [Cooling] Update Cooling Channel Wizard for better workflow to choose template and modify parameters of cooling channel layout



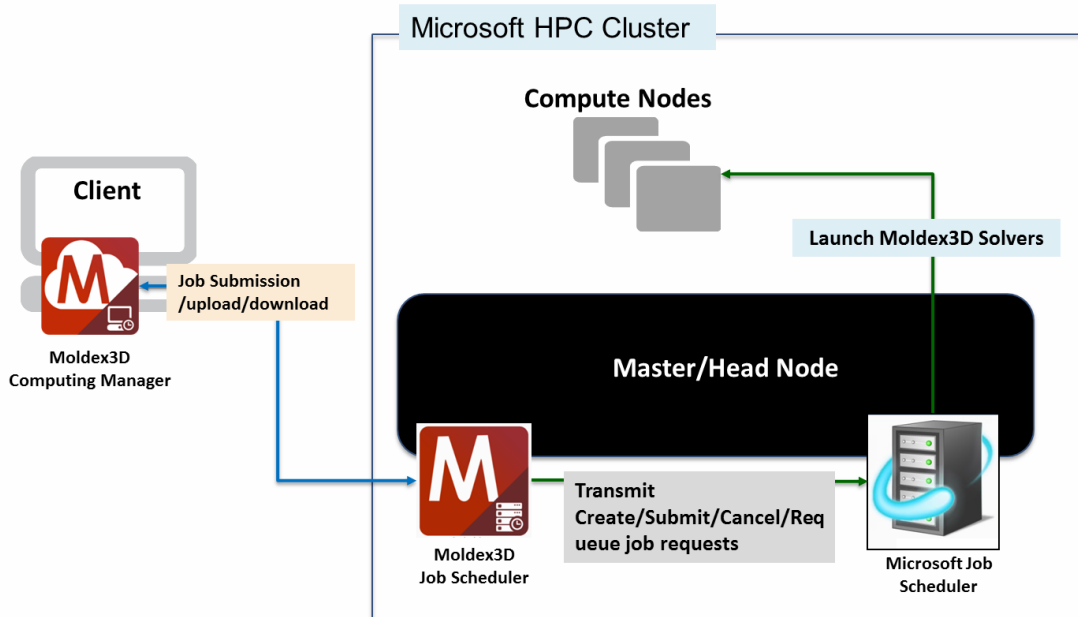
5. [BLM] Support modify thickness tool for surface mesh model
6. [BLM] Allow to display and modify gate face BC if gate rebuild failed
7. [BLM] Enable hexa-based solid mesh as default meshing control setting
8. [BLM] Add option and parameter to ensure BLM and gate rebuild performance on part insert
9. [BLM] Improve Unfillet Wizard usability
10. [BLM] [ICM] Improve compression zone mesh generation with gate rebuild
11. [BLM][CM] Enhance Compression Zone mesh by enabling Tetra/BLM/Prism type element
12. [BLM] Enhanced default node seeding and support BLM offset ratio auto-adjustment



13. [eDesign] Support hexa-based runner mesh with eDesign meshing kernel for better accuracy
14. [Mesh][BLM] Allow more and adjustable number of BLM layers in Rhino platform
15. [Mesh][RTM] Improve RTM Wizard with solid mesh generation in group and LS-DYNA file mapping for ply orientation
16. [Mesh][IC] Allow quad elements and bump seeding control in Generate Encapsulation Solid Mesh function to reduce element

User Interface

1. [RC] Support Remote Computing through Microsoft MPI



2. [LM] Allow window size adjustment and overall progress display
3. [Material] Allow to search material by the filter of long fiber
4. [Material] Show material files version in Material Wizard

5. [Material] Improve Compare Material function for structure VE property with customized temperature range
6. [Process] Enhance usability of valve gate control setting by allowing directly select point in Display Window
7. [Computation] Compact temporary files in project right after analysis and provide preference options to adjust compact target
8. [Report] Allow the customization of report format and content by tag
9. [API] Support valve gate control through API
10. [SYNC] Provide individual installation package with full solver and UI components
11. [SYNC] Support geometry check tool and remove bad face during mesh generation
12. [SYNC] Provide Report Wizard to quickly customize report content and format

Database Update

1. [Material] Update material database
 - 39 thermoplastic materials are newly added
 - 0 thermoset is newly added
 - 6 material information is updated for properties including viscosity, PVT, specific heat and thermal conductivity
2. [Material] Add new PVT model: Modified Tait model (3)
3. [Material] Enhance material data consistency check kit to ensure modeling quality
4. [Machine] Update machine database
 - Add YIZUMI machines DP, D1, FF UN60-2600A5 and PAC-K series (444 totally)
 - Add new machines JSW J450T-450-53 and Hai Tian 470T-480-50 machines
5. [Machine] Enable Machine Interface
 - BAIFENG mold temperature controller for cooling setting
 - SUMITOMO NC-10 controller
 - Hwa Chin HC-Series 210SE machine with MX1-300 controller
 - Taichung Machinery machines VP1300R and 1800JESHS with V8800T and FOXNum controller
 - JSW J450T-450-53 and Hai Tian 470T-480-50 machines with JSW SYSCOM 5000i and Hai Tian Standard controllers

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