ZWCAD 2020 SP1

PRODUCT RELEASE NOTE

ZWCDA PRODUCT TEAM

Thank you for downloading ZWCAD 2020 SP1!

Dear Friends,

We are glad to tell you that the long-awaited ZWCAD 2020 SP1 is available now! After a long time of devoted preparation and development, and thanks for your valuable feedback for the Closed and Open Beta, ZWCAD 2020 SP1 finally comes with significant new features and improvements, and notably enhanced efficiency and stability. Now we would like to invite you to take a look at this Official version.

This Release Note mainly introduces the performance of efficiency and stability, new features and improvements, API, new commands and system variables, bug fixes, and limitation and notes in ZWCAD 2020 SP1.

Yours sincerely,

The ZWSOFT Product Team

November 2019

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ZWCAD 2020 SP1 Release Notes

Overview

ZWCAD 2020 SP1 has the following new features and improvements:

New Features	Description
Settings Migration	It facilitates resetting settings to the default as well as migrating customized settings from earlier versions to ZWCAD 2020 SP1.
Blockbreak	Blocks can be directly inserted into entities without further breaking.

Improvements	Description
PDF Plotting	PDF plotting produces better results. Also, texts can be found, selected and copied from PDF files.
Viewport Rotation	The viewport can be rotated correctly around a base point.
Document/Layout Tabs	Document and Layout tabs has been optimized to become more user-friendly.
Digital Signature for DWFx Files	Digital signatures can be attached to DWFx files and their validity can be checked.
Raster Image Plotting	Raster image plotting produces better results, preventing raster images from disappearing or being misplaced.

Efficiency

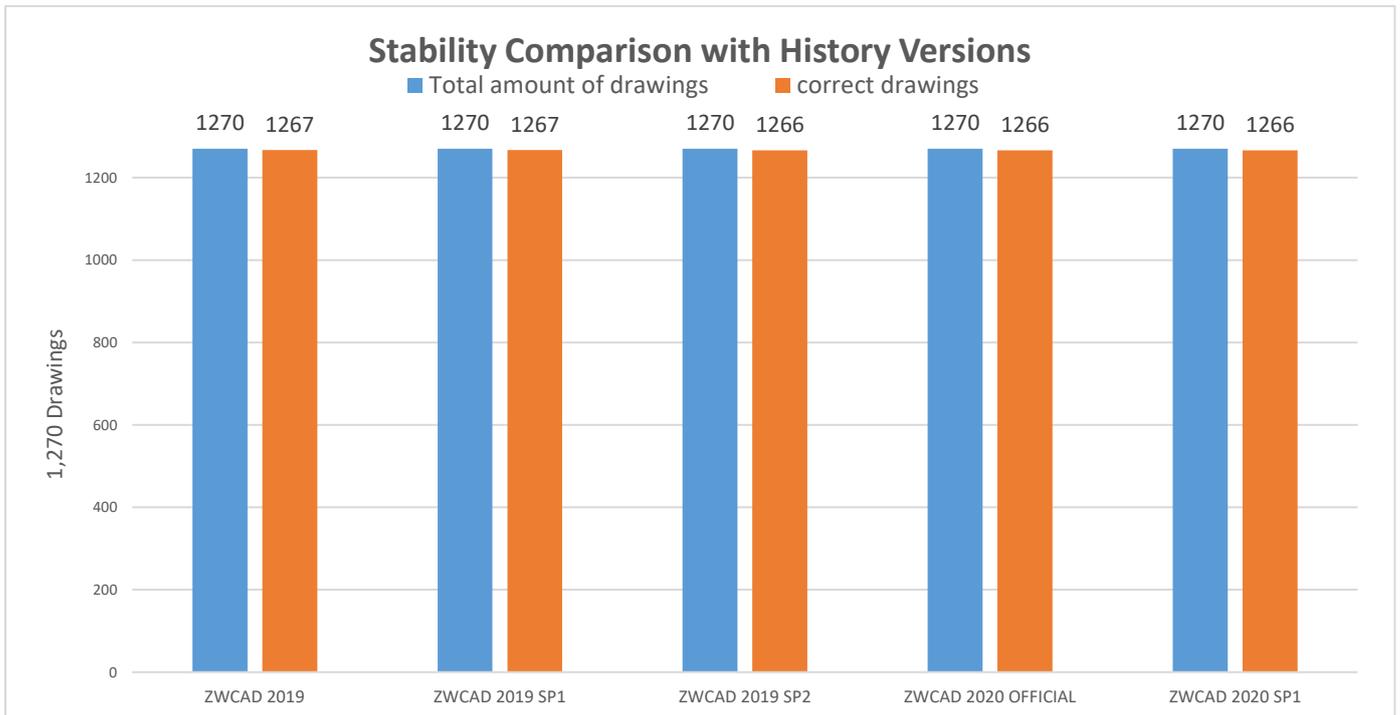The following section describes the efficiency improvement in this release.

We have carried out a great many efficiency tests of common commands (including COPY, MOVE, ARRAY, SWITCH LAYOUT, LOCK ALL LAYERS etc.). The results show that efficiency of most operations in ZWCAD 2020 SP1 are basically the same as previous version . The following chart shows the results in detail.

Efficiency Comparison With History Versions

■ ZWCAD 2020 SP1 x64   ■ ZWCAD 2020 x64   ■ ZWCAD 2019 SP2 x64
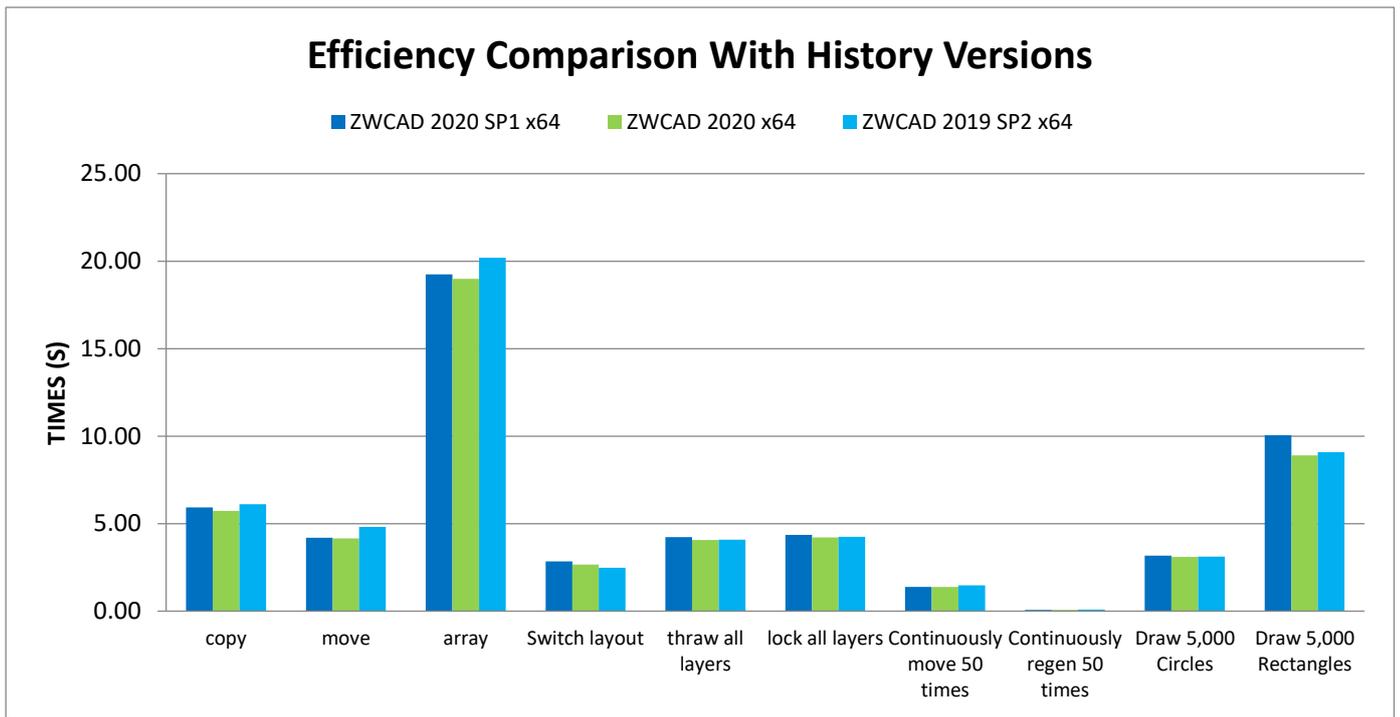
Stability

The following section describes the stability tests in this release.

The R&D Center has tested 1,270 drawings, which were extracted from 154,000 comprehensive drawings of our clients, and experienced at least one malfunction when opening or saving them. Just like in ZWCAD 2020 Official, 99.68% of the drawings could be opened and saved correctly in this version. To summarize, ZWCAD 2020 SP1 remains stable.

Stability Comparison with History Versions

■ Total amount of drawings ■ correct drawings

Version	Total amount of drawings	correct drawings
ZWCAD 2019	1270	1267
ZWCAD 2019 SP1	1270	1267
ZWCAD 2019 SP2	1270	1266
ZWCAD 2020 OFFICIAL	1270	1266
ZWCAD 2020 SP1	1270	1266

New Features

This section expounds the new features in this release.

Migrating Customized Settings

When users first convert or upgrade to ZWCAD 2020 SP1, they can migrate their settings from earlier versions (ZWCAD2018/ZWCAD2019), import and export ZWCAD 2020 settings, and reset settings to the default, so that they can continue their previous working habits. All the functions mentioned above can be found in both the Start menu and installation directory.
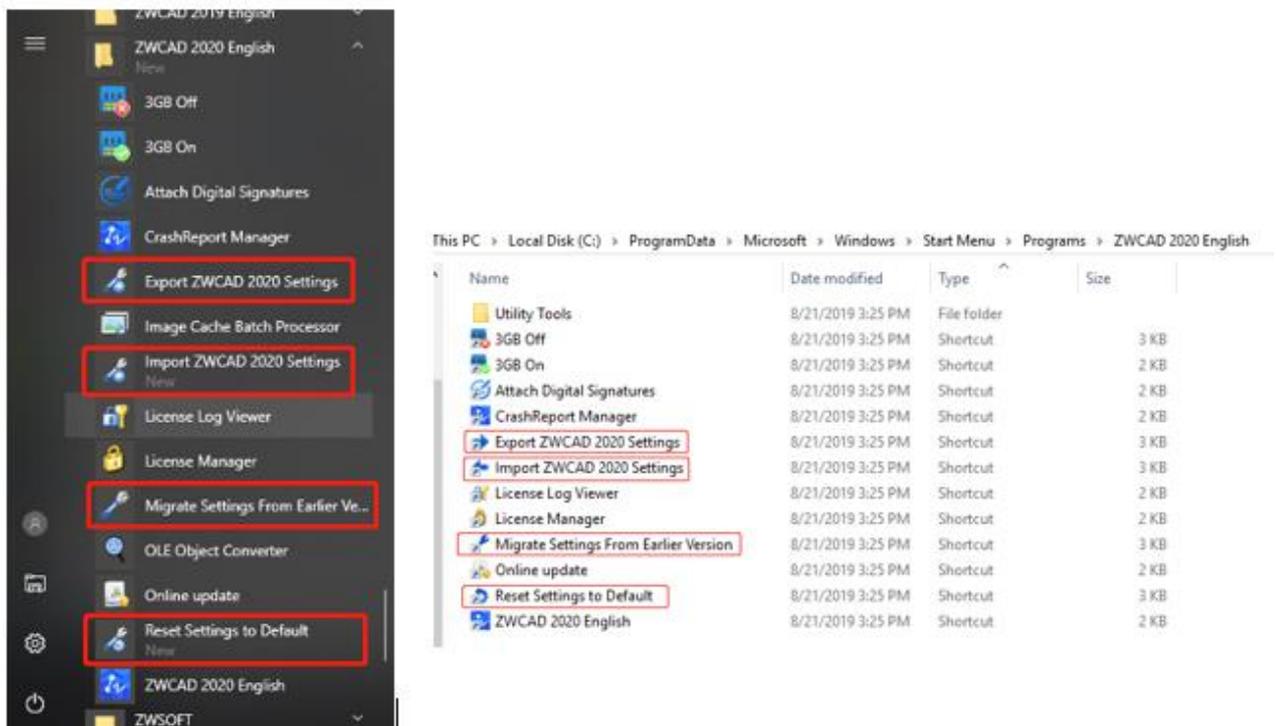

Figure 1. Two paths to migrate customized settings

Apart from these two ways, users can also migrate customized settings in the pop-up window when they first launch ZWCAD 2020 SP1. In this pop-up window, they can migrate settings including user profiles, CUIX and so on.
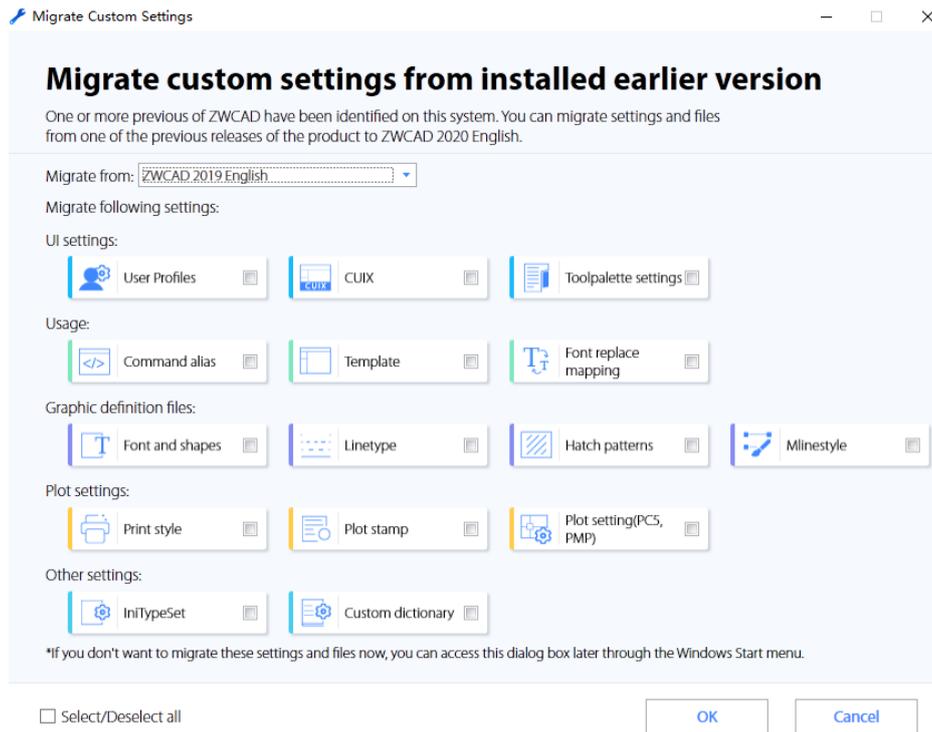
Figure 2. The pop-up window of migrating customized settings

Please note that Migrating Customized Setting is available for Windows 7 or a later Windows edition and users can migrate their settings from earlier versions only if it is the same as ZWCAD 2020 SP1 in language setting.

Blockbreak

Blockbreak can help combine a block with an entity without further breaking.
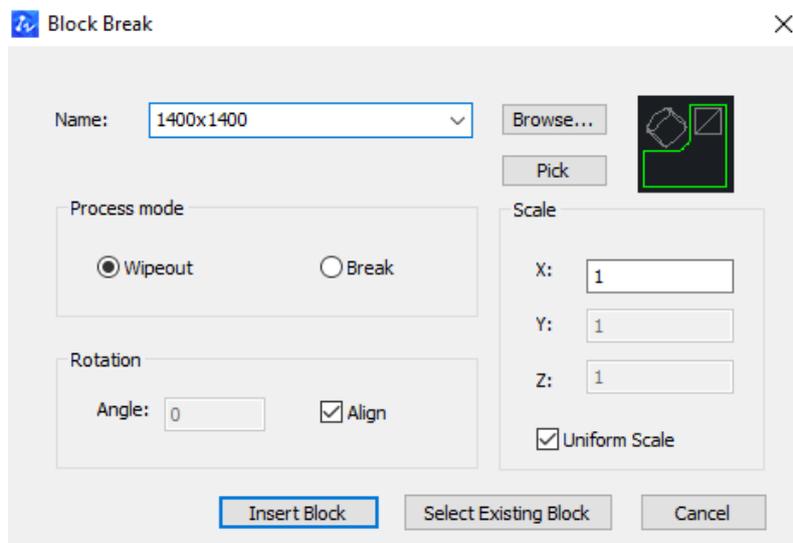

Figure 3 The pop-up window invoked by Blockbreak

Blockbreak can be activated by inputting BLOCKBREAK. A block that comes from a .dwg file or the current drawing can be merged into an entity in two modes – Wipeout or Break. By Wipeout, the entity will be hidden but not broken under the block; while by Break, it will be broken. This new feature is particularly convenient for electrical and architectural design.

Figure 4. Comparing the results of using Wipeout (Left) and Break (Right)

Improvements

This section shows the improvements in this release.

PDF Plotting

Raster images, line weights, and line colors can be plotted more accurately to PDF files of smaller size. Plotting PDF files in smaller size shortens the plotting and transferring time. The plotting scale of PDF is also more accurate, totally matching the actual size of the paper.

What's more, PDF printer configuration is added. Users can choose whether to include the layer information in the PDF, whether to open the PDF in a PDF viewer when the plotting is done, and whether True Type fonts are outputted as texts or as graphics.

When the True Type fonts outputted as texts, users can easily find, select and copy the texts in PDF files in a PDF viewer. This makes it convenient for users to acquire the information needed.
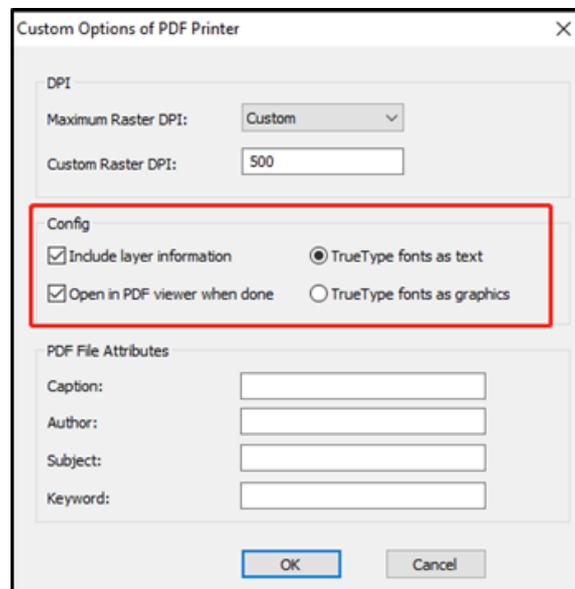

Figure 5. PDF printer configuration

Viewport Rotation

A viewport can be rotated correctly around a base point to any angle in the Layout viewport, so that users can view drawings in different angles flexibly.

A system variable, VPROTATEASSOC is added in this version to control whether entities in the viewport will rotate along with the viewport.
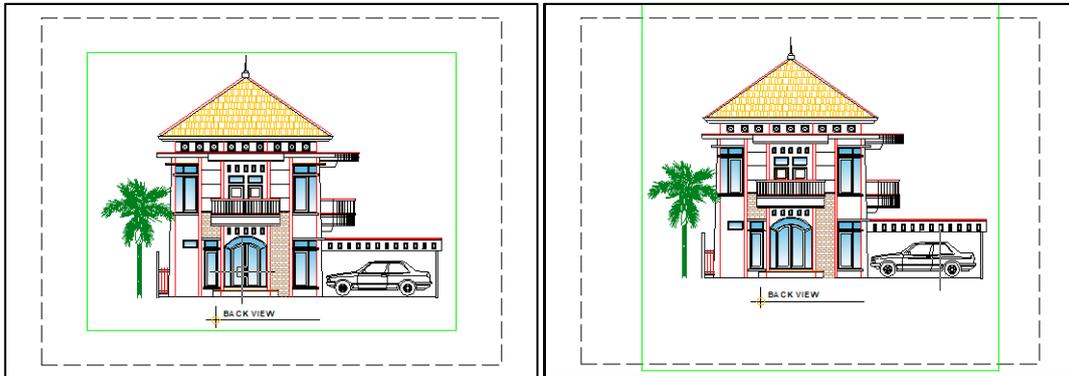

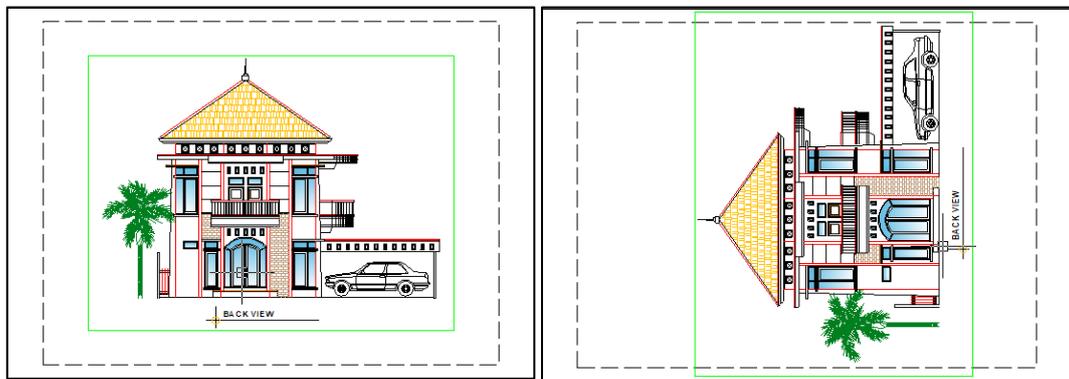
Figure 6. 90° Viewport rotation when VPROTATEASSOC=0

Figure 7. 90° Viewport rotation when VPROTATEASSOC=1

Document/Layout Tabs

Users can now do more on the document tabs with their mouse. To quickly create documents, click the "+" icon near them. To close all documents except the current drawing, or close all the ones on its left or right, right-click and choose from the menu. To drag and reorder document tabs, click and hold down the left mouse button. To directly close the document, middle-click.
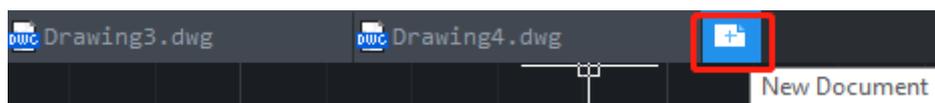
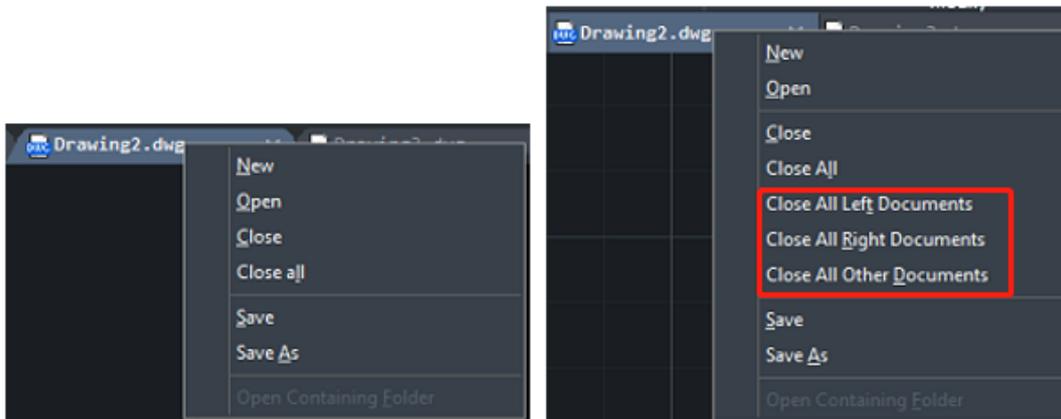

Figure 8. Creating a new document

Figure 9. The right-click menu of document tabs in ZWCAD 2020 Official (Left) and ZWCAD 2020 SP1 (Right)
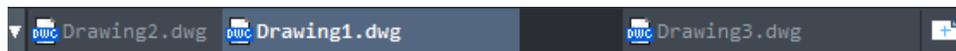

Figure 10. Reordering document tabs

Besides, an asterisk (*) will appear after the document tabs if any change is made but not saved, reminding users to save the drawing.

Figure 11. An asterisk (*) shown after the file name for the unsaved changes

Moreover, the "+" icon is added near the layout tabs, allowing users to create a layout easily. And users can go through all the layouts in the newly added layout list by clicking the triangle on the far left.
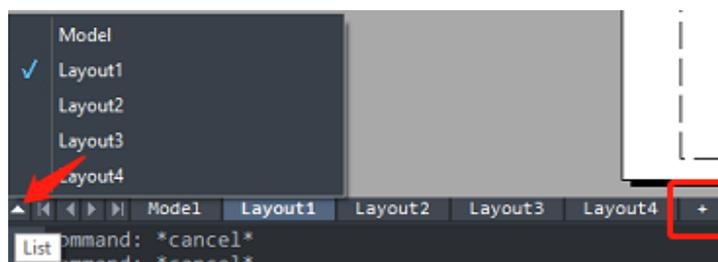

Figure 12. A layout list and a "+" icon are added

Digital Signature for DWFX Files

Digital signatures, available in Windows 7 or later editions, can be attached to DWFx files via the DigitalSignatureExe.exe, which can be found under the ZWCAD 2020 folder in the Start menu.

Once Digital signature is attached to a DWFx file, the file will be protected from being copied and modified. Users can add a DWFx file in the application to check the validity of the digital signature. If it is valid, the Status will be "Signed", while if it is invalid or there is no signature, the Status will be blank.
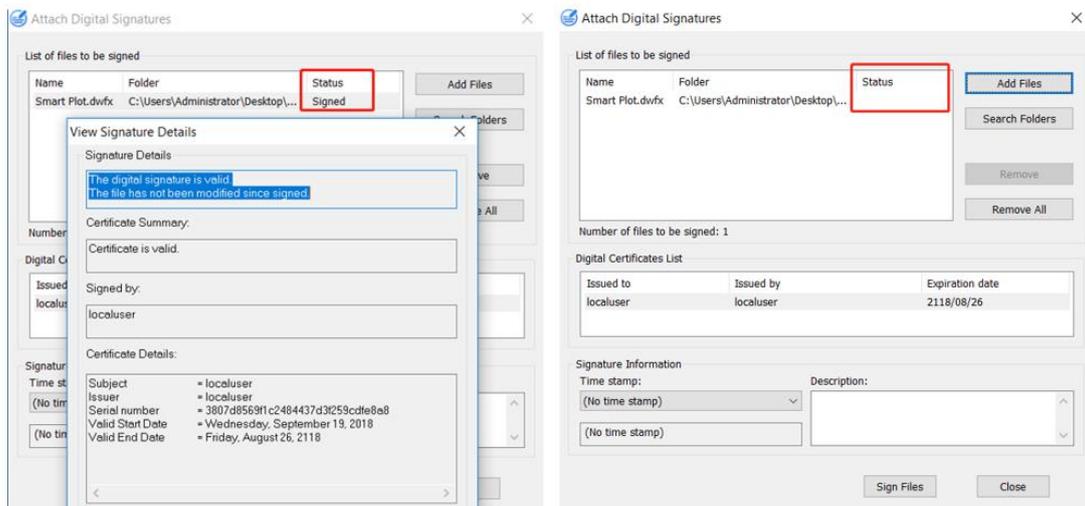
Figure 14. Checking the validity of the certificates

Raster Image Plotting

Now raster images can be plotted accurately and smoothly to JPG, PNG, TIF graphic files of proper resolution in CMYK, RGB or Monochrome. Moreover, users can trim the edge space to make the published raster image stay where they want it to be. This improvement gets graphic files plotted by ZWCAD ready for publication without any more modifications.

Figure 15. Raster image published with the edge space trimmed
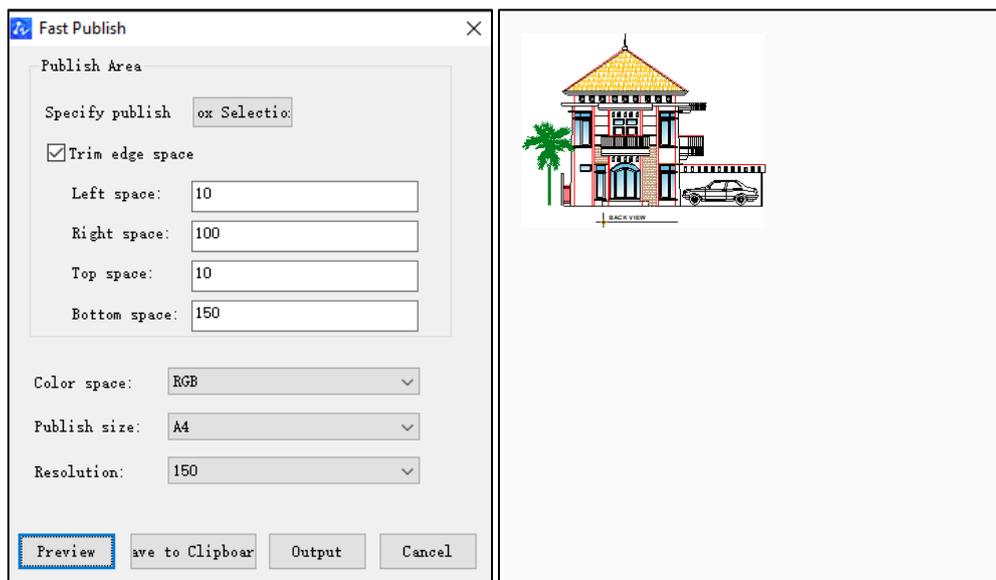
Figure 16. Raster image published without the edge space trimmed

New Commands & System Variables

The following section describes the new commands and system variables in this release.

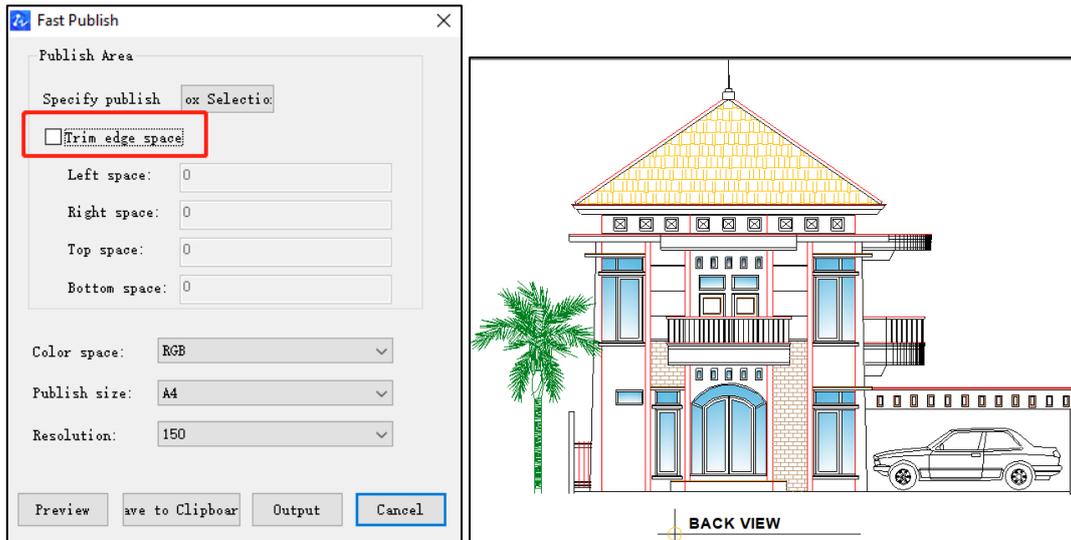| New Commands	Description
BLOCKBREAK	Insert blocks into entities directly without further breaking.
FILETAB	Display the file tab when it has been hidden.
FILETABCLOSE	Hide the file tab when it appears.
MAIL	Attach the current drawing automatically to an opened email client.
MOVEBAK	Change the saving path of backup drawings.
PUBLISHERASTER	Trim the edge space of a raster image to be published.
-BLOCKREPLACE	Execute the BLOCKREPLACE command in the command line.
-IMAGEADJUST	Execute the IMAGEADJUST command in the command line.

New System Variables	Description
FILETABSTATE	Indicate the current status (displayed or hidden) of the file tab.
HPLAYER	Place the hatch pattern in a new layer or the current layer.
REPORTERROR	Control whether to send an error report to ZWSOFT when the program is closed unexpectedly.
VPROTATEASSOC	When the viewport is rotated, it controls whether the entities inside it rotate with it.
BLOCKBREAKMODE	Control the mode (Wipeout or Break) of attaching blocks to entities.

APIs

The following section describes the condition of APIs in this release.

ZRX

ZRX programs running correctly on ZWCAD 2018 Official/SP1/SP2, ZWCAD 2020 SP1/SP1/SP2 and 2020 Official can be loaded on ZWCAD 2020 SP1 directly. 14 were added (highlighted in blue) and 39 were fixed as below:

Interface	Modification
Acad::ErrorStatus AcDbRasterImage::setWidth(double);	Added
Acad::ErrorStatus AcDbRasterImage::setHeight(double);	Added
double AcDbRasterImage::width() const;	Added
double AcDbRasterImage::height() const;	Added
Acad::ErrorStatus acdbSetViewportVisualStyle(AcDbObjectId visualStyleId);	Added
void AcGiImageFileTexture::setSourceFileName(const ACHAR *fileName)	Added
Acad::ErrorStatus AcDbObject::getClassID(CLSID* pClsid) const;	Added
AcGeFiler::AcGeFiler();	Added
AcGiGenericTexture::AcGiGenericTexture();	Added
AcGiGenericTexture & operator =(const AcGiGenericTexture & texture);	Added
virtual bool operator ==(const AcGiMaterialTexture & texture) const;	Added
Acad::ErrorStatus AcDbEntity::setMaterialMapper(const AcGiMapper& mapper, Adesk::Boolean doSubents = true);	Added

Acad::ErrorStatus AcDbEntity::getMaterialMapper(AcGiMapper& mapper) const;	Added
Acad::ErrorStatus AcDbEntity::setMaterial(AcDbObjectId newVal, Adesk::Boolean doSubents = true);	Added
virtual void AcGsView::zoomExtents(const AcGePoint3d &minPoint, const AcGePoint3d &maxPoint)	Fixed
virtual void AcGsView::zoomWindow(const AcGePoint2d &lowerLeft, const AcGePoint2d &upperRight)	Fixed
Acad::ErrorStatus AcDbViewport::setOn();	Fixed
Acad::ErrorStatus AcDbViewport:: setNonRectClipEntityId(AcDbObjectId);	Fixed
int acedCommand(int rtype, ...);	Fixed
int acedSetFunHelp(const ACHAR* pszFunctionName, const ACHAR* pszHelpfile, const ACHAR* pszTopic, int iCmd);	Fixed
Acad::ErrorStatus AcDbEntity::draw();	Fixed
Acad::ErrorStatus AcDbHatch:: setPatternSpace(double space);	Fixed
virtual Acad::ErrorStatus AcDbObject:: setXData(const resbuf* xdata);	Fixed
Acad::ErrorStatus AcApLongTransactionReactor::veto();	Fixed
class AcEdInputPointMonitor : public AcRxObject;	Fixed

Acad::ErrorStatus acedXrefOverlay (const ACHAR *XrefPathname, const ACHAR *XrefBlockname, AcDbObjectId *pXrefBTRid=NULL, AcDbObjectId *pXrefRefid=NULL, const AcGePoint3d *pXrefInsertPt=NULL, const AcGeScale3d *pXrefScale=NULL, const double *pXrefRotateAngle=NULL, const bool bQuiet=true, AcDbDatabase *pHostDb=NULL, const wchar_t *wszPassword=NULL)	Fixed
bool ADUI_PORT AdUiSetDockBarMinWidth(int width);	Fixed
virtual Acad::ErrorStatus AcDbCurve:: getOffsetCurves(double offsetDist, AcDbVoidPtrArray& offsetCurves) const;	Fixed
AcGePoint2d AcGeCurve2d:: closestPointTo(const AcGeCurve2d& curve2d, AcGePoint2d& pntOnOtherCrv, const AcGeTol& tol = AcGeContext::gTol) const;	Fixed
virtual int AcDbMPolygon:: isPointInsideMPolygon(const AcGePoint3d& worldPt, AcGeIntArray& loopsArray, double tol = AcDbMPolygonCrossingFuzz) const;	Fixed
STDMETHODIMP IAcPiCategorizePropertiesImpl:: GetCategoryWeight(PROPCAT atID, long * pCategoryWeight);	Fixed
ACDB_PORT ADESK_SEALED_VIRTUAL Acad::ErrorStatus AcDbEntity::getGeomExtents(AcDbExtents& extents) const;	Fixed
virtual Acad::ErrorStatus AcDbPlotSettingsValidator:: setPlotCentered(AcDbPlotSettings* pPlotSet, Adesk::Boolean isCentered) = 0;	Fixed

virtual Acad::ErrorStatus AcDbCurve::getPointAtDist(double, AcGePoint3d&) const;	Fixed
int acedSSGet(const ACHAR * str, const void * pt1, const void * pt2, const struct resbuf * filter, ads_name ss);	Fixed
BOOL acedRegisterOnIdleWinMsg(const AcedOnIdleMsgFn pFn);	Fixed
Acad::ErrorStatus AcDbEntity explode(AcDbVoidPtrArray& entitySet) const;	Fixed
int CAdUiPaletteSet::AddPalette(CAdUiPalette* pPalette);	Fixed
AcDb3dSolid::AcDb3dSolid();	Fixed
Acad::ErrorStatus AcDbEntity::setMaterialMapper(const AcGiMapper& mapper, Adesk::Boolean doSubents = true);	Fixed
Adesk::Boolean AcGeBoundBlock3d::contains (const AcGePoint3d& point) const;	Fixed
void AsGsModel::setTransform (const AcGeMatrix3d &)	Fixed
Acad::ErrorStatus AcDbMlineStyle::setName(const ACHAR * name);	Fixed
Acad::ErrorStatus AcDbXrecord::setFromRbChain(const resbuf& pRb, AcDbDatabase* auxDb = NULL);	Fixed
Acad::ErrorStatus acedTraceBoundary(const AcGePoint3d& seedPoint, bool detectIslands, AcDbVoidPtrArray& resultingBoundarySet);	Fixed

.NET

3 were added (highlighted in blue) and 10 were fixed as below:

Interface	Modification
BlockTableRecord.GetAnonymousBlockIds Method	Added
BlockTableRecord.IsDynamicBlock Property	Added
Hatch.AppendLoop Method (HatchLoop)	Added
Extents3d.TransformBy Method	Fixed
PromptSelectionOptions.SetKeywords Method	Fixed
Xrecord.Data Property	Fixed
CommandMethodAttribute.GlobalName Property	Fixed
DropTarget.OnDragEnter Method	Fixed
DropTarget.OnDragLeave Method	Fixed

DropTarget.OnDragOver Method	Fixed
DropTarget.OnDrop Method	Fixed
Database.BeginSave Event	Fixed
Database.SaveComplete Event	Fixed

VBA

0 were added and 8 were fixed as below:

Document.BeginCommand Event	Fixed
Utility.GetEntity Method	Fixed
Utility.GetPoint Method	Fixed
Utility.GetCorner Method	Fixed

Toolbar.AddToolbarButton Method	Fixed
Spline.ObjectID Property	Fixed
Viewport.Split Method	Fixed
Polyline.Update Method	Fixed

LISP

0 were added and 20 were fixed as below:

Interface	Modification
error	Fixed
ssget	Fixed
menucmd	Fixed
action_tile	Fixed

subst	Fixed
expt	Fixed
rtos	Fixed
vlax-invoke	Fixed
entsel	Fixed
read-line	Fixed
sssetfirst	Fixed
princ	Fixed
command	Fixed

Bugs Fixed

Bug ID	Description
APIs	
ZWCADSUP-1253	ZRX\acedCommand: Prompts in the command line did not repeatedly showing up until the input is correct.
ZWCADSUP-1251	VBA\COM: Multiple records occurred in the undo list when using the COM interface.
ZWCADSUP-1276	ZRX\ads_setfunhelp: Help document setting did not work.
ZWCADSUP-1281	vba\undo: Undo did not work when editing spline grips with the attached file loaded.
ZWCADSUP-2447	.NET\BlockTableRecord: IsDynamicBlock, IsAnonymous, and GetAnonymousBlockIds in BlockTableRecord did not work.
Others	
ZWCADSUP-12	Viewport: Objects copied from one viewport to another viewport didn't stay the same as what they were in the original viewport.
ZWCADSUP-1573	CUI: User customized toolbar became the default setting after updating ZWCAD with the Patch package.
ZWCADSUP-1736	Field: Field values relating to the hatched area did not change when the hatched area increased.
ZWCADSUP-2220	Pedit: It took a long time to convert spline to polyline.
ZWCADSUP-2975	MKLTYPE: Texts did not align with the line.

For the complete list of Bugs Fixed, please refer to:

https://zwcad.freshdesk.com/support/solutions/articles/24000047471-what-s-fixed-in-zwcad-2020-sp1

Limitation and Notes

No.	Description
1	Migrate\ZWCADSEARCHPATH: The value of system variables like ZWCADSEARCHPATH is incorrect after the ZWCAD 2020 SP1 installation folder is moved to where previous versions of ZWCAD has been installed before.
2	Plot: Plotting as a DWF file with DWF6 ePlot.pc5 costs a long time.
3	Plot: The plotted DWF file is of a far larger size.
4	Mail: There may be messy codes in the set subject.
5	Plot\DISPSILH: This system variable is invalid.