

Visualization

by Perforce

RELEASE NOTES

October 2022

Visualization for C++®
Version 6.4.1

Introduction

These *Release Notes* highlight the changes for the following versions of Views:

- [Views version 6.4 changes](#)

Views version 6.4 changes

- [Important Announcements](#)
- [New Features](#)
- [New Ports](#)
- [API Changes](#)
- [Updated Features](#)
- [Bug Fixes](#)
- [Removed Features](#)

Important Announcements

Please read the following important announcements for Views version 6.4.

Patch process has been changed

From version 6.4 onward, patch releases use the same installers as the main release version and contain everything needed to use Views. It is possible to install a patch over the main release or previous patch. ABI and API compatibility will still be intact.

New Features

The following new features have been added to Views version 6.4.

Visual Studio 2019 support

Views version 6.4 now supports Visual Studio 2019.

New environment variable

I LVGREEDYACCELERATORS is a new environment variable that allows you to control how the key combination associated with a menu item is captured.

Support for Oracle 19c

Views 6.4 now supports Oracle 19c on Linux and Windows.

Third-party library updates

The following third-party libraries used by Views were updated in this release to avoid any known security vulnerabilities in previous versions.

- **libzlib** — Updated to version 1.2.11.
 - **libpng** — Updated to version 1.6.37.
 - **libjpeg** — Updated to version 9d.
 - **libtiff** — Updated to version 4.0.7-1.
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New Ports

The following ports are new in this release.

Windows:

- Windows 11 is now supported.

Linux:

- SUSE/SLES 15 is now supported.
- RHEL/CentOS 8 is now supported.

UNIX (available upon request):

- No new ports for UNIX.
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API Changes

Views 6.4 includes a number of API and library changes. While most changes are minor and do not impact your use of the Views APIs, some of these changes do require you to update your API and change the way you link your Views application. Review the set of class member, removed classes, added classes, and hierarchy changes to understand the changes to the API.

To help Views developers port to Views 6.4 the following summary of key library updates and API changes are highlighted. Developers porting to Views 6.4 may be impacted by these changes.

- [Views 6.4 library updates](#)
- [Views 6.4 API Porting Suggestions](#)
- [Removed classes](#)
- [Added classes](#)
- [Hierarchy changes](#)
- [Class members changes](#)

Views 6.4 library updates

No library updates for this release.

Views 6.4 API Porting Suggestions

No new porting suggestions.

Removed classes

No classes have been removed.

Added classes

The following classes have been added:

```
IlvApproximateAzimuthalEquidistantProjection  
IlvApproximateTransverseMercatorProjection
```

Hierarchy changes

No base classes were changed.

Class members changes

The following class members have been changed.

IlvAzimuthalEquidistantProjection	IlvCADRGCoverage	IlvCADRGFrame
IlvColorSelector	IlvColorSelectorPage	IlvManagerLayer
IlvManagerObjectProperty	IlvNotebook	IlvPNGStreamer
IlvPopupMenu	IlvProjection	IlvTransverseMercatorProjection
IlvView	IlvViewFrame	IlvViewRectangle

IlvAzimuthalEquidistantProjection

Added members:

```
virtual IlvMapsError forward (IlvCoordinate &coords) const  
virtual IlvMapsError forward (const IlvCoordinate &llIn, IlvCoordinate &xyOut) const  
virtual IlvMapsError inverse (IlvCoordinate &coords) const  
virtual IlvMapsError inverse (const IlvCoordinate &xyIn, IlvCoordinate &llOut) const  
virtual Il Boolean isForPolarZones () const  
virtual bool isUsingProj4 () const  
~IlvAzimuthalEquidistantProjection ()
```

IlvCADRGCoverage

Added members:

```
Il Boolean getLowerLeftCorner (IlvCoordinate &ll) const  
Il Boolean getRectCoordinates (IlvCoordinate &c1, IlvCoordinate &c2) const  
Il Boolean getUpperRightCorner (IlvCoordinate &ur) const
```

IlvCADRGFrame

Added members:

```
Il Boolean getLowerLeftCorner (IlvCoordinate &ll) const  
Il Boolean getRectCoordinates (IlvCoordinate &c1, IlvCoordinate &c2) const  
Il Boolean getUpperRightCorner (IlvCoordinate &ur) const
```

IlvColorSelector

Added members:

```
void set (IlvColor *color, IlvShort pos)
```

IlvColorSelectorPage

Changed member (from/to):

```
virtual void setColor (IlvColor *color)  
virtual void setColor (IlvColor *color, IlvShort pos = -1)
```

Added members:

```
void propagateColor (IlvColor *color, IlvShort)
```

IlvManagerLayer

Changed member (from/to):

```
IlUShort getIndex () const
```

```
IlInt getIndex () const
```

IlvManagerObjectProperty

Changed member (from/to):

```
IlUShort getLayer () const
```

```
IlInt getLayer () const
```

IlvNotebook

Removed members:

```
Il Boolean isVisible () const
```

Added members:

```
void hidePageView ()
```

```
Il Boolean isPageViewVisible () const
```

```
void showPageView ()
```

IlvPNGStreamer

Added members:

```
Il Boolean write (IlvBitmapData *data, std::ostream &stream IlvPngWriteMethod: IlvPngWriteMethod  
method)
```

IlvPopupMenu

Removed members:

```
Il Boolean isVisible () const
```

Added members:

```
Il Boolean isMenuShown () const
```

IlvProjection

Changed member (from/to):

```
IlvMapsError forward (const IlvCoordinate &lIn, IlvCoordinate &xyOut) const
```

```
virtual IlvMapsError forward (const IlvCoordinate &lIn, IlvCoordinate &xyOut) const
```

Changed member (from/to):

```
IlvMapsError inverse (const IlvCoordinate &xyIn, IlvCoordinate &lOut) const
```

```
virtual IlvMapsError inverse (const IlvCoordinate &xyIn, IlvCoordinate &lOut) const
```

Changed member (from/to):

```
IlvMapsError forward (IlvCoordinate &coords) const
```

```
virtual IlvMapsError forward (IlvCoordinate &coords) const
```

Changed member (from/to):

```
IlvMapsError inverse (IlvCoordinate &coords) const  
virtual IlvMapsError inverse (IlvCoordinate &coords) const
```

Changed member (from/to):

```
void setXYOffset (IlDouble x0, IlDouble y0)  
virtual void setXYOffset (IlDouble x0, IlDouble y0)
```

Added members:

```
virtual IlBoolean isForPolarZones () const  
virtual bool isUsingProj4 () const
```

IlvTransverseMercatorProjection

Added members:

```
virtual IlvMapsError forward (IlvCoordinate &coords) const  
virtual IlvMapsError forward (const IlvCoordinate &llIn, IlvCoordinate &xyOut) const  
virtual IlvMapsError inverse (IlvCoordinate &coords) const  
virtual IlvMapsError inverse (const IlvCoordinate &xyIn, IlvCoordinate &llOut) const  
virtual bool isUsingProj4 () const  
virtual void setLLCenter (IlDouble, IlDouble)  
virtual void setXYOffset (IlDouble x0, IlDouble y0)  
~IlvTransverseMercatorProjection ()
```

IlvView

Added members:

```
virtual void doPostResize (IlvRect &rect)  
virtual void removePostResizeCallback (IlvResizeCallback resize, IlAny userArg = 0)  
void runResizeCallbacks (const IlAList &callbacks, IlvRect &rect)  
virtual void setPostResizeCallback (IlvResizeCallback resize, IlAny userArg = 0)
```

IlvViewFrame

Added members:

```
virtual void doPostResize (IlvRect &rect)
```

IlvViewRectangle

Removed members:

```
IlBoolean isVisible () const
```

Added members:

```
void hideView ()  
virtual IlBoolean isVisible () const  
void showView ()
```

Updated Features

- [Port Updates](#)
- [Other Updates](#)

Port Updates

No ports were updated for this release.

Other Updates

- **Maps improvements** — UTM projection, WGS84, and MGRS coordinate conversion have been improved in the Views 6.4 release. These improvements provide more accurate conversions and performance improvements.
- **Sample builds now use Cmake** — Views samples now use cmake to build the samples distributed with the product.

Bug Fixes

The following bug fixes have been made:

- VIEWS-17294: Purify reports invalid writes of size 1 when deleting a hidden modal view.
- VIEWS-18205: Loading an ILV file containing a prototype with an empty name crashes the Studio.
- VIEWS-18446: The inertia timer of the `IlvNavigationInteractor` causes a crash.
- VIEWS-18467: Crash reported in `vsbinter.cpp` due to division by zero error.
- VIEWS-18536: Views Studio crashes upon choosing a font.
- VIEWS-18711: Views Studio crashes while opening a proto library file.

Removed Features

No features have been removed.