| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/BufferCapabilities.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/java/awt/BorderLayout.html)   [**NEXT CLASS**](http://docs.google.com/java/awt/BufferCapabilities.FlipContents.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/BufferCapabilities.html)    [**NO FRAMES**](http://docs.google.com/BufferCapabilities.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: [NESTED](#3znysh7) | FIELD | [CONSTR](#2et92p0) | [METHOD](#tyjcwt) | DETAIL: FIELD | [CONSTR](#1t3h5sf) | [METHOD](#2s8eyo1) |

## **java.awt**

Class BufferCapabilities

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **java.awt.BufferCapabilities**

**All Implemented Interfaces:** [Cloneable](http://docs.google.com/java/lang/Cloneable.html)

public class **BufferCapabilities**extends [Object](http://docs.google.com/java/lang/Object.html)implements [Cloneable](http://docs.google.com/java/lang/Cloneable.html)

Capabilities and properties of buffers.

**Since:** 1.4 **See Also:**[BufferStrategy.getCapabilities()](http://docs.google.com/java/awt/image/BufferStrategy.html#getCapabilities()), [GraphicsConfiguration.getBufferCapabilities()](http://docs.google.com/java/awt/GraphicsConfiguration.html#getBufferCapabilities())

| **Nested Class Summary** | |
| --- | --- |
| static class | [**BufferCapabilities.FlipContents**](http://docs.google.com/java/awt/BufferCapabilities.FlipContents.html)            A type-safe enumeration of the possible back buffer contents after page-flipping |

| **Constructor Summary** | |
| --- | --- |
| [**BufferCapabilities**](http://docs.google.com/java/awt/BufferCapabilities.html#BufferCapabilities(java.awt.ImageCapabilities,%20java.awt.ImageCapabilities,%20java.awt.BufferCapabilities.FlipContents))([ImageCapabilities](http://docs.google.com/java/awt/ImageCapabilities.html) frontCaps, [ImageCapabilities](http://docs.google.com/java/awt/ImageCapabilities.html) backCaps, [BufferCapabilities.FlipContents](http://docs.google.com/java/awt/BufferCapabilities.FlipContents.html) flipContents)            Creates a new object for specifying buffering capabilities |

| **Method Summary** | |
| --- | --- |
| [Object](http://docs.google.com/java/lang/Object.html) | [**clone**](http://docs.google.com/java/awt/BufferCapabilities.html#clone())()            Creates and returns a copy of this object. |
| [ImageCapabilities](http://docs.google.com/java/awt/ImageCapabilities.html) | [**getBackBufferCapabilities**](http://docs.google.com/java/awt/BufferCapabilities.html#getBackBufferCapabilities())() |
| [BufferCapabilities.FlipContents](http://docs.google.com/java/awt/BufferCapabilities.FlipContents.html) | [**getFlipContents**](http://docs.google.com/java/awt/BufferCapabilities.html#getFlipContents())() |
| [ImageCapabilities](http://docs.google.com/java/awt/ImageCapabilities.html) | [**getFrontBufferCapabilities**](http://docs.google.com/java/awt/BufferCapabilities.html#getFrontBufferCapabilities())() |
| boolean | [**isFullScreenRequired**](http://docs.google.com/java/awt/BufferCapabilities.html#isFullScreenRequired())() |
| boolean | [**isMultiBufferAvailable**](http://docs.google.com/java/awt/BufferCapabilities.html#isMultiBufferAvailable())() |
| boolean | [**isPageFlipping**](http://docs.google.com/java/awt/BufferCapabilities.html#isPageFlipping())() |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [equals](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [hashCode](http://docs.google.com/java/lang/Object.html#hashCode()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [toString](http://docs.google.com/java/lang/Object.html#toString()), [wait](http://docs.google.com/java/lang/Object.html#wait()), [wait](http://docs.google.com/java/lang/Object.html#wait(long)), [wait](http://docs.google.com/java/lang/Object.html#wait(long,%20int)) |

| **Constructor Detail** |
| --- |

### BufferCapabilities

public **BufferCapabilities**([ImageCapabilities](http://docs.google.com/java/awt/ImageCapabilities.html) frontCaps,  
 [ImageCapabilities](http://docs.google.com/java/awt/ImageCapabilities.html) backCaps,  
 [BufferCapabilities.FlipContents](http://docs.google.com/java/awt/BufferCapabilities.FlipContents.html) flipContents)

Creates a new object for specifying buffering capabilities

**Parameters:**frontCaps - the capabilities of the front buffer; cannot be nullbackCaps - the capabilities of the back and intermediate buffers; cannot be nullflipContents - the contents of the back buffer after page-flipping, null if page flipping is not used (implies blitting) **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if frontCaps or backCaps are null

| **Method Detail** |
| --- |

### getFrontBufferCapabilities

public [ImageCapabilities](http://docs.google.com/java/awt/ImageCapabilities.html) **getFrontBufferCapabilities**()

**Returns:**the image capabilities of the front (displayed) buffer

### getBackBufferCapabilities

public [ImageCapabilities](http://docs.google.com/java/awt/ImageCapabilities.html) **getBackBufferCapabilities**()

**Returns:**the image capabilities of all back buffers (intermediate buffers are considered back buffers)

### isPageFlipping

public boolean **isPageFlipping**()

**Returns:**whether or not the buffer strategy uses page flipping; a set of buffers that uses page flipping can swap the contents internally between the front buffer and one or more back buffers by switching the video pointer (or by copying memory internally). A non-flipping set of buffers uses blitting to copy the contents from one buffer to another; when this is the case, getFlipContents returns null

### getFlipContents

public [BufferCapabilities.FlipContents](http://docs.google.com/java/awt/BufferCapabilities.FlipContents.html) **getFlipContents**()

**Returns:**the resulting contents of the back buffer after page-flipping. This value is null when the isPageFlipping returns false, implying blitting. It can be one of FlipContents.UNDEFINED (the assumed default), FlipContents.BACKGROUND, FlipContents.PRIOR, or FlipContents.COPIED.**See Also:**[isPageFlipping()](http://docs.google.com/java/awt/BufferCapabilities.html#isPageFlipping()), [BufferCapabilities.FlipContents.UNDEFINED](http://docs.google.com/java/awt/BufferCapabilities.FlipContents.html#UNDEFINED), [BufferCapabilities.FlipContents.BACKGROUND](http://docs.google.com/java/awt/BufferCapabilities.FlipContents.html#BACKGROUND), [BufferCapabilities.FlipContents.PRIOR](http://docs.google.com/java/awt/BufferCapabilities.FlipContents.html#PRIOR), [BufferCapabilities.FlipContents.COPIED](http://docs.google.com/java/awt/BufferCapabilities.FlipContents.html#COPIED)

### isFullScreenRequired

public boolean **isFullScreenRequired**()

**Returns:**whether page flipping is only available in full-screen mode. If this is true, full-screen exclusive mode is required for page-flipping.**See Also:**[isPageFlipping()](http://docs.google.com/java/awt/BufferCapabilities.html#isPageFlipping()), [GraphicsDevice.setFullScreenWindow(java.awt.Window)](http://docs.google.com/java/awt/GraphicsDevice.html#setFullScreenWindow(java.awt.Window))

### isMultiBufferAvailable

public boolean **isMultiBufferAvailable**()

**Returns:**whether or not page flipping can be performed using more than two buffers (one or more intermediate buffers as well as the front and back buffer).**See Also:**[isPageFlipping()](http://docs.google.com/java/awt/BufferCapabilities.html#isPageFlipping())

### clone

public [Object](http://docs.google.com/java/lang/Object.html) **clone**()

**Description copied from class:** [**Object**](http://docs.google.com/java/lang/Object.html#clone()) Creates and returns a copy of this object. The precise meaning of "copy" may depend on the class of the object. The general intent is that, for any object x, the expression:

x.clone() != x

will be true, and that the expression:

x.clone().getClass() == x.getClass()

will be true, but these are not absolute requirements. While it is typically the case that:

x.clone().equals(x)

will be true, this is not an absolute requirement.

By convention, the returned object should be obtained by calling super.clone. If a class and all of its superclasses (except Object) obey this convention, it will be the case that x.clone().getClass() == x.getClass().

By convention, the object returned by this method should be independent of this object (which is being cloned). To achieve this independence, it may be necessary to modify one or more fields of the object returned by super.clone before returning it. Typically, this means copying any mutable objects that comprise the internal "deep structure" of the object being cloned and replacing the references to these objects with references to the copies. If a class contains only primitive fields or references to immutable objects, then it is usually the case that no fields in the object returned by super.clone need to be modified.

The method clone for class Object performs a specific cloning operation. First, if the class of this object does not implement the interface Cloneable, then a CloneNotSupportedException is thrown. Note that all arrays are considered to implement the interface Cloneable. Otherwise, this method creates a new instance of the class of this object and initializes all its fields with exactly the contents of the corresponding fields of this object, as if by assignment; the contents of the fields are not themselves cloned. Thus, this method performs a "shallow copy" of this object, not a "deep copy" operation.

The class Object does not itself implement the interface Cloneable, so calling the clone method on an object whose class is Object will result in throwing an exception at run time.

**Overrides:**[clone](http://docs.google.com/java/lang/Object.html#clone()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a copy of this BufferCapabilities object.**See Also:**[Cloneable](http://docs.google.com/java/lang/Cloneable.html)

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/BufferCapabilities.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
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[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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