

# Ultraschall Core v5.0

Application Programming Interface

<https://ultraschall.fm>

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230 **Chapter 1**

231 **Namespace Index**

232 **1.1 Namespace List**

233 Here is a list of all namespaces with brief descriptions:

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236	<a href="#">Ultraschall::Core</a>	7
237	<a href="#">ultraschall::reaper</a>	12



## Chapter 2

# Hierarchical Index

## 2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Ultraschall::Core::FileDialog . . . . .	13
Ultraschall::Core::FileManager . . . . .	15
Ultraschall::Core::Globals . . . . .	21
Ultraschall::Core::Guid . . . . .	22
Ultraschall::Core::String::Impl . . . . .	24
Ultraschall::Core::Guid::Impl . . . . .	25
Ultraschall::Core::ServiceManager::Impl . . . . .	27
Ultraschall::Core::SharedObject::Impl . . . . .	29
Ultraschall::Core::StringArray::Impl . . . . .	31
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Ultraschall::Core::StringDictionary . . . . .	63
Ultraschall::Core::WideString . . . . .	64



## Chapter 3

# Data Structure Index

### 3.1 Data Structures

Here are the data structures with brief descriptions:

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Ultraschall::Core::FileManager	15
Ultraschall::Core::Globals	21
Ultraschall::Core::Guid	22
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Ultraschall::Core::SharedObject::Impl	29
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Ultraschall::Core::StringBuilder::Impl	31
Ultraschall::Core::WideString::Impl	32
Ultraschall::Core::IService	33
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Ultraschall::Core::StringArray	60
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## Chapter 4

# Namespace Documentation

### 4.1 ultraschall Namespace Reference

#### Namespaces

- [reaper](#)

### 4.2 Ultraschall Namespace Reference

#### Namespaces

- [Core](#)

### 4.3 Ultraschall::Core Namespace Reference

#### Data Structures

- class [FileDialog](#)
- class [FileManager](#)
- struct [Globals](#)
- class [Guid](#)
- class [IService](#)
- class [IServiceCallback](#)
- class [Platform](#)
- class [ServiceFactory](#)
- class [ServiceManager](#)
- class [ServiceRegistry](#)
- class [SharedObject](#)
- class [Stream](#)
- class [String](#)
- class [StringArray](#)
- class [StringBuilder](#)
- class [StringDictionary](#)
- class [WideString](#)

## Typedefs

- typedef ServiceStatus(\* [CREATE\\_SERVICE\\_FUNCTION](#)) (IServiceCallback \*serviceCallback, IService \*service)

## Enumerations

- enum [CHAR\\_ENCODING](#) { [CHAR\\_ENCODING::UTF8](#), [CHAR\\_ENCODING::UTF16](#) }
- enum [UTF16\\_BOM\\_SPEC](#) { [UTF16\\_BOM\\_SPEC::NO\\_UTF16\\_BOM](#) = 0, [UTF16\\_BOM\\_SPEC::WITH\\_UTF16\\_BOM\\_LE](#) = 1, [UTF16\\_BOM\\_SPEC::WITH\\_UTF16\\_BOM\\_BE](#) = 2 }
- enum [UTF8\\_BOM\\_SPEC](#) { [UTF8\\_BOM\\_SPEC::NO\\_UTF8\\_BOM](#) = 0, [UTF8\\_BOM\\_SPEC::WITH\\_UTF8\\_BOM](#) = 1 }

## Functions

- [ULTRASCHALL\\_CORE\\_API WideString StringToWideString](#) (const [String](#) &unicodeString, const [UTF16\\_BOM\\_SPEC](#) bomSpec=[UTF16\\_BOM\\_SPEC::NO\\_UTF16\\_BOM](#))
- [ULTRASCHALL\\_CORE\\_API String WideStringToString](#) (const [WideString](#) &wideUnicodeString, const [UTF8\\_BOM\\_SPEC](#) bomSpec=[UTF8\\_BOM\\_SPEC::NO\\_UTF8\\_BOM](#))
- [ULTRASCHALL\\_CORE\\_API String HostStringToString](#) (const char \*pInputString, const size\_t stringSize, const [UTF8\\_BOM\\_SPEC](#) bomSpec=[UTF8\\_BOM\\_SPEC::NO\\_UTF8\\_BOM](#))
- [ULTRASCHALL\\_CORE\\_API size\\_t StringToHostString](#) (const [String](#) &str, char \*\*ppString, const size\_t stringSize)
- [StringArray StringTokenize](#) (const [String](#) &input, const char delimiter)
- [String MillisecondsToString](#) (const uint32\_t milliseconds, const bool roundSeconds=false)
- [uint32\\_t StringToMilliseconds](#) (const [String](#) &str)
- [String SecondsToString](#) (const double seconds, const bool roundSeconds=false)
- [double StringToSeconds](#) (const [String](#) &str)
- [String HostStringToUnicodeString](#) (const std::string &hostString, const [UTF8\\_BOM\\_SPEC](#) bomSpec)
- [WideUnicodeString HostStringToWideUnicodeString](#) (const std::string &hostString, const [UTF16\\_BOM\\_SPEC](#) bomSpec)
- [std::string UnicodeStringToHostString](#) (const [String](#) &unicodeString)
- [std::string WideUnicodeStringToHostString](#) (const [WideUnicodeString](#) &wideUnicodeString)

### 4.3.1 Typedef Documentation

#### 4.3.1.1 CREATE\_SERVICE\_FUNCTION

```
typedef ServiceStatus(* Ultraschall::Core::CREATE\_SERVICE\_FUNCTION) (IServiceCallback *serviceCallback, IService *service)
```

### 4.3.2 Enumeration Type Documentation

#### 4.3.2.1 CHAR\_ENCODING

```
enum Ultraschall::Core::CHAR\_ENCODING [strong]
```



## Enumerator

UTF8	
UTF16	

358

## 359 4.3.2.2 UTF16\_BOM\_SPEC

360 enum `Ultraschall::Core::UTF16_BOM_SPEC` [strong]

## Enumerator

NO_UTF16_BOM	
WITH_UTF16_BOM_LE	
WITH_UTF16_BOM_BE	

361

## 362 4.3.2.3 UTF8\_BOM\_SPEC

363 enum `Ultraschall::Core::UTF8_BOM_SPEC` [strong]

## Enumerator

NO_UTF8_BOM	
WITH_UTF8_BOM	

## 364 4.3.3 Function Documentation

365

## 366 4.3.3.1 HostStringToString()

```
367 ULTRASCHALL_CORE_API String Ultraschall::Core::HostStringToString (
368     const char * pInputString,
369     const size_t stringSize,
370     const UTF8_BOM_SPEC bomSpec = UTF8_BOM_SPEC::NO_UTF8_BOM )
```

371

## 372 4.3.3.2 HostStringToUnicodeString()

```
373 String Ultraschall::Core::HostStringToUnicodeString (
374     const std::string & hostString,
375     const UTF8_BOM_SPEC bomSpec )
```

376

#### 377 4.3.3.3 HostStringToWideUnicodeString()

```
378 WideUnicodeString Ultraschall::Core::HostStringToWideUnicodeString (
379     const std::string & hostString,
380     const UTF16_BOM_SPEC bomSpec )
```

381

#### 382 4.3.3.4 MillisecondsToString()

```
383 String Ultraschall::Core::MillisecondsToString (
384     const uint32_t milliseconds,
385     const bool roundSeconds = false )
```

386

#### 387 4.3.3.5 SecondsToString()

```
388 String Ultraschall::Core::SecondsToString (
389     const double seconds,
390     const bool roundSeconds = false )
```

391

#### 392 4.3.3.6 StringToHostString()

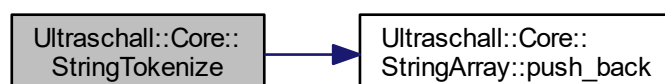
```
393 ULTRASCHALL_CORE_API size_t Ultraschall::Core::StringToHostString (
394     const String & str,
395     char ** ppString,
396     const size_t stringSize )
```

397

#### 398 4.3.3.7 StringTokenize()

```
399 StringArray Ultraschall::Core::StringTokenize (
400     const String & input,
401     const char delimiter )
```

402 Here is the call graph for this function:



403

## 4.3.3.8 StringToMilliseconds()

```
uint32_t Ultraschall::Core::StringToMilliseconds (
    const String & str )
```

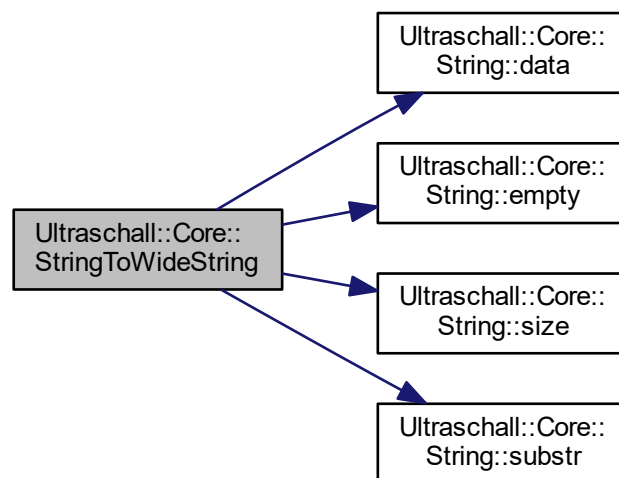
## 4.3.3.9 StringToSeconds()

```
double Ultraschall::Core::StringToSeconds (
    const String & str )
```

## 4.3.3.10 StringToWideString()

```
WideString Ultraschall::Core::StringToWideString (
    const String & unicodeString,
    const UTF16_BOM_SPEC bomSpec = UTF16_BOM_SPEC::NO_UTF16_BOM )
```

Here is the call graph for this function:



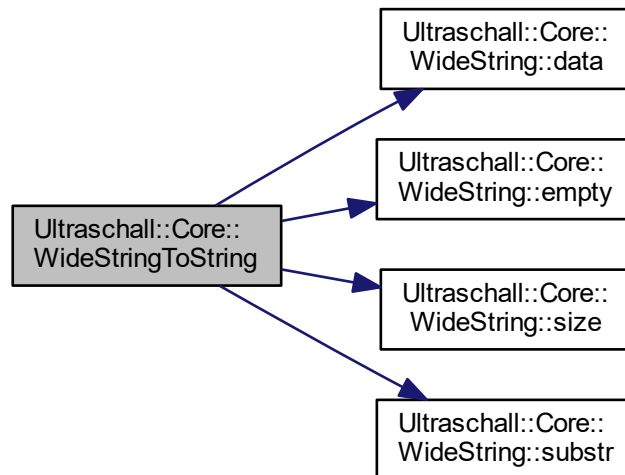
## 4.3.3.11 UnicodeStringToHostString()

```
std::string Ultraschall::Core::UnicodeStringToHostString (
    const String & unicodeString )
```

#### 4.3.3.12 WideStringToString()

```
String Ultraschall::Core::WideStringToString (
    const WideString & wideUnicodeString,
    const UTF8_BOM_SPEC bomSpec = UTF8_BOM_SPEC::NO_UTF8_BOM )
```

Here is the call graph for this function:



#### 4.3.3.13 WideUnicodeStringToHostString()

```
std::string Ultraschall::Core::WideUnicodeStringToHostString (
    const WideUnicodeString & wideUnicodeString )
```

## 4.4 ultraschall::reaper Namespace Reference

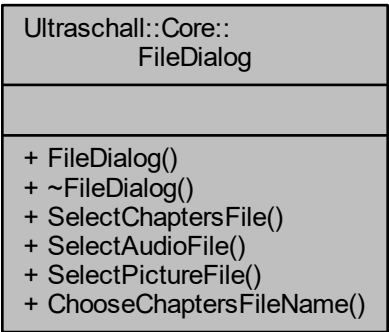
# Chapter 5

## Data Structure Documentation

### 5.1 Ultraschall::Core::FileDialog Class Reference

```
#include <FileDialog.h>
```

Collaboration diagram for Ultraschall::Core::FileDialog:



#### Public Member Functions

- [FileDialog](#) (const UnicodeString &caption, const UnicodeString &initialDirectory="")
- virtual [~FileDialog](#) ()
- UnicodeString [SelectChaptersFile](#) ()
- UnicodeString [SelectAudioFile](#) ()
- UnicodeString [SelectPictureFile](#) ()
- UnicodeString [ChooseChaptersFileName](#) ()

#### 5.1.1 Constructor & Destructor Documentation

#### 446 5.1.1.1 FileDialog()

```
447 Ultraschall::Core::FileDialog::FileDialog (
448     const UnicodeString & caption,
449     const UnicodeString & initialDirectory = "" )
```

450

#### 451 5.1.1.2 ~FileDialog()

```
452 virtual Ultraschall::Core::FileDialog::~~FileDialog ( ) [virtual]
```

### 453 5.1.2 Member Function Documentation

454

#### 455 5.1.2.1 ChooseChaptersFileName()

```
456 UnicodeString Ultraschall::Core::FileDialog::ChooseChaptersFileName ( )
```

457

#### 458 5.1.2.2 SelectAudioFile()

```
459 UnicodeString Ultraschall::Core::FileDialog::SelectAudioFile ( )
```

460

#### 461 5.1.2.3 SelectChaptersFile()

```
462 UnicodeString Ultraschall::Core::FileDialog::SelectChaptersFile ( )
```

463

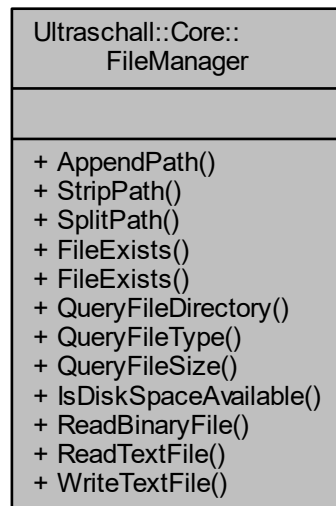
#### 464 5.1.2.4 SelectPictureFile()

```
465 UnicodeString Ultraschall::Core::FileDialog::SelectPictureFile ( )
```

## 5.2 Ultraschall::Core::FileManager Class Reference

```
#include <FileManager.h>
```

Collaboration diagram for Ultraschall::Core::FileManager:



### Public Types

```
enum FILE_TYPE {
    FILE_TYPE::MP4CHAPS, FILE_TYPE::MP3, FILE_TYPE::JPEG, FILE_TYPE::PNG,
    FILE_TYPE::UNKNOWN_FILE_TYPE, FILE_TYPE::MAX_FILE_TYPE = UNKNOWN_FILE_TYPE }
```

### Static Public Member Functions

```

static String AppendPath (const String &prefix, const String &appendix)
static String StripPath (const String &path)
static StringArray SplitPath (const String &path)
static bool FileExists (const String &path)
static size_t FileExists (const StringArray &paths)
static String QueryFileDirectory (const String &filename)
static FILE_TYPE QueryFileType (const String &filename)
static size_t QueryFileSize (const String &filename)
static bool IsDiskSpaceAvailable (const String &filename, const size_t requiredBytes)
static BinaryStream * ReadBinaryFile (const String &filename)
static StringArray ReadTextFile (const String &filename)
static bool WriteTextFile (const String &filename, const String &str)
  
```

## 5.2.1 Member Enumeration Documentation

### 5.2.1.1 FILE\_TYPE

```
enum Ultraschall::Core::FileManager::FILE_TYPE [strong]
```

Enumerator

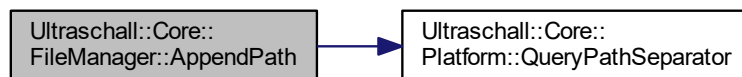
MP4CHAPS	
MP3	
JPEG	
PNG	
UNKNOWN_FILE_TYPE	
MAX_FILE_TYPE	

## 5.2.2 Member Function Documentation

### 5.2.2.1 AppendPath()

```
String Ultraschall::Core::FileManager::AppendPath (  
    const String & prefix,  
    const String & appendix ) [static]
```

Here is the call graph for this function:

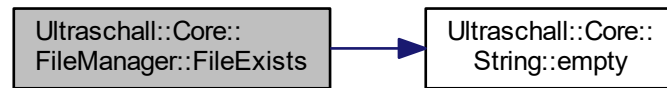


### 5.2.2.2 FileExists() [1/2]

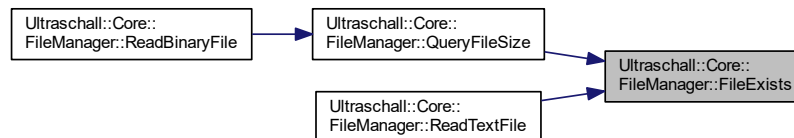
```
bool Ultraschall::Core::FileManager::FileExists (  
    const String & path ) [static]
```



501 Here is the call graph for this function:



502 Here is the caller graph for this function:



503

### 504 5.2.2.3 FileExists() [2/2]

```

505 static size_t Ultraschall::Core::FileManager::FileExists (
506     const StringArray & paths ) [static]
  
```

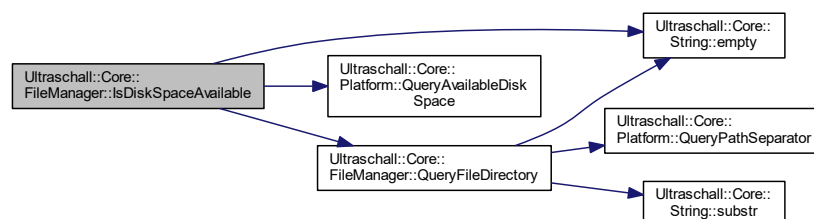
507

### 508 5.2.2.4 IsDiskSpaceAvailable()

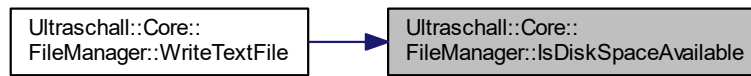
```

509 bool Ultraschall::Core::FileManager::IsDiskSpaceAvailable (
510     const String & filename,
511     const size_t requiredBytes ) [static]
  
```

512 Here is the call graph for this function:



513 Here is the caller graph for this function:



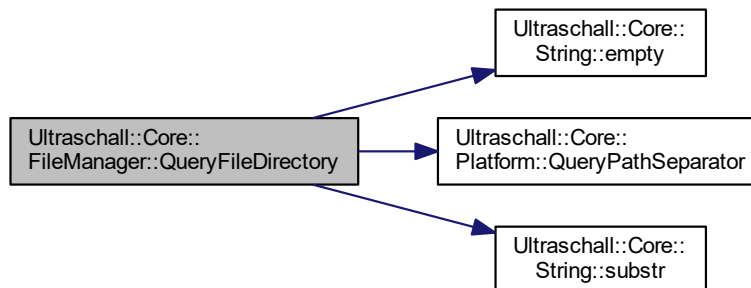
514

#### 515 5.2.2.5 QueryFileDirectory()

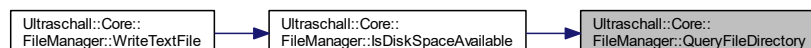
```

516 String Ultraschall::Core::FileManager::QueryFileDirectory (
517     const String & filename ) [static]
  
```

518 Here is the call graph for this function:



519 Here is the caller graph for this function:



520

521 **5.2.2.6 QueryFileSize()**

```
522 size_t Ultraschall::Core::FileManager::QueryFileSize (  
523         const String & filename ) [static]
```

524 Here is the call graph for this function:



525 Here is the caller graph for this function:

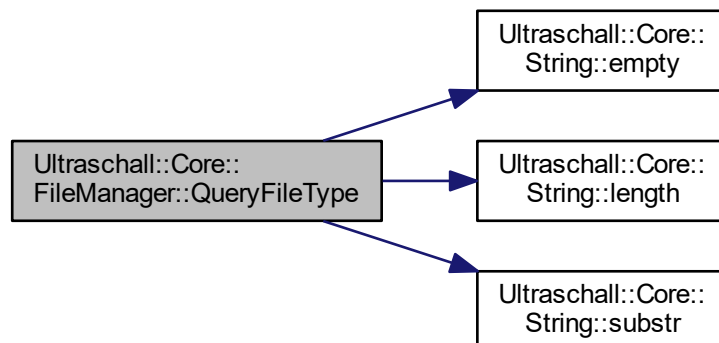


526

527 **5.2.2.7 QueryFileType()**

```
528 FileManager::FILE_TYPE Ultraschall::Core::FileManager::QueryFileType (  
529         const String & filename ) [static]
```

530 Here is the call graph for this function:

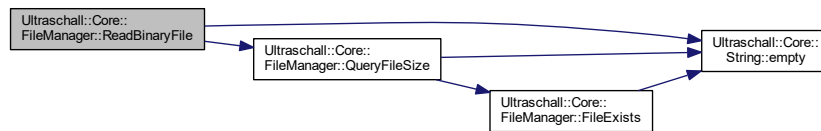


531

### 5.2.2.8 ReadBinaryFile()

```
BinaryStream * Ultraschall::Core::FileManager::ReadBinaryFile (
    const String & filename ) [static]
```

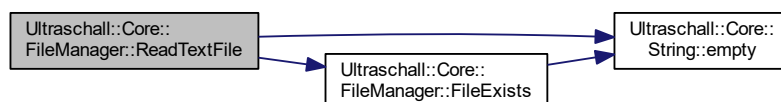
Here is the call graph for this function:



### 5.2.2.9 ReadTextFile()

```
UnicodeStringArray Ultraschall::Core::FileManager::ReadTextFile (
    const String & filename ) [static]
```

Here is the call graph for this function:



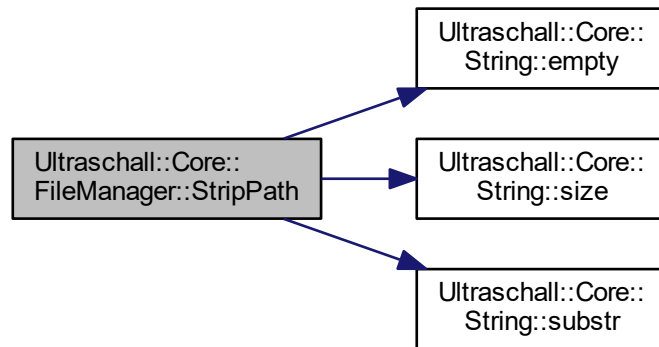
### 5.2.2.10 SplitPath()

```
UnicodeStringArray Ultraschall::Core::FileManager::SplitPath (
    const String & path ) [static]
```

## 5.2.2.11 StripPath()

```
String Ultraschall::Core::FileManager::StripPath (
    const String & path ) [static]
```

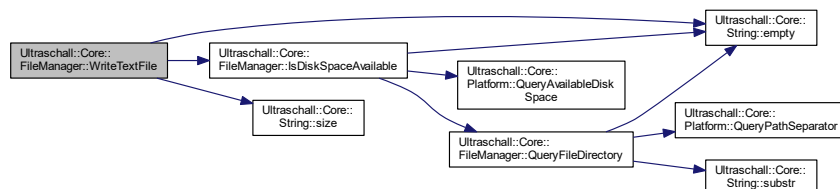
Here is the call graph for this function:



## 5.2.2.12 WriteTextFile()

```
bool Ultraschall::Core::FileManager::WriteTextFile (
    const String & filename,
    const String & str ) [static]
```

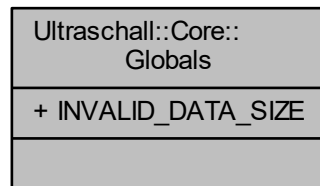
Here is the call graph for this function:



## 5.3 Ultraschall::Core::Globals Struct Reference

```
#include <CoreGlobals.h>
```

558 Collaboration diagram for Ultraschall::Core::Globals:



## 559 Static Public Attributes

- 560 • static constexpr size\_t `INVALID_DATA_SIZE` = -1

## 561 5.3.1 Field Documentation

562

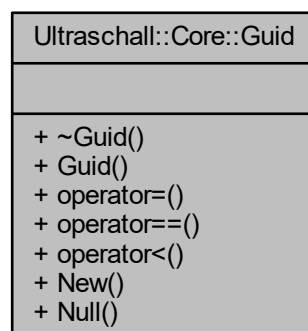
### 563 5.3.1.1 INVALID\_DATA\_SIZE

564 `constexpr size_t Ultraschall::Core::Globals::INVALID_DATA_SIZE = -1 [static], [constexpr]`

## 565 5.4 Ultraschall::Core::Guid Class Reference

566 `#include <CoreGuid.h>`

567 Collaboration diagram for Ultraschall::Core::Guid:



## Data Structures

- struct [Impl](#)

## Public Member Functions

- [~Guid](#) ()
- [Guid](#) (const [Guid](#) &rhs)
- [Guid](#) & [operator=](#) (const [Guid](#) &rhs)
- bool [operator==](#) (const [Guid](#) &rhs) const
- bool [operator<](#) (const [Guid](#) &rhs) const

## Static Public Member Functions

- static [Guid](#) [New](#) ()
- static const [Guid](#) & [Null](#) ()

## 5.4.1 Constructor & Destructor Documentation

### 5.4.1.1 ~Guid()

```
Ultraschall::Core::Guid::~~Guid ( )
```

### 5.4.1.2 Guid()

```
Ultraschall::Core::Guid::Guid (
    const Guid & rhs )
```

## 5.4.2 Member Function Documentation

### 5.4.2.1 New()

```
Guid Ultraschall::Core::Guid::New ( ) [static]
```

### 5.4.2.2 Null()

```
const Guid & Ultraschall::Core::Guid::Null ( ) [static]
```

### 5.4.2.3 operator<()

```
bool Ultraschall::Core::Guid::operator< (
    const Guid & rhs ) const
```

### 5.4.2.4 operator=()

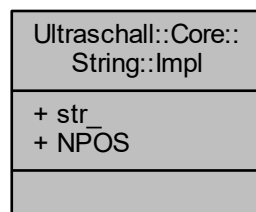
```
Guid & Ultraschall::Core::Guid::operator= (
    const Guid & rhs )
```

### 5.4.2.5 operator==()

```
bool Ultraschall::Core::Guid::operator== (
    const Guid & rhs ) const
```

## 5.5 Ultraschall::Core::String::Impl Struct Reference

Collaboration diagram for Ultraschall::Core::String::Impl:



### Data Fields

- std::string `str_`



## Static Public Attributes

- static constexpr size\_t `NPOS` = std::string::npos

## 5.5.1 Field Documentation

### 5.5.1.1 NPOS

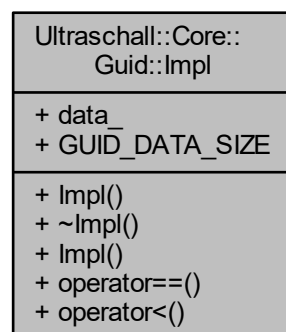
```
constexpr size_t Ultraschall::Core::String::Impl::NPOS = std::string::npos [static], [constexpr]
```

### 5.5.1.2 str\_

```
std::string Ultraschall::Core::String::Impl::str_
```

## 5.6 Ultraschall::Core::Guid::Impl Struct Reference

Collaboration diagram for Ultraschall::Core::Guid::Impl:



## Public Member Functions

- `Impl()`
- virtual `~Impl()`
- `Impl(const Impl &rhs)`
- bool `operator==` (const `Impl` &rhs) const
- bool `operator<` (const `Impl` &rhs) const

## Data Fields

- `uint8_t data_[GUID_DATA_SIZE]`

## Static Public Attributes

- `static constexpr size_t GUID_DATA_SIZE = 16`

## 5.6.1 Constructor & Destructor Documentation

### 5.6.1.1 `Impl()` [1/2]

```
Ultraschall::Core::Guid::Impl::Impl ( )
```

### 5.6.1.2 `~Impl()`

```
Ultraschall::Core::Guid::Impl::~~Impl ( ) [virtual]
```

### 5.6.1.3 `Impl()` [2/2]

```
Ultraschall::Core::Guid::Impl::Impl (
    const Impl & rhs )
```

## 5.6.2 Member Function Documentation

### 5.6.2.1 `operator<()`

```
bool Ultraschall::Core::Guid::Impl::operator< (
    const Impl & rhs ) const
```

### 5.6.2.2 `operator==()`

```
bool Ultraschall::Core::Guid::Impl::operator== (
    const Impl & rhs ) const
```

### 5.6.3 Field Documentation

#### 5.6.3.1 data\_

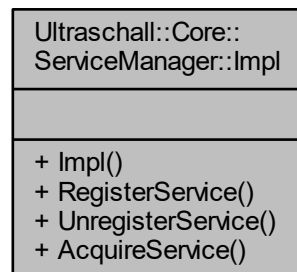
```
uint8_t Ultraschall::Core::Guid::Impl::data_[GUID_DATA_SIZE]
```

#### 5.6.3.2 GUID\_DATA\_SIZE

```
constexpr size_t Ultraschall::Core::Guid::Impl::GUID_DATA_SIZE = 16 [static], [constexpr]
```

## 5.7 Ultraschall::Core::ServiceManager::Impl Struct Reference

Collaboration diagram for Ultraschall::Core::ServiceManager::Impl:



### Public Member Functions

- `Impl()`
- `ServiceStatus RegisterService(const String &serviceId, CREATE_SERVICE_FUNCTION factoryFunction)`
- `void UnregisterService(const String &serviceId)`
- `ServiceStatus AcquireService(const String &serviceId, IServiceCallback *serviceCallback, IService *&service)`

#### 5.7.1 Constructor & Destructor Documentation

### 5.7.1.1 Impl()

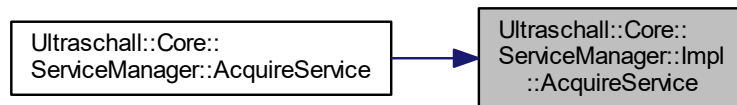
```
Ultraschall::Core::ServiceManager::Impl::Impl ( )
```

## 5.7.2 Member Function Documentation

### 5.7.2.1 AcquireService()

```
ServiceStatus Ultraschall::Core::ServiceManager::Impl::AcquireService (
    const String & serviceId,
    IServiceCallback * serviceCallback,
    IService *& service )
```

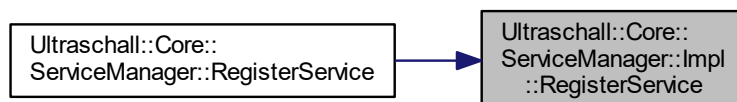
Here is the caller graph for this function:



### 5.7.2.2 RegisterService()

```
ServiceStatus Ultraschall::Core::ServiceManager::Impl::RegisterService (
    const String & serviceId,
    CREATE_SERVICE_FUNCTION factoryFunction )
```

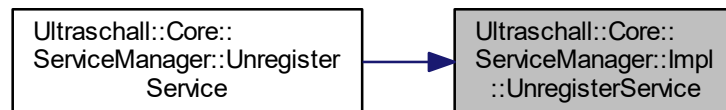
Here is the caller graph for this function:



### 5.7.2.3 UnregisterService()

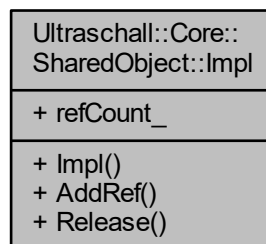
```
void Ultraschall::Core::ServiceManager::Impl::UnregisterService (
    const String & serviceId )
```

Here is the caller graph for this function:



## 5.8 Ultraschall::Core::SharedObject::Impl Struct Reference

Collaboration diagram for Ultraschall::Core::SharedObject::Impl:



### Public Member Functions

- `Impl()`
- `const uint32_t AddRef()`
- `const uint32_t Release()`

### Data Fields

- `std::atomic< uint32_t > refCount_ = 1`

### 5.8.1 Constructor & Destructor Documentation

### 5.8.1.1 Impl()

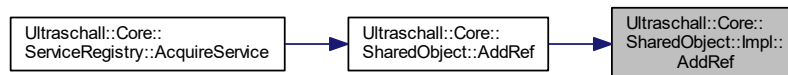
```
Ultraschall::Core::SharedObject::Impl::Impl ( ) [inline]
```

## 5.8.2 Member Function Documentation

### 5.8.2.1 AddRef()

```
const uint32_t Ultraschall::Core::SharedObject::Impl::AddRef ( ) [inline]
```

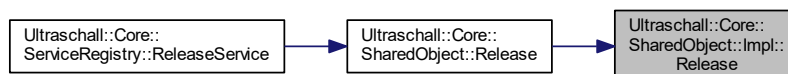
Here is the caller graph for this function:



### 5.8.2.2 Release()

```
const uint32_t Ultraschall::Core::SharedObject::Impl::Release ( ) [inline]
```

Here is the caller graph for this function:



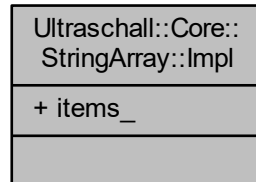
## 5.8.3 Field Documentation

### 5.8.3.1 refCount\_

```
std::atomic<uint32_t> Ultraschall::Core::SharedObject::Impl::refCount_ = 1
```

## 5.9 Ultraschall::Core::StringArray::Impl Struct Reference

Collaboration diagram for Ultraschall::Core::StringArray::Impl:



### Data Fields

- `std::vector<String> items_`

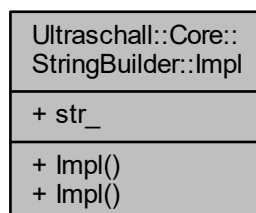
### 5.9.1 Field Documentation

#### 5.9.1.1 items\_

`std::vector<String> Ultraschall::Core::StringArray::Impl::items_`

## 5.10 Ultraschall::Core::StringBuilder::Impl Struct Reference

Collaboration diagram for Ultraschall::Core::StringBuilder::Impl:



## Public Member Functions

- `Impl()`
- `Impl(const String &str)`

## Data Fields

- `std::stringstream str_`

## 5.10.1 Constructor & Destructor Documentation

### 5.10.1.1 Impl() [1/2]

`Ultraschall::Core::StringBuilder::Impl::Impl ( ) [inline]`

### 5.10.1.2 Impl() [2/2]

`Ultraschall::Core::StringBuilder::Impl::Impl (`  
`const String & str ) [inline]`

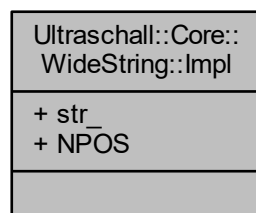
## 5.10.2 Field Documentation

### 5.10.2.1 str\_

`std::stringstream Ultraschall::Core::StringBuilder::Impl::str_`

## 5.11 Ultraschall::Core::WideString::Impl Struct Reference

Collaboration diagram for `Ultraschall::Core::WideString::Impl`:





## Data Fields

- `std::basic_string< char16_t > str_`

## Static Public Attributes

- `static constexpr size_t NPOS = std::basic_string<char16_t>::npos`

### 5.11.1 Field Documentation

#### 5.11.1.1 NPOS

```
constexpr size_t Ultraschall::Core::WideString::Impl::NPOS = std::basic_string<char16_t>::npos
[static], [constexpr]
```

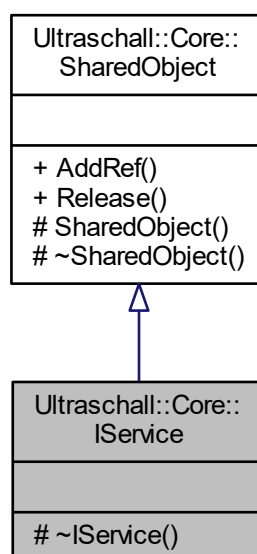
#### 5.11.1.2 str\_

```
std::basic_string<char16_t> Ultraschall::Core::WideString::Impl::str_
```

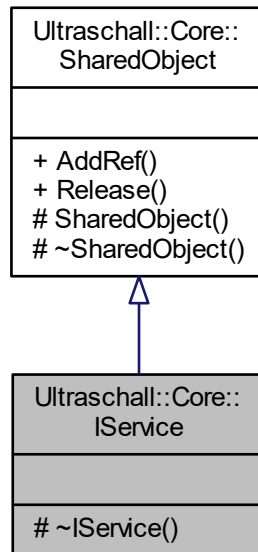
## 5.12 Ultraschall::Core::IService Class Reference

```
#include <CoreService.h>
```

Inheritance diagram for Ultraschall::Core::IService:



758 Collaboration diagram for Ultraschall::Core::IService:



## 759 Protected Member Functions

- 760 • virtual `~IService()`

## 761 Additional Inherited Members

### 762 5.12.1 Constructor & Destructor Documentation

763

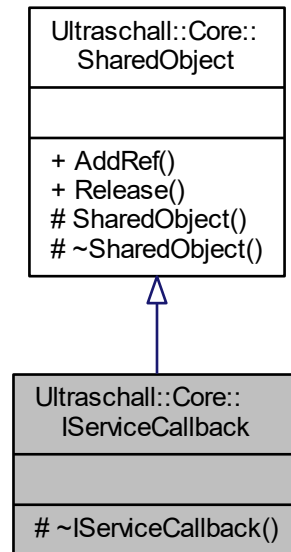
#### 764 5.12.1.1 `~IService()`

765 `virtual Ultraschall::Core::IService::~~IService () [inline], [protected], [virtual]`

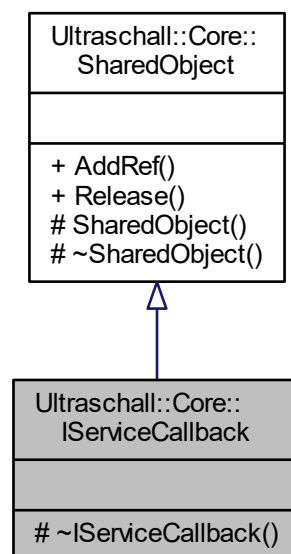
## 766 5.13 Ultraschall::Core::IServiceCallback Class Reference

767 `#include <CoreService.h>`

768 Inheritance diagram for Ultraschall::Core::IServiceCallback:



769 Collaboration diagram for Ultraschall::Core::IServiceCallback:



## Protected Member Functions

- virtual [~IServiceCallback](#) ()

## Additional Inherited Members

### 5.13.1 Constructor & Destructor Documentation

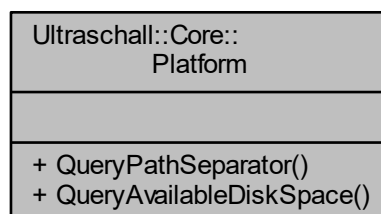
#### 5.13.1.1 ~IServiceCallback()

```
virtual Ultraschall::Core::IServiceCallback::~~IServiceCallback ( ) [inline], [protected],  
[virtual]
```

## 5.14 Ultraschall::Core::Platform Class Reference

```
#include <Platform.h>
```

Collaboration diagram for Ultraschall::Core::Platform:



## Static Public Member Functions

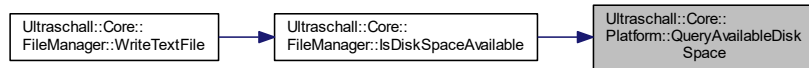
- static char [QueryPathSeparator](#) ()
- static size\_t [QueryAvailableDiskSpace](#) (const [String](#) &directory)

### 5.14.1 Member Function Documentation

### 5.14.1.1 QueryAvailableDiskSpace()

```
static size_t Ultraschall::Core::Platform::QueryAvailableDiskSpace (
    const String & directory ) [static]
```

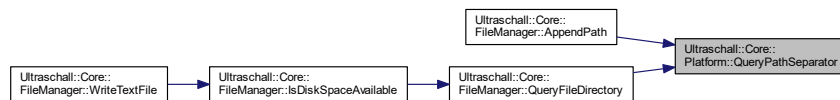
Here is the caller graph for this function:



### 5.14.1.2 QueryPathSeparator()

```
static char Ultraschall::Core::Platform::QueryPathSeparator ( ) [static]
```

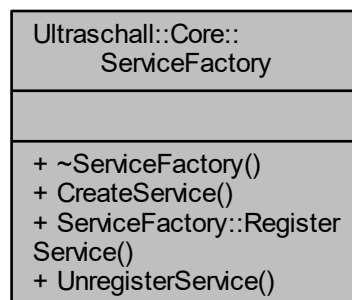
Here is the caller graph for this function:



## 5.15 Ultraschall::Core::ServiceFactory Class Reference

```
#include <ServiceFactory.h>
```

Collaboration diagram for Ultraschall::Core::ServiceFactory:



## Public Member Functions

- virtual `~ServiceFactory()`
- `ServiceStatus CreateService (const String &serviceId, IServiceCallback *serviceCallback, IService *&service) const`
- `ServiceStatus ServiceFactory::RegisterService (const String &serviceId, CREATE_SERVICE_FUNCTION factoryFunction)`
- `void UnregisterService (const String &serviceId)`

### 5.15.1 Constructor & Destructor Documentation

#### 5.15.1.1 ~ServiceFactory()

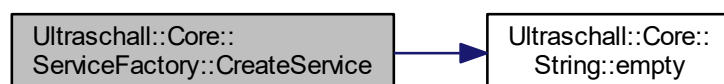
`Ultraschall::Core::ServiceFactory::~~ServiceFactory () [virtual]`

### 5.15.2 Member Function Documentation

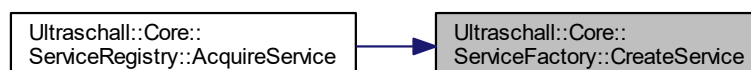
#### 5.15.2.1 CreateService()

```
ServiceStatus Ultraschall::Core::ServiceFactory::CreateService (
    const String & serviceId,
    IServiceCallback * serviceCallback,
    IService *& service ) const
```

Here is the call graph for this function:



Here is the caller graph for this function:



### 5.15.2.2 ServiceFactory::RegisterService()

```

819 ServiceStatus Ultraschall::Core::ServiceFactory::ServiceFactory::RegisterService (
820     const String & serviceId,
821     CREATE_SERVICE_FUNCTION factoryFunction )

```

822

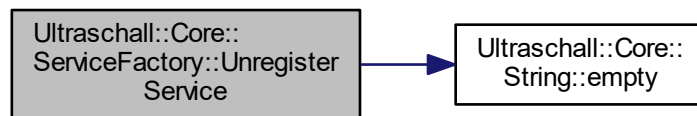
### 5.15.2.3 UnregisterService()

```

824 void Ultraschall::Core::ServiceFactory::UnregisterService (
825     const String & serviceId )

```

826 Here is the call graph for this function:



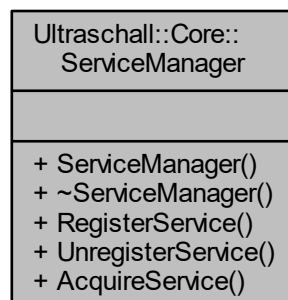
## 5.16 Ultraschall::Core::ServiceManager Class Reference

```

828 #include <CoreServiceManager.h>

```

829 Collaboration diagram for Ultraschall::Core::ServiceManager:



## Data Structures

- struct [Impl](#)

## Public Member Functions

- [ServiceManager](#) ()
- virtual [~ServiceManager](#) ()
- ServiceStatus [RegisterService](#) (const [String](#) &serviceId, [CREATE\\_SERVICE\\_FUNCTION](#) pServiceFactory)
- void [UnregisterService](#) (const [String](#) &serviceId)
- ServiceStatus [AcquireService](#) (const [String](#) &serviceId, [IServiceCallback](#) \*pCallback, [IService](#) \*&pService)

## 5.16.1 Constructor & Destructor Documentation

### 5.16.1.1 ServiceManager()

```
Ultraschall::Core::ServiceManager::ServiceManager ( )
```

### 5.16.1.2 ~ServiceManager()

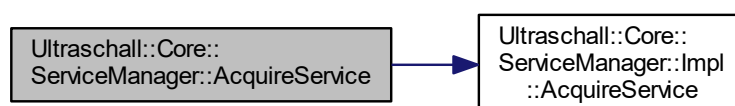
```
Ultraschall::Core::ServiceManager::~~ServiceManager ( ) [virtual]
```

## 5.16.2 Member Function Documentation

### 5.16.2.1 AcquireService()

```
ServiceStatus Ultraschall::Core::ServiceManager::AcquireService (
    const String & serviceId,
    IServiceCallback * pCallback,
    IService *& pService )
```

Here is the call graph for this function:

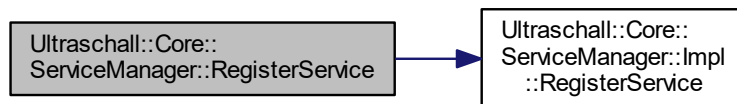




### 5.16.2.2 RegisterService()

```
855 ServiceStatus Ultraschall::Core::ServiceManager::RegisterService (
856     const String & serviceId,
857     CREATE_SERVICE_FUNCTION pServiceFactory )
```

858 Here is the call graph for this function:

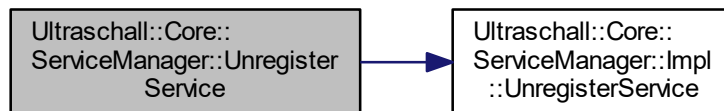


859

### 5.16.2.3 UnregisterService()

```
861 void Ultraschall::Core::ServiceManager::UnregisterService (
862     const String & serviceId )
```

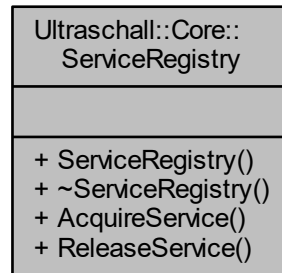
863 Here is the call graph for this function:



## 5.17 Ultraschall::Core::ServiceRegistry Class Reference

```
865 #include <ServiceRegistry.h>
```

866 Collaboration diagram for Ultraschall::Core::ServiceRegistry:



## 867 Public Member Functions

- 868 • [ServiceRegistry](#) ([ServiceFactory](#) &serviceFactory)
- 869 • virtual [~ServiceRegistry](#) ()
- 870 • ServiceStatus [AcquireService](#) (const [String](#) &serviceId, [IServiceCallback](#) \*serviceCallback, [IService](#)
- 871     \*&service)
- 872 • ServiceStatus [ReleaseService](#) (const [String](#) &serviceId)

## 873 5.17.1 Constructor & Destructor Documentation

874

### 875 5.17.1.1 ServiceRegistry()

```

876 Ultraschall::Core::ServiceRegistry::ServiceRegistry (
877     ServiceFactory & serviceFactory )
  
```

878

### 879 5.17.1.2 ~ServiceRegistry()

```

880 Ultraschall::Core::ServiceRegistry::~~ServiceRegistry ( ) [virtual]
  
```

## 881 5.17.2 Member Function Documentation

882

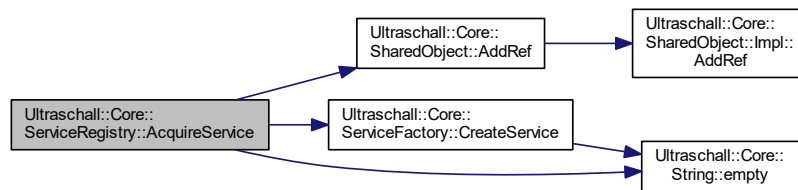
## 5.17.2.1 AcquireService()

```

884 ServiceStatus Ultraschall::Core::ServiceRegistry::AcquireService (
885     const String & serviceId,
886     IServiceCallback * serviceCallback,
887     IService *& service )

```

888 Here is the call graph for this function:



889

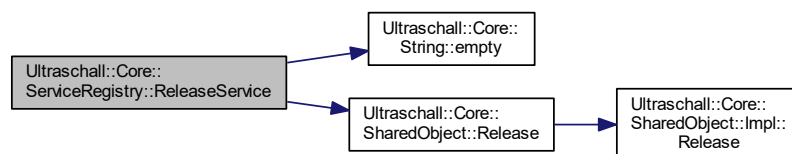
## 5.17.2.2 ReleaseService()

```

891 ServiceStatus Ultraschall::Core::ServiceRegistry::ReleaseService (
892     const String & serviceId )

```

893 Here is the call graph for this function:



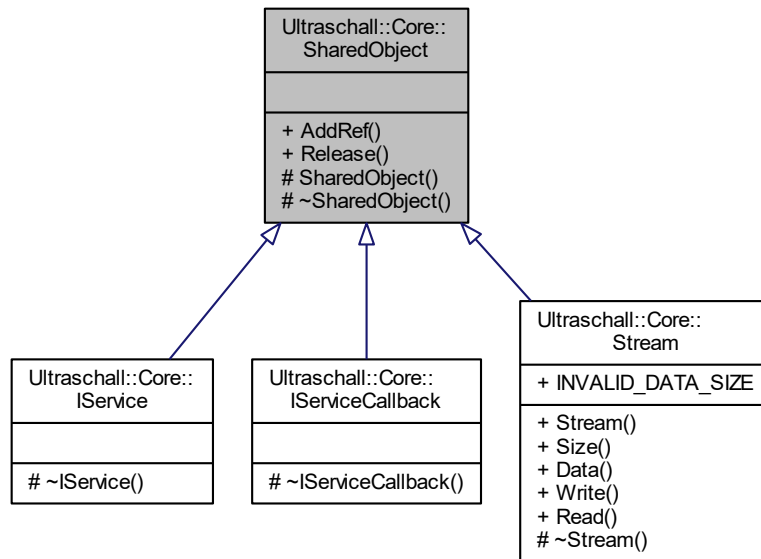
## 5.18 Ultraschall::Core::SharedObject Class Reference

```

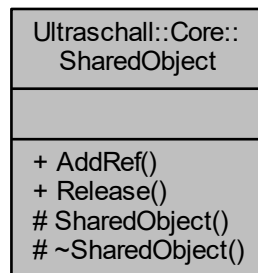
895 #include <CoreSharedObject.h>

```

896 Inheritance diagram for Ultraschall::Core::SharedObject:



897 Collaboration diagram for Ultraschall::Core::SharedObject:



## 898 Data Structures

- 899 • struct [Impl](#)

## 900 Public Member Functions

- 901 • `uint32_t` [AddRef](#) () const
- 902 • `uint32_t` [Release](#) () const

## Protected Member Functions

- [SharedObject](#) ()
- virtual [~SharedObject](#) ()

### 5.18.1 Constructor & Destructor Documentation

#### 5.18.1.1 SharedObject()

Ultraschall::Core::SharedObject::SharedObject ( ) [protected]

#### 5.18.1.2 ~SharedObject()

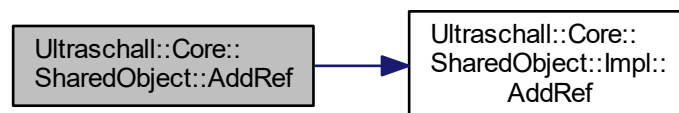
Ultraschall::Core::SharedObject::~~SharedObject ( ) [protected], [virtual]

### 5.18.2 Member Function Documentation

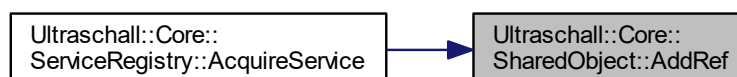
#### 5.18.2.1 AddRef()

uint32\_t Ultraschall::Core::SharedObject::AddRef ( ) const

Here is the call graph for this function:



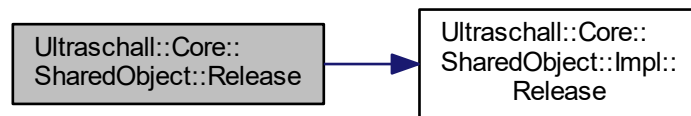
Here is the caller graph for this function:



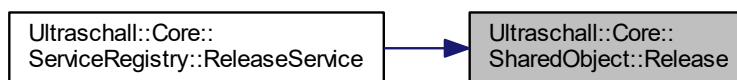
### 5.18.2.2 Release()

```
uint32_t Ultraschall::Core::SharedObject::Release ( ) const
```

Here is the call graph for this function:



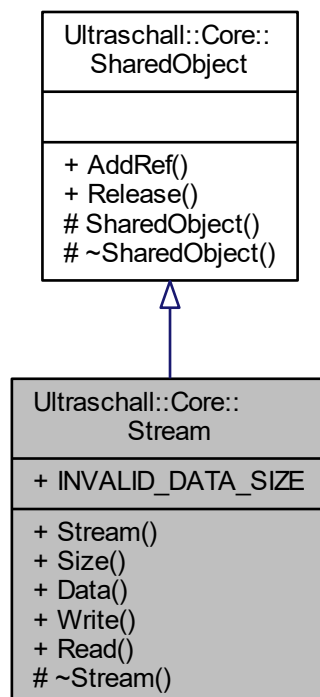
Here is the caller graph for this function:



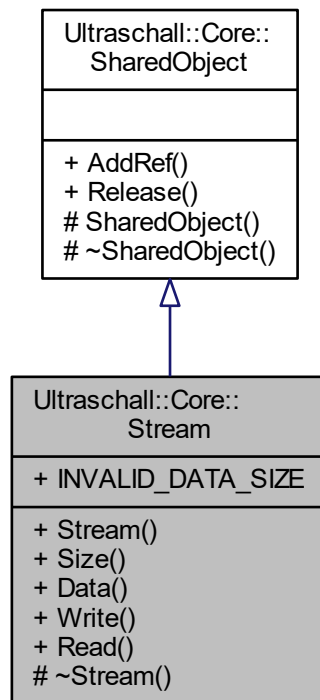
## 5.19 Ultraschall::Core::Stream Class Reference

```
#include <CoreStream.h>
```

926 Inheritance diagram for Ultraschall::Core::Stream:



927 Collaboration diagram for Ultraschall::Core::Stream:



## 928 Public Member Functions

- 929 • `Stream` (const size\_t size)
- 930 • size\_t `Size` () const
- 931 • const uint8\_t \* `Data` () const
- 932 • bool `Write` (const size\_t offset, const uint8\_t \*data, const size\_t size)
- 933 • bool `Read` (const size\_t offset, uint8\_t \*data, const size\_t size)

## 934 Static Public Attributes

- 935 • static const size\_t `INVALID_DATA_SIZE` = Globals::INVALID\_DATA\_SIZE

## 936 Protected Member Functions

- 937 • virtual `~Stream` ()

## 938 5.19.1 Constructor & Destructor Documentation

939



### 940 5.19.1.1 Stream()

```
941 Ultraschall::Core::Stream::Stream (
942     const size_t size )
```

943

### 944 5.19.1.2 ~Stream()

```
945 Ultraschall::Core::Stream::~~Stream ( ) [protected], [virtual]
```

## 946 5.19.2 Member Function Documentation

947

### 948 5.19.2.1 Data()

```
949 const uint8_t * Ultraschall::Core::Stream::Data ( ) const
```

950

### 951 5.19.2.2 Read()

```
952 bool Ultraschall::Core::Stream::Read (
953     const size_t offset,
954     uint8_t * data,
955     const size_t size )
```

956

### 957 5.19.2.3 Size()

```
958 size_t Ultraschall::Core::Stream::Size ( ) const
```

959

### 960 5.19.2.4 Write()

```
961 bool Ultraschall::Core::Stream::Write (
962     const size_t offset,
963     const uint8_t * data,
964     const size_t size )
```

## 965 5.19.3 Field Documentation

966

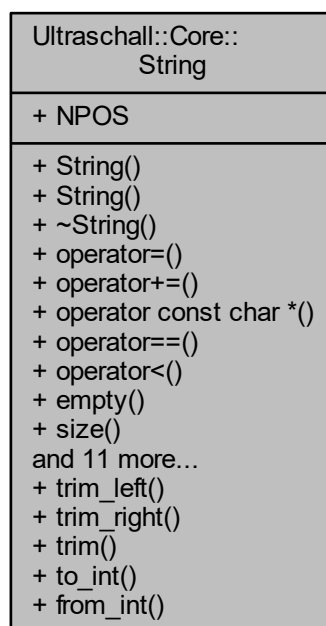
### 5.19.3.1 INVALID\_DATA\_SIZE

```
const size_t Ultraschall::Core::Stream::INVALID_DATA_SIZE = Globals::INVALID_DATA_SIZE [static]
```

## 5.20 Ultraschall::Core::String Class Reference

```
#include <CoreString.h>
```

Collaboration diagram for Ultraschall::Core::String:



## Data Structures

- struct [Impl](#)

## Public Member Functions

- [String](#) ()
- [String](#) (const char \*str)
- virtual [~String](#) ()
- [String](#) & [operator=](#) (const char \*str)
- [String](#) & [operator+=](#) (const char \*str)
- [operator const char \\*](#) () const
- bool [operator==](#) (const char \*str) const
- bool [operator<](#) (const [String](#) &str) const

- 983 • bool `empty` () const
- 984 • size\_t `size` () const
- 985 • size\_t `length` () const
- 986 • const char \* `c_str` () const
- 987 • const char \* `data` () const
- 988 • `String substr` (const size\_t offset=0, const size\_t count=NPOS) const
- 989 • void `replace` (const `String` &source, const `String` &target)
- 990 • `String` & `append` (const char \*str)
- 991 • void `trim_left` ()
- 992 • void `trim_right` ()
- 993 • void `trim` ()
- 994 • `String to_lower` ()
- 995 • `String to_upper` ()

## 996 Static Public Member Functions

- 997 • static `String trim_left` (`String` str)
- 998 • static `String trim_right` (`String` str)
- 999 • static `String trim` (`String` str)
- 1000 • static int `to_int` (const `String` &str)
- 1001 • static `String from_int` (const int value)

## 1002 Static Public Attributes

- 1003 • static const size\_t `NPOS` = `String::Impl::NPOS`

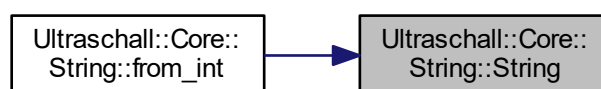
## 1004 5.20.1 Constructor & Destructor Documentation

1005

### 1006 5.20.1.1 `String()` [1/2]

1007 `Ultraschall::Core::String::String ( )`

1008 Here is the caller graph for this function:



1009

### 5.20.1.2 String() [2/2]

```
Ultraschall::Core::String::String (
    const char * str )
```

### 5.20.1.3 ~String()

```
Ultraschall::Core::String::~~String ( ) [virtual]
```

## 5.20.2 Member Function Documentation

### 5.20.2.1 append()

```
String & Ultraschall::Core::String::append (
    const char * str )
```

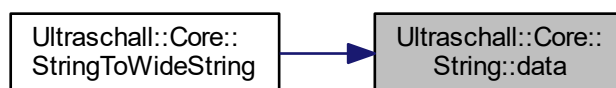
### 5.20.2.2 c\_str()

```
const char * Ultraschall::Core::String::c_str ( ) const
```

### 5.20.2.3 data()

```
const char * Ultraschall::Core::String::data ( ) const
```

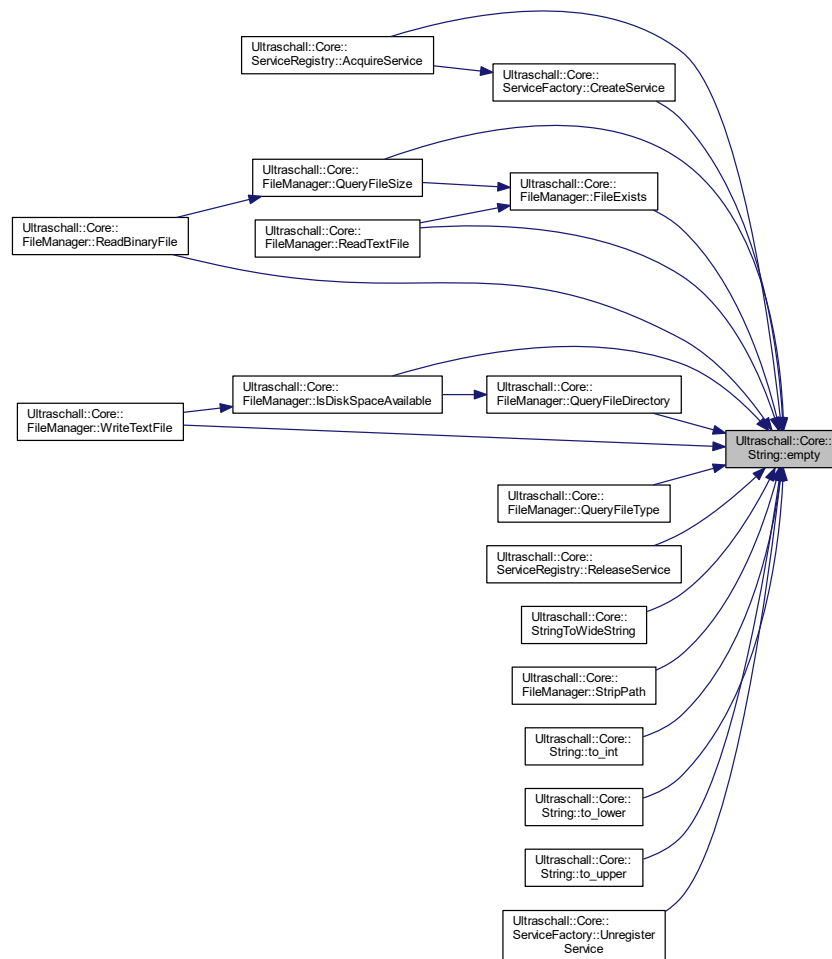
Here is the caller graph for this function:



## 5.20.2.4 empty()

```
bool Ultraschall::Core::String::empty ( ) const
```

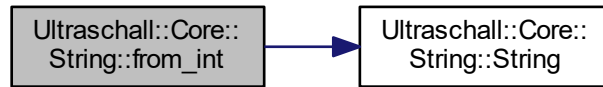
Here is the caller graph for this function:



## 5.20.2.5 from\_int()

```
String Ultraschall::Core::String::from_int (
    const int value ) [static]
```

1036 Here is the call graph for this function:

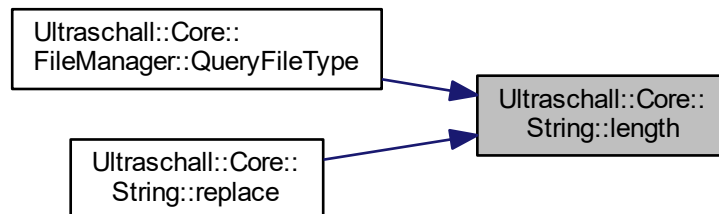


1037

### 1038 5.20.2.6 length()

1039 `size_t Ultraschall::Core::String::length ( ) const`

1040 Here is the caller graph for this function:



1041

### 1042 5.20.2.7 operator const char \*()

1043 `Ultraschall::Core::String::operator const char * ( ) const`

1044

### 1045 5.20.2.8 operator+=()

1046 `String & Ultraschall::Core::String::operator+= (`  
 1047 `const char * str )`

1048

### 1049 5.20.2.9 operator<()

```
1050 bool Ultraschall::Core::String::operator< (
1051     const String & str ) const
```

1052

### 1053 5.20.2.10 operator=()

```
1054 String & Ultraschall::Core::String::operator= (
1055     const char * str )
```

1056

### 1057 5.20.2.11 operator==( )

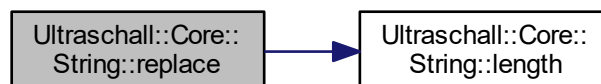
```
1058 bool Ultraschall::Core::String::operator== (
1059     const char * str ) const
```

1060

### 1061 5.20.2.12 replace()

```
1062 void Ultraschall::Core::String::replace (
1063     const String & source,
1064     const String & target )
```

1065 Here is the call graph for this function:

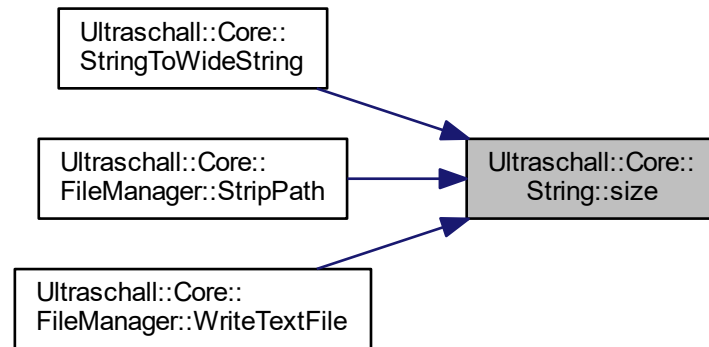


1066

### 5.20.2.13 size()

```
size_t Ultraschall::Core::String::size ( ) const
```

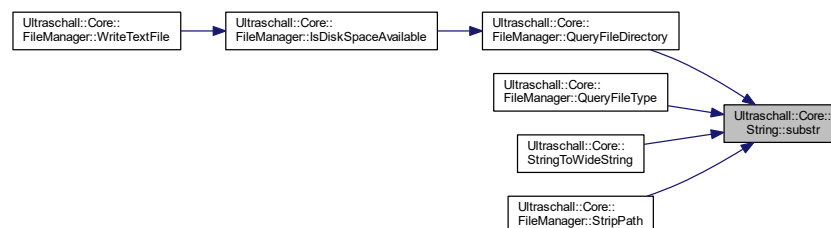
Here is the caller graph for this function:



### 5.20.2.14 substr()

```
String Ultraschall::Core::String::substr (
    const size_t offset = 0,
    const size_t count = NPOS ) const
```

Here is the caller graph for this function:

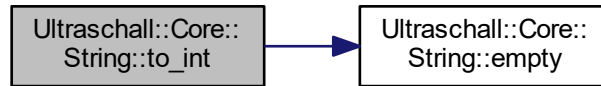




**5.20.2.15 to\_int()**

```
int Ultraschall::Core::String::to_int (
    const String & str ) [static]
```

Here is the call graph for this function:

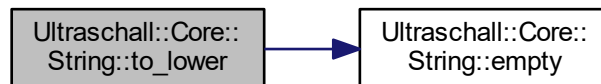


1081

**5.20.2.16 to\_lower()**

```
String Ultraschall::Core::String::to_lower ( )
```

Here is the call graph for this function:

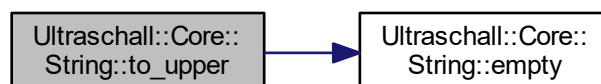


1085

**5.20.2.17 to\_upper()**

```
String Ultraschall::Core::String::to_upper ( )
```

Here is the call graph for this function:

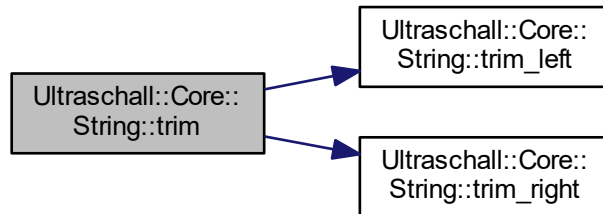


1089

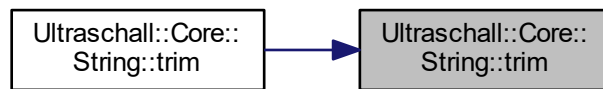
### 5.20.2.18 trim() [1/2]

```
void Ultraschall::Core::String::trim ( )
```

Here is the call graph for this function:



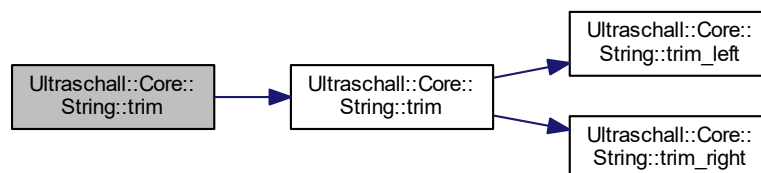
Here is the caller graph for this function:



### 5.20.2.19 trim() [2/2]

```
String Ultraschall::Core::String::trim (
    String str ) [static]
```

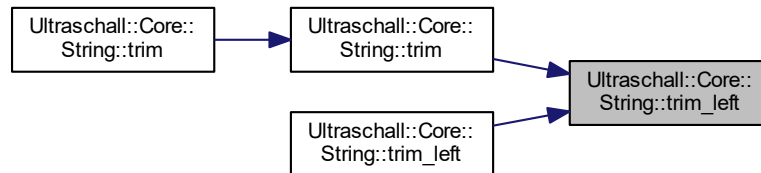
Here is the call graph for this function:



**5.20.2.20 trim\_left()** [1/2]

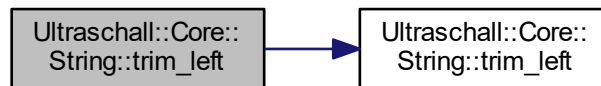
```
void Ultraschall::Core::String::trim_left ( )
```

Here is the caller graph for this function:

**5.20.2.21 trim\_left()** [2/2]

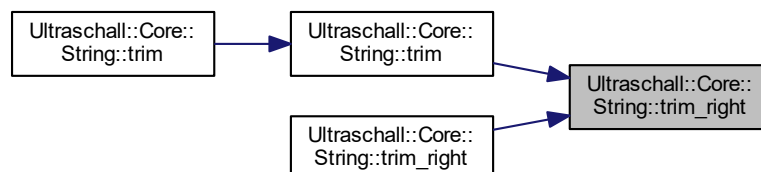
```
String Ultraschall::Core::String::trim_left (
    String str ) [static]
```

Here is the call graph for this function:

**5.20.2.22 trim\_right()** [1/2]

```
void Ultraschall::Core::String::trim_right ( )
```

Here is the caller graph for this function:

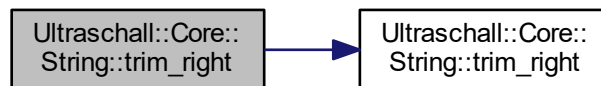


1112

1113 **5.20.2.23 trim\_right() [2/2]**

```
1114 String Ultraschall::Core::String::trim_right (
1115     String str ) [static]
```

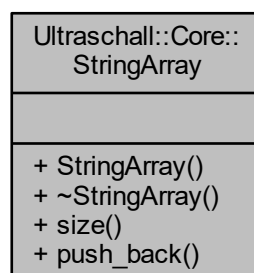
1116 Here is the call graph for this function:

1117 **5.20.3 Field Documentation**

1118

1119 **5.20.3.1 NPOS**

```
1120 const size_t Ultraschall::Core::String::NPOS = String::Impl::NPOS [static]
```

1121 **5.21 Ultraschall::Core::StringArray Class Reference**1122 `#include <CoreStringArray.h>`1123 Collaboration diagram for `Ultraschall::Core::StringArray`:

## Data Structures

- struct [Impl](#)

## Public Member Functions

- [StringArray](#) ()
- virtual [~StringArray](#) ()
- [size\\_t](#) [size](#) () const
- void [push\\_back](#) (const [String](#) &str)

### 5.21.1 Constructor & Destructor Documentation

#### 5.21.1.1 StringArray()

```
Ultraschall::Core::StringArray::StringArray ( )
```

#### 5.21.1.2 ~StringArray()

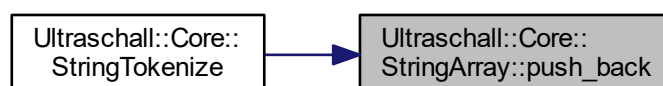
```
Ultraschall::Core::StringArray::~~StringArray ( ) [virtual]
```

### 5.21.2 Member Function Documentation

#### 5.21.2.1 push\_back()

```
void Ultraschall::Core::StringArray::push_back (
    const String & str )
```

Here is the caller graph for this function:



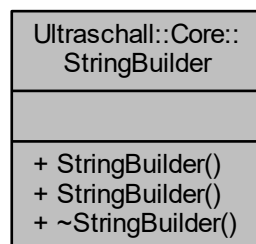
### 5.21.2.2 size()

```
size_t Ultraschall::Core::StringArray::size ( ) const
```

## 5.22 Ultraschall::Core::StringBuilder Class Reference

```
#include <CoreStringBuilder.h>
```

Collaboration diagram for Ultraschall::Core::StringBuilder:



### Data Structures

- struct [Impl](#)

### Public Member Functions

- [StringBuilder](#) ()
- [StringBuilder](#) (const [String](#) &str)
- virtual [~StringBuilder](#) ()

### 5.22.1 Constructor & Destructor Documentation

#### 5.22.1.1 StringBuilder() [1/2]

```
Ultraschall::Core::StringBuilder::StringBuilder ( )
```

### 5.22.1.2 `StringBuilder()` [2/2]

```
Ultraschall::Core::StringBuilder::StringBuilder (
    const String & str )
```

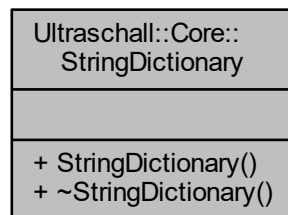
### 5.22.1.3 `~StringBuilder()`

```
Ultraschall::Core::StringBuilder::~~StringBuilder ( ) [virtual]
```

## 5.23 Ultraschall::Core::StringDictionary Class Reference

```
#include <CoreStringDictionary.h>
```

Collaboration diagram for Ultraschall::Core::StringDictionary:



### Public Member Functions

- `StringDictionary` ()
- virtual `~StringDictionary` ()

### 5.23.1 Constructor & Destructor Documentation

#### 5.23.1.1 `StringDictionary()`

```
Ultraschall::Core::StringDictionary::StringDictionary ( )
```

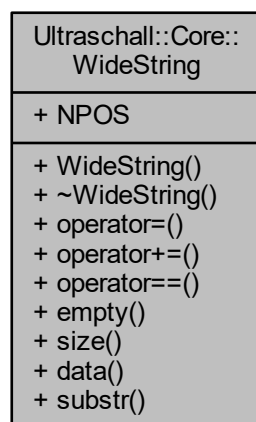
### 5.23.1.2 ~StringDictionary()

```
Ultraschall::Core::StringDictionary::~~StringDictionary ( ) [virtual]
```

## 5.24 Ultraschall::Core::WideString Class Reference

```
#include <CoreWideString.h>
```

Collaboration diagram for Ultraschall::Core::WideString:



## Data Structures

- struct [Impl](#)

## Public Member Functions

- [WideString](#) ()
- virtual [~WideString](#) ()
- [WideString](#) & [operator=](#) (const char16\_t \*str)
- [WideString](#) & [operator+=](#) (const char16\_t \*str)
- bool [operator==](#) (const char16\_t \*str) const
- bool [empty](#) () const
- size\_t [size](#) () const
- const char16\_t \* [data](#) () const
- [WideString](#) [substr](#) (const size\_t offset=0, const size\_t count=[NPOS](#))

## Static Public Attributes

- static const size\_t [NPOS](#) = WideString::Impl::NPOS



## 5.24.1 Constructor & Destructor Documentation

### 5.24.1.1 WideString()

```
Ultraschall::Core::WideString::WideString ( )
```

### 5.24.1.2 ~WideString()

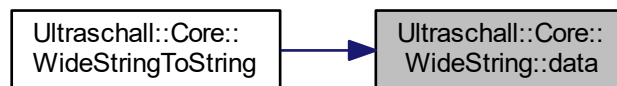
```
Ultraschall::Core::WideString::~~WideString ( ) [virtual]
```

## 5.24.2 Member Function Documentation

### 5.24.2.1 data()

```
const char16_t * Ultraschall::Core::WideString::data ( ) const
```

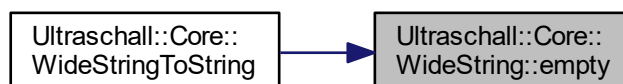
Here is the caller graph for this function:



### 5.24.2.2 empty()

```
bool Ultraschall::Core::WideString::empty ( ) const
```

Here is the caller graph for this function:



### 5.24.2.3 operator+=()

```
WideString & Ultraschall::Core::WideString::operator+= (
    const char16_t * str )
```

### 5.24.2.4 operator=()

```
WideString & Ultraschall::Core::WideString::operator= (
    const char16_t * str )
```

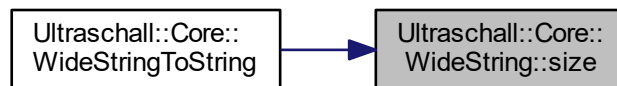
### 5.24.2.5 operator==()

```
bool Ultraschall::Core::WideString::operator== (
    const char16_t * str ) const
```

### 5.24.2.6 size()

```
size_t Ultraschall::Core::WideString::size ( ) const
```

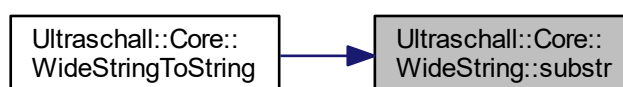
Here is the caller graph for this function:



### 5.24.2.7 substr()

```
WideString Ultraschall::Core::WideString::substr (
    const size_t offset = 0,
    const size_t count = NPOS )
```

Here is the caller graph for this function:



### 1235 5.24.3 Field Documentation

1236

#### 1237 5.24.3.1 NPOS

1238 `const size_t Ultraschall::Core::WideString::NPOS = WideString::Impl::NPOS [static]`



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