

**NAME**

**gss\_wrap**, **gss\_seal** - Attach a cryptographic MIC and optionally encrypt a message

**SYNOPSIS**

```
#include <gssapi/gssapi.h>
```

*OM\_uint32*

```
gss_wrap(OM_uint32 *minor_status, const gss_ctx_id_t context_handle, int conf_req_flag,
         gss_qop_t qop_req, const gss_buffer_t input_message_buffer, int *conf_state,
         gss_buffer_t output_message_buffer);
```

*OM\_uint32*

```
gss_seal(OM_uint32 *minor_status, gss_ctx_id_t context_handle, int conf_req_flag, gss_qop_t qop_req,
         gss_buffer_t input_message_buffer, int *conf_state, gss_buffer_t output_message_buffer);
```

**DESCRIPTION**

Attaches a cryptographic MIC and optionally encrypts the specified *input\_message*. The *output\_message* contains both the MIC and the message. The *qop\_req* parameter allows a choice between several cryptographic algorithms, if supported by the chosen mechanism.

Since some application-level protocols may wish to use tokens emitted by **gss\_wrap**() to provide "secure framing", implementations must support the wrapping of zero-length messages.

The **gss\_seal**() routine is an obsolete variant of **gss\_wrap**(). It is provided for backwards compatibility with applications using the GSS-API V1 interface. A distinct entrypoint (as opposed to #define) is provided, both to allow GSS-API V1 applications to link and to retain the slight parameter type differences between the obsolete versions of this routine and its current form.

**PARAMETERS**

<i>minor_status</i>	Mechanism specific status code.
<i>context_handle</i>	Identifies the context on which the message will be sent.
<i>conf_req_flag</i>	Non-zero Both confidentiality and integrity services are requested. Zero Only integrity service is requested.
<i>qop_req</i>	Specifies required quality of protection. A mechanism-specific default may be requested by setting <i>qop_req</i> to GSS_C_QOP_DEFAULT. If an unsupported protection strength is requested, <b>gss_wrap</b> () will return a <i>major_status</i> of

**GSS\_S\_BAD\_QOP.**

`input_message_buffer` Message to be protected.

`conf_state`

Non-zero Confidentiality, data origin authentication and integrity services have been applied.

Zero Integrity and data origin services only has been applied.

`output_message_buffer` Buffer to receive protected message. Storage associated with this buffer must be freed by the application after use with a call to `gss_release_buffer(3)`.

**RETURN VALUES**

`GSS_S_COMPLETE` Successful completion.

`GSS_S_CONTEXT_EXPIRED` The context has already expired

`GSS_S_NO_CONTEXT` The `context_handle` parameter did not identify a valid context.

`GSS_S_BAD_QOP` The specified QOP is not supported by the mechanism.

**SEE ALSO**

`gss_release_buffer(3)`, `gss_unwrap(3)`

**STANDARDS**

RFC 2743 Generic Security Service Application Program Interface Version 2, Update 1

RFC 2744 Generic Security Service API Version 2 : C-bindings

**HISTORY**

The `gss_wrap` function first appeared in FreeBSD 7.0.

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