

# SAF Return and Function Codes

This chapter covers the following topics:

- SAF Return Codes
- Return Code Structure
- Internal Function Codes

## SAF Return Codes

The SAF Security Kernel displays an eight-byte code containing various return and reason codes from SAF.

This information is shown in a number of messages denoted "SSSSSSSS".

## Return Code Structure

The SAF return code contains the following structure:

Position Within Message Code	Information Content
Byte: 1	SAF return code (R15 after RACROUTE)
Byte: 2	Function code (see section Internal Function Code)
Byte: 3	RACROUTE return code
Byte: 4	RACROUTE reason code
Byte: 5-8	Internal reason code

The SAF trace messages written to DDPRINT, when GWMSGSL is not 0, include the first four bytes of this information, printed as eight hexadecimal digits:

Position Within Trace Message	Information Content
Digits 1 and 2	SAF return code (R15 after RACROUTE)
Digits 3 and 4	Function code (see section Internal Function Code)
Digits 5 and 6	RACROUTE return code
Digits 7 and 8	RACROUTE reason code

Refer to the IBM *External Security Interface (RACROUTE) Macro Reference* manual for MVS and VM for a thorough explanation of all possible return/reason codes. CA-Top Secret and CA-ACF2 can provide different return code values in some circumstances.

## Internal Function Codes

SAF Security Kernel internal function codes include:

<b>Function Code (Hex)</b>	<b>Description</b>
00	Authorize Natural Library
04	Authorize Adabas access
08	Authorize SYSMAIN function
0C	Authorize Natural system files
10	Authorize Natural program execution
14	Authorize Broker service
18	Authorize Net-Work access
1C	Authorize SQL Server access
44 or 6C	AuthenticateUser