

# Securing and Encrypting Network Traffic to z/OS Communications Server with Policy Agent

**"Researching Common AT-TLS and  
x.509 Certificate Errors"**

**(Optional Paper Lab: AT-TLS Errors)**



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This edition applies to IBM z/OS Configuration Assistant running in z/OSMF on  
z/OS V3.1.

Attention:

Information in this document was developed in conjunction with use of the equipment  
specified, and is limited in application to those specific hardware and software  
products and levels.

## Part 0: Lab Description (Researching Common AT-TLS and x.509 Certificate Errors)

Please use the SSL and z/OS Communications Server manuals at your disposal to determine the meaning of the following common SSL/TLS Return Codes.

These return codes and error messages have been found in z/OS SYSLOGD, in console messages when the appropriate levels of logging have been enabled.

The manuals you may wish to consult are:

- *z/OS Cryptographic Services System Secure Sockets Layer Programming (SC24-5901)*
  - *also known as: System SSL Programming Guide*
- *z/OS Communications Server IP Diagnosis Guide (GC31-8782)*
- *z/OS Communications Server IP Messages: Vol. 1 (EZA) (SC31-8783)*
- *z/OS Communications Server IP Messages: Vol. 2 (EZB, EZD) (SC31-8784)*
- *z/OS Communications Server IP Messages: Vol. 3 (EZY) (SC31-8785)*
- *z/OS Communications Server IP Messages: Vol. 4 (EZZ, SNM) (SC31-8786)*
- *z/OS Security Server RACF Security Administrator's Guide (SA22-7683)*
- *z/OS Security Server RACF Command Language Reference (SA22-7687)*

The manuals are available on your workstation or on the IBM website at:

<http://www.ibm.com/systems/z/os/zos/bkserv/>

## Part 1: What is the Cause of the Following Error Messages and SSL/TLS Return Codes? Write down or discuss with your teammates.

1. SSL Function Return Code 6: **Key label is not found.**
  - a. \_\_\_\_\_  
\_\_\_\_\_
2. SSL Function Return Code 7: **No certificates available.**
  - a. \_\_\_\_\_  
\_\_\_\_\_
3. SSL Function Return Code 8: **Certificate validation error.**
  - a. \_\_\_\_\_  
\_\_\_\_\_
4. SSL Function Return Code 109: **No certification authority cert.**
  - a. \_\_\_\_\_  
\_\_\_\_\_
5. SSL Function Return Code 202: **Error detected while opening the certificate database.**
  - a. \_\_\_\_\_  
\_\_\_\_\_
6. SSL Function Return Code 417: **Self-signed certificate cannot be validated.**
  - a. \_\_\_\_\_  
\_\_\_\_\_
7. SSL Function Return Code 435: **Certificate authority is unknown.**
  - a. \_\_\_\_\_  
\_\_\_\_\_
8. SSL Function Return Code 437: **Connection closed.**
  - a. (See next item. Usually another message follows that tells why the connection closed.)  
\_\_\_\_\_
9. SSL Function Return Code 443: **Multiple keys are marked as the default.**
  - a. \_\_\_\_\_  
\_\_\_\_\_
10. SSL Function Return Code 448: **Requested server name is not recognized.**
  - a. \_\_\_\_\_  
\_\_\_\_\_
11. **AT-TLS** Return Code 5001:
  - a. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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12. *AT-TLS* Return Code 5002:

- a. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

13. *AT-TLS* Return Code 5006:

- a. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## End of Lab

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