

CLAIMS

What is claimed is:

1. A computer-implemented method comprising:
 - determining a first topic associated with a first message requires a first encryption level by reference to a topic-based encryption policy;
 - providing to a first entity an encryption key for encrypting the first message according to the first encryption level to produce a first encrypted message;
 - storing the first encrypted message in a message queuing system according to the first topic;
 - receiving from a second entity a request for messages associated with the first topic including the first encrypted message;
 - identifying a decryption key corresponding to the encrypted message according to the topic-based encryption policy with reference to the first topic; and
 - sending to the second entity the first encrypted message for decryption by the consumer using the decryption key.
2. The computer-implemented method of claim 1, further comprising:
 - recording to a logging system the providing to the first entity the encryption key for producing the first encrypted message and the sending to the second entity the decryption key for the first encrypted message.
3. The computer-implemented method of claim 2, further comprising:
 - responsive to an update to the topic-based encryption policy, recording the update to the logging system.
4. The computer-implemented method of claim 1, further comprising:
 - receiving, from the first entity, a request to determine whether the first topic requires encryption for storage in the message queuing system.

5. The computer-implemented method of claim 1, further comprising:
 - establishing a subscription account for the second entity including assigning authenticating credentials to the second entity; and
 - the request is received when the second entity subscribes to the first topic via the subscription account.
6. The computer-implemented method of claim 1, wherein the decryption key is assigned to the first topic by the topic-based encryption policy.
7. A computer program product comprising a computer-readable storage medium having a set of instructions stored therein which, when executed by a processor, causes the processor to perform a topic-based encryption in a publish-subscribe messaging queue by:
 - determining a first topic associated with a first message requires a first encryption level by reference to a topic-based encryption policy;
 - providing to a first entity an encryption key for encrypting the first message according to the first encryption level to produce a first encrypted message;
 - storing the first encrypted message in a message queuing system according to the first topic;
 - receiving from a second entity a request for messages associated with the first topic including the first encrypted message;
 - identifying a decryption key corresponding to the encrypted message according to the topic-based encryption policy with reference to the first topic; and
 - sending to the second entity the first encrypted message for decryption by the second entity using the decryption key.
8. The computer program product of claim 7, further causing the processor to perform a topic-based encryption in a publish-subscribe messaging queue by:
 - recording to a logging system the providing to the user the encryption key for producing the first encrypted message and the sending to the second entity the decryption key for the first encrypted message.

9. The computer program product of claim 8, further causing the processor to perform a topic-based encryption in a publish-subscribe messaging queue by:

responsive to an update to the topic-based encryption policy, recording the update to the logging system.

10. The computer program product of claim 7, further causing the processor to perform a topic-based encryption in a publish-subscribe messaging queue by:

receiving, from the first entity, a request to determine whether the first topic requires encryption for storage in the message queuing system.

11. The computer program product of claim 7, further causing the processor to perform a topic-based encryption in a publish-subscribe messaging queue by:

establishing a subscription account for the second entity including assigning authenticating credentials to the second entity; and

the request is received when the second entity subscribes to the first topic via the subscription account.

12. The computer program product of claim 7, wherein the decryption key is assigned to the first topic by the topic-based encryption policy.

13. A computer system comprising:

a processor set; and

a computer readable storage medium having program instructions stored therein;

wherein:

the processor set executes the program instructions that cause the processor set to perform a topic-based encryption in a publish-subscribe messaging queue by:

determining a first topic associated with a first message requires a first encryption level by reference to a topic-based encryption policy;

providing to a first entity an encryption key for encrypting the first message according to the first encryption level to produce a first encrypted message;

storing the first encrypted message in a message queuing system according to the first topic;

receiving from a second entity a request for messages associated with the first topic including the first encrypted message;

identifying a decryption key corresponding to the encrypted message according to the topic-based encryption policy with reference to the first topic; and

sending to the second entity the first encrypted message for decryption by the second entity using the decryption key.

14. The computer system of claim 13, further causing the processor set to perform a topic-based encryption in a publish-subscribe messaging queue by:

recording to a logging system the providing to the first entity the encryption key for producing the first encrypted message and the sending to the second entity the decryption key for the first encrypted message.

15. The computer system of claim 14, further causing the processor to perform a topic-based encryption in a publish-subscribe messaging queue by:

responsive to an update to the topic-based encryption policy, recording the update to the logging system.

16. The computer system of claim 13, further causing the processor to perform a topic-based encryption in a publish-subscribe messaging queue by:

receiving, from the first entity, a request to determine whether the first topic requires encryption for storage in the message queuing system.

17. The computer system of claim 13, further causing the processor to perform a topic-based encryption in a publish-subscribe messaging queue by:

establishing a subscription account for the second entity including assigning authenticating credentials to the second entity; and

the request is received when the second entity subscribes to the first topic via the subscription account.

18. The computer system of claim 13, wherein the decryption key is assigned to the first topic by the topic-based encryption policy.

19. A computer-implemented method comprising:
 - determining, by a producer, a first topic associated with a first message requires a first encryption level by reference to a topic-based encryption policy;
 - encrypting, by the producer, the first message according to the first encryption level to produce an encrypted message;
 - storing the encrypted message in a message queuing system according to the first topic;
 - receiving from a consumer a subscription for messages associated with the first topic including the first message;
 - identifying, by the consumer, a decryption key corresponding to the encrypted message according to the topic-based encryption policy with reference to the first topic; and
 - decrypting, by the consumer, the encrypted message with the decryption key to reproduce the first message.
20. The computer-implemented method of claim 19, further comprising:
 - receiving the first message associated with the first topic from the producer.
21. The computer-implemented method of claim 19, wherein the message queueing system is a Kafka system.
22. The computer-implemented method of claim 19, wherein identifying the decryption key includes:
 - referring to the topic-based encryption policy to determine whether the subscription for messages associated with the first topic includes encrypted messages.
23. The computer-implemented method of claim 19, wherein:
 - the encrypted message includes a message authentication code; and
 - the subscription for messages includes the encrypted message only when the message authentication code is provided by the consumer.