CLAIMS

What is claimed is:

1. A computer-implemented method comprising:

receiving, from a first entity, a publication request to determine whether a first topic requires encryption for storage in a message queuing system, the first topic being associated with a first message;

responsive to receiving the publication request, determining the first topic requires a first encryption level for storage in a message queuing system according to a topic-based encryption policy;

providing to the 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 the message queuing system according to the first topic;

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

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

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

wherein:

the encrypted message is stored with a message authentication code, the second entity being required to provide the message authentication code to receive the encrypted message responsive to the request for messages associated with the first topic.

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:

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

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

5. The computer-implemented method of claim 1, wherein the decryption key is assigned to the first topic by the topic-based encryption policy.

6. 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:

receiving, from a first entity, a publication request to determine whether a first topic requires encryption for storage in a message queuing system, the first topic being associated with a first message;

responsive to receiving the publication request, determining the first topic requires a first encryption level for storage in a message queuing system according to a topic-based encryption policy;

providing to the 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 the message queuing system according to the first topic;

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

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

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

wherein:

the encrypted message is stored with a message authentication code, the second entity being required to provide the message authentication code to receive the encrypted message responsive to the request for messages associated with the first topic.

7. The computer program product of claim 6, 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 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.

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:

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

9. The computer program product of claim 6, 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 topic request is received when the second entity subscribes to the first topic via the subscription account.

10. The computer program product of claim 6, wherein the decryption key is assigned to the first topic by the topic-based encryption policy.

11. 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:

receiving, from a first entity, a publication request to determine whether a first topic requires encryption for storage in a message queuing system, the first topic being associated with a first message;

responsive to receiving the publication request, determining the first topic requires a first encryption level for storage in a message queuing system according to a topic-based encryption policy;

providing to the 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 the message queuing system according to the first topic;

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

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

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

wherein:

the encrypted message is stored with a message authentication code, the second entity being required to provide the message authentication code to receive the encrypted message responsive to the request for messages associated with the first topic.

12. The computer system of claim 11, 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.

13. The computer system of claim 12, 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.

14. The computer system of claim 11, 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 topic request is received when the second entity subscribes to the first topic via the subscription account.

15. The computer system of claim 11, wherein the decryption key is assigned to the first topic by the topic-based encryption policy.

16. 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;

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.

17. The computer-implemented method of claim 16, further comprising:

receiving the first message associated with the first topic from the producer.

18. The computer-implemented method of claim 16, wherein the message queueing system is a Kafka system.

19. The computer-implemented method of claim 16, 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.