WHAT IS CLAIMED IS:

1. A device, comprising:

at least one processor; and

a memory comprising program instructions, wherein the program instructions are executable by the at least one processor to implement a gateway process operable to:

receive, from one or more processes on a customer network, read requests and write requests directed to a local data store on the customer network;

pass the read requests and the write requests to the local data store; and

send write data indicated by the write requests to a service provider to update a snapshot of the local data store maintained on a remote data store by the service provider with the write data.

2. The device as recited in claim 1, wherein the gateway process is operable to upload at least a portion of the data stored on the local data store to the service provider to make the snapshot of the local data store consistent with the local data store.

3. The device as recited in claim 1, wherein the one or more processes on the customer network initiate the read requests and the write requests to one or more data ports exposed by the storage gateway on the customer network.

4. The device as recited in claim 1, wherein the gateway process is operable to perform said sending the write data to the service provider asynchronously to said passing the read requests and the write requests to the local data store and to returning responses to the read requests and the write requests from the local data store to the initiating processes.

5. The device as recited in claim 1, wherein the gateway process is further operable to restore at least some data in the local data store from the snapshot of the local data store.

6. The device as recited in claim 1, wherein, to send write data indicated by the write requests to a service provider, the gateway process is further operable to:

buffer the write data to a write log; and

upload the buffered write data from the write log to the service provider.

7. The device as recited in claim 6, wherein said uploading is performed according to a data deduplication technique.

8. The device as recited in claim 1, wherein the snapshot of the local data store is maintained on the remote data store by the service provider in a block format, and wherein, to send write data indicated by the write requests to a service provider, the gateway process is further operable to upload blocks of data modified by the write data to the service provider.

9. A method, comprising:

configuring a computer as a shadowing gateway on a customer network according to configuration information received from a service provider, wherein a shadowing gateway shadows data stored on a local data store to a remote data store maintained by the service provider;

wherein, to shadow data stored on the local data store to the remote data store, the shadowing gateway is operable to:

receive write requests directed to the local data store from one or more processes on the customer network; and

upload write data indicated by the write requests to the service provider to update a snapshot of the local data store maintained on the remote data store by the service provider with the write data.

10. The method as recited in claim 9, wherein, subsequent to said configuring, the shadowing gateway is operable to upload at least a portion of the data stored on the local data store to the service provider to make the snapshot of the local data store consistent with the local data store.

11. The method as recited in claim 9, wherein the one or more processes on the customer network initiate the read requests and the write requests to one or more data ports exposed by the shadowing gateway on the customer network.

12. The method as recited in claim 9, wherein the shadowing gateway is further operable to pass the write requests to the local data store, and wherein the shadowing gateway is operable to perform said uploading the write data to the service provider asynchronously to said passing the write requests to the local data store and to said processing the read requests.

13. The method as recited in claim 9, wherein, to upload write data indicated by the write requests to the service provider, the shadowing gateway is further operable to:

buffer the write data to a write log; and

upload the buffered write data from the write log to the service provider according to a data deduplication technique.

14. The method as recited in claim 9, wherein, to upload write data to the service provider, the shadowing gateway is further operable to upload the write data according to a Web service interface of the service provider.

15. The method as recited in claim 9, wherein, to upload write data to the service provider, the shadowing gateway is further operable to upload blocks of data modified by the write data to the service provider.

WHAT IS CLAIMED IS:

1. A device, comprising:

at least one processor; and

a memory comprising program instructions, wherein the program instructions are executable by the at least one processor to implement a gateway process on a device coupled to a customer network, the gateway process operable to:

receive, from one or more computing systems on the customer network, read requests and write requests directed to a local data store on the customer network, wherein the device coupled to the customer network is different from the one or more computing systems on the customer network;

pass the read requests and the write requests to the local data store; and

send write data indicated by the write requests to a service provider to update a snapshot of the local data store maintained on a remote data store by the service provider with the write data.

2. The device as recited in claim 1, wherein the gateway process is operable to upload at least a portion of the data stored on the local data store to the service provider to make the snapshot of the local data store consistent with the local data store.

3. The device as recited in claim 1, wherein the one or more processes on the customer network initiate the read requests and the write requests to one or more data ports exposed by the storage gateway on the customer network.

4. The device as recited in claim 1, wherein the gateway process is operable to perform said sending the write data to the service provider asynchronously to said passing the read requests and the write requests to the local data store and to returning responses to the read requests and the write requests from the local data store to the initiating processes.

5. The device as recited in claim 1, wherein the gateway process is further operable to restore at least some data in the local data store from the snapshot of the local data store.

6. The device as recited in claim 1, wherein, to send write data indicated by the write requests to a service provider, the gateway process is further operable to:

buffer the write data to a write log; and

upload the buffered write data from the write log to the service provider.

7. The device as recited in claim 6, wherein said uploading is performed according to a data deduplication technique.

8. The device as recited in claim 1, wherein the snapshot of the local data store is maintained on the remote data store by the service provider in a block format, and wherein, to send write data indicated by the write requests to a service provider, the gateway process is further operable to upload blocks of data modified by the write data to the service provider.

9. A method, comprising:

configuring a computer as a shadowing gateway on a customer network according to configuration information received from a service provider, wherein a shadowing gateway shadows data stored on a local data store to a remote data store maintained by the service provider;

wherein, to shadow data stored on the local data store to the remote data store, the shadowing gateway is operable to:

receive write requests directed to the local data store from one or more computing systems on the customer network that are different from the shadowing gateway computer; and

upload write data indicated by the write requests to the service provider to update a snapshot of the local data store maintained on the remote data store by the service provider with the write data.

10. The method as recited in claim 9, wherein, subsequent to said configuring, the shadowing gateway is operable to upload at least a portion of the data stored on the local data store to the service provider to make the snapshot of the local data store consistent with the local data store.

11. The method as recited in claim 9, wherein the one or more processes on the customer network initiate the read requests and the write requests to one or more data ports exposed by the shadowing gateway on the customer network.

12. The method as recited in claim 9, wherein the shadowing gateway is further operable to pass the write requests to the local data store, and wherein the shadowing gateway is operable to perform said uploading the write data to the service provider asynchronously to said passing the write requests to the local data store and to said processing the read requests.

13. The method as recited in claim 9, wherein, to upload write data indicated by the write requests to the service provider, the shadowing gateway is further operable to:

buffer the write data to a write log; and

upload the buffered write data from the write log to the service provider according to a data deduplication technique.

14. The method as recited in claim 9, wherein, to upload write data to the service provider, the shadowing gateway is further operable to upload the write data according to a Web service interface of the service provider.

15. The method as recited in claim 9, wherein, to upload write data to the service provider, the shadowing gateway is further operable to upload blocks of data modified by the write data to the service provider.