Claims

What is claimed is:

1. An apparatus to control power consumption of computer hardware of computer servers, the apparatus comprising:

one or more processors; and

a datacenter management control module, to be operated on the one or more processors, to:

receive a request to increase capacity of a server pool having one or more first servers of the computer servers, the request from a computing device associated with the server pool;

determine, based on encrypted data of at least one record obtained from the computer servers, an available second server of the computer servers with available capacity to meet or contribute to meeting the requested capacity, wherein the available second server includes a power management controller to collect power consumption data for one or more of a power supply, a memory, or a processor of the available second server, wherein the available second server is a remote cloud server in a different subnet than a subnet of the one or more first servers of the server pool and the computing device;

add or facilitate addition of the available second server to the server pool; and

transmit power management commands to the second server added to the server pool to at least partially control power consumption of the second server provided with the power management commands.

2. The apparatus of claim 1, wherein the subnet of the one or more first servers of the server pool and the computing device comprises a first subnet and the different subnet comprises a second subnet, where the one or more processors are in the first subnet.

3. The apparatus of claim 1, wherein the subnet of the one or more first servers of the server pool and the computing device comprises a first subnet and the different subnet comprises a second subnet, where the one or more processors are in the second subnet.

4. The apparatus of claim 3, wherein the datacenter management control module is to transmit the power management commands to the second server via an out-of-band communication channel.

5. The apparatus of claim 3, wherein the datacenter management control module is to transmit the power management commands to the second server added to the server pool using a protocol that conforms to one or more representational state transfer constraints.

6. The apparatus of claim 3, wherein the datacenter management control module is to:

send a query for available servers and their power management capability to a database; and

receive service metadata associated with the available server in response to the query.

7. The apparatus of claim 6, further comprising the datacenter management control module of a cloud management server of a cloud data center, wherein the cloud management server comprises a first cloud data center server of the cloud data center and the second server comprises a second different cloud data center server of the cloud data center, wherein the database is accessible by the first could data center server of the cloud data center.

8. The apparatus of claim 7, wherein the cloud data center comprises a cloud data center of a plurality of cloud data centers, and wherein the database is associated with an aggregator service that aggregates cloud computing services provided by the plurality of cloud data centers.

9. The apparatus of claim 3, wherein the datacenter management control module is further to transmit power management commands to the one or more first servers and the second server of the server pool to at least partially control power consumption of the one or more first servers and the second server of the server pool.

10. The apparatus of claim 9, wherein the datacenter management control module is to transmit the power management commands to the one or more first servers and the second server of the server pool using an intelligent platform management interface.

11. A method for controlling power consumption of computer hardware of computer servers, the method comprising:

receiving, by a datacenter infrastructure management controller, a request to increase capacity of a server pool having one or more first servers of the computer servers, the request from a computing device associated with the server pool;

determining, by the datacenter infrastructure management controller and based on encrypted data of at least one record obtained from the computer servers, an available second server of the computer servers with available capacity to meet or contribute to meeting the requested capacity, wherein the available server includes a power management controller to collect power consumption data for one or more of a power supply, a memory, or a processor of the available second server, wherein the available second server is a remote cloud server in a different subnet than a subnet of the computing device;

adding or facilitating adding, by the datacenter infrastructure management controller, the available second server to the server pool; and

transmitting, by the datacenter infrastructure management controller, power management commands to the second server added to the server pool to at least partially control power consumption of the second server provided with the power management commands.

12. The method of claim 11, wherein the subnet of the computing device comprises a first subnet, where the datacenter infrastructure management controller operates in the second subnet.

13. The method of claim 12, wherein the power management commands are sent to the second server added to the server pool via an out-of-band communication channel; and wherein the power management commands are sent to the second server added to the server pool using a protocol that conforms to one or more representational state transfer constraints.

14. The method of claim 12, wherein determining an available second server includes:

sending, by the datacenter infrastructure management controller, a query for available servers and their power management capability to a database; and

receiving, by the datacenter infrastructure management controller, service metadata associated with the available second server.

15. The method of claim 14, wherein the database is associated with an aggregator service that aggregates cloud computing services provided by a plurality of cloud data centers, and wherein the available second server is associated with a cloud data center of the plurality of cloud data centers.

16. The method of claim 12, further comprising transmitting, by the datacenter infrastructure management controller, power management commands to the one or more first servers and the second server of the server pool to at least partially control power consumption of the one or more first servers and the second server of the server pool; wherein a datacenter management control module is to transmit the power management commands to the one or more first servers and the second server of the server pool using an intelligent platform management interface.

17. At least one non-transitory computer-readable medium having a plurality of instructions stored therein, and configured to enable a computing apparatus, in response to execution by one or more processors of the computing apparatus, to:

receive a request to increase capacity of a server pool having one or more first servers of computer servers, the request from a computing device associated with the server pool;

determine, based on encrypted data of at least one record obtained from the computer servers, an available second server of the computer servers with available capacity to contribute to the requested capacity, wherein the available second server includes a power management controller to collect power consumption data for one or more of a power supply, a memory, or a processor of the available second server, wherein the available second server is a remote cloud server in a different subnet than a subnet of the one or more first servers of the server pool and the computing device;

add or facilitate addition of the available second server to the server pool; and

transmit power management commands to the second server added to the server pool to at least partially control power consumption of the second server.

18. The at least one non-transitory computer-readable medium of claim 17, wherein the subnet of the one or more first servers of the server pool and the computing device comprises a first subnet and the different

subnet comprises a second subnet, where the one or more processors are in a third subnet that is different than the second subnet.

19. The at least one non-transitory computer-readable medium of claim 17, wherein the instructions are to cause the computing apparatus to transmit the power management commands via an out-of-band communication channel.

20. The at least one non-transitory computer-readable medium of claim 17, wherein the instructions are to cause the computing apparatus to transmit the power management commands using a protocol that conforms to one or more representational state transfer constraints.

21. The at least one non-transitory computer-readable medium of claim 17, wherein the instructions are also to cause the computing apparatus to:

send a query for available servers and their power management capability to a database; and

receive service metadata associated with the available second server in response to the query.

22. The at least one non-transitory computer-readable medium of claim 21, wherein the database is associated with a cloud management server of a cloud data center; and wherein the available second server is associated with the cloud data center.

23. The at least one non-transitory computer-readable medium of claim 21, wherein the cloud data center is a cloud data center of a plurality of cloud data centers, and wherein the database is associated with an aggregator service that aggregates cloud computing services provided by the plurality of cloud data centers; and wherein the available second server is associated with the cloud data center of the plurality of cloud data centers.

24. The at least one non-transitory computer-readable medium of claim 17, wherein the instructions are further to cause the computing apparatus to transmit power management commands to the one or more first servers and the second server of the server pool to at least partially control power consumption of the one or more first servers and the second server of the server pool.

25. The at least one non-transitory computer-readable medium of claim 24, wherein the instructions are also to cause the computing apparatus to transmit the power management commands to the one or more first servers and the second server of the server pool using an intelligent platform management interface.