WHAT IS CLAIMED IS:

1. A method of providing cooling by a cooling system to a computer data center, comprising:

providing a plurality of air-and-water radiators and one or more chillers, the chillers each having a first side in fluid communication with a chilled water loop and a second side in communication with a condenser water loop;

circulating a first portion of return water coming from the computer data center to a first subset of the air-and-water radiators and through the condenser water loop;

circulating a second portion of the return water from the computer data center to a second subset of the air-and-water radiators and through the chilled water loop; and

circulating the first portion and the second portion of the return water to the computer data center as cooled supply water.

2. The method of claim 1, further comprising selectively proportioning return water to each of the first and second subsets of the air-and-water radiators in response to sensing a change in cooling load for the computer data center.

3. The method of claim 2, wherein selectively proportioning comprises increasing a proportion of water to the second subset relative a proportion of water to the first subset when a overall load level on the cooling system increases.

4. The method of claim 2, wherein selectively proportioning comprises opening one or more additional banks of radiators for the first subset of radiators when the overall load level increases.

5. The method of claim 1, wherein the air-and-water radiators comprise hybrid cooling towers.

6. The method of claim 1, wherein the air-and-water radiators are arranged grid of x rows and y columns, and each subset of radiators comprises one or more rows of radiators in the grid.

7. The method of system of claim 1, wherein the first portion of the return water is circulated to the second side of the chillers after it is circulated to the first subset of the air-and-water radiators.

8. The method of claim 7, wherein the second portion of the return water is provided through the chilled water loop to the data center without passing through the chillers.

9. The method of claim 7, wherein the second portion of the return water is blended with water supplied by the chilled water side of the chillers.

10. A cooling system for a computer data center, comprising:

a chilled water loop that connects loads in the data center with chilled water sides of one or more chillers;

a condenser water loop that connects condenser water sides of the one or more chillers with a plurality of air-and-water radiators;

one or more fluid conduit that connect the chilled water loop to the condenser water loop; and

one or more control valves in the one or more conduits arranged to control relative amounts of warmed return water from the data center to the chilled water loop and the condenser water loop.

11. The system of claim 10, further comprising a central control system programmed to control the one or more control valves in response to changes in cooling load on the data center.

12. The system of claim 11, wherein the central control system is programmed to increase a proportion of the warmed return water that is provided to the chilled water loop relative to a proportion of warmed return water that is provided to the condenser water loop when a cooling load on the data center increases.

13. The system of claim 11, wherein the central control system is programmed to stage operation of the chillers in coordination switching of air-and-water radiators from the chilled water loop to the condenser water loop, in response to changes in cooling load on the data center.

14. The system of claim 10, further comprising control valves arranged to selectively isolate a first subset of the air-and-water radiators from a second sub-set of the air-and-water radiators, so that the first subset is connected to the chilled water loop and the second subset is connected to the condenser water loop.

15. The system of claim 10, further comprising a data center supply header and a data center return header that each include a conduit having a plurality of taps, with a first plurality of taps connected to piping inside the data center, and a second plurality of taps connected to outputs of the one or more chillers.

16. The system of claim 15, wherein the return header is connected to inputs of the one or more chillers and inputs of the plurality of air-and-water radiators.

17. The system of claim 10, wherein the air-and-water radiators comprise dry cooling towers.

18. A cooling system for a computer data center, comprising:

one or more chillers that define chilled water sides and condenser water sides;

a warmed water return conduit arranged to carry water from the data center to the cooling system;

a plurality of air-and-water radiators arranged to receive the water from the data center and to cool the water from the data center by circulating ambient air around the water from the data center; and

means for controlling amounts of the water from the data center that is circulated through the air-and-water radiators and through the chillers.

19. The cooling system of claim 18, wherein the water from the data center is circulated through the chilled water sides of the one or more chillers and the condenser water sides of the one or more chillers.

20. The cooling system of claim 19, wherein the water from the data center is circulated through the chilled water sides of the one or more chillers only after it is circulated through the air-and-water radiators.

WHAT IS CLAIMED IS:

1. A method of providing cooling by a cooling system to a computer data center, comprising:

providing a plurality of air-and-water radiators and one or more chillers, the chillers each having a first side in fluid communication with a chilled water loop and a second side in communication with a condenser water loop, where the plurality of air-and-water radiators are arranged as a grid of x rows and y columns, and each of the air-and-water radiators comprises a fin-and-tube heat exchanger and a fan mounted to circulate an airflow over the fin-and-tube heat exchanger;

circulating cooled supply water through a common supply header to a plurality of cooling coils positioned in airflow communication with a plurality of computers in the computer data center, the cooling coils receiving heat from the plurality of computers to provide heated water;

circulating the heated water from the plurality of coiling coils in the computer data center through a common return header as return water;

dividing the return water from the computer data center into a first portion and a second portion;

circulating the first portion of return water coming from the computer data center to a first subset of the air-and-water radiators and through the condenser water loop;

circulating the second portion of the return water from the computer data center to a second subset of the air-and-water radiators and through the chilled water loop, each of the first and second subsets of radiators comprising one or more rows or one or more columns of the plurality of air-and-water radiators in the grid; and

circulating the first portion and the second portion of the return water to the computer data center as the cooled supply water through the common supply header.

2. The method of claim 1, further comprising selectively proportioning return water to each of the first and second subsets of the air-and-water radiators in response to sensing a change in cooling load for the computer data center.

3. The method of claim 2, wherein selectively proportioning comprises increasing a proportion of water to the second subset relative to a proportion of water to the first subset when an overall load level on the cooling system increases.

4. The method of claim 2, wherein selectively proportioning comprises opening one or more additional banks of radiators for the first subset of radiators when the overall load level increases.

5. The method of claim 1, wherein the first portion of the return water is circulated to the second side of the chillers after it is circulated to the first subset of the air-and-water radiators.

6. The method of claim 5, wherein the second portion of the return water is provided through the chilled water loop to the data center without passing through the chillers.

7. The method of claim 5, wherein the second portion of the return water is blended with water supplied by the chilled water side of the chillers.

8. A cooling system for a computer data center, comprising:

a chilled water loop that connects loads in the computer data center with chilled water sides of one or more chillers;

a condenser water loop that connects condenser water sides of the one or more chillers with a plurality of air-and-water radiators, where the plurality of air-and-water radiators are arranged as a grid of x rows and y columns, and each of the air-and-water radiators comprises a fin-and-tube heat exchanger and a fan mounted to circulate an airflow over the fin-and-tube heat exchanger;

one or more fluid conduits that connect the chilled water loop to the condenser water loop;

a common supply header in fluid communication with the chilled and condenser water loops, the common supply header circulating cooled supply water to a plurality of cooling coils

positioned in airflow communication with the loads in the computer data center and receiving heat from the loads to provide heated water;

a common return water header in fluid communication with the chilled and condenser water loops, the common return water header circulating the heated water from the plurality of cooling coils in the computer data center to provide warmed return water; and

one or more control valves in the one or more conduits arranged to divide the warmed return water into relative amounts, and to route the relative amounts of the warmed return water: (1) from the computer data center, through a first sub-set of the air-and-water radiators, and to the chilled water loop, and (2) from the computer data center, through a second sub-set of the air-and-water radiators, and to the condenser water loop.

9. The system of claim 8, further comprising a central control system programmed to control the one or more control valves in response to changes in cooling load on the data center.

10. The system of claim 9, wherein the central control system is programmed to increase a proportion of the warmed return water that is provided to the chilled water loop relative to a proportion of warmed return water that is provided to the condenser water loop when a cooling load on the data center increases.

11. The system of claim 9, wherein the central control system is programmed to stage operation of the one or more chillers in coordination with switching of air-and-water radiators of the plurality of air-and-water radiators from the chilled water loop to the condenser water loop, in response to changes in the cooling load on the computer data center.

12. The system of claim 8, further comprising control valves arranged to selectively isolate the first subset of the air-and-water radiators from the second sub-set of the air-and-water radiators, so that the first subset is connected to the chilled water loop and the second subset is connected to the condenser water loop.

13. The system of claim 8, wherein the common supply header and the common return header each include a conduit having a plurality of taps, with a first plurality of taps connected to piping inside the data center, and a second plurality of taps connected to outputs of the one or more chillers.

14. The system of claim 13, wherein the common return header is connected to inputs of the one or more chillers and inputs of the plurality of air-and-water radiators.

15. The system of claim 8, wherein the chilled water loop comprises a primary chilled water loop and a secondary chilled water loop.

16. The system of claim 15, wherein the primary chilled water loop comprises the chilled water sides of the one or more chillers.

17. The system of claim 8, wherein the y columns comprise four or more columns.

18. A cooling system for a computer data center, comprising:

one or more chillers that define chilled water sides and condenser water sides;

a warmed water return conduit arranged to carry warmed water from the computer data center to the cooling system;

a plurality of air-and-water radiators arranged as a grid of x rows and y columns to receive the warmed water from the computer data center, each of the plurality of air-and-water radiators comprising a fin-and-tube heat exchanger and a fan mounted to circulate an airflow over the fin-and-tube heat exchanger, the plurality of air-and-water radiators arranged to cool the warmed water from the computer data center by circulating the warmed water through tubes of the fin-and tube heat exchangers and circulating, with the fans, ambient air around the tubes;

a common supply header in fluid communication with the chilled and condenser water sides of the one or more chillers, the common supply header circulating cooled supply water to a plurality of cooling coils positioned in airflow communication with a plurality of computers in the computer data center and receiving heat from the plurality of computers to provide heated

water;

a common return water header in fluid communication with the chilled and condenser water sides of the one more chillers, the common return water header circulating the heated water from the plurality of cooling coils in the computer data center to provide warmed return water; and

means for dividing the warmed return water into relative amounts and for controlling the relative amounts of the warmed water from the computer data center that is circulated through the air-and-water radiators and through the one or more chillers.

19. The cooling system of claim 18, wherein the warmed water from the data center is circulated through the chilled water sides of the one or more chillers and the condenser water sides of the one or more chillers.

20. The cooling system of claim 19, wherein the warmed water from the data center is circulated through the chilled water sides of the one or more chillers only after it is circulated through the tubes of the air-and-water radiators.