Application No.: 13/269,234 Attorney Docket No.: 10494.0003-01000

OK TO ENTER: /E.D./ (05/11/2012)

isolated from the cooling liquid;

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A cooling system for a heat-generating component, comprising:

a double-sided chassis adapted to mount a pump configured to circulate a cooling liquid,
the pump comprising a stator and an impeller, the impeller being positioned in a recess on the
underside of the chassis and the stator being positioned on the upper side of the chassis and

a reservoir adapted to pass the cooling liquid therethrough, the reservoir including:

a pump chamber formed by the recess and including the impeller and formed below the chassis, the pump chamber being defined by at least an impeller cover having one or more passages for the cooling liquid to pass through;

a thermal exchange chamber formed below the pump chamber and vertically spaced apart from the pump chamber, the pump chamber and the thermal exchange chamber being separate chambers that are fluidly coupled together by the one or more passages; and

a heat-exchanging interface, the heat-exchanging interface forming a boundary wall of the thermal exchange chamber, and configured to be placed in thermal contact with a surface of the heat-generating component; and

a heat radiator fluidly coupled to the reservoir and configured to dissipate heat from the cooling liquid.



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2. (Original) The cooling system of claim 1, wherein the chassis shields the stator

from the cooling liquid in the reservoir.

3. (Original) The cooling system of claim 1, wherein the heat-exchanging interface

includes a first side and a second side opposite the first side, and wherein the heat-exchanging

interface contacts the cooling liquid in the thermal exchange chamber on the first side and the

heat-exchanging interface is configured to be in thermal contact with the surface of the heat-

generating component on the second side.

4. (Original) The cooling system of claim 3, wherein the first side of the heat-

exchanging interface includes features that are adapted to increase heat transfer from the heat-

exchanging interface to the cooling liquid in the thermal exchange chamber.

5. (Original) The cooling system of claim 4, wherein the features include at least one

of pins or fins.

6. (Cancelled).



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7. (Original) The cooling system of claim 1, wherein a passage of the one or more passages that fluidly couple the pump chamber and the thermal exchange chamber is offset from a center of the impeller.

- 8. (Original) The cooling system of claim 1, wherein the impeller includes a plurality of curved blades.
 - 9. (Cancelled).
- 10. (Original) The cooling system of claim 1, wherein the heat-exchanging interface includes one of copper and aluminum.
- 11. (Original) The cooling system of claim 1, wherein the heat radiator is fluidly coupled to the reservoir using flexible conduits, and the heat radiator is configured to be positioned remote from the reservoir.
 - 12. (Original) A cooling system for a computer system, comprising:

 a centrifugal pump adapted to circulate a cooling liquid, the pump including:

 an impeller exposed to the cooling liquid; and

 a stator isolated from the cooling liquid;



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a reservoir configured to be thermally coupled to a heat-generating component of the computer system, the reservoir including:

a thermal exchange chamber adapted to be positioned in thermal contact with the heat-generating component;

a separate pump chamber vertically spaced part from the thermal exchange chamber and coupled with the thermal exchange chamber through one or more passages configured for fluid communication between the pump chamber and the thermal exchange chamber, and wherein at least one of the one or more passages is offset from a center of the impeller.

- 13. (Original) The cooling system of claim 12, wherein a top wall of the reservoir physically separates the impeller from the stator.
- 14. (Original) The cooling system of claim 12, wherein the thermal exchange chamber includes a heat-exchange interface configured to be placed in thermal contact with the heat-generating component.
- 15. (Original) The cooling system of claim 12, further including a heat radiator fluidly coupled to the reservoir using flexible conduits, wherein the heat radiator is configured to be positioned remote from the reservoir.



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16. (Original) The cooling system of claim 12, wherein the fluid passage that is offset from the center of the impeller is positioned tangentially to the circumference of the impeller.

17. (Original) A cooling system for a heat-generating component, comprising: a pump adapted to circulate a cooling liquid, the pump including:

an impeller exposed to the cooling liquid; and

a stator isolated from the cooling liquid;

a reservoir including an impeller cover, an intermediate member and a heat exchange interface, wherein a top wall of the reservoir and the impeller cover define a pump chamber for housing the impeller, and the intermediate member and the heat exchange interface define a thermal exchange chamber, the pump chamber and the thermal exchange chamber being spaced apart from each other in a vertical direction and fluidly coupled together; and

wherein a first side of the heat-exchanging interface is in contact with a cooling liquid in the thermal exchange chamber and a second side of the heat-exchanging interface opposite the first side is configured to be placed in thermal contact with a surface of the heat-generating component; and

a liquid-to-air heat exchanger fluidly coupled to the reservoir using flexible conduits, the heat exchanger being configured to be positioned remote from the reservoir.

18. (Original) The cooling system of claim 17, wherein the impeller cover includes a first opening radially offset from a center of the impeller and the intermediate member includes a



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