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# Compaq ProLiant ML350 1GHz - (2nd generation) Intelligent Fan Control Technology Brief

***Abstract:** With the addition of Intelligent Fan Control, the new Compaq ProLiant ML350 (2<sup>nd</sup> generation) server with 1-GHz Pentium III processor support recently demonstrated less audible noise as compared to previous ProLiant ML350 servers.*

## Intelligent Fan Control Overview

Intelligent Fan Control utilizes software algorithms and hardware mechanisms to provide reduced noise while increasing system robustness. This feature technology is the same used on the ProLiant ML370.

The Compaq System Management Driver\* utilizes temperature sensors on the system board and the processors to closely monitor the system's thermal state. The driver will vary the fan speed dynamically depending on the current thermal state of the ProLiant ML350 (2<sup>nd</sup> Generation). The algorithm guarantees that the system is running as quietly as possible while keeping all components within specified temperatures. If the temperature gets too close to thermal limits, the driver will increase the fans to 100%. If the temperature continues to increase beyond thermal limits, the driver will gracefully shutdown the operating system.

If the Compaq System Management Driver becomes unavailable the system hardware provides a backup thermal control scheme. The system hardware provides trip point mechanisms that automatically increase the fan speed to 100% if the system gets too close to thermal limits. If the temperatures exceed thermal limits without software intervention the hardware will shutdown the system to prevent system component damage.

Together the Compaq System Management Driver and the ProLiant ML350 (2<sup>nd</sup> Generation) hardware provide the quietest possible system with great reliability.

- \* The Compaq System Management Driver must be installed to utilize variable fan speed and graceful OS shutdown. The hardware mechanisms are available regardless of software configuration.

## Acoustic Benefits

Acoustic testing at Compaq showed reduction in sound pressure and sound power using Intelligent Fan Control. The results are impressive considering the ProLiant ML350 1GHz employs an additional fan and a hotter processor than ProLiant ML350 (1<sup>st</sup> Generation) systems.

Compaq ProLiant ML350 (2<sup>nd</sup> Generation) improves acoustic footprint with results as shown:

Metric	Results
<ul style="list-style-type: none"> <li>▪ <b>Sound Pressure (dBA)</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>ProLiant ML350 (2<sup>nd</sup> Generation - 1GHz) shows 12.6% decrease in Sound Pressure over ML350 (1<sup>st</sup> Generation) @ 733MHz</b></li> </ul>
<ul style="list-style-type: none"> <li>▪ <b>Sound Power (Bels)</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>ProLiant ML350 (2<sup>nd</sup> Generation) 1GHz shows 7.8% decrease in Sound Power over ML350 (1<sup>st</sup> Generation) @ 733MHz</b></li> </ul>

## Available through Compaq-authorized resellers or Direct from Compaq

The ProLiant ML350, as with most Compaq servers, is available through Compaq authorized Value-Added Resellers (VARs), Compaq agents, and Direct from Compaq via phone or at <http://www.directplus.compaq.com>. Systems can be pre-configured with a variety of options and accessories as well as operating systems. For more information, please contact your authorized reseller or 1-800-AT-COMPAQ.

### Notice

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