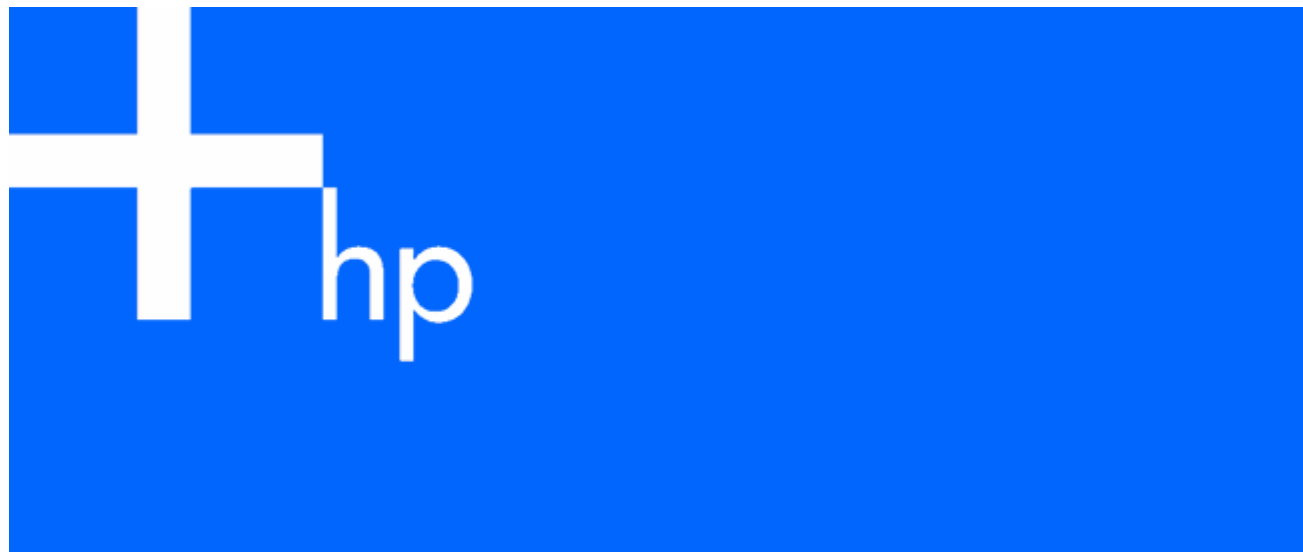


HP ProLiant DL360 Generation 5 Server User Guide



Second Edition (May 2006)
Part Number 406316-002



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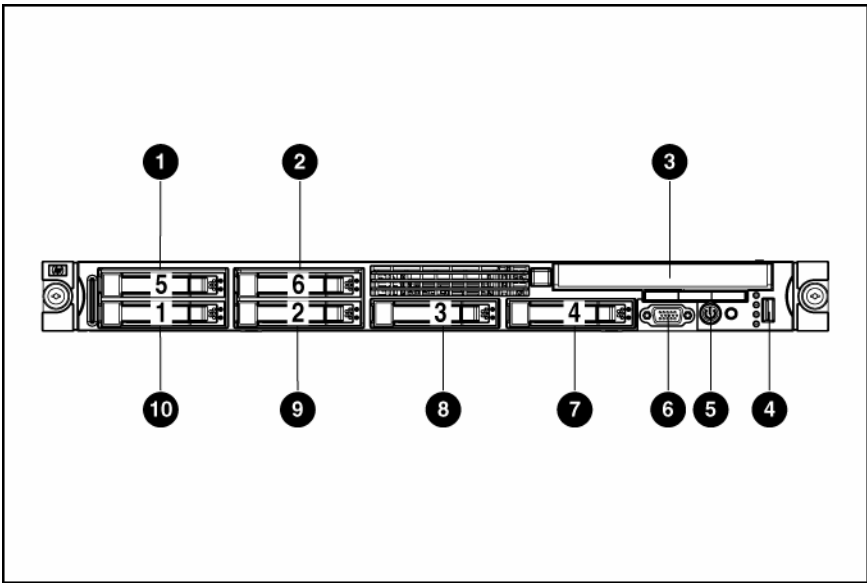
Part Number 406316-002

Component identification

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Front panel components

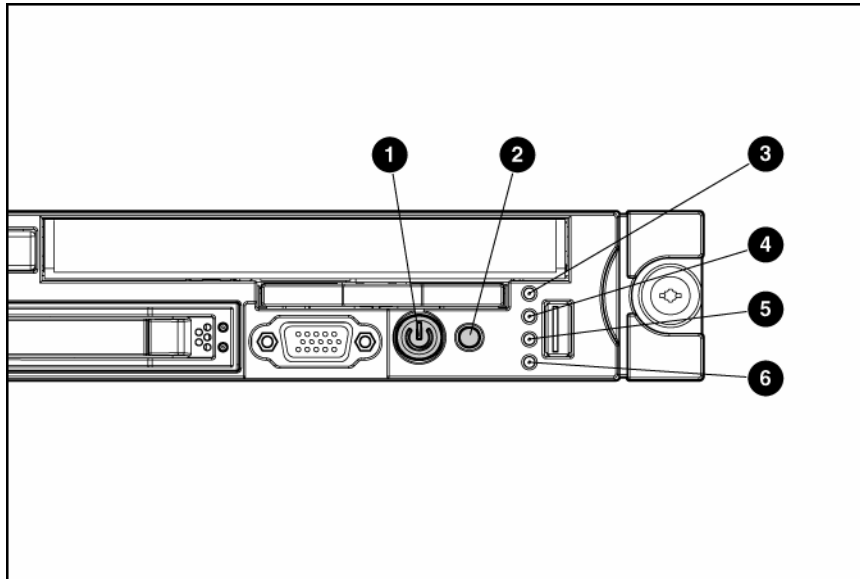


Item	Description
1	Hard drive bay 5 (optional)*
2	Hard drive bay 6 (optional)*
3	Multibay drive bay
4	USB connector
5	HP Systems Insight Display
6	Video connector
7	Hard drive bay 4

Item	Description
8	Hard drive bay 3
9	Hard drive bay 2
10	Hard drive bay 1

*An optional controller is required when the server is configured with six hard drives.

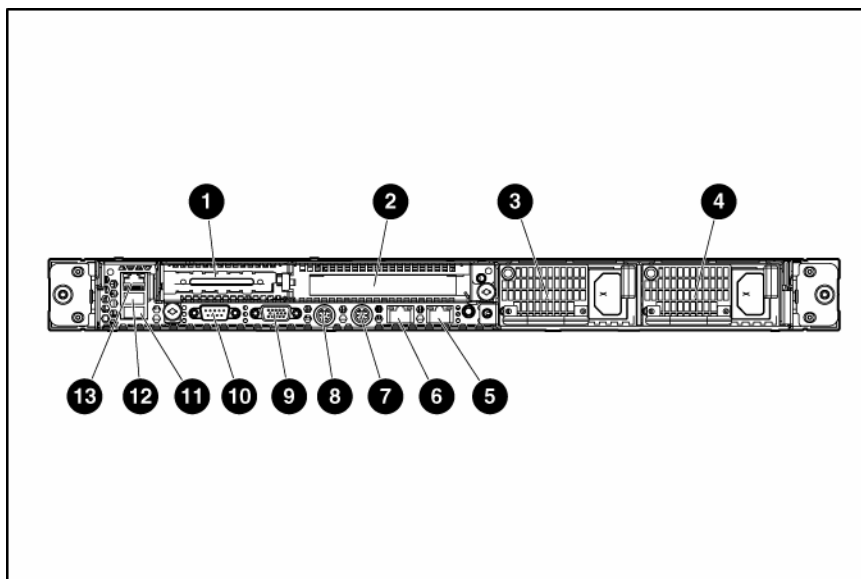
Front panel LEDs and buttons



Item	Description	Status
1	Power On/Standby button and system power LED	Green = System is on. Amber = System is shut down, but power is still applied. Off = Power cord is not attached, power supply failure has occurred, no power supplies are installed, facility power is not available, or disconnected power button cable.
2	UID button/LED	Blue = Identification is activated. Flashing blue = System is being remotely managed. Off = Identification is deactivated.
3	Internal health LED	Green = System health is normal. Amber = System health is degraded. To identify the component in a degraded state, refer to "HP Systems Insight Display and LEDs" ("HP Systems Insight Display and LEDs" on page 12). Red = System health is critical. To identify the component in a critical state, refer to "HP Systems Insight Display and LEDs" ("HP Systems Insight Display and LEDs" on page 12). Off = System health is normal (when in standby mode).
4	External health LED (power supply)	Green = Power supply health is normal. Amber = Power redundancy failure occurred. Off = Power supply health is normal when in standby mode.

Item	Description	Status
5	NIC 1 link/activity LED	<p>Green = Network link exists.</p> <p>Flashing green = Network link and activity exist.</p> <p>Off = No link to network exists.</p> <p>If power is off, the front panel LED is not active. View the LEDs on the RJ-45 connector for status by referring to the rear panel LEDs ("Rear panel LEDs and buttons" on page 10).</p>
6	NIC 2 link/activity LED	<p>Green = Network link exists.</p> <p>Flashing green = Network link and activity exist.</p> <p>Off = No link to network exists.</p> <p>If power is off, the front panel LED is not active. View the LEDs on the RJ-45 connector for status by referring to the rear panel LEDs ("Rear panel LEDs and buttons" on page 10).</p>

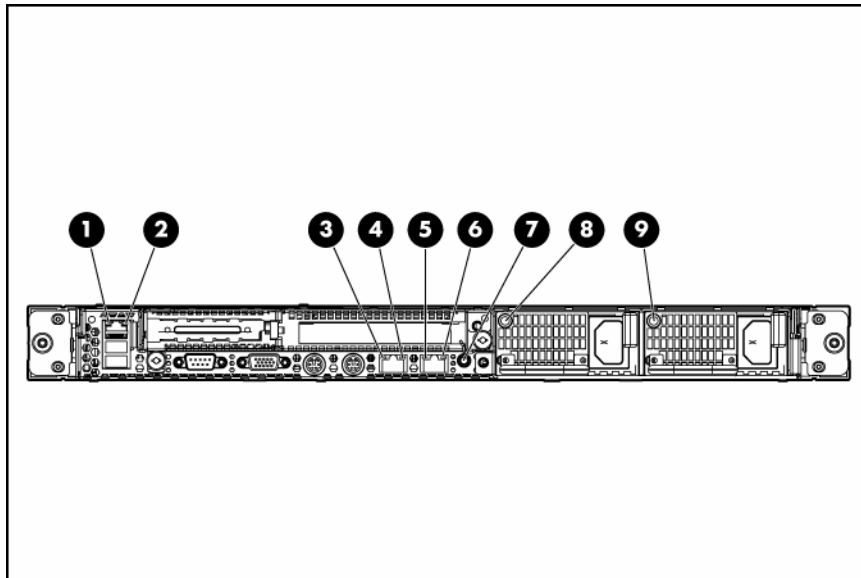
Rear panel components



Item	Description
1	PCI Express expansion slot 1, low-profile, half-length
2	PCI Express expansion slot 2
3	Power supply bay 2
4	Power supply bay 1
5	NIC 2 connector
6	NIC 1 connector
7	Keyboard connector
8	Mouse connector
9	Video connector
10	Serial connector
11	USB connector
12	USB connector

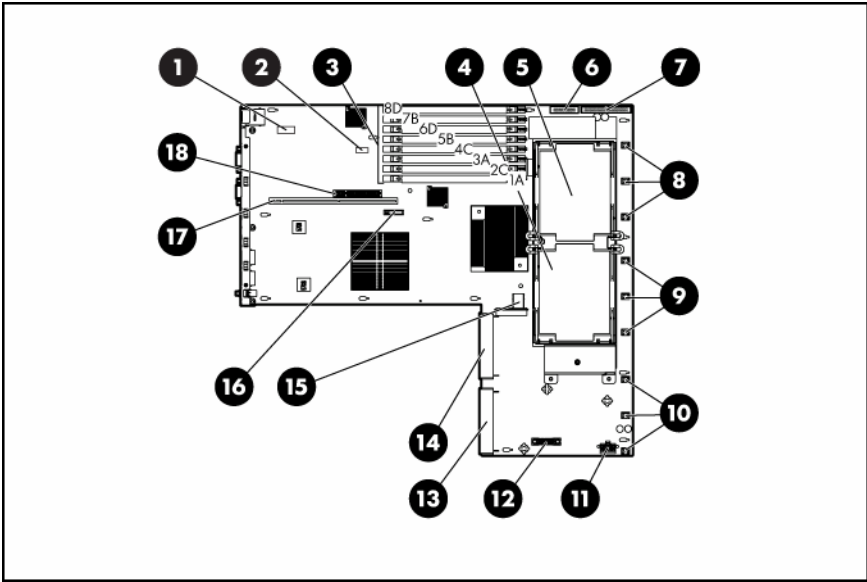
Item	Description
13	iLO 2 NIC connector

Rear panel LEDs and buttons



Item	Description	Status
1	iLO 2 NIC activity LED	Green = Activity exists. Flashing green = Activity exists. Off = No activity exists.
2	iLO 2 NIC link LED	Green = Link exists. Off = No link exists.
3	10/100/1000 NIC 1 activity LED	Green = Activity exists. Flashing green = Activity exists. Off = No activity exists.
4	10/100/1000 NIC 1 link LED	Green = Link exists. Off = No link exists.
5	10/100/1000 NIC 2 activity LED	Green = Activity exists. Flashing green = Activity exists. Off = No activity exists.
6	10/100/1000 NIC 2 link LED	Green = Link exists. Off = No link exists.
7	UID button/LED	Blue = Identification is activated. Flashing blue = System is being managed remotely. Off = Identification is deactivated.
8	Power supply 2 LED	Green = Normal Off = System is off or power supply has failed
9	Power supply 1 LED	Green = Normal Off = System is off or power supply has failed

System board components




Item	Description
1	System maintenance switch (SW1)
2	NMI switch
3	FBDIMM slots (1-8)
4	Processor socket 2
5	Processor socket 1
6	Multibay drive connector
7	Power button connector
8	Fan module 3 connectors
9	Fan module 2 connectors
10	Fan module 1 connectors
11	SAS hard drive backplane power connector
12	Integrated Smart Array controller connector
13	Power supply connector 1
14	Power supply connector 2
15	Internal USB connector
16	System battery
17	PCI riser board connector 2
18	PCI riser board connector 1

System maintenance switch

Position	Default	Function
S1	Off	Off = iLO 2 security is enabled. On = iLO 2 security is disabled.
S2	Off	Off = System configuration can be modified. On = System configuration is locked and cannot be modified.
S3	Off	Reserved
S4	Off	Reserved
S5	Off	Off = Power-on password is enabled. On = Power-on password is disabled.
S6	Off	Off = Normal On = ROM treats system configuration as invalid.
S7	Off	Reserved
S8	Off	Reserved

When the system maintenance switch position 6 is set to the On position, the system is prepared to erase all system configuration settings from both CMOS and NVRAM.

 **CAUTION:** Clearing CMOS and/or NVRAM deletes configuration information. Be sure to properly configure the server or data loss could occur.

NMI switch

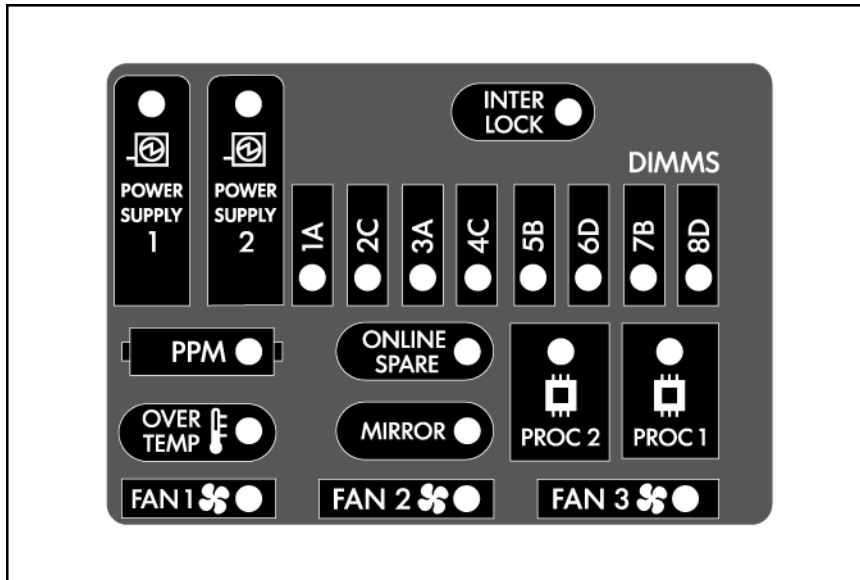
The NMI switch allows administrators to perform a memory dump before performing a hard reset. Crash dump analysis is an essential part of eliminating reliability problems, such as hangs or crashes in operating systems, device drivers, and applications. Many crashes freeze a system, requiring you to do a hard reset. Resetting the system erases any information that would support root cause analysis.

Systems running Microsoft® Windows® operating systems experience a blue screen trap when the operating system crashes. When this happens, Microsoft® recommends that system administrators perform an NMI event by pressing a dump switch. The NMI event enables a hung system to become responsive again.

HP Systems Insight Display and LEDs

The display provides status for all internal LEDs and enables diagnosis with the access panel installed.

To view the LEDs, access the HP Systems Insight Display (on page 18).



Item	Description	Status
1	Online spare memory LED	Green = Protection enabled Flashing amber = Memory configuration error Amber = Memory failure occurred Off = No protection
2	Mirrored memory LED	Green = Protection enabled Flashing amber = Memory configuration error Amber = Memory failure occurred Off = No protection
	All other LEDs	Amber = Failure Off = Normal For additional information detailing the causes for the activation of these LEDs, refer to HP Systems Insight Display LEDs and internal health LED combinations (on page 13).



NOTE: The HP Systems Insight Display LEDs represent the system board layout.

HP Systems Insight Display LEDs and internal health LED combinations

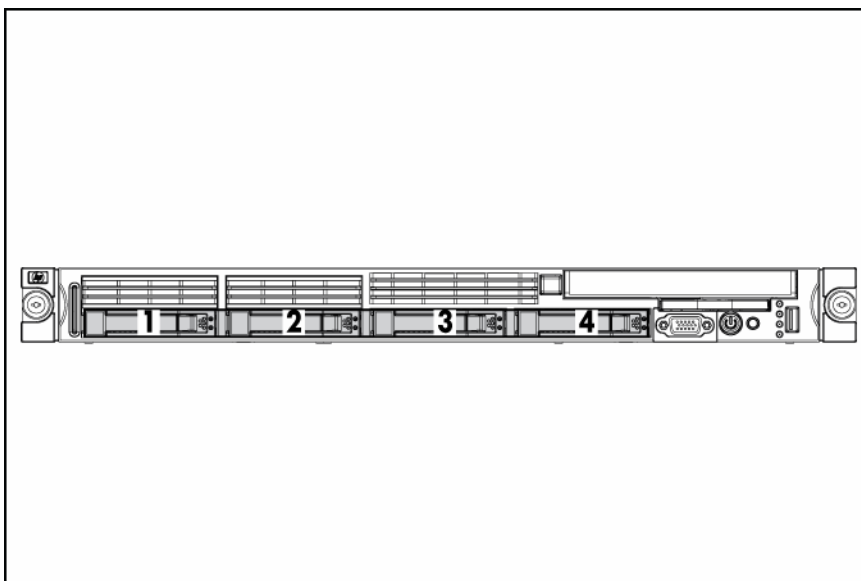
When the internal health LED on the front panel illuminates either amber or red, the server is experiencing a health event. Combinations of illuminated system LEDs and the internal health LED indicate system status.

The front panel health LEDs indicate only the current hardware status. In some situations, HP SIM may report server status differently than the health LEDs because the software tracks more system attributes.

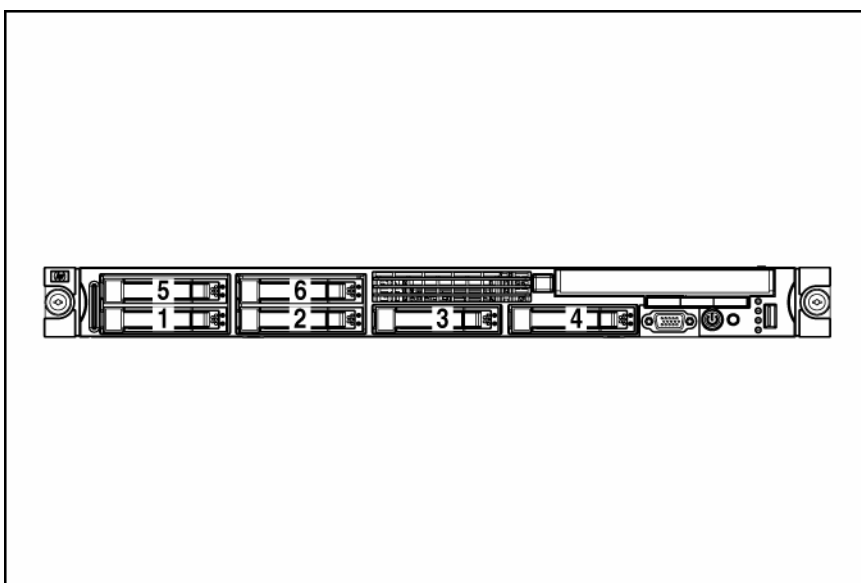
HP Systems Insight Display LED and color	Internal health LED color	Status
Processor failure, socket X (amber)	Red	One or more of the following conditions may exist: <ul style="list-style-type: none"> • Processor in socket X has failed. • Processor X is required yet not installed in the socket. • Processor X is unsupported.
	Amber	Processor in socket X is in a pre-failure condition.
Processor failure, both sockets (amber)	Red	Processor types are mismatched.
PPM failure (amber)	Red	Integrated PPM has failed.
FBDIMM failure, slot X (amber)	Red	One or more of the following conditions may exist: <ul style="list-style-type: none"> • FBDIMM in slot X has failed. • FBDIMM in slot X is an unsupported type, and no valid memory exists in another bank.
	Amber	One or more of the following conditions may exist: <ul style="list-style-type: none"> • FBDIMM in slot X has reached single-bit correctable error threshold. • FBDIMM in slot X is in a pre-failure condition. • FBDIMM in slot X is an unsupported type, but valid memory exists in another bank.
FBDIMM failure, all slots (amber)	Red	No valid or usable memory is installed in the system.
Overtemperature (amber)	Amber	The health driver has detected a cautionary temperature level.
	Red	The server has detected a critical temperature level.
Riser interlock (amber)	Red	The PCI riser board assembly is not seated properly.
Online spare memory (amber)	Amber	Bank X failed over to the online spare memory bank.
Fan module (amber)	Amber	A redundant fan has failed.
Fan module (amber)	Red	The minimum fan requirements are not being met in one or more of the fan modules. One or more fans have failed or are missing.

SAS and SATA device numbers

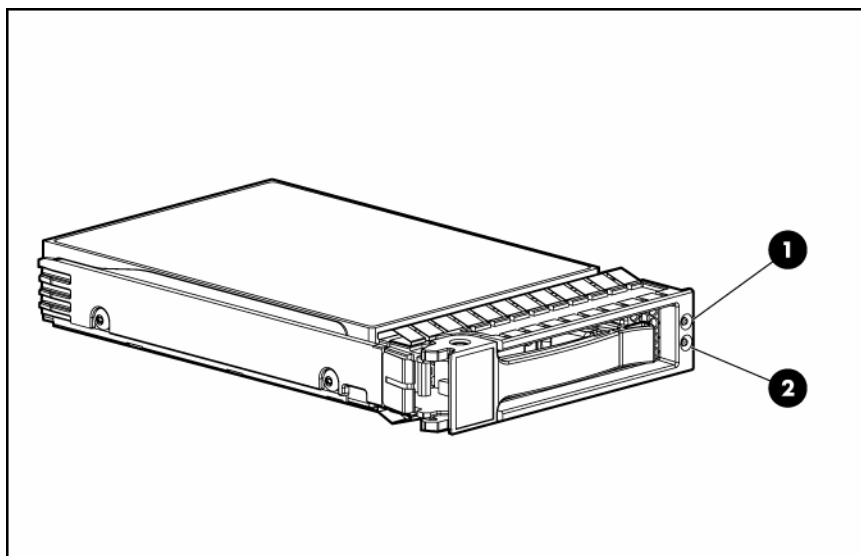
- Four hard drive configuration



- Six hard drive configuration



SAS and SATA hard drive LEDs



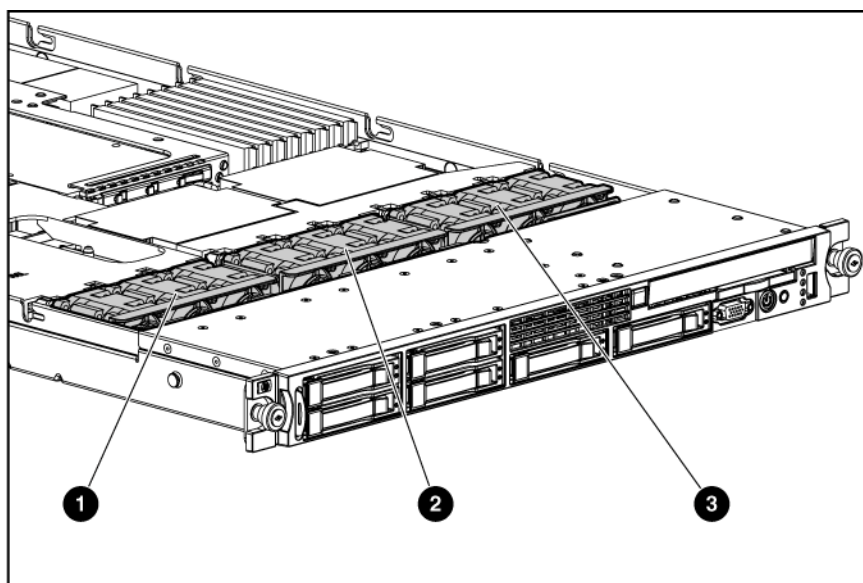
Item	Description
1	Fault/UID LED (amber/blue)
2	Online LED (green)

SAS and SATA hard drive LED combinations

Online/activity LED (green)	Fault/UID LED (amber/blue)	Interpretation
On, off, or flashing	Alternating amber and blue	The drive has failed, or a predictive failure alert has been received for this drive; it also has been selected by a management application.
On, off, or flashing	Steadily blue	The drive is operating normally, and it has been selected by a management application.
On	Amber, flashing regularly (1 Hz)	A predictive failure alert has been received for this drive. Replace the drive as soon as possible.
On	Off	The drive is online, but it is not active currently.
Flashing regularly (1 Hz)	Amber, flashing regularly (1 Hz)	Do not remove the drive. Removing a drive may terminate the current operation and cause data loss. The drive is part of an array that is undergoing capacity expansion or stripe migration, but a predictive failure alert has been received for this drive. To minimize the risk of data loss, do not replace the drive until the expansion or migration is complete.
Flashing regularly (1 Hz)	Off	Do not remove the drive. Removing a drive may terminate the current operation and cause data loss. The drive is rebuilding, or it is part of an array that is undergoing capacity expansion or stripe migration.
Flashing irregularly	Amber, flashing regularly (1 Hz)	The drive is active, but a predictive failure alert has been received for this drive. Replace the drive as soon as possible.
Flashing irregularly	Off	The drive is active, and it is operating normally.

Online/activity LED (green)	Fault/UID LED (amber/blue)	Interpretation
Off	Steadily amber	A critical fault condition has been identified for this drive, and the controller has placed it offline. Replace the drive as soon as possible.
Off	Amber, flashing regularly (1 Hz)	A predictive failure alert has been received for this drive. Replace the drive as soon as possible.
Off	Off	The drive is offline, a spare, or not configured as part of an array.

Fan locations



Item	Description
1	Fan module 1
2	Fan module 2
3	Fan module 3