For Data Centers

Worldwide name (WWN)

Spot the right drive in crowded storage
with a unique identifier

Application note

Worldwide name (WWN)

1. What is worldwide name (WWN)?

WWN is a unique identifier used in storage networking technologies, including Fibre Channel®, Advanced Technology Attachment (ATA) and Serial Attached SCSI (SAS). WWN consists of 64-bit information that never duplicates, like the serial number, to identify all storage devices connected on the network.

The below table shows the WWN field. The first four bits are referred to as the Network Address Authority (NNA), which is fixed as "5" and the remainder of the value is the Institute of Electrical and Electronics Engineers (IEEE) Organization Unique Identifier (OUI) and vendor specific information.

Word	Bit number within each word															
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
108	NAA (5h)				bit 23 (MSB)											bit 12
109	bit 11 (LSB)										bit 0		bit 35 (MSB)			bit 32
110	bit 31															bit 16
111	bit 15															(LSB) bit 0

[Table. 1] WWN field (■ IEEE OUI / ■ Unique ID)

2. Why is WWN important?

WWN is similar to a MAC address of an Ethernet LAN card. Since WWN distinguishes each drive by name – not location – it's possible to control each storage device more accurately. Not all server systems use WWN. However, some server systems use a combination of the product serial number and its WWN information as the device's unique identifier, especially in a Redundant Array of Independent Disks (RAID) configuration etc.

3. How do I activate WWN?

WWN is 64-bit information printed on the device label, but users do not need to do anything with it. According to the server systems, they can detect the drive's WWN information and use it when needed.

4. Samsung SSDs for data centers are

Samsung SSD 845DC PRO and 845DC EVO support WWN by implementing an ID table in the firmware and printing it on the label. Therefore, Samsung SSDs for data centers can be identified by both serial number (S/N) and WWN.

Samsung SSD	Device identifier	
	S/N	WWN
845DC PRO	O	O
845DC EVO	O	O

Hence, users don't need to check their server system's identifier specifications to control multiple storage devices in various configurations (RAID).

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