

Enclosure Interleaving Disk Configuration

Until recently, you could order only one disk configuration for an HP NonStop S-series system. This configuration had mirrored pairs adjacent with the primary in an odd slot and the mirror in the next higher number (even) slot in the same enclosure.

The HP NonStop Enterprise Division (NED) now provides a new, orderable, disk configuration with improved availability characteristics. Based on a feature called *Enclosure Interleaving*, this disk configuration provides disk mirroring across enclosures and is recommended to NED customers for its availability enhancements.

Notes:

- The new configurations do not apply to external disks.
- Both the primary and mirror for \$SYSTEM must reside in Group 1, which causes restrictions on possible configurations. These restrictions are accounted for in the configurations shown in this document.
- The new configurations include a new nonadjacent disk distribution for enclosures that cannot be mirrored.

Enclosure Interleaving Rules:

1. A topology branch consists of a processor enclosure and its associated I/O enclosures (for example, disk Groups 2 and 21-25). When there is only one enclosure on a topology branch, disks are distributed as shown under “Enclosure Interleaving with Group 2, no Groups 21-25” (or, for Group 1 only, “Enclosure Interleaving with Group 1, no Groups 11-15”).
2. Whenever there is more than one enclosure on a topology branch, the primaries are always in odd slots, and mirrors are always in even slots, specifically the next higher slot. For example, the mirror for the disk in slot 5 is always in slot 6 in a different enclosure.
3. The mirror for a disk is in the next higher enclosure on the same topology branch. For example, mirrors for the odd slots of disk group 2 are in 21, and mirrors for the odd slots of disk group 21 are in 22. Mirrors for the primaries in the highest numbered enclosure on a topology branch are in the lowest numbered enclosure on a topology branch. For example, if topology branch 2 contains enclosures 2 and 21-23, the mirrors for enclosure 23 are in enclosure 2. This type of mirroring can be thought of as round-robin mirroring.
4. Group 1 and, therefore, topology branch 1, are different from other topology branches because of the restriction on \$SYSTEM, which is always in slots 11 and 12 of Group 1. The disks in slots 11 and 12 of the other enclosures on topology branch 1 (Groups 11-15) follow these Enclosure Interleaving rules with Group 1 excluded.
5. The specifically named disks (\$SYSTEM, \$DSM, \$AUDIT, and \$OSS) all have primaries in disk Group 1 and mirrors in disk group 11 if possible. If a system does not have \$OSS, it becomes another arbitrary volume (for example, \$D).

Configurations:

These diagrams show the configurations that are shipped when the Enclosure Interleaving disk configuration is ordered. All possible combinations of enclosures are shown for topology branch 1 (Groups 1 and 11-15) and topology branch 2 (Groups 2 and 21-25). Topology branches 3 and higher are configured the same as topology branch 2.

If you have questions regarding the information in this document, contact the Global Customer Support Center (GCSC).

Enclosure Interleaving: Group 1, no Groups 11-15

Group 1			
Slot	Disk	Slot	Disk
1	\$E-P	11	\$SYSTEM-P
2	\$F-P	12	\$SYSTEM-M
3	\$G-P	13	\$DSM-P
4	\$H-P	14	\$AUDIT-P
5	\$F-M	15	\$OSS-P
6	\$G-M	16	\$DSM-M
7	\$H-M	17	\$AUDIT-M
8	\$E-M	18	\$OSS-M

Enclosure Interleaving: Group 1 and 11, no Groups 12-15

Group 1				Group 11			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$E-P	11	\$SYSTEM-P	1	\$N-P	11	\$I-P
2	\$N-M	12	\$SYSTEM-M	2	\$E-M	12	\$I-M
3	\$F-P	13	\$DSM-P	3	\$O-P	13	\$J-P
4	\$O-M	14	\$J-M	4	\$F-M	14	\$DSM-M
5	\$G-P	15	\$AUDIT-P	5	\$Q-P	15	\$K-P
6	\$Q-M	16	\$K-M	6	\$G-M	16	\$AUDIT-M
7	\$H-P	17	\$OSS-P	7	\$R-P	17	\$L-P
8	\$R-M	18	\$L-M	8	\$H-M	18	\$OSS-M

Enclosure Interleaving: Group 1 and 11-12, no Groups 13-15

Group 1				Group 11				Group 12			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$E-P	11	\$SYSTEM-P	1	\$N-P	11	\$I-P	1	\$W-P	11	\$S-P
2	\$W-M	12	\$SYSTEM-M	2	\$E-M	12	\$S-M	2	\$N-M	12	\$I-M
3	\$F-P	13	\$DSM-P	3	\$O-P	13	\$J-P	3	\$X-P	13	\$T-P
4	\$X-M	14	\$T-M	4	\$F-M	14	\$DSM-M	4	\$O-M	14	\$J-M
5	\$G-P	15	\$AUDIT-P	5	\$Q-P	15	\$K-P	5	\$Y-P	15	\$U-P
6	\$Y-M	16	\$U-M	6	\$G-M	16	\$AUDIT-M	6	\$Q-M	16	\$K-M
7	\$H-P	17	\$OSS-P	7	\$R-P	17	\$L-P	7	\$Z-P	17	\$V-P
8	\$Z-M	18	\$V-M	8	\$H-M	18	\$OSS-M	8	\$R-M	18	\$L-M

Enclosure Interleaving: Group 1 and 11-13, no Groups 14-15

Group 1				Group 11				Group 12				Group 13			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$E-P	11	\$SYSTEM-P	1	\$N-P	11	\$I-P	1	\$W-P	11	\$S-P	1	\$EE-P	11	\$AA-P
2	\$EE-M	12	\$SYSTEM-M	2	\$E-M	12	\$AA-M	2	\$N-M	12	\$I-M	2	\$W-M	12	\$S-M
3	\$F-P	13	\$DSM-P	3	\$O-P	13	\$J-P	3	\$X-P	13	\$T-P	3	\$FF-P	13	\$BB-P
4	\$FF-M	14	\$BB-M	4	\$F-M	14	\$DSM-M	4	\$O-M	14	\$J-M	4	\$X-M	14	\$T-M
5	\$G-P	15	\$AUDIT-P	5	\$Q-P	15	\$K-P	5	\$Y-P	15	\$U-P	5	\$GG-P	15	\$CC-P
6	\$GG-M	16	\$CC-M	6	\$G-M	16	\$AUDIT-M	6	\$Q-M	16	\$K-M	6	\$Y-M	16	\$U-M
7	\$H-P	17	\$OSS-P	7	\$R-P	17	\$L-P	7	\$Z-P	17	\$V-P	7	\$HH-P	17	\$DD-P
8	\$HH-M	18	\$DD-M	8	\$H-M	18	\$OSS-M	8	\$R-M	18	\$L-M	8	\$Z-M	18	\$V-M

Enclosure Interleaving: Group 1 and 11-14, no Group 15

Group 1				Group 11				Group 12				Group 13			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$E-P	11	\$SYSTEM-P	1	\$N-P	11	\$I-P	1	\$W-P	11	\$S-P	1	\$EE-P	11	\$AA-P
2	\$NN-M	12	\$SYSTEM-M	2	\$E-M	12	\$II-M	2	\$N-M	12	\$I-M	2	\$W-M	12	\$S-M
3	\$F-P	13	\$DSM-P	3	\$O-P	13	\$J-P	3	\$X-P	13	\$T-P	3	\$FF-P	13	\$BB-P
4	\$OO-M	14	\$JJ-M	4	\$F-M	14	\$DSM-M	4	\$O-M	14	\$J-M	4	\$X-M	14	\$T-M
5	\$G-P	15	\$AUDIT-P	5	\$Q-P	15	\$K-P	5	\$Y-P	15	\$U-P	5	\$GG-P	15	\$CC-P
6	\$QQ-M	16	\$KK-M	6	\$G-M	16	\$AUDIT-M	6	\$Q-M	16	\$K-M	6	\$Y-M	16	\$U-M
7	\$H-P	17	\$OSS-P	7	\$R-P	17	\$L-P	7	\$Z-P	17	\$V-P	7	\$HH-P	17	\$DD-P
8	\$RR-M	18	\$LL-M	8	\$H-M	18	\$OSS-M	8	\$R-M	18	\$L-M	8	\$Z-M	18	\$V-M

Group 14			
Slot	Disk	Slot	Disk
1	\$NN-P	11	\$II-P
2	\$EE-M	12	\$AA-M
3	\$OO-P	13	\$JJ-P
4	\$FF-M	14	\$BB-M
5	\$QQ-P	15	\$KK-P
6	\$GG-M	16	\$CC-M
7	\$RR-P	17	\$LL-P
8	\$HH-M	18	\$DD-M

Enclosure Interleaving: Group 1 and 11-15

Group 1				Group 11				Group 12				Group 13			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$E-P	11	\$SYSTEM-P	1	\$N-P	11	\$I-P	1	\$W-P	11	\$S-P	1	\$EE-P	11	\$AA-P
2	\$WW-M	12	\$SYSTEM-M	2	\$E-M	12	\$SS-M	2	\$N-M	12	\$I-M	2	\$W-M	12	\$S-M
3	\$F-P	13	\$DSM-P	3	\$O-P	13	\$J-P	3	\$X-P	13	\$T-P	3	\$FF-P	13	\$BB-P
4	\$XX-M	14	\$TT-M	4	\$F-M	14	\$DSM-M	4	\$O-M	14	\$J-M	4	\$X-M	14	\$T-M
5	\$G-P	15	\$AUDIT-P	5	\$Q-P	15	\$K-P	5	\$Y-P	15	\$U-P	5	\$GG-P	15	\$CC-P
6	\$YY-M	16	\$UU-M	6	\$G-M	16	\$AUDIT-M	6	\$Q-M	16	\$K-M	6	\$Y-M	16	\$U-M
7	\$H-P	17	\$OSS-P	7	\$R-P	17	\$L-P	7	\$Z-P	17	\$V-P	7	\$HH-P	17	\$DD-P
8	\$ZZ-M	18	\$VV-M	8	\$H-M	18	\$OSS-M	8	\$R-M	18	\$L-M	8	\$Z-M	18	\$V-M

Group 14				Group 15			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$NN-P	11	\$II-P	1	\$WW-P	11	\$SS-P
2	\$EE-M	12	\$AA-M	2	\$NN-M	12	\$II-M
3	\$OO-P	13	\$JJ-P	3	\$XX-P	13	\$TT-P
4	\$FF-M	14	\$BB-M	4	\$OO-M	14	\$JJ-M
5	\$QQ-P	15	\$KK-P	5	\$YY-P	15	\$UU-P
6	\$GG-M	16	\$CC-M	6	\$QQ-M	16	\$KK-M
7	\$RR-P	17	\$LL-P	7	\$ZZ-P	17	\$VV-P
8	\$HH-M	18	\$DD-M	8	\$RR-M	18	\$LL-M

Enclosure Interleaving: Group 2, no Groups 21-25

Group 2			
Slot	Disk	Slot	Disk
1	\$E-P	11	\$A-P
2	\$F-P	12	\$B-P
3	\$G-P	13	\$C-P
4	\$H-P	14	\$D-P
5	\$F-M	15	\$B-M
6	\$G-M	16	\$C-M
7	\$H-M	17	\$D-M
8	\$E-M	18	\$A-M

Enclosure Interleaving: Group 2 and 21, no Groups 22-25

Group 2				Group 21			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$E-P	11	\$A-P	1	\$N-P	11	\$I-P
2	\$N-M	12	\$I-M	2	\$E-M	12	\$A-M
3	\$F-P	13	\$B-P	3	\$O-P	13	\$J-P
4	\$O-M	14	\$J-M	4	\$F-M	14	\$B-M
5	\$G-P	15	\$C-P	5	\$Q-P	15	\$K-P
6	\$Q-M	16	\$K-M	6	\$G-M	16	\$C-M
7	\$H-P	17	\$D-P	7	\$R-P	17	\$L-P
8	\$R-M	18	\$L-M	8	\$H-M	18	\$D-M

Enclosure Interleaving: Group 2 and 21-22, no Groups 23-25

Group 2				Group 21				Group 22			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$E-P	11	\$A-P	1	\$N-P	11	\$I-P	1	\$W-P	11	\$S-P
2	\$W-M	12	\$S-M	2	\$E-M	12	\$A-M	2	\$N-M	12	\$I-M
3	\$F-P	13	\$B-P	3	\$O-P	13	\$J-P	3	\$X-P	13	\$T-P
4	\$X-M	14	\$T-M	4	\$F-M	14	\$B-M	4	\$O-M	14	\$J-M
5	\$G-P	15	\$C-P	5	\$Q-P	15	\$K-P	5	\$Y-P	15	\$U-P
6	\$Y-M	16	\$U-M	6	\$G-M	16	\$C-M	6	\$Q-M	16	\$K-M
7	\$H-P	17	\$D-P	7	\$R-P	17	\$L-P	7	\$Z-P	17	\$V-P
8	\$Z-M	18	\$V-M	8	\$H-M	18	\$D-M	8	\$R-M	18	\$L-M

Enclosure Interleaving: Group 2 and 21-23, no Groups 24-25

Group 2				Group 21				Group 22				Group 23			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$E-P	11	\$A-P	1	\$N-P	11	\$I-P	1	\$W-P	11	\$S-P	1	\$EE-P	11	\$AA-P
2	\$EE-M	12	\$AA-M	2	\$E-M	12	\$A-M	2	\$N-M	12	\$I-M	2	\$W-M	12	\$S-M
3	\$F-P	13	\$B-P	3	\$O-P	13	\$J-P	3	\$X-P	13	\$T-P	3	\$FF-P	13	\$BB-P
4	\$FF-M	14	\$BB-M	4	\$F-M	14	\$B-M	4	\$O-M	14	\$J-M	4	\$X-M	14	\$T-M
5	\$G-P	15	\$C-P	5	\$Q-P	15	\$K-P	5	\$Y-P	15	\$U-P	5	\$GG-P	15	\$CC-P
6	\$GG-M	16	\$CC-M	6	\$G-M	16	\$C-M	6	\$Q-M	16	\$K-M	6	\$Y-M	16	\$U-M
7	\$H-P	17	\$D-P	7	\$R-P	17	\$L-P	7	\$Z-P	17	\$V-P	7	\$HH-P	17	\$DD-P
8	\$HH-M	18	\$DD-M	8	\$H-M	18	\$D-M	8	\$R-M	18	\$L-M	8	\$Z-M	18	\$V-M

Enclosure Interleaving: Group 2 and 21-24, no Group 25

Group 2				Group 21				Group 22				Group 23			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$E-P	11	\$A-P	1	\$N-P	11	\$I-P	1	\$W-P	11	\$S-P	1	\$EE-P	11	\$AA-P
2	\$NN-M	12	\$II-M	2	\$E-M	12	\$A-M	2	\$N-M	12	\$I-M	2	\$W-M	12	\$S-M
3	\$F-P	13	\$B-P	3	\$O-P	13	\$J-P	3	\$X-P	13	\$T-P	3	\$FF-P	13	\$BB-P
4	\$OO-M	14	\$JJ-M	4	\$F-M	14	\$B-M	4	\$O-M	14	\$J-M	4	\$X-M	14	\$T-M
5	\$G-P	15	\$C-P	5	\$Q-P	15	\$K-P	5	\$Y-P	15	\$U-P	5	\$GG-P	15	\$CC-P
6	\$QQ-M	16	\$KK-M	6	\$G-M	16	\$C-M	6	\$Q-M	16	\$K-M	6	\$Y-M	16	\$U-M
7	\$H-P	17	\$D-P	7	\$R-P	17	\$L-P	7	\$Z-P	17	\$V-P	7	\$HH-P	17	\$DD-P
8	\$RR-M	18	\$LL-M	8	\$H-M	18	\$D-M	8	\$R-M	18	\$L-M	8	\$Z-M	18	\$V-M

Group 24			
Slot	Disk	Slot	Disk
1	\$NN-P	11	\$II-P
2	\$EE-M	12	\$AA-M
3	\$OO-P	13	\$JJ-P
4	\$FF-M	14	\$BB-M
5	\$QQ-P	15	\$KK-P
6	\$GG-M	16	\$CC-M
7	\$RR-P	17	\$LL-P
8	\$HH-M	18	\$DD-M

Enclosure Interleaving: Group 2 and 21-25

Group 2				Group 21				Group 22				Group 23			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$E-P	11	\$A-P	1	\$N-P	11	\$I-P	1	\$W-P	11	\$S-P	1	\$EE-P	11	\$AA-P
2	\$WW-M	12	\$SS-M	2	\$E-M	12	\$A-M	2	\$N-M	12	\$I-M	2	\$W-M	12	\$S-M
3	\$F-P	13	\$B-P	3	\$O-P	13	\$J-P	3	\$X-P	13	\$T-P	3	\$FF-P	13	\$BB-P
4	\$XX-M	14	\$TT-M	4	\$F-M	14	\$B-M	4	\$O-M	14	\$J-M	4	\$X-M	14	\$T-M
5	\$G-P	15	\$C-P	5	\$Q-P	15	\$K-P	5	\$Y-P	15	\$U-P	5	\$GG-P	15	\$CC-P
6	\$YY-M	16	\$UU-M	6	\$G-M	16	\$C-M	6	\$Q-M	16	\$K-M	6	\$Y-M	16	\$U-M
7	\$H-P	17	\$D-P	7	\$R-P	17	\$L-P	7	\$Z-P	17	\$V-P	7	\$HH-P	17	\$DD-P
8	\$ZZ-M	18	\$VV-M	8	\$H-M	18	\$D-M	8	\$R-M	18	\$L-M	8	\$Z-M	18	\$V-M

Group 24				Group 25			
Slot	Disk	Slot	Disk	Slot	Disk	Slot	Disk
1	\$NN-P	11	\$II-P	1	\$WW-P	11	\$SS-P
2	\$EE-M	12	\$AA-M	2	\$NN-M	12	\$II-M
3	\$OO-P	13	\$JJ-P	3	\$XX-P	13	\$TT-P
4	\$FF-M	14	\$BB-M	4	\$OO-M	14	\$JJ-M
5	\$QQ-P	15	\$KK-P	5	\$YY-P	15	\$UU-P
6	\$GG-M	16	\$CC-M	6	\$QQ-M	16	\$KK-M
7	\$RR-P	17	\$LL-P	7	\$ZZ-P	17	\$VV-P
8	\$HH-M	18	\$DD-M	8	\$RR-M	18	\$LL-M