memorandum

T10/06-223r1

To	From	Subject	Date
INCITS T10 Committee	Michael Banther, HP	ADC-2, SPC-4, and SSC-3 Vendor-specific service actions for MAINTENANCE (IN) and MAINTENANCE (OUT)	10 May 2006

Revision History

Revision 0 – Initial document.

Revision 1 – Reduced range of vendor-specific service actions as suggested by CAP.

Related Documents

Automation/Drive Interface Commands - 2 (ADC - 2), revision 4, 8 March 2006.

SCSI Primary Commands - 4 (SPC-4), revision 3, 19 January 2006.

SCSI Stream Commands - 3 (SSC-3), revision 2, 1 March 2006.

Background

HP would like to use a service action of the MAINTENANCE (IN) operation code for vendor-specific reporting purposes. HP would like to use a service action of the MAINTENANCE (OUT) operation code for vendor-specific configuration purposes.

This document explains two options to use MAINTENANCE (IN) and MAINTENANCE (OUT) for vendor-specific commands. HP prefers option #1 as it has no impact on the ability of a device server to support an embedded storage array controller component (see SPC4r03, 6.4.2 Standard INQUIRY Data). Option #1 also has the advantage of aligning the service action description in SCC-2 with that of SPC-4 (see SCC2r04, 6.3.1 MAINTENANCE(IN) Service Actions and 6.4.1 MAINTENANCE(OUT) Service Actions and SPC4r03, D.3.3 MAINTENANCE (IN) and MAINTENANCE (OUT) Service Actions).

Option #1 changes to SPC4r03 draft standard

D.3.3 MAINTENANCE (IN) and MAINTENANCE (OUT) service actions

Table D.4 – MAINTENANCE (IN) and MAINTENANCE (OUT) service actions

Service Action	Description
MAINTENANCE (IN) [operation code A3h]	
00h - 04h	Restricted
05h	REPORT DEVICE IDENTIFIER
06h - 09h	Restricted
0Ah	REPORT TARGET PORT GROUPS
0Bh	REPORT ALIASES
0Ch	REPORT SUPPORTED OPERATION CODES
0Dh	REPORT SUPPORTED TASK MANAGEMENT FUNCTIONS
0Eh	REPORT PRIORITY
0Fh	REPORT TIMESTAMP
10h -1~~F~~Eh	Reserved
1Fh	Vendor-specific
MAINTENANCE (OUT) [operation code A4h]	
00h - 05h	Restricted
06h	SET DEVICE IDENTIFIER
07h - 09h	Restricted
0Ah	SET TARGET PORT GROUPS
0Bh	CHANGE ALIASES
0Ch - 0Dh	Reserved
0Eh	SET PRIORITY
0Fh	SET TIMESTAMP
10h -1~~F~~Eh	Reserved
1Fh	Vendor-specific

Option #2 changes to ADC2r04 draft standard

5.1 Summary of commands for automation/drive interface devices

Table 5 – Command set for automation/drive interface

Command name	Operation code	Required	Reference
.	.	.	.
.	.	.	.
.	.	.	.
INQUIRY	12h	Mandatory	~~SPC-3~~ 5.2
.	.	.	.
.	.	.	.
.	.	.	.

Editorial note: Renumber references to sub-clauses in clause 5.

5.2 INQUIRY command

5.2.1 INQUIRY command introduction

The INQUIRY command (see SPC-3) requests that information regarding the logical unit and SCSI target device be sent to the application client.

5.2.2 Standard INQUIRY data

See SPC-3 for the definition of all bits and fields in the standard INQUIRY data.

The device server shall set the SCC Supported (SCCS) bit in the standard INQUIRY data to zero.

Editorial note: Renumber subsequent sub-clauses in clause 5.

Annex A MAINTENANCE (IN) and MAINTENANCE (OUT) service actions

The assignment of service action codes for the MAINTENANCE (IN) and MAINTENANCE (OUT) operation codes by this standard is shown in table A.1.

Table A.1 – MAINTENANCE (IN) and MAINTENANCE (OUT) service actions

Service Action	Description
MAINTENANCE (IN) [operation code A3h]	
00h	Vendor-specific
01h - 1Fh	See SPC-3
MAINTENANCE (OUT) [operation code A4h]	
00h	Vendor-specific
01h - 1Fh	See SPC-3

Option #2 changes to SS3r02 draft standard

5.1 Summary of commands for explicit address mode

Table 14 – Explicit address command set for sequential-access devices

Command name	Type	OpCode	Synchronize operation required[a]	Command type	Reference
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
INQUIRY	M	12h	No	G–A	~~SPC 3~~ 7.2
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.

Editorial note: Renumber references to sub-clauses in clause 7.

6.1 Summary of commands for implicit address mode

Table 21 – Implicit address command set for sequential-access devices

Command name	Type	OpCode	Synchronize operation required[a]	Reference
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
INQUIRY	M	12h	No	~~SPC 3~~ 7.2
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.

Editorial note: Renumber references to sub-clauses in clause 7.

7.2 INQUIRY command

7.2.1 INQUIRY command introduction

The INQUIRY command (see SPC-3) requests that information regarding the logical unit and SCSI target device be sent to the application client.

7.2.2 Standard INQUIRY data

See SPC-3 for the definition of all bits and fields in the standard INQUIRY data.

The device server shall set the SCC Supported (SCCS) bit in the standard INQUIRY data to zero.

Editorial note: Renumber subsequent sub-clauses in clause 7.

Annex B MAINTENANCE (IN) and MAINTENANCE (OUT) service actions

The assignment of service action codes for the MAINTENANCE (IN) and MAINTENANCE (OUT) operation codes by this standard is shown in table B.1.

Table B.1 – MAINTENANCE (IN) and MAINTENANCE (OUT) service actions

Service Action	Description
MAINTENANCE (IN) [operation code A3h]	
00h	Vendor-specific
01h - 1Fh	See SPC-3
MAINTENANCE (OUT) [operation code A4h]	
00h	Vendor-specific
01h - 1Fh	See SPC-3