

# HP Education Services Course Overview

StorageWorks XP 1: Configuration and Management (H6773S)



This 5-day course introduces students to the XP disk array terminology, function, architecture, and configuration. Students will get configuration practice on our XP's with LUN and Volume Management, Data Replication using Business Copy and Continuous Access, Performance Advisor, Disk and Cache partitioning and Command View XP Advanced Edition. In addition we will cover the concepts of External Storage, Thin Provisioning, and Snapshot XP. This training incorporates updated releases of Command View XP Advanced Edition and Performance Advisor.

## Audience

Storage administrators responsible for the configuration and management of HP StorageWorks XP disk arrays.

## Prerequisites

### Required

- Knowledge of networks and the storage administration tasks for the OS the XP will serve.
- It is also beneficial to have an understanding of SANs.

### Recommended

- Accelerated SAN Essentials (UC434S)
- SAN Fundamentals WBT (U5527aae)

## Course objective

- Understand the architecture of the HP StorageWorks XP Disk Arrays
- Use Remote Web Console
- Use XP Command View Advanced Edition

**Course title:** StorageWorks XP 1: Configuration and Management

**HP product number:** H6773S

**Category/Subcategory:** Storage

**Course length:** 5 days

**Level:** Intermediate

**Delivery language:** English

**To order:** You can order this course online at <http://www.hp.com/learn>. At the site, select a country, then choose "registration" or "Book a course" and fill out the online registration form.

- Set the Fibre Port Topology for the XP ports.
- Configure LUNs

- Use the Volume Manager to create LUSE and Custom Size Volumes
- Understand how to implement LUN Security
- Use MPIO and HP-UX 11iv3 Native Multi-pathing to handle multiple paths to a LUN
- Understand XP replication products: Business Copy XP, Snapshot XP, and Continuous Access XP
- Understand and use the RAID manager for Business Copy
- Use Performance Advisor software
- Describe the purpose of additional XP software products including External Storage and Thin Provisioning

## Benefits to you

- Learn how to manage the XP family of disk arrays through the hands-on use of StorageWorks XP software.
- Gain an in-depth knowledge of the XP architecture and how it can be implemented and extended in the enterprise.

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## Next steps

- If deploying XPs in a SAN environment, consider HP's Accelerated SAN Essentials (UC434S).
- If deploying other HP Storage technologies: Managing HP StorageWorks Enterprise Virtual Array (UC420S) and Implementing MSA Storage Solutions (U4226S)
- For storage data availability, consider the Data Protector courses (U1610S and U1611S).

## Detailed course outline

### XP Array Concepts

- Where does the XP Fit in the HP Family of Arrays?
- XP Frames - Disk Unit and Disk Controller (DKC)
- Channel Adapter (CHA)
- Online Firmware Upgrades

- XP Components - Disk Adapter (DKA)
- Cache & Shared Memory
- Service Processor (SVP)
- Hard Disk Units (HDUs) and (HDDs)
- Disk Numbering
- B4
- Marketing Array and Parity Groups
- Volumes – Logical Device (LDEV)
- LDEV Interleaving (Striping)
- XP Disk Array RAID
- LDEV Numbering
- Logical Unit Size Extension (LUSE)
- Spare Disk Drives
- XP Disk Array Software
- High Availability and Data Replication
- Performance Management

### XP Array Hardware

- XP2x000 and XP1x000 Hardware Architecture
- CHA and DKA supported configurations for XP 2x000 and 1x000

### Remote Web Console

- Web Console Architecture and Client Requirements
- Accessing Web Console through a Firewall
- Start Remote Web Console
- Web Console Page Layout
- Adding User Accounts
- Array Locking
- License Key Management
- Audit Logs
- Viewing Storage System Information

### Host connectivity

- What Is a SAN?
- XP Fibre Port Topology
- Zoning rules for the XP
- Securing LUNs using Host Groups
- Finding WWN
- Host Modes

## **LUN Manager**

- Management Tools for Configuring LUNs
- Verify/Set Port Topology
- When Is CHA Security Needed?
- Hosts Groups
- Creating LUNs and Command Devices
- Configuration File Loader

## **Volume Management**

- LUN Expansion (LUSE)
- LUSE Guidelines
- Expanding Path Defined LDEVs
- Open-V Volume Creation
- Formatting and deleting volumes
- Data Shredder and Retention Utility

## **Making LUNs Visible to Hosts**

- Making Host See New LUN
- Host Bus Adapter Issues
- Making LUNs Visible to HP-UX 11iv1, v2 & v3
- HP-UX Legacy FC Hardware Addresses
- Connecting a Windows Host to an XP

## **Multi-Pathing Solutions**

- Automatic Path Failover
- Dynamic Load Balancing
- Multi-Pathing Solutions
- MPIO for Windows Overview
- Installing MPIO DSM for XP
- Installing DSM MGR (Optional)
- HPDSM CLI (hpdsm.exe)
- MPIO DSM Manager
- MPIO – Setting a Preferred Path
- HP-UX 11iv3 native mutli-pathing

## **Disk and Cache Partitioning**

- With and without Cache Partitions
- Cache Logical Partitions (CLPRs)
- Definition of Storage Partition (SLPR)

## **HP StorageWorks Performance Advisor**

- Product Overview
- Collecting Array and Host Information

- Management Station — Components
- Host Agents and Clients
- Installing and logging on to Performance Advisor
- Performance Advisor GUI
- PA Licensing
- XP Configuration Data Collection
- Creating Charts and New Alarms
- Generating and Scheduling Reports
- XPWatch
- XPSketch

## **XP Business Copy**

- XP Business Copy Overview
- Full copy vs Snapshot Comparison
- XP Business Copy Operations and States

## **HP StorageWorks RAID Manager XP**

- What Is HP StorageWorks RAID Manager XP?
- RAID Manager Overview
- Installation and Configuration
- Command Device
- Instance Configuration File
- RAID Manager Commands for Business Copy

## **XP Continuous Access**

- XP Continuous Access Overview
- CA Synchronous/Asynchronous Overview
- XP Continuous Access Journal Overview
- Configure Synchronous CA
- Basic Cinfirguration for CA Journal

## **Introduction to XP Command View Advanced Edition**

- XP Command View AE Features
- Architecture
- Device Manager Host Agent and Web Client
- Connecting to the XP CV AE Device Manager
- GUI Functions Available with Core License
- Installing the Device Manager Host Agent
- Setting Up the Device Manager Agent

## **XP Command View Advanced Edition - CLI**

- Command Line (CLI) Features
- Installing and Running the CLI
- Command Format
- CLI Commands

## **LUN and User Management with XP Command View Advanced Edition GUI**

- Logical Group Concept
- CVAE Host - Concept
- Host Storage Domains
- Add LUNs to an existing host group
- Create LUNs for a new host group
- User Management Concepts – Resource Groups
- Security Settings for User Accounts

## **XP Command View Advanced Edition – Copy Pair Operations**

- Device Manager Copy Operations – Architecture
- Setting Up Copy Pair Operations
- XP Additional Software
- Conceptual overview of the following products
- External Storage, Thin Provisioning, AutoLUN, Performance Control, Tiered Storage Manager (note: these products are covered in more depth in the XP 2 course)

## **Additional Software**

- HP Storage Essentials
- XP Thin Provisioning (THP)
- XP External Storage
- XP Performance Control
- XP Replication Manager
- System Copy Software for SAP

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