

### Overview

HP Smart Array Advanced Pack (SAAP) consists of a group of firmware that provides additional and advanced feature functionality within the Smart Array Controllers that requires a license key for activation. These licensed features provides an easy key activation to enable features such as added RAID protection, drive erase and performance optimization and more.

**NOTE:** Smart Array Advanced Pack 2.0 (SAAP2.0) is a base feature on the Smart Array Controllers and can be enabled on the HP Smart Array P222, P420i, P420, and P421 controllers that include a Flash Backed Write Cache module.

**NOTE:** Smart Array Advanced Pack (SAAP) is hosted on the Smart Array Controller hardware and can be enabled on the HP Smart Array P212, P410, P410i, and P411 controllers with a Flash Backed Write Cache module. SAAP functionality is standard on the HP Smart Array P812 and P711m/1G controllers.

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### What's New

- New for Smart Array Advanced Pack 2.0:
  - Features are base offering on HP Smart Array P222, P420i, P420, and P421.

### Models

**NOTE:** One license is required for every server to be deployed. Licenses are non-transferable. Full details are contained in the End User License Agreement.

#### HP Smart Array Advanced Pack

HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Single Server License

516471-B21

**NOTE:** This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customer will receive a printed license entitlement certificate via physical shipment.. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Include one year of 24x7 HP Software Technical Support Services.

HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Flexible Quantity Lic

516474-B21

**NOTE:** This part number can be used to purchase multiple licenses with a single activation key. Customer will receive a printed license entitlement certificate via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24x7 HP Software Technical Support Services.

HP Smart Array Advanced Pack including 1yr 24x7 Technical Support and Updates Electronic License

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**NOTE:** This part number can be used to purchase a single license or to order multiple licenses with a single activation key. Customer will receive a license entitlement certificate via email. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24x7 HP Software Technical Support Services.

**NOTE:** SAAP license is sold on a per server basis. If one has multiple Smart Array controllers in a server, once can apply the same license to the other cards in that server.

### Standard Features

<b>RAID 6 (ADG)</b>	RAID (Advanced Data Guarding): Supported with a minimum of 4 drives. This allocates two sets of parity data across drives. This level of fault tolerance can withstand a double drive failure without downtime or data loss.
<b>RAID 60</b>	RAID 60: Supported with a minimum of 8 drives. This volume is composed of two or more RAID 6 sub-volumes (parity groups) where data is striped across each parity group as if it were a single physical drive. Each RAID 6 parity group can sustain up to two drive failures without incurring data loss.
<b>Advanced Capacity Expansion (ACE)</b>	Advanced Capacity Expansion complements the conventional capacity expansion feature of Smart Array controllers by allowing customers to perform two new operations to either shrink or move existing arrays. The Shrink Array operation allows customers to remove drives from an existing array. The Move Array operation allows customers to transfer the contents of a disk array from one set of physical drives to a second set of physical drives.
<b>Mirror Splitting and Recombining in Offline Mode</b>	Split an array with one or more RAID 1 or RAID 1+0 logical drives into two identical, new arrays with RAID 0 logical drives. Ability to recombine two RAID 0 logical drives in to a RAID1 logical drive.
<b>Drive Erase</b>	Erase physical disk or logical volume. Useful for the decommissioning, redeployment, or returning of hard drives.
<b>VOD Performance Optimization</b>	Video on demand (VOD) focused enhancements that improve performance while video streaming.
<b>Dual Domain</b>	Dual domain creates redundant pathways for external drives from servers to storage devices. The redundant paths created by these configurations reduce or eliminate single points of failure within the storage network.
<b>RAID 1 ADM</b>	Split an array with one or more RAID 1 or RAID 1+0 logical drives into two identical, new arrays with RAID 0 logical drives. Ability to recombine two RAID 0 logical drives in to a RAID1 logical drive.
<b>Heal Array</b>	The Heal Array operation allows you to replace failed physical drives in the array with healthy physical drives. The original array and logical drive numbering will be unaffected after the replacement. Please consult the HP Smart Storage Administrator (HP SSA) documentation for more information about this feature. <a href="http://www.hp.com/go/hpssa">www.hp.com/go/hpssa</a>
<b>Compatibility</b>	For up to date compatibility, please see the following URL for complete Smart Array Controller compatibility and support information:  <a href="http://www8.hp.com/h20195/v2/GetDocument.aspx?docname=4AA4-7706ENW&amp;doctype=data sheet&amp;searchquery=&amp;cc=us&amp;lc=en">http://www8.hp.com/h20195/v2/GetDocument.aspx?docname=4AA4-7706ENW&amp;doctype=data sheet&amp;searchquery=&amp;cc=us&amp;lc=en</a>

### Licensed Features

**Single-Server License** Contains one license, a printed license entitlement certificate, end user license agreement, and license key installation card delivered via physical shipment. For use with a single server. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s).

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**Electronic License** Can be purchased as a single license or as multiple licenses with a single activation key. Contains license(s) for a customer defined quantity of servers, a license entitlement certificate, end user license agreement, and license key installation information delivered via e-mail. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s).

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**Flexible-Quantity License** Used to purchase multiple licenses with a single activation key. Contains license(s) for a customer-defined quantity of servers, a license entitlement certificate for the quantity of licenses purchased, end user license agreement, and license key installation card delivered via physical shipment. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s).

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**Activation Key Agreement** The activation key program is provided for customers who plan to purchase Smart Array Advanced Packs periodically over a 1 to 3 year timeframe. The program is a way for HP to customers under contract to pay for each license of the value pack software as it is used. Customers are provided a single key to deploy throughout their network.

**NOTE:** No physical components or license keys are delivered in conjunction with the purchase of this part number. For more information on Activation Key Agreements please visit:

<http://h18004.www1.hp.com/products/servers/proliantessentials/license/akalic.html>

**NOTE:** To order the HP Smart Array Advanced Pack, contact your HP Account Manager or HP Authorized Reseller, or go online at: <http://www.hp.com/go/saap>

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**HP Software Support** HP offers a number of software support services, many of which are provided to customers at no additional charge.

**Software Technical Support Service**

HHP Smart Array Advanced Pack includes one year of 24 x 7 HP Software Technical Support Service. This service provides access to HP technical resources for help in resolving software implementation or operations problems. The service also provides access to reference manuals either in electronic form or on physical media as they are made available from HP. (Customers who purchase an electronic license to use are eligible for electronic updates only.)

**NOTE:** Software Bug fixes will be made available in firmware updates for the supported HP Smart Array controllers

For support questions in the U.S. that are not covered in any of the above services, please call 1-800-HP-INVENT (1-800-474-6836). HP Worldwide numbers for support are available at:

<http://www.hp.com/country/us/en/wwcontact.html>

### Technical Specifications

**HP SAAP 2.0 requirements** HP Smart Array Controller requirements - minimum of:

- 512MB or greater FBWC Module
- Firmware update 4.68 or later.

**NOTE:** For Frequently asked questions HP Smart Array Advanced Pack 2.0, please see the following URL:  
<http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA4-8660ENW&cc=us&lc=en>

**HP SAAP requirements** HP Smart Array Controller requirements - minimum of:

- HP Smart Array P212, P410, P410i, or P411 controller
- 256MB Cache Module
- Battery Kit for Battery Backed Write Cache (BBWC)

### Environment-friendly Products and Approach

### End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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