Changes for HPSS Release 7.3

This document is an edited copy of Chapter 1 of the HPSS Installation Guide that summarizes HPSS changes for Release 7.3.

1.1. New Features   This section describes the new HPSS features added to Release 7.3.

1.1.1. User-defined Attributes   HPSS has long supported a place for users or applications to store their own metadata – the comment field. However, the comment field was limited to 1024 characters and couldn't be used by multiple applications due to it being a single attribute. The comment field also presented problems with indexing because often it contained multiple pieces of information at different offsets within the field.

The User-defined Attributes (UDA) feature does not replace the comment field, but can be used as an alternative. UDA allows for multiple pieces of metadata to be associated with a namespace object in a flexible way. The UDAs are stored in the database as XML. UDA supports a simple set of APIs which enables users to set, get, delete, and list the UDAs for a particular namespace object without any knowledge of XML. UDA also allows XML savvy users to leverage XML/XQuery with the advanced API set. The advanced APIs allow users to craft their own XQueries to retrieve or update their user- defined attributes they way they want to.

UDA also supports a robust search capability using XPath. An administrator can use the UDA search routines to find files which contain a specific UDA. Administrators can configure XML indexes for XPaths which are frequently searched.

UDA also features support for XML Validation. A site may define an XML Schema to control what attributes are allowed to be created, what values those attributes are allowed to take on, and more.

1.1.2. Checksum APIs

The HPSS Checksum (Checksum) feature includes a number of APIs for generating different checksum strings with a variety of checksum algorithms (SHA1, SHA224, SHA256, SHA384, SHA512, MD5, CRC32, Adler32). API Programmers will be able to utilize these functions to checksum local or HPSS files so that their contents may be verified as unchanged over the course of the data's lifetime. Users will be able to utilize the new hpsssum tool, which provides local and HPSS checksum functionality from a command line program. This tool can also store checksums into HPSS metadata using the UDA feature and can later retrieve the stored checksum to verify the file contents.

1.1.3. SCSI PVR Enhancements

The SCSI PVR now supports the use of multiple control paths for command queuing and redundancy. This feature does not need to be turned on, it is now the default and only way the SCSI PVR may be configured. The SCSI PVR no longer requires a "Command Device" in its configuration, instead it requires the

"Library serial number". Using the library serial number, the SCSI PVR will detect all available command devices for that library and make use of all of them. For more information on configuring this see the SCSI PVR chapter of the HPSS Management Guide.

The SCSI PVR also supports the IBM TS3500 zone capability in dual accessor libraries. This capability is automatically detected and used; no configuration is required.

1.2. Changes to Existing HPSS Features

This section describes the changes made to HPSS for Release 7.3.

1.2.1. HPSS_XML_SIZE

Increased the default HPSS_XML_SIZE default from 512 to 1024. This allows more data to be returned from the User-defined Attribute Get and List functions.

1.2.2. Documentation Organization Changes

No organizational changes have been made to the documentation; just removal of obsolete sections.

1.2.3. Metadata Changes

Metadata changes have been made to support the new features/changes in HPSS 7.2. The User-defined Attributes table has been added and an integrity constraint added between it and the NSOBJECT table. Refer to the Conversion Guide for additional information.

1.2.4. SSM Changes

Changed the "Command Device" label of the SCSI PVR to be "Library Serial"