ICC SOFTWARE CONFIGURATION MANAGEMENT PLAN

Action	Section	Name	Signature / Date
Prepared by		Steve Guest	
Approved by	PM	Ken King	
Approved by	PA	Eric Clark	

DISTRIBUTION

LIVE LINK

CHANGE RECORD

ISSUE	DATE	CHANGE
1	29 Jan 2002	First Draft
1.1	1 February 2002	First issue

INDEX

1. INTRODUCTION

1.1. Applicable Documents

AD1	Herschel Science Centre Software Configuration Control Procedures. Ref: HSC/DOC/0212.
AD2	SPIRE Configuration Management Plan. Ref: SPIRE-RAL-PRJ-000626,.

1.2. Overview

The three Herschel ICCs (SPIRE, PACS, HIFI), together with the European Space Agency, will share a common configuration management system. This enables resources (staff, hardware, software) to be shared, resulting in reduced costs for all the participating institutes.

1.3. Configuration Control System

The repository for configurable items will reside at an ESA site, currently ESTEC. ESA is responsible for all system management tasks, including backups. In addition, the ICC shall regularly make its own backups of snapshots of the system.

CVS (Concurrent Versions System) will be used as the configuration control system. This is an open standard (see http://www.cvshome.org/ for details). Clients at the ICCs will access a central CVS server located at the ESA site.

Software Configuration Status Lists (CSLs), showing the traceability of released versions of the built system, will be generated automatically from CVS.

Reference documents will be stored in Livelink rather than CVS. This system will also be operated centrally by ESA. Software produced for delivery to ESA and software produced for internal use by the SPIRE ICC are treated identically, with the caveat that the composition of the CCB will be different.

1.4. Responsibility

It is the responsibility of the manager of a software subsystem to ensure that configuration and version control are applied.

1.5.   Configuration Identification

Note that there are no "deliverable" items in the conventional sense. Releases are identified by the attachment of CVS "tags" to a group of files. Any release can then be rebuilt using the tag to extract the files. These tags should not be confused with CVS version numbers:

➢ A tag is attached to a subsystem by the subsystem manager and is chosen manually.
➢ A CVS version number is generated automatically and only applies to individual source files.

Specifically, this means that:

- Individual source files are identified by the CVS version number. This is generated automatically by CVS. This version number must also be included in the source files and added automatically by CVS.
- When a subsystem is identified as reaching version 1.0, all of its constituent files will be tagged with this version. Following a tag version of 1.0, and optionally before, source files shall contain a change log in the header, specifying what changes have been made and at what date.
- Text-based documentation that is considered part of a subsystem's source code, including HTML will also have CVS version numbers. It is optional whether the version number is included in the files themselves. This includes documentation intended for developers. For example, a Java package must contain a package.html file describing the purpose of the package.
- Subsystem releases are identified by CVS tags. See **[AD1]** for details. Text-based documentation describing the subsystem must receive the same tag.
- Following a tag version of 1.0, and optionally before, subsystems shall contain a CHANGELOG file, in which changes to the subsystem are documented together with the date of the change and the applicable (tag) version. This file records all of the changes made to the subsystem's components.
- Source documentation (e.g. Word files) may also be kept in CVS. For certain documents this is likely to be enforced by ESA. Identification of SPIRE documents must meet the requirements outlined in **[AD2]**.
- Executable files may be stored in CVS, though where possible this should be avoided and the entire source to create the executable stored instead. In the case of an executable being stored, the file is still tracked by a CVS version number, but the number is not contained in the file itself. Versions should be compared with byte-to-byte comparisons. Storing a checksum is not necessary.

1.6. Change Control

For change control of reference documents, see **[AD2]**. This section describes change control of software.

The way in which changes are carried out is specified in **[AD1]**. All changes will be tracked using a single problem reporting system under the responsibility of ESA.

A software subsystem will come under change control when it is identified as being Version 1.0 or greater. The CCB for any given item should be appropriate for that item. There is no limit on the number of different CCBs. These CCBs will include:

- System CCB for HCSS issues (membership: ICCs, PST, HSCOT)
- CCB for high-level ICC issues.
- CCB for Interactive Analysis software development