Foreword

The main responsible of this document is the physicist of the detector (Gennaro Ruggiero) and is provided to the DCS in a contractual way to formalize the operation requirements for the DCS software development.

This document has been elaborated as result of the interactions among the Detector Control System (Paolo Palazzi and Fernando Lucas Rodriguez), the detector physicist and the electronics responsible (Walter Snoeys).

This document is based in the template used by Andrea Augustinus for ALICE experiment. It has been reformatted to landscape orientation for improved reading.

Revision record

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Author</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>2006/12/06</td>
<td>Fernando Lucas Rodriguez</td>
<td>Initial release</td>
</tr>
</tbody>
</table>

Table of contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>2</td>
</tr>
<tr>
<td>Revision record</td>
<td>2</td>
</tr>
<tr>
<td>Table of contents</td>
<td>2</td>
</tr>
<tr>
<td>Review table</td>
<td>2</td>
</tr>
<tr>
<td>1. Introduction</td>
<td>4</td>
</tr>
<tr>
<td>2. BB webpage</td>
<td>5</td>
</tr>
<tr>
<td>3. TWiki new user</td>
<td>6</td>
</tr>
<tr>
<td>4. TWiki configuration</td>
<td>7</td>
</tr>
<tr>
<td>I. Stylesheet</td>
<td>8</td>
</tr>
<tr>
<td>II. WebPreferences: Top logo, stylesheets</td>
<td>9</td>
</tr>
<tr>
<td>III. WebLeftBar</td>
<td>10</td>
</tr>
<tr>
<td>5. HyperNews general</td>
<td>11</td>
</tr>
<tr>
<td>6. HyperNews new user</td>
<td>12</td>
</tr>
<tr>
<td>7. HyperNews new category</td>
<td>13</td>
</tr>
<tr>
<td>8. Setting up a new HyperNews forum with email gateway</td>
<td>14</td>
</tr>
<tr>
<td>9. HyperNews release upgrade</td>
<td>32</td>
</tr>
<tr>
<td>10. Procedure of reinstalling a machine of the production environment</td>
<td>37</td>
</tr>
<tr>
<td>11. Procedure of recovery after an unexpected shutdown in UC55</td>
<td>38</td>
</tr>
<tr>
<td>12. Maintenance Operations</td>
<td>40</td>
</tr>
<tr>
<td>I. Design</td>
<td>40</td>
</tr>
<tr>
<td>II. Production and Purchasing</td>
<td>40</td>
</tr>
<tr>
<td>III. Installation</td>
<td>40</td>
</tr>
<tr>
<td>IV. Commissioning</td>
<td>40</td>
</tr>
<tr>
<td>V. Operation with beam</td>
<td>40</td>
</tr>
<tr>
<td>VI. Test beam</td>
<td>40</td>
</tr>
</tbody>
</table>

Review table

<table>
<thead>
<tr>
<th>Page</th>
<th>To be reviewed by</th>
<th>To be approved by</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ernst Radermacher</td>
</tr>
</tbody>
</table>

This document is formatted with MS Word, text set in Arial, various sizes, and PDF layout A4 horizontal double-page, optimized for instant browsing on a widescreen laptop without scrolling. Illustrations are at the left of the text referring to them, on the same double page. The margins are adequate for printing at 100%. When printing from Adobe Reader, specify A4 horizontal, and set the Page Scaling option to “None” to avoid shrinking.
1 Introduction
2 BB webpage

http://www.cern.ch/WebServices/
-> "Manage my web sites" or "Create a new web site"
-> Under bigbro username

big.brother iDOC stable page
http://cern.ch/bb

big.brother iDOC test page
http://cern.ch/test-bb
3 TWiki new user

https://twiki.cern.ch/twiki/bin/view/Main/TotemGroup
4 TWiki configuration

Peter.L.Jones@cern.ch
https://twiki.cern.ch/twiki/bin/view/Main/WebHome

https://twiki.cern.ch/twiki/bin/view/TOTEM/WebHome
https://twiki.cern.ch/twiki/bin/viewauth/TOTEM/WebPreferences
https://twiki.cern.ch/twiki/bin/viewauth/TOTEM/WebLeftBar
4.1 Stylesheet

Take ssh connection to
hypernews.cern.ch
and go to
/data/hnInstallations/TOTEM/hypernews1.11-slac-38/.scripts/CSS

There you can find the stylesheed named main.css (also attached below) and main_default.css. The main.css -file is the one that I have done for TOTEM HyperNews and main_default.css is the HyperNews default stylesheet.

4.2 WebPreferences: top logo, stylesheets

The logo and favicon are uploaded as attachments to the TOTEM TWiki WebPreferences -page and included to the top bar and address bar by setting WIKILOGOIMG- and FAVICON-variables at the same page.
You can download all three user-stylesheets from below. These stylesheets overwrite some TWiki patternSkin default styles. If you need to do some changes you can hack the default stylesheets from the TOTEM TWiki.
User stylesheets are uploaded as attachments to the TOTEM TWiki WebPreferences -page and included to the TOTEM TWiki by setting three variables (USERLAYOUTURL, USERSTYLEURL, USERCOLORSURL) at the same page.
4.3 WebLeftBar

All the items on the left menu are defined at the TOTEM TWiki WebLeftBar-page. Menu items are css-formatted bullet lists. Don't use more than 3 levels with these stylesheets. All bold (between two *-marks) list items are read as headings. You can use headings also at the second and third level.
5 HyperNews general

Andreas.Pfeiffer@cern.ch
https://hypernews.cern.ch/HyperNews/TOTEM/top.pl
6 HyperNews new user
7 HyperNews new category

If you are not an admin of TOTEM HyperNews contact Andreas Pfeiffer, andreas.pfeiffer@cern.ch.
Categories are defined in a file on TOTEM HyperNews installation. Take ssh connection to hypernews.cern.ch and edit the file /data/hnInstallations/TOTEM/hnDocs/CATEGORIES
8 Setting up a new HyperNews forum with email gateway

These instructions are for HyperNews admins, not users. Users who would like a forum created should use the "Request a New Forum" page in the navigation bar of their HyperNews system.

Based on
http://cern.ch/elmer/hn/new_forum/new_forum.html
HyperNews member Stephane Willocq requests the following new forum be added to the TOTEM HyperNews system:

Requested by: willocq
   Title: Muon Reconstruction with MOORE/MUID
   Note: Discussions of Muon Reconstruction with MOORE/MUID
   Categories: 6 (Reconstruction)

Full Description:
Discussion forum for muon reconstruction in the Muon Spectrometer with MOORE and for combined reconstruction with MUID
8.1.1.2 Go to the Simba2 page http://simba.cern.ch

8.1.1.3 There you should select "Request a new list (login required)"

8.1.1.4 You will need to login using your NICE username and password.
    Username: bigbro
8.1.1.5 This will take you to the actual request page. The two main fields you need to fill out are indicated in red here (the others you can in general ignore):

8.1.1.6 Usually for the "list description" we have used something that states that the list is just an "alias":

Alias for TOTEM Muon Reconstruction with MOORE MUID

Note also that the putting characters like "/" and "&" in as part of the list description seems to make Simba complain that is potentially a "script" so those characters should be avoided.

8.1.1.7 After filling those in you should scroll down to the bottom of that page and hit "Next":

![New List Request Form](image)
8.1.1.8 This will take you to a page with summary information on the list you are requesting. Check that the information looks okay and hit “Save Request”: 

![Summary Information](image)

- Requester's mail: peter.elmer@cern.ch
- Privacy: public
- Mailing list name: hra-atlas-muen-sw-moore@cern.ch
- Description: atlas for Atlas Muon Reconstruction with MOORE MUID
- List Owners:
  - mail: peter.elmer@cern.ch
  - Total members: 1
- List Members:
  - Warning: You didn't provide any member. By default, we use the ownership.
  - mail: peter.elmer@cern.ch
  - Total members: 1
- Web Archives: https://mmmm.cern.ch/public-newsimbidx/hra-atlas-muen-sw-moore
  - All new external accounts will be set to 20075 employee Id.
Dear Big Brother,

This mail is to simply confirm that we have received your request for a new mailing list on the CERN Listbox Service named:

    hn-totem-muon-sw-moore@cern.ch

This request is now in a queue and will first need to be moderated by the Listbox Service Administrators before being created. Once the list has been created the List Owners will be contacted and given further instructions on how to proceed.

Best Regards,

CERN Listbox Service.

8.1.1.9 After saving the request Simba2 will send you an email to state that the request has been received, but will only be created after "moderation".
Dear List Owner,

The Mailing List you requested has been registered (please wait one hour before using it to send mails, this delay being required to update the mail routing tables). Your list was created on the new Listbox Service.

The email address of your new list is hn-totem-muon-sw-moore@cern.ch. The list settings can be changed using the interface http://simba2.cern.ch

Registration details:

List Name: hn-totem-muon-sw-moore
Admin Password: a76fe86bd880292e2d11
Owners: big.brother@cern.ch, totem.mail@cern.ch, totem.mail@cern.ch

Best Regards,

CERN Listbox Service.

8.1.1.10 At this point you must wait until Simba2 sends you a 2nd email to inform you that the requested list has been created. This seems to take between one and three hours.

8.1.1.11 After one to three hours you will receive a mail like the following and you continue setting up the forum. (It states that you should yet another hour, but I have always found that this isn't necessary.)
8.1.1.12 Go again to the Simba2 page

8.1.1.13 There you should select "Search for and Manage lists" (and you will again need to login with your NICE username and password):
8.1.14 Enter the name of the list you created earlier (e.g. hn-totem-xxx) in the "List Name:" box and hit "Search".

8.1.15 It should find the list you created and you should choose "Edit".
8.1.1.16 This will bring up the configuration page for this list. The first thing you need to do is set this "xxx@cern.ch" list to have exactly one member: xxx@hypernews.cern.ch (i.e. the Simba2 list does nothing more than forward the mails to the hypernews machine itself. This is done so that the hypernews.cern.ch mail server isn't exposed to the world, only the central mail server is...). You should scroll down to the Members section and choose "Add Member".

8.1.1.17 This will bring up a page like the following. Copy the list address (indicated in red) into the dialog box (in green) and edit it to change "@cern.ch" to "@hypernews.cern.ch". Then hit "Search" (indicated in blue).
8.1.1.18 Since the "xxx@hypernews.cern.ch" address will be new to Simba2, it will ask you if you want to create it. Hit the "Create New" button.

8.1.1.19 This will actually create the "xxx@hypernews.cern.ch" user/address within the Simba2 system and should take you to a page which actually allows you to add this new user to the "xxx@cern.ch" Simba2 list. Click on "Select Member".
8.1.1.20 This will take you back to the list configuration page and you now should see "xxx@hypernews.cern.ch" as a list member. You must now change two other things in the list configuration. The list "Post Restrictions" (i.e. who can post) must be changed to "Open" and "Subscribe" should be changed to "Closed" (i.e. nobody should subscribe directly to this email gateway, that is done within HyperNews). The defaults are respectively "Owners/Members" and "Auto" as show in the following picture. You must change them.

8.1.1.21 The last thing you need to do is to scroll back up to the top of the list configuration page and hit "Save Changes".
8.1.1.22 At this point you have finished with Simba2 and you can proceed to create the actual forum in HyperNews. You will need to first log on to lxplus (as yourself) and from ssh to totemhypernews@hypernews.cern.ch. Andreas Pfeiffer can reset the password.

8.1.1.23 You should then `cd` to the HyperNews scripts area for your experiment, e.g.:

```
   cd
   /data/hnInstallations/TOTEM/HyperNews/.scripts/
```
8.1.24 You then run the ".create-forum.pl" script to create the forum.

The "forum owner" should just be set to the admin address for your system "hn-totem-admin@cern.ch"

The "Forum Subdirectory Name" is something you need to choose. This will only appear in the URL's for this forum so you should choose something with some minimum amount of human-understandable meaning, but it doesn't have to be complete. That is what the "Forum Title", "One line note" and "long description" are for. These latter three you should take from the original new forum request from the user, editing them as necessary to be consistent in style with other forums in the HN system.

The category should be taken from the original user forum request. In general it is better to choose a single category, even if the user specified more than one possibility.

Ignore the printout about what the email gateway should look like (including a bunch of slac-specific printout at the end, not shown above). This will be removed in an upcoming version of HyperNews.
8.1.1.25 You should then cd to the HyperNews docs area for your experiment, e.g.:

```
cd /data/hnInstallations/TOTEM/hnDocs/
```

8.1.1.26 Edit the xxx.html.urc file corresponding to the forum you have just created (where "xxx" is the "Forum Subdirectory Name" requested above by the create-forum.pl script). The "ListAddress" field will be empty. There you should put the name of the Simba2 gateway you have just created (e.g. "hn-totem-muon-sw-moore@cern.ch"). Make sure you put the "@cern.ch" address and not the "@hypernews.cern.ch" address. Note that for mail capitalization does not matter, but you can choose here to put in capital letters to guide the eye (as this will be the exact address, including capitalization, which is sent out in mails).
8.1.1.27 The next step is to setup the hypernews machine itself to recognize mail sent to "xxx@hypernews.cern.ch" addresses (from the Simba2 list you created above) and feed it to the HyperNews script. For this one in particular you need to be especially careful as you will edit a file (as root) which is common for all HyperNews installations on this machine (including other experiments). You will first have to "sudo" to root (e.g. 'sudo tcsh'). Do the following:

[root@lcgapp3 -]$ cd /etc/postfix/

It is then good practice to make a backup copy of the file you are about to edit, e.g.:

[root@lcgapp3 postfix]$ cp aliases aliases.(todays_date-your_initials)

Then edit the "aliases" file using your favorite editor and add a line corresponding to the email gateway you have just created, e.g.

hn-totem-muon-sw-moore: "/etc/smrsh/mail-incoming-TOTEM.sh /muonMoore"

Here the part before the colon is the "xxx" in "xxx@hypernews.cern.ch" and the very last part ("/muonMoore" in this example) is the "Forum Subdirectory Name" you specified to the "create-forum.pl" script.

Note that the capitalization of the "xxx" part does not matter, but should probably match what you put in the .html,urc file above to reduce confusion. The "Forum Subdirectory Name" is case sensitive and you must have the leading slash. Carefully verify that the syntax is correct (including the open/close quotes, the "|", etc. Then save the resulting file. Remember that if you make mistakes it will potentially cause problems for all experiments. After saving run the following command to make the new alias available to the mail server on the hypernews machine:

/usr/sbin/postalias hash:/etc/postfix/aliases
8.1.1.28 At this point everything should be ready. You navigate with your browser to your HyperNews installation and make sure that the forum is there and looks correct (Name, Title, one-line description, long descriptions) and that the email gateway address appears on the forum page itself. You may also want to (temporarily) subscribe to the forum yourself for the next step.

8.1.1.29 Post a message via the email gateway with some subject like "initial test posting". You should see via the forum webpage that the posting succeeded and should receive a copy by email. If both of these worked you can continue with the next steps. (If not, then you need to examine which things have gone wrong.)
From: Big Brother
To: hn-totem-hnAnnounce@cern.ch
Cc:
Bcc:
Subject: New TOTEM HN Forum - Muon Reconstruction with MOORE/MUID
Reply-To:

A new TOTEM HN forum has been created: Muon Reconstruction with MOORE/MUID

https://hypernews.cern.ch/HyperNews/TOTEM/get/muonMoore.html

To subscribe go to:

https://hypernews.cern.ch/HyperNews/TOTEM/SECURED/central-subscribe.pl

Big Brother

8.1.1.30 Announce the new forum to the "HyperNews System Announcements" forum. Here is an example of such a posting (which you should update to correspond to the forum you have just created).

8.1.1.31 You can also respond to the original "new forum request" mail from the user to tell them that their forum is now ready.

8.1.1.32 You are done!
9 HyperNews release upgrade
10 Installation of bigbrother.cern.ch

10.1 Base Installation

Debian etch
Exim4 configured without local mail and sending with an smart host
/boot /home are different physical partitions of the primary harddisk
/boot is the bigger harddisk.

/dfs is CERN dfs folder mounted with davfs and bigbro user credentials.
/afs is mounted with kernel modules installed with modules-assistant.

bigbrother:~# cat /etc/aliases
.....
root: big.brother@cern.ch

10.2 Backups

The faubbackup package is used to make backups of /etc and /home
into the /backup directory.

There are also backups to the IT central services using the TSM client
for backups of /home and /etc.

Hi, the machine bigbrother has been registered on
 tsm server TSM51 (the password is initially set to
 "brother") Please refer to instructions here
http://service-backup.web.cern.ch/service-backup/
to complete the installation. For linux clients see
http://service-backup.web.cern.ch/service-
backup/Client%20Installations/linux.asp

Best regards, Lio Frost-Ainley

This is the installation steps into a debian machine.
alien TIVsm-API.i386.rpm
alien TIVsm-BA.i386.rpm
dpkg -i tivsm-api_5.3.3-1_i386.deb
dpkg -i tivsm-ba_5.3.3-1_i386.deb

echo "/opt/tivoli/tsm/client/api/bin" >> /etc/ld.so.conf
echo "/opt/tivoli/tsm/client/ba/bin" >> /etc/ld.so.conf
cat /etc/ld.so.conf
ldconfig

Some customizations on this installation. The configuration files are a
symlink to the one copied into /etc/tivoli

There is also an startup stop script called /etc/init.d/tivoli
It is linked to the run levels of bootup and stop

If there is any database it should be backup by an script making a diary
export into /home folder

10.3 Subversion repositories

They are stored under /home/subversion with credentials
Username    www-data  group    www-data
Permissions  folders  755  files  744

Creation of a new repository
svnadmin create --fs-type fsfs /home/subversion/project_zen

Integration with apache

bigbrother:/etc/apache2/sites-enabled# cat redirect
NameVirtualHost *.80
NameVirtualHost *.443

<VirtualHost *:80>

<IfModule mod_rewrite.c>
  <IfModule mod_ssl.c>
    RewriteEngine on
    RewriteCond %{HTTPS} !^on$ [NC]
    RewriteRule . https://%{HTTP_HOST}%{REQUEST_URI} [L,R]
  </IfModule>
</IfModule>
</VirtualHost>

bigbrother:/etc/apache2/conf.d# cat subversion
<Location "/svn">
  DAV svn
  SVNParentPath /home/subversion
  SVNListParentPath On
  SVNAutoVersioning On
  # SVNIndexXSLT "svnindex.xsl"
</Location>

Visualization of repositories
Webdav y viewvc

10.4 Apache authentication with NICE credentials

From Andreas.Wagner@cern.ch
we do have a perl module that allows NICE authentication using
Apache.
The module is actually authenticating against a SOAP service that
provides user authentication and group membership resolution.

The modules are located in AFS (see below) and I have granted read
access
to the directory for the AFS accounts:

bcopy
awiecek
flucasro

Some adaptations for apache in debian
--------
Precondition for SLC3: mod_perl-1.99 needs to be installed

a) copy the two files
NICEAuthentication.pm
NICEAuthorization.pm
from
/afs/cern.ch/project/web/webservices/server-setup/SLC3/usr/lib/perl5/site_perl
to
/usr/lib/perl5/Apache2

b) add the following lines to end of the file /etc/apache2/mods-enabled/perl.conf

#----------------------------- ### Load NICEAuthentication Handler
PerlModule NICEAuthentication
PerlModule NICEAuthorization
#-----------------------------

c) restart the HTTP daemon

Usage of the module:

**NICE-Authentication for AFS Web-sites**

In the directory that you want to protect create a suitable .htaccess file defining the access policy. Below is an example for a .htaccess files enabling NICE authentication. You can specify users and groups with the corresponding statements **Require user username1**

```
username2 and
Require group groupname1 groupname2

PerlAuthenHandler NICEAuthentication
PerlAuthzHandler NICEAuthorization
SSLRequireSSL  # The modules only work using HTTPS
AuthName "NICE Authentication required"
AuthType Basic

Require group "Users IT-IS" "Users AB"
```

Note: You can view existing groups and create/manage your own groups using the NICE Group Manager

Some further explanations of the example follow:

**PerlAuthenHandler NICEAuthentication** and **PerlAuthzHandler NICEAuthorization** specifies the modules that are used to provide the NICE authentication functionality.

**AuthName** is the so-called realm name the user will see in the browser. You can choose whatever you deem suitable. It must be unique for each different users file.

The **AuthType** must be **Basic**. This is the only type which is supported across the Internet on all servers and client platforms. The user name and password is not submitted in a secure way. You can make it secure by using HTTPS for SSL communication.

**SSLRequireSSL** specifies that a secure (HTTPS) connection must be used. This avoids password in clear-text being transmitted over the network.

**Require group groupname1 groupname2 and Require user username1 username2** similar are used to specify the users or security groups that are allowed access. **Require valid-user** can be used to grant access to anyone with valid NICE credentials.
10.5 iDoc and gallery

The webpages are stored under /home/webistes folder. Idoc file system is mounted with davfs for the code and for the data…

10.6 To Do list

ViewVS o webspn?
viewvs con unstable?
un gestor web que escriba en subversion

instalar cliente de TSM
auth subversion
el directorio samba sacar por webdav
11 Procedure of reinstalling a machine of the production environment.
12 Procedure of recovery after an unexpected shutdown in UC55.
13 Password change of user bigbro.

Change in DFS
Change in AFS
Change in hypernews
Change in davfs secrets file of bigbrother.cern.ch
14 Maintenance Operations

1. Design

14.1 Production and Purchasing

14.2 Installation

14.3 Commissioning

14.4 Operation with beam

14.5 Test beam